START 9613476.0002

W0031-ITC-041

0045247

INTERNATIONAL TECHNOLOGY CORPORATION

JUN 1994 RECEIVED SDLA

Ms. Briana Colley
Westinghouse-Hanford
345 Hills Street
Richland, Washington 99352

Dear Briana:

This letter is to inform you of an incorrect client ID number used throughout the metals section of the chemical data package. The SDG number is W0031 and the SAF number is 94-~~130~~ 129. The client ID is shown as BOBNP22 and BOBNP23 in the package and the correct number should be BOBP22 and BOBP23.

DSA
6-5-96

If you have any questions please call me at 615-588-6401.

Sincerely,

Sheree A. Schneider

Sheree´ A. Schneider
Project Manager

cc Van Pettey
Jim Harvey
Work Order 363, 383, 386, 420, 426 (SDG W0031)

SEP 1996 RECEIVED EDMC

Regional Office
5815 Middlebrook Pike ▪ Knoxville, Tennessee 37921 ▪ 615-588-6401
IT Corporation is a wholly owned subsidiary of International Technology Corporation

9613476.0003

INTERNATIONAL TECHNOLOGY CORPORATION

JUN 1996 RECEIVED SDLA

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

Dear J.A. Lerch

Thank you for purchasing analytical testing services from IT Corporation. It is our intention to supply our clients with data packages which not only meet the industry's highest standards for quality, but are also easy to use. Features which we point out are:

1. A Data Summary Packet which allows you to review your data without searching through the complete data package.

   Your Data Summary Packet contains the following items:

   - Case Narrative: listing of sample identifications, analyses performed, explanation of any problem associated with samples, corrective action taken.
   - Quality control sample identifications and analyses performed.
   - Data summary.

2. A data package which meets the specific requirements you requested and is easy to use as well. The package is organized in accordance with the Table of Contents which you will find at the beginning of each section. Sections are separated by color-coded tabs, making it easy to find individual analytical parameters which may be of particular interest to you. The data package is custody-sealed at the laboratory - your assurance that parts of the package are not missing.

We are constantly searching for ways to improve our service to you. This current product has many of the features which you have told us are important to you. Your suggestions regarding additional improvements will be appreciated.

Please contact me with any questions or suggestions.

Sincerely,

Sheree Schneider

Sheree' Schneider
Project Manager

Regional Office
5815 Middlebrook Pike • Knoxville, Tennessee 37921 • 615-588-6401

IT Corporation is a wholly owned subsidiary of International Technology Corporation

i 6/5/96 M.H.

9613476.0004

Analytical Data Package Prepared for

WESTINGHOUSE HANFORD

JUN 1994
RECEIVED
SDLA

Chemical Analysis By

IT Analytical Services
Middlebrook Laboratory

Sample Delivery Group Number: W0031

WHC IDENTIFICATION NUMBER	ITAS RICHLAND ID NUMBER	KNOXVILLE ID NUMBER

* See attached Table I.

RECORD COPY

IT Corporation
June 6, 1994

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: Westinghouse Hanford

Job Number: 363; 383; 386; 420; 426

III. Quality Control (Continued)

Table I is a cross reference between client sample IDs and laboratory sample IDs.

TABLE I

Knoxville ID	Richland ID	WHC ID	Test
AA6510	W404259-01A	BOBNX6	METALS-T
AA6511	W404259-01B	"	ANIONS
AA6512	W404259-02A	BOBNX7	METALS-T
AA6513	W404259-03A	BOBNY0	"
AA6514	W404259-03B	"	ANIONS
AA6515	W404259-04A	BOBNY1	METALS-T
AA6516	W404259-05A	BOBNX2	"
AA6517	W404259-05B	"	ANIONS
AA6518	W404259-06A	BOBNX3	METALS-T
AA6808	404288-01A	BOBNX8	"
AA6810	404288-02A	BOBNX9	METALS-D
AA6879	W404322-01A	BOBNZ2	METALS-T
AA6880	W404322-01B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7099	W404322-03A	BOBNZ4	METALS-T
AA7100	W404322-03B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY

IT Corporation
June 6, 1994

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: Westinghouse Hanford

Job Number: 363; 383; 386; 420; 426

III. Quality Control (Continued)

Table I is a cross reference between client sample IDs and laboratory sample IDs.

TABLE I

Knoxville ID	Richland ID	WHC ID	Test
AA7101	W404322-05A	BOBNP22	METALS-T
AA7102	W404322-05B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7103	W404322-02A	BOBNZ3	METALS-D
AA7105	W404322-04A	BOBNZ5	"
AA7106	W404320-06A	BOBNP23	"
AA7311	404404-01A	BOBP18	METAL-T
AA7312	404404-01B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7316	404404-02A	BOBP19	METALS-D
AA7324	404404-03A	BOBP14	METALS-T
AA7325	404404-03B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7326	404404-04A	BOBP15	METALS-D
AA7327	404404-05A	BOBP24	METALS-T
AA7328	404404-05B	"	ANIONS

IT Corporation
June 6, 1994

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: Westinghouse Hanford

Job Number: 363; 383; 386; 420; 426

III. Quality Control (Continued)

Table I is a cross reference between client sample IDs and laboratory sample IDs.

TABLE I

Knoxville ID	Richland ID	WHC ID	Test
AA7328	404404-05B	BOBP24	pH
"	"	"	CONDUCTIVITY
AA7329	404404-06A	BOBP25	METALS-D
AA7330	404404-07A	BOBP16	METALS-T
AA7331	404404-07B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7332	404404-08A	BOBP17	METALS-D
AA7372	404429-01B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT Corporation
2800 George Washington Way
Richland, WA 99352
Attn: Van Pettey

June 6, 1994

Job Number: 363; 383; 386; 420; 426

This is the Certificate of Analysis for the following samples:

SDG:	W0031
Client Project ID:	Westinghouse Hanford
Date Received by Lab:	April 15, April 16, April 19, April 22, and April 25, 1994
Number of Samples:	Twenty-four (24)
Sample Type:	Water

I. Introduction

On April 15, April 16, April 19, April 22 and April 25, 1994, twenty-four (24) water samples arrived at ITAS-Richland, Washington and were transferred to ITAS-Knoxville for chemical analysis. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

II. Analytical Results/Methodology

The analytical results for this report are presented by analytical test. Each set of data will include sample identification information and the analytical results.

The samples were analyzed for Target Analyte List (TAL) metals by cold vapor atomic absorption spectroscopy (CVAA), graphite furnace atomic absorption spectroscopy (GFAA), and inductively coupled plasma spectroscopy (ICP) in accordance with the EPA CLP ILM03 Statement of Work.

Reviewed and Approved:

Sheree A. Schneider

Sheree' A. Schneider
Project Manager

IT Corporation
June 6, 1994

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: Westinghouse Hanford

Job Number: 363; 383; 386; 420; 426

II. Analytical Results/Methodology (Continued)

The pH of the samples was determined using EPA method 9040.

The specific conductance of the samples was measured using EPA method 120.1.

The samples were analyzed for anions by ion chromatography using EPA method 300.0.

III. Quality Control

The samples for work orders #363 and 386 were digested on May 4, 1994 for ICP and May 4 and May 10, 1994 for GFAA. The CVAA analysis for mercury was performed on May 9, 1994; the GFAA analyses for arsenic, lead, selenium and thallium were performed from May 6 through May 11, 1994; the remaining metals were analyzed by ICP on May 12, 1994. All run QC was acceptable. Samples were batched with QC from work order #383.

The samples for work order #383 were digested on May 4, 1994 for ICP and May 4 and May 27, 1994 for GFAA. The CVAA analysis for mercury was performed on May 9, 1994; the GFAA analyses for arsenic, lead, selenium and thallium were performed from May 9 through May 27, 1994; the remaining metals were analyzed by ICP on May 5 and May 19, 1994. All run QC was acceptable. A duplicate/spike pair was prepared using sample number BOBNX8 (total) and BOBNX9 (dissolved). Spike recovery (accuracy) results were within acceptance limits for all parameters by ICP, GFAA and CVAA analyses for both samples except for lead by GFAA for BOBNX8 which was slightly outside acceptance limits. Duplicate RPD (precision) results were within acceptance limits for all parameters by ICP, GFAA and CVAA analyses for both samples BOBNX8 and BOBNX9 except for calcium by ICP for sample BOBNX9 which exhibited a slight variation.

The samples for work order #420 were digested on May 20, 1994 for ICP and May 5, 1994 for GFAA. The CVAA analysis for mercury was performed on May 9, 1994; the GFAA analyses for arsenic, lead, selenium and thallium were performed from May 5 through May 18, 1994; the remaining metals were analyzed by ICP on May 24, 1994. All run QC was acceptable. Samples were batched with QC from work order # 383.

Data were reported with qualifiers as follows:

"C" Qualifiers

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.
B - Value greater than instrument detection limit, but less than contract required quantitation limit.

IT Corporation
June 6, 1994

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: Westinghouse Hanford

Job Number: 363; 383; 386; 420; 426

III. Quality Control (Continued)

"Q" Qualifiers

* - Duplicate analysis outside control limits.
N - Spiked sample recovery outside control limits.
W - Post-digestion spike for GFAA was out of control limits (85-115%), while sample absorbance was less than 50% of spike absorbance.
S - The reported value was determined by method of standard additions.

"M" Qualifiers

P - Analysis performed by ICP.
V - Analysis performed by CVAA.
F - Analysis performed by GFAA.
C - Cyanide analysis by manual distillation/colorimetric determination.

Miscellaneous

D - Duplicate.
S - Spike.
NR - Not required.
G - Native analyte > 4 times spike added, therefore, acceptance criteria do not apply.
X - Detection limits higher than normal due to sample matrix interferences.

The QC for anions was performed on sample BOBNX8 of work order #383. This sample was moved from SDG W0031 to W0043 after QC was assigned. The analytical results are included in this report.

The QC for pH was performed on sample BOBP10 of work order #427 (SDG W0040). The analytical results are included in this report.

The QC for specific conductance was performed on sample BOBP10 of work order #427 (SDG W0040). The analytical results are included in this report.

IT Corporation
June 6, 1994

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: Westinghouse Hanford

Job Number: 363; 383; 386; 420; 426

IV. Certification

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature:

Reviewed and Approved:

Sheree A. Schneider

Sheree' A. Schneider
Project Manager

WO#363

SAMPLE RECEIPT VARIANCE REPORT
ITAS-RICHLAND LABORATORY

WORK ORDER NUMBER: 404259/260 DATE INITIATED: 4/14/94

INITIATED BY: TGilmore

DATE/TIME OF SAMPLE (AND/OR RFA & COC) RECEIPT: 4/14/94 1130

CLIENT SAMPLE NUMBER	RFA/COC NUMBERS	ANALYSIS REQUESTED
BOBNX6		
BOBNX7		

Samples were received with the following deficiencies:

- ☐ 1. Not enough sample received for proper analysis.
- ☐ 2. Sample received without proper preservative.
- ☐ 3. No sample received in container.
- ☐ 4. Sample received without a RFA/COC form.
- ☐ 5. No sample ID on container.
- ☐ 6. Sample received broken or leaking.
- ☐ 7. Holding time exceeded at receipt.
- ☑ 8. Custody tape broken.
- ☐ 9. COC not relinquished by client.
- ☐ 10. Sample information on container does not match sample information on the paper work (Explain below).
- ☐ 11. All shipping containers (coolers) on waybill not received with shipment.
  - ☐ RFA/COC received
  - ☐ RFA/COC not received
- ☐ 12. Other (Explain below).

NOTES: Custody seal on cooler is broken.

SUPERVISOR REVIEW: _____

PROJECT MANAGER REVIEW: _____

TELEPHONED TO: _____ ON _____ BY _____

TELEFAXED TO: _____ ON _____ BY _____

SIGNED ORIGINAL MUST BE RETAINED IN WORK ORDER FILE

FORM NO. LS-023, 3/92, Rev. 0

9613476.0013

0000033

WO#363

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1008 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

Per Shipping Container

Date/Time Received 4/14/94 1130 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) STE Helens

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☐ No ☑
3. Custody Seals dated and signed? Yes ☐ No ☑
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):

    Chain of Custody #(s) N/A

    Request for analysis #(s) N/A

    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☑ No ☑ 4/14/94
13. Memos have been initiated for all anomalies identified above? Yes ☑

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/14/94 1130

FORM NO. LS-042, Rev.0, 2/94

9613476.0014

0000034

WO #363

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1230 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(Per Shipping Container)

Date/Time Received 4/14/94 1130 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) SML 421

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore Date/Time 4/14/94 1130

FORM NO. LS-042, Rev.0, 2.94

9613476.0015

0000035

WO#363

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1100 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(Per Shipping Container)

Date/Time Received 4/14/94 1130 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) ER-6

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 20 C

11. The following paperwork should be accounted for (N/A if not applicable):

    Chain of Custody #'(s) N/A

    Request for analysis #(s) N/A

    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/14/94 1130

FORM NO. LS-042, Rev.0, 2:94

9613476.0016

0000036

WO#386

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1330 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(Per Shipping Container)

Date/Time Received 4/18/94 1310 Client Name WHC

Project/Client # 94-129 Batch or Case # NA

Cooler ID (if noted on the outside of cooler) SML-118

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):

    Chain of Custody #'(s) N/A

    Request for analysis #(s) N/A

    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/18/94 1310

FORM NO. LS-042, Rev.0, 2/94

9613476.0017

0000037

WO#386

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1500 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

* Per Shipping Container

Date/Time Received 4/18/94 1310 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) ER-7

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 2 bags
7. Number of sample containers in cooler: 28
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 6°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/18/94 1310

FORM NO. LS-042, Rev.0, 2/94

9613476.0018

0000038

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1530 George Washington Way
Richland, Washington 99352

WO 420

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4-21-94 1200 Client Name WHC

Project/Client # 94-124 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) EC-5

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 28
8. Samples have: ____ tape ____ hazard labels
   X custody seals X appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 3°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier _____
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature R Bayl R Bayl Date/Time 4-21-94 1210

FORM NO. LS-042, Rev.0, 2/94

INTERNATIONAL TECHNOLOGY CORPORATION
Regional Office
1500 George Washington Way
Richland, Washington 99352

WO 420

SAMPLE CHECK-IN LIST

(Per Shipping Container)

Date/Time Received 4-21-94 12:00 Client Name LUHC

Project/Client # SAE-94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) ER-9

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 20
8. Samples have: ✓ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier _____
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature R. Boyd R. Boyd Date/Time 4-21-94 1210

FORM NO. LS-042, Rev.0, 2/94

9613476.0020

0000040

WO#426

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
3330 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4-22-94 14:00 Client Name WHC

Project/Client # 94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) ER-8

1. Condition of shipping container? O.K.
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐ 4-22-94
7. Number of sample containers in cooler: ~~12~~ 24
8. Samples have: X tape ____ hazard labels
   X custody seals ____ appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☒

Printed Name/Signature Karen Achterling Date/Time 4-22-94 14:00

FORM NO. LS-042, Rev.0, 2/94

WO#363

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: NA	SAF No.: 94-129
Ice Chest No.: ER-1c	Field Logbook No.: EFL-1[illegible]	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W-94-C-0336-37	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks: None		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE EC 4/12/94 3B AJSimpson		

SAMPLE ANALYSIS: 404259

Sample No.	Matrix*	Date Sampled	Time Sampled															
Preservative				HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2								
Type of Container				G/P	P	G/P	G/P	Gs		G/P								
No. of Container(s)				1	1	5	2	3	1	1								
Volume				1000ml	1000ml	1000ml	1000ml	1000ml	100mL	1000ml								
				ICP METALS AA METALS Hg CLP 85A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Acetone	ICP METALS, AA METALS, Hg CLP FILTERD OGA								
BCBNX2	W	4/12/94	1120	X	X	X	X	X	X									
BCBNX3	W	4/12/94	1120							X								

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By	G G Hamilton	4/12/94 1319
Received By	AJ SIMPSON AJSimpson	4/12/94 1319
Relinquished By	AJ SIMPSON AJSimpson	4/14/94 0959
Received By	L Sweeney L Sweeney	4/14/94 0959
Relinquished By	L Sweeney L Sweeney	4/14/94 1130
Received By	Tom Gilmore	4/14/94 1130
Relinquished By		
Received By		

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9615476.0021

0000041

WO#363

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: T. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: Ste. Helens	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A WHPH-C-C3360-37	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Signal Dolphin 3A AJS 4/13/94

SAMPLE ANALYSIS: 404259

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	Non	HNO3<2								
Type of Container	G/P	P	G/P	G/P	Gs	Gas	G/P								
No. of Container(s)	1	1	5	2	3	1	1								
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml								
	ICP METALS AA METALS Hg CLP01A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD	02A							

Sample No.	Matrix*	Date Sampled	Time Sampled														
BCBNX6	W	4/13/94	0855	X	X	X	X	X	X								
BCBNX7	W	↓	↓							X							

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By		
Received By	A J Simpson	4/13/94 1335
Relinquished By	A J Simpson	4/14/94 0958
Received By	L Sweeney	4/14/94 0958
Relinquished By	L Sweeney	4/14/94 1130
Received By	Tom Hamilton	4/14/94 1130
Relinquished By		
Received By		

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0022

0000042

WO# 363

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: SML-421	Field Logbook No.:	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A WSCH-C-C0336-35	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE SIGNED IN Refers		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2									
Type of Container	G/P	P	G/P	G/P	Gs	Glass	G/P									
No. of Container(s)	1	1	5	2	3	1	1									
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml									
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP 03A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 04A									

404259

Sample No.	Matrix*	Date Sampled	Time Sampled														
BCBN90	W	4/13/94	1125	X	X	X	X	X	X								
BCBN91	W	↓	1120							X							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
G.G. Hamilton	4/13/94 1330	AJ Simpson	4/13/94 1340
AJ Simpson	4/14/94 1000	D. Sweeney	4/14/94 1000
D. Sweeney	4/14/94 1130	[illegible]	4/14/94 1130
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION — Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION — Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0023

0000043

WO#386

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 600	SAF No.: 94-129
Ice Chest No.: SMC-118	Field Logbook No.: [illegible]	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A 1374-L 03366-44	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks																
	Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4		HNO3<2								
	Type of Container	G/P	P	G/P	G/P	Gs		G/P								
	No. of Container(s)	1	1	5	2	3		1								
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE	Volume	1000ml	1000ml	1000ml	1000ml	1000ml		1000ml								
SAMPLE ANALYSIS		ICP METALS AA METALS Hg 05A CLP	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14		ICP METALS, AA METALS, Hg CLP FILTERD	06A							

Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBP22	W	[illegible]	[illegible]														
BOBP23	W																

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
[illegible] / K. Trapp	4/15/94 1340	[illegible] Sweeney	4/15/94 1340
Relinquished By	Date/Time	Received By	Date/Time
[illegible] Sweeney L Sweeney	4/18/94 1310	[illegible]	4/18/94 1310
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0024

0000044

WO#386

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priorty [X] Normal

Collector: G. Hanson	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-7	Field Logbook No.: EFR-[illegible]	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A 1994-C-C336-44	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	[illegible]	HNO3<2									
Type of Container	G/P	P	G/P	G/P	Gs	[illegible]	G/P									
No. of Container(s)	1	1	5	2	3	1	1									
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	[illegible]	1000ml									
SAMPLE ANALYSIS 404322	ICP METALS AA METALS Hg CLP 91A	ANIONS F,SO4 COND pH 8	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD 62A									

Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBNZ2	W	4/15/94	[illegible]	X	X	X	X	X	X								
BOBNZ3	W	4/15/94	1148														

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Jones / K. Trapp	4/15/94 1310	L Sweeney L Sweeney	4/15/94 1310
L Sweeney L Sweeney	4/15/94 1310	T Gilmore	4/15/94 1310

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION: Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0025

0000045

WO#386

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 1C-C B	SAF No.: 94-129
Ice Chest No.: ER-7	Field Logbook No.: EHL-1[illegible]	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W[illegible]-C-C 336-44	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	N[illegible]	HNO3<2									
Type of Container	G/P	P	G/P	G/P	Gs		G/P									
No. of Container(s)	1	1	5	2	3	1	1									
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	[illegible]	1000ml									
SAMPLE ANALYSIS 404322	ICP METALS AA METALS Hg CLP 03A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	A[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD	04A								

Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBNZ4	W	4/15/94	[illegible]														
BOBNZ5	W																

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	4/15/94 1340	Sweeney L Sweeney	4/15/94 1340
Sweeney L Sweeney	4/18/94 1310	TG Gilmore	4/18/94 1310

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION: Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0026

0000046

WC420

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Tipp / W. Setzer	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location	SAF No.: 94-129
Ice Chest No.: ER-9	Field Logbook No.: FF-1673	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-U-C-518 1	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

			Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2						
			Type of Container	G/P	P	G/P	G/P	Gs		G/P						
			No. of Container(s)	1	1	5	2	3	1	1						
			Volume	1000ml	1000ml	1000ml	1000ml	1000ml		1000ml						
SAMPLE ANALYSIS 4041404				ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99 4044050	TRITIUM C-14 2		ICP METALS, AA METALS, Hg CLP FILTERD						
Sample No.	Matrix*	Date Sampled	Time Sampled													
BOBP14	W	4/20/94	1425	\	\	\	\	\	\							
BOBP15	W	↓	↓							\A						

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
W.W. Setzer	4-20-94 1305	Sweeney / Sweeney	4/20/94 1305
Relinquished By	Date/Time	Received By	Date/Time
Sweeney / Sweeney	4/21/94 1210	R. Bizzi	4-21-94 1210
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0027

0000047

WO 420

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp / W. Setzer	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: 8	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-C-0518-1	Bill of Lading/Air Bill No.: N/A N/A
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2									
Type of Container	G/P	P	G/P	G/P	Gs	G	G/P									
No. of Container(s)	1	1	5	2	3	1	1									
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ML	1000ml									
SAMPLE ANALYSIS 404404	ICP METALS AA METALS Hg CLP	ANIONS F,SO4 COND pH	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity	ICP METALS, AA METALS, Hg CLP FILTERD									
Sample No.	Matrix*	Date Sampled	Time Sampled													
01 B0BP16	W	4/19/94	1030	X	X	X	X	X	X							
02 B0BP17	W	"	1030							X						

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
W. Setzer	4-20-94 1305	L. Sweeney	4/20/94 1305
L. Sweeney	4/21/94 1210	R. Bazzi	4-21-94 1210

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0028

0000048

WO 420

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trap / W. Setzer	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 1.2 P	SAF No.: 94-129
Ice Chest No.: ER-9	Field Logbook No.: EE-	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-C-0518-1	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs		G/P
No. of Container(s)	1	1	5	2	3		1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml		1000ml
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99 4044650 1	TRITIUM C-14		ICP METALS, AA METALS, Hg CLP FILTERD

404404

	Sample No.	Matrix*	Date Sampled	Time Sampled							
c.1	BCBP18	W	4/19/94	1240	\	\	\	\	\	\	
a.	BOBP19	W									\ A

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: W.W. Setzer	Date/Time: 4-20-94 1305	Received By: L. Sweeney	Date/Time: 4/20/94 1305
Relinquished By: L. Sweeney	Date/Time: 4/21/94 1210	Received By: R. Beal IT	Date/Time: 4-21-94 1210
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0029

0000049

WO 420

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp / W. Setzer	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100-B	SAF No.: 94-129
Ice Chest No.: FR-8	Field Logbook No.: EFL-1[illegible]	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-C-0518-1	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

Sample No.	Matrix*	Date Sampled	Time Sampled	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	[illegible]	HNO3<2
Preservative				HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	[illegible]	HNO3<2
Type of Container				G/P	P	G/P	G/P	Gs	[illegible]	G/P
No. of Container(s)				1	1	5	2	3	1	1
Volume				1000ml	1000ml	1000ml	1000ml	1000ml	[illegible]	1000ml
SAMPLE ANALYSIS				ICP METALS AA METALS Hg CLP	ANIONS F,SO4 COND pH	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD
4044404				A	B	4044405C3				
35 B08P24	W	4/19/94	1240	X	X	X	X	X	X	
36 B08P25	W	"	"							A

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
W.W. Setzer	4-20-94 1305	L Sweeney	4/21/94 1305
Relinquished By	Date/Time	Received By	Date/Time
L Sweeney	4/21/94 1210	E Bay	4-21-94 1210
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0030

0000050

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

WO#426

Page 1 of 1

Date Turnaround: ☐ Priorty ☒ Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-7	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-3	Bill of Lading/Air Bill No.: N/A W94-LCS 4-22-94 NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

SAMPLE ANALYSIS: 404429

			Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2							
			Type of Container	G/P	P	G/P	G/P	Gs	G	G/P							
			No. of Container(s)	1	1	5	2	3	1	1							
			Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml							
			SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 404430	Tc-99 01	TRITIUM C-14	A-Tritium Sr-90	ICP METALS, AA METALS, Hg CLP FILTERD							
	Sample No.	Matrix*	Date Sampled	Time Sampled													
01	B0BNY2	W	4/21/94	0920	X	X	X	X	X	X							
02	B0BNY3	W	↓	↓							X A						

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: K Umano / K. Trapp	Date/Time: 4/22/94 0752	Received By: L Sweeney L Sweeney	Date/Time: 4/22/94 0752
Relinquished By: L Sweeney L Sweeney	Date/Time: 4/22/94 1400	Received By: R. Boyd RJ	Date/Time: 4/22/94 1400
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0031

0000051

9613476.0032

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BEST AVAILABLE COPY

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		[illegible] 576-37

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
[illegible] Eng. Tech	SES	Ex [illegible] Sampling

The following items are to be shipped from ☐ Contractor ☐ Vendor

Routing [illegible] Delivery ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
I[illegible] Analytical Services [illegible] IDAY [illegible] UA [illegible]	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample No.: [illegible] Cooler ID: STE. HELEN [illegible] vermiculite	N/A
1	Sample No.: BOFNX[illegible], [illegible] Cooler ID: E[illegible] [illegible] samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS [illegible] ICC [illegible]

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
[illegible]	157866	4/14/94

Location of Property (Area & Bldg.)	Contact	Phone
1[illegible]-[illegible]-S	PH Butler	[illegible] 371 4358

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4/14/94	5641C / PRSA-[illegible]	NA

Originated By	Date	Authorized By	Date
PH Butler	4-14-94	[illegible]	4/14/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible]	4/14/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

[illegible] 4/14/94 1130

54-3000-479 (09/89)

9613476.0033

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Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-C-0336-38

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ENV. ENG. Tech	EFS	EF Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing Hand Delivery ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
ITA Analytical Services [illegible] Eck WAY [illegible] WA [illegible]	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample No.: FUBNYC, BOBNY1 Sample ID: SNC-401 [illegible] wet [illegible]	

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports FI/FS work in the 100 Area

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date
[illegible]	52 [illegible]	4/14/94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	[illegible]	509 [illegible]

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
[illegible] 94	8F410 / [illegible]	NA

Originated By	Date	Authorized By	Date
[illegible]	4/14/94	[illegible]	4/14/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible]	4/14/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

[illegible] 4/14/94 1130

54-3000-479 (09/89)

9613476.0034

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Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		[illegible]

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
[illegible]	[illegible]	[illegible]

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing [illegible] ☐ Contractor ☐ Vendor

Shipped to	Off-site Custodian
[illegible] WA [illegible]	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	[illegible]	N=
1	[illegible]	NA

☐ Classified ☒ Unclassified ☒ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

[illegible]

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
[illegible]	[illegible]	1/14/94

Location of Property (Area & Bldg.)	Contact	Phone
200-[illegible]	[illegible]	(509) 37[illegible] 4488

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
[illegible]	[illegible]	NA

Originated By	Date	Authorized By	Date
L H Butcher	4-11-94	[illegible]	4/11/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible]	4/14/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:	
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain	Green – Property Control Custodian (Issuing Office) Pink – Originator

[illegible] 4/14/94 [illegible]

54-3000-479 (09/89)

9613476.0035

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KS 4/18/94

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-06336-44

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Env. Eng. & Tech	Environmental Field Svcs.	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
IT Analytical Services 2800 George WASHINGTON WAY Richland, WA 99352	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 Lbs.	Sample #: B0BN24, B0BN25, B0BN22, B0BN23 Cooler ID: ER-7 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 Lbs.	Sample #: B0BP22, B0BP23 Cooler ID: SMC-118 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling Supports RI/FS work in the 100 AREA

Bill of lading # NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
Julie Brown.	15757	4-18-94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	P.H. Butcher	(509) 376 4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-18-94	8B410 PB5AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4/18/94	PH Butcher	4/18/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		JP Henkel	4/18/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

Tom ITAS 4/18/94 1310

54-3000-479 (09/89)

9613476.0036

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Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		WM-0-0518-1

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to
IT Analytical Services
2800 George Washington Way
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs.	Sample #: BOBP24, BOBP25, BOBP16, BOBP17 Cooler ID: EK-8 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: BOBP18, BOBP19, BOBP14, BOBP15 Cooler ID: EK-9 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

Bill of lading #_____

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
[illegible]	15[illegible]	4/21/94

Location of Property (Area & Bldg.)	Contact	Phone
100 BC-5	P. H. Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-21-94	8B410 PBSH	NA

Originated By	Date	Authorized By	Date
PH Butcher	4/21/94	PH Butcher	4/21/94
Signature and Name of Property Control	**Custodian Date**	**Property Management Approval**	**Date**
		J P Frankel	4/21/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
[illegible]				
Date [illegible] 1212				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:	
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain	Green – Property Control Custodian (Issuing Office) Pink – Originator

54-3000-479 (09/89)

9613476.0037

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WO 450

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		[illegible]-C518-1

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to
IT Analytical Services
2800 George Washington Way
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs.	Sample #: [illegible] Cooler ID: [illegible] Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: [illegible] Cooler ID: [illegible] Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 [illegible]

Bill of lading # _____

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date

Location of Property (Area & Bldg.)	Contact	Phone
[illegible]	P. H. Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
[illegible]	8B410 [illegible]	NA

Originated By	Date	Authorized By	Date
[illegible]	4/21/94	P H Butcher	4/21/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible]	4/21/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:	
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain	Green – Property Control Custodian (Issuing Office) Pink – Originator

54-3000-479 (09/89)

INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001461*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

WO# 360 RL#472

Reference Document No. 340374

Page 1 of 2

Project Name/No. 1: 94-129
Sample Team Members 2:
Profit Center No. 3: 4632
Project Manager 4: Van Petley
Purchase Order No. 6:
Required Report Date 11:

Samples Shipment Date 7: 4/14/94
Lab Destination 8: Middlebrook
Lab Contact 9:
Project Contact/Phone 12:
Carrier/Waybill No. 13: 112 7284 812

Bill to: 5: ITAS Richland
Report to: 10: ITAS Richland

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
W404259 01A	BOBNX6 /H_2O	4/13/94 0855	Glass	1000ml	HNO_3 4°C	Metals pH=<2	6° C BPB 4/15/94	
B	|	|	Poly	|	|	Anions	|	
02A	BOBNX7 /H_2O	|	Glass	|	HNO_3	Metals pH=<2	|	
03A	BOBNY0 /H_2O	4/13/94 1125	|	|	HNO_3	| pH=<2	|	
B	|	|	Poly	|	|	Anions	|	
04A	BOBNY1 /H_2O	|	Glass	|	HNO_3	Metals pH=<2	|	
05A	BOBNX2 /H_2O	4/12/94 1120	|	|	HNO_3	Metals pH=2	|	
B	|	|	Poly	|	|	Anions	↓	

FOR LAB USE ONLY

FOR LAB USE ONLY

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive ____ (mos.)

Turnaround Time Required: 26
Normal ☒ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SPG W0031

1. Relinquished by 28 (Signature/Affiliation) [signature]	Date: 4/14/94 Time: 1600	1. Received by 28 (Signature/Affiliation) Bryan Blomquist ITASKN	Date: 4/15/94 Time: 9:00
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

MCA 3/15/91

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

0000037
9613476.0039

WO#363

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 340374
Page 2 of 2

Project Name

Project No. 94-129

Samples Shipment Date 4/14/94

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
W4042596A	BGBNX3 /H_2O	4/12/94 1120	Glass	1000 ml	HNO_3/4°C	metals pH=<2	6°C 4/15/94	
(5) 4/14/94								

FOR LAB USE ONLY

White: To accompany samples
Yellow: Field copy

*See back of form for special instructions.

MCA 3/15/91

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9613476.0039

COC NO. *0001485*

INTERNATIONAL TECHNOLOGY CORPORATION

WO 580 RL# 499

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 340388
Page 1 of 2

Project Name/No. [1] 94-129
Sample Team Members [2]
Profit Center No. [3] 4632
Project Manager [4] Van Pettey
Purchase Order No. [6]
Required Report Date [11]

Samples Shipment Date [7] 4/18/94
Lab Destination [8] Middlebrook
Lab Contact [9]
Project Contact/Phone [12]
Carrier/Waybill No. [13] 1128244266

Bill to: [5] ITAS Richland
Report to: [10] ITAS Richland

White: To accompany samples
Yellow: Field copy

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Pre-servative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
W4043220 1 A	BOBNZ2 / H_2O	4/15/94 1148	Glass	1000 ml	HNO_3 4°C	Metals	2°C 4/19/94 <2	
B			Poly			Anions		
02A	BOBNZ3 / H_2O		Glass		HNO_3	metals	<2	
03A	BOBNZ4 / H_2O	4/15/94 0950			HNO_3	Metals	<2	
B			Poly			Anions 2498		
04A	BOBNZ5 / H_2O 4/18/94		Glass		HNO_3	metals	<2	
05A	BOBPZ2 / H_2O		Glass			Metals	<2	
B						Anions		

FOR LAB USE ONLY

Special Instructions: [23]

Possible Hazard Identification: [24]
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: [25]
Return to Client ☒ Disposal by Lab ☐ Archive ____ (mos.)

Turnaround Time Required: [26]
Normal ☒ Rush ☐

QC Level: [27]
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0031

1. Relinquished by [28] (Signature/Affiliation) ITAS Date: 4/18/94 Time: 1600	1. Received by [28] (Signature/Affiliation) Bryan Blomquist ITASKN Date: 4/19/94 Time: 8:55
2. Relinquished by (Signature/Affiliation) Date: Time:	2. Received by (Signature/Affiliation) Date: Time:
3. Relinquished by (Signature/Affiliation) Date: Time:	3. Received by (Signature/Affiliation) Date: Time:

Comments: [29]

*See back of form for special instructions.

MCA 3/15/91

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INTERNATIONAL TECHNOLOGY CORPORATION

WO#386

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 340388

Page 2 of 2

Project Name

Project No. 94-129

Samples Shipment Date 4/18/94

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
W404320060A	130BP23/H2O	4/15/94 0950	Glass	1000ml	HNO3 4°C	metals	2°C BTD 4/18/94 42	
	4/18/94							

FOR LAB USE ONLY

White: To accompany samples Yellow: Field copy

*See back of form for special instructions.

MCA 3/15/91

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COC NO. *0001515*

Recpt lot 532

WOTT 720

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 340397
Page 1 of 2

Project Name/No. 1 SAF 94-129
Sample Team Members 2
Profit Center No. 3 4632
Project Manager 4 VAN PETTEY
Purchase Order No. 6
Required Report Date 11

Samples Shipment Date 7 4-21-94
Lab Destination 8 Middlebrook
Lab Contact 9
Project Contact/Phone 12
Carrier/Waybill No. 13 112 9779 917 FED EX

Bill to: 5 IT Richland
Report to: 10 IT Richland

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Preservative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
40440401A	BOBP18 / water	4/19 1240	G/P	1000ml	Cool 4°	ICP Metals AA Metals Hg	Rec'd at 30c KAK 4-22-94	
B	↓	↓	P	↓	↓	Anions	↓	
02A	BOBP19 / water	↓	G/P	↓	↓	ICP Metals AA Metals Hg	↓	
03A	BOBP14 / water	4/19 1425	G/P	1000ml	↓	↓	↓	
B	↓	↓	P	↓	↓	Anions	↓	
04A	BOBP15 / water	↓	G/P	↓	↓	ICP Metals AA Metals Hg	↓	
05A	BOBP21 / water	4/19 1240	↓	↓	↓	↓	↓	
B			P	↓	↓	Anions	↓	

Special Instructions: 23 As per WHC Contract

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required: 26
Normal ☒ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SIX-W0031

1. Relinquished by 28 (Signature/Affiliation) Heidelberg IT Date: 4-21-94 Time: 16:00	1. Received by 28 (Signature/Affiliation) Kerry A Klemm ITAS-KN Date: 4-22-94 Time: 08:55
2. Relinquished by (Signature/Affiliation) Date: Time:	2. Received by (Signature/Affiliation) Date: Time:
3. Relinquished by (Signature/Affiliation) Date: Time:	3. Received by (Signature/Affiliation) Date: Time:

Comments: 29

MCA 3/15/91

White: To accompany samples
Yellow: Field copy
See back of form for special instructions.

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9413476.0042

LECT 420

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 340397

Page 2 of 2

Project Name SAF 94-129

Project No. W0031

Samples Shipment Date 4-21-94

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
40440406A	BOBP25/Water	4/19 1240	G/P	1000ml	Cool 4°	ICP Metals AA Metals Hg	Rec'd at 3°C KAK 4-22-94	
07A	BOBP16/Water	1030						
B			P			Anions		
08A	BOBP17/Water		G/P			ICP Metals AA Metals Hg		

JH 4/21/94

FOR LAB USE ONLY

White: To accompany samples Yellow: Field copy

*See back of form for special instructions.

MCA 3/15/91

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96134769.0043

COC NO. *0001523*

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO#426 W*538

Reference Document No. 453601
Page 1 of 1

Project Name/No. 1 SAP 94-129
Sample Team Members 2
Profit Center No. 3 4632
Project Manager 4 Van Pettey
Purchase Order No. 6
Required Report Date 11

Samples Shipment Date 7 4-23-94
Lab Destination 8 Middle Brook
Lab Contact 9
Project Contact/Phone 12
Carrier/Waybill No. 13 8875576065

Bill to: 5 IT Richland
Report to: 10 IT Richland

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
40442901A	BOBNY2 / water	4-21-94 0920	G/P	1000ml	Cool 4°	ICP, GFAA, Hg	<2 5°C BBB 4/25/94	
↓ B	↓	↓	P	↓	↓	Anions, Cond, ~~Hg~~ PH	4-22-94	
40442902A	BOBNY3 ↓	↓	G/P	↓	↓	ICP, GFAA, Hg	<2	
		PB	4-22-94					

FOR LAB USE ONLY

FOR LAB USE ONLY

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive _____ (mos.)

Turnaround Time Required: 26
Normal ☐ Rush ☐ As Per WHC Contract

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0031

1. Relinquished by 28 (Signature/Affiliation) R. Boyd IT	Date: 4-23-94 Time: 1200	1. Received by 28 (Signature/Affiliation) Bryan Blomquist IT TASKM	Date: 4/25/94 Time: 8:55
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

MCA 3/15/91

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

0000063

9613476.0044

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

WO#363 all Category I
JRM 14 april 94

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	Beta	Mnts
BAT			41394		413	10	12	210	240

Customer ID BAT/WATER	pH <2 Rcvd/Relq	Plncht Wght (mGrms)	Vol. Anal. mG mL	Sample Size Gm L	SMPLE CNT DATA Hldr Num.	Total Alpha	Counts Beta	Net Sample Counts/Minute Alpha	Beta	DPM / Aliqout Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Beta
B0BR68		2.4	5	1.0	45	9	30	0.85	2.13	3.3E+00	4.0E+00	3.0E-04	3.6E-04	2.4E-07	1.9E-07	3.0E+02	3.6E+02	Yes	3.3E+01	2.8E+02
B0BR98		2.2	5	1.0	46	12	32	1.15	2.33	4.5E+00	4.2E+00	4.1E-04	3.8E-04	2.8E-07	2.0E-07	4.1E+02	3.8E+02	Yes	2.5E+01	2.6E+02
B0BQX2		3.0	5	1.0	47	10	22	0.95	1.33	3.8E+00	2.2E+00	3.4E-04	2.0E-04	2.6E-07	8.9E-08	3.4E+02	2.0E+02	Yes	2.9E+01	5.0E+02
B0BQX1		3.2	5	1.0	48	4	16	0.35	0.73	1.4E+00	1.3E+00	1.3E-04	1.2E-04	1.5E-07	1.0E-07	1.3E+02	1.2E+02	Yes	7.9E+01	8.4E+02
B0BRB6		3.6	5	1.0	49	1	12	0.05	0.33	1.9E-01	6.6E-01	1.8E-05	6.0E-05	5.4E-08	2.4E-07	1.8E+01	6.0E+01	Yes	5.7E+02	1.7E+03
B0BR88		2.3	5	1.0	50	2	5	0.15	-0.38	6.1E-01	-9E-01	5.5E-05	-8E-05	9.4E-08	-1E-07	5.5E+01	-8E+01	Yes	1.8E+02	-1E+03
B0BQJ6		2.9	5	4.0	51	0	12	-0.05	0.33	-2E-01	7.3E-01	-8E-05	2.6E-04	-2E-07	9.7E-07	-2E+01	6.6E+01	Yes	-5E+02	1.5E+03
B0BQJ5		2.3	5	4.0	52	1	9	0.05	0.03	2.0E-01	2.0E-02	7.2E-05	7.2E-06	2.1E-07	8.7E-09	1.8E+01	1.8E+00	Yes	5.6E+02	5.5E+04
B09FZ3		1.2	5	1.0	53	2	10	0.15	0.13	5.9E-01	1.7E-01	5.3E-05	1.5E-05	9.2E-08	1.3E-08	5.3E+01	1.5E+01	Yes	1.9E+02	6.6E+03
TOTAL	uCi							-0.05	-0.88	-2E-01	-2E+00	1.3E-03	1.3E-03	ERR	ERR	ERR	ERR	Yes	ERR	ERR

9613476.0045

0000064

WO#386

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	Beta	Mnts
WHC			41894		418	10	6	61	60

All category I
JRR 18 Apr 94

Customer ID WHC/WATER	pH <2 Rcvd/Reiq	RESIDUE Wght (mGrms)	Vol. Anal. mG	mL	Sample Size Gm	L	SMPLE CNT DATA Hldr Num.	Total Counts Alpha	Beta	Net Sample Counts/Minute Alpha	Beta	DPM / Aliqout Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Beta
B0BNP1		1.2	5		4.0		50	1	23	0.00	1.28	-4E-02	2.7E+00	-1E-05	9.9E-04	-9E-09	5.8E-07	-4E+00	2.5E+02	Yes	-3E+03	4.1E+02
B0BMN6		4.9	5		2.0		51	9	153	0.80	14.28	2.9E+00	3.0E+01	5.2E-04	5.4E-03	4.7E-07	1.1E-06	2.6E+02	2.7E+03	Yes	3.9E+01	3.7E+01
B0BNZ2		1.7	5		1.0		52	0	20	-0.10	0.98	-4E-01	2.2E+00	-4E-05	2.0E-04	-8E-08	6.2E-07	-4E+01	2.0E+02	Yes	-3E+02	5.1E+02
B0BP22		1.0	5		1.0		53	3	16	0.20	0.56	7.7E-01	1.1E+00	6.9E-05	1.0E-04	1.1E-07	1.4E-07	6.9E+01	1.0E+02	Yes	1.4E+02	1.0E+03
B0BNZ4		1.2	5		1.0		54	4	12	0.30	0.18	1.2E+00	1.9E-01	1.1E-04	1.7E-05	1.3E-07	9.7E-09	1.1E+02	1.7E+01	Yes	9.5E+01	5.8E+03

0000065

9613476.0046

WO 420

all Category I
JRM 21 Apr 94

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	Beta	Mnts
WHC			42194		421	10	11	178	180

Customer ID WHC/WATER	pH <2 Rcvd/Relq	RESIDUE Wght (mGrms)	Vol. Anal. mG	mL	Sample Size Gm	L	SMPLE CNT DATA Hldr Num.	Total Counts Alpha	Beta	Net Sample Counts/Minute Alpha	Beta	DPM / Aliqout Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Beta
B0BNM7		1.7	5		4.0		4	3	18	0.24	0.81	9.2E-01	1.6E+00	3.3E-04	5.7E-04	4.7E-07	4.6E-07	8.3E+01	1.4E+02	Yes	1.2E+02	7.1E+02
B0BNN9		3.2	5		4.0		5	3	119	0.24	10.91	6.2E-01	2.3E+01	2.2E-04	8.4E-03	4.7E-07	1.8E-06	5.6E+01	2.1E+03	Yes	1.8E+02	4.8E+01
B0BP16		1.2	5		1.0		6	5	16	0.44	0.61	1.7E+00	1.0E+00	1.5E-04	9.1E-05	1.6E-07	6.1E-08	1.5E+02	9.1E+01	Yes	6.5E+01	1.1E+03
B0BP14		0.9	5		1.0		7	2	12	0.14	0.21	5.4E-01	3.6E-01	4.8E-05	3.2E-05	8.7E-08	3.9E-08	4.8E+01	3.2E+01	Yes	2.1E+02	3.1E+03
B0BP24		1.4	5		1.0		8	0	20	-0.06	1.01	-3E-01	2.2E+00	-2E-05	2.0E-04	-6E-08	9.9E-07	-2E+01	2.0E+02	Yes	-4E+02	5.0E+02
B0BP18		1.2	5		1.0		9	1	17	0.04	0.71	1.3E-01	1.5E+00	1.2E-05	1.3E-04	4.5E-08	1.2E-06	1.2E+01	1.3E+02	Yes	8.5E+02	7.4E+02
TOTAL	uCi									-0.06	-0.99	-2E-01	-2E+00	7.5E-04	9.4E-03	ERR	ERR	ERR	ERR	Yes	ERR	ERR

0000066

9613476.0047

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

WO#426

All Cat. I
JRN 22 Apr 94

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	Beta	Mnts
WHC			42294		422	10	13	232	240

Customer ID WHC/WATER	pH <2 Rcvd/Relq	RESIDUE Wght (mGrms)	Vol. Anal. mG	mL	Sample Size Gm	L	SMPLE CNT DATA Hldr Num.	Total Alpha	Counts Beta	Net Sample Counts/Minute Alpha	Beta	DPM / Aliqout Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Beta
B0BP26		0.9	5		4.0		5	6	46	0.55	3.63	2.0E+00	7.4E+00	7.3E-04	2.7E-03	7.3E-07	1.0E-06	1.8E+02	6.7E+02	Yes	5.5E+01	1.5E+02
B0BP10		0.7	5		1.0		6	1	20	0.05	1.03	1.5E-01	2.2E+00	1.3E-05	2.0E-04	4.9E-08	1.3E-07	1.3E+01	2.0E+02	Yes	7.8E+02	5.1E+02
B0BNY2		0.9	5		1.0		7	6	25	0.55	1.53	2.1E+00	2.9E+00	1.9E-04	2.6E-04	1.8E-07	2.2E-07	1.9E+02	2.8E+02	Yes	5.3E+01	3.8E+02
B0BP02		1.3	5		1.0		8	2	11	0.15	0.13	5.7E-01	1.9E-01	5.1E-05	1.7E-05	9.0E-08	1.6E-08	5.1E+01	1.7E+01	Yes	1.9E+02	5.9E+03
B0BP00		1.2	5		1.0		9	1	14	0.05	0.43	1.7E-01	8.9E-01	1.5E-05	8.1E-05	4.9E-08	4.3E-07	1.5E+01	8.1E+01	Yes	6.7E+02	1.2E+03
B0BNY4		0.6	5		1.0		10	3	22	0.25	1.23	9.2E-01	2.5E+00	8.3E-05	2.2E-04	1.2E-07	3.7E-07	8.3E+01	2.2E+02	Yes	1.2E+02	4.5E+02
B0BNP7		0.5	5		4.0		11	1	17	0.05	0.73	1.6E-01	1.5E+00	5.8E-05	5.5E-04	1.9E-07	4.1E-06	1.4E+01	1.4E+02	Yes	7.2E+02	7.2E+02
B0BNM5		2.8	5		4.0		12	5	173	0.45	16.33	1.3E+00	3.5E+01	4.6E-04	1.2E-02	6.6E-07	5.4E-05	1.2E+02	3.1E+03	Yes	8.7E+01	3.2E+01
B0BNP3		0.5	5		4.0		14	1	17	0.05	0.73	1.6E-01	1.5E+00	5.6E-05	5.5E-04	1.9E-07	4.1E-06	1.4E+01	1.4E+02	Yes	7.2E+02	7.2E+02
TOTAL	uCi									-0.05	-0.97	-2E-01	-2E+00	1.7E-03	1.7E-02	ERR	ERR	ERR	ERR	Yes	ERR	ERR

9000000

9613476.0048

WO#363

SAMPLE STATUS REPORT FOR E 6258. E-BLANK 1-B2-12 TIME: 4/13/94 8: 9
DISPATCHED: 4/ 1/94 15: 8 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/13/94 7:50

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BO BNX2
BO BNX3

AJS
4/13/94

WO#363

SAMPLE STATUS REPORT FOR E 6260. E-BLANK 1-B3-1 TIME: 4/14/94 9:11
DISPATCHED: 4/ 1/94 15:10 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/13/94 15: 1

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBNX6
BOBNX7
LCS
4-14-94

9613476.0051

0000070

WO #363

SAMPLE STATUS REPORT FOR E 6262. E-BLANK 1-B3-47 TIME: 4/14/94 9:12
DISPATCHED: 4/ 1/94 15:11 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/13/94 15: I

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBNY0
BOBNY1
hcs
4-14-94

WO#386

SAMPLE STATUS REPORT FOR E 6268. E-BLANK 1-B4-9 TIME: 4/18/94 8:25
DISPATCHED: 4/ 1/94 15:15 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/15/94 14:31

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBN72
BOBN73
LCS
4/18/94

WO#386

SAMPLE STATUS REPORT FOR E 6269. E-BLANK 1-B5-1 TIME: 4/18/94 8:25
DISPATCHED: 4/ 1/94 15:16 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/15/94 14:31

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBNZ4
BOBNZ5
LCS
4/18/94

BOBP22
BOBP23
LCS
4/18/94

04/20/94 07:22 ☎373 3176 222S 3B ☑006

W0420

SAMPLE STATUS REPORT FOR E 6279. E-BLANK 6-67-86 TIME: 4/20/94 8:19
DISPATCHED: 4/ 1/94 15:21 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/20/94 8: 6

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBP14
BOBP15
LG
4/21/94

9613476.0055

0000074

WO#420

SAMPLE STATUS REPORT FOR E 6281. F-BLANK 6-72-73 TIME: 4/20/94 8:19
DISPATCHED: 4/ 1/94 15:22 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/20/94 8: 8

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

WO#420

BOBP24
BOBP25
LCS
4/21/94

BOBP16
BOBP17
LCS
4/21/94

WO 420

SAMPLE STATUS REPORT FOR E 6280. E-BLANK 6-71-77 TIME: 4/20/94 8:19
DISPATCHED: 4/ 1/94 15:22 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/20/94 8: 8

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBP16
BOBP17
4/21/94
ncS

WO#426

04/22/94 07:43 ☎373 3176 222S 3B 007

SAMPLE STATUS REPORT FOR E 6263. E-BLANK 1-B4-1 TIME: 4/22/94 8:19
DISPATCHED: 4/ 1/94 15:11 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/22/94 7:43

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBNV2
BOBNV3
LCS
4/22/94

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNX2

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: W0363 SAS No.: _____ SDG No.: W0031_

Matrix (soil/water): WATER Lab Sample ID: AA6516

Level (low/med): LOW__ Date Received: 04/15/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	67.3	B		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.4	B		F
7440-39-3	Barium	53.1	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	24900			P
7440-47-3	Chromium	10.9			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	42.8	B		P
7439-92-1	Lead	2.0	U	WN	F
7439-95-4	Magnesium	8460			P
7439-96-5	Manganese	14.2	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	4780	B		P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	12100			P
7440-28-0	Thallium	2.0	U	W	F
7440-62-2	Vanadium	30.3	B		P
7440-66-6	Zinc	11.8	B		P

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

FORM I - IN

ILM02.1

6/2/94

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNX3

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0363 SAS No.: SDG No.: W0031

Matrix (soil/water): WATER Lab Sample ID: AA6518

Level (low/med): LOW Date Received: 04/15/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	52.5	B		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.1	B		F
7440-39-3	Barium	62.7	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	27300			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	17.3	B		P
7439-92-1	Lead	2.0	U	WN	F
7439-95-4	Magnesium	9730			P
7439-96-5	Manganese	19.4			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	5360			P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	13400			P
7440-28-0	Thallium	2.0	B		F
7440-62-2	Vanadium	36.3	B		P
7440-66-6	Zinc	9.1	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

ILM02.1

6/2/94

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNX6

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0363 SAS No.: SDG No.: W0031

Matrix (soil/water): WATER Lab Sample ID: AA6510

Level (low/med): LOW Date Received: 04/15/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	518			P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	32.3	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	54000			P
7440-47-3	Chromium	358			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	1130			P
7439-92-1	Lead	2.0	U	WN	F
7439-95-4	Magnesium	8710			P
7439-96-5	Manganese	26.1			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	122			P
7440-09-7	Potassium	1920	B		P
7782-49-2	Selenium	2.9	B		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	11000			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	12.9	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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EPA SAMPLE NO.

BOBNX7

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0363 SAS No.: SDG No.: W0031
Matrix (soil/water): WATER Lab Sample ID: AA6512
Level (low/med): LOW Date Received: 04/15/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	139	B		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	38.6	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	64100			P
7440-47-3	Chromium	64.8			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	174			P
7439-92-1	Lead	2.0	U	WN	F
7439-95-4	Magnesium	10500			P
7439-96-5	Manganese	4.3	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	2330	B		P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	13200			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	10.1	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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EPA SAMPLE NO.

BOBNX8

Lab Name: ITAS_KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0363 SAS No.: SDG No.: W0031
Matrix (soil/water): WATER Lab Sample ID: AA6808
Level (low/med): LOW Date Received: 04/16/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	38.6	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	53600			P
7440-47-3	Chromium	11.1			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	59.3	B		P
7439-92-1	Lead	4.0		N	F
7439-95-4	Magnesium	7290			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	2590	B		P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	15200			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	6.9	B		P

Please replace stickers after coping

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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EPA SAMPLE NO.

BOBNX9

Lab Name: ITAS_KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: WO363 SAS No.: SDG No.: W0031
Matrix (soil/water): WATER Lab Sample ID: AA6810
Level (low/med): LOW Date Received: 04/16/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	29.3	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	39200		*	P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	11.0	B		P
7439-92-1	Lead	2.0	U		F
7439-95-4	Magnesium	5260			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	1860	B		P
7782-49-2	Selenium	2.2	B		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	11300			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	5.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
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EPA SAMPLE NO.

BOBNYO

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0363 SAS No.: SDG No.: W0031
Matrix (soil/water): WATER Lab Sample ID: AA6513
Level (low/med): LOW Date Received: 04/15/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	86.7	B		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	31.8	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	55800			P
7440-47-3	Chromium	46.6			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	61.2	B		P
7439-92-1	Lead	5.1		WN	F
7439-95-4	Magnesium	8320			P
7439-96-5	Manganese	2.2	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	1250	B		P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	10800			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	10.5	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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EPA SAMPLE NO.

BOBNY1

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0363 SAS No.: SDG No.: W0031
Matrix (soil/water): WATER Lab Sample ID: AA6515
Level (low/med): LOW Date Received: 04/15/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	214			P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	27.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	47200			P
7440-47-3	Chromium	40.6			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	38.2	B		P
7439-92-1	Lead	2.0	U	WN	F
7439-95-4	Magnesium	7050			P
7439-96-5	Manganese	2.0	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	1650	B		P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	9060			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	13.3	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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EPA SAMPLE NO.

BOBNP22

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE
Lab Code: ITSTU_ Case No.: W0386 SAS No.: _____ SDG No.: W0031_
Matrix (soil/water): WATER Lab Sample ID: AA7101
Level (low/med): LOW__ Date Received: 04/19/94
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	73.8	B		P
7440-36-0	Antimony_	50.0	U		P
7440-38-2	Arsenic__	2.0	U		F
7440-39-3	Barium___	23.8	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium__	5.0	U		P
7440-70-2	Calcium__	36600			P
7440-47-3	Chromium_	14.1			P
7440-48-4	Cobalt___	10.0	U		P
7440-50-8	Copper___	10.0	U		P
7439-89-6	Iron____	33.1	B		P
7439-92-1	Lead____	2.0	U	WN	F
7439-95-4	Magnesium	6740			P
7439-96-5	Manganese	2.0	B		P
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___	20.0	U		P
7440-09-7	Potassium	4390	B		P
7782-49-2	Selenium_	2.0	U	W	F
7440-22-4	Silver___	5.0	U		P
7440-23-5	Sodium___	9460			P
7440-28-0	Thallium_	2.0	U		F
7440-62-2	Vanadium_	10.0	U		P
7440-66-6	Zinc_____	14.7	B		P

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___
Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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EPA SAMPLE NO.

BOBNP23

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: W0386 SAS No.: _____ SDG No.: W0031_

Matrix (soil/water): WATER Lab Sample ID: AA7106

Level (low/med): LOW__ Date Received: 04/19/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	80.0	B		P
7440-36-0	Antimony_	50.0	U		P
7440-38-2	Arsenic__	2.5	B		F
7440-39-3	Barium___	19.4	B		P
7440-41-7	Beryllium	1.0	B		P
7440-43-9	Cadmium__	5.0	U		P
7440-70-2	Calcium__	29400		*	P
7440-47-3	Chromium_	11.8			P
7440-48-4	Cobalt___	10.0	U		P
7440-50-8	Copper___	10.0	U		P
7439-89-6	Iron____	27.3	B		P
7439-92-1	Lead____	2.3	B	W	F
7439-95-4	Magnesium	5440			P
7439-96-5	Manganese	2.1	B		P
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___	20.0	U		P
7440-09-7	Potassium	3670	B		P
7782-49-2	Selenium_	2.0	U	W	F
7440-22-4	Silver___	5.0	U		P
7440-23-5	Sodium___	8110			P
7440-28-0	Thallium_	2.0	B		F
7440-62-2	Vanadium_	10.0	U		P
7440-66-6	Zinc____	13.6	B		P

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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EPA SAMPLE NO.

BOBNZ2

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0386 SAS No.: SDG No.: W0031

Matrix (soil/water): WATER Lab Sample ID: AA6879

Level (low/med): LOW Date Received: 04/19/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	140	B		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	B		F
7440-39-3	Barium	79.0	B		P
7440-41-7	Beryllium	2.0	B		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	49100			P
7440-47-3	Chromium	27.4			P
7440-48-4	Cobalt	16.6	B		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	79.4	B		P
7439-92-1	Lead	2.0	U	WN	F
7439-95-4	Magnesium	7640			P
7439-96-5	Manganese	13.4	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	22.0	B		P
7440-09-7	Potassium	4570	B		P
7782-49-2	Selenium	2.2	B		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	10800			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	18.5	B		P
7440-66-6	Zinc	23.8			P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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EPA SAMPLE NO.

BOBNZ3

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE
Lab Code: ITSTU_ Case No.: W0386 SAS No.: _____ SDG No.: W0031_
Matrix (soil/water): WATER Lab Sample ID: AA7103
Level (low/med): LOW__ Date Received: 04/19/94
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	80.8	B		P_
7440-36-0	Antimony_	50.0	U		P_
7440-38-2	Arsenic__	2.5	B		F_
7440-39-3	Barium___	31.6	B		P_
7440-41-7	Beryllium	1.0	U		P_
7440-43-9	Cadmium__	5.0	U		P_
7440-70-2	Calcium__	52300		*	P_
7440-47-3	Chromium_	15.1			P_
7440-48-4	Cobalt___	10.0	U		P_
7440-50-8	Copper___	10.0	U		P_
7439-89-6	Iron_____	20.7	B		P_
7439-92-1	Lead_____	2.0	U	W	F_
7439-95-4	Magnesium	8080			P_
7439-96-5	Manganese	2.0	U		P_
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___	20.0	U		P_
7440-09-7	Potassium	4870	B		P_
7782-49-2	Selenium_	2.6	B		F_
7440-22-4	Silver___	5.0	U		P_
7440-23-5	Sodium___	11900			P_
7440-28-0	Thallium_	2.0	U		F_
7440-62-2	Vanadium_	10.0	U		P_
7440-66-6	Zinc_____	10.6	B		P_

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___
Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:
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EPA SAMPLE NO.

BOBNZ4

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0386 SAS No.: SDG No.: W0031
Matrix (soil/water): WATER Lab Sample ID: AA7099
Level (low/med): LOW Date Received: 04/19/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	84.3	B		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.1	B		F
7440-39-3	Barium	29.7	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	36700			P
7440-47-3	Chromium	18.4			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	46.6	B		P
7439-92-1	Lead	5.6		WN	F
7439-95-4	Magnesium	6770			P
7439-96-5	Manganese	2.4	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	4180	B		P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	9660			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	15.6	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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EPA SAMPLE NO.

BOBNZ5

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: WO386 SAS No.: SDG No.: W0031
Matrix (soil/water): WATER Lab Sample ID: AA7105
Level (low/med): LOW Date Received: 04/19/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	82.9	B		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	21.5	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	34100		*	P
7440-47-3	Chromium	13.6			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	23.9	B		P
7439-92-1	Lead	2.0	U	W	F
7439-95-4	Magnesium	6260			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	4500	B		P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	8990			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	75.3			P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
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EPA SAMPLE NO.

BOBP14

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0420 SAS No.: SDG No.: W0031
Matrix (soil/water): WATER Lab Sample ID: AA7324
Level (low/med): LOW Date Received: 04/22/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	B		F
7440-39-3	Barium	11.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	27100			P
7440-47-3	Chromium	13.8			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	76.4	B		P
7439-92-1	Lead	3.0		N	F
7439-95-4	Magnesium	7530			P
7439-96-5	Manganese	2.5	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	5390			P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	11900			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	17.2	B		P
7440-66-6	Zinc	22.8			P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP15

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE
Lab Code: ITSTU_ Case No.: WO420 SAS No.: _____ SDG No.: W0031_
Matrix (soil/water): WATER Lab Sample ID: AA7326
Level (low/med): LOW__ Date Received: 04/22/94
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	40.0	U		P
7440-36-0	Antimony_	50.0	U		P
7440-38-2	Arsenic__	2.1	B		F
7440-39-3	Barium___	15.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium__	5.0	U		P
7440-70-2	Calcium__	34600		*	P
7440-47-3	Chromium_	17.1			P
7440-48-4	Cobalt___	10.0	U		P
7440-50-8	Copper___	10.0	U		P
7439-89-6	Iron____	10.1	B		P
7439-92-1	Lead____	3.6			F
7439-95-4	Magnesium	9630			P
7439-96-5	Manganese	2.2	B		P
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___	20.0	U		P
7440-09-7	Potassium	6150			P
7782-49-2	Selenium_	2.0	U		F
7440-22-4	Silver___	5.0	U		P
7440-23-5	Sodium___	15400			P
7440-28-0	Thallium_	2.0	U		F
7440-62-2	Vanadium_	19.7	B		P
7440-66-6	Zinc____	35.1			P

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___
Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:
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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP16

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE
Lab Code: ITSTU_ Case No.: WO420 SAS No.: _____ SDG No.: W0031_
Matrix (soil/water): WATER Lab Sample ID: AA7330
Level (low/med): LOW__ Date Received: 04/22/94
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	40.0	U		P
7440-36-0	Antimony_	50.0	U		P
7440-38-2	Arsenic__	2.1	B		F
7440-39-3	Barium___	59.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium__	5.0	U		P
7440-70-2	Calcium__	31300			P
7440-47-3	Chromium_	10.0	U		P
7440-48-4	Cobalt___	10.0	U		P
7440-50-8	Copper___	10.0	U		P
7439-89-6	Iron____	21.6	B		P
7439-92-1	Lead____	2.0	U	N	F
7439-95-4	Magnesium	9710			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___	20.0	U		P
7440-09-7	Potassium	6020			P
7782-49-2	Selenium_	2.0	U		F
7440-22-4	Silver___	5.1	B		P
7440-23-5	Sodium___	14900			P
7440-28-0	Thallium_	2.0	U		F
7440-62-2	Vanadium_	25.2	B		P
7440-66-6	Zinc_____	52.1			P

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___
Color After: COLOLRESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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EPA SAMPLE NO.

BOBP17

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: WO420 SAS No.: SDG No.: W0031
Matrix (soil/water): WATER Lab Sample ID: AA7332
Level (low/med): LOW Date Received: 04/22/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U	W	F
7440-39-3	Barium	55.6	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	29500		*	P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	10.0	U		P
7439-92-1	Lead	2.3	B		F
7439-95-4	Magnesium	9280			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	5140			P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	14000			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	21.6	B		P
7440-66-6	Zinc	5.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
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EPA SAMPLE NO.

BOBP18

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: WO420 SAS No.: SDG No.: W0031

Matrix (soil/water): WATER Lab Sample ID: AA7311

Level (low/med): LOW Date Received: 04/22/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	4.0	B		F
7440-39-3	Barium	21.2	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	34600			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	71.1	B		P
7439-92-1	Lead	2.0	U	N	F
7439-95-4	Magnesium	9170			P
7439-96-5	Manganese	2.8	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	5760			P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	5.3	B		P
7440-23-5	Sodium	13700			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	16.1	B		P
7440-66-6	Zinc	6.9	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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EPA SAMPLE NO.

BOBP24

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE
Lab Code: ITSTU_ Case No.: W0420 SAS No.: _____ SDG No.: W0031_
Matrix (soil/water): WATER Lab Sample ID: AA7327
Level (low/med): LOW__ Date Received: 04/22/94
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	40.0	U		P
7440-36-0	Antimony_	50.0	U		P
7440-38-2	Arsenic__	2.5	B		F
7440-39-3	Barium___	16.1	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium__	5.0	U		P
7440-70-2	Calcium__	27000			P
7440-47-3	Chromium_	10.0	U		P
7440-48-4	Cobalt___	10.0	U		P
7440-50-8	Copper___	10.0	U		P
7439-89-6	Iron_____	42.0	B		P
7439-92-1	Lead_____	2.0	U	N	F
7439-95-4	Magnesium	7140			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___	20.0	U		P
7440-09-7	Potassium	4380	B		P
7782-49-2	Selenium_	2.0	U		F
7440-22-4	Silver___	5.0	U		P
7440-23-5	Sodium___	10700			P
7440-28-0	Thallium_	2.0	U		F
7440-62-2	Vanadium_	10.6	B		P
7440-66-6	Zinc_____	20.4			P

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___
Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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EPA SAMPLE NO.

BOBP19

Lab Name: ITAS_KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0420 SAS No.: SDG No.: W0031
Matrix (soil/water): WATER Lab Sample ID: AA7316
Level (low/med): LOW Date Received: 04/22/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.4	B		F
7440-39-3	Barium	17.7	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	29900		*	P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	56.7	B		P
7439-92-1	Lead	2.0	U	W	F
7439-95-4	Magnesium	7950			P
7439-96-5	Manganese	2.3	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	5320			P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	11900			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	13.0	B		P
7440-66-6	Zinc	20.9			P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
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EPA SAMPLE NO.

BOBP25

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0420 SAS No.: SDG No.: W0031
Matrix (soil/water): WATER Lab Sample ID: AA7329
Level (low/med): LOW Date Received: 04/22/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	17.9	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	26500		*	P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	13.2	B		P
7439-92-1	Lead	2.0	U		F
7439-95-4	Magnesium	7030			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	4830	B		P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	10600			P
7440-28-0	Thallium	2.0	U	W	F
7440-62-2	Vanadium	11.8	B		P
7440-66-6	Zinc	18.1	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
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SPECIFIC CONDUCTANCE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	386
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	04/27/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6154	1	U
BOBNZ4	AA7100	304	+
BOBNP22	AA7102	307	+
BOBNZ2	AA6880	436	+

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

SPECIFIC CONDUCTANCE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	420
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	04/27/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6154	1	U
BOBP16	AA7331	378	+
BOBP18	AA7312	350	+
BOBP24	AA7328	350	+
BOBP14	AA7325	357	+

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

SPECIFIC CONDUCTANCE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	426
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	04/27/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6155	1	U
BOBNY2	AA7372	371	+

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

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DEA 7-7-94

SPECIFIC CONDUCTANCE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	363
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	06/22/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6336	1	U
BOBNX6	AA6511	430	+

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	386
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	04/26/94

Client Sample ID	Lab Sample ID	Result
Method Blank	*	*
BOBNZ4	AA7100	7.4
BOBNP22	AA7102	7.4
BOBNZ2	AA6880	7.9

* - A method blank is not applicable for this analysis.

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	420
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	04/26/94

Client Sample ID	Lab Sample ID	Result
Method Blank	*	*
BOBP16	AA7331	7.84
BOBP18	AA7312	7.78
BOBP24	AA7328	7.81
BOBP14	AA7325	7.82

* - A method blank is not applicable for this analysis.

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	426
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	04/26/94

Client Sample ID	Lab Sample ID	Result
Method Blank	*	*
BOBNY2	AA7372	7.91

* - A method blank is not applicable for this analysis.

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DEa 7-7-94

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	363
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	06/22/94

Client Sample ID	Lab Sample ID	Result
Method Blank	*	*
BOBNX6	AA6511	7.61

* - A method blank is not applicable for this analysis.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	363
Client Sample ID:	BOBNX6	Preparation Date:	05/11/94
Lab Sample ID:	AA6511	Analysis Date:	05/11/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	U	0.4
sulfate	52	+	3.0

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

9613476.0089

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DEA 7-7-94

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	363
Client Sample ID:	BOBNX2	Preparation Date:	05/11/94
Lab Sample ID:	AA6517	Analysis Date:	05/11/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.497	+	0.4
sulfate	10.8	+	1.5

+ - Positive result.

9613476.0090

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DEA 7-7-94

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	363
Client Sample ID:	BOBNY0	Preparation Date:	05/11/94
Lab Sample ID:	AA6514	Analysis Date:	05/11/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	U	0.4
sulfate	50.2	+	1.5

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	420
Client Sample ID:	BOBP18	Preparation Date:	05/16/94
Lab Sample ID:	AA7312	Analysis Date:	05/16/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	+	0.4
sulfate	23	+	1.5

+ - Positive result.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	420
Client Sample ID:	BOBP14	Preparation Date:	05/16/94
Lab Sample ID:	AA7325	Analysis Date:	05/16/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	U	0.4
sulfate	33	+	3.0

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	420
Client Sample ID:	BOBP24	Preparation Date:	05/16/94
Lab Sample ID:	AA7328	Analysis Date:	05/16/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	U	0.4
sulfate	23	+	1.5

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	420
Client Sample ID:	BOBP16	Preparation Date:	05/16/94
Lab Sample ID:	AA7331	Analysis Date:	05/16/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	U	0.4
sulfate	30	+	1.5

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	386
Client Sample ID:	BOBNZ2	Preparation Date:	05/13/94
Lab Sample ID:	AA6880	Analysis Date:	05/13/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	U	0.4
sulfate	49	+	7.5

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	386
Client Sample ID:	BOBNZ4	Preparation Date:	05/13/94
Lab Sample ID:	AA7100	Analysis Date:	05/13/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	U	0.4
sulfate	25	+	1.5

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	386
Client Sample ID:	BOBP22	Preparation Date:	05/13/94
Lab Sample ID:	AA7102	Analysis Date:	05/13/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	U	0.4
sulfate	25	+	1.5

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	426
Client Sample ID:	BOBNY2	Preparation Date:	05/17/94
Lab Sample ID:	AA7372	Analysis Date:	05/17/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	U	0.4
sulfate	47	+	7.5

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

9613476.0099

0002768

DEA 7/20/94

SPECIFIC CONDUCTANCE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	363
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	07/19/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6385	1	U
BOBNY0	AA6514	388	+
BOBNX2	AA6517	270	+

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

9613476.0100

0002769
DSA 7-20-94

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	363
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	07/19/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBNY0	AA6514	8.16	-
BOBNX2	AA6517	7.87	-

* - A method blank is not applicable for this analysis.

9613476.0101

Analytical Data Package Prepared for

WESTINGHOUSE HANFORD

JUN 1994
RECEIVED
SDLA

Chemical Analysis By

IT Analytical Services
Middlebrook Laboratory

Sample Delivery Group Number: W0043

WHC IDENTIFICATION NUMBER	ITAS RICHLAND ID NUMBER	KNOXVILLE ID NUMBER

* See attached Table I.

RECORD COPY

IT Corporation
June 13, 1994
Job Number: 383; 417; 426; 454; 463
Client Project ID: WHC SAF #194-129 100-BC-5 Groundwater Round-6

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

III. Quality Control (Continued)

Table I is a cross reference between client sample IDs and laboratory sample IDs.

TABLE I

Knoxville ID	Richland ID	WHC ID	Test
AA6809	4044288-01B	BOBNX8	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7284	W404350-01A	BOBNX4	METALS-T
AA7285	W404350-01B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7286	W404350-02A	BOBNX5	METALS-D
AA7371	404429-01A	BOBNY2	METALS-T
AA7372	404429-02A	BOBNY3	METALS-D
AA7785	404501-01A	B0BP20	METALS-T
AA7786	404501-01B	"	ANIONS
"	404501-01B	"	pH
"	404501-01B	"	CONDUCTIVITY
AA7805	404501-02A	BOBP21	METALS-D
AA7795	404501-03A	BOBP42	METALS-T

IT Corporation
June 13, 1994
Job Number: 383; 417; 426; 454; 463
Client Project ID: WHC SAF #194-129 100-BC-5 Groundwater Round-6

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

III. Quality Control (Continued)

Table I is a cross reference between client sample IDs and laboratory sample IDs.

TABLE I

Knoxville ID	Richland ID	WHC ID	Test
AA7796	404501-03B	BOBP42	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7806	404501-04A	BOBP43	METALS-D
AA7797	404501-05A	BOBP06	METALS-T
AA7798	404501-05B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7807	404501-06A	BOBP07	METALS-D
AA7799	404501-07A	BOBP30	METALS-T
AA7800	404501-07B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7808	404501-08A	BOBP31	METALS-D

IT Corporation
June 13, 1994
Job Number: 383; 417; 426; 454; 463
Client Project ID: WHC SAF #194-129 100-BC-5 Groundwater Round-6

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

III. Quality Control (Continued)

Table I is a cross reference between client sample IDs and laboratory sample IDs.

TABLE I

Knoxville ID	Richland ID	WHC ID	Test
AA7801	404501-09A	BOBNY6	METALS-T
AA7802	404501-09B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7809	404501-10A	BOBNY7	METALS-D
AA7803	404501-11A	BOBP12	METALS-T
AA7804	404501-11B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7810	404501-12A	BOBP13	METALS-D
AA7893	404566-01A	BOBP08	METALS-T
AA7894	404566-01B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7895	404566-02A	BOBP09	METALS-D

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT Corporation
2800 George Washington Way
Richland, WA 99352
Attn: Van Pettey

June 13, 1994

Job Number: 383; 417; 426; 454; 463

This is the Certificate of Analysis for the following samples:

SDG:	W0043
Client Project ID:	WHC SAF# 194-129 100-BC-5 Groundwater Round-6
Date Received by Lab:	April 16, April 20, April 29 and April 30, 1994
Number of Samples:	Twenty (20)
Sample Type:	Water

I. Introduction

On April 16, April 20, April 29 and April 30, 1994, twenty (20) water samples arrived at ITAS-Richland, Washington and were transferred to ITAS-Knoxville for chemical analysis. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

II. Analytical Results/Methodology

The analytical results for this report are presented by analytical test. Each set of data will include sample identification information and the analytical results.

The samples were analyzed for Target Analyte List (TAL) metals by cold vapor atomic absorption spectroscopy (CVAA), graphite furnace atomic absorption spectroscopy (GFAA), and inductively coupled plasma spectroscopy (ICP) in accordance with the EPA CLP ILM03 Statement of Work.

Reviewed and Approved:

Sheree A. Schneider

Sheree' A. Schneider
Project Manager

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

IT Corporation
June 13, 1994
Job Number: 383; 417; 426; 454; 463
Client Project ID: WHC SAF #194-129 100-BC-5 Groundwater Round-6

II. Analytical Results/Methodology (Continued)

The pH of the samples was determined using EPA method 150.1.

The specific conductance of the samples was measured using EPA method 120.1.

The samples were analyzed for anions by ion chromatography using EPA method 300.0.

III. Quality Control

The samples for work order #417 were digested on May 4, 1994 for ICP and May 4 and May 10, 1994 for GFAA. The CVAA analysis for mercury was performed on May 9, 1994; the GFAA analyses for arsenic, lead, selenium and thallium were performed from May 6 through May 10, 1994 and June 7, 1994; the remaining metals were analyzed by ICP on May 31, 1994. All run QC was acceptable. Samples were batched with work order #454.

The samples for work order #426 were digested on May 20, 1994 for ICP and May 5, 1994 for GFAA. The CVAA analysis for mercury was performed on May 9, 1994; the GFAA analyses for arsenic, lead, selenium and thallium were performed from May 5 through May 11, 1994; the remaining metals were analyzed by ICP on May 24, 1994. All run QC was acceptable. Samples were batched with QC from work order #454.

The samples for work order #454 were digested on May 18, 1994 for ICP and GFAA. The CVAA analysis for mercury was performed on May 18, 1994; the GFAA analyses for arsenic, lead, selenium and thallium were performed from May 18-23, 1994; the remaining metals were analyzed by ICP on May 25, 1994. All run QC was acceptable. A duplicate/spike pair was prepared using sample number BOBP20 (total) & BOBP21 (dissolved). Spike recovery (accuracy) results were within acceptance limits for all parameters for both samples except for lead by GFAA and mercury by CVAA for BOBP20 (total). Matrix interferences created by the high calcium concentrations may be attributable to poor spike recovery for both analytes. Duplicate RPD (precision) results were within acceptance limits for all parameters for both samples.

The samples for work order #463 were digested on May 12, 1994 for ICP and GFAA. The CVAA analysis for mercury was performed on May 18, 1994; the GFAA analyses for arsenic, lead, selenium and thallium were performed from May 18 through May 24, 1994; the remaining metals were analyzed by ICP on May 25, 1994. All run QC was acceptable. Samples were batched with QC from work order #454.

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

IT Corporation
June 13, 1994
Job Number: 383; 417; 426; 454; 463
Client Project ID: WHC SAF #194-129 100-BC-5 Groundwater Round-6

III. Quality Control (Continued)

Data were reported with qualifiers as follows:

"C" Qualifiers

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.
B - Value greater than instrument detection limit, but less than contract required quantitation limit.

"Q" Qualifiers

* - Duplicate analysis outside control limits.
N - Spiked sample recovery outside control limits.
W - Post-digestion spike for GFAA was out of control limits (85-115%), while sample absorbance was less than 50% of spike absorbance.
S - The reported value was determined by method of standard additions.

"M" Qualifiers

P - Analysis performed by ICP.
V - Analysis performed by CVAA.
F - Analysis performed by GFAA.
C - Cyanide analysis by manual distillation/colorimetric determination.

Miscellaneous

D - Duplicate.
S - Spike.
NR - Not required.
G - Native analyte > 4 times spike added, therefore, acceptance criteria do not apply.
X - Detection limits higher than normal due to sample matrix interferences.

Duplicate analyses for pH were performed using sample numbers BOBP20 and BOBNX8. Results were acceptable.

Duplicate analyses for specific conductance were performed using sample numbers BOBP20 and BOBNX8. Results were acceptable.

Matrix spike and matrix spike duplicate analyses for anions were performed using sample numbers BOBP20 and BOBNX8. Results were acceptable.

9613476.0108

0000027

WO #417

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1000 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

Per Shipping Container

Date/Time Received 4/19/94 1150 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) GWS015

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/19/94 1150

FORM NO. LS-042, Rev.0, 2/94

9613476.0109

0000028

WO#426

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1330 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

1 Per Shipping Container

Date/Time Received 4-22-94 14:00 Client Name WHC

Project/Client # 94-129 Batch or Case #

Cooler ID (if noted on the outside of cooler) ER-8

1. Condition of shipping container? O.K.
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: ~~12~~ 24
8. Samples have: ☒ tape ____ hazard labels
   ☒ custody seals ____ appropriate sample labels
9. Samples are: ☒ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) n/a
    Request for analysis #(s) n/a
    Airbill # n/a Carrier n/a
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☒

Printed Name/Signature Karen Achterling Date/Time 4-22-94 14:00

FORM NO. LS-042, Rev.0, 2/94

9613476.0110

0000029

WO#454

INTERNATIONAL TECHNOLOGY CORPORATION

National Office
[illegible] George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

For Shipping Containers

Date/Time Received 4/27 1210 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) 042

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 27
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 40

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #(s) N/A
    Request for analysis #(s) ↓
    Airbill # ↓ Carrier ↓
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature JMickelberry Date/Time 4/27 1210

FORM NO. LS-042, Rev.0, 2 94

9613476.0111

0000030

WO #454

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1330 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(For Shipping Containers)

Date/Time Received 4/27 1210 Client Name WHC

Project/Client # 94-129 Batch or Case # NA

Cooler ID (if noted on the outside of cooler) MWS 020

1. Condition of shipping container? GIC
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 78
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 2°

11. The following paperwork should be accounted for (N/A if not applicable):

    Chain of Custody #'(s) N/A

    Request for analysis #(s) N/A

    Airbill # N/A Carrier N/A

12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature [illegible] Date/Time 4/27 1210

FORM NO. LS-042, Rev.0, 2 94

9613476.0112

0000031

WO #454

INTERNATIONAL TECHNOLOGY CORPORATION

National Office
[illegible] George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(For Shipping Containers)

Date/Time Received 4/27 1210 Client Name WHC

Project/Client # 9L1-129 Batch or Case # —/—

Cooler ID (if noted on the outside of cooler) ERG

1. Condition of shipping container? GU
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☑ No ☐
7. Number of sample containers in cooler: _____
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature _____

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #(s) _____
    Request for analysis #(s) —/—
    Airbill # _____ Carrier _____
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature [illegible] Date/Time 4/27 1210

FORM NO. LS-042, Rev.0, 2 94

9613476.0113

0000032

WO #463

INTERNATIONAL TECHNOLOGY CORPORATION

National Office
1500 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(Per Shipping Container)

Date/Time Received 4-29-94 12:10 Client Name WHC

Project/Client # 94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) GWS044

1. Condition of shipping container? OK.
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☐ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☑ No ☐
7. Number of sample containers in cooler: 17
8. Samples have: ✓ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 4°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☑

Printed Name/Signature Karen Ackenberg Date/Time 4-29-94 12:10

FORM NO. LS-042, Rev.0, 2/94

WU#41+

0000033

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K.D. Lee	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100-BC-5	SAF No.: 94-129
Ice Chest No.: GWSC15	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W74-C-0336-48	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	N/A	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	G	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	20ml	1000ml
SAMPLE ANALYSIS 404350	ICP METALS AA METALS Hg CLP 014	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	TOTAL ACTIVITY	ICP METALS, AA METALS, Hg CLP FILTERD

Sample No.	Matrix*	Date Sampled	Time Sampled														
B0BNX4	W	04/18/94	1133	X	X	X	X	X	X	02A							
B0BNX5	W	04/18/94	1131							X							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
Kirby D. Lee K.D. Lee	4/18/94 1400	Sweeney L Sweeney	4/18/94 1400
Sweeney L Sweeney	4/18/94 1150	[illegible]	4/18/94 1150

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION — Received By: | Title: | Date/Time:

FINAL SAMPLE DISPOSITION — Disposal Method: | Disposed By: | Date/Time:

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9413746.0114

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: ☐ Priorty ☒ Normal

Collector: Collector G G Hamilton

Company Contact: PH BUTCHER

Telephone No.: 509-376-4388

Project Des.: 100-BC-5

Sampling Location: 100B

SAF No.: 94-129

Ice Chest No.: SMC 118

Field Logbook No.:

Method of Shipment: HAND DELIVER

Shipped To: IT

Offsite Property No.: N/A W94-0-0336-43

Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks:

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Refrig 2C AJS 4/13/94 1375

SAMPLE ANALYSIS: 40428801

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	uGs	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml
	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 40428901	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 40428802A

Sample No.	Matrix*	Date Sampled	Time Sampled														
B0BNX8	W	4/13/94	1015	X	X	X	X	X	X								
B0BNX9	W	↓	↓							X							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
G G Hamilton	1335 4/13/94	AJ SIMPSON A J Simpson	4/13/94 1335
AJ SIMPSON A J Simpson	4/15/94 1000	L Sweeney L Sweeney	4/15/94 1000
L Sweeney L Sweeney	4/15/94 1400	Karen Hatton Karen Hatton	4/15/94 14:40

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION — Received By: | Title: | Date/Time:

FINAL SAMPLE DISPOSITION — Disposal Method: | Disposed By: | Date/Time:

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0115

00000334

DA 6-21-94

0000034

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

WO#426

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-7	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-3	Bill of Lading/Air Bill No.: N/A ~~W94~~ NCS 4-22-94 NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

SAMPLE ANALYSIS: 404429

	Sample No.	Matrix*	Date Sampled	Time Sampled	ICP METALS AA METALS Hg CLP	ANIONS F,SO4 COND pH	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	A-Tritium Sr-90	ICP METALS, AA METALS, Hg CLP FILTERD
Preservative					HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container					G/P	P	G/P	G/P	Gs	G	G/P
No. of Container(s)					1	1	5	2	3	1	1
Volume					1000ml	1000ml	1000ml	1000ml	1000ml	4L	1000ml
					A	B	404430	01			
01	B0BNY2	W	4/21/94	0920	X	X	X	X	X	X	
02	B0BNY3	W	↓	↓							X A

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	4/22/94 0752	L. Sweeney / L. Sweeney	4/22/94 0752
L. Sweeney / L. Sweeney	4/22/94 1400	R. Boyd DT	4/22/94 1400
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0116

w8454

0000035

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 C	SAF No.: 94-129
Ice Chest No.: 042	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-15	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE 2A NJS 4/26/94 1620		

SAMPLE ANALYSIS: 404501

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP METALS AA METALS Hg CLP	ANIONS F, SO4 COND pH	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14		ICP METALS, AA METALS, Hg CLP FILTERD
Preservative				HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4		HNO3<2
Type of Container				G/P	P	G/P	G/P	Gs		G/P
No. of Container(s)				1	1	5	2	3	1	1
Volume				1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml
				A	B	40450201				02A
BOBP20 01	W	4/26/94	1700	X	X	X	X	X	X	
BOBP21 02	W	↓	↓							

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: K. Trapp / K. Trapp	Received By: N.J. SIMPSON / A Simpson	4/26/94 1620
Relinquished By: A Simpson / N.J. SIMPSON	Received By: L Sweeney / L Sweeney	4/27/94 1021
Relinquished By:	Received By: Heidelberg	4/27 1210
Relinquished By:	Received By:	

SPECIAL INSTRUCTIONS: DATA DELIVERABLE-STANDALONE

Matrix*: S = Soil; SE = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air; DS = Drum Solids; DL = Drum Liquids; T = Tissue; WI = Wipe; L = Liquid; V = Vegetation; X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0117

WO#451

0000036

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K. Tiepp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 120 A	SAF No.: 94-129
Ice Chest No.: C-42	Field Logbook No.: EFL-1636	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-15	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Relinq 2A AJS 4/26/94 1615

SAMPLE ANALYSIS: 404501

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4		HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs		G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml		1000ml
	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14		ICP METALS, AA METALS, Hg CLP FILTERD C4A

Sample No.	Matrix*	Date Sampled	Time Sampled														
B0BP42 03	W	4/26/94	1445	X	X	X	X	X	X								
B0BP43 04	W	↓								Y							

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By: K. Vigoy / K. Tiepp, Date/Time: 4/26/94 1610	Received By: AJ Simpson / AJ SIMPSON, Date/Time: 4/26/94 1615	
Relinquished By: AJ Simpson / AJ SIMPSON, Date/Time: 4/27/94 1021	Received By: L Sweeney / L Sweeney, Date/Time: 4/27/94 1021	
Relinquished By: L Sweeney / L Sweeney, Date/Time: 4/27/94 1210	Received By: Heidelberg, Date/Time: 4/27/1210	
Relinquished By: Date/Time	Received By: Date/Time	

SPECIAL INSTRUCTIONS: DATA DELIVERABLE-STANDALONE

Matrix*: S = Soil; SE = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air; DS = Drum Solids; DL = Drum Liquids; T = Tissue; WI = Wipe; L = Liquid; V = Vegetation; X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0118

WO#471

0000037

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 P	SAF No.: 94-129
Ice Chest No.: GWS020	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: LT	Offsite Property No.: N/A W94-0-0578-15	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE 3C AJS 4/26/94 1610		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4		HNO3<2								
Type of Container	G/P	P	G/P	G/P	Gs		G/P								
No. of Container(s)	1	1	5	2	3	1	1								
Volume	1000ml	1000ml	1000ml	1000ml	1000ml		1000ml								
SAMPLE ANALYSIS 404501	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14		ICP METALS, AA METALS, Hg CLP FILTERD								
Sample No.	Matrix*	Date Sampled	Time Sampled												
B08P06 05	W	4/26/94	1635	X	1	1	1	1	1						
B08P07 06	W	↓	↓							1					

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: K. Trapp / K. Trapp, Date/Time: 4/26/94 1610	Received By: AJ Simpson AJ Simpson, Date/Time: 4/26/94 1610		
Relinquished By: AJ Simpson / AJ Simpson, Date/Time: 4/27/94 1016	Received By: L Sweeney / L Sweeney, Date/Time: 4/27/94 1016		
Relinquished By: L Sweeney / L Sweeney, Date/Time: 4-27-94 1210	Received By: [illegible] 4/27/1210		
Relinquished By:	Received By:		

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0119

WO #457

0000038

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp	Company Contact: PN BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: GWS 02 C0	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W74-0-0518-15	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE 3C AJS 1608 4/26/94		

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	[illegible]	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml
SAMPLE ANALYSIS 404501	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99 404502	TRITIUM C-14 04	[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD DBA

Sample No.	Matrix*	Date Sampled	Time Sampled							
B0BP30 07	W	4/26/94	1415	X	X	X	X	X	X	
B0BP31 08	W	↓	↓							↓

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	4/26/94 1600	AJ Simpson / AJ Simpson	4/26/94 1608
AJ Simpson / AJ Simpson	4/27/94 1017	L Sweeney / L Sweeney	4/27/94 1017
L Sweeney / L Sweeney	4-27-94 1210	[illegible]	4/27/94 1210

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0120

WO#451

0000039

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-9	Field Logbook No.: EFI-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W374-0-0518-11	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE 10 HRS TO AJS		

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	Glass	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml
SAMPLE ANALYSIS 404501	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 10A

Sample No.	Matrix*	Date Sampled	Time Sampled														
B0BNY6 9	W	4/25/94	1040	+	+	+	+	+	+								
B0BNY7 10	W	↓	↓							↓							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	4/25/94 1355	AJ Simpson	4/26/94 1355
AJ Simpson (AJ SIMPSON)	4/27/94 0922	L Sweeney, L Sweeney	4/27/94 0922
L Sweeney / Sweeney	4-27-94 1210	Heidelberg	4/27 1210
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0121

WO#457

0000040

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Tripp	Company Contact: PM BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-9	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W194-0-0578-11	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Refrig 3x AJS		

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	G	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40 ml	1000ml
SAMPLE ANALYSIS 404501	ICP METALS AA METALS Hg CLP A	ANIONS F, SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Anions Gross	ICP METALS, AA METALS, Hg CLP FILTERD 12A

Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBP12 11	W	4/25/94	1205	X	X	X	X	X	X								
BOBP13 12	W	↓								X							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: K. Tripp / K. Tripp, Date/Time: 4/25/94 1355	Received By: AJ SIMPSON / RJ Simpson, Date/Time: 4/25/94 1355		
Relinquished By: AJ SIMPSON / RJ Simpson, Date/Time: 4/27/94 0925	Received By: L. Sweeney / L. Sweeney, Date/Time: 4/27/94 0925		
Relinquished By: L. Sweeney / L. Sweeney, Date/Time: 4-27-94 1210	Received By: [illegible], Date/Time: 4/27 1210		
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0122

WO# A63

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: GWS0114	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A U94-0-0518-26	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE	AJS 4/27/94 Relog AJS 4/27/94 AJS 1342 Relog 3A	

SAMPLE ANALYSIS: 404566

Sample No.	Matrix*	Date Sampled	Time Sampled	Preservative: HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2								
				Type of Container: G/P	P	G/P	G/P	Gs	GGS	G/P								
				No. of Container(s): 1	1	5	2	3 6 KT 4/27/94	1	1								
				Volume: 1000ml	1000ml	1000ml	1000ml	~~1000ml~~ 500mL KT 4/27/94	40mL	1000ml								
				ICP METALS AA METALS Hg CLP A	ANIONS F, SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 02A								
BOBP08 01	W	4/27/94	~~1015~~ 1030 KT 4/27/94	X	X	X	X	X	X									
BOBP09 02	W	↓	↓							X								

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: K. Trapp / K. Trapp		4/27/94 1340
Received By: AJ SIMPSON	AJ Simpson	4/27/94 1340
Relinquished By: AJ SIMPSON	AJ Simpson	4/29/94 1027
Received By: L Sweeney	L Sweeney	4/29/94 1030
Relinquished By: L Sweeney	L Sweeney	4.29.94 1210
Received By: Karen Ankerling	Karen Ankerling	4/29/94 1210
Relinquished By:		
Received By:		

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

0000041

9613476.0123

9613476.0124

0000042

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0-0336-48

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Eng. Env. & Tech	EFS	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
IT Analytical Services 2800 G.W. WAY Richland, WA 99352	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample #; BOBNX4, BOBNX5 Cooler ID: GWS015 Poly cooler with groundwater samples packed in wet ice and vermiculite	NA

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

BEST AVAILABLE COPY

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
[signature]	157886	4/19/94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	PH Butcher	509 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-19-94	8B410 P85AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4-19-94	P. H. Butcher	4/19/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[signature]	4/19/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

[signature] ITAS 4/19/94 1150

54-3000-479 (09/89)

9613476.0125

0000043

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-U-0518-15

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
IT Analytical Services 2800 George Washington Way Richland, WA 99352	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs.	Sample #: BOBP42, BOBP43, BOBP20, BOBP21 Cooler ID: 042 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: BOBP30, BOBP31, BOBP06, BOBP07 Cooler ID: GWS030 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

BEST AVAILABLE COPY

Bill of lading # NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
	152933	4/27/94

Location of Property (Area & Bldg.)	Contact	Phone
166-BC-5	P. H. Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-27-94	8B410 PB5AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4/27/94	[illegible]	4/27/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible]	4/27/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
[illegible]				
Date 4/27/94				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

54-3000-479 (09/89)

9613476.0126

0000044

WO#463

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-C-0518-26

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from [X] Contractor [ ] Vendor

Routing [X] Contractor [ ] Vendor

Shipped to

IT Analytical Services
2800 George Washington Way
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs.	Sample #: BL BP08, BOBP09 Cooler ID: GWSC44 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: Cooler ID: NA Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

[ ] Classified [X] Unclassified [ ] Shipped Under DOE Contract [ ] Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

Bill of lading # NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release: R Nelson	RM Survey No.: 157785	Date: 4-29-94
Location of Property (Area & Bldg.): 100-BC-5	Contact: P. H. Butcher	Phone: (509) 376-4388
Date Ready for Shipment: 4/29/94	Cost Code to be Charged: 88410 PB5AA	Approximate Date This Property will be Returned: NA
Originated By: PH Butcher	Date: 4/29/94	Authorized By: [signature] Date: 4/29/94
Signature and Name of Property Control	Custodian Date	Property Management Approval: [signature] Date: 4/29/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

54-3000-479 (09/89)

INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001481*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO #3863 PL #496

Reference Document No. 340380
Page 1 of ___

Project Name/No. [1] 94-129
Sample Team Members [2]
Profit Center No. [3] 4632
Project Manager [4] VAN PETTY
Purchase Order No. [6]
Required Report Date [11]

Samples Shipment Date [7] 4-15-94
Lab Destination [8] Middlebrook
Lab Contact [9]
Project Contact/Phone [12]
Carrier/Waybill No. [13]

Bill to: [5] F.F. Richland

Report to: [10] F.F. Richland

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Pre-servative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
40428801 A	BOBNX8	4-13-94 10:15	G	1L		METALS	3°C BB 4/16/94 <2	
↓ B	↓	↓	P	1L		ANIONS	↓	
A	BOBNX9	↓	G	1L		METALS	<2	
	JH 4/15/94							

FOR LAB USE ONLY

FOR LAB USE ONLY

Special Instructions: [23] As per WHC Contract

Possible Hazard Identification: [24]
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: [25]
Return to Client ☒ Disposal by Lab ☐ Archive ___ (mos.)

Turnaround Time Required: [26]
Normal ☒ Rush ☐

QC Level: [27]
I. ☐ II. ☐ III. ☐ Project Specific (specify) SAF 94-129

1. Relinquished by [28] (Signature/Affiliation) Heidelberg	Date: 4/15/94 Time: 1600	1. Received by [28] (Signature/Affiliation) Bryan Blanquet ITASKN	Date: 4/16/94 Time: 9:30
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: [29] SDG-W0031

MCA 3/15/91

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

0000045

9613476.0127

INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001514*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO#417 RL#529

Reference Document No. 340390
Page 1 of 1

Project Name/No. 1: 94-129
Sample Team Members 2:
Profit Center No. 3: 4632
Project Manager 4: VanPetley
Purchase Order No. 6:
Required Report Date 11:

Samples Shipment Date 7: 4/19/94
Lab Destination 8: Middlebrook
Lab Contact 9:
Project Contact/Phone 12:
Carrier/Waybill No. 13: 112 8740 864

Bill to: 5 ITAS Richland
Report to: 10 ITAS Richland

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
W4043500 1 A	BOB NX4 / H_2O	4/18/94 1133	Glass	1000 ml	HNO_3 4°C	Metals	4°C KAK 4-20-94	
B	|	|	Poly	|	|	Anions	FOR LAB USE ONLY	
02A	BOB NX5 / H_2O	|	Glass	|	HNO_3	metals		
	4/19/94							
							FOR LAB USE ONLY	

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive ____ (mos.)

Turnaround Time Required: 26
Normal ☒ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0031

1. Relinquished by 28 (Signature/Affiliation) ITAS — Date: 4/19/94 Time: 1600	1. Received by 28 (Signature/Affiliation) Kenya A. Klemm ITAS-KN — Date: 04-20-94 Time: 0910
2. Relinquished by (Signature/Affiliation) — Date: Time:	2. Received by (Signature/Affiliation) — Date: Time:
3. Relinquished by (Signature/Affiliation) — Date: Time:	3. Received by (Signature/Affiliation) — Date: Time:

Comments: 29

MCA 3/15/91

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

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9613476.0129

INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001523*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO#4526 / L#538

Reference Document No. 453601
Page 1 of 1

Project Name/No. 1 SAF 94-129
Sample Team Members 2
Profit Center No. 3 4632
Project Manager 4 Van Pettey
Purchase Order No. 6
Required Report Date 11

Samples Shipment Date 7 4-23-94
Lab Destination 8 Middle Brook
Lab Contact 9
Project Contact/Phone 12
Carrier/Waybill No. 13 8875576065

Bill to: 5 IT Richland
Report to: 10 IT Richland

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
40442901A	BOBNY2 / water	4-21-94 0920	G/P	1000ml	Cool 4°	ICP, GFAA, Hg	<2 5° BHB 4/25/94	
↓ B	↓	↓	P	↓	↓	Anions, Cond, ~~Hg~~ PH	4-22-94	
40442902A	BOBNY3 ↓	↓	G/P	↓	↓	ICP, GFAA, Hg	<2	
		PB	4-22-94					

FOR LAB USE ONLY

FOR LAB USE ONLY

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive _____ (mos.)

Turnaround Time Required: 26
Normal ☐ Rush ☐ As Per WHC Contract

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0031

1. Relinquished by 28 (Signature/Affiliation) R. Boyd IT	Date: 4-23-94 Time: 1200	1. Received by 28 (Signature/Affiliation) Bryan Blomquist IT TASKM	Date: 4/25/94 Time: 8:55
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

MCA 3/15/91

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

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9613476.0129

INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001550*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO #454 / RL #965

Reference Document No. 453610

Page 1 of 2

Project Name/No. [1] SAF94-129

Sample Team Members [2]

Profit Center No. [3] 4632

Project Manager [4] YAN PETTEY

Purchase Order No. [6]

Required Report Date [11]

Samples Shipment Date [7] 4-28-94

Lab Destination [8] Middlebrook

Lab Contact [9]

Project Contact/Phone [12]

Carrier/Waybill No. [13] 150 9385 473

Bill to: [5] IT Richland

Report to: [10] IT Richland

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Pre-servative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
40450101 A	BOBP20 / Water	4/26 1300	G/P	1000ml	Cool 4°C	ICP, GFAA, Hg	5°C BPB 4/29/94 <2	
B	↓	↓	P	↓	↓	TH 4/28/94 Anions, SO4, Cond, PH	↓	
02A	BOBP21 / Water	↓	G/P			ICP, GFAA, Hg	<2	
03A	BOBP42 / Water	4/26 1445	↓			ICP, GFAA, Hg	<2	
B	↓	↓	P			Anions, SO4, Cond, PH.		
04A	BOBP43 / Water	↓	G/P			ICP, GFAA, Hg	<2	
05A	BOBP06 / Water	4/26 1035	↓			ICP, GFAA, Hg	<2	
B	↓	↓	P	↓	↓	Anions, SO4, Cond, PH.	↓	

FOR LAB USE ONLY

FOR LAB USE ONLY

Special Instructions: [23] As per WHC Contract

Possible Hazard Identification: [24] Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: [25] Return to Client ☒ Disposal by Lab ☐ Archive _____ (mos.)

Turnaround Time Required: [26] Normal ☒ Rush ☐

QC Level: [27] I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0043

1. Relinquished by [28] (Signature/Affiliation) Q. Boyd IT	Date: 4-28-94 Time: 1600	1. Received by [28] (Signature/Affiliation) Bryan Blanquist ITASKN	Date: 4/29/94 Time: 8:45
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: [29]

MCA 3/15/91

White: To accompany samples

Yellow: Field copy

*See back of form for special instructions.

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INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 453610

Page 2 of 2

Project Name SAF 94-129

Project No. SDL W0043

Samples Shipment Date 4-28-94

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
40450106A	BOBP07 /Water	4/26 1035	G/P	1000ml	Cool 4°	ICP, GFAA, Hg	5°C BPB 4/29/94 <2	
07A	BOBP30 /Water	4/26 1415	↓			ICP, GFAA, Hg	<2	
B	↓		P			ANIONS, SO4, Cond, PH		
08A	BOBP31 /Water	↓	G/P			ICP, GFAA, Hg	<2	
09A	BOBNY6 /Water	4/25 1040	↓			ICP, GFAA, Hg	<2	
B	↓		P			ANIONS, SO4, Cond, PH		
10A	BOBNY7 /Water	↓	G/P			ICP, GFAA, Hg	<2	
11A	BOBP12 /Water	4/25 1205	↓			ICP, GFAA, Hg	<2	
B	↓		P			ANIONS, SO4, Cond, PH		
12A	BOBP13 /Water	↓	G/P			ICP, GFAA, Hg	<2	
	JH 4/28/94							

FOR LAB USE ONLY

MCA 3/15/91

White: To accompany samples

Yellow: Field copy

*See back of form for special instructions.

9613476.0131

INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001557*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO#463 R# $80

Reference Document No. 453616
Page 1 of 1

Project Name/No. 1 SAF94-129
Sample Team Members 2
Profit Center No. 3 4632
Project Manager 4 Van Pettey
Purchase Order No. 6
Required Report Date 11

Samples Shipment Date 7 4-29-94
Lab Destination 8 Middlebrook
Lab Contact 9
Project Contact/Phone 12
Carrier/Waybill No. 13 150 9934167

Bill to: 5 IT Richland
Report to: 10 IT Richland

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Preservative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
40456601 A	BOBP08 /water	4/27 1030	G/P	1000ml	Cool 4°	ICP, GFAA, Hg	4°C BPB 4/30/94 <2	
↓ B	↓	↓	P	↓	↓	ANIONS, SO4, Cond, PH	↓	
40456602 A	BOBP09 /water		G/P			ICP, GFAA, Hg		
	JH 4/29/94							

FOR LAB USE ONLY

FOR LAB USE ONLY

Special Instructions: 23 As per WHC Contract

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive _____ (mos.)

Turnaround Time Required: 26
Normal ☒ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0043

1. Relinquished by 28 (Signature/Affiliation) Heidelberg	Date: 4-29-94 Time: 16:00	1. Received by 28 (Signature/Affiliation) Bryan Blomquist ITASKN	Date: 4/30/94 Time: 9:35
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

MCA 3/15/91

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

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9613476.0133

0000051

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

#383

all category I
JRN 15 Apr 94

Customer Code WHC	Received Date	Time	Screening Date 415B4	Prep Time	Count Date 415	Mins Cntd 10	BACKGROUND Alpha 14	Beta 212	Mins 240

Customer ID WHC/WATER	pH <2 Rcvd/Reqd	RESIDUE Wight (mGrams)	Vol. Aval. mB	ml	Sample Size Gm	L	SMPLE CNT DATA Hldr Num	Total Alpha	Counts Beta	Net Sample Counts/Minute Alpha	Beta	DPM/ Aliquot Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Category 1 Yes/No	Aliquot to Cal 1 Gm or Ltr Alpha	Beta
[illegible]		0.9	5		4.0		35	8	70	0.74	6.72	2.7E+08	1.4E+01	8.7E-04	5.0E-03	5.0E-07	1.4E-00	2.4E+02	1.2E+03	Yes	4.1E+01	5.0E+01
[illegible]		0.9	9		1.0		30	13	30	1.34	3.02	4.7E+08	8.0E+00	4.2E-04	5.1E-04	2.0E-07	2.3E-07	4.2E+02	1.1E+02	Yes	2.4E+01	2.0E+02
[illegible]		2.0	5		4.0		37	4	73	0.34	6.42	1.2E+08	1.3E+01	4.3E-04	4.0E-03	5.7E-07	1.5E-06	1.0E+02	1.2E+03	Yes	0.0E+01	4.0E+01
TOTAL	uCi									-0.00	-0.00	-2E-01	-2E+00	1.0E-03	1.0E-02	ERR	ERR	ERR	ERR	Yes	ERR	ERR

WO#417

All Category I
JRM 19 Ap 94

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

Customer Code	Recieved Date	Recieved Time	Screening Prep Date	Screening Prep Time	Count Date	Mnts Cntd	BACKGROUND Alpha	BACKGROUND Beta	BACKGROUND Mnts
WHC			41994		419	10	4	104	120

Customer ID WHC/LIQ	pH <2 Rcvd/Reiq	RESIDUE Wght (mGrms)	Vol. Anal. mG	Vol. Anal. mL	Sample Size Gm	Sample Size L	SMPLE CNT DATA Hldr Num	Total Counts Alpha	Total Counts Beta	Net Sample Counts/Minute Alpha	Net Sample Counts/Minute Beta	DPM / Aliqout Alpha	DPM / Aliqout Beta	uCi per Sample Alpha	uCi per Sample Beta	2 Sigma Error uCi per Sample Alpha	2 Sigma Error uCi per Sample Beta	pCi/(Gm or L) Alpha	pCi/(Gm or L) Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Aliquot to Cat 1 Gm or Ltr Beta
94102-01.D18		72.4	72		850.0		1	1	13	0.07	0.43	5.7E-01	9.9E-01	3.0E-03	5.2E-03	7.9E-06	5.5E-06	3.5E+00	6.1E+00	Yes	2.8E+03	1.6E+04
94102-02.D18		22.5	23		250.0		2	0	16	-0.03	0.73	-2E-01	1.7E+00	-1E-03	8.3E-03	-3E-06	6.3E-06	-4E+00	3.3E+01	Yes	-2E+03	3.0E+03
WHC/WATER														0.0E+00	0.0E+00							
B0BNX4		0.7	5		1.0		3	4	21	0.37	1.23	1.4E+00	2.4E+00	1.3E-04	2.2E-04	1.5E-07	2.4E-07	1.3E+02	2.2E+02	Yes	6.0E+01	4.6E+02
TOTAL	uCi									-0.03	-0.87	-1E-01	-2E+00	2.1E-03	1.4E-02	ERR	ERR	ERR	ERR	Yes	ERR	ERR

9613476.0134

0000052

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

WO#426

all Cat. I
JRn 22 Apr 94

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	Beta	Mnts
WHC			42294		422	10	13	232	240

Customer ID WHC/WATER	pH <2 Rcvd/Reiq	RESIDUE Wght (mGrms)	Vol. Anal. mG	mL	Sample Size Gm	L	SMPLE CNT DATA Hldr Num.	Total Alpha	Counts Beta	Net Sample Counts/Minute Alpha	Beta	DPM / Aliqout Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Beta
B0BP26		0.9	5		4.0		5	6	46	0.55	3.63	2.0E+00	7.4E+00	7.3E-04	2.7E-03	7.3E-07	1.0E-06	1.6E+02	6.7E+02	Yes	5.5E+01	1.5E+02
B0BP10		0.7	5		1.0		6	1	20	0.05	1.03	1.5E-01	2.2E+00	1.3E-05	2.0E-04	4.9E-06	1.3E-07	1.3E+01	2.0E+02	Yes	7.6E+02	5.1E+02
B0BNY2		0.9	5		1.0		7	8	25	0.55	1.53	2.1E+00	2.9E+00	1.9E-04	2.6E-04	1.6E-07	2.2E-07	1.9E+02	2.6E+02	Yes	5.3E+01	3.8E+02
B0BP02		1.3	5		1.0		8	2	11	0.15	0.13	5.7E-01	1.9E-01	5.1E-05	1.7E-05	9.0E-08	1.6E-08	5.1E+01	1.7E+01	Yes	1.9E+02	5.9E+03
B0BP00		1.2	5		1.0		9	1	14	0.05	0.43	1.7E-01	8.9E-01	1.5E-05	8.1E-05	4.9E-06	4.3E-07	1.5E+01	8.1E+01	Yes	6.7E+02	1.2E+03
B0BNY4		0.8	5		1.0		10	3	22	0.25	1.23	9.2E-01	2.5E+00	8.3E-05	2.2E-04	1.2E-07	3.7E-07	8.3E+01	2.2E+02	Yes	1.2E+02	4.5E+02
B0BNP7		0.5	5		4.0		11	1	17	0.05	0.73	1.6E-01	1.5E+00	5.8E-05	5.5E-04	1.9E-07	4.1E-06	1.4E+01	1.4E+02	Yes	7.2E+02	7.2E+02
B0BNM5		2.8	5		4.0		12	5	173	0.45	16.33	1.3E+00	3.5E+01	4.6E-04	1.2E-02	6.8E-07	5.4E-05	1.2E+02	3.1E+03	Yes	8.7E+01	3.2E+01
B0BNP3		0.5	5		4.0		14	1	17	0.05	0.73	1.6E-01	1.5E+00	5.6E-05	5.5E-04	1.9E-07	4.1E-06	1.4E+01	1.4E+02	Yes	7.2E+02	7.2E+02
TOTAL	uCi									-0.05	-0.97	-2E-01	-2E+00	1.7E-03	1.7E-02	ERR	ERR	ERR	ERR	Yes	ERR	ERR

9613476.0135

0000053

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

WO#454

all below m m f 4-27-94

all Cat I m m f only 4-27-94

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	Beta	Mnts
WHC			42794		427	10	20	228	240

Customer ID WHC/WATER	pH <2 Rcvd/Reiq	RESIDUE Wght (mGrms)	Vol. Anal. mG	mL	Sample Size Gm	L	SMPLE CNT DATA Hldr Num.	Total Alpha	Counts Beta	Net Sample Counts/Minute Alpha	Beta	DPM / Aliqout Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Beta
B0BNM9		0.9	5		4.0		1	8	42	0.72	3.25	2.7E+00	6.5E+00	9.7E-04	2.3E-03	8.4E-07	9.5E-07	2.4E+02	5.8E+02	Yes	4.1E+01	1.7E+02
B0BNN1		1.8	5		4.0		2	3	49	0.22	3.95	7.4E-01	8.3E+00	2.7E-04	3.0E-03	4.5E-07	1.0E-06	6.6E+01	7.5E+02	Yes	1.5E+02	1.3E+02
B0BNK1		1.5	5		4.0		3	2	48	0.12	3.85	3.4E-01	8.1E+00	1.2E-04	2.9E-03	3.2E-07	2.3E-05	3.1E+01	7.3E+02	Yes	3.3E+02	1.4E+02
B0BRK9		0.1	5		4.0		4	1	9	0.02	-0.05	6.6E-02	-1E-01	2.4E-05	-4E-05	1.2E-07	-2E-07	5.9E+00	-1E+01	Yes	1.7E+03	-9E+03
B0BP06		0.5	5		1.0		5	2	14	0.12	0.45	4.4E-01	8.8E-01	4.0E-05	7.9E-05	7.9E-08	1.7E-07	4.0E+01	7.9E+01	Yes	2.5E+02	1.3E+03
B0BNN5		1.1	5		4.0		6	5	23	0.42	1.35	1.6E+00	2.6E+00	5.7E-04	9.4E-04	6.3E-07	9.6E-07	1.4E+02	2.3E+02	Yes	7.0E+01	4.3E+02
B0BP30		0.2	5		1.0		7	0	11	-0.08	0.15	-3E-01	3.7E-01	-3E-05	3.4E-05	-7E-08	5.6E-08	-3E+01	3.4E+01	Yes	-3E+02	3.0E+03
B0BP20		1.7	5		1.0		8	5	20	0.42	1.05	1.6E+00	2.0E+00	1.5E-04	1.8E-04	1.6E-07	1.6E-07	1.5E+02	1.8E+02	Yes	6.9E+01	5.8E+02
B0BRL7		1.7	5		4.0		9	2	42	0.12	3.25	3.6E-01	6.9E+00	1.3E-04	2.5E-03	3.2E-07	1.7E-05	3.2E+01	6.2E+02	Yes	3.1E+02	1.6E+02
B0BNN3		2.2	5		4.0		10	1	41	0.02	3.15	-3E-02	6.7E+00	-1E-05	2.4E-03	-1E-07	1.7E-04	-3E+00	6.1E+02	Yes	-3E+03	1.7E+02
B0BP12		1.8	5		1.0		11	1	16	0.02	0.65	4.6E-02	1.4E+00	4.1E-06	1.2E-04	3.0E-08	3.0E-06	4.1E+00	1.2E+02	Yes	2.4E+03	8.1E+02
B0BRL5		0.3	5		4.0		12	1	10	0.02	0.05	6.3E-02	9.8E-02	2.3E-05	3.4E-05	1.2E-07	1.7E-07	5.7E+00	8.6E+00	Yes	1.8E+03	1.2E+04
B0BNY8		1.7	5		1.0		13	1	24	0.02	1.45	2.0E-02	3.1E+00	1.8E-06	2.8E-04	2.9E-08	2.2E-05	1.6E+00	2.9E+02	Yes	5.5E+03	3.6E+02
B0BNY6		1.8	5		1.0		14	1	19	0.02	0.95	3.6E-02	2.0E+00	3.3E-06	1.8E-04	3.0E-08	6.6E-06	3.3E+00	1.8E+02	Yes	3.1E+03	5.5E+02
B0BP42		0.1	5		1.0		15	1	11	0.02	0.15	6.0E-02	3.1E-01	5.4E-06	2.8E-05	2.9E-08	2.4E-07	5.4E+00	2.8E+01	Yes	1.9E+03	3.6E+03
TOTAL	uCi									-0.08	-0.95	-3E-01	-2E+00	2.3E-03	1.5E-02	ERR	ERR	ERR	ERR	Yes	ERR	ERR

Rec'd at 3:15 pm

9613476.0136

0000054

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

All are Category I
JRN 29 Apr 94

WO #463

Customer Code	Recieved Date	Recieved Time	Screening Prep Date	Screening Prep Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	BACKGROUND Beta	BACKGROUND Mnts
WHC			42994		429	10	18	227	240

Customer ID WHC/WATER	pH <2 Rcvd/Reiq	RESIDUE Wght (mGrms)	Vol. Anal. mG mL	Sample Size Gm L	SMPLE CNT DATA Hldr Num.	Total Alpha	Counts Beta	Net Sample Counts/Minute Alpha	Beta	DPM / Aliqout Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Beta
B0BNL1		1.9	5	4.0	1	1	25	0.03	1.55	5.0E-02	3.3E+00	1.8E-05	1.2E-03	1.5E-07	6.4E-07	4.5E+00	3.0E+02	Yes	2.2E+03	3.4E+02
B0BNJ3		2.0	5	4.0	2	4	23	0.33	1.35	1.3E+00	2.7E+00	4.5E-04	9.6E-04	5.6E-07	6.0E-07	1.1E+02	2.4E+02	Yes	8.9E+01	4.1E+02
B0BNJ9		2.0	5	4.0	3	5	46	0.43	3.85	1.6E+00	8.0E+00	5.7E-04	2.9E-03	6.4E-07	4.9E-06	1.4E+02	7.2E+02	Yes	7.1E+01	1.4E+02
B0BP08		1.8	5	1.0	4	3	20	0.23	1.05	8.6E-01	2.1E+00	7.6E-05	1.9E-04	1.1E-07	3.1E-07	7.8E+01	1.9E+02	Yes	1.3E+02	5.3E+02
B0BNL9		0.6	5	4.0	5	1	7	0.03	-0.25	1.0E-01	-5E-01	3.8E-05	-2E-04	1.4E-07	-1E-06	9.5E+00	-5E+01	Yes	1.1E+03	-2E+03
B0BRM1		1.2	5	4.0	6	2	11	0.13	0.15	4.9E-01	2.5E-01	1.8E-04	8.9E-05	3.3E-07	1.0E-07	4.4E+01	2.2E+01	Yes	2.3E+02	4.5E+03
B0BNK9		1.1	5	4.0	7	0	12	-0.08	0.25	-3E-01	5.9E-01	-1E-04	2.1E-04	-3E-07	4.9E-07	-3E+01	5.3E+01	Yes	-4E+02	1.9E+03
TOTAL	uCi							-0.08	-0.95	-3E-01	-2E+00	1.2E-03	5.3E-03	ERR	ERR	ERR	ERR	Yes	ERR	ERR

9613476.0137

00000055

WO#417

SAMPLE STATUS REPORT FOR E 6259. E-BLANK 1-B2-13 TIME: 4/19/94 8:44
DISPATCHED: 4/ 1/94 15: 9 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/18/94 15:29

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBNX4
BOBNX5
LCS
4/19/94

WO#426

04/22/94 07:43 ☎373 3176 222S 3B 007

SAMPLE STATUS REPORT FOR E 6263. E-BLANK 1-B4-1 TIME: 4/22/94 8:19
DISPATCHED: 4/ 1/94 15:11 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/22/94 7:43

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBNV2
BOBNV3
LCS
4/22/94

WO #454

04/27/94 08:06 ☎373 3176 222S 3B 014

SAMPLE STATUS REPORT FOR E 6284. E-BLANK BCEBLNK2 TIME: 4/27/94 8:35
DISPATCHED: 4/ 1/94 15:24 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/27/94 8:12

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	********
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BO BP42
BO BP43

AJS
4/27/94

WO #454

04/27/94 08:05 ☎373 3176 222S 3B 012

SAMPLE STATUS REPORT FOR E 6282. E-BLANK 6-72-92 TIME: 4/27/94 8:35
DISPATCHED: 4/ 1/94 15:23 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/27/94 8:12

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBP20
BOBP21

AJS
4/27/94

9613476.0142

0000060

WO #454

04/27/94 08:05 ☎373 3176 222S 3B 011

SAMPLE STATUS REPORT FOR E 6275. E-BLANK 6-63-90 TIME: 4/27/94 8:35
DISPATCHED: 4/ 1/94 15:18 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/27/94 8:12

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BO BP06
BO BP07

AJS
4/27/94

BO BP28
BO BP29

9613476.0143

0000061

WO#454

04/27/94 08:06 ☎373 3176 222S 3B 013

SAMPLE STATUS REPORT FOR E 6283. E-BLANK BCEBLNK1 TIME: 4/27/94 8:35
DISPATCHED: 4/ 1/94 15:23 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/27/94 8:12

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

AJS 4/27/94

~~BO B5~~

BO BP30
BO BP31

AJS
4/27/94

WO #454

04/26/94 09:35 ☎373 3176 222S 3B 008

SAMPLE STATUS REPORT FOR E 6265. E-BLANK 1-B4-5 TIME: 4/26/94 10: 3
DISPATCHED: 4/ 1/94 15:12 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/26/94 8:15

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT ✓

BU BNY6
BU BNY7

AJS
4/26/94

LOD #454

04/26/94 13:54 ☎373 3176 222S 3B 002

SAMPLE STATUS REPORT FOR E 6278. E-BLANK 6-66-64 TIME: 4/26/94 14:32
DISPATCHED: 4/ 1/94 15:21 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/26/94 8:15

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BO BP12
BO BP13

AJS
4/26/94

9613476.0146

CCCC064

/94 07:44 ☎373 3176 222S 3B

STATUS REPORT FOR E 6276. E-BLANK 6-65-72 TIME: 4/28/94 8:2
ED: 4/ 1/94 15:19 SAMPLE HAS NOT BEEN SLURPED
: 4/28/94 5:43

	TER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARG CODE
**	******	**********	***	***	***
2	T-ACT	< 5.00000E 01 pCi/G	N	Y	VGC

END OF REPORT

BOBP08
BOBP09
LCS
4/28/94

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNX4

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: WO417 SAS No.: SDG No.: W0043
Matrix (soil/water): WATER Lab Sample ID: AA7284
Level (low/med): LOW Date Received: 04/20/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	63.8	B		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	35.4	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	42600			P
7440-47-3	Chromium	25.2			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	67.2	B		P
7439-92-1	Lead	2.0	U	WN	F
7439-95-4	Magnesium	9940			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U	N	CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	3100	B		P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	10200			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	76.1			P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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8 6/7/94

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNX5

Lab Name: ITAS_KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0417 SAS No.: SDG No.: W0043

Matrix (soil/water): WATER Lab Sample ID: AA7286

Level (low/med): LOW Date Received: 04/20/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	36.3	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	42600			P
7440-47-3	Chromium	18.6			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	16.5	B		P
7439-92-1	Lead	3.4		W	F
7439-95-4	Magnesium	9960			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	2920	B		P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	10100			P
7440-28-0	Thallium	2.0	U	W	F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	7.5	B		P
5955-70-0	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

DISSOLVED.

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8 6/8/94

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNY2

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: WO426 SAS No.: _____ SDG No.: W0043_

Matrix (soil/water): WATER Lab Sample ID: AA7371

Level (low/med): LOW__ Date Received: 04/25/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	40.0	U		P_
7440-36-0	Antimony_	50.0	U		P_
7440-38-2	Arsenic__	2.0	U		F_
7440-39-3	Barium___	29.7	B		P_
7440-41-7	Beryllium	1.0	U		P_
7440-43-9	Cadmium__	5.0	U		P_
7440-70-2	Calcium__	48900			P_
7440-47-3	Chromium_	16.1			P_
7440-48-4	Cobalt___	10.0	U		P_
7440-50-8	Copper___	10.0	U		P_
7439-89-6	Iron____	39.2	B		P_
7439-92-1	Lead____	2.3	B	N	F_
7439-95-4	Magnesium	6720			P_
7439-96-5	Manganese	2.2	B		P_
7439-97-6	Mercury__	0.20	U	N	CV
7440-02-0	Nickel___	20.0	U		P_
7440-09-7	Potassium	5330			P_
7782-49-2	Selenium_	2.0	U	W	F_
7440-22-4	Silver___	5.1	B		P_
7440-23-5	Sodium___	10200			P_
7440-28-0	Thallium_	2.0	U		F_
7440-62-2	Vanadium_	10.0	U		P_
7440-66-6	Zinc____	16.6	B		P_

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNY3

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE
Lab Code: ITSTU_ Case No.: W0426 SAS No.: _____ SDG No.: W0043_
Matrix (soil/water): WATER Lab Sample ID: AA7373
Level (low/med): LOW__ Date Received: 04/25/94
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	40.0	U		P_
7440-36-0	Antimony_	50.0	U		P_
7440-38-2	Arsenic__	2.3	B		F_
7440-39-3	Barium___	27.1	B		P_
7440-41-7	Beryllium	1.0	U		P_
7440-43-9	Cadmium__	5.0	U		P_
7440-70-2	Calcium__	44700			P_
7440-47-3	Chromium_	14.8			P_
7440-48-4	Cobalt___	10.0	U		P_
7440-50-8	Copper___	10.0	U		P_
7439-89-6	Iron____	10.0	U		P_
7439-92-1	Lead____	2.0	U		F_
7439-95-4	Magnesium	6150			P_
7439-96-5	Manganese	2.0	U		P_
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___	20.0	U		P_
7440-09-7	Potassium	4510	B		P_
7782-49-2	Selenium_	2.1	B		F_
7440-22-4	Silver___	5.0	U		P_
7440-23-5	Sodium___	9360			P_
7440-28-0	Thallium_	2.0	U		F_
7440-62-2	Vanadium_	10.0	U		P_
7440-66-6	Zinc____	12.7	B		P_

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___
Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:
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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNY6

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: WO454 SAS No.: SDG No.: W0043
Matrix (soil/water): WATER Lab Sample ID: AA7801
Level (low/med): LOW Date Received: 04/29/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.3	B	W	F
7440-39-3	Barium	15.3	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	43100			P
7440-47-3	Chromium	18.3			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	78.5	B		P
7439-92-1	Lead	2.0	U	WN	F
7439-95-4	Magnesium	7820			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U	N	CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	4720	B		P
7782-49-2	Selenium	2.7	B	W	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	10500			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	28.7			P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNY7

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: WO454 SAS No.: SDG No.: W0043

Matrix (soil/water): WATER Lab Sample ID: AA7809

Level (low/med): LOW Date Received: 04/29/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	52.0	B		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.4	B	W	F
7440-39-3	Barium	15.1	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	43200			P
7440-47-3	Chromium	14.7			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	12.3	B		P
7439-92-1	Lead	2.0	U	W	F
7439-95-4	Magnesium	7790			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	4730	B		P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	10400			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	5.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP06

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0454 SAS No.: SDG No.: W0043
Matrix (soil/water): WATER Lab Sample ID: AA7797
Level (low/med): LOW Date Received: 04/29/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	44.6	B		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	13.7	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	35500			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	201			P
7439-92-1	Lead	2.0	U	WN	F
7439-95-4	Magnesium	12400			P
7439-96-5	Manganese	4.0	B		P
7439-97-6	Mercury	0.20	U	N	CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	3660	B		P
7782-49-2	Selenium	2.4	B	W	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	11300			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	20.8	B		P
7440-66-6	Zinc	7.2	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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EPA SAMPLE NO.

BOBP07

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0454 SAS No.: SDG No.: W0043
Matrix (soil/water): WATER Lab Sample ID: AA7807
Level (low/med): LOW Date Received: 04/29/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	11.6	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	30000			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	14.7	B		P
7439-92-1	Lead	2.0	U	W	F
7439-95-4	Magnesium	10400			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	3250	B		P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	9530			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	16.1	B		P
7440-66-6	Zinc	5.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
DISSOLVED.

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EPA SAMPLE NO.

BOBP12

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0454 SAS No.: SDG No.: W0043
Matrix (soil/water): WATER Lab Sample ID: AA7803
Level (low/med): LOW Date Received: 04/29/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	3.6	B	W	F
7440-39-3	Barium	10.9	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	30300			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	59.9	B		P
7439-92-1	Lead	2.0	U	N	F
7439-95-4	Magnesium	8790			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U	N	CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	4030	B		P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	17400			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	48.2			P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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EPA SAMPLE NO.

BOBP13

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE
Lab Code: ITSTU_ Case No.: W0454 SAS No.: _____ SDG No.: W0043_
Matrix (soil/water): WATER Lab Sample ID: AA7810
Level (low/med): LOW__ Date Received: 04/29/94
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	50.3	B		P_
7440-36-0	Antimony_	50.0	U		P_
7440-38-2	Arsenic__	2.9	B		F_
7440-39-3	Barium___	10.8	B		P_
7440-41-7	Beryllium	1.0	U		P_
7440-43-9	Cadmium__	5.0	U		P_
7440-70-2	Calcium__	31700			P_
7440-47-3	Chromium_	10.0	U		P_
7440-48-4	Cobalt___	10.0	U		P_
7440-50-8	Copper___	10.0	U		P_
7439-89-6	Iron____	11.8	B		P_
7439-92-1	Lead____	2.0	U	W	F_
7439-95-4	Magnesium	9190			P_
7439-96-5	Manganese	2.0	U		P_
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___	20.0	U		P_
7440-09-7	Potassium	4700	B		P_
7782-49-2	Selenium_	2.0	U		F_
7440-22-4	Silver___	5.0	U		P_
7440-23-5	Sodium___	18100			P_
7440-28-0	Thallium_	2.0	U		F_
7440-62-2	Vanadium_	12.3	B		P_
7440-66-6	Zinc____	5.0	U		P_

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___
Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:
DISSOLVED.

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EPA SAMPLE NO.

BOBP20

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE
Lab Code: ITSTU_ Case No.: W0454 SAS No.: _____ SDG No.: W0043_
Matrix (soil/water): WATER Lab Sample ID: AA7785
Level (low/med): LOW__ Date Received: 04/29/94
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	40.0	U		P
7440-36-0	Antimony_	50.0	U		P
7440-38-2	Arsenic__	2.0	U		F
7440-39-3	Barium___	22.9	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium__	5.0	U		P
7440-70-2	Calcium__	40200			P
7440-47-3	Chromium_	10.4			P
7440-48-4	Cobalt___	10.0	U		P
7440-50-8	Copper___	10.0	U		P
7439-89-6	Iron_____	24.0	B		P
7439-92-1	Lead_____	2.8	B	WN	F
7439-95-4	Magnesium	9860			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury__	0.20	U	N	CV
7440-02-0	Nickel___	20.0	U		P
7440-09-7	Potassium	3140	B		P
7782-49-2	Selenium_	2.0	U		F
7440-22-4	Silver___	5.0	U		P
7440-23-5	Sodium___	7870			P
7440-28-0	Thallium_	2.0	U		F
7440-62-2	Vanadium_	10.0	U		P
7440-66-6	Zinc_____	5.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___
Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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EPA SAMPLE NO.

BOBP21

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0454 SAS No.: SDG No.: W0043

Matrix (soil/water): WATER Lab Sample ID: AA7805

Level (low/med): LOW Date Received: 04/29/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	24.4	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	37600			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	10.0	U		P
7439-92-1	Lead	2.0	U	W	F
7439-95-4	Magnesium	9220			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	3170	B		P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	7240			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	5.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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EPA SAMPLE NO.

BOBP30

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: WO454 SAS No.: SDG No.: W0043
Matrix (soil/water): WATER Lab Sample ID: AA7799
Level (low/med): LOW Date Received: 04/29/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	41.4	B		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	2.0	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	99.3	B		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	25.3	B		P
7439-92-1	Lead	3.6		N	F
7439-95-4	Magnesium	30.0	U		P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U	N	CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	1000	U		P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	155	B		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	5.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP31

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: WO454 SAS No.: SDG No.: W0043
Matrix (soil/water): WATER Lab Sample ID: AA7808
Level (low/med): LOW Date Received: 04/29/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	46.3	B		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	2.0	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	62.8	B		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	16.5	B		P
7439-92-1	Lead	2.0	U	W	F
7439-95-4	Magnesium	30.0	U		P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	1000	U		P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	242	B		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	6.1	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
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EPA SAMPLE NO.

BOBP42

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0454 SAS No.: SDG No.: W0043
Matrix (soil/water): WATER Lab Sample ID: AA7795
Level (low/med): LOW Date Received: 04/29/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	2.0	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	115	B		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	10.5	B		P
7439-92-1	Lead	2.0	U	N	F
7439-95-4	Magnesium	30.0	U		P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U	N	CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	1000	U		P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	182	B		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	5.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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EPA SAMPLE NO.

BOBP43

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0454 SAS No.: SDG No.: W0043
Matrix (soil/water): WATER Lab Sample ID: AA7806
Level (low/med): LOW Date Received: 04/29/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	2.0	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	78.2	B		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	10.0	U		P
7439-92-1	Lead	2.0	U		F
7439-95-4	Magnesium	30.0	U		P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	1000	U		P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	140	B		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	5.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
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EPA SAMPLE NO.

BOBP08

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD___
Lab Code: ITSTU_ Case No.: W0463 SAS No.: _____ SDG No.: W0043_
Matrix (soil/water): WATER Lab Sample ID: AA7893
Level (low/med): LOW__ Date Received: 04/30/94
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	49.7	B		P
7440-36-0	Antimony_	50.0	U		P
7440-38-2	Arsenic__	3.5	B		F
7440-39-3	Barium___	18.7	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium__	5.0	U		P
7440-70-2	Calcium__	34100			P
7440-47-3	Chromium_	12.4			P
7440-48-4	Cobalt___	10.0	U		P
7440-50-8	Copper___	65.4			P
7439-89-6	Iron_____	47.7	B		P
7439-92-1	Lead_____	2.0	U	N	F
7439-95-4	Magnesium	10100			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury__	0.20	U	N	CV
7440-02-0	Nickel___	20.0	U		P
7440-09-7	Potassium	5850			P
7782-49-2	Selenium_	2.0	U		F
7440-22-4	Silver___	5.0	U		P
7440-23-5	Sodium___	20900			P
7440-28-0	Thallium_	2.0	U		F
7440-62-2	Vanadium_	17.5	B		P
7440-66-6	Zinc_____	14.8	B		P

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___
Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:
TOTAL

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP09

Lab Name: ITAS KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: WO463 SAS No.: SDG No.: W0043

Matrix (soil/water): WATER Lab Sample ID: AA7895

Level (low/med): LOW Date Received: 04/30/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	4.1	B		F
7440-39-3	Barium	15.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	27700			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	16.6	B		P
7439-92-1	Lead	2.0	U	W	F
7439-95-4	Magnesium	8200			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	4100	B		P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	17000			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	12.6	B		P
7440-66-6	Zinc	5.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

DISSOLVED

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	383
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	05/10/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBNX8	AA6809	8.0	-

* - A method blank is not applicable for this analysis.

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	417
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	04/26/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBNX4	AA7285	7.65	-

* - A method blank is not applicable for this analysis.

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	454
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	05/03/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBNY6	AA7802	8.02	-
BOBP12	AA7804	8.09	-
BOBP06	AA7798	8.02	-
BOBP20	AA7786	8.08	-
BOBP30	AA7800	6.53	-
BOBP42	AA7796	6.16	-

* - A method blank is not applicable for this analysis.

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	463
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	05/06/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBP08	AA7894	7.71	-

* - A method blank is not applicable for this analysis.

SPECIFIC CONDUCTANCE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	383
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	05/10/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6190	1	U
BOBNX8	AA6809	1	U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

SPECIFIC CONDUCTANCE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	417
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	04/27/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6154	1	U
BOBNX4	AA7285	405	+

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

SPECIFIC CONDUCTANCE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	454
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	05/02/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6133	1	U
BOBNY6	AA7802	427	+
BOBP12	AA7804	427	+
BOBP20	AA7786	394	+
BOBP06	AA7798	2	+
BOBP30	AA7800	2	+
BOBP42	AA7796	350	+

\+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

SPECIFIC CONDUCTANCE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	463
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	05/04/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6151	1	U
BOBP08	AA7894	405	+

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	383
Client Sample ID:	BOBNX8	Preparation Date:	05/11/94
Lab Sample ID:	AA6809	Analysis Date:	05/11/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.46	+	0.40
sulfate	45	+	3.0

+ - Positive result.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	417
Client Sample ID:	BOBNX4	Preparation Date:	05/16/94
Lab Sample ID:	AA7285	Analysis Date:	05/16/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
sulfate	41	+	7.5

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	454
Client Sample ID:	BOBP42	Preparation Date:	05/18/94
Lab Sample ID:	AA7796	Analysis Date:	05/18/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
sulfate	1.5	U	1.5

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	454
Client Sample ID:	BOBP06	Preparation Date:	05/18/94
Lab Sample ID:	AA7798	Analysis Date:	05/18/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
sulfate	27	+	1.5

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	454
Client Sample ID:	BOBP30	Preparation Date:	05/18/94
Lab Sample ID:	AA7800	Analysis Date:	05/18/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
sulfate	1.5	U	1.5

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	454
Client Sample ID:	BOBNY6	Preparation Date:	05/18/94
Lab Sample ID:	AA7802	Analysis Date:	05/18/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
sulfate	46	+	7.5

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	454
Client Sample ID:	BOBP12	Preparation Date:	05/18/94
Lab Sample ID:	AA7804	Analysis Date:	05/18/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.5	+	0.40
sulfate	39	+	7.5

+ - Positive result.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	454
Client Sample ID:	BOBP20	Preparation Date:	05/19/94
Lab Sample ID:	AA7786	Analysis Date:	05/19/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
sulfate	38	+	7.5

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	463
Client Sample ID:	BOBP08	Preparation Date:	05/19/94
Lab Sample ID:	AA7894	Analysis Date:	05/19/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.70	+	0.40
sulfate	34	+	3.0

+ - Positive result.

WO#363

SAMPLE RECEIPT VARIANCE REPORT
ITAS-RICHLAND LABORATORY

WORK ORDER NUMBER: 404259/260 DATE INITIATED: 4/14/94

INITIATED BY: TGilmore

DATE/TIME OF SAMPLE (AND/OR RFA & COC) RECEIPT: 4/14/94 1130

CLIENT SAMPLE NUMBER	RFA/COC NUMBERS	ANALYSIS REQUESTED
B0BNX6		
B0BNX7		

Samples were received with the following deficiencies:

- ☐ 1. Not enough sample received for proper analysis.
- ☐ 2. Sample received without proper preservative.
- ☐ 3. No sample received in container.
- ☐ 4. Sample received without a RFA/COC form.
- ☐ 5. No sample ID on container.
- ☐ 6. Sample received broken or leaking.
- ☐ 7. Holding time exceeded at receipt.
- ☑ 8. Custody tape broken.
- ☐ 9. COC not relinquished by client.
- ☐ 10. Sample information on container does not match sample information on the paper work (Explain below).
- ☐ 11. All shipping containers (coolers) on waybill not received with shipment.
  - ☐ RFA/COC received
  - ☐ RFA/COC not received
- ☐ 12. Other (Explain below).

NOTES: Custody seal on cooler is broken.

SUPERVISOR REVIEW: _____

PROJECT MANAGER REVIEW: _____

TELEPHONED TO: _____ ON _____ BY _____

TELEFAXED TO: _____ ON _____ BY _____

SIGNED ORIGINAL MUST BE RETAINED IN WORK ORDER FILE

FORM NO. LS-023, 3/92, Rev. 0

CUR # 1481

Work Order No.: 383

Condition Upon Receipt Variance Report

ITAS - KNOXVILLE Laboratory

Client: Westinghouse hanford

Date: 4/12/94

Project No:

Initiated by: Byron Blomquist

Analysis Requested: metals, Anions

RFA/COC Numbers: 340380

Client Sample Numbers Affected: 40428801(A-B); 40428802 A

Condition/Variance (Check all that apply):

1. ☐ Not enough sample received for proper analysis. Received approximately:
2. ☐ Sample received broken/leaking.
3. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C Record temperature:
   - ☐ pH
   - ☐ other:
4. ☐ Sample received in improper container.
5. ☐ Sample received without proper paperwork. Explain:
6. ☐ Paperwork received without sample.
7. ☐ No sample ID on sample container.
8. ☐ Custody tape disturbed/broken/missing.
9. ☐ Sample splits performed by lab.
10. ☐ Volatile sample received with approximately _____ mm headspace.
11. ☐ Sample ID on container does not match sample ID on paperwork. Explain:
12. ☐ All coolers on airbill not received with shipment.
13. ☒ Other (explain below): Screening Records DID NOT Accompany The samples

Notes: I Called IT Richland and had Fammy H. FAX the Screening Records To me. Byron

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is". Comments:

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: Kerry A Klemm Date: 5/6/94

Project Management Review: _____ Date: _____

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNX8

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: WO383 SAS No.: _____ SDG No.: W0031_

Matrix (soil/water): WATER Lab Sample ID: AA6808

Level (low/med): LOW__ Date Received: 04/16/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	40.0	U		P_
7440-36-0	Antimony_	50.0	U		P_
7440-38-2	Arsenic__	2.0	U		F_
7440-39-3	Barium___	38.6	B		P_
7440-41-7	Beryllium	1.0	U		P_
7440-43-9	Cadmium__	5.0	U		P_
7440-70-2	Calcium__	53600			P_
7440-47-3	Chromium_	11.1			P_
7440-48-4	Cobalt___	10.0	U		P_
7440-50-8	Copper___	10.0	U		P_
7439-89-6	Iron____	59.3	B		P_
7439-92-1	Lead____	4.0		N	F_
7439-95-4	Magnesium	7290			P_
7439-96-5	Manganese	2.0	U		P_
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___	20.0	U		P_
7440-09-7	Potassium	2590	B		P_
7782-49-2	Selenium_	2.0	U	W	F_
7440-22-4	Silver___	5.0	U		P_
7440-23-5	Sodium___	15200			P_
7440-28-0	Thallium_	2.0	U		F_
7440-62-2	Vanadium_	10.0	U		P_
7440-66-6	Zinc_____	6.9	B		P_

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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ILM02.1

6/1/94

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNX9

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE
Lab Code: ITSTU_ Case No.: WO383 SAS No.: _____ SDG No.: W0031_
Matrix (soil/water): WATER Lab Sample ID: AA6810
Level (low/med): LOW__ Date Received: 04/16/94
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	40.0	U		P_
7440-36-0	Antimony_	50.0	U		P_
7440-38-2	Arsenic__	2.0	U		F_
7440-39-3	Barium___	29.3	B		P_
7440-41-7	Beryllium	1.0	U		P_
7440-43-9	Cadmium__	5.0	U		P_
7440-70-2	Calcium__	39200		*	P_
7440-47-3	Chromium_	10.0	U		P_
7440-48-4	Cobalt___	10.0	U		P_
7440-50-8	Copper___	10.0	U		P_
7439-89-6	Iron____	11.0	B		P_
7439-92-1	Lead____	2.0	U		F_
7439-95-4	Magnesium	5260			P_
7439-96-5	Manganese	2.0	U		P_
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___	20.0	U		P_
7440-09-7	Potassium	1860	B		P_
7782-49-2	Selenium_	2.2	B		F_
7440-22-4	Silver___	5.0	U		P_
7440-23-5	Sodium___	11300			P_
7440-28-0	Thallium_	2.0	U		F_
7440-62-2	Vanadium_	10.0	U		P_
7440-66-6	Zinc_____	5.0	U		P_

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___
Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:
DISSOLVED.

FORM I - IN

ILM02.1
6/1/94

INTERNATIONAL TECHNOLOGY CORPORATION

RECORD COPY

Analytical Data Package Prepared For

Westinghouse Hanford

JUN 1994
RECEIVED
SDLA

Radiochemical Analysis By

IT Analytical Services
Richland Laboratory

Sample Delivery Group Number: W0031

WHC IDENTIFICATION NUMBER	ITAS RICHLAND ID NUMBER
BOBNX6	40426001
BOBNY0	40426002
BOBNX2	40426003
BOBNZ2	40432301
BOBNZ4	40432302
BOBP22	40432303
BOBP18	40440501
BOBP14	40440502
BOBP24	40440503
BOBP16	40440504

Regional Office
2800 George Washington Way • Richland, Washington 99352-1613 • 509-375-3131 • FAX: 509-375-5590

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JUN 1994 RECEIVED SDLA

CERTIFICATE OF ANALYSIS

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

RECORD COPY

June 6, 1994

Attention: J.A.Lerch

SAF Number	:	94-129
Date SDG Closed	:	April 21, 1994
Number of Samples	:	Ten (10)
Sample Type	:	Water
SDG Number	:	W0031
Data Deliverable	:	Stand Alone

I. Introduction

On April 14, 18, and 21, 1994, ten water samples were received by ITAS-Richland for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the WHC specific IDs:

ITAS-Richland ID	WHC ID	Matrix	Date of Receipt
404260-01A	B0BNX6	Water	4/14/94
404260-02A	B0BNY0	Water	4/14/94
404260-03A	B0BNX2	Water	4/14/94
404323-01A	B0BNZ2	Water	4/18/94
404323-02A	B0BNZ4	Water	4/18/94
404323-03A	B0BP22	Water	4/18/94
404405-01A	B0BP18	Water	4/21/94
404405-02A	B0BP14	Water	4/21/94
404405-03A	B0BP24	Water	4/21/93
404405-04A	B0BP16	Water	4/21/93

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gas Proportional Counting
Gross Alpha by method ITAS-RD-3222
Gross Beta by method ITAS-RD-3222
Strontium-90 by method ITAS-RD-3204
Liquid Scintillation Counting
Carbon-14 by method ITAS-RD-3247
Technetium-99 by method ITAS-IT-RS-0001
Tritium by method ITAS-RD-3205

III. Quality Control

The analytical results for each analysis performed under SDG W0031 include a minimum of one Laboratory Control Sample (LCS), one method (reagent) blank, and one duplicate. Any exceptions have been noted in the "Comments" section.

Quality control sample results are reported in the same units as sample results.

IV. Comments

The initial radioactivity screening of the samples classified them as Category I.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3222
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BP24) results are within contractual requirements.

Gross Beta by method ITAS-RD-3222
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BP24) results are within contractual requirements.

Strontium-90 by method ITAS-RD-3204
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BP22) results are within contractual requirements.

Liquid Scintillation Counting

Carbon-14 by method ITAS-RD-3247
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BNZ2) results are within contractual requirements. The samples were batched and analyzed with two groups of samples from SDG W0043 for the C-14 analysis.

Technetium-99 by method ITAS-IT-RS-0001
Three matrix spikes were analyzed with the batch. The sample results were not yield corrected by the average matrix spike chemical yield. The LCS, matrix spike, batch blank, sample and sample duplicate (duplicate of sample B0BNZ2) results are within contractual requirements.

Tritium by method ITAS-RD-3205
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BNX6) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Reviewed and approved:

Suzanne Gaines

Suzanne Gaines
Project Manager

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
SDG NO.: W0031
LAB SAMPLE ID: 40426001
MATRIX: WATER
WHC ID: B0BNX6
DATE RECEIVED: 4/14/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER
ALPHA	1.94E+00	1.30E+00	1.32E+00	1	RD3222
BETA	1.26E+02	7.90E+00	1.19E+01	1	RD3222
TOTAL-SR	3.88E+01	1.59E+00	9.01E+00	0.555	RD3204
C-14	2.25E-02	1.57E+00	3.35E+00	1	RD3263
TC-99	8.44E+01	1.90E+00	1.24E+01	0.951	ITAS-IT-RD-0001
TRITIUM	3.55E+03	1.97E+02	4.41E+02	0.94	RD3205

LAB SAMPLE ID: 40426002
MATRIX: WATER
WHC ID: B0BNY0
DATE RECEIVED: 4/14/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER
ALPHA	2.72E+00	1.47E+00	1.52E+00	1	RD3222
BETA	6.57E+01	5.81E+00	7.43E+00	1	RD3222
TOTAL-SR	1.92E+01	1.10E+00	4.58E+00	0.604	RD3204
C-14	2.66E+00	1.62E+00	3.42E+00	1	RD3263
TC-99	5.27E+01	1.60E+00	9.07E+00	0.951	ITAS-IT-RD-0001
TRITIUM	6.13E+03	2.41E+02	6.19E+02	0.94	RD3205

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
SDG NO.: W0031
LAB SAMPLE ID: 40426003
MATRIX: WATER
WHC ID: B0BNX2
DATE RECEIVED: 4/14/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER
ALPHA	1.89E+00	1.27E+00	1.29E+00	1	RD3222
BETA	9.29E+00	2.75E+00	2.82E+00	1	RD3222
TOTAL-SR	-1.70E-01	4.74E-01	4.76E-01	0.394	RD3204
C-14	-1.22E+00	1.56E+00	3.32E+00	1	RD3263
TC-99	-7.01E-01	9.12E-01	4.10E+00	0.951	ITAS-IT-RD-0001
TRITIUM	-1.74E+01	1.11E+02	2.21E+02	0.94	RD3205

LAB SAMPLE ID: 40432301
MATRIX: WATER
WHC ID: B0BNZ2
DATE RECEIVED: 4/18/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER
ALPHA	1.51E+00	1.21E+00	1.22E+00	1	RD3222
BETA	7.37E+01	6.16E+00	8.07E+00	1	RD3222
TOTAL-SR	1.98E+01	1.23E+00	4.63E+00	0.498	RD3204
C-14	4.32E+00	1.64E+00	3.47E+00	1	RD3263
TC-99	5.32E+01	1.59E+00	9.12E+00	0.951	ITAS-IT-RD-0001
TRITIUM	3.37E+03	1.94E+02	4.29E+02	0.94	RD3205

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
SDG NO.: W0031
LAB SAMPLE ID: 40432302
MATRIX: WATER
WHC ID: B0BNZ4
DATE RECEIVED: 4/18/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER
ALPHA	-3.35E-02	4.99E-01	4.99E-01	1	RD3222
BETA	1.24E+01	3.01E+00	3.13E+00	1	RD3222
TOTAL-SR	4.81E-01	4.36E-01	4.49E-01	0.5	RD3204
C-14	1.31E+00	1.59E+00	3.38E+00	1	RD3263
TC-99	3.04E+01	1.36E+00	6.84E+00	0.951	ITAS-IT-RD-0001
TRITIUM	1.24E+03	1.47E+02	2.91E+02	0.94	RD3205

LAB SAMPLE ID: 40432303
MATRIX: WATER
WHC ID: B0BP22
DATE RECEIVED: 4/18/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER
ALPHA	1.24E+00	1.00E+00	1.01E+00	1	RD3222
BETA	1.54E+01	3.16E+00	3.34E+00	1	RD3222
TOTAL-SR	9.36E-01	5.33E-01	5.71E-01	0.39	RD3204
C-14	5.59E+00	1.66E+00	3.50E+00	1	RD3263
TC-99	2.85E+01	1.33E+00	6.66E+00	0.951	ITAS-IT-RD-0001
TRITIUM	1.08E+03	1.43E+02	2.81E+02	0.94	RD3205

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
SDG NO.: W0031
LAB SAMPLE ID: 40440501
MATRIX: WATER
WHC ID: B0BP18
DATE RECEIVED: 4/21/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER
ALPHA	1.84E+00	1.23E+00	1.25E+00	1	RD3222
BETA	2.77E+01	3.98E+00	4.43E+00	1	RD3222
TOTAL-SR	-9.55E-03	2.20E-01	2.20E-01	0.984	RD3204
C-14	-2.68E+00	1.53E+00	3.28E+00	1	RD3263
TC-99	7.07E+01	1.79E+00	1.09E+01	0.951	ITAS-IT-RD-0001
TRITIUM	2.35E+03	1.74E+02	3.61E+02	0.94	RD3205

LAB SAMPLE ID: 40440502
MATRIX: WATER
WHC ID: B0BP14
DATE RECEIVED: 4/21/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER
ALPHA	7.76E-01	8.96E-01	9.02E-01	1	RD3222
BETA	7.29E+00	2.55E+00	2.60E+00	1	RD3222
TOTAL-SR	-1.31E-01	2.06E-01	2.09E-01	1	RD3204
C-14	-7.21E-01	1.56E+00	3.33E+00	1	RD3263
TC-99	1.91E+00	9.56E-01	4.30E+00	0.951	ITAS-IT-RD-0001
TRITIUM	3.37E+02	1.22E+02	2.39E+02	0.94	RD3205

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
SDG NO.: W0031
LAB SAMPLE ID: 40440503
MATRIX: WATER
WHC ID: B0BP24
DATE RECEIVED: 4/21/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER
ALPHA	1.70E+00	1.21E+00	1.23E+00	1	RD3222
BETA	2.76E+01	4.03E+00	4.47E+00	1	RD3222
TOTAL-SR	-1.52E-01	2.10E-01	2.14E-01	0.977	RD3204
C-14	1.35E+00	1.59E+00	3.39E+00	1	RD3263
TC-99	9.29E+01	1.96E+00	1.33E+01	0.951	ITAS-IT-RD-0001
TRITIUM	2.57E+03	1.79E+02	3.76E+02	0.94	RD3205

LAB NAME: ITAS-RICHLAND
SDG NO.: W0031
LAB SAMPLE ID: 40440504
MATRIX: WATER
WHC ID: B0BP16
DATE RECEIVED: 4/21/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER
ALPHA	6.86E-01	9.00E-01	9.04E-01	1	RD3222
BETA	1.99E+01	3.57E+00	3.83E+00	1	RD3222
TOTAL-SR	-2.24E-02	2.00E-01	2.00E-01	0.99	RD3204
C-14	-5.63E-01	1.56E+00	3.34E+00	1	RD3263
TC-99	3.10E+01	1.36E+00	6.90E+00	0.951	ITAS-IT-RD-0001
TRITIUM	2.33E+03	1.73E+02	3.60E+02	0.94	RD3205

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: J. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: Ste. Helens	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A WHH-C-C33G-37	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Stored Outside 3A ASS 4/13/94

SAMPLE ANALYSIS: 404259

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	OGS	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP01A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99 404260	TRITIUM C-14 001	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 02A

Sample No.	Matrix*	Date Sampled	Time Sampled															
B0BNX6	W	4/13/94	0855	X	X	X	X	X	X									
B0BNX7	W	↓	↓							X								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
GG Hamilton	4/13/94 1335	AJ Simpson	4/13/94 1333
AJ Simpson	4/14/94 0958	L Sweeney	4/14/94 0958
L Sweeney	4/14/94 1130	Tom Gilmore	4/14/94 1130

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION: Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9413376.0195

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: SML-421	Field Logbook No.	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A WS14-0-00336-35	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE SORTED IN REFRIG

20 ml AJSimpson 4/13/94

SAMPLE ANALYSIS 404259

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2									
Type of Container	G/P	P	G/P	G/P	Gs	mGs	G/P									
No. of Container(s)	1	1	5	2	3	1	1									
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml									
	ICP METALS AA METALS Hg CLP 83A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD	04A								

Sample No.	Matrix*	Date Sampled	Time Sampled															
BOGNYO	W	4/13/94	1125	X	X	X	X	X	X									
BOGNYI	W	↓	1125							X								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
GG Hamilton	4/13/94 1335	AJ Simpson	4/13/94 1340
AJ Simpson	4/14/94 1000	L Sweeney	4/14/94 1000
L Sweeney	4/14/94 113[illegible]	[illegible]	4/14/94 1130

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION — Received By: Title: Date/Time:

FINAL SAMPLE DISPOSITION — Disposal Method: Disposed By: Date/Time:

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0196

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: ☐ Priorty ☒ Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: NA	SAF No.: 94-129
Ice Chest No.: ER-6	Field Logbook No.: EFL-1030	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-C-0336-37	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks: None		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Letting 3B 4/12/94 AJSimpson		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2								
Type of Container	G/P	P	G/P	G/P	Gs	Gs	G/P								
No. of Container(s)	1	1	5	2	3	1	1								
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	1000ml	1000ml								
SAMPLE ANALYSIS 404259	ICP METALS AA METALS Hg CLP 85A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99 40426003	TRITIUM C-14	Activity	ICP METALS, AA METALS, Hg CLP FILTERD	06A							

Sample No.	Matrix*	Date Sampled	Time Sampled															
BOBNX2	W	4/12/94	1120	X	X	X	X	X	X									
BOBNX3	W	4/12/94	1120							X								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
G. Hamilton G.G. Hamilton	4/12/94 1319	AJ SIMPSON AJSimpson	4/12/94 1319
AJSIMPSON AJSimpson	4/14/94 0959	L Swizney L Swizney	4/14/94 0959
L Swizney L Swizney	4/14/94 1130	Tom Gilmore	4/14/94 1130

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION — Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION — Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0197

9613476.0198

AMPLE STATUS REPORT FOR E 6258. E-BLANK 1-B2-12 TIME: 4/13/94 8: 9
ISPATCHED: 4/ 1/94 15: 8 SAMPLE HAS NOT BEEN SLURPED
ECEIVED: 4/13/94 7:50

XT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
***	********	**********	***	***	******
271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BO BNX2
BO BNX3

AJS
4/13/94

9613476.0199

AMPLE STATUS REPORT FOR E 6260. E-BLANK 1-B3-1 TIME: 4/14/94 9:11
ISPATCHED: 4/ 1/94 15:10 SAMPLE HAS NOT BEEN SLURPED
ECEIVED: 4/13/94 15: 1

ST.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
***	********	**********	***	***	******
271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBNX6
BOBNX7
LCS
4-14-94

9613476.0200

SAMPLE STATUS REPORT FOR E 6262. E-BLANK 1-B3-47 TIME: 4/14/94 9:12
DISPATCHED: 4/ 1/94 15:11 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/13/94 15: I

XT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
***	********	**********	***	***	******
271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBNY0
BOBNY1
hCS
4-14-94

9613476.0201

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0-0330-39

PART I – TO BE COMPLETED BY ORIGINATOR

Department: Env. Eng. & Tech	Section: EFS	Unit: ER Field Sampling

The following items are to be shipped from: ☒ Contractor ☐ Vendor

Routing: Hand Deliver ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
IT Analytical Services 3800 G.W. WAY Richland, WA 99352	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample No.: BOBNX1, BOBNX2 Cooler ID: STE. HELEN Polycooler with groundwater samples, packed in wet ice and ~~vermiculite~~ vermiculite	N/A
1	Sample No.: BOBNX2, BOBNX3 Cooler ID: ER-6 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release: [signature]	RM Survey No.: 157866		Date: 4/14/94
Location of Property (Area & Bldg.): 100-BC-5	Contact: PH Butcher		Phone: (509) 376-1368
Date Ready for Shipment: 4-14-94	Cost Code to be Charged: 8B410 / PB5AA	Approximate Date This Property will be Returned: UA	
Originated By: PH Butcher	Date: 4-14-94	Authorized By: [signature]	Date: 4/14/94
Signature and Name of Property Control	Custodian Date	Property Management Approval: [signature]	Date: 4/14/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION –

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

0034

4/14/94 1130

9613476.0202

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0-0336-3B

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ENV. ENG & Tech	EFS	ER Field Samplers

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing Hand Deliver ☒ Contractor ☐ Vendor

Shipped to
ITA Analytical Services
2500 GW WAY
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample No.: BOBNYC, BOBNYI Cooler ID: SMC-421 Polycooler with groundwater samples packed in wet ice and vermiculite	

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING

RM Clearance for Public Release	RM Survey No.	Date
K. Mathews	157916	4/14/94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	PH Butcher	(505) 376-[illegible]

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-14-94	8B410 / PB5AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4-14-94	[signature]	4/14/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[signature]	4/14/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

0035

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Green – Property Control Custodian (Issuing Office) Yellow – Retain Pink – Originator

[signature] 4/14/94 1130

54-8000-879 (09/89)

9613476.0203

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-C-0336

PART I – TO BE COMPLETED BY ORIGINATOR

Department E. v. Eng. & Tech	Section EFS	Unit EI Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing Hand Delivery ☒ Contractor ☐ Vendor

Shipped to
Analytical Services
3500 G.W. WAY
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample No: BOBNJ5, BOBNJ6 Cooler ID: GWSC15 Polycooler with groundwater samples packed in wet ice and vermiculite	NA
1	Sample No: BOBNJ7, BOBNJ8 Cooler ID: SMC115 Polycooler with groundwater samples packed in wet ice and vermiculite	NA

☐ Classified ☒ Unclassified ☒ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 200 AREA

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release [signature]	RM Survey No. 157866	Date 4/14/94
Location of Property (Area & Bldg.) 200-BP-5	Contact PH Butcher	Phone (509) 376-1388
Date Ready for Shipment 4-14-94	Cost Code to be Charged 8B410 PL53A	Approximate Date This Property will be Returned NA
Originated By PH Butcher	Date 4-14-94	Authorized By [signature] Date 4/14/94
Signature and Name of Property Control	Custodian Date	Property Management Approval [signature] Date 4/14/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

0036

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White—Property Management Green – Property Control Custodian (Issuing Office) Yellow – Retain Pink – Originator

[signature] 4/14/94 1130

54-2000-479 (09/89)

9613476.0204

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEME[redacted]
WHC		W94-0-0330-[redacted]

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ENV. Eng. & Tech	EFS	ER Field Sam[redacted]

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing Hand Deliver ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
IT Analytical Services 2800 G.W. WAY Richland, WA 99352	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost [redacted]
1	Sample No.: BOBNX6, BOBNX7 Cooler ID: STE. HELEN Polycooler with ground water samples packed in wet ice and ~~vermicate~~ vermiculite	N/A
1	Sample No.: BOBNX2, BOBNX3 Cooler ID: ER-6 Poly cooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract [redacted]

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING

RM Clearance for Public Release	RM Survey No.	Date
[signature]	157866	4/[redacted]

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	PH Butcher	509[redacted]

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-14-94	86410 / PB5AA	[redacted]

Originated By	Date	Authorized By	Date
PH Butcher	4-14-94	[signature]	[redacted]

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[signature]	[redacted]

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Offic[redacted] Pink – Originator

[signature] 4/14/94 1130

5430000[redacted]

9613476.0205

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-U-0336-38

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ENV. ENG & Tech	EFS	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing Hand Delivery ☒ Contractor ☐ Vendor

Shipped to
ITA Analytical Services
2500 GW WAY
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample No.: BOBNYO, BOBNYI Cooler ID: SML-421 polycooler with groundwater samples packed in wet ice and vermiculite	

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
[illegible]	157816	4/14/94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	PH Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-14-94	8B410 / PB5AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4-14-94	[illegible]	4/14/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible]	4/14/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

0038

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:	
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain	Green – Property Control Custodian (Issuing Office) Pink – Originator

[illegible] 4/14/94 1130

54-3000-479 (09/89)

9613476.0206

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
2300 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4/14/94 1130 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) ER-6

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature -2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/14/94 1130

FORM NO. LS-042, Rev.0, 2/94

9613476.0207

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
2530 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4/14/94 1130 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) SML 421

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/14/94 1130

FORM NO. LS-042, Rev.0, 2/94

9613476.0208

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
2800 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4/14/94 1130 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) STE Helens

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☐ No ☑
3. Custody Seals dated and signed? Yes ☐ No ☑
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☑ No ☒ 4/14/94
13. Memos have been initiated for all anomalies identified above? Yes ☑

Printed Name/Signature Tom Gilmore Date/Time 4/14/94 1130

FORM NO. LS-042, Rev.0, 2/94

4-04-260

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

All category I.
JRN 14 Apr 94

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	Beta	Mnts
WHC			41494		414	10	7	59	60

Customer ID WHC/WATER	pH <2 Rcvd/Reiq	RESIDUE Wght (mGrms)	Vol. Anal. mG	mL	Sample Size Gm	L	SMPLE CNT DATA Hldr Num.	Total Alpha	Counts Beta	Net Sample Counts/Minute Alpha	Beta	DPM / Aliqout Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Beta
B0BNK5		1.3	5		4.0		35	38	127	3.68	11.72	1.4E+01	2.3E+01	5.1E-03	8.1E-03	2.2E-06	1.9E-06	1.3E+03	2.0E+03	Yes	7.8E+00	4.9E+01
B0BNN7		1.1	5		4.0		36	4	16	0.28	0.62	1.1E+00	1.1E+00	3.9E-04	4.1E-04	5.1E-07	4.0E-07	9.8E+01	1.0E+02	Yes	1.0E+02	9.8E+02
B0BNX2		0.5	5		1.0		37	10	20	0.88	1.02	3.4E+00	1.6E+00	3.1E-04	1.4E-04	2.4E-07	6.3E-08	3.1E+02	1.4E+02	Yes	3.3E+01	7.0E+02
B0BNY0		1.1	5		1.0		38	3	22	0.18	1.22	6.8E-01	2.5E+00	6.1E-05	2.2E-04	1.0E-07	5.0E-07	6.1E+01	2.2E+02	Yes	1.6E+02	4.5E+02
B0BNX6		1.3	5		1.0		39	4	24	0.28	1.42	1.1E+00	2.8E+00	9.7E-05	2.6E-04	1.3E-07	3.9E-07	9.7E+01	2.6E+02	Yes	1.0E+02	3.9E+02
B0BNJ7		1.2	5		4.0		40	2	27	0.08	1.72	2.7E-01	3.6E+00	9.9E-05	1.3E-03	2.7E-07	8.4E-06	2.5E+01	3.2E+02	Yes	4.1E+02	3.1E+02
B0BNK3		1.3	5		4.0		41	2	17	0.08	0.72	3.1E-01	1.5E+00	1.1E-04	5.3E-04	2.7E-07	2.0E-06	2.8E+01	1.3E+02	Yes	3.6E+02	7.5E+02
B0BNJ5		1.3	5		4.0		42	0	10	-0.12	0.02	-5E-01	1.1E-01	-2E-04	4.1E-05	-3E-07	2.1E-08	-4E+01	1.0E+01	Yes	-2E+02	9.9E+03
TOTAL	uCi									-0.12	-0.98	-4E-01	-2E+00	6.0E-03	1.1E-02	ERR	ERR	ERR	ERR	Yes	ERR	ERR

9613476.0209

0042

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-7	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0336-44	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2								
Type of Container	G/P	P	G/P	G/P	Gs	aG	G/P								
No. of Container(s)	1	1	5	2	3	1	1								
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml								
SAMPLE ANALYSIS 404322	ICP METALS AA METALS Hg CLP 01A	ANIONS F, SO4 COND pH 8	GROSS ALPHA/ BETA Sr-90	Tc-99 404322 301	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 02A								

Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBNZ2	W	4/15/94	~~0945~~ KEV/JAH 1148	X	X	X	X	X	X								
BOBNZ3	W	4/15/94	1148							X							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	4/15/94 1340	L Sweeney L Sweeney	4/15/94 1340
L Sweeney L Sweeney	4/15/94 1310	T Gilmore	4/15/94 1310

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION — Received By: ____ Title: ____ Date/Time: ____

FINAL SAMPLE DISPOSITION — Disposal Method: ____ Disposed By: ____ Date/Time: ____

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0210

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-7	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0336-44	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Sample No.	Matrix*	Date Sampled	Time Sampled	Preservative: HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2								
				Type of Container: G/P	P	G/P	G/P	Gs	uGs	G/P								
				No. of Container(s): 1	1	5	2	3	1	1								
				Volume: 1000ml	1000ml	1000ml	1000ml	1000ml	4oz	1000ml								
SAMPLE ANALYSIS 404322				ICP METALS AA METALS Hg CLP 03A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14 404323 02	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 04A								
BOBNZ4	W	4/15/94	0950	X	X	X	X	X	X									
BOBNZ5	W	↓	↓							X								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	1340 4/15/94	L Sweeney L Sweeney	4/15/94 1340
L Sweeney L Sweeney	4/18/94 1310	TG Moore	4/18/94 1310

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION — Received By: | Title: | Date/Time:

FINAL SAMPLE DISPOSITION — Disposal Method: | Disposed By: | Date/Time:

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0211

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100B	SAF No.: 94-129
Ice Chest No.: SMC-118	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0336-44	Bill of Leding/Air Bill No.: N/A NONE

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

SAMPLE ANALYSIS																
Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2									
Type of Container	G/P	P	G/P	G/P	Gs	aGs	G/P									
No. of Container(s)	1	1	5	2	3	1	1									
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml									
	ICP METALS AA METALS Hg 05A CLP	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99 404 32303	TRITIUM C-14	Gamma Scan	ICP METALS, AA METALS, Hg CLP FILTERD 06A									
Sample No.	Matrix*	Date Sampled	Time Sampled													
B0BP22	W	4/15/94	0950	X	X	X	X	X	X							
B0BP23	W	↓	↓							X						

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	4/15/94 1340	L Sweeney / L Sweeney	4/15/94 1340
L Sweeney / L Sweeney	4/18/94 1310	[illegible] / TG Williams	4/18/94 1310
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0212

SAMPLE STATUS REPORT FOR E 6269. E-BLANK 1-B5-1 TIME: 4/18/94 8:25
DISPATCHED: 4/ 1/94 15:16 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/15/94 14:31

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBNZ4
BOBNZ5
LCS
4/18/94

BOBP22
BOBP23
LCS
4/18/94

SAMPLE STATUS REPORT FOR E 6268. E-BLANK 1-B4-9 TIME: 4/18/94 8:25
DISPATCHED: 4/ 1/94 15:15 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/15/94 14:31

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBN72
BOBN73
LCS
4/18/94

9613476.0215

$ KCS 4/18/94

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0C336-44

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Env. Eng. & Tech	Environmental Field Svcs.	ER Field Samplng

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to
IT Analytical Services
2800 George WASHINGTON WAY
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 Lbs.	Sample #: B0BN24, B0BN25, B0BN22, B0BN23 Cooler ID: ER-7 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 Lbs.	Sample #: B0BP22, B0BP23 Cooler ID: SMC-118 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling Supports RI/FS work in the 100 AREA

Bill of lading # NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
Julie Brown	157571	4-18-94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	P.H. Butcher	(509) 376-4288

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-18-94	8B410 P8SAA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4/18/94	PH Butcher	4/18/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		JP Henkel	4/18/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

0049

ITAS 4/18/94 1310

54-3000-479 (09/89)

9613476.0216

$ 11/13/94

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		WU94-C(336-44

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Env. Eng. & Tech.	Environmental Field Svcs.	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
IT A. lytical Services 3600 George WASHINGTON WAY Richland WA 99352	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 Lot	Sample # [illegible], [illegible], [illegible], [illegible] Cooler ID: [illegible] Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 Lot	Sample #: B0BP22, B0BP23 Cooler ID: Smc-118 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling Supports RI/FS work in the 100 AREA

Bill of lading # NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
Final	157571	4-18-94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	P.H. Butcher	(509) 376 4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-18-94	8B410 PB5AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4/18/94	PH Butcher	4/18/94
Signature and Name of Property Control	**Custodian Date**	**Property Management Approval**	**Date**
		JP Parker	4/18/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

0049

ITAS 4/18/94 1310

54-3000-479 (09/89)

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1330 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4/18/94 1310 Client Name WHC

Project/Client # 94-129 Batch or Case # NA

Cooler ID (if noted on the outside of cooler) SML-118

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/18/94 1310

FORM NO. LS-042, Rev.0, 2/94

9613476.0218

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1300 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4/18/94 1370 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) ER-7

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 2 bags
7. Number of sample containers in cooler: 28
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 6°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/18/94 1310

FORM NO. LS-042, Rev.0, 2/94

4-04-333

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

Customer Code	Recieved Date	Recieved Time	Screening Prep Date	Screening Prep Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	BACKGROUND Beta	BACKGROUND Mnts
WHC			41894		418	10	6	61	60

All category I
JRN 18 Apr 94

Customer ID WHC/WATER	pH <2 Rcvd/Reiq	RESIDUE Wght (mGrms)	Vol. Anal. mG	Vol. Anal. mL	Sample Size Gm	Sample Size L	SMPLE CNT DATA Hldr Num.	Total Counts Alpha	Total Counts Beta	Net Sample Counts/Minute Alpha	Net Sample Counts/Minute Beta	DPM / Aliqout Alpha	DPM / Aliqout Beta	uCi per Sample Alpha	uCi per Sample Beta	2 Sigma Error uCi per Sample Alpha	2 Sigma Error uCi per Sample Beta	pCi/(Gm or L) Alpha	pCi/(Gm or L) Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Aliquot to Cat 1 Gm or Ltr Beta
B0BNP1		1.2	5		4.0		50	1	23	0.00	1.28	-4E-02	2.7E+00	-1E-05	9.9E-04	-9E-09	5.8E-07	-4E+00	2.5E+02	Yes	-3E+03	4.1E+02
B0BMN6		4.9	5		2.0		51	9	153	0.80	14.28	2.9E+00	3.0E+01	5.2E-04	5.4E-03	4.7E-07	1.1E-06	2.6E+02	2.7E+03	Yes	3.9E+01	3.7E+01
✓ B0BNZ2		1.7	5		1.0		52	0	20	-0.10	0.98	-4E-01	2.2E+00	-4E-05	2.0E-04	-8E-08	6.2E-07	-4E+01	2.0E+02	Yes	-3E+02	5.1E+02
✓ B0BP22		1.0	5		1.0		53	3	16	0.20	0.58	7.7E-01	1.1E+00	6.9E-05	1.0E-04	1.1E-07	1.4E-07	6.9E+01	1.0E+02	Yes	1.4E+02	1.0E+03
✓ B0BNZ4		1.2	5		1.0		54	4	12	0.30	0.18	1.2E+00	1.9E-01	1.1E-04	1.7E-05	1.3E-07	9.7E-09	1.1E+02	1.7E+01	Yes	9.5E+01	5.8E+03

9613476.0219

0032

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp / W. Setzer	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-9	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-1	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2									
Type of Container	G/P	P	G/P	G/P	Gs	aGS	G/P									
No. of Container(s)	1	1	5	2	3	1	1									
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml									
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP A	ANIONS F, SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD									
404404				40440501												

	Sample No.	Matrix*	Date Sampled	Time Sampled														
01	B0BP18	W	4/19/94	1240	X	X	X	X	X	X								
02	B0BP19	W	↓	↓							X A							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
W.W. Setzer	4-20-94 1305	L Sweeney L Sweeney	4/20/94 1305
L Sweeney L Sweeney	4/21/94 1210	R. Boyd II	4-21-94 1210

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION: Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0220

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp / W. Setzer	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location:	SAF No.: 94-129
Ice Chest No.: ER-9	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-1	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks:		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2								
Type of Container	G/P	P	G/P	G/P	Gs	aG1	G/P								
No. of Container(s)	1	1	5	2	3	1	1								
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml								
SAMPLE ANALYSIS 404404	ICP METALS AA METALS Hg CLP A	ANIONS F, SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD								

	Sample No.	Matrix*	Date Sampled	Time Sampled															
03	BOBP14	W	4/19/94	1425	X	X	X	X	X	X									
04	BOBP15	W	↓	↓							X A								

CDO

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: W.W. Setzer	Date/Time: 4-20-94 1305	Received By: L Sweeney L Sweeney	Date/Time: 4/20/94 1305
Relinquished By: L Sweeney L Sweeney	Date/Time: 4/21/94 1210	Received By: R. Boyd	Date/Time: 4-21-94 1210
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0221

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp / W. Setzer	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-8	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-1	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	aG3	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 40440503	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD

404404

	Sample No.	Matrix*	Date Sampled	Time Sampled							
05	B08P24	W	4/19/94	1240	X	X	X	X	X	X	
06	B08P25	W	↓	↓							X A

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
W. Setzer	4-20-94 1305	L Sweeney	4/21/94 1305
L Sweeney	4/21/94 1210	R. Boyd	4-21-94 1210

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION — Received By: | Title: | Date/Time:

FINAL SAMPLE DISPOSITION — Disposal Method: | Disposed By: | Date/Time:

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0222

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp / W. Setzer	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: CR-8	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-1	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	~~G/S~~	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP A	ANIONS F, SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD
404404			40440504				

Sample No.	Matrix*	Date Sampled	Time Sampled														
07 B0BP16	W	4/19/94	1030	X	X	X	X	X	X								
08 B0BP17	W	↓	1030							XA							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
W.W. Setzer	4-20-94 1305	L Sweeney	4/20/94 1305
L Sweeney	4/21/94 1210	R. Bayl	4-21-94 1210

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
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- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION — Received By: ____ Title: ____ Date/Time: ____

FINAL SAMPLE DISPOSITION — Disposal Method: ____ Disposed By: ____ Date/Time: ____

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0223

SAMPLE STATUS REPORT FOR E 6279. E-BLANK 6-67-86 TIME: 4/20/94 8:19
DISPATCHED: 4/ 1/94 15:21 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/20/94 8: 6

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBP14
BOBP15
LG
4/21/94

SAMPLE STATUS REPORT FOR E 6281. E-BLANK 6-72-73 TIME: 4/20/94 8:19
DISPATCHED: 4/ 1/94 15:22 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/20/94 8: 8

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBP24
BOBP25
LCS
4/21/94

BOBP18
BOBP19
LCS
4/21/94

SAMPLE STATUS REPORT FOR E 6280. E-BLANK 6-71-77 TIME: 4/20/94 8:19
DISPATCHED: 4/ 1/94 15:22 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/20/94 8: 8

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBP16
BOBP17
4/21/94
ncS

9613476.0227

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W91-0-0518-1

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to
IT Analytical Services
2800 George Washington Way
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs.	Sample #: B0BP24, B0BP25, B0BP16, B0BP17 Cooler ID: ER-8 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: B0BP18, B0BP19, B0BP14, B0BP15 Cooler ID: ER-9 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

Bill of lading #

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING

RM Clearance for Public Release	RM Survey No.	Date
[illegible]	157893	4/21/94

Location of Property (Area & Bldg.)	Contact	Phone
100 BC-5	P. H. Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-21-94	88410 PBSA	N/A

Originated By	Date	Authorized By	Date
P.H. Butcher	4/21/94	P.H. Butcher	4/21/94
Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		J. Hankel	4/21/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
R. Bagl Jr.				
Date 4-21-94 1010				0060

DISTRIBUTION

By Originator – White, Green, Yellow, Pink = Property Management; Goldenrod = Retain

Shipping Operation – Sign all Copies and Forward to – White = Property Management; Green = Property Control Custodian (Issuing Office); Yellow = Retain; Pink = Originator

5-000-479 (09/89)

9613476.0228

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
2300 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4-21-94 1200 Client Name WHC

Project/Client # 94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) ER-8

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☑ No ☐
7. Number of sample containers in cooler: 28
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 3°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier _____
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature R. Boyd R. Boyd Date/Time 4-21-94 1210

FORM NO. LS-042, Rev.0, 2/94

9613476.0229

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1300 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4-21-94 12:00 Client Name WHC

Project/Client # SAE-94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) ER-9

1. Condition of shipping container? OK.
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 28
8. Samples have: X tape ____ hazard labels
   X custody seals ____ appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier _____
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature R. Boyd R. Boyd Date/Time 4-21-94 1210

FORM NO. LS-042, Rev.0, 2/94

4-04-405

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

all Category I
JRM 21 Apr 94

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	Beta	Mnts
WHC			42194		421	10	11	178	180

Customer ID WHC/WATER	pH <2 Rcvd/Reiq	RESIDUE Wght (mGrms)	Vol. Anal. mG mL	Sample Size Gm L	SMPLE CNT DATA Hldr Num.	Total Counts Alpha	Beta	Net Sample Counts/Minute Alpha	Beta	DPM / Aliqout Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Beta
B0BNM7		1.7	5	4.0	4	3	18	0.24	0.81	9.2E-01	1.6E+00	3.3E-04	5.7E-04	4.7E-07	4.6E-07	8.3E+01	1.4E+02	Yes	1.2E+02	7.1E+02
B0BNN9		3.2	5	4.0	5	3	119	0.24	10.91	8.2E-01	2.3E+01	2.2E-04	8.4E-03	4.7E-07	1.8E-06	5.6E+01	2.1E+03	Yes	1.8E+02	4.8E+01
✓ B0BP16		1.2	5	1.0	6	5	16	0.44	0.61	1.7E+00	1.0E+00	1.5E-04	9.1E-05	1.6E-07	6.1E-08	1.5E+02	9.1E+01	Yes	6.5E+01	1.1E+03
✓ B0BP14		0.9	5	1.0	7	2	12	0.14	0.21	5.4E-01	3.6E-01	4.8E-05	3.2E-05	8.7E-08	3.9E-08	4.8E+01	3.2E+01	Yes	2.1E+02	3.1E+03
✓ B0BP24		1.4	5	1.0	8	0	20	-0.08	1.01	-3E-01	2.2E+00	-2E-05	2.0E-04	-6E-08	9.9E-07	-2E+01	2.0E+02	Yes	-4E+02	5.0E+02
✓ B0BP18		1.2	5	1.0	9	1	17	0.04	0.71	1.3E-01	1.5E+00	1.2E-05	1.3E-04	4.5E-08	1.2E-06	1.2E+01	1.3E+02	Yes	8.5E+02	7.4E+02
TOTAL	uCi							-0.06	-0.99	-2E-01	-2E+00	7.5E-04	9.4E-03	ERR	ERR	ERR	ERR	Yes	ERR	ERR

9613476.0230

0063

9613476.0231

INTERNATIONAL TECHNOLOGY CORPORATION

Analytical Data Package Prepared For

RECORD COPY

Westinghouse Hanford

JUN 1994 RECEIVED SDLA

Radiochemical Analysis By

IT Analytical Services
Richland Laboratory

Sample Delivery Group Number: W0043

WHC IDENTIFICATION NUMBER	ITAS RICHLAND ID NUMBER
B0BNX8	40428901
B0BNX4	40435101
B0BNY2	40443001
B0BP20	40450201
B0BP42	40450202
B0BP06	40450203
B0BP30	40450204
B0BNY6	40450205
B0BP12	40450206
B0BP08	40456701

Regional Office
2800 George Washington Way • Richland, Washington 99352-1613 • 509-375-3131 • FAX: 509-375-5590

IT Corporation is a wholly owned subsidiary of International Technology Corporation

INTERNATIONAL TECHNOLOGY CORPORATION

CERTIFICATE OF ANALYSIS

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

June 16, 1994

Attention: J.A.Lerch

SAF Number	:	94-129
Date SDG Closed	:	April 29, 1994
Number of Samples	:	Ten (10)
Sample Type	:	Water
SDG Number	:	W0043
Data Deliverable	:	Stand Alone

I. Introduction

On April 15, 19, 22, 27, and 29, 1994, ten water samples were received by ITAS-Richland for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the WHC specific IDs:

ITAS-Richland ID	WHC ID	Matrix	Date of Receipt
404289-01A	B0BNX8	Water	4/15/94
404351-01A	B0BNX4	Water	4/19/94
404430-01A	B0BNY2	Water	4/22/94
404502-01A	B0BP20	Water	4/27/94
404502-02A	B0BP42	Water	4/27/94
404502-03A	B0BP06	Water	4/27/94
404502-04A	B0BP30	Water	4/27/94
404502-05A	B0BNY6	Water	4/27/94
404502-06A	B0BP12	Water	4/27/94
404567-01A	B0BP08	Water	4/29/94

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gas Proportional Counting
Gross Alpha by method ITAS-RD-3222
Gross Beta by method ITAS-RD-3222
Strontium-90 by method ITAS-RD-3204
Liquid Scintillation Counting
Carbon-14 by method ITAS-RD-3247
Technetium-99 by method ITAS-IT-RS-0001
Tritium by method ITAS-RD-3205

III. Quality Control

The analytical results for each analysis performed under SDG W0043 include a minimum of one Laboratory Control Sample (LCS), one method (reagent) blank, and one duplicate. Any exceptions have been noted in the "Comments" section.

Quality control sample results are reported in the same units as sample results.

IV. Comments

Results from the initial radioactivity screening of these samples classified them as Category I.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3222
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BP30) results are within contractual limits.

Gross Beta by method ITAS-RD-3222
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BP30) results are within contractual limits.

Strontium-90 by method ITAS-RD-3204
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BP20) results are within contractual requirements.

Liquid Scintillation Counting

Carbon-14 by method ITAS-RD-3247
Samples B0BNX8 and B0BNX4 were inadvertently batched and analyzed with samples from SDG W0031 for the C-14 analysis. For the analytical batch containing these two samples the LCS (L042601S and L042602S), batch blank (L042601B), sample and sample duplicate (duplicate of samples B0BNX2 and B0BNZ2 from SDG W0031) results are within contractual requirements. These quality control sample results were previously reported with SDG W0031.

Sample B0BNY2 was also inadvertently batched with SDG W0031, however, the sample was omitted from the batch when the samples were counted. When the prepped sample was found to be missing from the batch (SDG W0031), cocktail was added to the sample and the sample was added to the bottom of the Batch Summary Form for SDG W0040 and counted with SDG W0040. The sample was prepared with SDG W0031 and, therefore, the reference QC samples for B0BNY2 are the same as the reference QC samples for the other SDG W0031 batch samples.

The remainder of the SDG W0043 samples (B0BP20, B0BP42, B0BP06, B0BP30, B0BNY6, B0BP12, and B0BP08) were batched and analyzed together. The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BP12) results are within contractual requirements.

Technetium-99 by method ITAS-IT-RS-0001
The matrix spikes, LCS, batch blank, sample and sample duplicate (duplicate of samples B0BNY6 and B0BNY2) results are within contractual requirements.

Tritium by method ITAS-RD-3205
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BNX8) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Reviewed and approved:

Suzanne Gaines

Suzanne Gaines
Project Manager

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
SDG NO.: W0043
LAB SAMPLE ID: 40428901
MATRIX: WATER
WHC ID: B0BNX8
DATE RECEIVED: 4/15/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER
ALPHA	1.26E+00	8.05E-01	8.20E-01	1.16E+00	1	RD3222
BETA	1.43E+02	5.93E+00	1.17E+01	2.89E+00	1	RD3222
TOTAL-SR	5.67E+01	1.98E+00	1.49E+01	8.11E-01	0.987	RD3204
C-14	1.55E+00	1.60E+00	3.39E+00	3.69E+00	1	RD3263
TC-99	9.89E+01	2.01E+00	1.39E+01	2.13E+00	0.951	ITAS-IT-RS-0001
TRITIUM	4.75E+03	2.15E+02	5.11E+02	2.50E+02	0.94	RD3205

LAB SAMPLE ID: 40435101
MATRIX: WATER
WHC ID: B0BNX4
DATE RECEIVED: 4/19/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER
ALPHA	7.42E-01	6.64E-01	6.70E-01	1.11E+00	1	RD3222
BETA	7.13E+00	1.86E+00	1.92E+00	2.99E+00	1	RD3222
TOTAL-SR	-1.18E-01	2.54E-01	2.56E-01	8.04E-01	0.9	RD3204
C-14	1.80E+00	1.60E+00	3.40E+00	3.69E+00	1	RD3263
TC-99	1.25E+01	1.12E+00	5.09E+00	2.13E+00	0.951	ITAS-IT-RS-0001
TRITIUM	1.36E+04	3.35E+02	1.15E+03	2.50E+02	0.94	RD3205

682A-6-93

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
SDG NO.: W0043
LAB SAMPLE ID: 40443001
MATRIX: WATER
WHC ID: B0BNY2
DATE RECEIVED: 4/22/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER
ALPHA	1.43E+00	7.83E-01	8.03E-01	8.41E-01	1	RD3222
BETA	5.96E+01	3.95E+00	5.77E+00	2.83E+00	1	RD3222
TOTAL-SR	1.71E+01	1.22E+00	4.28E+00	8.67E-01	0.761	RD3204
C-14	-1.82E+00	1.52E+00	3.21E+00	3.62E+00	1	RD3263
TC-99	6.62E+01	1.72E+00	1.04E+01	2.13E+00	0.951	ITAS-IT-RS-0001
TRITIUM	2.86E+03	1.79E+02	3.82E+02	2.50E+02	0.94	RD3205

LAB SAMPLE ID: 40450201
MATRIX: WATER
WHC ID: B0BP20
DATE RECEIVED: 4/27/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER
ALPHA	5.33E-01	6.16E-01	6.20E-01	1.17E+00	1	RD3222
BETA	1.88E+00	1.51E+00	1.51E+00	3.04E+00	1	RD3222
TOTAL-SR	2.87E-01	2.99E-01	3.08E-01	7.86E-01	0.889	RD3204
C-14	1.89E+00	1.56E+00	3.25E+00	3.58E+00	1	RD3263
TC-99	2.05E+00	9.46E-01	4.23E+00	2.13E+00	0.951	ITAS-IT-RS-0001
TRITIUM	1.01E+03	1.37E+02	2.63E+02	2.50E+02	0.94	RD3205

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
SDG NO.: W0043
LAB SAMPLE ID: 40450202
MATRIX: WATER
WHC ID: B0BP42
DATE RECEIVED: 4/27/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER
ALPHA	1.68E-01	2.53E-01	2.54E-01	5.05E-01	1	RD3222
BETA	1.71E+00	1.29E+00	1.29E+00	2.55E+00	1	RD3222
TOTAL-SR	3.23E-01	3.38E-01	3.47E-01	8.93E-01	0.858	RD3204
C-14	-6.08E-01	1.52E+00	3.19E+00	3.58E+00	1	RD3263
TC-99	2.66E+00	9.59E-01	4.28E+00	2.13E+00	0.951	ITAS-IT-RS-0001
TRITIUM	9.64E+00	1.06E+02	2.08E+02	2.50E+02	0.94	RD3205

LAB SAMPLE ID: 40450203
MATRIX: WATER
WHC ID: B0BP06
DATE RECEIVED: 4/27/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER
ALPHA	1.84E+00	9.09E-01	9.40E-01	1.11E+00	1	RD3222
BETA	5.46E+00	1.74E+00	1.78E+00	2.97E+00	1	RD3222
TOTAL-SR	-2.01E-01	2.57E-01	2.61E-01	8.52E-01	0.833	RD3204
C-14	-1.91E+00	1.50E+00	3.16E+00	3.58E+00	1	RD3263
TC-99	1.81E+00	9.49E-01	4.21E+00	2.13E+00	0.951	ITAS-IT-RS-0001
TRITIUM	8.39E+01	1.09E+02	2.11E+02	2.50E+02	0.94	RD3205

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
SDG NO.: W0043
LAB SAMPLE ID: 40450204
MATRIX: WATER
WHC ID: B0BP30
DATE RECEIVED: 4/27/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER
ALPHA	6.08E-02	1.86E-01	1.86E-01	4.53E-01	1	RD3222
BETA	6.57E-01	1.24E+00	1.24E+00	2.66E+00	1	RD3222
TOTAL-SR	-8.72E-02	2.48E-01	2.48E-01	7.82E-01	0.865	RD3204
C-14	-1.44E+00	1.51E+00	3.17E+00	3.58E+00	1	RD3263
TC-99	2.09E+00	9.53E-01	4.23E+00	2.13E+00	0.951	ITAS-IT-RS-0001
TRITIUM	8.00E+01	1.09E+02	2.11E+02	2.50E+02	0.94	RD3205

LAB SAMPLE ID: 40450205
MATRIX: WATER
WHC ID: B0BNY6
DATE RECEIVED: 4/27/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER
ALPHA	7.46E-01	6.67E-01	6.73E-01	1.12E+00	1	RD3222
BETA	3.37E+01	3.08E+00	3.89E+00	2.83E+00	1	RD3222
TOTAL-SR	4.85E+00	6.33E-01	1.39E+00	7.60E-01	0.933	RD3204
C-14	3.38E-01	1.53E+00	3.21E+00	3.58E+00	1	RD3263
TC-99	6.09E+01	1.71E+00	9.86E+00	2.13E+00	0.951	ITAS-IT-RS-0001
TRITIUM	2.43E+03	1.71E+02	3.53E+02	2.50E+02	0.94	RD3205

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
SDG NO.: W0043
LAB SAMPLE ID: 40450206
MATRIX: WATER
WHC ID: B0BP12
DATE RECEIVED: 4/27/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER
ALPHA	1.54E+00	8.16E-01	8.38E-01	8.52E-01	1	RD3222
BETA	5.05E+01	3.71E+00	5.14E+00	3.06E+00	1	RD3222
TOTAL-SR	4.59E-02	2.69E-01	2.69E-01	7.93E-01	0.916	RD3204
C-14	4.51E-02	1.53E+00	3.20E+00	3.58E+00	1	RD3263
TC-99	1.82E+02	2.59E+00	2.28E+01	2.13E+00	0.951	ITAS-IT-RS-0001
TRITIUM	5.51E+03	2.28E+02	5.64E+02	2.50E+02	0.94	RD3205

LAB SAMPLE ID: 40456701
MATRIX: WATER
WHC ID: B0BP08
DATE RECEIVED: 4/29/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER
ALPHA	2.56E+00	1.07E+00	1.12E+00	1.14E+00	1	RD3222
BETA	1.02E+01	2.06E+00	2.18E+00	3.04E+00	1	RD3222
TOTAL-SR	-2.00E-01	2.74E-01	2.78E-01	8.98E-01	0.851	RD3204
C-14	-1.19E+00	1.51E+00	3.17E+00	3.58E+00	1	RD3263
TC-99	2.38E+01	1.27E+00	6.13E+00	2.13E+00	0.951	ITAS-IT-RS-0001
TRITIUM	2.62E+04	4.52E+02	2.06E+03	2.50E+02	0.94	RD3205

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INTERNATIONAL TECHNOLOGY CORPORATION

LOG #: RD-94- 0168 page 1 of 2

ITAS-Richland
LABORATORY NONCONFORMANCE MEMO (NCM)

PROJECT ID (Name/Number): WHC

NCM INITIATED BY (Name/Date): GZ 6/2/94

PARAMETER(S): C14

SAMPLE NUMBER(S) AFFECTED: SDG W0043 Wavefordrs W 404281, 351, 43

MATRIX: H_2O

AREA: ☐ SHIP/REC ☒ RADIOCHEM ☐ COUNTING ☐ BIOASSAY ☐ DATA VERIF ☐ REPORTING ☐ OTHER:

NONCONFORMANCE [check appropriate item(s)]:

1. ☐ Not enough sample received for proper analysis.
2. ☐ Holding time exceeded by _____ days due to:
   - 2.1 ☐ CATEGORY I: Out of Laboratory Control
     - ☐ Holding time expired at receipt
   - 2.2 ☐ CATEGORY II: Laboratory Dependent
     - ☐ work backlog ☐ instrument failure
     - ☐ communication ☐ other (see #10)
   - 2.3 ☐ CATEGORY III: Laboratory Reruns
     - 2.3.1 ☐ *QA/QC:*
       - ☐ surrogates ☐ internal standards
       - ☐ spike recoveries ☐ blank contamination
     - 2.3.2 ☐ *CONFIRMATION:*
       - ☐ second column ☐ contamination check
       - ☐ other (see #10)
     - 2.3.3 ☐ *DILUTION:*
       - ☐ over calibration ☐ under calibration
       - ☐ other (see #10)
     - 2.3.4 ☐ *OTHER: (see #10)*
3. ☐ Sample lost during extraction/analysis: no re-prep or re-analysis possible.
4. ☐ QC data reported to client outside of:
   - ☐ method limits ☐ internal limits
   - ☐ QAPP limits ☐ contract limits
   - ☐ regulatory limits ☐ blank criteria
5. ☐ Incorrect procedure(s) used. (See #10)
6. ☐ Invalid instrument calibration. (See #10)
7. ☐ Incorrect/incomplete data reported to client. (See #10)
8. ☐ Reported detection limit(s) higher than:
   - ☐ method limits ☐ QAPP limits
   - ☐ contract limits ☐ other (see #10)

   Due to:
   - ☐ sample matrix ☐ insufficient sample
   - ☐ instrumentation ☐ other (see #10)
9. ☒ Other (specify): SDG broken up between W0031 & W0040. WO. 404502 & 404567 were run as W0043
10. ☐ Comments/Explanation:

NOTIFICATION [check appropriate item(s)]:

1. ☐ Client notified by (name and date): _____
   - ☐ in writing ☐ by FAX
   - ☐ by phone ☐ Other (explain)
2. ☐ Client's name _____ and response:
   - ☐ process "as is" ☐ resample
   - ☐ on hold til ____ ☐ Other (explain)

PROJECT MANAGER (signature & date): Suzy Davies 6/16/94

FURTHER ACTION REQUIRED, SEE PAGE 2 OF 2

0032

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IT CORPORATION

LOG #: RD-94-0162 page 2 of 2

CORRECTIVE ACTION

☒ ROOT CAUSE: INITIALS/DATE SEF 6/2/94

late change in SDG composition and 404430 missed during WQ031 submission to C.R. See attached for details
Each SDG's QC was referenced to appropriate WO's.

☒ CORRECTIVE ACTION: INITIALS/DATE SEF 6/2/94

Report data.

☐ RESPONSIBILITY FOR PERFORMING CORRECTIVE ACTION ASSIGNED TO:

☒ ACTIONS TO PREVENT RECURRENCE: INITIALS/DATE SEF 6/2/94

Discussed need to update COC's with sample receiving and made tech's involved viz possible future occurances

FIRST LEVEL SUPERVISOR: [signature] DATE: 6/2/94

RESPONSIBLE MANAGER: [signature] DATE: 6/6/94

QC REVIEW

☒ NONCONFORMANCE ☐ DEFICIENCY ☐ RERUN

☐ FURTHER ACTION REQUIRED:

ASSIGNED TO:

QC COORDINATOR: [signature] DATE: 6/16/94

CORRECTIVE ACTION VERIFICATION

☒ VERIFIED ☐ CANNOT VERIFY (specify reason)

REASON:

NCM CLOSURE

QC COORDINATOR: [signature] DATE: 6/16/94

003.

SIGNED ORIGINAL MUST BE RETAINED IN FILE: ☐ QUALITY/OPERATIONS FILE ☒ PROJECT FILE

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: Collector GG Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Des.: 100-BC-5	Sampling Location: 100B	SAF No.: 94-129
Ice Chest No.: SMC 118	Field Logbook No.	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0336-43	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Refrig 2C AJS 4/13/94 1335		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	uGs	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml
SAMPLE ANALYSIS 40428801	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 40428901	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 40428802A

Sample No.	Matrix*	Date Sampled	Time Sampled							
B0BNX8	W	4/13/94	1015	X	X	X	X	X	X	
B0BNX9	W	↓	↓							X

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
GG Hamilton	1335 4/13/94	AJ SIMPSON AJ Simpson	4/13/94 1335
AJ SIMPSON AJ Simpson	4/15/94 1000	L Sweeney L Sweeney	4/15/94 1000
L Sweeney L Sweeney	4/18/94 1440	Karen Hatfield	4/18/94 14:40
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0243

9613476.0244

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-U-0336-43

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Env Eng. & Tech	EFS	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to
IT Analytical Services
2606 G.W. WAY
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description. (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample No: B0BNX8, B0BNX9 Cooler ID: SMC-118 Polycooler with groundwater samples packed in wet ice and vermiculite	NA

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
R Matthews	157173	4/15/94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	PH Butcher	(509) 376 4358

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-15-94	8B410 PB5AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4-15-94	P.H. Butcher	4-15-94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		J. Henkel	4/15/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
R Boyd				
Date 4-15-94 1440				

DISTRIBUTION

0033

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management · Green – Property Control Custodian (Issuing Office) Yellow – Retain · Pink – Originator

54-2000-479 (09/89)

9613476.0245

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
2300 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(Per Shipping Container)

Date/Time Received ~~4-14~~ 4-15-94 14:30 Client Name BOBIN X8/BCPN X9

Project/Client # SAF - ~~94-130~~ 94-129 ~~4-14-94~~ Batch or Case # WHC

Cooler ID (if noted on the outside of cooler) SMC 118

1. Condition of shipping container? O/C
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 14
8. Samples have: ✓ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ✓ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 3°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) n/a
    Request for analysis #(s) n/a
    Airbill # n/a Carrier n/a
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☒

Printed Name/Signature Karen Stattenling Date/Time 4-15-94 14:40

FORM NO. LS-042, Rev.0, 2/94

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	Beta	Mnts
WHC			41594		415	10	14	212	240

PH category I
JRN 15 Apr 94

Customer ID WHC/WATER	pH <2 Rcvd/Reiq	RESIDUE Wght (mGrms)	Vol. Anal. mG	mL	Sample Size Gm	L	SMPLE CNT DATA Hldr Num.	Total Alpha	Counts Beta	Net Sample Counts/Minute Alpha	Beta	DPM / Aliqout Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Beta
B0BNH9		0.9	5		4.0		35	8	76	0.74	6.72	2.7E+00	1.4E+01	9.7E-04	5.0E-03	8.6E-07	1.4E-06	2.4E+02	1.2E+03	Yes	4.1E+01	8.0E+01
B0BNX8		0.3	5		1.0		36	13	39	1.24	3.02	4.7E+00	5.6E+00	4.2E-04	5.1E-04	2.6E-07	2.3E-07	4.2E+02	5.1E+02	Yes	2.4E+01	2.0E+02
B0BNJ1		2.0	5		4.0		37	4	73	0.34	6.42	1.2E+00	1.3E+01	4.2E-04	4.9E-03	5.7E-07	1.5E-05	1.0E+02	1.2E+03	Yes	9.6E+01	6.2E+01
TOTAL	uCi									-0.06	-0.88	-2E-01	-2E+00	1.8E-03	1.0E-02	ERR	ERR	ERR	ERR	Yes	ERR	ERR

9613476.0246

0010

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K.D. Lee	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: KDL 4/18/94 100-BC-5	SAF No.: 94-129
Ice Chest No.: GWS015	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0336-48	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	N/A	HNO3<2								
Type of Container	G/P	P	G/P	G/P	Gs	G	G/P								
No. of Container(s)	1	1	5	2	3	1	1								
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	20ml	1000ml								
SAMPLE ANALYSIS 404350	ICP METALS AA METALS Hg CLP 914	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99 404351 01	TRITIUM C-14	TOTAL ACTIVITY	ICP METALS, AA METALS, Hg CLP FILTERD								

Sample No.	Matrix*	Date Sampled	Time Sampled															
B03VX4	W	04/18/94	1133	X	X	X	X	X	X	02A								
B03VX5	W	04/18/94	1133							X								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K.D. Lee K.D. Lee	4/18/94 1400	L Sweeney L Sweeney	4/18/94 1400
L Sweeney L Sweeney	4/18/94 1150	G Gilmore	4/18/94 1150

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION — Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION — Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9413176.0217

9613476.0248

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0-0336-98

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Eng. Env. & Tech	EFS	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to
IT Analytical Services
2800 G.W. WAY
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample #; BOBNX4, BOBNX5 Cooler ID: GWS015 Poly cooler with groundwater samples packed in wet ice and vermiculite	NA

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
[signature]	157886	4/19/94

Location of Property (Area & Bldg.)	Contact	Phone
100-RC-5	PH Butcher	509 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-19-94	8K4110 P85AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4-19-94	P. H. Butcher	4/19/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[signature]	4/19/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:	
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain	Green – Property Control Custodian (Issuing Office) Pink – Originator

0042

[signature] ITAS 4/19/94 1150

54-2000-479 (09/89)

9613476.0249

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0-0336-48

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Eng. Env. & Tech	EFS	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
IT Analytical Services 2800 G.W. WAY Richland, WA 99352	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample #: BOBNX4, BOBNX5 Cooler ID: GWS015 Poly cooler with groundwater samples packed in wet ice and vermiculite	NA

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

BEST AVAILABLE COPY

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
[signature]	157556	4/19/94

Location of Property (Area & Bldg.)	Contact	Phone
100-FR-5	PH Butcher	509 376-0388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-19-94	8R4110 P85AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4-19-94	P. H. Butcher	4/19/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[signature]	4/19/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

[signature] ITAS 4/19/94 1150 00043

54-3000-479 (09/89)

9613476.0250

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
2300 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(Per Shipping Containers)

Date/Time Received 4/19/94 1150 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) GWS015

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/19/94 1150

FORM NO. LS-042, Rev.0, 2/94

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

All Category I
JRN 19 Apr 94

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts Cntd	BACKGROUND Alpha	Beta	Mnts
WHC			41994		419	10	4	104	120

Customer ID WHC/LIQ	pH <2 Rcvd/Relq	RESIDUE Wght (mGrms)	Vol. Anal. mG mL	Sample Size Gm L	SMPLE CNT DATA Hldr Num.	Total Counts Alpha	Beta	Net Sample Counts/Minute Alpha	Beta	DPM / Aliqout Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Beta
94102-01.D18		72.4	72	850.0	1	1	13	0.07	0.43	5.7E-01	9.9E-01	3.0E-03	5.2E-03	7.9E-06	5.5E-06	3.5E+00	6.1E+00	Yes	2.8E+03	1.6E+04
94102-02.D18		22.5	23	250.0	2	0	16	-0.03	0.73	-2E-01	1.7E+00	-1E-03	8.3E-03	-3E-06	6.3E-06	-4E+00	3.3E+01	Yes	-2E+03	3.0E+03
WHC/WATER												0.0E+00	0.0E+00							
B0BNX4		0.7	5	1.0	3	4	21	0.37	1.23	1.4E+00	2.4E+00	1.3E-04	2.2E-04	1.5E-07	2.4E-07	1.3E+02	2.2E+02	Yes	8.0E+01	4.6E+02
TOTAL	uCi							-0.03	-0.87	-1E-01	-2E+00	2.1E-03	1.4E-02	ERR	ERR	ERR	ERR	Yes	ERR	ERR

9613476.0251

0045

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: ☐ Priorty ☒ Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-7	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-3	Bill of Lading/Air Bill No.: N/A ~~W94~~ NCS 4-22-94 NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2									
Type of Container	G/P	P	G/P	G/P	Gs	cGs	G/P									
No. of Container(s)	1	1	5	2	3	1	1									
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml									
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD									
404429			40443001													

	Sample No.	Matrix*	Date Sampled	Time Sampled															
01	B0BNY2	W	4/21/94	0920	X	X	X	X	X	X									
02	B0BNY3	W	↓	↓							X A								

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: K. Trapp / K. Trapp	4/22/94	0752
Received By: L. Sweeney / L. Sweeney	4/22/94	0752
Relinquished By: L. Sweeney / L. Sweeney	4/22/94	1400
Received By: R. Boyd DT	4/22/94	1400
Relinquished By		
Received By		
Relinquished By		
Received By		

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0252

0046

SAMPLE STATUS REPORT FOR E 6263. E-BLANK 1-B4-1 TIME: 4/22/94 8:19
DISPATCHED: 4/ 1/94 15:11 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/22/94 7:43

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBNV2
BOBNV3

LCS
4/22/94

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W91-C-0518-3

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from: [X] Contractor [ ] Vendor

Routing: [X] Contractor [ ] Vendor

Shipped to	Off-Site Custodian
IT Analytical Services 2800 George Washington Way Richland, WA 99352	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs.	Sample #: BOBP02, BOBP03, BOBP26, BOBP27 Cooler ID: ER-9 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: BOBNY2, BOBNY3, BOBP10, BOBP11 Cooler ID: ER-7 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

[ ] Classified [X] Unclassified [ ] Shipped Under DOE Contract [ ] Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

Bill of Lading #: NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING

RM Clearance for Public Release	RM Survey No.	Date
R Nelson	157906	4-22-94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	P.H. Butcher	(509) 376-4386

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-22-94	88410 PB5AA	N/A

Originated By	Date	Authorized By	Date
PH Butcher	4/22/94	P H Butcher	4/22/94
Signature and Name of Property Control	**Custodian Date**	**Property Management Approval**	
		M Hankel	4/22/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
R Boyd Jr				
Date 4-22-94 1400				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management – Green – Property Control Custodian (Issuing Office) Yellow – Return – Pink – Originator

9613476.0255

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
2300 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4-22-94 1400 Client Name WHC

Project/Client # 94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) ER-7

1. Condition of shipping container? O.K.
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 4-22-94 24
8. Samples have: X tape ____ hazard labels
   X custody seals ____ appropriate sample labels
9. Samples are: X in good condition ____ leaking
   X broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) n/a
    Request for analysis #(s) n/a
    Airbill # n/a Carrier n/a
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☒

Printed Name/Signature Karen Schlenley Date/Time 4-22-94 1400

FORM NO. LS-042, Rev.0, 2/94

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

All Cat. I
JRn 22 Apr 94

Customer Code	Recieved Date	Recieved Time	Screening Prep Date	Screening Prep Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	BACKGROUND Beta	BACKGROUND Mnts
WHC			42294		422	10	13	232	240

Customer ID WHC/WATER	pH <2 Rcvd/Reiq	RESIDUE Wght (mGrms)	Vol. Anal. mG mL	Sample Size Gm L	SMPLE CNT DATA Hldr Num.	Total Alpha	Counts Beta	Net Sample Counts/Minute Alpha	Beta	DPM / Aliqout Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Beta
B0BP26		0.9	5	4.0	5	6	46	0.55	3.63	2.0E+00	7.4E+00	7.3E-04	2.7E-03	7.3E-07	1.0E-06	1.6E+02	6.7E+02	Yes	5.5E+01	1.5E+02
B0BP10		0.7	5	1.0	6	1	20	0.05	1.03	1.5E-01	2.2E+00	1.3E-05	2.0E-04	4.9E-08	1.3E-07	1.3E+01	2.0E+02	Yes	7.6E+02	5.1E+02
B0BNY2		0.9	5	1.0	7	6	25	0.55	1.53	2.1E+00	2.9E+00	1.9E-04	2.6E-04	1.6E-07	2.2E-07	1.9E+02	2.6E+02	Yes	5.3E+01	3.8E+02
B0BP02		1.3	5	1.0	8	2	11	0.15	0.13	5.7E-01	1.9E-01	5.1E-05	1.7E-05	9.0E-08	1.6E-08	5.1E+01	1.7E+01	Yes	1.9E+02	5.9E+03
B0BP00		1.2	5	1.0	9	1	14	0.05	0.43	1.7E-01	6.9E-01	1.5E-05	6.1E-05	4.9E-08	4.3E-07	1.5E+01	6.1E+01	Yes	6.7E+02	1.2E+03
B0BNY4		0.6	5	1.0	10	3	22	0.25	1.23	9.2E-01	2.5E+00	8.3E-05	2.2E-04	1.2E-07	3.7E-07	8.3E+01	2.2E+02	Yes	1.2E+02	4.5E+02
B0BNP7		0.5	5	4.0	11	1	17	0.05	0.73	1.6E-01	1.5E+00	5.6E-05	5.5E-04	1.9E-07	4.1E-06	1.4E+01	1.4E+02	Yes	7.2E+02	7.2E+02
B0BNM5		2.8	5	4.0	12	5	173	0.45	16.33	1.3E+00	3.5E+01	4.6E-04	1.2E-02	6.6E-07	5.4E-05	1.2E+02	3.1E+03	Yes	8.7E+01	3.2E+01
B0BNP3		0.5	5	4.0	14	1	17	0.05	0.73	1.6E-01	1.5E+00	5.6E-05	5.5E-04	1.9E-07	4.1E-06	1.4E+01	1.4E+02	Yes	7.2E+02	7.2E+02
TOTAL	uCi							-0.05	-0.97	-2E-01	-2E+00	1.7E-03	1.7E-02	ERR	ERR	ERR	ERR	Yes	ERR	ERR

9613476.0256

0050

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: 042	Field Logbook No.: EFL-1030	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0578-15	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Retrig 2A AJS 4/26/94 1620

SAMPLE ANALYSIS: 404501

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP METALS AA METALS Hg CLP A	ANIONS F, SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 40450201	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 02A
Preservative				HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container				G/P	P	G/P	G/P	Gs	1-Gs	G/P
No. of Container(s)				1	1	5	2	3	1	1
Volume				1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml
BOBP20 01	W	4/26/94	1300	X	X	X	X	X	X	
BOBP21 02	W	↓	↓							X

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	1610 4/26/94	AJ SIMPSON AJ Simpson	4/26/94 1620
AJ SIMPSON AJ Simpson	4/27/94 1021	L Sweeney L Sweeney	4/27/94 1021
		Heidelberg	4/27 1210

SPECIAL INSTRUCTIONS: DATA DELIVERABLE-STANDALONE

Matrix*: S = Soil; SE = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air; DS = Drum Solids; DL = Drum Liquids; T = Tissue; WI = Wipe; L = Liquid; V = Vegetation; X = Other

LABORATORY SECTION: Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0257

TC00

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: 042	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0578-15	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Refrig 2A AJS 4/26/94 1615

SAMPLE ANALYSIS: 404501

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD CHA								
Preservative				HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2								
Type of Container				G/P	P	G/P	G/P	Gs	GG	G/P								
No. of Container(s)				1	1	5	2	3	1	1								
Volume				1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml								
BOBP42 03	W	4/26/94	1445	X	X	X	X	X	X									
BOBP43 04	W	↓								Y								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: K. V. Mann / K. Trapp	Date/Time: 4/26/94 1610	Received By: AJ Simpson AJ SIMPSON	Date/Time: 4/26/94 1615
Relinquished By: AJ Simpson AJ SIMPSON	Date/Time: 4/27/94 1021	Received By: L Sweeney / L Sweeney	Date/Time: 4/27/94 1021
Relinquished By: L Sweeney / L Sweeney	Date/Time: 4/27/94 1210	Received By: Heidelberg	Date/Time: 4/27/1210
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0258

0052

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: ☐ Priorty ☒ Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 F	SAF No.: 94-129
Ice Chest No.: GWS020	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0578-1S	Bill of Lading/Air Bill No.: N/A NOWO
Possible Sample Hazards/Remarks		

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE 3C AJS 4/26/94 1610

SAMPLE ANALYSIS: 404501

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 06A							
Preservative				HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2							
Type of Container				G/P	P	G/P	G/P	Gs	1 GS	G/P							
No. of Container(s)				1	1	5	2	3	1	1							
Volume				1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml							
B0BP06 05	W	4/26/94	1035	X	X	X	X	X	X								
B0BP07 06	W	↓	↓							X							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	4/26/94 1600	A J Simpson AJ SIMPSON	4/26/94 1610
Relinquished By	Date/Time	Received By	Date/Time
AJ SIMPSON A J Simpson	4/27/94 1016	L Sweeney L Sweeney	4/27/94 1016
Relinquished By	Date/Time	Received By	Date/Time
L Sweeney L Sweeney	4-27-94 1210	Heidelberg	4/27/1210
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0259

0053

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: GWS02.0	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-15	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE 3C AJS 1608 4/26/94

SAMPLE ANALYSIS: 404501

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	aGs	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml
	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD

Sample No.	Matrix*	Date Sampled	Time Sampled														
B0BP30 07	W	4/26/94	1415	X	X	X	X	X	X								
B0BP31 08	W	↓	↓							↓							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	1610 4/26/94	AJ SIMPSON AJ Simpson	4/26/94 1608
AJ Simpson AJ SIMPSON	4/27/94 1017	L Sweeney L Sweeney	4/27/94 1017
L Sweeney L Sweeney	4-27-94 1210	Hudellee	4/27 1210
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION: Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0260

0034

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-9	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-11	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks:

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE retrig 3x AJS

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	uGs	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml
SAMPLE ANALYSIS 404501	ICP METALS AA METALS Hg CLP A	ANIONS F, SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99 40450205	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 10A

Sample No.	Matrix*	Date Sampled	Time Sampled							
BOBNY6 9	W	4/25/94	1040	+	+	+	+	+	+	
BOBNY7 10	W	↓	↓							+

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. J Mapp / K. Trapp	4/25/94 1355	AJ Simpson	4/25/94 1355
AJ Simpson AJ SIMPSON	4/27/94 0922	L Sweeney L Sweeney	4/27/94 0922
L Sweeney L Sweeney	4-27-94 1210	Heidelberg	4/27 1210
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0261

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Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Tropp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-9	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0578-11	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Refrig 3c AJS

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2								
Type of Container	G/P	P	G/P	G/P	Gs	aG	G/P								
No. of Container(s)	1	1	5	2	3	1	1								
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml								
SAMPLE ANALYSIS 404501	ICP METALS AA METALS Hg CLP A	ANIONS F, SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Gamma Scan	ICP METALS, AA METALS, Hg CLP FILTERD 12A								

Sample No.	Matrix*	Date Sampled	Time Sampled															
BOBP12 11	W	4/25/94	1205	X	X	X	X	X	X									
BOBP13 12	W	↓								X								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Tropp / K. Tropp	4/25/94 1355	AJ SIMPSON RJ Simpson	4/25/94 1355
AJ SIMPSON RJ Simpson	4/27/94 0925	L Sweeney L Sweeney	4/27/94 0925
L Sweeney L Sweeney	4-27-94 1210	Hendelly	4/27 1210

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

0059

9413476.0262

9613476.0263

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-U-0518-15

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to
IT Analytical Services
2800 George Washington Way
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs.	Sample #: BOBP42, BOBP43, BOBP20, BOBP21 Cooler ID: 042 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: BOBP30, BOBP31, BOBP00, BOBN07 Cooler ID: GWSC20 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

Bill of lading # NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No. 152733	Date 4/22/94
Location of Property (Area & Bldg.) 100-BC-5	Contact P. H. Butcher	Phone (509) 376-4388
Date Ready for Shipment 4-27-94	Cost Code to be Charged 8B410 PB5AA	Approximate Date This Property will be Returned NA
Originated By PH Butcher	Date 4/27/94	Authorized By G Simpson
Signature and Name of Property Control	Custodian Date	Property Management Approval

Date 4/27/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date 4/27/94				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

0057

54-3000-479 (09/89)

9613476.0264

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1300 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(Per Shipping Container)

Date/Time Received 4/27 1210 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) 042

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 27
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 40

11. The following paperwork should be accounted for (N/A if not applicable):

    Chain of Custody #'(s) N/A

    Request for analysis #(s) ↓

    Airbill # ↓ Carrier ↓

12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Hildebrand Date/Time 4/27 1210

FORM NO. LS-042, Rev.0, 2/94

9613476.0265

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1330 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

* Per Shipping Container

Date/Time Received 4/27 1210 Client Name WHC

Project/Client # 94-129 Batch or Case # 4a

Cooler ID (if noted on the outside of cooler) JWS 020

1. Condition of shipping container? GR
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 78
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 2°

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature SHerdeberg Date/Time 4/27 1210

FORM NO. LS-042, Rev.0, 2/94

9613476.0266

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1300 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(Per Shipping Container)

Date/Time Received 4/27 1210 Client Name WHC

Project/Client # 941-129 Batch or Case # na

Cooler ID (if noted on the outside of cooler) ER9

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: _____
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature _____

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) _____
    Request for analysis #(s) na
    Airbill # _____ Carrier _____
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature [illegible] Date/Time 4/27 1210

FORM NO. LS-042, Rev.0, 2/94

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

all below mmf 4-27-94

all Cat I mmf for dly 4-27-94

Customer Code WHC	Recieved Date	Time	Screening Prep Date 42794	Screening Prep Time	Count Date 427	Mnts. Cntd 10	BACKGROUND Alpha 20	BACKGROUND Beta 228	BACKGROUND Mnts 240

Customer ID WHC/WATER	pH <2 Rcvd/Reiq	RESIDUE Wght (mGrms)	Vol. Anal. mG	Vol. Anal. mL	Sample Size Gm	Sample Size L	SMPLE CNT DATA Hldr Num.	Total Alpha	Counts Beta	Net Sample Counts/Minute Alpha	Net Sample Counts/Minute Beta	DPM / Aliqout Alpha	DPM / Aliqout Beta	uCi per Sample Alpha	uCi per Sample Beta	2 Sigma Error uCi per Sample Alpha	2 Sigma Error uCi per Sample Beta	pCi/(Gm or L) Alpha	pCi/(Gm or L) Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Aliquot to Cat 1 Gm or Ltr Beta
B0BNM9		0.9	5		4.0		1	8	42	0.72	3.25	2.7E+00	8.5E+00	9.7E-04	2.3E-03	8.4E-07	9.5E-07	2.4E+02	5.8E+02	Yes	4.1E+01	1.7E+02
B0BNN1		1.8	5		4.0		2	3	49	0.22	3.95	7.4E-01	8.3E+00	2.7E-04	3.0E-03	4.5E-07	1.0E-06	6.6E+01	7.5E+02	Yes	1.5E+02	1.3E+02
B0BNK1		1.5	5		4.0		3	2	48	0.12	3.85	3.4E-01	8.1E+00	1.2E-04	2.9E-03	3.2E-07	2.3E-05	3.1E+01	7.3E+02	Yes	3.3E+02	1.4E+02
B0BRK9		0.1	5		4.0		4	1	9	0.02	-0.05	6.6E-02	-1E-01	2.4E-05	-4E-05	1.2E-07	-2E-07	5.9E+00	-1E+01	Yes	1.7E+03	-9E+03
B0BP06		0.5	5		1.0		5	2	14	0.12	0.45	4.4E-01	8.8E-01	4.0E-05	7.9E-05	7.9E-08	1.7E-07	4.0E+01	7.9E+01	Yes	2.5E+02	1.3E+03
B0BNN5		1.1	5		4.0		6	5	23	0.42	1.35	1.6E+00	2.6E+00	5.7E-04	9.4E-04	8.3E-07	9.8E-07	1.4E+02	2.3E+02	Yes	7.0E+01	4.3E+02
B0BP30		0.2	5		1.0		7	0	11	-0.08	0.15	-3E-01	3.7E-01	-3E-05	3.4E-05	-7E-08	5.6E-08	-3E+01	3.4E+01	Yes	-3E+02	3.0E+03
B0BP20		1.7	5		1.0		8	5	20	0.42	1.05	1.6E+00	2.0E+00	1.5E-04	1.8E-04	1.6E-07	1.6E-07	1.5E+02	1.8E+02	Yes	6.9E+01	5.6E+02
B0BRL7		1.7	5		4.0		9	2	42	0.12	3.25	3.6E-01	6.9E+00	1.3E-04	2.5E-03	3.2E-07	1.7E-05	3.2E+01	6.2E+02	Yes	3.1E+02	1.6E+02
B0BNN3		2.2	5		4.0		10	1	41	0.02	3.15	-3E-02	6.7E+00	-1E-05	2.4E-03	-1E-07	1.7E-04	-3E+00	8.1E+02	Yes	-3E+03	1.7E+02
B0BP12		1.8	5		1.0		11	1	16	0.02	0.65	4.6E-02	1.4E+00	4.1E-06	1.2E-04	3.0E-08	3.0E-06	4.1E+00	1.2E+02	Yes	2.4E+03	8.1E+02
B0BRL5		0.3	5		4.0		12	1	10	0.02	0.05	6.3E-02	9.6E-02	2.3E-05	3.4E-05	1.2E-07	1.7E-07	5.7E+00	8.6E+00	Yes	1.8E+03	1.2E+04
B0BNY8		1.7	5		1.0		13	1	24	0.02	1.45	2.0E-02	3.1E+00	1.8E-06	2.8E-04	2.9E-08	2.2E-05	1.8E+00	2.8E+02	Yes	5.5E+03	3.6E+02
B0BNY6		1.8	5		1.0		14	1	19	0.02	0.95	3.6E-02	2.0E+00	3.3E-06	1.8E-04	3.0E-08	6.6E-06	3.3E+00	1.8E+02	Yes	3.1E+03	5.5E+02
B0BP42		0.1	5		1.0		15	1	11	0.02	0.15	6.0E-02	3.1E-01	5.4E-06	2.8E-05	2.9E-08	2.4E-07	5.4E+00	2.8E+01	Yes	1.9E+03	3.6E+03
TOTAL	uCi									-0.08	-0.95	-3E-01	-2E+00	2.3E-03	1.5E-02	ERR	ERR	ERR	ERR	Yes	ERR	ERR

Rcvd at 3:45 pm

9613476.0267

1900

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: GWS044	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A U94-00578-26	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Refrig 3A AJS 4/27/94 AJS 1342 Refrig 3A

SAMPLE ANALYSIS: 404566

			Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2							
			Type of Container	G/P	P	G/P	G/P	Gs	GGS	G/P							
			No. of Container(s)	1	1	5	2	6 KT 4/27/94 3	1	1							
			Volume	1000ml	1000ml	1000ml	1000ml	500mL KT 4/27/94 ~~1000ml~~	40mL	1000ml							
				ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 404566	Tc-99 01	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 02A							
Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBP08 01	W	4/27/94	~~1015~~ 1030 KT 4/27/94	X	X	X	X	X	X								
BOBP09 02	W	↓	↓							X							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: K. Umapa/K. Trapp	Date/Time: 4/27/94 1340	Received By: AJ SIMPSON A J Simpson	Date/Time: 4/27/94 1340
Relinquished By: AJ SIMPSON A J Simpson	Date/Time: 4/29/94 1027	Received By: L Sweeney L Sweeney	Date/Time: 4/29/94 1030
Relinquished By: L Sweeney L Sweeney	Date/Time: 4.29.94 1210	Received By: JBS Kacey Hetterling	Date/Time: 4-29-94 12:10
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0269

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0-0518-20

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from [X] Contractor [ ] Vendor

Routing [X] Contractor [ ] Vendor

Shipped to

IT Analytical Services
2800 George Washington Way
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs.	Sample #: BCBP08, BOBP09 Cooler ID: GWSC44 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: Cooler ID: NA Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

[ ] Classified [X] Unclassified [ ] Shipped Under DOE Contract [ ] Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

Bill of lading # NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING

RM Clearance for Public Release	RM Survey No.	Date
R Nelson	157785	4-29-94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	P. H. Butcher	(509) 37[illegible]

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4/29/94	8B410 PBSAA	N/A

Originated By	Date	Authorized By	Date
PH Butcher	4/29/94	A Simpson	4/29/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		J P Henkel	4/29/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Green – Property Control Custodian (Issuing Office) Yellow – Retain Pink – Originator

000-1

54-9000279 (09/89)

9513476.0270

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1300 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(Per Shipping Container)

Date/Time Received 4-29-94 12:10 Client Name WHC

Project/Client # 94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) GWS044

1. Condition of shipping container? OK.
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☐ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☑ No ☐
7. Number of sample containers in cooler: 17
8. Samples have: ✓ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ☑ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 4°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☑

Printed Name/Signature Karen Ackterberg Date/Time 4-29-94 12:10

FORM NO. LS-042, Rev.0, 2/94

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

All are Category I
JRN 29 Apr 94

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	Beta	Mnts
WHC			42994		429	10	18	227	240

Customer ID WHC/WATER	pH <2 Rcvd/Reiq	RESIDUE Wght (mGrms)	Vol. Anal. mG	mL	Sample Size Gm	L	SMPLE CNT DATA Hldr Num.	Total Alpha	Counts Beta	Net Sample Counts/Minute Alpha	Beta	DPM / Aliqout Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Beta
B0BNL1		1.9	5		4.0		1	1	25	0.03	1.55	5.0E-02	3.3E+00	1.6E-05	1.2E-03	1.5E-07	6.4E-07	4.5E+00	3.0E+02	Yes	2.2E+03	3.4E+02
B0BNJ3		2.0	5		4.0		2	4	23	0.33	1.35	1.3E+00	2.7E+00	4.5E-04	9.6E-04	5.6E-07	6.0E-07	1.1E+02	2.4E+02	Yes	6.9E+01	4.1E+02
B0BNJ9		2.0	5		4.0		3	5	46	0.43	3.65	1.6E+00	8.0E+00	5.7E-04	2.9E-03	6.4E-07	4.9E-06	1.4E+02	7.2E+02	Yes	7.1E+01	1.4E+02
B0BP06		1.8	5		1.0		4	3	20	0.23	1.05	6.6E-01	2.1E+00	7.8E-05	1.9E-04	1.1E-07	3.1E-07	7.8E+01	1.9E+02	Yes	1.3E+02	5.3E+02
B0BNL9		0.6	5		4.0		5	1	7	0.03	-0.25	1.0E-01	-5E-01	3.6E-05	-2E-04	1.4E-07	-1E-06	9.5E+00	-5E+01	Yes	1.1E+03	-2E+03
B0BRM1		1.2	5		4.0		6	2	11	0.13	0.15	4.9E-01	2.5E-01	1.6E-04	6.9E-05	3.3E-07	1.0E-07	4.4E+01	2.2E+01	Yes	2.3E+02	4.5E+03
B0BNK9		1.1	5		4.0		7	0	12	-0.06	0.25	-3E-01	5.9E-01	-1E-04	2.1E-04	-3E-07	4.9E-07	-3E+01	5.3E+01	Yes	-4E+02	1.9E+03
TOTAL	uCi									-0.06	-0.95	-3E-01	-2E+00	1.2E-03	5.3E-03	ERR	ERR	ERR	ERR	Yes	ERR	ERR

9413476.0271

0065

7613476.0272

SAMPLE STATUS REPORT FOR E 6276. E-BLANK 6-65-72 TIME: 4/28/94 8:2
DISPATCHED: 4/ 1/94 15:19 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/28/94 5:43

EXTENDED PARAMETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
**********	**********	***	***	***
1271 TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOG

END OF REPORT

BOBP08
BOBP09
LCS
4/28/94

BEST AVAILABLE COPY

9613476.0273

SAMPLE STATUS REPORT FOR E 6259. E-BLANK 1-B2-13 TIME: 4/19/94 8:44
DISPATCHED: 4/ 1/94 15: 9 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/18/94 15:29

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBNX4
BOBNX5
LCS
4/19/94

SAMPLE STATUS REPORT FOR E 6261. E-BLANK 1-B3-46 TIME: 4/14/94 9:11
DISPATCHED: 4/ 1/94 15:10 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/13/94 15: 1

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBNX8
BOBNX9
LCS
4-14-94

SAMPLE STATUS REPORT FOR E 6284. E-BLANK BCEBLNK2 TIME: 4/27/94 8:35
DISPATCHED: 4/ 1/94 15:24 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/27/94 8:12

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

B0 BP42
B0 BP43

AJS
4/27/94

9613476.0276

SAMPLE STATUS REPORT FOR E 6282. E-BLANK 6-72-92 TIME: 4/27/94 8:35
DISPATCHED: 4/ 1/94 15:23 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/27/94 8:12

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBP20
BOBP21

AJS
4/27/94

SAMPLE STATUS REPORT FOR E 6265. E-BLANK 1-B4-5 TIME: 4/26/94 10: 3
DISPATCHED: 4/ 1/94 15:12 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/26/94 8:15

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT ✓

BO BNY6
BO BNY7

AJS
4/26/94

SAMPLE STATUS REPORT FOR E 6278. E-BLANK 6-66-64 TIME: 4/26/94 14:32
DISPATCHED: 4/ 1/94 15:21 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/26/94 8:15

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BO BP12
BO BP13

AJS
4/26/94

SAMPLE STATUS REPORT FOR E 6275. E-BLANK 6-63-90 TIME: 4/27/94 8:35
DISPATCHED: 4/ 1/94 15:18 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/27/94 8:12

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BO BP06
BO BP07

AJS
4/27/94

BO BP28
BO BP29

SAMPLE STATUS REPORT FOR E 6283. E-BLANK BCEBLNK1 TIME: 4/27/94 8:35
DISPATCHED: 4/ 1/94 15:23 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/27/94 8:12

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

AJS 4/27/94
~~BOB5~~

BOBP30 AJS
BOBP31 4/27/94

9613476.0281

RECORD COPY

Date: September 19, 1994
To: Westinghouse Hanford Company (technical representative)
From: A.T. Kearney, Inc.
Subject: Radiochemistry - Data Package No. W0031-ITC-041 (SDG No. W0031)

INTRODUCTION

This memo presents the results of data validation on Data Package No. W0031-ITC-041 prepared by the International Technology Corporation (ITC) laboratory. A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation Level	Analysis
B0BNX2	04/12/94	Water	D	See Note 1
B0BNX6	04/13/94	Water	D	See Note 1
B0BNY0	04/13/94	Water	D	See Note 1
B0BNZ2	04/15/94	Water	D	See Note 1
B0BNZ4	04/15/94	Water	D	See Note 1
B0BP14	04/19/94	Water	D	See Note 1
B0BP16	04/19/94	Water	D	See Note 1
B0BP18	04/19/94	Water	D	See Note 1
B0BP22	04/15/94	Water	D	See Note 1
B0BP24	04/19/94	Water	D	See Note 1

Note 1. Requested Method: Gross Alpha/Beta, Sr-90, Tc-99, Tritium/C-14, Total Activity

Data validation was conducted in accordance with the WHC statement of work (WHC 1994) and validation procedures (WHC 1993). Appendices 1 through 5 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualifications
Appendix 3. Qualified Data Summary and Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation

DATA QUALITY OBJECTIVES

- **Holding Times and Sample Preparation**

  Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The maximum holding time for radiochemical analyses is six months. All tritium samples must be analyzed within 7 days of distillation.

  All holding times were acceptable.

  Due to samples not being analyzed within seven days of distillation, all associated tritium results in SDG No. W0031 have been rejected and flagged "UR/R".

  All other sample preparation measures were acceptable.

- **Instrument Calibration and Performance**

  Instrument calibration is performed to establish that the counters used to determine radionuclide activities are capable of producing acceptable and reliable analytical data. Each counting system must be factory calibrated at installation and after any maintenance or repair. Calibration consists of an instrument efficiency determination for each applicable radionuclide. Continuing calibration checks are performed to verify that instrument performance is stable and reproducible.

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

- **Blanks**

  Blank samples are analyzed to determine if positive results are due to laboratory reagent, sample container, or detector contamination. If blank analysis results indicate the presence of an analyte above both the MDA and the statistical uncertainty associated with that MDA, the following qualifiers were applied: All positive sample results less than five times the highest blank concentration were qualified as estimated; sample results below the MDA were elevated to the MDA and qualified as undetected; sample results above the MDA and greater than five times the highest blank concentration were not qualified.

  All blank results were acceptable.

- **Accuracy**

Accuracy was evaluated by analyzing soil or distilled water samples spiked with known amounts of radionuclides. The sample activity as determined by analysis is compared to the known activity to assess accuracy. The acceptable laboratory control sample recovery range is 70 to 130 percent, while that for a matrix spike is 60 to 140 percent. Spike sample results outside the above ranges resulted in associated sample results being qualified as estimated, rejected, or not qualified, depending on the activity of the individual sample. A chemical tracer is used to determine the efficiency of the analytical method, with tracer yield limits of 30 to 105 percent. Sample results above the MDA with chemical yields outside the above stated limits were qualified as estimated or rejected.

All accuracy results were acceptable.

- **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. If both sample and replicate activities are greater than five times the RDL and the RPD is less than 35 percent for soil samples and 20 percent for water samples, the results are acceptable. If either activities are <5xRDL, a control limit of $\leq$2xRDL is used for soil samples and $\leq$RDL for water samples. If either the original or replicate value is below the RDL, the applicable control limits are $\leq$RDL for water samples and $\leq$2xRDL for soil samples. If the RPD is outside the applicable control limit, associated results are qualified as estimated detects or estimated non-detects.

All precision results were acceptable.

Field Duplicate Samples

One set of field duplicate samples was submitted to IT as shown below.

Set 1:

Sample No.	Duplicate Sample No.	Well Location
B0BNZ4	B0BP22	1-B5-1
B0BP18	B0BP24	6-72-73

The duplicate sample 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.

- **Sample Result Verification 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.

  The reviewer verified that the results and detection limits fell within the linear range of the instrument. All sample results and reported detection limits were acceptable.

- **Completeness**

  Data Package No. W0031-ITC-041 (SDG No. W0031) was submitted for validation and verified for completeness. All tritium results were rejected and considered incomplete, resulting in an 83 percent completeness.

MAJOR DEFICIENCIES

Tritium results for all samples in SDG No. W0031 were rejected and flagged "R" due to samples not being analyzed within seven days of distillation. Rejected data are unusable for all purposes and should not be reported.

MINOR DEFICIENCIES

None found.

REFERENCES

WHC, 1992a, *Data Validation Procedures for Chemical Analyses*, WHC-SD-EN-SPP-002, Rev. 2, Westinghouse Hanford Company, October 1993.

WHC, 1992b, *Data Validation Procedures for Radiochemical Analyses*, WHC-SD-EN-001, Rev. 2, Westinghouse Hanford Company, 1993.

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Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers which may be applied by data validators in compliance with the procedures herein are as follows:

U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the same quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

J - Indicates the compound or analyte was analyzed for and detected. Due to a QC deficiency identified during the data validation, the associated concentration is an estimate, but the data are usable for decision-making purposes.

BJ - Applied to inorganic analyses only. Indicates the analyte concentration was greater than the IDL but less than the CRDL and is considered an estimated value.

R - Indicates the compound or analyte was analyzed for, detected, and due to an identified QC deficiency, the data are unusable.

UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified QC deficiency.

JN - Indicates a tentatively identified compound (TIC) that has been determined to be valid in terms of identification and quantitation.

UJN - Indicates a tentatively identified compound (TIC) that has been determined to be presumptive and valid (JN) in terms of identification and quantitation and has been qualified as undetected (U) due to associated blank contamination.

NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications (usable for decision-making purposes).

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Appendix 2

Summary of Data Qualification

DATA QUALIFICATION SUMMARY

SDG: W0031	REVIEWER: RJS	DATE: 9/15/94	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Tritium	R	B0BNX6, B0BNY0, B0BNZ2, B0BNZ4, B0BP14, B0BP16, B0BP18, B0BP22, B0BP24	Samples not analyzed within 7 days of distillation
Tritium	UR	B0BNX2	Samples not analyzed within 7 days of distillation

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Appendix 3

Qualified Data Summary and Annotated Laboratory Reports

RADIOCHEMISTRY ANALYSIS, WATER MATRIX, (pCi/L+-2 standard deviations)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: TMA																					
Case	SDG: W0031																				
Sample Number	B0BNX2		B0BNX6		B0BNY0		B0BNZ2		B0BNZ4		B0BP14		B0BP16		B0BP18		B0BP22		B0BP24		
Location	1-B2-12		1-B3-1		1-B3-47		1-B4-9		1-B5-1		6-67-86		6-71-77		6-72-73		1-B5-1		6-72-73		
Remarks																	DUP		DUP		
Sample Date	04/12/94		04/13/94		04/13/94		04/15/94		04/15/94		04/19/94		04/19/94		04/19/94		04/15/94		04/19/94		
Radiochemistry Analysis	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	
Gross Alpha	1.89		1.94		2.72		1.51	U	-0.0335	U	0.776	U	0.686	U	1.84		1.24	U	1.70		
Gross Beta	9.29		126		65.7		73.7		12.4		7.29		19.9		27.7		15.4		27.6		
Tritium	-17.4	UR	3550	R	6130	R	3370	R	1240	R	337	R	2330	R	2350	R	1080	R	2570	R	
Carbon-14	-1.22	U	0.0225	U	2.66	U	4.32		1.31	U	-0.721	U	-0.563	U	-2.68	U	5.59		1.35	U	
Strontium-90	-0.170	U	38.8		19.2		19.8		0.481	U	-0.131	U	-0.0224	U	-0.00955	U	0.936	U	-0.152	U	
Technetium-99	-0.701	U	84.4		52.7		53.2		30.4		1.91	U	31.0		70.7		28.5		92.9		

DUP = Duplicate

000010

9613476.0290

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
SDG NO.: W0031
LAB SAMPLE ID: 40426001
MATRIX: WATER
WHC ID: B0BNX6
DATE RECEIVED: 4/14/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER
ALPHA	1.94E+00	1.30E+00	1.32E+00	1	RD3222
BETA	1.26E+02	7.90E+00	1.19E+01	1	RD3222
TOTAL-SR	3.88E+01	1.59E+00	9.01E+00	0.555	RD3204
C-14	2.25E-02	1.57E+00	3.35E+00	1	RD3263
TC-99	8.44E+01	1.90E+00	1.24E+01	0.951	ITAS-IT-RD-0001
TRITIUM	3.55E+03	1.97E+02	4.41E+02	0.94	RD3205

LAB SAMPLE ID: 40426002
MATRIX: WATER
WHC ID: B0BNY0
DATE RECEIVED: 4/14/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER
ALPHA	2.72E+00	1.47E+00	1.52E+00	1	RD3222
BETA	6.57E+01	5.81E+00	7.43E+00	1	RD3222
TOTAL-SR	1.92E+01	1.10E+00	4.58E+00	0.604	RD3204
C-14	2.66E+00	1.62E+00	3.42E+00	1	RD3263
TC-99	5.27E+01	1.60E+00	9.07E+00	0.951	ITAS-IT-RD-0001
TRITIUM	6.13E+03	2.41E+02	6.19E+02	0.94	RD3205

1. Samples not analyzed within 7 days of distillation, (R, UR)

RJS
9/15/94

9613476.0292

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND SDG NO.: W0031

LAB SAMPLE ID: 40426003 MATRIX: WATER

WHC ID: B0BNX2 DATE RECEIVED: 4/14/94

REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER	
ALPHA	1.89E+00	1.27E+00	1.29E+00	1	RD3222	
BETA	9.29E+00	2.75E+00	2.82E+00	1	RD3222	
TOTAL-SR	-1.70E-01	4.74E-01	4.76E-01	0.394	RD3204	U
C-14	-1.22E+00	1.56E+00	3.32E+00	1	RD3263	U
TC-99	-7.01E-01	9.12E-01	4.10E+00	0.951	ITAS-IT-RD-0001	U
TRITIUM	-1.74E+01	1.11E+02	2.21E+02	0.94	RD3205	U

LAB SAMPLE ID: 40432301 MATRIX: WATER

WHC ID: B0BNZ2 DATE RECEIVED: 4/18/94

REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER	
ALPHA	1.51E+00	1.21E+00	1.22E+00	1	RD3222	L
BETA	7.37E+01	6.16E+00	8.07E+00	1	RD3222	
TOTAL-SR	1.98E+01	1.23E+00	4.63E+00	0.498	RD3204	
C-14	4.32E+00	1.64E+00	3.47E+00	1	RD3263	
TC-99	5.32E+01	1.59E+00	9.12E+00	0.951	ITAS-IT-RD-0001	
TRITIUM	3.37E+03	1.94E+02	4.29E+02	0.94	RD3205	R

1. Samples not analyzed within 7 days of distillation (R, UR)

RJS
9/15/94

682A-6-93

9613476.0293

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
SDG NO.: W0031
LAB SAMPLE ID: 40432302
MATRIX: WATER
WHC ID: B0BNZ4
DATE RECEIVED: 4/18/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER	
ALPHA	-3.35E-02	4.99E-01	4.99E-01	1	RD3222	U
BETA	1.24E+01	3.01E+00	3.13E+00	1	RD3222	
TOTAL-SR	4.81E-01	4.36E-01	4.49E-01	0.5	RD3204	U
C-14	1.31E+00	1.59E+00	3.38E+00	1	RD3263	U
TC-99	3.04E+01	1.36E+00	6.84E+00	0.951	ITAS-IT-RD-0001	
TRITIUM	1.24E+03	1.47E+02	2.91E+02	0.94	RD3205	R

LAB SAMPLE ID: 40432303
MATRIX: WATER
WHC ID: B0BP22
DATE RECEIVED: 4/18/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER	
ALPHA	1.24E+00	1.00E+00	1.01E+00	1	RD3222	U
BETA	1.54E+01	3.16E+00	3.34E+00	1	RD3222	
TOTAL-SR	9.36E-01	5.33E-01	5.71E-01	0.39	RD3204	U
C-14	5.59E+00	1.66E+00	3.50E+00	1	RD3263	
TC-99	2.85E+01	1.33E+00	6.66E+00	0.951	ITAS-IT-RD-0001	
TRITIUM	1.08E+03	1.43E+02	2.81E+02	0.94	RD3205	R

1. Samples not analyzed within 7 days of distillation (R, UR)

RJS
9/15/94

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
SDG NO.: W0031
LAB SAMPLE ID: 40440501
MATRIX: WATER
WHC ID: B0BP18
DATE RECEIVED: 4/21/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER	
ALPHA	1.84E+00	1.23E+00	1.25E+00	1	RD3222	
BETA	2.77E+01	3.98E+00	4.43E+00	1	RD3222	
TOTAL-SR	-9.55E-03	2.20E-01	2.20E-01	0.984	RD3204	U
C-14	-2.68E+00	1.53E+00	3.28E+00	1	RD3263	U
TC-99	7.07E+01	1.79E+00	1.09E+01	0.951	ITAS-IT-RD-0001	
TRITIUM	2.35E+03	1.74E+02	3.61E+02	0.94	RD3205	R

LAB SAMPLE ID: 40440502
MATRIX: WATER
WHC ID: B0BP14
DATE RECEIVED: 4/21/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER	
ALPHA	7.76E-01	8.96E-01	9.02E-01	1	RD3222	U
BETA	7.29E+00	2.55E+00	2.60E+00	1	RD3222	
TOTAL-SR	-1.31E-01	2.06E-01	2.09E-01	1	RD3204	U
C-14	-7.21E-01	1.56E+00	3.33E+00	1	RD3263	U
TC-99	1.91E+00	9.56E-01	4.30E+00	0.951	ITAS-IT-RD-0001	U
TRITIUM	3.37E+02	1.22E+02	2.39E+02	0.94	RD3205	R

1. Samples not analyzed within 7 days of distillation, (R, UR

RJS 9/15/

9613476.0295

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
SDG NO.: W0031
LAB SAMPLE ID: 40440503
MATRIX: WATER
WHC ID: B0BP24
DATE RECEIVED: 4/21/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER	
ALPHA	1.70E+00	1.21E+00	1.23E+00	1	RD3222	
BETA	2.76E+01	4.03E+00	4.47E+00	1	RD3222	
TOTAL-SR	-1.52E-01	2.10E-01	2.14E-01	0.977	RD3204	U
C-14	1.35E+00	1.59E+00	3.39E+00	1	RD3263	U
TC-99	9.29E+01	1.96E+00	1.33E+01	0.951	ITAS-IT-RD-0001	
TRITIUM	2.57E+03	1.79E+02	3.76E+02	0.94	RD3205	R

LAB NAME: ITAS-RICHLAND
SDG NO.: W0031
LAB SAMPLE ID: 40440504
MATRIX: WATER
WHC ID: B0BP16
DATE RECEIVED: 4/21/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	YIELD	METHOD NUMBER	
ALPHA	6.86E-01	9.00E-01	9.04E-01	1	RD3222	U
BETA	1.99E+01	3.57E+00	3.83E+00	1	RD3222	
TOTAL-SR	-2.24E-02	2.00E-01	2.00E-01	0.99	RD3204	U
C-14	-5.63E-01	1.56E+00	3.34E+00	1	RD3263	U
TC-99	3.10E+01	1.36E+00	6.90E+00	0.951	ITAS-IT-RD-0001	
TRITIUM	2.33E+03	1.73E+02	3.60E+02	0.94	RD3205	F

1. Samples not analyzed within 7 days of distillation (R, UR)

RJS 9/15/94

0011

062A-6-93

9613476.0296

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

9613476.0297

INTERNATIONAL TECHNOLOGY CORPORATION

JUN 1994 RECEIVED SDLA

CERTIFICATE OF ANALYSIS

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

RECORD COPY

June 6, 1994

Attention: J.A.Lerch

SAF Number	:	94-129
Date SDG Closed	:	April 21, 1994
Number of Samples	:	Ten (10)
Sample Type	:	Water
SDG Number	:	W0031
Data Deliverable	:	Stand Alone

I. Introduction

On April 14, 18, and 21, 1994, ten water samples were received by ITAS-Richland for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the WHC specific IDs:

ITAS-Richland ID	WHC ID	Matrix	Date of Receipt
404260-01A	B0BNX6	Water	4/14/94
404260-02A	B0BNY0	Water	4/14/94
404260-03A	B0BNX2	Water	4/14/94
404323-01A	B0BNZ2	Water	4/18/94
404323-02A	B0BNZ4	Water	4/18/94
404323-03A	B0BP22	Water	4/18/94
404405-01A	B0BP18	Water	4/21/94
404405-02A	B0BP14	Water	4/21/94
404405-03A	B0BP24	Water	4/21/93
404405-04A	B0BP16	Water	4/21/93

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gas Proportional Counting
Gross Alpha by method ITAS-RD-3222
Gross Beta by method ITAS-RD-3222
Strontium-90 by method ITAS-RD-3204
Liquid Scintillation Counting
Carbon-14 by method ITAS-RD-3247
Technetium-99 by method ITAS-IT-RS-0001
Tritium by method ITAS-RD-3205

III. Quality Control

The analytical results for each analysis performed under SDG W0031 include a minimum of one Laboratory Control Sample (LCS), one method (reagent) blank, and one duplicate. Any exceptions have been noted in the "Comments" section.

Quality control sample results are reported in the same units as sample results.

IV. Comments

The initial radioactivity screening of the samples classified them as Category I.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3222
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BP24) results are within contractual requirements.

Gross Beta by method ITAS-RD-3222
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BP24) results are within contractual requirements.

Strontium-90 by method ITAS-RD-3204
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BP22) results are within contractual requirements.

Liquid Scintillation Counting

Carbon-14 by method ITAS-RD-3247
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BNZ2) results are within contractual requirements. The samples were batched and analyzed with two groups of samples from SDG W0043 for the C-14 analysis.

Technetium-99 by method ITAS-IT-RS-0001
Three matrix spikes were analyzed with the batch. The sample results were not yield corrected by the average matrix spike chemical yield. The LCS, matrix spike, batch blank, sample and sample duplicate (duplicate of sample B0BNZ2) results are within contractual requirements.

Tritium by method ITAS-RD-3205
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BNX6) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Reviewed and approved:

Suzanne Gaines

Suzanne Gaines
Project Manager

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: J. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: Ste. Helens	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A 1X44-C-C3360-37	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Signal Notary 3A ASS 4/13/94

SAMPLE ANALYSIS 404259

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	Glass	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml
	ICP METALS AA METALS Hg CLP01A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99 404260 01	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 02A

Sample No.	Matrix*	Date Sampled	Time Sampled															
00BNX6	W	4/13/94	0855	X	X	X	X	X	X									
00BNX7	W	↓	↓							X								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
G G Hamilton	4/13/94 1335	AT Simpson	4/13/94 1333
Relinquished By	Date/Time	Received By	Date/Time
AT Simpson	4/14/94 0958	L Sizemore	4/14/94 0958
Relinquished By	Date/Time	Received By	Date/Time
L Sizemore	4/14/94 1130	Tom Gilmore	4/14/94 1130
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0300

0000200

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: SMC-421	Field Logbook No.	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-00336-35	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Screen in Rcfrig 2C 04 AJSimpson 4/13/94

SAMPLE ANALYSIS 404259

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	aG	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml
	ICP METALS AA METALS Hg CLP 03A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 04A

Sample No.	Matrix*	Date Sampled	Time Sampled														
00GNY0	W	4/13/94	1125	X	X	X	X	X	X								
00GNY1	W	↓	1129							X							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
GG Hamilton	4/13/94 1330	AJ Simpson	4/13/94 1340
AJ Simpson	4/14/94 1000	L Sweeney	4/14/94 1000
L Sweeney	4/14/94 1130	[illegible]	4/14/94 1130

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION — Received By: Title: Date/Time:

FINAL SAMPLE DISPOSITION — Disposal Method: Disposed By: Date/Time:

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0301

00021 0028

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: NA	SAF No.: 94-129
Ice Chest No.: ER-6	Field Logbook No.: EFL-1030	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-C-0336-37	Bill of Lading/Air Bill No.: N/A None
Possible Sample Hazards/Remarks: None		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE 3B 4/12/94 AJSimpson		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	Gs	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	[illegible]	1000ml
SAMPLE ANALYSIS 404259	ICP METALS AA METALS Hg CLP 85A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Radioactivity [illegible]	ICP METALS, AA METALS, Hg CLP FILTERD 06A

Sample No.	Matrix*	Date Sampled	Time Sampled															
30BNX2	W	4/12/94	1120	X	X	X	X	X	X									
30BNX3	W	4/12/94	1120							X								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
G. Hamilton GG Hamilton	4/12/94 1319	AJ SIMPSON AJSimpson	4/12/94 1319
AJ SIMPSON AJSimpson	4/14/94 0959	L. Swizeny L. Swizeny	4/14/94 0959
L. Swizeny L. Swizeny	4/14/94 1130	Tom Gilmore	4/14/94 1130

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION — Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION — Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0302

0000022

9613476.0303

SAMPLE STATUS REPORT FOR E 6258. E-BLANK 1-B2-12 TIME: 4/13/94 8: 9
DISPATCHED: 4/ 1/94 15: 8 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/13/94 7:50

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BO BNX2
BO BNX3

AJS
4/13/94

9613476.0304

SAMPLE STATUS REPORT FOR E 6260. E-BLANK 1-B3-1 TIME: 4/14/94 9:11
DISPATCHED: 4/ 1/94 15:10 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/13/94 15: 1

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBNX6
BOBNX7
LCS
4-14-94

SAMPLE STATUS REPORT FOR E 6262. E-BLANK 1-B3-47 TIME: 4/14/94 9:12
DISPATCHED: 4/ 1/94 15:11 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/13/94 15: I

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBNY0
BOBNY1
hcs
4-14-94

9613476.0306

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0-0330-37

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Env. Eng. - Tech	EFS	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing Hand Deliver ☒ Contractor ☐ Vendor

Shipped to
IT Analytical Services
2800 G.W. WAY
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample No.: BOBNX1, BOBNX2 Cooler ID: STE. HELEN Polycooler with groundwater samples packed in wet ice and ~~vermiculite~~ vermiculite	N/A
1	Sample No.: BOBNX2, BOBNX3 Cooler ID: ER-6 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
[illegible]	157866	4/14/94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	PH Butcher	(509) 376-4988

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-14-94	8B410 / PB5AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4-14-94	[illegible]	4/14/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible]	4/14/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION –

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

0034

000026

54-2000-479 (09/89)

9613476.0307

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0-0336-38

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ENV. ENG & Tech	EFS	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing Hand Deliver ☒ Contractor ☐ Vendor

Shipped to
ITA Analytical Services
2500 6th WAY
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample No.: B0BNY0, B0BNY1 Cooler ID: SMC-421 igloo cooler with groundwater samples packed in wet ice and vermiculite	

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
[illegible]	157986	4/14/94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	PH Butcher	(509) 376-4386

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-14-94	8R410 / PB5AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4-14-94	[signature]	4/14/94
Signature and Name of Property Control	**Custodian Date**	**Property Management Approval**	**Date**
		[signature]	4/14/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

0035

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Green – Property Control Custodian (Issuing Office) Yellow – Retain Pink – Originator

000027

54-3000-479 (09/89)

9613476.0308

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W74-C-C336-39

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
E. v. Eng. Tech.	EFS	Ecol. Field Samplers

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing Hand Deliver ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
Analytical Services 200 G.W. Way Richland, WA 99352	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample No: BCBN55, BCBN56 Cooler ID: GWSC15 Polycooler with groundwater samples packed in wet ice and vermiculite	NA
1	Sample No: BCBN57, BCBN58 Cooler ID: SMC115 Polycooler with groundwater samples packed in wet ice and vermiculite	NA

☐ Classified ☒ Unclassified ☒ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 200 AREA

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
[illegible]	157866	4/14/94

Location of Property (Area & Bldg.)	Contact	Phone
200-BP-5	PH Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-14-94	5B410 PL53A	NA

Originated By	Date	Authorized By	Date
PH Butcher	4-14-94	[illegible] Simpson	4/14/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible] Hanke	4/14/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

0036

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

000028

54-3000-479 (09/89)

9613476.0309

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0-0336-37

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ENV. ENG. & Tech	EFS	ER Field Samplers

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing Hand Deliver ☒ Contractor ☐ Vendor

Shipped to
IT Analytical Services
3800 G.W. WAY
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample No.: B0BNX6, B0BNX7 Cooler ID: STE. HELEN Polycooler with ground water samples packed in wet ice and ~~vermicute~~ vermiculite	N/A
1	Sample No.: B0BNX2, B0BNX3 Cooler ID: ER-6 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING

RM Clearance for Public Release	RM Survey No.	Date
[illegible]	157866	4/14/94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	PH Butcher	(509) [illegible]

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4.14.94	8B410 / PB5AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4-14-94	[illegible]	4/14/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible] Hankel	4/14/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

000029

5423000279 (10/89)

9613476.0310

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0-0336-38

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ENV. ENG & Tech	EFS	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing Hand Delivery ☒ Contractor ☐ Vendor

Shipped to
ITA Analytical Services
3500 6th WAY
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample No.: BOBNY0, BOBNY1 Cooler ID: SMC-421 Polycooler with groundwater samples packed in wet ice and vermiculite	

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
[illegible]	157986	4/14/94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	PH Butcher	(509) 376 4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-14-94	8B410 / PB5AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4-14-94	[illegible]	4/14/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		J Hankel	4/14/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

0038

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

000030

[illegible] 1130

54-3000-479 (09/89)

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
2300 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4/14/94 1130 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) ER-6

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature -20°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/14/94 1130

FORM NO. LS-042, Rev.0, 2/94

9613476.0312

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1330 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4/14/94 1130 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) SML 421

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/14/94 1130

FORM NO. LS-042, Rev.0, 2/94

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INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1330 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4/14/94 1130 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) STE Helens

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☐ No ☑
3. Custody Seals dated and signed? Yes ☐ No ☑
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☑ No ~~☑~~ 4/14/94
13. Memos have been initiated for all anomalies identified above? Yes ☑

Printed Name/Signature Tom Gilmore Date/Time 4/14/94 1130

FORM NO. LS-042, Rev.0, 2/94

4-011-260

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

All category I.
JRN 14 Apr 94

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	Beta	Mnts
WHC			41494		414	10	7	59	60

Customer ID WHC/WATER	pH <2 Rcvd/Reiq	RESIDUE Wght (mGrms)	Vol. Anal. mG mL	Sample Size Gm L	SMPLE CNT DATA Hldr Num.	Total Alpha	Counts Beta	Net Sample Counts/Minute Alpha	Beta	DPM / Aliqout Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Beta
B0BNK5		1.3	5	4.0	35	38	127	3.68	11.72	1.4E+01	2.3E+01	5.1E-03	8.1E-03	2.2E-06	1.9E-06	1.3E+03	2.0E+03	Yes	7.8E+00	4.9E+01
B0BNN7		1.1	5	4.0	36	4	16	0.28	0.62	1.1E+00	1.1E+00	3.9E-04	4.1E-04	5.1E-07	4.0E-07	9.8E+01	1.0E+02	Yes	1.0E+02	9.8E+02
B0BNX2		0.5	5	1.0	37	10	20	0.88	1.02	3.4E+00	1.6E+00	3.1E-04	1.4E-04	2.4E-07	8.3E-08	3.1E+02	1.4E+02	Yes	3.3E+01	7.0E+02
B0BNY0		1.1	5	1.0	38	3	22	0.18	1.22	6.8E-01	2.5E+00	6.1E-05	2.2E-04	1.0E-07	5.0E-07	6.1E+01	2.2E+02	Yes	1.6E+02	4.5E+02
B0BNX6		1.3	5	1.0	39	4	24	0.28	1.42	1.1E+00	2.8E+00	9.7E-05	2.6E-04	1.3E-07	3.9E-07	9.7E+01	2.6E+02	Yes	1.0E+02	3.9E+02
B0BNJ7		1.2	5	4.0	40	2	27	0.08	1.72	2.7E-01	3.6E+00	9.9E-05	1.3E-03	2.7E-07	8.4E-06	2.5E+01	3.2E+02	Yes	4.1E+02	3.1E+02
B0BNK3		1.3	5	4.0	41	2	17	0.08	0.72	3.1E-01	1.5E+00	1.1E-04	5.3E-04	2.7E-07	2.0E-06	2.8E+01	1.3E+02	Yes	3.6E+02	7.5E+02
B0BNJ5		1.3	5	4.0	42	0	10	-0.12	0.02	-5E-01	1.1E-01	-2E-04	4.1E-05	-3E-07	2.1E-08	-4E+01	1.0E+01	Yes	-2E+02	9.9E+03
TOTAL	uCi							-0.12	-0.98	-4E-01	-2E+00	6.0E-03	1.1E-02	ERR	ERR	ERR	ERR	Yes	ERR	ERR

96134761.0314

000034

0042

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-7	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0336-44	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

SAMPLE ANALYSIS																
Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2									
Type of Container	G/P	P	G/P	G/P	Gs	aGs	G/P									
No. of Container(s)	1	1	5	2	3	1	1									
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml									
	ICP METALS AA METALS Hg CLP 01A	ANIONS F,SO4 COND pH 8	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD	02A								
404322				404322	301											

Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBNZ2	W	4/15/94	~~0915~~ 1148	X	X	X	X	X	X								
BOBNZ3	W	4/15/94	1148							X							

000035

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	4/15/94 1340	L Sweeney L Sweeney	4/15/94 1340
L Sweeney L Sweeney	4/18/94 1310	TGilmore	4/18/94 1310
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0315

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-7	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W74-0-0336-44	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

Sample No.	Matrix*	Date Sampled	Time Sampled														
Preservative				HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2							
Type of Container				G/P	P	G/P	G/P	Gs	uGs	G/P							
No. of Container(s)				1	1	5	2	3	1	1							
Volume				1000ml	1000ml	1000ml	1000ml	1000ml	4oz	1000ml							
SAMPLE ANALYSIS 404322				ICP METALS AA METALS Hg CLP 03A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 404323	Tc-99 02	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 04A							
BOBNZ4	W	4/15/94	0950	X	X	X	X	X	X								
BOBNZ5	W	↓	↓							X							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	4/15/94 1340	L. Sweeney L. Sweeney	4/15/94 1340
Relinquished By	Date/Time	Received By	Date/Time
L. Sweeney L. Sweeney	4/18/94 1310	TG Moore	4/18/94 1310
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0316

9600360044

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100B	SAF No.: 94-129
Ice Chest No.: SMC-118	Field Logbook No.: EFL-1076	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0336-44	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2									
Type of Container	G/P	P	G/P	G/P	Gs	aG2	G/P									
No. of Container(s)	1	1	5	2	3	1	1									
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml									
SAMPLE ANALYSIS	ICP METALS AA METALS Hg 05A CLP	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99 404 32303	TRITIUM C-14	Priority Scan	ICP METALS, AA METALS, Hg CLP FILTERD	06A								

Sample No.	Matrix*	Date Sampled	Time Sampled															
B0BP22	W	4/15/94	0950	X	X	X	X	X	X									
B0BP23	W	↓	↓							X								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	1740 4/15/94	L Sweeney / L Sweeney	4/15/94 1340
Relinquished By	Date/Time	Received By	Date/Time
L Sweeney / L Sweeney	4/18/94 1310	[illegible] / TG Moore	4/18/94 1310
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0317

000037

SAMPLE STATUS REPORT FOR E 6269. E-BLANK 1-B5-1 TIME: 4/18/94 8:25
DISPATCHED: 4/ 1/94 15:16 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/15/94 14:31

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBNZ4
BOBNZ5
LCS
4/18/94

BOBP22
BOBP23
LCS
4/18/94

SAMPLE STATUS REPORT FOR E 6268. E-BLANK 1-B4-9 TIME: 4/18/94 8:25
DISPATCHED: 4/ 1/94 15:15 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/15/94 14:31

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBN72
BOBN73
LCS
4/18/94

9613476.0320

$ ICS 4/18/94

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-CC336-44

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Env. Eng. & Tech	Environmental Field Svcs.	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
IT Analytical Services 2800 George WASHINGTON WAY Richland, WA 99352	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 Lbs.	Sample #: BOBN24, BOBN25, BOBN22, BOBN23 Cooler ID: ER-7 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 Lbs.	Sample #: BOBP22, BOBP23 Cooler ID: SMC-118 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling Supports RI/FS work in the 100 AREA

Bill of lading # NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
Julie Brown	157579	4-18-94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	P.H. Butcher	(509) 376-4386

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-18-94	8B410 PB5AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4/18/94	PH Butcher	4/18/94
Signature and Name of Property Control	**Custodian Date**	**Property Management Approval**	**Date**
		JP Henkel	4/18/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:	
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain	Green – Property Control Custodian (Issuing Office) Pink – Originator

000040

0048

SA-3000-479 (09/89)

9613476.0321

8 11/15/94

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		WU94-C-336-44

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Env. Eng. & Tech.	Environmental Field Svcs.	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
IT Analytical Services 3600 George WASHINGTON WAY Richland WA 99352	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 Lot	Sample #: BOBN24, BOBN25, BOBN22, BOBN23 Cooler ID: 5K-2 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 Lot	Sample #: BOBP22, BOBP23 Cooler ID: SMC-118 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling Supports RI/FS work in the 100 AREA

Bill of lading # NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
[illegible]	157571	4-18-94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	P.H. Butcher	(509) 376 4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-18-94	8G410 PBSAA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4/18/94	PH Butcher	4/18/94
Signature and Name of Property Control	**Custodian Date**	**Property Management Approval**	**Date**
		P Parker	4/18/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

100041

0049

54-3000-479 (09/89)

9613476.0322

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1300 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4/18/94 1310 Client Name WHC

Project/Client # 94-129 Batch or Case # NA

Cooler ID (if noted on the outside of cooler) SML-118

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tony Gilmore [signature] Date/Time 4/18/94 1310

FORM NO. LS-042, Rev.0, 2/94

9613476.0323

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
2300 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4/18/94 1310 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) ER-7

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 2 bags
7. Number of sample containers in cooler: 28
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 6°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/18/94 1310

FORM NO. LS-042, Rev.0, 2/94

4-04-323

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

Customer Code	Recieved Date	Time	Screening Prep Date	Screening Prep Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	BACKGROUND Beta	BACKGROUND Mnts
WHC			41894		418	10	6	61	60

All category I
JRN 18 Apr 94

Customer ID WHC/WATER	pH <2 Rcvd/Relq	RESIDUE Wght (mGrms)	Vol. Anal. mG	Vol. Anal. mL	Sample Size Gm	Sample Size L	SMPLE CNT DATA Hldr Num.	SMPLE CNT DATA Total Counts Alpha	SMPLE CNT DATA Total Counts Beta	Net Sample Counts/Minute Alpha	Net Sample Counts/Minute Beta	DPM / Aliqout Alpha	DPM / Aliqout Beta	uCi per Sample Alpha	uCi per Sample Beta	2 Sigma Error uCi per Sample Alpha	2 Sigma Error uCi per Sample Beta	pCi/(Gm or L) Alpha	pCi/(Gm or L) Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Aliquot to Cat 1 Gm or Ltr Beta
B0BNP1		1.2	5		4.0		50	1	23	0.00	1.26	-4E-02	2.7E+00	-1E-05	9.9E-04	-9E-09	5.6E-07	-4E+00	2.5E+02	Yes	-3E+03	4.1E+02
B0BMN6		4.9	5		2.0		51	9	153	0.80	14.26	2.9E+00	3.0E+01	5.2E-04	5.4E-03	4.7E-07	1.1E-06	2.6E+02	2.7E+03	Yes	3.9E+01	3.7E+01
✓ B0BNZ2		1.7	5		1.0		52	0	20	-0.10	0.96	-4E-01	2.2E+00	-4E-05	2.0E-04	-8E-08	6.2E-07	-4E+01	2.0E+02	Yes	-3E+02	5.1E+02
✓ B0BP22		1.0	5		1.0		53	3	16	0.20	0.58	7.7E-01	1.1E+00	6.9E-05	1.0E-04	1.1E-07	1.4E-07	6.9E+01	1.0E+02	Yes	1.4E+02	1.0E+03
✓ B0BNZ4		1.2	5		1.0		54	4	12	0.30	0.18	1.2E+00	1.9E-01	1.1E-04	1.7E-05	1.3E-07	9.7E-09	1.1E+02	1.7E+01	Yes	9.5E+01	5.8E+03

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Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp / W. Setzer	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-9	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0578-1	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Sample No.	Matrix*	Date Sampled	Time Sampled	Preservative: HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2
				Type of Container: G/P	P	G/P	G/P	Gs	aGs	G/P
				No. of Container(s): 1	1	5	2	3	1	1
				Volume: 1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml
SAMPLE ANALYSIS 404404				ICP METALS AA METALS Hg CLP A	ANIONS F, SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 4044650	Tc-99 1	TRITIUM C-14	Activity Exam	ICP METALS, AA METALS, Hg CLP FILTERD
B0BP18	W	4/19/94	1240	X	X	X	X	X	X	
B0BP19	W	↓	↓							XA

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By	Date/Time
Relinquished By	W.W. Setzer	4-20-94 1305	L Sweeney	4/20/94 1305
Relinquished By	L Sweeney	4/21/94 1210	R. Boyd JT	4-21-94 1210
Relinquished By			Received By	
Relinquished By			Received By	

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

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Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp / W. Setzer	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location:	SAF No.: 94-129
Ice Chest No.: ER-9	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-1	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks:		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2								
Type of Container	G/P	P	G/P	G/P	Gs	aG2	G/P								
No. of Container(s)	1	1	5	2	3	1	1								
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml								
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD								
404404			40440502												

Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBP14	W	4/19/94	1425	X	X	X	X	X	X								
BOBP15	W	↓	↓							XA							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
W. Setzer	4-20-94 1305	L Sweeney	4/20/94 1305
Relinquished By	Date/Time	Received By	Date/Time
L Sweeney	4/21/94 1210	R. Boyd	4-21-94 1210
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

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Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp / W. Setzer	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-8	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-1	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	9G3	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 40440503	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD
404404							

Sample No.	Matrix*	Date Sampled	Time Sampled														
5 B08P24	W	4/19/94	1240	X	X	X	X	X	X								
6 B08P25	W	↓	↓							X A							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
K.W. Setzer	4-20-94 1395	L Sweeney L Sweeney	4/21/94 1305
Relinquished By	Date/Time	Received By	Date/Time
L Sweeney L Sweeney	4/21/94 1210	R. Boyd	4-21-94 1210
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

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Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp / W. Setzer	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: FR-8	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-1	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks:

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	~~G/S~~	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ML	1000ml
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD

404404 404405 04

Sample No.	Matrix*	Date Sampled	Time Sampled							
B0BP16	W	4/19/94	1030	X	X	X	X	X	X	
B0BP17	W	↓	1030							X A

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
W.C. Setzer	4-20-94 1305	L Sweeney	4/20/94 1305
L Sweeney	4/21/94 1210	R. Bayt	4-21-94 1210

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION — Received By: Title: Date/Time:

FINAL SAMPLE DISPOSITION — Disposal Method: Disposed By: Date/Time:

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0328

SAMPLE STATUS REPORT FOR E 6279. E-BLANK 6-67-86 TIME: 4/20/94 8:19
DISPATCHED: 4/ 1/94 15:21 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/20/94 8: 6

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBP14
BOBP15
LG
4/21/94

SAMPLE STATUS REPORT FOR E 6281. E-BLANK 6-72-73 TIME: 4/20/94 8:19
DISPATCHED: 4/ 1/94 15:22 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/20/94 8: 8

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBP24
BOBP25
LCS
4/21/94

BOBP16
BOBP19
LCS
4/21/94

SAMPLE STATUS REPORT FOR E 6280. E-BLANK 6-71-77 TIME: 4/20/94 8:19
DISPATCHED: 4/ 1/94 15:22 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/20/94 8: 8

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT

BOBP16
BOBP17
4/21/94
ncs

9613476.0332

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		WM-0-0518-1

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to
IT Analytical Services
2800 George Washington Way
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs.	Sample #: BOBP24, BOBP25, BOBP16, BOBP17 Cooler ID: ER-8 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: BOBP18, BOBP19, BOBP14, BOBP15 Cooler ID: ER-9 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

Bill of lading # _____

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
[illegible]	157893	4/21/94

Location of Property (Area & Bldg.)	Contact	Phone
100 BC-5	P. H. Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-21-94	88410 PBSA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4/21/94	PH Butcher	4/21/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		J P Hankel	4/21/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
R Bay Jr				0060
Date 4-21-94 1210				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

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54-2000-479 (09/89)

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INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1550 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4-21-94 1200 Client Name WHC

Project/Client # 94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) ER-8

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☑ No ☐
7. Number of sample containers in cooler: 28
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 3°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier _____
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature R. Boyd R. Boyd Date/Time 4-21-94 1210

FORM NO. LS-042, Rev.0, 2/94

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INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1300 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4-21-94 12:00 Client Name UHC

Project/Client # SAE-94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) ER-9

1. Condition of shipping container? O.K.
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 28
8. Samples have: X tape ____ hazard labels
   X custody seals ____ appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier _____
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature R. Boyd R. Boyd Date/Time 4-21-94 1210

FORM NO. LS-042, Rev.0, 2/94

4-04-405

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

all Category I
JRM 21 Apr 94

Customer Code	Recieved Date	Recieved Time	Screening Prep Date	Screening Prep Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	BACKGROUND Beta	BACKGROUND Mnts
WHC			42194		421	10	11	176	180

Customer ID WHC/WATER	pH <2 Rcvd/Reiq	RESIDUE Wght (mGrms)	Vol. Anal. mG mL	Sample Size Gm L	SMPLE CNT DATA Hldr Num.	Total Alpha	Counts Beta	Net Sample Counts/Minute Alpha	Net Sample Counts/Minute Beta	DPM / Aliqout Alpha	DPM / Aliqout Beta	uCi per Sample Alpha	uCi per Sample Beta	2 Sigma Error uCi per Sample Alpha	2 Sigma Error uCi per Sample Beta	pCi/(Gm or L) Alpha	pCi/(Gm or L) Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Aliquot to Cat 1 Gm or Ltr Beta
B0BNM7		1.7	5	4.0	4	3	18	0.24	0.61	9.2E-01	1.6E+00	3.3E-04	5.7E-04	4.7E-07	4.6E-07	8.3E+01	1.4E+02	Yes	1.2E+02	7.1E+02
B0BNN9		3.2	5	4.0	5	3	119	0.24	10.91	6.2E-01	2.3E+01	2.2E-04	8.4E-03	4.7E-07	1.8E-06	5.6E+01	2.1E+03	Yes	1.8E+02	4.8E+01
✓ B0BP16		1.2	5	1.0	6	5	16	0.44	0.61	1.7E+00	1.0E+00	1.5E-04	9.1E-05	1.6E-07	6.1E-08	1.5E+02	9.1E+01	Yes	6.5E+01	1.1E+03
✓ B0BP14		0.9	5	1.0	7	2	12	0.14	0.21	5.4E-01	3.6E-01	4.8E-05	3.2E-05	8.7E-08	3.9E-08	4.8E+01	3.2E+01	Yes	2.1E+02	3.1E+03
✓ B0BP24		1.4	5	1.0	8	0	20	-0.06	1.01	-3E-01	2.2E+00	-2E-05	2.0E-04	-6E-08	9.9E-07	-2E+01	2.0E+02	Yes	-4E+02	5.0E+02
✓ B0BP18		1.2	5	1.0	9	1	17	0.04	0.71	1.3E-01	1.5E+00	1.2E-05	1.3E-04	4.5E-08	1.2E-06	1.2E+01	1.3E+02	Yes	8.5E+02	7.4E+02
TOTAL	uCi							-0.06	-0.99	-2E-01	-2E+00	7.5E-04	9.4E-03	ERR	ERR	ERR	ERR	Yes	ERR	ERR

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BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS ALPHA MATRIX WATER DUE DATE 5-26-94

W00031

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
L 04260	-1B	WHC	QC BATCH REAGENT BLANK
L	-1X		QC BATCH MATRIX BLANK
L 04260	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE EW86216 10.03/5.096191
L	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
F 04405	- 03		Duplicate of Sample # 40440503
404260	- 01-03		
404323	- 01-03		
404405	- 01-04		
	-		
	-		
	-		
	-		
	-		
	-		
	-		
	-		
	-		

Batched and QC updated by [illegible] on 5-18-94 Rec'd in C.R. by OD on 5/18/94

Rec'd in Prep Lab by [illegible] on 5-13-94 Data Reviewed and anal. Prep stored MK on 5-24-94

Rec'd in Sep Lab by N/A on

Rec'd in Sep lab by N/A on Samples Disposed by on

Original batch sheet and complete calculation file to be filed with the FIRST listed work order number.

FORM NO.: RC-52, 1/94, Rev. 4

9615476.0557

*** ALPHA ***

5/23/94

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

19-Apr-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0031

MATRIX : WATER

BATCH NUMBER 4-323

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40432301		WHC	B0BNZ2	
2)	40432302		WHC	B0BNZ4	
3)	40432303		WHC	B0BP22	

ACTIONS (Initial & Date)

1) INITIATED 4/19/94

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB_____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

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Appendix 5

Data Validation Supporting Documentation

RADIOCHEMICAL DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	(D)	E

PROJECT: WHC/BHI		DATA PACKAGE: T00568	
VALIDATOR: RJS	LAB: ITC	DATE: 9/15/94	
CASE:		SDG: W0031	

ANALYSES PERFORMED

☒ Gross Alpha/Beta	☒ Strontium-90	☒ Technetium-99	☐ Alpha Spectroscopy	☐ Gamma Spectroscopy	
☐ Total Uranium	☐ Radium-22	☒ Tritium	☒ C^{14}		

SAMPLES/MATRIX B0BNX6, B0BNY0, B0BNX2, B0BNZ2, B0BP14, B0BP16, B0BP22, B0BP24, B0BNZ4, B0BP18

(10 WATER SAMPLES)

1. Completeness . . . . . ☐ N/A

Technical verification forms present? . . . . . (Yes) No N/A

Comments:

2. Initial Calibration . . . . . ☐ N/A

Instruments/detectors calibrated within one year of sample analysis? . . . . . (Yes) No N/A

Initial calibration acceptable? . . . . . (Yes) No N/A

Standards NIST traceable? . . . . . (Yes) No N/A

Standards Expired? . . . . . Yes (No) N/A

Comments: Gross α + β ✓
Sr^{90} ✓
Tc^{99} ✓
C^{14} ✓
3H ✓

3. Continuing Calibration . . . . . ☐ N/A

Calibration checked within one week of sample analysis? . . . Yes No N/A
Calibration check acceptable? . . . . . Yes No N/A
Calibration check standards NIST traceable? . . . . . Yes No N/A
Calibration check standards expired? . . . . . Yes No N/A

Comments: Gross α, β ✓
Sr^{90} ✓
3H ✓
C^{14} ✓
Tc^{99} ✓ ✓

4. Blanks . . . . . ☐ N/A

Method blank analyzed? . . . . . Yes No N/A
Method blank results acceptable? . . . . . Yes No N/A
Analytes detected in method blank? . . . . . Yes No N/A
Field blank(s) analyzed? . . . . . Yes No N/A
Field blank results acceptable? . . . . . Yes No N/A
Analytes detected in field blank(s)? . . . . . Yes No N/A
Transcription/Calculation Errors? . . . . . Yes No N/A

Comments: Gross α β ✓
Total Sr ✓
3H ✓
Tc^{99} ✓
C^{14} ✓

5. Matrix Spikes . . . . . ☐ N/A

Matrix spike analyzed? . . . . . Yes No N/A
Spike recoveries acceptable? . . . . . Yes No N/A
Spike source traceable? . . . . . Yes No N/A
Spike source expired? . . . . . Yes No N/A
Transcription/Calculation Errors? . . . . . Yes No N/A

Comments: Tc^{99} – two matrix Spikes – Both within QC limits

6. Laboratory Control Samples . . . . . ☐ N/A

LCS analyzed? . . . . . Yes No N/A
LCS recoveries acceptable? . . . . . Yes No N/A
LCS traceable? . . . . . Yes No N/A
Transcription/Calculation Errors? . . . . . Yes No N/A

Comments: Gross α, β ✓
3H ✓
C^{14} ✓
Tc^{99} ✓
Sr^{90} ✓

7. Chemical Recovery . . . . . ☐ N/A

Chemical carrier added? . . . . . Yes No N/A
Chemical recovery acceptable? . . . . . Yes No N/A
Chemical carrier traceable? . . . . . Yes No N/A
Chemical carrier expired? . . . . . Yes No N/A
Transcription/Calculation errors? . . . . . Yes No N/A

Comments: Sr^{90} ✓

8. Duplicates . . . . . ☐ N/A

Duplicates Analyzed? . . . . . Yes No N/A
RPD Values Acceptable? . . . . . Yes No N/A
Transcription/Calculation Errors? . . . . . Yes No N/A

Comments: 3H 1.42 % ✓ Tc^{99} > 5xROL (20.12 %) ✓(OK)
C^{14} ✓ >20%
Sr^{90} ✓
Gross α ✓
Gross β ✓

9. Field QC Samples . . . . . ☐ N/A

Field duplicate sample(s) analyzed? . . . . . Yes No N/A
Field duplicate RPD values acceptable? . . . . . Yes No N/A
Field split sample(s) analyzed? . . . . . Yes No N/A
Field split RPD values acceptable? . . . . . Yes No N/A
Performance audit sample(s) analyzed? . . . . . Yes No N/A
Performance audit sample results acceptable? . . . . . Yes No N/A

Comments: BOBP22 and BOBP24 within QC limits

10. Holding Times

Are sample holding times acceptable? . . . . . Yes No N/A

Comments: Tritium — Sample not analyzed within 7 days of Distillation (R, UR)

11. Results and Detection Limits (Levels D & E) . . . . . ☐ N/A

Results reported for all required sample analyses? . . . . . Yes No N/A
Results supported in raw data? . . . . . Yes No N/A
Results Acceptable? . . . . . Yes No N/A
Transcription/Calculation errors? . . . . . Yes No N/A
MDA's meet required detection limits? . . . . . Yes No N/A
Transcription/calculation errors? . . . . . Yes No N/A

Comments: MDA's not Reported on Results sheets

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RECORD COPY

Date: September 19, 1994
To: Westinghouse Hanford Company (technical representative)
From: A.T. Kearney, Inc.
Subject: Wet Chemistry - Data Package No. W0031-ITC-041 (SDG No. W0031)

INTRODUCTION

This memo presents the results of data validation on Data Package No. W0031-ITC-041 prepared by the International Technology Corporation (ITC) laboratory. A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation Level	Analysis
B0BNX2	04/12/94	Water	D	See Note 1
B0BNX6	04/13/94	Water	D	See Note 1
B0BNY0	04/13/94	Water	D	See Note 1
B0BNY2	04/21/94	Water	D	See Note 1
B0BNZ2	04/15/94	Water	D	See Note 1
B0BNZ4	04/15/94	Water	D	See Note 1
B0BP14	04/19/94	Water	D	See Note 1
B0BP16	04/19/94	Water	D	See Note 1
B0BP18	04/19/94	Water	D	See Note 1
B0BP22	04/15/94	Water	D	See Note 1
B0BP24	04/19/94	Water	D	See Note 1

Note 1. Requested Method: Anions: F, S04, Cond., pH

Data validation was conducted in accordance with the WHC statement of work (WHC 1994) and validation procedures (WHC 1993). Appendices 1 through 5 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualifications
Appendix 3. Qualified Data Summary and Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation

DATA QUALITY OBJECTIVES

- **Holding Times**

Analytical holding times for fluoride, pH, sulfate, and specific conductance were assessed to ascertain whether the holding time requirements were met by the laboratory. The holding time requirements are as follows: 28 days for fluoride; specific conductance and sulfate; and 24 hours for pH.

The 24-hour holding time for pH was exceeded for sample numbers B0BNX2, B0BNX6, B0BNY0, B0BNY2, B0BNZ2, B0BNZ4, B0BP14, B0BP16, B0BP18, B0BP22 and B0BP24 in SDG No. W0031. All associated results were qualified as estimates and flagged "J".

Holding times for all other analytes reviewed met QC requirements.

- **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 are qualified as non-detected "U".

All laboratory blank results were acceptable.

- **Accuracy**

Matrix Spike

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.

All matrix spike results were acceptable.

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).

All LCS results were found to be acceptable.

- **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.

- **Sample Result Verification 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.

The reviewer verified that the results and detection limits fell within the linear range of the instrument. All sample result verification and detection limits were acceptable.

- **Completeness**

Data Package No. W0031-ITC-041 (SDG No. W0031) was submitted for validation and verified for completeness.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

A review of instrument continuing calibration information and QC data indicate that instrument performance was adequate for all analyses. Holding times were exceeded for pH in all samples and associated results were qualified as estimates and flagged "J". Estimated results are usable for limited purposes only. All other validated results are considered accurate within the standard error associated with the methods.

REFERENCES

EPA, 1987, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, Environmental Protection Agency, Washington, D.C.

EPA, 1988c, *EPA Contract Laboratory Program Statement of Work for Inorganics Analyses, Multi-Media, Multi-Concentration*, U.S. Environmental Protection Agency, Washington, D.C.

EPA, 1988d, *Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses*, U.S. Environmental Protection Agency, Washington, D.C.

EPA, 1990, *EPA Contract Laboratory Program Statement of Work for Inorganic Analyses, Multi-media, Multi-Concentration*, U.S. Environmental Protection Agency, Washington, D.C.

WHC, 1992a, *Data Validation Procedures for Chemical Analyses*, WHC-SD-EN-SPP-002, Rev. 2, Westinghouse Hanford Company, October 1993.

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Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers which may be applied by data validators in compliance with the procedures herein are as follows:

U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the same quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

J - Indicates the compound or analyte was analyzed for and detected. The associated concentration is an estimate, but the data are usable for decision-making purposes.

BJ - Applied to inorganic analyses only. Indicates the analyte concentration was greater than the IDL but less than the CRDL and is considered an estimated value.

R - Indicates the compound or analyte was analyzed for, detected, and due to an identified QC deficiency, the data are unusable.

UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified QC deficiency.

JN - Indicates a tentatively identified compound (TIC) that has been determined to be valid in terms of identification and quantitation.

UJN - Indicates a tentatively identified compound (TIC) that has been determined to be presumptive and valid (JN) in terms of identification and quantitation and has been qualified as undetected (U) due to associated blank contamination.

NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications usable for decision-making purposes).

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Appendix 2

Summary of Data Qualifications

DATA QUALIFICATION SUMMARY

SDG: W0031	REVIEWER: SC	DATE: 8/11/94	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
pH	J	B0BNX2, B0BNX6, B0BNY0, B0BNY2, B0BNZ2, B0BNZ4, B0BP14, B0BP16, B0BP18, B0BP22, B0BP24	Holding Times Exceeded

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Appendix 3

Qualified Data Summary and Annotated Laboratory Reports

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

Project: WESTINGHOUSE-HANFORD																					
Laboratory: IT																					
Case	SDG: W0031																				
Sample Number		B0BNX2		B0BNX6		B0BNY0		B0BNY2		B0BNZ2		B0BNZ4		B0BP14		B0BP16		B0BP18		B0BP22	
Location		1-B2-12		1-B3-1		1-B3-47		1-B4-1		1-B4-9		1-B5-1		6-67-86		6-71-77		6-72-73		1-B5-1	
Remarks																				DUP	
Sample Date		04/12/94		04/13/94		04/13/94		04/21/94		04/15/94		04/15/94		04/19/94		04/19/94		04/19/94		04/15/94	
Wet Chemistry Analytes	Method	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Fluoride	300.0	0.50		0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40		0.40	U
Sulfate	300.0	10.80		52		50.20		47		49		25		33		30		23		25	
pH	9040	7.87	J	7.61	J	8.16	J	7.91	J	7.9		7.4	J	7.82	J	7.84	J	7.78	J	7.4	J
Specific Conductivity (umhos/cm)	120.1	270		430		388		371		436		304		357		378		350		307	

DUP = Duplicate

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000010

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

Project: WESTINGHOUSE-HANFORD																							
Laboratory: IT																							
Case	SDG: W0031																						
Sample Number		B0BP24																					
Location		6-72-73																					
Remarks		DUP																					
Sample Date		04/19/94																					
Wet Chemistry Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Fluoride	300.0	0.40	U																				
Sulfate	300.0	23																					
pH	9040	7.81	J																				
Specific Conductivity (umhos/cm)	120.1	350																					

DUP = Duplicate

000011

9613476.0353

SPECIFIC CONDUCTANCE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	386
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	04/27/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6154	1	U
BOBNZ4	AA7100	304	+
BOBNP22	AA7102	307	+
BOBNZ2	AA6880	436	+

RJS 9/15/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

SPECIFIC CONDUCTANCE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	420
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	04/27/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6154	1	U
BOBP16	AA7331	378	+
BOBP18	AA7312	350	+
BOBP24	AA7328	350	+
BOBP14	AA7325	357	+

RJS 9/15/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

SPECIFIC CONDUCTANCE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	426
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	04/27/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6155	1	U
BOBNY2	AA7372	371	+

RJS 9/15/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

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0002656A
DEA 7-7-94

SPECIFIC CONDUCTANCE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	363
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	06/22/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6336	1	U
BOBNX6	AA6511	430	+

RES 9/15/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

DEA 7/20/94

SPECIFIC CONDUCTANCE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	363
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	07/19/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6385	1	U
BOBNY0	AA6514	388	+
BOBNX2	AA6517	270	+

9/15/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	386
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	04/26/94

Client Sample ID	Lab Sample ID	Result
Method Blank	*	*
BOBNZ4	AA7100	7.4 J
BOBNP22	AA7102	7.4 J
BOBNZ2	AA6880	7.9 J

9/15/94 RJS

* - A method blank is not applicable for this analysis.

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	420
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	04/26/94

Client Sample ID	Lab Sample ID	Result
Method Blank	*	*
BOBP16	AA7331	7.84 J
BOBP18	AA7312	7.78 J
BOBP24	AA7328	7.81 J
BOBP14	AA7325	7.82 J

9/15/94
RSS

* - A method blank is not applicable for this analysis.

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	426
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	04/26/94

Client Sample ID	Lab Sample ID	Result
Method Blank	*	*
BOBNY2	AA7372	7.91 J

9/15/94 RJS

* - A method blank is not applicable for this analysis.

0002660A
DEA 7 7.4

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	363
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	06/22/94

Client Sample ID	Lab Sample ID	Result
Method Blank	*	*
BOBNX6	AA6511	7.61 J

RJJ 9/15/94

* - A method blank is not applicable for this analysis.

0002167
DEA 7-20-94

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	363
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	07/19/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBNY0	AA6514	8.16 J	-
BOBNX2	AA6517	7.87 J	-

RFS 9/10/94

* - A method blank is not applicable for this analysis.

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ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	420
Client Sample ID:	BOBP16	Preparation Date:	05/16/94
Lab Sample ID:	AA7331	Analysis Date:	05/16/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	U	0.4
sulfate	30	+	1.5

RJS 9/16/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	386
Client Sample ID:	BOBNZ2	Preparation Date:	05/13/94
Lab Sample ID:	AA6880	Analysis Date:	05/13/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	U	0.4
sulfate	49	+	7.5

RJS 9/16/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	386
Client Sample ID:	BOBNZ4	Preparation Date:	05/13/94
Lab Sample ID:	AA7100	Analysis Date:	05/13/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	U	0.4
sulfate	25	+	1.5

RJS 9/16/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	386
Client Sample ID:	BOBP22	Preparation Date:	05/13/94
Lab Sample ID:	AA7102	Analysis Date:	05/13/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	U	0.4
sulfate	25	+	1.5

RS 9/12/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	426
Client Sample ID:	BOBNY2	Preparation Date:	05/17/94
Lab Sample ID:	AA7372	Analysis Date:	05/17/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	U	0.4
sulfate	47	+	7.5

RJS 9/16/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	420
Client Sample ID:	BOBP24	Preparation Date:	05/16/94
Lab Sample ID:	AA7328	Analysis Date:	05/16/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	U	0.4
sulfate	23	+	1.5

RJS 9/16/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	420
Client Sample ID:	BOBP14	Preparation Date:	05/16/94
Lab Sample ID:	AA7325	Analysis Date:	05/16/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	U	0.4
sulfate	33	+	3.0

RJS 9/10/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	420
Client Sample ID:	BOBP18	Preparation Date:	05/16/94
Lab Sample ID:	AA7312	Analysis Date:	05/16/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	+	0.4
sulfate	23	+	1.5

RJS 9/16/94

+ - Positive result.

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ANION ANALYSIS

DEA 7-7-94

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	363
Client Sample ID:	BOBNY0	Preparation Date:	05/11/94
Lab Sample ID:	AA6514	Analysis Date:	05/11/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	U	0.4
sulfate	50.2	+	1.5

RJS 7/15/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	363
Client Sample ID:	BOBNX6	Preparation Date:	05/11/94
Lab Sample ID:	AA6511	Analysis Date:	05/11/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.4	U	0.4
sulfate	52	+	3.0

RJS 9/15/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

DEa 7-7-94

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0031
Contract Name:	Westinghouse Hanford	Job Number:	363
Client Sample ID:	BOBNX2	Preparation Date:	05/11/94
Lab Sample ID:	AA6517	Analysis Date:	05/11/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.497	+	0.4
sulfate	10.8	+	1.5

RJS 9/15/94

+ - Positive result.

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Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

9613476.0576

INTERNATIONAL TECHNOLOGY CORPORATION

JUN 1994
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SDLA

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

Dear J.A. Lerch

Thank you for purchasing analytical testing services from IT Corporation. It is our intention to supply our clients with data packages which not only meet the industry's highest standards for quality, but are also easy to use. Features which we point out are:

1. A Data Summary Packet which allows you to review your data without searching through the complete data package.

   Your Data Summary Packet contains the following items:

   - Case Narrative: listing of sample identifications, analyses performed, explanation of any problem associated with samples, corrective action taken.
   - Quality control sample identifications and analyses performed.
   - Data summary.

2. A data package which meets the specific requirements you requested and is easy to use as well. The package is organized in accordance with the Table of Contents which you will find at the beginning of each section. Sections are separated by color-coded tabs, making it easy to find individual analytical parameters which may be of particular interest to you. The data package is custody-sealed at the laboratory - your assurance that parts of the package are not missing.

We are constantly searching for ways to improve our service to you. This current product has many of the features which you have told us are important to you. Your suggestions regarding additional improvements will be appreciated.

Please contact me with any questions or suggestions.

Sincerely,

Sheree Schneider

Sheree' Schneider
Project Manager

Regional Office
5815 Middlebrook Pike • Knoxville, Tennessee 37921 • 615-588-6401

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9613476.0377

Analytical Data Package Prepared for

WESTINGHOUSE HANFORD

JUN 1994
RECEIVED
SDLA

Chemical Analysis By

IT Analytical Services
Middlebrook Laboratory

Sample Delivery Group Number: W0031

WHC IDENTIFICATION NUMBER	ITAS RICHLAND ID NUMBER	KNOXVILLE ID NUMBER

* See attached Table I.

RECORD COPY

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT Corporation
2800 George Washington Way
Richland, WA 99352
Attn: Van Pettey

June 6, 1994

Job Number: 363; 383; 386; 420; 426

This is the Certificate of Analysis for the following samples:

SDG:	W0031
Client Project ID:	Westinghouse Hanford
Date Received by Lab:	April 15, April 16, April 19, April 22, and April 25, 1994
Number of Samples:	Twenty-four (24)
Sample Type:	Water

I. Introduction

On April 15, April 16, April 19, April 22 and April 25, 1994, twenty-four (24) water samples arrived at ITAS-Richland, Washington and were transferred to ITAS-Knoxville for chemical analysis. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

II. Analytical Results/Methodology

The analytical results for this report are presented by analytical test. Each set of data will include sample identification information and the analytical results.

The samples were analyzed for Target Analyte List (TAL) metals by cold vapor atomic absorption spectroscopy (CVAA), graphite furnace atomic absorption spectroscopy (GFAA), and inductively coupled plasma spectroscopy (ICP) in accordance with the EPA CLP ILM03 Statement of Work.

Reviewed and Approved:

Sheree A. Schneider

Sheree' A. Schneider
Project Manager

IT Corporation
June 6, 1994

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: Westinghouse Hanford

Job Number: 363; 383; 386; 420; 426

III. Quality Control (Continued)

"Q" Qualifiers

* - Duplicate analysis outside control limits.
N - Spiked sample recovery outside control limits.
W - Post-digestion spike for GFAA was out of control limits (85-115%), while sample absorbance was less than 50% of spike absorbance.
S - The reported value was determined by method of standard additions.

"M" Qualifiers

P - Analysis performed by ICP.
V - Analysis performed by CVAA.
F - Analysis performed by GFAA.
C - Cyanide analysis by manual distillation/colorimetric determination.

Miscellaneous

D - Duplicate.
S - Spike.
NR - Not required.
G - Native analyte > 4 times spike added, therefore, acceptance criteria do not apply.
X - Detection limits higher than normal due to sample matrix interferences.

The QC for anions was performed on sample BOBNX8 of work order #383. This sample was moved from SDG W0031 to W0043 after QC was assigned. The analytical results are included in this report.

The QC for pH was performed on sample BOBP10 of work order #427 (SDG W0040). The analytical results are included in this report.

The QC for specific conductance was performed on sample BOBP10 of work order #427 (SDG W0040). The analytical results are included in this report.

IT Corporation
June 6, 1994

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: Westinghouse Hanford

Job Number: 363; 383; 386; 420; 426

III. Quality Control (Continued)

Table I is a cross reference between client sample IDs and laboratory sample IDs.

TABLE I

Knoxville ID	Richland ID	WHC ID	Test
AA6510	W404259-01A	BOBNX6	METALS-T
AA6511	W404259-01B	"	ANIONS
AA6512	W404259-02A	BOBNX7	METALS-T
AA6513	W404259-03A	BOBNY0	"
AA6514	W404259-03B	"	ANIONS
AA6515	W404259-04A	BOBNY1	METALS-T
AA6516	W404259-05A	BOBNX2	"
AA6517	W404259-05B	"	ANIONS
AA6518	W404259-06A	BOBNX3	METALS-T
AA6808	404288-01A	BOBNX8	"
AA6810	404288-02A	BOBNX9	METALS-D
AA6879	W404322-01A	BOBNZ2	METALS-T
AA6880	W404322-01B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7099	W404322-03A	BOBNZ4	METALS-T
AA7100	W404322-03B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY

682-1-89

III. Quality Control (Continued)

Table I is a cross reference between client sample IDs and laboratory sample IDs.

TABLE I

Knoxville ID	Richland ID	WHC ID	Test
AA7101	W404322-05A	BOBNP22	METALS-T
AA7102	W404322-05B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7103	W404322-02A	BOBNZ3	METALS-D
AA7105	W404322-04A	BOBNZ5	"
AA7106	W404320-06A	BOBNP23	"
AA7311	404404-01A	BOBP18	METAL-T
AA7312	404404-01B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7316	404404-02A	BOBP19	METALS-D
AA7324	404404-03A	BOBP14	METALS-T
AA7325	404404-03B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7326	404404-04A	BOBP15	METALS-D
AA7327	404404-05A	BOBP24	METALS-T
AA7328	404404-05B	"	ANIONS

III. Quality Control (Continued)

Table I is a cross reference between client sample IDs and laboratory sample IDs.

TABLE I

Knoxville ID	Richland ID	WHC ID	Test
AA7328	404404-05B	BOBP24	pH
"	"	"	CONDUCTIVITY
AA7329	404404-06A	BOBP25	METALS-D
AA7330	404404-07A	BOBP16	METALS-T
AA7331	404404-07B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7332	404404-08A	BOBP17	METALS-D
AA7372	404429-01B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY

IT Corporation
June 6, 1994

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: Westinghouse Hanford

Job Number: 363; 383; 386; 420; 426

IV. Certification

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature:

Reviewed and Approved:

Sheree' A. Schneider

Sheree' A. Schneider
Project Manager

682-1-89

9613476.0304

WO#363

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
[illegible] George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

Per Shipping Container

Date/Time Received 4/14/94 1130 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) STE Helens

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☐ No ☑
3. Custody Seals dated and signed? Yes ☐ No ☑
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☑ No ☒ 4/14/94
13. Memos have been initiated for all anomalies identified above? Yes ☑

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/14/94 1130

FORM NO. LS-042, Rev.0, 2/94

9613476.0385

WO #363

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1230 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(Per Shipping Container)

Date/Time Received 4/14/94 1130 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) SML 421

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/14/94 1130

FORM NO. LS-042, Rev.0. 2.94

9613476.0386

WO#363

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
[illegible] George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(Per Shipping Container)

Date/Time Received 4/14/94 1130 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) ER-6

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/14/94 1130

FORM NO. LS-042, Rev.0, 2.94

9613476.0387

WO#386

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1220 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(Per Shipping Container)

Date/Time Received 4/18/94 1310 Client Name WHC

Project/Client # 94-129 Batch or Case # NA

Cooler ID (if noted on the outside of cooler) SML-118

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/18/94 1310

FORM NO. LS-042, Rev.0, 2/94

9613476.0388

WO#386

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1500 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(Per Shipping Container)

Date/Time Received 4/18/94 1370 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) ER-7

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 2 bags
7. Number of sample containers in cooler: 28
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 6°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/18/94 1310

FORM NO. LS-042, Rev.0, 2/94

9613476.0389

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1820 George Washington Way
Richland, Washington 99352

WO 420

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4-21-94 1200 Client Name IWHC

Project/Client # 94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) EC-Y

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 28
8. Samples have: ____ tape ____ hazard labels
   X custody seals X appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 3°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier _____
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature R Bays R Bays Date/Time 4-21-94 1210

FORM NO. LS-042, Rev.0, 2/94

9613476.0390

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1230 George Washington Way
Richland Washington 99352

WO 420

SAMPLE CHECK-IN LIST

* Per Shipping Container

Date/Time Received 4-21-94 12:00 Client Name LUHC

Project/Client # SAE-94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) ER-9

1. Condition of shipping container? OK.
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 25
8. Samples have: ✓ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 16°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier _____
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature R. Boyd [signature] Date/Time 4-21-94 1210

FORM NO. LS-042, Rev.0, 2 94

9613476.0391

WO#426

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
2530 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4-22-94 14:00 Client Name WHC

Project/Client # 94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) EC-8

1. Condition of shipping container? O.K.
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐ 4-22-94
7. Number of sample containers in cooler: ~~12~~ 24
8. Samples have: X tape ____ hazard labels
   X custody seals ____ appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☒

Printed Name/Signature Karen Achterling Date/Time 4-22-94 14:00

FORM NO. LS-042, Rev.0, 2/94

WO#363

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: NA	SAF No.: 94-129
Ice Chest No.: ER-1c	Field Logbook No.: EF-1-1	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W-94-C-0336-37	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks: None		

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE — LC/MG 3B 4/12/94 AJSimpson

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP METALS AA METALS Hg CLP 85A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Reserve	ICP METALS, AA METALS, Hg CLP FILTERD 06A								
Preservative				HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2								
Type of Container				G/P	P	G/P	G/P	Gs		G/P								
No. of Container(s)				1	1	5	2	3	1	1								
Volume				1000ml	1000ml	1000ml	1000ml	1000ml	100mL	1000ml								
SAMPLE ANALYSIS 404259								40426003										
BC5NX2	W	4/12/94	1120	X	X	X	X	X	X									
BC5NX3	W	4/12/94	1120							X								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
G. Hamilton GG Hamilton	4/12/94 1319	AJ SIMPSON AJSimpson	4/12/94 1319
AJSIMPSON AJSimpson	4/14/94 0959	L Sweeney L Sweeney	4/14/94 0959
L Sweeney L Sweeney	4/14/94 1130	Tom Gilmore	4/14/94 1130
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION — Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION — Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000050

9613476.0392

WO# 363

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: SML-421	Field Logbook No.:	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A WM4-C. C-336C-35	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE STORED IN Refers

JC by AJSimpson 4/12/94

SAMPLE ANALYSIS 404259

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	MGS	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP 03A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 04A

Sample No.	Matrix*	Date Sampled	Time Sampled															
BCBN90	W	4/13/94	1125	X	X	X	X	X	X									
BCBN91	W	↓	1125							X								

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By / Date/Time	Received By / Date/Time	
[signature] GG Hamilton 4/13/94 1330	[signature] AJ Simpson 4/13/94 1540	
Relinquished By / Date/Time	Received By / Date/Time	
AJ Simpson AJ Simpson 4/14/94 1000	[signature] L Sweeney 4/14/94 1000	
Relinquished By / Date/Time	Received By / Date/Time	
[signature] L Sweeney 4/14/94 1130	[signature] 4/14/94 1130	
Relinquished By / Date/Time	Received By / Date/Time	

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0393

000051

0000043

WO#363

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: T. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: Ste. Helens	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A Inv. C. C3360-37	Bill of Lading/Air Bill No.: N/A NONE

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Small Boxes 3A ASS 4/14/94

SAMPLE ANALYSIS: 404259

Sample No.	Matrix*	Date Sampled	Time Sampled	Preservative	Type of Container	No. of Container(s)	Volume													
				HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	Non	HNO3<2										
				G/P	P	G/P	G/P	Gs	Vials	G/P										
				1	1	5	2	3	1	1										
				1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml										
				ICP METALS AA METALS Hg CLP01A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD	02A									
BCBVX6	W	4/13/94	0855	X	X	X	X	X	X											
BCBVX7	W	↓	↓							X										

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
GG Hamilton	4/13/94 1335	A J Simpson	4/13/94 1332
Relinquished By	Date/Time	Received By	Date/Time
A J Simpson	4/14/94 0958	L Sweeney	4/14/94 0958
Relinquished By	Date/Time	Received By	Date/Time
L Sweeney	4/14/94 1130	Tom Gilmore	4/14/94 1130
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION: Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0394

000052

WO#386

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: SMC-118	Field Logbook No.: FIC [illegible]	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A 1L94-L 03356-44	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4		HNO3<2								
Type of Container	G/P	P	G/P	G/P	Gs		G/P								
No. of Container(s)	1	1	5	2	3	1	1								
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	[illegible]	1000ml								
SAMPLE ANALYSIS	ICP METALS AA METALS Hg 05A CLP	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99 404 32303	TRITIUM C-14		ICP METALS, AA METALS, Hg CLP FILTERD	06A							

Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBP22	W	[illegible]	[illegible]														
BOBP23	W	↓	↓														

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
[illegible] / K. Trapp	4/15/94 1340	L Sweeney / L Sweeney	4/15/94 1340
L Sweeney / L Sweeney	4/18/94 1310	[illegible] / T Gilmore	4/18/94 1310

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION — Received By: ____ Title: ____ Date/Time: ____

FINAL SAMPLE DISPOSITION — Disposal Method: ____ Disposed By: ____ Date/Time: ____

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000053

9613476.0395

WO#386

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: [illegible]	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-7	Field Logbook No.: EFL-[illegible]	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A H-94-C-C-0336-14	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

SAMPLE ANALYSIS: 404322

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP METALS AA METALS Hg CLP01A 8	ANIONS F,SO4 COND pH	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14 404322301		ICP METALS, AA METALS, Hg CLP FILTERD 02A							
Preservative				HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	[illegible]	HNO3<2							
Type of Container				G/P	P	G/P	G/P	Gs	[illegible]	G/P							
No. of Container(s)				1	1	5	2	3	1	1							
Volume				1000ml	1000ml	1000ml	1000ml	1000ml	[illegible]	1000ml							
BOBNZ2	W	4/15/94	[illegible] 1115	X	X	X	X	X	X								
BOBNZ3	W	4/15/94	1113														

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: K. Jones/K. Trapp	Date/Time: 4/15/94 1310	Received By: L. Sweeney	Date/Time: 4/15/94 1310
Relinquished By: L. Sweeney	Date/Time: 4/15/94 1310	Received By: T. Gilmore	Date/Time: 4/15/94 1310
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- Wi = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000054

9613476.0396

WO#386

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 1cc 17	SAF No.: 94-129
Ice Chest No.: ER-7	Field Logbook No.: EFL-1[illegible]	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W14-C-336-44	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	N/A	HNO3<2								
Type of Container	G/P	P	G/P	G/P	Gs		G/P								
No. of Container(s)	1	1	5	2	3		1								
Volume	1000ml	1000ml	1000ml	1000ml	1000ml		1000ml								
SAMPLE ANALYSIS 404322	ICP METALS AA METALS Hg CLP 03A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14		ICP METALS, AA METALS, Hg CLP FILTERD	04A							

Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBNZ4	W	4/15/94	[illegible]	✓	✓	✓	✓	✓	✓								
BOBNZ5	W	↓	↓														

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Jones / K. Tripp	4/15/94 1340	Suzanne L Sweeney	4/15/94 1340
Suzanne L Sweeney	4/18/94 1310	TG Tripp	4/18/94 1310

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION — Received By: ____ Title: ____ Date/Time: ____

FINAL SAMPLE DISPOSITION — Disposal Method: ____ Disposed By: ____ Date/Time: ____

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

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9613476.0397

WC 420

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Tipp / W. Setzer	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location:	SAF No.: 94-129
Ice Chest No.: FR-9	Field Logbook No.: [illegible]	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W54-W-C-518 1	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks:

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

SAMPLE ANALYSIS: 404404

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	[illegible]	HNO3<2										
Type of Container	G/P	P	G/P	G/P	Gs	[illegible]	G/P										
No. of Container(s)	1	1	5	2	3	[illegible]	1										
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	[illegible]	1000ml										
	ICP METALS AA METALS Hg CLP A	ANIONS F, SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 40440502	Tc-99	TRITIUM C-14	[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD										
Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBP14	W	4/20/94	1425	\	\	\	\	\	\								
BOBP15	W	↓	↓							\A							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
W.W. Setzer	4-20-94 1305	Sweeney / Sweeney	4/20/94 1305
Relinquished By	Date/Time	Received By	Date/Time
Sweeney / Sweeney	4/21/94 1210	R. Bryi Jr	4-21-94 1210
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000056

9613476.0398

[redacted]

WO 420

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp / W. [illegible]	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: [illegible]8	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-C-0518-1	Bill of Lading/Air Bill No.: N/A N.A.
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP METALS AA METALS Hg CLP	ANIONS F,SO4 COND pH	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD
Preservative				HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2
Type of Container				G/P	P	G/P	G/P	Gs	[illegible]	G/P
No. of Container(s)				1	1	5	2	3	1	1
Volume				1000ml	1000ml	1000ml	1000ml	1000ml	[illegible]	1000ml
SAMPLE ANALYSIS				404404		404405		04		
07 B0BP16	W	4/19/94	1030	X	X	X	X	X	X	
08 B0BP17	W	"	1030							X

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: A.U. Setzer		4-20-94 1305
Received By: L. Sweeney		4/21/94 1210
Relinquished By: L. Sweeney		4/21/94 1210
Received By: R. Boyd		4-21-94 1210
Relinquished By		
Received By		
Relinquished By		
Received By		

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000057

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Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trap / [illegible]	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: [illegible]	SAF No.: 94-129
Ice Chest No.: ER-3	Field Logbook No.: [illegible]	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-C-0518-1	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	[illegible]	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	[illegible]	G/P
No. of Container(s)	1	1	5	2	3		1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	[illegible]	1000ml
SAMPLE ANALYSIS 404404	ICP METALS AA METALS Hg CLP A	ANIONS F, SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 4044650 1	Tc-99	TRITIUM C-14	[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD

	Sample No.	Matrix*	Date Sampled	Time Sampled														
c)	BCBP18	W	4/11/94	1340	\	\	\	\	\	\								
a)	BCBP19	W	↓	↓							\ A							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: W.W. Setzer	Date/Time: 4-20-94 1305	Received By: K. Sweeney, L. Sweeney	Date/Time: 4/20/94 1305
Relinquished By: K. Sweeney, L. Sweeney	Date/Time: 4/21/94 1210	Received By: R. Beck II	Date/Time: 4-21-94 1210
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0400

000058

000058

WO 420

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K. Tripp / W. Setzel	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100-F	SAF No.: 94-129
Ice Chest No.: ER-8	Field Logbook No.: EFL-1[illegible]	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-C-C515-1	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	[illegible]	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	[illegible]	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	[illegible]	1000ml
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP A	ANIONS F, SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 40440503	Tc-99	TRITIUM C-14	[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD
40414104							

Sample No.	Matrix*	Date Sampled	Time Sampled															
B08P24	W	4/19/94	1240	X	X	X	X	X	X									
B08P25	W									A								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
W. Setzel	4-20-94 1395	L Sweeney	4/21/94 1305
L Sweeney	4/21/94 1210	E Bay	4-21-94 1210

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

000059

10040-9413196

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

WO#426

Page 1 of 1

Date Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-7	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-3	Bill of Lading/Air Bill No.: N/A ~~W94~~ LCS 4-22-94 NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

SAMPLE ANALYSIS: 404429

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP METALS AA METALS Hg CLP	ANIONS F,SO4 COND pH	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14		ICP METALS, AA METALS, Hg CLP FILTERD
Preservative				HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container				G/P	P	G/P	G/P	Gs	Glass	G/P
No. of Container(s)				1	1	5	2	3	1	1
Volume				1000ml	1000ml	1000ml	1000ml	1000ml	Vial	1000ml
				A	B	404430	01		Activity Scan	
01 B0DNY2	W	4/21/94	0920	X	X	X	X	X	X	
02 B0DNY3	W	↓	↓							X A

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: K Umapp / K. Trapp, Date/Time: 4/22/94 0752	Received By: L Sweeney / L Sweeney, Date/Time: 4/22/94 0752		
Relinquished By: L Sweeney / L Sweeney, Date/Time: 4/22/94 1400	Received By: R. Boyd, Date/Time: 4/22/94 1400		
Relinquished By: Date/Time	Received By: Date/Time		
Relinquished By: Date/Time	Received By: Date/Time		

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0402

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9613476.0403

WO#363

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit

The following items are to be shipped from ☐ Contractor ☐ Vendor

Routing ☐ Contractor ☐ Vendor

Shipped to	Off-site Custodian
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost

☐ Classified ☐ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date
Location of Property (Area & Bldg.)	Contact	Phone
Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
Originated By	Date / Authorized By	Date
Signature and Name of Property Control	Custodian Date / Property Management Approval	Date

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

9613476.0404

WO#363

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit

The following items are to be shipped from ☐ Contractor ☐ Vendor

Routing ☐ Contractor ☐ Vendor

Shipped to	Off-site Custodian
CBS	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost

☐ Classified ☐ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date

Location of Property (Area & Bldg.)	Contact	Phone

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned

Originated By	Date	Authorized By	Date

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

9613476.0405

WO#363

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit

The following items are to be shipped from ☐ Contractor ☐ Vendor

Routing ☐ Contractor ☐ Vendor

Shipped to	Off-site Custodian
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost

☐ Classified ☐ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date
Location of Property (Area & Bldg.)	Contact	Phone
Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned N/A
Originated By	Date	Authorized By / Date
Signature and Name of Property Control	Custodian Date	Property Management Approval / Date

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

9613476.0406

WO#386

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-C1336-44

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Env. Eng. & Tech	Environmental Field Svcs.	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to
IT Analytical Services
2800 George WASHINGTON WAY
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 Lbs.	Sample #: 60BN24, 60BN25, 60BN22, 60BN23 Cooler ID: GK-2 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 Lbs.	Sample #: 60BP22, 60BP23 Cooler ID: SMC-118 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling Supports RI/FS work in the 100 AREA

Bill of lading # NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release: [illegible]	RM Survey No: 157971	Date: 4/18/94
Location of Property (Area & Bldg.): 100-BC-5	Contact: P.H. Butcher	Phone: (509) 376 4388
Date Ready for Shipment: 4-18-94	Cost Code to be Charged: 8B410 PBSAA	Approximate Date This Property will be Returned: NA
Originated By: P.H. Butcher	Date: 4/18/94	Authorized By: P.H. Butcher — Date: 4/18/94
Signature and Name of Property Control	Custodian Date	Property Management Approval: [illegible] — Date: 4/18/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

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WO 420

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		[illegible]-C518-1

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from ☑ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
IT Analytical Services 2800 George Washington Way Richland, WA 99352	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs.	Sample #: [illegible] Cooler ID: [illegible] Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: [illegible] Cooler ID: [illegible] Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 [illegible]

Bill of lading # _____

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date
[illegible]	[illegible]	

Location of Property (Area & Bldg.)	Contact	Phone
[illegible]	P. H. Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
[illegible]	8B410 [illegible]	NA

Originated By	Date	Authorized By	Date
[illegible]	4/21/94	[illegible]	4/21/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible]	4/21/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

54-3000-479 (09/89)

INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001461*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

WO# 36 RL#472

Reference Document No. 340374

Page 1 of 2

Project Name/No. 1: 94-129

Sample Team Members 2:

Profit Center No. 3: 4632

Project Manager 4: Van Petley

Purchase Order No. 6:

Required Report Date 11:

Samples Shipment Date 7: 4/14/94

Lab Destination 8: Middlebrook

Lab Contact 9:

Project Contact/Phone 12:

Carrier/Waybill No. 13: 112 7284 812

Bill to: 5: ITAS Richland

Report to: 10: ITAS Richland

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
W4042590 1A	BOBNX6 /H2O	4/13/94 0855	Glass	1000ml	HNO3 4°C	Metals pH=<2	6° C BPB 4/15/94	
B	|	|	Poly	|	|	Anions	|	
02A	BOBNX7 /H2O	|	Glass	|	HNO3	Metals pH=<2	|	
03A	BOBNY0 /H2O	4/13/94 1125	|	|	HNO3	| pH=<2	|	
B	|	|	Poly	|	|	Anions	|	
04A	BOBNY1 /H2O	|	Glass	|	HNO3	Metals pH=<2	|	
05A	BOBNX2 /H2O	4/12/94 1120	|	|	HNO3	Metals pH=<2	|	
B	|	|	Poly	|	|	Anions	↓	

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive ____ (mos.)

Turnaround Time Required: 26
Normal ☒ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SPG W0031

1. Relinquished by 28 (Signature/Affiliation) [signature]	Date: 4/14/94 Time: 1600	1. Received by 28 (Signature/Affiliation) Bryan Blomquist ITASKN	Date: 4/15/94 Time: 9:00
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

MCA 3/15/91

White: To accompany samples

Yellow: Field copy

*See back of form for special instructions.

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WO#363

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 340374

Page 2 of 2

Project Name

Project No. 94-129

Samples Shipment Date 4/14/94

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
W4042590GA	BGBNX3 /H_2O	4/12/94 1120	Glass	1000 ml	HNO_3/4°C	Metals pH=<2	6°C BBB 4/15/94	
5 4/14/94								

White: To accompany samples Yellow: Field copy

*See back of form for special instructions.

MCA 3/15/91

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INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001485*

WO 580 RC# 499

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 340388
Page 1 of 2

Project Name/No. 1: 94-129
Sample Team Members 2:
Profit Center No. 3: 4632
Project Manager 4: Van Pettey
Purchase Order No. 6:
Required Report Date 11:

Samples Shipment Date 7: 4/18/94
Lab Destination 8: Middlebrook
Lab Contact 9:
Project Contact/Phone 12:
Carrier/Waybill No. 13: 1128244266

Bill to: 5 ITAS Richland
Report to: 10 ITAS Richland

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Preservative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
W4043220 1 A	BOBNZZ / H_2O	4/15/94 1148	Glass	1000 ml	HNO_3 4°C	Metals	2°C BBB 4/18/94 <2	
B	|	|	Poly	|	|	Anions	|	
02A	BOBNZ3 / H_2O		Glass		HNO_3	Metals	<2	
03A	BOBNZ4 / H_2O	4/15/94 0950	|		HNO_3	Metals	<2	
B	|	|	Poly	|	|	Anions 1448	|	
04A	BOBNZ5 / H_2O 4/18/94	|	Glass	|	HNO_3	Metals	<2	
05A	BOBPZZ / H_2O	|	Glass	|	|	Metals	<2	
B	|	|		|	|	Anions	↓	

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive ___ (mos.)

Turnaround Time Required: 26
Normal ☒ Rush: ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0031

1. Relinquished by 28 (Signature/Affiliation) [signature] ITAS — Date: 4/18/94 Time: 1600	1. Received by 28 (Signature/Affiliation) Bryan Blomquist ITASKN — Date: 4/19/94 Time: 8:55
2. Relinquished by (Signature/Affiliation) — Date: Time:	2. Received by (Signature/Affiliation) — Date: Time:
3. Relinquished by (Signature/Affiliation) — Date: Time:	3. Received by (Signature/Affiliation) — Date: Time:

Comments: 29

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White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

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WO#386

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 340388

Page 2 of 2

Project Name

Project No. 94-129

Samples Shipment Date 4/18/94

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
W4043206 6A	BOBP23 / H_2O	4/15/94 0950	Glass	1000ml	HNO_3 4°C	Metals	2°C BTP 4/18/94 42	

④ 4/18/94

White: To accompany samples Yellow: Field copy

*See back of form for special instructions.

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COC NO. *0001515*

Recpt lot 532

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 340397
Page 1 of 2

Project Name/No. 1 SAF 94-129
Sample Team Members 2
Profit Center No. 3 4632
Project Manager 4 VAN PETTEY
Purchase Order No. 6
Required Report Date 11

Samples Shipment Date 7 4-21-94
Lab Destination 8 Middlebrook
Lab Contact 9
Project Contact/Phone 12
Carrier/Waybill No. 13 112 9779 917 FED EX

Bill to: 5 IT Richland
Report to: 10 IT Richland

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
40440401 A	BOBP18 / water	4/19 1240	G/P	1000ml	Cool 4°	ICP Metals AA Metals Hg	Rec'd at 30c KAK 4-22-94	
B	↓	↓	P	↓	↓	Anions	↓	
02A	BOBP19 / water	↓	G/P	↓	↓	ICP Metals AA Metals Hg	↓	
03A	BOBP14 / water	4/19 1425	G/P	1000ml	↓	↓	↓	
B	↓	↓	P	↓	↓	Anions	↓	
04A	BOBP15 / water	↓	G/P	↓	↓	ICP Metals AA Metals Hg	↓	
05A	BOBP21 / water	4/19 1210	↓	↓	↓	↓	↓	
B			P	↓	↓	Anions	↓	

Special Instructions: 23 As per WHC Contract

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required: 26
Normal ☒ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDL W0031

1. Relinquished by 28 (Signature/Affiliation) Heidelberg IT	Date: 4-21-94 Time: 16:00	1. Received by 28 (Signature/Affiliation) Kerry Affleman ITAS-KN	Date: 4-22-94 Time: 08:55
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

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White: To accompany samples
Yellow: Field copy
See back of form for special instructions.

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INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 340597

Project Name SAF 94-129

Project No. W0031

Samples Shipment Date 4-21-94

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
40440406 A	BOBP25/water	4/19 1240	G/P	1000ml	Cool 4°	ICP Metals AA Metals Hg	Rec'd at 3°C KJK 4-22-94	
07A	BOBP16 /water	1030						
B			P			Anions		
08A	BOBP17 /water		G/P			ICP Metals AA Metals Hg		

JH 4/21/94

White: To accompany samples Yellow: Field copy

*See back of form for special instructions.

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COC NO. *0001523*

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO#426 W#538

Reference Document No. 453601
Page 1 of 1

Project Name/No. 1 SAP 94-129
Sample Team Members 2
Profit Center No. 3 4632
Project Manager 4 Van Petty
Purchase Order No. 6
Required Report Date 11

Samples Shipment Date 7 4-23-94
Lab Destination 8 Middlebrook
Lab Contact 9
Project Contact/Phone 12
Carrier/Waybill No. 13 8875576065

Bill to: 5 IT Richland
Report to: 10 IT Richland

White: To accompany samples
Yellow: Field copy

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
40442901A	BOBNY2 / water	4-21-94 0930	G/P	1000 ml	Cool 4°	ICP, GFAA, Hg	<2 5° BDB 4/25/94	
↓ B	↓	↓	P	↓	↓	Anions, Cond, ~~Hg~~ PH CA	4-22-94	
40442902A	BOBNY3	↓	G/P	↓	↓	ICP, GFAA, Hg	<2	
		PB	4-22-94					

FOR LAB USE ONLY

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive _____ (mos.)

Turnaround Time Required: 26
Normal ☐ Rush ☐ As Per WHC Contract

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0031

1. Relinquished by 28 (Signature/Affiliation) R. Boyd IT — Date: 4-23-94 Time: 1200	1. Received by 28 (Signature/Affiliation) Bryan Blomquist IT TASK — Date: 4/25/94 Time: 8:55
2. Relinquished by (Signature/Affiliation) — Date: Time:	2. Received by (Signature/Affiliation) — Date: Time:
3. Relinquished by (Signature/Affiliation) — Date: Time:	3. Received by (Signature/Affiliation) — Date: Time:

Comments: 29

*See back of form for special instructions.

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Appendix 5

Data Validation Supporting Documentation

GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	(D)	E

PROJECT: WHC/BHI		DATA PACKAGE: T00568	
VALIDATOR: RJS	LAB: IT		DATE: 9/15/94
CASE:		SDG: W0031	

ANALYSES PERFORMED

☒ Anions/IC	☐ TOC	☐ TOX	☐ TPH-418.1	Oil and Grease	Alkalinity
☐ Ammonia	☐ BOD/COD	☐ Chloride	☐ Chromium-VI	☒ pH	☐ NO_2/NO_3
☒ Sulfate	☐ TDS	☐ TKN	☐ Phosphate	☒ Spec Conductivity	
☐	☐	☐	☐	☒ fluoride	☐

SAMPLES/MATRIX BOBNZ2, BOBP16, BOBP14, BOBNY0, ~~[illegible]~~ RS.
BOBNX2, BOBNX6, BOBP22, BOBNZ4, BOBP24
(11 samples) BOBP18, ~~BOBP16~~ RS, BOBNY2 (water)

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Is technical verification documentation present? . . . . . (Yes) No N/A

Is a case narrative present? . . . . . (Yes) No N/A

Comments:

2. HOLDING TIMES

Are sample holding times acceptable? . . . . . Yes (No) N/A

Comments: PH 4/26/94 - analyzed
All sample Qualified "J"
not analyzed within 24 hrs.

GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

3. INSTRUMENT CALIBRATION

Was initial calibration performed for all applicable analyses? Yes No N/A
Are initial calibration results acceptable? . . . . . Yes No N/A
Was a calibration check performed for all applicable analyses? Yes No N/A
Are calibration check results acceptable? . . . . . Yes No N/A
Comments:

4. BLANKS

Were laboratory blanks analyzed? . . . . . Yes No N/A
Are laboratory blank results acceptable? . . . . . Yes No N/A
Were field/trip blanks analyzed? . . . . . Yes No N/A
Are field/trip blank results acceptable? . . . . . Yes No N/A
Comments:

5. ACCURACY

Were spike samples analyzed at the required frequency? . . . . Yes No N/A
Are spike recoveries acceptable? . . . . . Yes No N/A
Were LCS analyses performed at the required frequency? . . . . Yes No N/A
Are LCS recoveries acceptable? . . . . . Yes No N/A
Comments:

6. PRECISION

Were laboratory duplicate samples analyzed
at the required frequency? . . . . . Yes No N/A
Are laboratory duplicate sample RPD values acceptable? . . . . Yes No N/A
Are field duplicate RPD values acceptable? . . . . . Yes No N/A
Are field split RPD values acceptable? . . . . . Yes No N/A

GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

Comments:

7. ANALYTE QUANTITATION

Was analyte quantitation performed properly? . . . . . Yes No N/A

Comments:

8. REPORTED RESULTS AND DETECTION LIMITS

Are results reported for all requested analyses? . . . . . Yes No N/A

Are results supported in the raw data? . . . . . Yes No N/A

Are results calculated properly? . . . . . Yes No N/A

Do results meet the CRDLs? . . . . . Yes No N/A

Comments:

HOLDING TIME SUMMARY

SDG: W0031	VALIDATOR: RJJ	DATE: 9/15/94	PAGE ____ OF ____
COMMENTS:			

FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
B0BNZ4	pH	4/15/94	—	4/26/94	—	24 hrs	J
B0BP22		4/13/94	—	4/26/94	—		
B0BNZ2		4/15/94	—	4/26/94	—		
B0BP18		4/17/94	—	4/26/94	—		
B0BP16		4/19/94	—	4/26/94	—		
B0BP24		4/19/94	—	4/26/94	—		
B0BP14		4/19/94	—	4/26/94	—		
B0BNY2		4/21/94	—	4/26/94	—		
B0BNX6		4/13/94	—	6/22/94	—		
B0BNY0		4/13/94	—	7/19/94	—		
B0BNX2		4/12/94	—	7/19/94	—		

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RECORD COPY

Date: September 19, 1994
To: Westinghouse Hanford Company (technical representative)
From: A.T. Kearney, Inc.
Subject: Inorganics - Data Package No. W0031-ITC-041 (SDG No. W0031)

INTRODUCTION

This memo presents the results of data validation on Data Package No. W0031-ITC-041 prepared by the International Technology Corporation (ITC) laboratory. A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation Level	Analysis
B0BNX2	04/12/94	Water	D	See Note 1
B0BNX3	04/12/94	Water (Filtered)	D	See Note 2
B0BNX6	04/13/94	Water	D	See Note 1
B0BNX7	04/13/94	Water (Filtered)	D	See Note 2
B0BNX8	04/13/94	Water	D	See Note 1
B0BNX9	04/13/94	Water (Filtered)	D	See Note 2
B0BNY0	04/13/94	Water	D	See Note 1
B0BNY1	04/13/94	Water (Filtered)	D	See Note 2
B0BNZ2	04/15/94	Water	D	See Note 1
B0BNZ3	04/15/94	Water (Filtered)	D	See Note 2
B0BNZ4	04/15/94	Water	D	See Note 1
B0BNZ5	04/15/94	Water (Filtered)	D	See Note 2
B0BP14	04/19/94	Water	D	See Note 1
B0BP15	04/19/94	Water (Filtered)	D	See Note 2
B0BP16	04/19/94	Water	D	See Note 1
B0BP17	04/19/94	Water (Filtered)	D	See Note 2
B0BP18	04/19/94	Water	D	See Note 1
B0BP19	04/19/94	Water (Filtered)	D	See Note 2
B0BP22	04/15/94	Water	D	See Note 1
B0BP23	04/15/94	Water (Filtered)	D	See Note 2

Sample ID	Sample Date	Media	Validation Level	Analysis
B0BP24	04/19/94	Water	D	See Note 1
B0BP25	04/19/94	Water (Filtered)	D	See Note 2

Note 1. Requested Method: CLP-ICP Metals/AA Metals: Hg (unfiltered)
Note 2. Requested Method: CLP-ICP Metals/AA Metals: Hg (filtered)

Data validation was conducted in accordance with the WHC statement of work (WHC 1994) and validation procedures (WHC 1993). Appendices 1 through 5 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualifications
Appendix 3. Qualified Data Summary and Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation

DATA QUALITY OBJECTIVES

This section presents a summary of the data quality in terms of the referenced validation criteria.

- **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, and within six months for all other metals.

  All holding time requirements for all analytes in the data package were met.

- **Blanks**

  Positive Blanks

  In the case of positive blank results, 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 and

flagged "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, sample numbers B0BNX2, B0BNX3, B0BNZ7, B0BNY0, B0BNY1, B0BNZ2, B0BNZ3, B0BNZ4, B0BNZ5, B0BP22 and B0BP23 in SDG No. W0031 were flagged "U" for aluminum.

Due to the presence of laboratory blank contamination, sample numbers B0BNZ4, B0BNZ5 and B0BP22 in SDG No. W0031 were flagged "U" for iron.

Due to the presence of laboratory blank contamination, sample numbers B0BNZ4 and B0BP23 in SDG No. W0031 were flagged "U" for lead.

Due to the presence of laboratory blank contamination, sample numbers B0BNZ4 and B0BP22 in SDG No. W0031 were flagged "U" for manganese.

Due to the presence of laboratory blank contamination, sample numbers B0BP16, B0BP17 and B0BP25 in SDG No. W0031 were flagged "U" for potassium.

Due to the presence of laboratory blank contamination, sample number B0BNZ3 in SDG No. W0031 was flagged "U" for zinc.

Negative Blanks

In the case of negative blank results, if the absolute value of any calibration blank exceeds the Instrument Detection Limit (IDL), all non-detects are qualified as estimates and flagged "J", and all positive results within two times the absolute value of the blank result are qualified as estimates and flagged "J". In the case of preparation blanks, if the absolute value exceeds the Contract Required Detection Limit (CRDL), all non-detects are rejected and flagged "R" and all detects that are less than ten times the absolute value of the preparation blank result are qualified as estimates and flagged "J".

Due to the presence of negative laboratory contamination, sample numbers B0BP18, B0BP19 and B0BP24 in SDG No. W0031 were flagged "J" for arsenic.

Due to the presence of negative laboratory contamination, sample numbers B0BP17 and B0BP25 in SDG No. W0031 were flagged "UJ" for arsenic.

Due to the presence of negative laboratory contamination, sample numbers B0BP14, B0BP15, B0BP16 and B0BP18 in SDG No. W0031 were flagged "BJ" for arsenic.

Due to the presence of negative laboratory contamination, sample number B0BNZ3 in SDG No. W0031 was flagged "UJ" for silver.

All other laboratory blank results were acceptable.

- **Accuracy**

Matrix Spike

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 all associated results were flagged "UJ" for lead in samples numbers B0BNX2, B0BNX3, B0BNX6, B0BNX7, B0BNY0, B0BNY1, B0BNZ2, B0BNZ4, B0BP16, B0BP18, B0BP22 and B0BP24 in SDG No. W0031.

The matrix spike recovery fell outside the QC limits and all associated results were flagged "J" for lead in samples numbers B0BNX8 and B0BP14 in SDG No. W0031.

All other matrix spike recovery results were acceptable.

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 LCS results were found to be acceptable.

- **Precision**

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 results fell outside the QC limits and all associated results were flagged "J" for calcium in sample numbers B0BNX9, B0BNZ3, B0BNZ5, B0BP15, B0BP17, B0BP19, B0BP23 and B0BP25 in SDG No. W0031.

All other laboratory duplicate recovery results were acceptable.

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 $\geq$50 times the IDL for an analyte and the %D is outside the control limits the associated data must be qualified as estimated "J".

All ICP serial dilution results were acceptable.

Field Duplicate Samples

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

Set 1:

Sample No.	Duplicate Sample No.	Well Location
B0BNZ4	B0BP22	1-B5-1
B0BNZ5	B0BP23	1-B5-1

Set 2:

Sample No.	Duplicate Sample No.	Well Location
B0BP18	B0BP24	6-72-73
B0BP19	B0BP25	6-72-73

The duplicate sample results were compared using the sample guidelines for determining the RPD between a sample and its duplicate. The following field duplicate pair results fell outside the QC limits, B0BNZ5/B0BP23 (more than +/- 1XCRDL), B0BP18/B0BP24 RPDs for calcium (24.7%), magnesium (24.9%), and sodium (24.6%). All other results fell within the required control limit. All results for both well locations appear in the summary tables within this report.

- **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, but no judgement on the data was made.

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

Total	Filtered
B0BNX2	B0BNX3
B0BNX6	B0BNX7
B0BNX8	B0BNX9
B0BNY0	B0BNY1
B0BNZ2	B0BNZ3
B0BNZ4	B0BNZ5
B0BP14	B0BP15
B0BP16	B0BP17
B0BP18	B0BP19
B0BP22	B0BP23
B0BP24	B0BP25

- **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.

Duplicate Injections

Each furnace analysis requires a minimum of two injections (burns), except for full MSA. For concentrations greater than CRDL, the duplicate injection readings must agree within 20% RSD or 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.

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 <10 percent, non-detect results were rejected and flagged "UR".

The analytical spike recovery fell outside the established QC limits and the associated results were flagged "UJ" for arsenic in sample number B0BP17 in SDG No. W0031.

The analytical spike recovery fell outside the established QC limits and the associated results were flagged "UJ" for lead in sample numbers B0BNX6, B0BNX7, B0BNY0, B0BNZ2, B0BNZ3, B0BNZ4, B0BNZ5 and B0BP23 in SDG No. W0031.

All other analytical spike recovery results were acceptable.

- **Sample Result Verification 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.

The reviewer verified that the results and detection limits fell within the linear range of the instrument. All sample results and reported detection limits were acceptable.

- **Completeness**

Data Package No. W0031-ITC-041 was submitted for validation and verified for completeness.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

Positive and negative blank contamination was noted in several samples. Associated sample results were flagged accordingly. Contamination, however, was not sufficiently high to affect the usability of the data. Minor matrix spike, analytical spike and laboratory duplicate problems were noted for several samples. All results were flagged accordingly. Data flagged "J" are usable for limited purposes only. Except as noted in the preceding sections, all other validated data are usable for all purposes.

REFERENCES

EPA, 1987, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, Environmental Protection Agency, Washington, D.C.

EPA, 1988c, *EPA Contract Laboratory Program Statement of Work for Inorganics Analyses, Multi-Media, Multi-Concentration*, U.S. Environmental Protection Agency, Washington, D.C.

EPA, 1988d, *Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses*, U.S. Environmental Protection Agency, Washington, D.C.

EPA, 1990, *EPA Contract Laboratory Program Statement of Work for Inorganic Analyses, Multi-media, Multi-Concentration*, U.S. Environmental Protection Agency, Washington, D.C.

WHC, 1992a, *Data Validation Procedures for Chemical Analyses*, WHC-SD-EN-SPP-002, Rev. 2, Westinghouse Hanford Company, October 1993.

9613476.0428

Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers which may be applied by data validators in compliance with the procedures herein are as follows:

U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the same quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

J - Indicates the compound or analyte was analyzed for and detected. The associated concentration is an estimate, but the data are usable for decision-making purposes.

BJ - Applied to inorganic analyses only. Indicates the analyte concentration was greater than the IDL but less than the CRDL and is considered an estimated value.

R - Indicates the compound or analyte was analyzed for, detected, and due to an identified QC deficiency, the data are unusable.

UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified QC deficiency.

JN - Indicates a tentatively identified compound (TIC) that has been determined to be valid in terms of identification and quantitation.

UJN - Indicates a tentatively identified compound (TIC) that has been determined to be presumptive and valid (JN) in terms of identification and quantitation and has been qualified as undetected (U) due to associated blank contamination.

NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications usable for decision-making purposes).

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Appendix 2

Summary of Data Qualification

DATA QUALIFICATION SUMMARY

SDG: W0031	REVIEWER: RJS	DATE: 7/28/94	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Aluminum	U	B0BNX2, B0BNX3, B0BNZ7, B0BNY0, B0BNY1, B0BNZ2, B0BNZ3, B0BNZ4, B0BNZ5, B0BP22, B0BP23	Lab Blank Contamination
Iron	U	B0BNZ4, B0BNZ5, B0BP22	Lab Blank Contamination
Lead	U	B0BNZ4, B0BP23	Lab Blank Contamination
Manganese	U	B0BNZ4, B0BP22	Lab Blank Contamination
Potassium	U	B0BP16, B0BP17, B0BP25	Lab Blank Contamination
Zinc	U	B0BNZ3	Lab Blank Contamination
Arsenic	J	B0BP18, B0BP19, B0BP24	Negative Blank Contamination
Arsenic	UJ	B0BP17, B0BP25	Negative Blank Contamination
Arsenic	BJ	B0BP14, B0BP15, B0BP16, B0BP18	Negative Blank Contamination
Silver	UJ	B0BNZ3	Negative Blank Contamination
Arsenic	UJ	B0BP17	GFAA Analytical Spike
Lead	UJ	B0BNX6, B0BNX7, B0BNY0, B0BNZ2, B0BNZ3, B0BNZ4, B0BNZ5, B0BP23	GFAA Analytical Spike
Thallium	UJ	B0BNX2	GFAA Analytical Spike
Lead	UJ	B0BNX2, B0BNX3, B0BNX6, B0BNX7, B0BNY0, B0BNY1, B0BNZ2, B0BNZ4, B0BP16, B0BP18, B0BP22, B0BP24	Matrix Spike
Lead	J	B0BNX8, B0BP14	Matrix Spike
Calcium	J	B0BNX9, B0BNZ3, B0BNZ5, B0BP15, B0BP17, B0BP19, B0BP23, B0BP25	Lab Duplicate

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Appendix 3

Qualified Data Summary and Annotated Laboratory Reports

INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: IT																					
Case	SDG: W0031																				
Sample Number		B0BNX2		B0BNX3		B0BNX6		B0BNX7		B0BNX8		B0BNX9		B0BNY0		B0BNY1		B0BNZ2		B0BNZ3	
Location		1-B2-12		1-B2-12		1-B3-1		1-B3-1		1-B3-46		1-B3-46		1-B3-47		1-B3-47		1-B4-9		1-B4-9	
Remarks				FIL				FIL				FIL				FIL				FIL	
Sample Date		04/12/94		04/12/94		04/13/94		04/13/94		04/13/94		04/13/94		04/13/94		04/13/94		04/15/94		04/15/94	
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	67.3	U	52.5	U	518		139	U	40.0	U	40.0	U	86.7	U	214	U	140	U	80.8	U
Antimony	60	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Arsenic	10	2.4	B	2.1	B	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	B	2.5	B
Barium	200	53.1	B	62.7	B	32.3	B	38.6	B	38.6	B	29.3	B	31.8	B	27.0	B	79.0	B	31.6	B
Beryllium	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	2.0	B	1.0	U
Cadmium	5	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Calcium	5000	24900		27300		54000		64100		53600		39200	J	55800		47200		49100		52300	J
Chromium	10	10.9		10.0	U	358		64.8		11.1		10.0	U	46.6		40.6		27.4		15.1	
Cobalt	50	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	16.6	B	10.0	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	10.0	U	10.0	U
Iron	100	42.8	B	17.3	B	1130		174		59.3	B	11.0	B	61.2	B	38.2	B	79.4	B	20.7	B
Lead	3	2.0	UJ	2.0	UJ	2.0	UJ	2.0	UJ	4.0	J	2.0	U	5.1	UJ	2.0	UJ	2.0	UJ	2.0	UJ
Magnesium	5000	8460		9730		8710		10500		7290		5260		8320		7050		7640		8080	
Manganese	15	14.2		19.4		26.1		4.3	B	2.0	U	2.0	U	2.2	B	2.0	B	13.4	B	2.0	U
Mercury	0.2	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	40	20.0	U	20.0	U	122		20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	22.0	B	20.0	U
Potassium	5000	4780	B	5360		1920	B	2330	B	2590	B	1860	B	1250	B	1650	B	4570	B	4870	B
Selenium	5	2.0	U	2.0	U	2.9	B	2.0	U	2.0	U	2.2	B	2.0	U	2.0	U	2.2	B	2.6	B
Silver	10	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Sodium	5000	12100		13400		11000		13200		15200		11300		10800		9060		10800		11900	UJ
Thallium	10	2.0	U	2.0	B	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Vanadium	50	30.3	B	36.3	B	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	18.5	B	10.0	U
Zinc	20	11.8	B	9.1	B	12.9	B	10.1	B	6.9	B	5.0	U	10.5	B	13.3	B	23.8		10.6	U
Cyanide	10	NA		N/A		NA		N/A		NA		N/A		NA		N/A		NA		N/A	

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

9613476.0433

INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: IT																					
Case	SDG: WOO31																				
Sample Number		B0BNZ4		B0BNZ5		B0BP14		B0BP15		B0BP16		B0BP17		B0BP18		B0BP19		B0BP22		B0BP23	
Location		1-B5-1		1-B5-1		6-67-86		6-67-86		6-71-77		6-71-77		6-72-73		6-72-73		1-B5-1		1-B5-1	
Remarks				FIL				FIL				FIL				FIL				FIL	
Sample Date		04/15/94		04/15/94		04/19/94		04/19/94		04/19/94		04/19/94		04/19/94		04/19/94		04/15/94		04/15/94	
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	84.3	U	82.9	U	40.0	U	40.0	U	40.0	U	40.0	U	40.0	U	40.0	U	73.8	U	80.0	U
Antimony	60	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Arsenic	10	2.1	B	2.0	U	2.0	BJ	2.1	BJ	2.1	BJ	2.0	UJ	4.0	BJ	2.4	BJ	2.0	U	2.5	B
Barium	200	29.7	B	21.5	B	11.0	B	15.0	B	59.0	B	55.6	B	21.2	B	17.7	B	23.8	B	19.4	B
Beryllium	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	B
Cadmium	5	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Calcium	5000	36700		34100	J	27100		34600	J	31300		29500	J	34600		29900	J	36600		29400	J
Chromium	10	18.4		13.6		13.8		17.1		10.0	U	10.0	U	10.0	U	10.0	U	14.1		11.8	
Cobalt	50	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	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	10.0	U	10.0	U
Iron	100	46.6	U	23.9	U	76.4	B	10.1	B	21.6	B	10.0	U	71.1	B	56.7	B	33.1	U	27.3	B
Lead	3	5.6	UJ	2.0	UJ	3.0	J	3.6		2.0	UJ	2.3	B	2.0	UJ	2.0	U	2.0	UJ	2.3	UJ
Magnesium	5000	6770		6260		7530		9630		9710		9280		9170		7950		6740		5440	
Manganese	15	2.4	U	2.0	U	2.5	B	2.2	B	2.0	U	2.0	U	2.8	B	2.3	B	2.0	U	2.1	B
Mercury	0.2	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	40	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U
Potassium	5000	4180	B	4500	B	5390		6150		6020		5140	U	5760		5320		4390	B	3670	B
Selenium	5	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Silver	10	5.0	U	5.0	U	5.0	U	5.0	U	5.1	B	5.0	U	5.3	B	5.0	U	5.0	U	5.0	U
Sodium	5000	9660		8990		11900		15400		14900		14000		13700		11900		9460		8110	
Thallium	10	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	B
Vanadium	50	10.0	U	10.0	U	17.2	B	19.7	B	25.2	B	21.6	B	16.1	B	13.0	B	10.0	U	10.0	U
Zinc	20	15.6	B	75.3		22.8		35.1		52.1		5.0	U	6.9	B	20.9		14.7	B	13.6	B
Cyanide	10	NA		N/A		NA		N/A		NA		N/A		NA		N/A		NA		N/A	

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

9613476.0434

INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: IT																					
Case	SDG: W0031																				
Sample Number		B0BP24		B0BP25																	
Location		6-72-73		6-72-73																	
Remarks		DUP		DUP,FIL																	
Sample Date		04/19/94		04/19/94																	
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	40.0	U	40.0	U																
Antimony	60	50.0	U	50.0	U																
Arsenic	10	2.5	BJ	2.0	UJ																
Barium	200	16.1	B	17.9	B																
Beryllium	5	1.0	U	1.0	U																
Cadmium	5	5.0	U	5.0	U																
Calcium	5000	27000		26500	J																
Chromium	10	10.0	U	10.0	U																
Cobalt	50	10.0	U	10.0	U																
Copper	25	10.0	U	10.0	U																
Iron	100	42.0	B	13.2	B																
Lead	3	2.0	UJ	2.0	U																
Magnesium	5000	7140		7030																	
Manganese	15	2.0	U	2.0	U																
Mercury	0.2	0.20	U	0.20	U																
Nickel	40	20.0	U	20.0	U																
Potassium	5000	4380	B	4830	U																
Selenium	5	2.0	U	2.0	U																
Silver	10	5.0	U	5.0	U																
Sodium	5000	10700		10600																	
Thallium	10	2.0	U	2.0	U																
Vanadium	50	10.6	B	11.8	B																
Zinc	20	20.4		18.1	B																
Cyanide	10	NA		N/A																	

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

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9613476.0436

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNX2

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: WO363 SAS No.: SDG No.: W0031
Matrix (soil/water): WATER Lab Sample ID: AA6516
Level (low/med): LOW Date Received: 04/15/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	67.3	~~B~~		P	U
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.4	B		F	
7440-39-3	Barium	53.1	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	24900			P	
7440-47-3	Chromium	10.9			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	42.8	B		P	
7439-92-1	Lead	2.0	~~B~~	~~WN~~	F	UJ
7439-95-4	Magnesium	8460			P	
7439-96-5	Manganese	14.2	B		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	4780	B		P	
7782-49-2	Selenium	2.0	U		F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	12100			P	
7440-28-0	Thallium	2.0	~~B~~	~~W~~	F	UJ
7440-62-2	Vanadium	30.3	B		P	
7440-66-6	Zinc	11.8	B		P	

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

RJS 9/14/94

FORM I - IN

ILM02.1
6/2/94

9613476.0437

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNX3

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: WO363 SAS No.: _____ SDG No.: W0031_

Matrix (soil/water): WATER Lab Sample ID: AA6518

Level (low/med): LOW__ Date Received: 04/15/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	52.5	~~B~~		P_	U
7440-36-0	Antimony_	50.0	U		P_	
7440-38-2	Arsenic__	2.1	B		F_	
7440-39-3	Barium___	62.7	B		P_	
7440-41-7	Beryllium	1.0	U		P_	
7440-43-9	Cadmium__	5.0	U		P_	
7440-70-2	Calcium__	27300			P_	
7440-47-3	Chromium_	10.0	U		P_	
7440-48-4	Cobalt___	10.0	U		P_	
7440-50-8	Copper___	10.0	U		P_	
7439-89-6	Iron____	17.3	B		P_	
7439-92-1	Lead____	2.0	~~U~~	~~WN~~	F_	UJ
7439-95-4	Magnesium	9730			P_	
7439-96-5	Manganese	19.4			P_	
7439-97-6	Mercury__	0.20	U		CV	
7440-02-0	Nickel___	20.0	U		P_	
7440-09-7	Potassium	5360			P_	
7782-49-2	Selenium_	2.0	U		F_	
7440-22-4	Silver___	5.0	U		P_	
7440-23-5	Sodium___	13400			P_	
7440-28-0	Thallium_	2.0	B		F_	
7440-62-2	Vanadium_	36.3	B		P_	
7440-66-6	Zinc____	9.1	B		P_	

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

RJS 9/14/94

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNX6

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0363 SAS No.: SDG No.: W0031

Matrix (soil/water): WATER Lab Sample ID: AA6510

Level (low/med): LOW Date Received: 04/15/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	518			P	
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	U		F	
7440-39-3	Barium	32.3	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	54000			P	
7440-47-3	Chromium	358			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	1130			P	
7439-92-1	Lead	2.0	~~U~~	~~WN~~	F	UJ
7439-95-4	Magnesium	8710			P	
7439-96-5	Manganese	26.1			P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	122			P	
7440-09-7	Potassium	1920	B		P	
7782-49-2	Selenium	2.9	B		F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	11000			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	12.9	B		P	

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

RJS 9/14/94

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNX7

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: WO363 SAS No.: SDG No.: W0031
Matrix (soil/water): WATER Lab Sample ID: AA6512
Level (low/med): LOW Date Received: 04/15/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	139	B		P	U
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	U		F	
7440-39-3	Barium	38.6	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	64100			P	
7440-47-3	Chromium	64.8			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	174			P	
7439-92-1	Lead	2.0	U	WN	F	UJ
7439-95-4	Magnesium	10500			P	
7439-96-5	Manganese	4.3	B		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	2330	B		P	
7782-49-2	Selenium	2.0	U	W	F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	13200			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	10.1	B		P	

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNYO

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: WO363 SAS No.: _____ SDG No.: W0031_

Matrix (soil/water): WATER Lab Sample ID: AA6513

Level (low/med): LOW__ Date Received: 04/15/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	86.7	B		P	U
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	U		F	
7440-39-3	Barium	31.8	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	55800			P	
7440-47-3	Chromium	46.6			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	61.2	B		P	
7439-92-1	Lead	5.1		WN	F	UJ
7439-95-4	Magnesium	8320			P	
7439-96-5	Manganese	2.2	B		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	1250	B		P	
7782-49-2	Selenium	2.0	U	W	F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	10800			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	10.5	B		P	

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP14

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: WO420 SAS No.: SDG No.: W0031
Matrix (soil/water): WATER Lab Sample ID: AA7324
Level (low/med): LOW Date Received: 04/22/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	40.0	U		P	
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	~~B~~		F	BJ
7440-39-3	Barium	11.0	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	27100			P	
7440-47-3	Chromium	13.8			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	76.4	B		P	
7439-92-1	Lead	3.0		N	F	J
7439-95-4	Magnesium	7530			P	
7439-96-5	Manganese	2.5	B		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	5390			P	
7782-49-2	Selenium	2.0	U	N	F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	11900			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	17.2	B		P	
7440-66-6	Zinc	22.8			P	

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP15

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: WO420 SAS No.: _____ SDG No.: W0031_

Matrix (soil/water): WATER Lab Sample ID: AA7326

Level (low/med): LOW__ Date Received: 04/22/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	40.0	U		P_	
7440-36-0	Antimony_	50.0	U		P_	
7440-38-2	Arsenic__	2.1	~~B~~		F_	BJ
7440-39-3	Barium__	15.0	B		P_	
7440-41-7	Beryllium	1.0	U		P_	
7440-43-9	Cadmium__	5.0	U		P_	
7440-70-2	Calcium__	34600			P_	J
7440-47-3	Chromium_	17.1			P_	
7440-48-4	Cobalt___	10.0	U		P_	
7440-50-8	Copper___	10.0	U		P_	
7439-89-6	Iron____	10.1	B		P_	
7439-92-1	Lead____	3.6			F_	
7439-95-4	Magnesium	9630			P_	
7439-96-5	Manganese	2.2	B		P_	
7439-97-6	Mercury__	0.20	U		CV	
7440-02-0	Nickel___	20.0	U		P_	
7440-09-7	Potassium	6150			P_	
7782-49-2	Selenium_	2.0	U		F_	
7440-22-4	Silver___	5.0	U		P_	
7440-23-5	Sodium___	15400			P_	
7440-28-0	Thallium_	2.0	U		F_	
7440-62-2	Vanadium_	19.7	B		P_	
7440-66-6	Zinc____	35.1			P_	

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP16

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: WO420 SAS No.: SDG No.: W0031

Matrix (soil/water): WATER Lab Sample ID: AA7330

Level (low/med): LOW Date Received: 04/22/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	40.0	U		P	
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.1	~~B~~		F	BJ
7440-39-3	Barium	59.0	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	31300			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	21.6	B		P	
7439-92-1	Lead	2.0	~~U~~	N	F	UJ
7439-95-4	Magnesium	9710			P	
7439-96-5	Manganese	2.0	U		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	6020			P	4
7782-49-2	Selenium	2.0	U		F	
7440-22-4	Silver	5.1	B		P	
7440-23-5	Sodium	14900			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	25.2	B		P	
7440-66-6	Zinc	52.1			P	

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLOLRESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP17

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: W0420 SAS No.: _____ SDG No.: W0031_

Matrix (soil/water): WATER Lab Sample ID: AA7332

Level (low/med): LOW__ Date Received: 04/22/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	40.0	U		P	
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	~~U~~	W	F	UJ
7440-39-3	Barium	55.6	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	29500	/	+	P	J
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	10.0	U		P	
7439-92-1	Lead	2.3	B		F	
7439-95-4	Magnesium	9280			P	
7439-96-5	Manganese	2.0	U		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	5140	/		P	J
7782-49-2	Selenium	2.0	U		F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	14000			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	21.6	B		P	
7440-66-6	Zinc	5.0	U		P	

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNZ2

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: WO386 SAS No.: SDG No.: W0031
Matrix (soil/water): WATER Lab Sample ID: AA6879
Level (low/med): LOW Date Received: 04/19/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	140	B		P	U
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	B		F	
7440-39-3	Barium	79.0	B		P	
7440-41-7	Beryllium	2.0	B		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	49100			P	
7440-47-3	Chromium	27.4			P	
7440-48-4	Cobalt	16.6	B		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	79.4	B		P	
7439-92-1	Lead	2.0	B	WN	F	UJ
7439-95-4	Magnesium	7640			P	
7439-96-5	Manganese	13.4	B		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	22.0	B		P	
7440-09-7	Potassium	4570	B		P	
7782-49-2	Selenium	2.2	B		F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	10800			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	18.5	B		P	
7440-66-6	Zinc	23.8			P	

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNZ3

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0386 SAS No.: SDG No.: W0031

Matrix (soil/water): WATER Lab Sample ID: AA7103

Level (low/med): LOW Date Received: 04/19/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	80.8	~~B~~		P	U
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.5	B		F	
7440-39-3	Barium	31.6	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	52300			P	J
7440-47-3	Chromium	15.1			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	20.7	B		P	
7439-92-1	Lead	2.0	~~B~~	W	F	UJ
7439-95-4	Magnesium	8080			P	
7439-96-5	Manganese	2.0	U		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	4870	B		P	
7782-49-2	Selenium	2.6	B		F	
7440-22-4	Silver	5.0	~~B~~		P	UJ
7440-23-5	Sodium	11900			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	10.6	~~B~~		P	U

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNX8

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0383 SAS No.: SDG No.: W0031
Matrix (soil/water): WATER Lab Sample ID: AA6808
Level (low/med): LOW Date Received: 04/16/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	38.6	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	53600			P
7440-47-3	Chromium	11.1			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	59.3	B		P
7439-92-1	Lead	4.0		N	F J
7439-95-4	Magnesium	7290			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	2590	B		P
7782-49-2	Selenium	2.0	U	N	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	15200			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	6.9	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNX9

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: WO383 SAS No.: SDG No.: W0031

Matrix (soil/water): WATER Lab Sample ID: AA6810

Level (low/med): LOW Date Received: 04/16/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	29.3	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	39200		*	P J
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	11.0	B		P
7439-92-1	Lead	2.0	U		F
7439-95-4	Magnesium	5260			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	1860	B		P
7782-49-2	Selenium	2.2	B		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	11300			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	5.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNY1

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0363 SAS No.: SDG No.: W0031

Matrix (soil/water): WATER Lab Sample ID: AA6515

Level (low/med): LOW Date Received: 04/15/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	214			P	U
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	U		F	
7440-39-3	Barium	27.0	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	47200			P	
7440-47-3	Chromium	40.6			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	38.2	B		P	
7439-92-1	Lead	2.0	U	WN	F	UJ
7439-95-4	Magnesium	7050			P	
7439-96-5	Manganese	2.0	B		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	1650	B		P	
7782-49-2	Selenium	2.0	U	N	F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	9060			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	13.3	B		P	

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP25

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: WO420 SAS No.: SDG No.: W0031

Matrix (soil/water): WATER Lab Sample ID: AA7329

Level (low/med): LOW Date Received: 04/22/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

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CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	40.0	U		P	
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	~~U~~		F	UJ
7440-39-3	Barium	17.9	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	26500		*	P	J
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	13.2	B		P	
7439-92-1	Lead	2.0	U		F	
7439-95-4	Magnesium	7030			P	
7439-96-5	Manganese	2.0	U		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	4830	~~B~~		P	U
7782-49-2	Selenium	2.0	U		F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	10600			P	
7440-28-0	Thallium	2.0	U	W	F	
7440-62-2	Vanadium	11.8	B		P	
7440-66-6	Zinc	18.1	B		P	

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNZ5

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: W0386 SAS No.: _____ SDG No.: W0031_

Matrix (soil/water): WATER Lab Sample ID: AA7105

Level (low/med): LOW__ Date Received: 04/19/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	82.9	~~B~~		P	U
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	U		F	
7440-39-3	Barium	21.5	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	34100			P	J
7440-47-3	Chromium	13.6			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	23.9	~~B~~		P	U
7439-92-1	Lead	2.0	~~U~~	W	F	UJ
7439-95-4	Magnesium	6260			P	
7439-96-5	Manganese	2.0	U		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	4500	B		P	
7782-49-2	Selenium	2.0	U	W	F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	8990			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	75.3			P	

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

~~B0BNP23~~ B0BP2 es 9/15/94

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0386 SAS No.: SDG No.: W0031

Matrix (soil/water): WATER Lab Sample ID: AA7106

Level (low/med): LOW Date Received: 04/19/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	80.0	~~B~~		P	U
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.5	B		F	
7440-39-3	Barium	19.4	B		P	
7440-41-7	Beryllium	1.0	B		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	29400		J	P	J
7440-47-3	Chromium	11.8			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	27.3	B		P	
7439-92-1	Lead	2.3	~~B~~	W	F	UJ
7439-95-4	Magnesium	5440			P	
7439-96-5	Manganese	2.1	B		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	3670	B		P	
7782-49-2	Selenium	2.0	U	W	F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	8110			P	
7440-28-0	Thallium	2.0	B		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	13.6	B		P	

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Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

~~BOBNP22~~ BOBP22

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0386 SAS No.: SDG No.: W0031

Matrix (soil/water): WATER Lab Sample ID: AA7101

Level (low/med): LOW Date Received: 04/19/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	73.8	~~B~~		P	U
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	U		F	
7440-39-3	Barium	23.8	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	36600			P	
7440-47-3	Chromium	14.1			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	33.1	~~B~~		P	U
7439-92-1	Lead	2.0	~~U~~	~~WN~~	F	UJ
7439-95-4	Magnesium	6740			P	
7439-96-5	Manganese	2.0	~~B~~		P	U
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	4390	B		P	
7782-49-2	Selenium	2.0	U	W	F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	9460			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	14.7	B		P	

Total

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP19

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: WO420 SAS No.: SDG No.: W0031

Matrix (soil/water): WATER Lab Sample ID: AA7316

Level (low/med): LOW Date Received: 04/22/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.4	B		F
7440-39-3	Barium	17.7	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	29900			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	56.7	B		P
7439-92-1	Lead	2.0	U		F
7439-95-4	Magnesium	7950			P
7439-96-5	Manganese	2.3	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	5320			P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	11900			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	13.0	B		P
7440-66-6	Zinc	20.9			P

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Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP24

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: WO420 SAS No.: _____ SDG No.: W0031_

Matrix (soil/water): WATER Lab Sample ID: AA7327

Level (low/med): LOW__ Date Received: 04/22/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	40.0	U		P_
7440-36-0	Antimony_	50.0	U		P_
7440-38-2	Arsenic__	2.5	~~B~~		F_ J BJ
7440-39-3	Barium___	16.1	B		P_
7440-41-7	Beryllium	1.0	U		P_
7440-43-9	Cadmium__	5.0	U		P_
7440-70-2	Calcium__	27000			P_
7440-47-3	Chromium_	10.0	U		P_
7440-48-4	Cobalt___	10.0	U		P_
7440-50-8	Copper___	10.0	U		P_
7439-89-6	Iron_____	42.0	B		P_
7439-92-1	Lead_____	2.0	~~U~~	N	F_ NJ
7439-95-4	Magnesium	7140			P_
7439-96-5	Manganese	2.0	U		P_
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___	20.0	U		P_
7440-09-7	Potassium	4380	B		P_
7782-49-2	Selenium_	2.0	U		F_
7440-22-4	Silver___	5.0	U		P_
7440-23-5	Sodium___	10700			P_
7440-28-0	Thallium_	2.0	U		F_
7440-62-2	Vanadium_	10.6	B		P_
7440-66-6	Zinc_____	20.4			P_

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Total

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP18

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: WO420 SAS No.: _____ SDG No.: W0031_

Matrix (soil/water): WATER Lab Sample ID: AA7311

Level (low/med): LOW__ Date Received: 04/22/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	4.0	~~B~~		F ~~J~~ BJ RS 9/20/94
7440-39-3	Barium	21.2	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	34600			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	71.1	B		P
7439-92-1	Lead	2.0	~~B~~	~~N~~	F NJ
7439-95-4	Magnesium	9170			P
7439-96-5	Manganese	2.8	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	5760			P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	5.3	B		P
7440-23-5	Sodium	13700			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	16.1	B		P
7440-66-6	Zinc	6.9	B		P

Total

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNZ4

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0386 SAS No.: SDG No.: W0031
Matrix (soil/water): WATER Lab Sample ID: AA7099
Level (low/med): LOW Date Received: 04/19/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	84.3	B		P	U
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.1	B		F	
7440-39-3	Barium	29.7	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	36700			P	
7440-47-3	Chromium	18.4			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	46.6	B		P	U
7439-92-1	Lead	5.6		W N	F	UJ
7439-95-4	Magnesium	6770			P	
7439-96-5	Manganese	2.4	B		P	U
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	4180	B		P	
7782-49-2	Selenium	2.0	U	W	F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	9660			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	15.6	B		P	

Total

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

9613476.0459

INTERNATIONAL TECHNOLOGY CORPORATION

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

Dear J.A. Lerch

Thank you for purchasing analytical testing services from IT Corporation. It is our intention to supply our clients with data packages which not only meet the industry's highest standards for quality, but are also easy to use. Features which we point out are:

1. A Data Summary Packet which allows you to review your data without searching through the complete data package.

   Your Data Summary Packet contains the following items:

   - Case Narrative: listing of sample identifications, analyses performed, explanation of any problem associated with samples, corrective action taken.
   - Quality control sample identifications and analyses performed.
   - Data summary.

2. A data package which meets the specific requirements you requested and is easy to use as well. The package is organized in accordance with the Table of Contents which you will find at the beginning of each section. Sections are separated by color-coded tabs, making it easy to find individual analytical parameters which may be of particular interest to you. The data package is custody-sealed at the laboratory - your assurance that parts of the package are not missing.

We are constantly searching for ways to improve our service to you. This current product has many of the features which you have told us are important to you. Your suggestions regarding additional improvements will be appreciated.

Please contact me with any questions or suggestions.

Sincerely,

Sheree Schneider

Sheree' Schneider
Project Manager

Regional Office
5815 Middlebrook Pike • Knoxville, Tennessee 37921 • 615-588-6401

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Analytical Data Package Prepared for

WESTINGHOUSE HANFORD

JUN 1994
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Chemical Analysis By

IT Analytical Services
Middlebrook Laboratory

Sample Delivery Group Number: W0031

WHC IDENTIFICATION NUMBER	ITAS RICHLAND ID NUMBER	KNOXVILLE ID NUMBER

* See attached Table I.

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INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT Corporation
2800 George Washington Way
Richland, WA 99352
Attn: Van Pettey

June 6, 1994

Job Number: 363; 383; 386; 420; 426

This is the Certificate of Analysis for the following samples:

SDG:	W0031
Client Project ID:	Westinghouse Hanford
Date Received by Lab:	April 15, April 16, April 19, April 22, and April 25, 1994
Number of Samples:	Twenty-four (24)
Sample Type:	Water

I. Introduction

On April 15, April 16, April 19, April 22 and April 25, 1994, twenty-four (24) water samples arrived at ITAS-Richland, Washington and were transferred to ITAS-Knoxville for chemical analysis. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

II. Analytical Results/Methodology

The analytical results for this report are presented by analytical test. Each set of data will include sample identification information and the analytical results.

The samples were analyzed for Target Analyte List (TAL) metals by cold vapor atomic absorption spectroscopy (CVAA), graphite furnace atomic absorption spectroscopy (GFAA), and inductively coupled plasma spectroscopy (ICP) in accordance with the EPA CLP ILM03 Statement of Work.

Reviewed and Approved:

Sheree A. Schneider

Sheree' A. Schneider
Project Manager

III. Quality Control (Continued)

"Q" Qualifiers

* - Duplicate analysis outside control limits.
N - Spiked sample recovery outside control limits.
W - Post-digestion spike for GFAA was out of control limits (85-115%), while sample absorbance was less than 50% of spike absorbance.
S - The reported value was determined by method of standard additions.

"M" Qualifiers

P - Analysis performed by ICP.
V - Analysis performed by CVAA.
F - Analysis performed by GFAA.
C - Cyanide analysis by manual distillation/colorimetric determination.

Miscellaneous

D - Duplicate.
S - Spike.
NR - Not required.
G - Native analyte > 4 times spike added, therefore, acceptance criteria do not apply.
X - Detection limits higher than normal due to sample matrix interferences.

The QC for anions was performed on sample BOBNX8 of work order #383. This sample was moved from SDG W0031 to W0043 after QC was assigned. The analytical results are included in this report.

The QC for pH was performed on sample BOBP10 of work order #427 (SDG W0040). The analytical results are included in this report.

The QC for specific conductance was performed on sample BOBP10 of work order #427 (SDG W0040). The analytical results are included in this report.

III. Quality Control (Continued)

Table I is a cross reference between client sample IDs and laboratory sample IDs.

TABLE I

Knoxville ID	Richland ID	WHC ID	Test
AA6510	W404259-01A	BOBNX6	METALS-T
AA6511	W404259-01B	"	ANIONS
AA6512	W404259-02A	BOBNX7	METALS-T
AA6513	W404259-03A	BOBNY0	"
AA6514	W404259-03B	"	ANIONS
AA6515	W404259-04A	BOBNY1	METALS-T
AA6516	W404259-05A	BOBNX2	"
AA6517	W404259-05B	"	ANIONS
AA6518	W404259-06A	BOBNX3	METALS-T
AA6808	404288-01A	BOBNX8	"
AA6810	404288-02A	BOBNX9	METALS-D
AA6879	W404322-01A	BOBNZ2	METALS-T
AA6880	W404322-01B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7099	W404322-03A	BOBNZ4	METALS-T
AA7100	W404322-03B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY

III. Quality Control (Continued)

Table I is a cross reference between client sample IDs and laboratory sample IDs.

TABLE I

Knoxville ID	Richland ID	WHC ID	Test
AA7101	W404322-05A	BOBNP22	METALS-T
AA7102	W404322-05B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7103	W404322-02A	BOBNZ3	METALS-D
AA7105	W404322-04A	BOBNZ5	"
AA7106	W404320-06A	BOBNP23	"
AA7311	404404-01A	BOBP18	METAL-T
AA7312	404404-01B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7316	404404-02A	BOBP19	METALS-D
AA7324	404404-03A	BOBP14	METALS-T
AA7325	404404-03B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7326	404404-04A	BOBP15	METALS-D
AA7327	404404-05A	BOBP24	METALS-T
AA7328	404404-05B	"	ANIONS

III. Quality Control (Continued)

Table I is a cross reference between client sample IDs and laboratory sample IDs.

TABLE I

Knoxville ID	Richland ID	WHC ID	Test
AA7328	404404-05B	BOBP24	pH
"	"	"	CONDUCTIVITY
AA7329	404404-06A	BOBP25	METALS-D
AA7330	404404-07A	BOBP16	METALS-T
AA7331	404404-07B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7332	404404-08A	BOBP17	METALS-D
AA7372	404429-01B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY

IT Corporation
June 6, 1994

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

Client Project ID: Westinghouse Hanford

Job Number: 363; 383; 386; 420; 426

IV. Certification

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature:

Reviewed and Approved:

Sheree A. Schneider

Sheree' A. Schneider
Project Manager

682-1-89

9613476.0467

WO#363

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
[illegible] George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

Per Shipping Container

Date/Time Received 4/14/94 1130 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) STE Helens

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☐ No ☑
3. Custody Seals dated and signed? Yes ☐ No ☑
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking ____ broken ____ have air bubbles ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):

Chain of Custody #(s) N/A

Request for analysis #(s) N/A

Airbill # N/A Carrier N/A

12. Have any anomalies been identified above? Yes ☑ No ☒ 4/14/94
13. Memos have been initiated for all anomalies identified above? Yes ☑

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/14/94 1130

FORM NO. LS-042, Rev.0, 2/94

9613476.0468

WO #363

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1220 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(Per Shipping Container)

Date/Time Received 4/14/94 1130 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) SML 421

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/14/94 1130

FORM NO. LS-042, Rev.0, 2/94

9613476.0469

WO#363

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
[illegible] George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

Per Shipping Container

Date/Time Received 4/14/94 1130 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) ER-6

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking ____ broken ____ have air bubbles ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 20°C

11. The following paperwork should be accounted for (N/A if not applicable):

Chain of Custody #'(s) N/A

Request for analysis #(s) N/A

Airbill # N/A Carrier N/A

12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/14/94 1130

FORM NO. LS-042, Rev.0, 2.94

9613476.0470

WO#386

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1230 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

* Per Shipping Container

Date/Time Received 4/18/94 1310 Client Name WHC

Project/Client # 94-129 Batch or Case # NA

Cooler ID (if noted on the outside of cooler) SML-118

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s). N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature [illegible] Date/Time 4/18/94 1310

FORM NO. LS-042, Rev.0, 2/94

9613476.0471

WO#386

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1500 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

* Per Shipping Container

Date/Time Received 4/18/94 1370 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) ER-7

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 2 bags
7. Number of sample containers in cooler: 28
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 6°C

11. The following paperwork should be accounted for (N/A if not applicable):

    Chain of Custody #'(s) N/A

    Request for analysis #(s) N/A

    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/18/94 1310

FORM NO. LS-042, Rev.0, 2/94

9613476.0472

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
[illegible] George Washington Way
Richland, Washington 99352

WO 420

SAMPLE CHECK-IN LIST

(Per Shipping Container)

Date/Time Received 4-21-94 1200 Client Name WHC

Project/Client # 94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) EC-5

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 25
8. Samples have: ____ tape ____ hazard labels
   X custody seals X appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 3°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier _____
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature R Bayl R Bayl Date/Time 4-21-94 1210

FORM NO. LS-042, Rev.0, 2/94

9613476.0473

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1835 George Washington Way
Richland, Washington 99352

WO 420

SAMPLE CHECK-IN LIST

(Per Shipping Container)

Date/Time Received 4-21-94 12:20 Client Name LWHC

Project/Client # SAE-94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) SB-9

1. Condition of shipping container? OK.
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 25
8. Samples have: ✓ tape ____ hazard labels
   X custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 16°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier _____
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature R. Boyd R. Boyd Date/Time 4-21-94 1210

FORM NO. LS-042, Rev.0, 2 94

9613476.0474

WO#426

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1550 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4-22-94 14:00 Client Name WHC

Project/Client # 94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) ER-8

1. Condition of shipping container? O.K.
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐ 4-22-94
7. Number of sample containers in cooler: 24
8. Samples have: X tape ____ hazard labels
   X custody seals ____ appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☒

Printed Name/Signature Laura Achterling Date/Time 4-22-94 14:00

FORM NO. LS-042, Rev.0, 2/94

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: G.G. Hamilton

Company Contact: PH BUTCHER

Telephone No.: 509-376-4388

Project Des.: 100-BC-5

Sampling Location: 100B

SAF No.: 94-129

Ice Chest No.: SMC118

Field Logbook No.:

Method of Shipment: HAND DELIVER

Shipped To: IT

Offsite Property No.: N/A W94-0-0336-43

Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Refrig 2C AJS 4/13/94 1375

SAMPLE ANALYSIS: 40428801

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2										
Type of Container	G/P	P	G/P	G/P	Gs	uGs	G/P										
No. of Container(s)	1	1	5	2	3	1	1										
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml										
	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 40428901	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 40428802A										

Sample No.	Matrix*	Date Sampled	Time Sampled															
B0BNX8	W	4/13/94	1015	X	X	X	X	X	X									
B0BNX9	W	↓	↓							X								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
G.G. Hamilton	4/13/94 1335	AJ SIMPSON AJ Simpson	4/13/94 1335
AJ SIMPSON AJ Simpson	4/15/94 1000	L Sweeney L Sweeney	4/15/94 1000
L Sweeney L Sweeney	4/15/94 1400	Karen Kattenburg	4/15/94 14:40

SPECIAL INSTRUCTIONS: DATA DELIVERABLE-STANDALONE

Matrix*: S = Soil; SE = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air; DS = Drum Solids; DL = Drum Liquids; T = Tissue; WI = Wipe; L = Liquid; V = Vegetation; X = Other

LABORATORY SECTION — Received By: ; Title: ; Date/Time:

FINAL SAMPLE DISPOSITION — Disposal Method: ; Disposed By: ; Date/Time:

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613976.0795

Dia 6-21-94

WO# 363

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: SML-421	Field Logbook No.:	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A WM4-C-C-336-35	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE SEALED IN ICE BOXES 21 by A Simpson 4/12/94

SAMPLE ANALYSIS 404259

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2									
Type of Container	G/P	P	G/P	G/P	Gs	VGS	G/P									
No. of Container(s)	1	1	5	2	3	1	1									
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml									
	ICP METALS AA METALS Hg CLP 83A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 04A									

Sample No.	Matrix*	Date Sampled	Time Sampled														
BCBNY0	W	4/13/94	1125	X	X	X	X	X	X								
BCBNY1	W	↓	1125							X							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
G G Hamilton	4/13/94 1335	A Simpson	4/13/94 1340
A Simpson (A Simpson)	4/14/94 1000	L Sweeney	4/14/94 1000
L Sweeney	4/14/94 1130	[illegible]	4/14/94 1130
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION — Received By: Title: Date/Time:

FINAL SAMPLE DISPOSITION — Disposal Method: Disposed By: Date/Time:

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000057

9413476.0476

000040

WO#363

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priorty [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: NA	SAF No.: 94-129
Ice Chest No.: ER-1C	Field Logbook No.: EF1-1[illegible]	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W-74-C-C336-37	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks: None		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE — LC[illegible] 3B 4/12/94 AJSimpson		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	[illegible]	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	1000ml	1000ml
SAMPLE ANALYSIS 404259	ICP METALS AA METALS Hg CLP 854	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99 40426003	TRITIUM C-14	[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD 06A

Sample No.	Matrix*	Date Sampled	Time Sampled														
BCBNX2	W	4/12/94	1120	X	X	X	X	X	X								
BCBNX3	W	4/12/94	1120							X							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
G. Hamilton GG Hamilton	4/12/94 1319	AJ Simpson AJ Simpson	4/12/94 1319
AJ Simpson AJ Simpson	4/14/94 0959	L Swaring L Swaring	4/14/94 0959
L Swaring L Swaring	4/14/94 1130	Kim Gilmore Kim Gilmore	4/14/94 1130

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION — Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION — Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000058

9613976.0477

WO#363

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: T. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: Ste. Helens	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A 1.1.14. C. C.336.37	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Small Potals 3A AS 4/14/94		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	Vials	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40z	1000ml
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP01A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 02A
404259				404260	001		

Sample No.	Matrix*	Date Sampled	Time Sampled															
BCBVX6	W	4/13/94	0855	X	X	X	X	X	X									
BCBVX7	W	↓	↓							X								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
GG Hamilton	4/13/94 1335	A Simpson	4/13/94 1332
A Simpson A Simpson	4/14/94 0958	L Sevoney L Sevoney	4/14/94 0958
L Sevoney L Sevoney	4/14/94 1130	Tom Gilmore	4/14/94 1130

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION — Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION — Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0478

0000059

WO#386

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: SMC-118	Field Logbook No.: FTL [illegible]	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A 1L'94-L 0336-44	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Sample No.	Matrix*	Date Sampled	Time Sampled															
Preservative				HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4		HNO3<2								
Type of Container				G/P	P	G/P	G/P	Gs		G/P								
No. of Container(s)				1	1	5	2	3	1	1								
Volume				1000ml	1000ml	1000ml	1000ml	1000ml	[illegible]	1000ml								
SAMPLE ANALYSIS				ICP METALS AA METALS Hg 05A CLP	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99 404 32303	TRITIUM C-14		ICP METALS, AA METALS, Hg CLP FILTERD 06A								
BOBP22	W	[illegible]	[illegible]															
BOBP23	W	"	"															

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
[illegible] / K. Trapp	4/15/94 1300	[illegible] Sweeney	4/15/94 1340
Sweeney / Sweeney	4/18/94 1310	[illegible]	4/18/94 1310

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION — Received By: | Title: | Date/Time:

FINAL SAMPLE DISPOSITION — Disposal Method: | Disposed By: | Date/Time:

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-826 (12/92)

9613476.0479

000060

WO#386

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priorty [X] Normal

Collector: [illegible]	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-7	Field Logbook No.: EFL-[illegible]	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A 1-94-C-C-336-14	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	[illegible]	HNO3<2									
Type of Container	G/P	P	G/P	G/P	Gs	[illegible]	G/P									
No. of Container(s)	1	1	5	2	3	[illegible]	1									
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	[illegible]	1000ml									
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP01A	ANIONS F,SO4 COND pH 8	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD 02A									

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

404322

Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBNZ2	W	4/15/94	[illegible]	X	X	X	X	X	X								
BOBNZ3	W	4/15/94	1113														

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K Jones/K. Trapp	4/15/94 1310	L Sweeney L Sweeney	4/15/94 1310
L Sweeney L Sweeney	4/15/94 1310	TGilmore	4/15/94 1310

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION: Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9413476.0480

000061

WO#386

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priorty [X] Normal

Collector: [illegible]	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: FR-7	Field Logbook No.: FFL-[illegible]	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W[illegible]-C-336-41	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks																
	Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	[illegible]	HNO3<2								
	Type of Container	G/P	P	G/P	G/P	Gs	[illegible]	G/P								
	No. of Container(s)	1	1	5	2	3	[illegible]	1								
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE	Volume	1000ml	1000ml	1000ml	1000ml	1000ml	[illegible]	1000ml								
SAMPLE ANALYSIS 404322		ICP METALS AA METALS Hg CLP 03A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99 404323	TRITIUM C-14	[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD 04A								

Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBNZ4	W	4/15/94	[illegible]	✓	✓	✓	✓	✓	✓								
BOBNZ5	W	↓	↓														

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	4/15/94 1340	L Sweeney / L Sweeney	4/15/94 1340
L Sweeney / L Sweeney	4/8/94 1310	T G Trapp / T G Trapp	4/8/94 1310

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION: Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0481

000062

WC 420

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: ☐ Priorty ☒ Normal

Collector: K. Tripp / [illegible]	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location:	SAF No.: 94-129
Ice Chest No.: FR-9	Field Logbook No.: [illegible]	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W24-U-C518 1	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks:		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	[illegible]	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	[illegible]	G/P
No. of Container(s)	1	1	5	2	3	[illegible]	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	[illegible]	1000ml
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 4044	Tc-99 0502	TRITIUM C-14	[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD

4044 04

Sample No.	Matrix*	Date Sampled	Time Sampled							
C2 BOBP14	W	4/19/94	1425	\	\	\	\	\	\	
C1 BOBP15	W	↓	↓							\A

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
W.W. Setzer	4-20-94 1305	Bruce J Sweeney	4/20/94 1305
Relinquished By	Date/Time	Received By	Date/Time
Sweeney L Sweeney	4/21/94 1210	R. Bryi Jr	4-21-94 1210
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0482

000063

WC 420

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp / W. [illegible]	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: [illegible]8	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A (W94-C-0518-1)	Bill of Lading/Air Bill No.: N/A (N.A.)
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP METALS AA METALS Hg CLP	ANIONS F, SO4 COND pH	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD								
SAMPLE ANALYSIS				404404		404/405		04										
				Preservative: HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	[illegible]	HNO3<2								
				Type of Container: G/P	P	G/P	G/P	Gs	[illegible]	G/P								
				No. of Container(s): 1	1	5	2	3	1	1								
				Volume: 1000ml	1000ml	1000ml	1000ml	1000ml	[illegible]	1000ml								
07 BOBP16	W	4/19/94	1030	X	X	X	X	X	X									
08 BOBP17	W	"	1030							[illegible]								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: [illegible]	Date/Time: 4-20-94 1305	Received By: [illegible]	Date/Time: 4/21/94 1305
Relinquished By: T Sweeney L Sweeney	Date/Time: 4/21/94 1210	Received By: R Boyd	Date/Time: 4-21-94 1210
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-628 (12/92)

000064

9613476.0483

WW 4 CC

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Tra... / W. ...	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 1.. P	SAF No.: 94-129
Ice Chest No.: ER-3	Field Logbook No.: EF...	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W-94-C-0518-1	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	...	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	...	G/P
No. of Container(s)	1	1	5	2	3		1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	...	1000ml
SAMPLE ANALYSIS 404404	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 404405	Tc-99 1	TRITIUM C-14	...	ICP METALS, AA METALS, Hg CLP FILTERD A

	Sample No.	Matrix*	Date Sampled	Time Sampled							
c.1	BOBP18	W	4/19/94	1140	\	\	\	\	\	\	
a.	BOBP19	W	↓	↓							\

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: W.W. Setzer, 4-20-94 1305	Received By: L. Sweeney, L. Sweeney 4/20/94 1305		
Relinquished By: L. Sweeney, L. Sweeney 4/21/94 1210	Received By: K. Beck IT 4-21-94 1210		
Relinquished By: Date/Time	Received By: Date/Time		
Relinquished By: Date/Time	Received By: Date/Time		

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0484

000065

WO 420

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp / W. Setzer	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100-B	SAF No.: 94-129
Ice Chest No.: ER-E	Field Logbook No.: EFL-1[illegible]	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-C-C515-1	Bill of Lading/Air Bill No.: N/A WCWE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

SAMPLE ANALYSIS: 4014/04

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP METALS AA METALS Hg CLP	ANIONS F,SO4 COND pH	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD
Preservative				HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	[illegible]	HNO3<2
Type of Container				G/P	P	G/P	G/P	Gs	[illegible]	G/P
No. of Container(s)				1	1	5	2	3	1	1
Volume				1000ml	1000ml	1000ml	1000ml	1000ml	[illegible]	1000ml
B08P24	W	4/17/94	1240	X	X	X	X	X	X	
B08P25	W	"	"							A

4014405203

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: W. Setzer	Date/Time: 4-20-94 1305	Received By: L Sweeney	Date/Time: 4/21/94 1305
Relinquished By: L Sweeney	Date/Time: 4/21/94 1210	Received By: E Bay[illegible]	Date/Time: 4-21-94 1210
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0486

000066

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

WO#426

Page 1 of 1

Date Turnaround: ☐ Priorty ☒ Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-7	Field Logbook No.: EFL-1032	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-3	Bill of Lading/Air Bill No.: N/A W94-ACS 4-22-94 NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2								
Type of Container	G/P	P	G/P	G/P	Gs	Gas	G/P								
No. of Container(s)	1	1	5	2	3	1	1								
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	400mL	1000ml								
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP A	ANIONS F, SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	R. Tinney Sum	ICP METALS, AA METALS, Hg CLP FILTERD								
404429			404430 01												

	Sample No.	Matrix*	Date Sampled	Time Sampled															
01	B0BNY2	W	4/21/94	0920	X	X	X	X	X	X									
02	B0BNY3	W	↓	↓							X A								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: K. Trapp / K. Trapp	Date/Time: 4/22/94 0752	Received By: L. Sweeney / L. Sweeney	Date/Time: 4/22/94 0752
Relinquished By: L. Sweeney / L. Sweeney	Date/Time: 4/22/94 1400	Received By: R. Boyd DJ	Date/Time: 4/22/94 1400
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0986

000067

9613476.0487

WO#363

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit

The following items are to be shipped from ☐ Contractor ☐ Vendor

Routing ☐ Contractor ☐ Vendor

Shipped to	Off-site Custodian
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost

☐ Classified ☐ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release		RM Survey No	Date
Location of Property (Area & Bldg.)	Contact		Phone
Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned	
Originated By	Date	Authorized By	Date
Signature and Name of Property Control	Custodian Date	Property Management Approval	Date

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

9613476.0488

WO#363

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit

The following items are to be shipped from ☐ Contractor ☐ Vendor

Routing ☐ Contractor ☐ Vendor

Shipped to	Off-site Custodian
CBS	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost

☐ Classified ☐ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date

Location of Property (Area & Bldg.)	Contact	Phone

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned

Originated By	Date	Authorized By	Date

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

9613476.0489

WO#363

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit

The following items are to be shipped from ☐ Contractor ☐ Vendor

Routing ☐ Contractor ☐ Vendor

Shipped to	Off-site Custodian
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost

☐ Classified ☐ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date
Location of Property (Area & Bldg.)	Contact	Phone
Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned N/A
Originated By	Date	Authorized By / Date
Signature and Name of Property Control	Custodian Date	Property Management Approval / Date

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

9613476.0490

WO#386

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-C-336-44

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Env. Eng & Tech	Environmental Field Svcs.	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
IT Analytical Services 2800 George WASHINGTON WAY Richland, WA 99352	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 Lbs.	Sample # BOBN24, BOBN25, BOBN22, BOBN23 Cooler ID: 5K-2 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 Lbs.	Sample #: BOBP22, BOBP23 Cooler ID: SMC-118 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling Supports RI/FS work in the 100 AREA

Bill of lading # NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date
L. Kimill.	157971	4-18-94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	P.H. Butcher	(509) 376 4366

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-18-94	8B410 PBSHA	NA

Originated By	Date	Authorized By	Date
P.H. Butcher	4/18/94	P.H. Butcher	4/18/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		P. Tankel	4/18/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

9613476.0491

WO 420

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		[illegible]-C515-1

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Enc Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to
IT Analytical Services
2800 George Washington Way
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs.	Sample #: [illegible] Cooler ID: [illegible] Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: [illegible] Cooler ID: [illegible] Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 [illegible]

Bill of lading #_____

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date
[illegible]	[illegible]	

Location of Property (Area & Bldg.)	Contact	Phone
[illegible]	P. H. Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
[illegible]	88410 [illegible]	N/A

Originated By	Date	Authorized By	Date
[illegible]	4/21/94	P H Butcher	4/21/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible]	4/21/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Green – Property Control Custodian (Issuing Office) Yellow – Retain Pink – Originator

54-3000-479 (09/89)

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INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001461*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

WO RL#472

Reference Document No. 3403/4

Page 1 of 2

Project Name/No. 1 94-129

Sample Team Members 2

Profit Center No. 3 4632

Project Manager 4 Van Petley

Purchase Order No. 6

Required Report Date 11

Samples Shipment Date 7 4/14/94

Lab Destination 8 Middlebrook

Lab Contact 9

Project Contact/Phone 12

Carrier/Waybill No. 13 112 7284 812

Bill to: 5 ITAS Richland

Report to: 10 ITAS Richland

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Preservative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
W404259 01A	BOBNX6 /H2O	4/13/94 0855	Glass	1000ml	HNO3 4°C	Metals pH=<2	6° C BPB 4/13/94	
B	|	|	Poly	|	|	Anions	|	
02A	BOBNX7 /H2O	|	Glass	|	HNO3	metals pH=<2	|	
03A	BOBNY0 /H2O	4/13/94 1125	|	|	HNO3	| pH=<2	|	
B	|	|	Poly	|	|	Anions	|	
04A	BOBNY1 /H2O	|	Glass	|	HNO3	Metals pH=<2	|	
05A	BOBNX2 /H2O	4/12/94 1120	|	|	HNO3	Metals pH=2	|	
B	|	|	Poly	|	|	Anions	↓	

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive ____ (mos.)

Turnaround Time Required: 26
Normal ☒ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SPG W0031

1. Relinquished by 28 (Signature/Affiliation) [signature] Date: 4/14/94 Time: 1600	1. Received by 29 (Signature/Affiliation) Bryan Blomquist ITASKN Date: 4/15/94 Time: 9:00
2. Relinquished by (Signature/Affiliation) Date: Time:	2. Received by (Signature/Affiliation) Date: Time:
3. Relinquished by (Signature/Affiliation) Date: Time:	3. Received by (Signature/Affiliation) Date: Time:

Comments: 29

MCA 3/15/91

White: To accompany samples

Yellow: Field copy

*See back of form for special instructions.

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WO# 363

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 340374

Page 2 of 2

Project Name

Project No. 94-129

Samples Shipment Date 4/14/94

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
W4042596A	BGBNX3 /H_2O	4/12/94 1120	Glass	1000 ml	HNO_3/4°C	Metals pH=<2	6°C BPP 4/15/94	
(5) 4/14/94								

White: To accompany samples Yellow: Field copy

*See back of form for special instructions.

MCA 3/15/91

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COC No.

INTERNATIONAL TECHNOLOGY CORPORATION

0001485

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD* RL# 491

Reference Document No. 340388
Page 1 of 2

Project Name/No. 1 94-129
Sample Team Members 2
Profit Center No. 3 4632
Project Manager 4 Van Pettey
Purchase Order No. 6
Required Report Date 11

Samples Shipment Date 7 4/18/94
Lab Destination 8 Middlebrook
Lab Contact 9
Project Contact/Phone 12
Carrier/Waybill No. 13 1128244266

Bill to: 5 ITAS Richland
Report to: 10 ITAS Richland

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
W4043220 1A	BOBNZ2 / H_2O	4/15/94 1148	Glass	1000 ml	HNO_3 4°C	Metals	2°C 4/19/94 <2	
B	|	|	Poly	|	|	Anions	|	
02A	BOBNZ3 / H_2O		Glass		HNO_3	metals	<2	
03A	BOBNZ4 / H_2O	4/15/94 0950	|		HNO_3	Metals	<2	
B	|	|	Poly			Anions 1448	|	
04A	BOBNZ5 / H_2O 4/18/94		Glass		HNO_3	metals	<2	
05A	BOBPZ2 / H_2O		Glass			Metals	<2	
B	|	|			|	Anions	|	

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive ___ (mos.)

Turnaround Time Required: 26
Normal ☒ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0031

1. Relinquished by 28 (Signature/Affiliation) [signature] ITAS Date: 4/18/94 Time: 1600	1. Received by 28 (Signature/Affiliation) Bryan Blomquist ITASKN Date: 4/19/94 Time: 8:55
2. Relinquished by (Signature/Affiliation) Date: Time:	2. Received by (Signature/Affiliation) Date: Time:
3. Relinquished by (Signature/Affiliation) Date: Time:	3. Received by (Signature/Affiliation) Date: Time:

Comments: 29

MCA 3/15/91

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

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WO-386

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 340388

Page 2 of 2

Project Name

Project No. 94-129

Samples Shipment Date 4/18/94

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
W4043206 6A	30BP23/H2O	4/15/94 0950	Glass	1000ml	HNO3 4°C	Metals	2°C BJP 4/18/94 <2	
4/18/94								

White: To accompany samples Yellow: Field copy

*See back of form for special instructions.

MCA 3/15/91

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COC NO. *0001515*

Recpt lot 5352

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 340397
Page 1 of 2

Project Name/No. 1 SAF 94-129
Sample Team Members 2
Profit Center No. 3 4632
Project Manager 4 VAN PETTEY
Purchase Order No. 6
Required Report Date 11

Samples Shipment Date 7 4-21-94
Lab Destination 8 Middlebrook
Lab Contact 9
Project Contact/Phone 12
Carrier/Waybill No. 13 112 9779 917 FED EX

Bill to: 5 IT Richland
Report to: 10 IT Richland

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
40440401 A	BOBP18 / water	4/19 1240	G/P	1000ml	Cool 4°	ICP Metals AA Metals Hg	Rec'd at 30c KAC 4-22-94	
B	↓	↓	P	↓	↓	Anions	↓	
02A	BOBP19 / water	↓	G/P	↓	↓	ICP Metals AA Metals Hg	↓	
03A	BOBP14 / water	4/19 1425	G/P	1000ml	↓	↓	↓	
B	↓	↓	P	↓	↓	Anions	↓	
04A	BOBP15 / water	↓	G/P	↓	↓	ICP Metals AA Metals Hg	↓	
05A	BOBP21 / water	4/19 1210	↓	↓	↓	↓	↓	
B			P	↓	↓	Anions	↓	

Special Instructions: 23 As per WHC Contract

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required: 26
Normal ☒ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SITE W0031

1. Relinquished by 28 (Signature/Affiliation) Heidelberg IT Date: 4-21-94 Time: 16:00	1. Received by 28 (Signature/Affiliation) Kerry A Klemm ITAS-KN Date: 4-22-94 Time: 08:55
2. Relinquished by (Signature/Affiliation) Date: Time:	2. Received by (Signature/Affiliation) Date: Time:
3. Relinquished by (Signature/Affiliation) Date: Time:	3. Received by (Signature/Affiliation) Date: Time:

Comments: 29

MCA 3/15/91

White: To accompany samples
Yellow: Field copy
See back of form for special instructions.

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LCC-11 7-22

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 340597

Page 2 of 2

Project Name SAF 94-129

Project No. W0031

Samples Shipment Date 4-21-94

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
40440406A	BOBP25/Water	4/19 1240	G/P	1000ml	Cool 4°	ICP Metals AA Metals Hg	Rec'd at 3°C KAK 4-22-94	
07A	BOBP16/Water	1030						
B			P			Anions		
08A	BOBP17/Water		G/P			ICP Metals AA Metals Hg		

JK 4/21/94

White: To accompany samples Yellow: Field copy

*See back of form for special instructions.

MCA 3/15/91

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INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001523*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO#426 W*538

Reference Document No. 453601

Page 1 of 1

Project Name/No. 1 SAP 94-129

Samples Shipment Date 7 4-23-94

Bill to: 5 IT Richland

Sample Team Members 2

Lab Destination 8 Middle Brook

Profit Center No. 3 4632

Lab Contact 9

Project Manager 4 Van Petty

Project Contact/Phone 12

Report to: 10 IT Richland

Purchase Order No. 6

Carrier/Waybill No. 13 8875576065

Required Report Date 11

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Preservative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
40442901A	BOBNY2 / water	4-21-94 0930	G/P	1000ml	Lt:01 4°	ICP, GFAA, Hg	<2 5° BTG 4/25/94	
↓ B	↓	↓	P	↓	↓	Anions, Cond, ~~Hg~~ PH GFAA	4-22-94	
40442902A	BOBNY3 ↓	↓	G/P	↓	↓	ICP, GFAA, Hg	<2 ↓	
		PB	4-22-94					

FOR LAB USE ONLY

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive _____ (mos.)

Turnaround Time Required: 26
Normal ☐ Rush ☐ as Per WHC Contract

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0031

1. Relinquished by 28 (Signature/Affiliation) R. Boyd IT Date: 4-23-94 Time: 1200	1. Received by 28 (Signature/Affiliation) Bryan Blanquet Date: 4/25/94 Time: 8:55
2. Relinquished by (Signature/Affiliation) Date: Time:	2. Received by (Signature/Affiliation) Date: Time:
3. Relinquished by (Signature/Affiliation) Date: Time:	3. Received by (Signature/Affiliation) Date: Time:

Comments: 29

MCA 3/15/91

White: To accompany samples

Yellow: Field copy

*See back of form for special instructions.

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Appendix 5

Data Validation Supporting Documentation

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	(D)	E
PROJECT:			DATA PACKAGE: T00568		
VALIDATOR: RJS		LAB: IT		DATE: 9/12/94	
CASE:			SDG: W0031		
ANALYSES PERFORMED					
☒ CLP/ICP	☒ CLP/GFAA	☐ CLP/Hg	☐ CLP/Cyanide	☐	☐
☐ SW-846/ICP	☐ SW-846/GFAA	☐ SW-846/Hg	☐ SW-846 Cyanide	☐	☐

SAMPLES/MATRIX B0BNX8, B0BNX9, B0BNX2, B0BNX3
B0BNX6, B0BNX7, B0BNY0, B0BNY1, B0BNZ2
B0BNZ3, B0BP14, B0BP15, B0BP16, B0BP17

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Is technical verification documentation present? . . . . . (Yes) No N/A

Is a case narrative present? . . . . . (Yes) No N/A

Comments:

2. HOLDING TIMES

Are sample holding times acceptable? . . . . . (Yes) No N/A

Comments:

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

3. INSTRUMENT PERFORMANCE AND CALIBRATIONS

Were initial calibrations performed on all instruments? . . . . Yes No N/A
Are initial calibrations acceptable? . . . . . Yes No N/A
Are ICP interference checks acceptable? . . . . . Yes No N/A
Were ICV and CCV checks performed on all instruments? . . . . . Yes No N/A
Are ICV and CCV checks acceptable? . . . . . Yes No N/A
Comments:

4. BLANKS

Were ICB and CCB checks performed for all applicable analyses? Yes No N/A
Are ICB and CCB results acceptable? . . . . . Yes No N/A
Were preparation blanks analyzed? . . . . . Yes No N/A
Are preparation blank results acceptable? . . . . . Yes No N/A
Were field/trip blanks analyzed? . . . . . Yes No N/A
Are field/trip blank results acceptable? . . . . . Yes No N/A
Comments: BOBNX2 – Al (cal+Prep), BOBNX3 – Al (cal+Prep)
BOBNX7: Al (cal+Prep), BOBNY0: Al (Prep), BOBNY0: Pb (prep), BOBNY1: Al (prep)
BOBP14: As (neg Prep), BOBP15: As (neg Prep), BOBP16: As (neg Prep)
BOBP16: K (CCB#3), BOBP17: As (neg Prep), BOBP17: K (CCB#3)
BOBNZ2: Al (Prep), BOBNZ3: Al (prep), BOBNZ3: Ag (CCB# neg)
BOBNZ3: Zn (CCB#)

5. ACCURACY

Were spike samples analyzed? . . . . . Yes No N/A
Are spike sample recoveries acceptable? . . . . . Yes No N/A
Were laboratory control samples (LCS) analyzed? . . . . . Yes No N/A
Are LCS recoveries acceptable? . . . . . Yes No N/A
Comments:
Matrix Spike Pb (73.0 %) → BOBNX2, BOBNX3, BOBNX6, BOBNX7
(J, UJ, BJ) BOBNY0, BOBNY1, BOBNX8, BOBP14
BOBP16, BOBNZ2

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

6. PRECISION

Were laboratory duplicates analyzed? . . . . . Yes No N/A

Are laboratory duplicate samples RPD values acceptable? . . . . Yes No N/A

Were ICP serial dilution samples analyzed? . . . . . Yes No N/A

Are ICP serial dilution %D values acceptable? . . . . . Yes No N/A

Are field duplicate RPD values acceptable? . . . . . Yes No N/A

Are field split RPD values acceptable? . . . . . Yes No N/A

Comments: Ca – 24.2% BOBNX9
BOBP15
BOBP17
BOBNZ3

7. FURNACE AA QUALITY CONTROL

Were duplicate injections performed as required? . . . . . Yes No N/A

Are duplicate injection %RSD values acceptable? . . . . . Yes No N/A

Were analytical spikes performed as required? . . . . . Yes No N/A

Are analytical spike recoveries acceptable? . . . . . Yes No N/A

Was MSA performed as required? . . . . . Yes No N/A

Are MSA results acceptable? . . . . . Yes No N/A

Comments: BOBNX2 : Tl (122%) BOBNZ2 : Pb (117%)
BOBNX6 : Pb (118%) BOBNZ3 : Pb (117%)
BOBNX7 : Pb (115.8%)
BOBNY0 : Pb (115.1%)
BOBP17 : As (115.3%)

8. REPORTED RESULTS AND DETECTION LIMITS

Are results reported for all requested analyses? . . . . . Yes No N/A

Are all results supported in the raw data? . . . . . Yes No N/A

Are results calculated properly? . . . . . Yes No N/A

Do results meet the CRDLs? . . . . . Yes No N/A

Comments:

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

Comments (attach additional sheets as necessary):

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	~~D~~	E

PROJECT:		DATA PACKAGE: T00568
VALIDATOR: RJS	LAB: ITC	DATE: 7.27.94
CASE: 100-BC-5		SDG: W0031

ANALYSES PERFORMED

☒ CLP/ICP	☒ CLP/GFAA	☒ CLP/Hg	☐ CLP/Cyanide	☐	☐
☐ SW-846/ICP	☐ SW-846/GFAA	☐ SW-846/Hg	☐ SW-846 Cyanide	☐	☐

SAMPLES/MATRIX BOBP22, BOBP23, BOBNZ4, BOBNZ5, BOBP18
BOBP24, BOBP19, BOBP25 - (VALIDATED) - Duplicates
22 (water samples)

BOBNX8, BOBNX9, BOBNX2, BOBNX3, BOBNX6, BOBNX7, BOBNY0
BOBNY1, BOBNZ2, BOBNZ3, BOBP14, BOBP15, BOBP16, BOBP17 } - Not Validated

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Is technical verification documentation present? . . . . . (Yes) No N/A

Is a case narrative present? . . . . . (Yes) No N/A

Comments:

2. HOLDING TIMES

Are sample holding times acceptable? . . . . . (Yes) No N/A

Comments:

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

3. INSTRUMENT PERFORMANCE AND CALIBRATIONS

Were initial calibrations performed on all instruments? . . . . Yes No N/A
Are initial calibrations acceptable? . . . . . Yes No N/A
Are ICP interference checks acceptable? . . . . . Yes No N/A
Were ICV and CCV checks performed on all instruments? . . . . . Yes No N/A
Are ICV and CCV checks acceptable? . . . . . Yes No N/A
Comments:

4. BLANKS

Were ICB and CCB checks performed for all applicable analyses? Yes No N/A
Are ICB and CCB results acceptable? . . . . . R.S. ~~Yes~~ No N/A
Were preparation blanks analyzed? . . . . . Yes No N/A
Are preparation blank results acceptable? . . . . . 9/14/94 ~~Yes~~ No N/A
Were field/trip blanks analyzed? . . . . . Yes No N/A
Are field/trip blank results acceptable? . . . . . Yes No N/A
Comments:

5. ACCURACY

Were spike samples analyzed? . . . . . Yes No N/A
Are spike sample recoveries acceptable? . . . . . Yes No N/A
Were laboratory control samples (LCS) analyzed? . . . . . Yes No N/A
Are LCS recoveries acceptable? . . . . . Yes No N/A
Comments:

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

6. PRECISION

Were laboratory duplicates analyzed? . . . . . Yes No N/A

Are laboratory duplicate samples RPD values acceptable? . . RS 9/10/92 Yes No N/A

Were ICP serial dilution samples analyzed? . . . . . Yes No N/A

Are ICP serial dilution %D values acceptable? . . . . . Yes No N/A

Are field duplicate RPD values acceptable? . . . . . Yes No N/A SC 5/1/9

Are field split RPD values acceptable? . . . . . Yes No N/A

Comments:

7. FURNACE AA QUALITY CONTROL

Were duplicate injections performed as required? . . . . . Yes No N/A

Are duplicate injection %RSD values acceptable? . . . . . Yes No N/A

Were analytical spikes performed as required? . . . . . Yes No N/A

Are analytical spike recoveries acceptable? . . . . . RS 9/16/92 Yes No N/A

Was MSA performed as required? . . . . . Yes No N/A

Are MSA results acceptable? . . . . . Yes No N/A

Comments:

8. REPORTED RESULTS AND DETECTION LIMITS

Are results reported for all requested analyses? . . . . . Yes No N/A

Are all results supported in the raw data? . . . . . Yes No N/A

Are results calculated properly? . . . . . Yes No N/A

Do results meet the CRDLs? . . . . . Yes No N/A

Comments:

* Samples B0BP22 + B0BP23 reported as B0BNP22 + B0BNP23

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

Comments (attach additional sheets as necessary):

DATA QUALIFICATION SUMMARY

SDG: W0031	VALIDATOR: RJS	DATE: 9/12/94	PAGE____OF____
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Aluminum	U	B0BNZ2, B0BNZ3	Prep blank
Silver	UJ	B0BNZ3	neg Cal. blank
Zinc	U	B0BNZ3	Cal. blank
Arsenic	BJ	B0BP14, B0BP15 B0BP16	neg. Prep
Arsenic	UJ	B0BP17	neg. Prep
Potassium	U	B0BP16, B0BP17	Cal blank
Aluminum	U	B0BNX2, B0BNX3 B0BNX7, B0BNY0, B0BNY1	Prep blank
Aluminum	U	B0BNX2, B0BNX3 B0BNX7, B0BNY0, B0BNY1	Cal. blank
LEAD	UJ	B0BNX2, B0BNX3 B0BNX6, B0BNX7 B0BNY0, B0BNY1	Matrix Spike
↓	↓	~~B0BNX2 B0BP14~~ B0BP16, B0BNZ2	↓
LEAD	J	B0BNX6, B0BP14	matrix Spike
LEAD	UJ	B0BNX6, B0BNX7 B0BNY0, B0BP23	GFAA Spike
↓	↓	B0BP23	↓
Arsenic	UJ	B0BP17	GFAA Spike
Thallium	UJ	B0BNX2	GFAA Spike
Calcium	J	B0BNX9 B0BP15 B0BP17, B0BNZ3	Lab Duplicate

BLANK AND SAMPLE DATA SUMMARY

SDG: W0031	VALIDATOR: RJS	DATE: 9/16/94	PAGE ____ OF ____

COMMENTS:

SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
Prep	Aluminum	48.7			ug/L	243.5	487	BOBNZ2, BOBNZ3	U
CCB 2	Silver	-5.3				-26.5	-53	BOBNZ3	UJ
CCB 2	Zinc	6.1				30.5	61	BOBNZ3	U
Prep	Arsenic	-2.2				-11	-22	BOBP14 BOBP15 BOBP16	BJ
Prep	Arsenic	-2.2				-11	-22	BOBP17	UJ
CCB 3	Potassium	13951				6975.5	13951	BOBP16 BOBP17	U
Prep	Aluminum	48.7				243.5	487	BOBNX2 BOBNX3	U
↓	↓	↓				↓	↓	BOBNX7 BOBNY0	↓
↓	↓	↓				↓	↓	BOBNY1	↓
CCB#10	Aluminum	56.3				281.5	563	BOBNX2 BOBNX3	U
↓	↓	↓				↓	↓	BOBNX7 BOBNY0	↓
↓	↓	↓				↓	↓	BOBNY1	↓

ACCURACY DATA SUMMARY

SDG: W0031	VALIDATOR: RJJ	DATE: 9/13/94	PAGE ____ OF ____	
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
BOBNX8 S	LEAD	73.0 %	BOBNX2	UJ
			BOBNX3	UJ
			BOBNX6	UJ
			BOBNX7	UJ
			BOBNY0	UJ
			BOBNY1	UJ
			BOBNX8	J
			BOBP14	J
			BOBP16	UJ
			BOBNZ2	UJ
BOBNX2 A	~~Arsenic~~ Thallium	122 %	BOBNX2	UJ
BOBNX6 A	LEAD	118 %	BOBNX6	UJ
BOBNX7 A	LEAD	115.8 %	BOBNX7	UJ
BOBNY0 A	LEAD	115.1 %	BOBNY0	UJ
BOBP17 A	Arsenic	115.3 %	BOBP17	UJ
BOBNZ2 A	LEAD	117 %	BOBNZ2	UJ
BOBNZ3 A	LEAD	117 %	BOBNZ3	UJ

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HQ-SD-EN-SPP-002, Rev. 2

PRECISION DATA SUMMARY

SDG: W0031	VALIDATOR: RJS	DATE: 9/14/94	PAGE ____ OF ____
COMMENTS:			

COMPOUND	SAMPLE ID:	SAMPLE ID:	RPD	SAMPLES AFFECTED	QUALIFIER
Calcium	B0BNX9	B0BNX9 D	24.2	B0BNX9, B0BP15	J
↓	↓	↓	↓	B0BP17, B0BN23	↓

DATA QUALIFICATION SUMMARY

SDG: W0031	VALIDATOR: RJS	DATE: 7-28-94	PAGE____OF____
COMMENTS: 22 samples — 8 validated			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Aluminum	U	B0BP22 B0BP23 B0BNZ4, B0BNZ5	Prep blank
Aluminum	U	B0BNZ4, B0BP22 B0BNZ5, B0BP23	Calibration blank
Iron	U	B0BP22, B0BNZ4 B0BNZ5	calibration blank
LEAD	U	B0BP23 B0BNZ4	Prep blank
Manganese	U	B0BP22, [redacted] B0BNZ4	calibration blank
Arsenic	UJ	B0BP25	Neg. Prep blank
Arsenic	J	B0BP24, B0BP18 B0BP19	Neg Prep blank
Potassium	U	B0BP25	calibration blank
LEAD	UJ	B0BP23 [redacted] B0BNZ4 ~~B0BNZ5~~ 9 B0BNZ5	GFAA Spike
~~Lead~~			
Lead	UJ	B0BP22, B0BNZ4 B0BP18, B0BP24	Matrix Spike
Calcium	J	B0BP23, B0BNZ5 B0BP19, B0BP25	Laboratory Duplicate

BLANK AND SAMPLE DATA SUMMARY

SDG: W0031	VALIDATOR: RJS	DATE: 7-28-94	PAGE ____ OF ____
COMMENTS: ~~22 Sample — 8 VALIDATED~~			

SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
Prep blank	Aluminum	48.71			ug/L	243.55	487.10	B0BP22 B0BP23 B0BN24, B0BN25	U
CCB #9	Aluminum	60.20				301.00	602.00	B0BN24, B0BP22 B0BN25	U
CCB #10	Aluminum	56.30				281.50	563.00	B0BP23	U
CCB #9	Iron	13.00				65.00	130.00	B0BP22 B0BN24 B0BN25	U
Prep blank	LEAD	2.18				10.9	21.8	B0BP23 B0BN24	U
CCB #9	Manganese	5.70				28.5	57	B0BP22 ~~B0BP23~~ B0BN24	U
Neg Prep blank	Arsenic	-2.20				+11.00	+22.00	B0BP25	UJ
								B0BP18	J
								B0BP19	J
								B0BP24	J
CCB #3	Potassium	1395.10				6975.50	13951.00	B0BP25	U

Case No 386

9613476.0513 WHC-SD-EN-SPP-002, Rev. 2

ACCURACY DATA SUMMARY

SDG: W0031	VALIDATOR: RJS	DATE: 7-28-94	PAGE ____ OF ____	
COMMENTS: ~~22 Samples - 8 Validated~~				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
~~GFAA Spike~~	LEAD	119.0 %	BOBP23	UJ
		117.1	BOBNZ4	UJ
		117.2	BOBNZ5	UJ
BOBNX8S	Lead	73.0	BOBPZ2	UJ
			BOBNZ4	
			BOBP18	
			BOBP24	
			~~BOBP18~~	
			~~BOBP24~~	

BOBPZ3A
BOBPZ2A
BOBNZ4A
BOBNZ5A

Precision Summary

~~Samp~~ Compound	Sample	Sample	Y.D	Qualifier
Calcium	B0BNX9	B0BNX9D	24.2	J

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RECORD COPY

Date: September 19, 1994
To: Westinghouse Hanford Company (technical representative)
From: A.T. Kearney, Inc.
Subject: Radiochemistry - Data Package No. W0031-ITC-041 (SDG No. W0043)

INTRODUCTION

This memo presents the results of data validation on Data Package No. W0031-ITC-041 prepared by the International Technology Corporation (ITC) laboratory. A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation Level	Analysis
B0BNX4	04/18/94	Water	D	See Note 1
B0BNX8	04/18/94	Water	D	See Note 1
B0BNY2	04/21/94	Water	D	See Note 1
B0BNY6	04/25/94	Water	D	See Note 1
B0BP06	04/26/94	Water	D	See Note 1
B0BP08	04/27/94	Water	D	See Note 1
B0BP12	04/25/94	Water	D	See Note 1
B0BP20	04/26/94	Water	D	See Note 1
B0BP30	04/26/94	Water	D	See Note 1
B0BP42	04/26/94	Water	D	See Note 1

Note 1. Requested Method: Gross Alpha/Beta, Sr-90, Tc-99, Tritium/C-14, Total Activity

Data validation was conducted in accordance with the WHC statement of work (WHC 1994) and validation procedures (WHC 1993). Appendices 1 through 5 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualifications
Appendix 3. Qualified Data Summary and Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation

DATA QUALITY OBJECTIVES

- **Holding Times and Sample Preparation**

  Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The maximum holding time for radiochemical analyses is six months. All tritium samples must be analyzed within 7 days of distillation.

  All holding times were acceptable.

  Due to samples not being analyzed within seven days of distillation, all associated tritium results in SDG No. W0043 have been rejected and flagged "UR/R".

  All other sample preparation measures were acceptable.

- **Instrument Calibration and Performance**

  Instrument calibration is performed to establish that the counters used to determine radionuclide activities are capable of producing acceptable and reliable analytical data. Each counting system must be factory calibrated at installation and after any maintenance or repair. Calibration consists of an instrument efficiency determination for each applicable radionuclide. Continuing calibration checks are performed to verify that instrument performance is stable and reproducible.

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

- **Blanks**

  Blank samples are analyzed to determine if positive results are due to laboratory reagent, sample container, or detector contamination. If blank analysis results indicate the presence of an analyte above both the MDA and the statistical uncertainty associated with that MDA, the following qualifiers were applied: All positive sample results less than five times the highest blank concentration were qualified as estimated; sample results below the MDA were elevated to the MDA and qualified as undetected; sample results above the MDA and greater than five times the highest blank concentration were not qualified.

  All blank results were acceptable.

- **Accuracy**

Accuracy was evaluated by analyzing soil or distilled water samples spiked with known amounts of radionuclides. The sample activity as determined by analysis is compared to the known activity to assess accuracy. The acceptable laboratory control sample recovery range is 70 to 130 percent, while that for a matrix spike is 60 to 140 percent. Spike sample results outside the above ranges resulted in associated sample results being qualified as estimated, rejected, or not qualified, depending on the activity of the individual sample. A chemical tracer is used to determine the efficiency of the analytical method, with tracer yield limits of 30 to 105 percent. Sample results above the MDA with chemical yields outside the above stated limits were qualified as estimated or rejected.

All accuracy results were acceptable.

- **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. If both sample and replicate activities are greater than five times the RDL and the RPD is less than 35 percent for soil samples and 20 percent for water samples, the results are acceptable. If either activities are <5xRDL, a control limit of $\leq$2xRDL is used for soil samples and $\leq$RDL for water samples. If either the original or replicate value is below the RDL, the applicable control limits are $\leq$RDL for water samples and $\leq$2xRDL for soil samples. If the RPD is outside the applicable control limit, associated results are qualified as estimated detects or estimated non-detects.

All precision results were acceptable.

- **Sample Result Verification 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.

The reviewer verified that the results and detection limits fell within the linear range of the instrument. All sample results and reported detection limits were acceptable.

- **Completeness**

  Data Package No. W0031-ITC-041 (SDG No. W0043) was submitted for validation and verified for completeness. All tritium results were rejected and considered incomplete, resulting in a completeness of 83%.

MAJOR DEFICIENCIES

Tritium results for all samples in SDG No. W0043 were rejected and flagged "R" due to samples not being analyzed within seven days of distillation. Rejected data are unusable for all purposes and should not be reported.

MINOR DEFICIENCIES

None found.

REFERENCES

WHC, 1992a, *Data Validation Procedures for Chemical Analyses*, WHC-SD-EN-SPP-002, Rev. 2, Westinghouse Hanford Company, October 1993.

WHC, 1992b, *Data Validation Procedures for Radiochemical Analyses*, WHC-SD-EN-001, Rev. 2, Westinghouse Hanford Company, 1993.

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Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers which may be applied by data validators in compliance with the procedures herein are as follows:

U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the same quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

J - Indicates the compound or analyte was analyzed for and detected. Due to a QC deficiency identified during the data validation, the associated concentration is an estimate, but the data are usable for decision-making purposes.

BJ - Applied to inorganic analyses only. Indicates the analyte concentration was greater than the IDL but less than the CRDL and is considered an estimated value.

R - Indicates the compound or analyte was analyzed for, detected, and due to an identified QC deficiency, the data are unusable.

UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified QC deficiency.

JN - Indicates a tentatively identified compound (TIC) that has been determined to be valid in terms of identification and quantitation.

UJN - Indicates a tentatively identified compound (TIC) that has been determined to be presumptive and valid (JN) in terms of identification and quantitation and has been qualified as undetected (U) due to associated blank contamination.

NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications (usable for decision-making purposes).

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Appendix 2

Summary of Data Qualification

DATA QUALIFICATION SUMMARY

SDG: W0043	REVIEWER: RJS	DATE: 9/15/94	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Tritium	R	B0BNX4, B0BNX8, B0BNY2, B0BNY6, B0BP08, B0BP12, B0BP20	Samples not analyzed within 7 days of distillation
Tritium	UR	B0BP06, B0BP30, B0BP42	Samples not analyzed within 7 days of distillation

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Appendix 3

Qualified Data Summary and Annotated Laboratory Reports

RADIOCHEMISTRY ANALYSIS, WATER MATRIX, (pCi/L+-2 standard deviations)

Project: WESTINGHOUSE-HANFORD																				
Laboratory: TMA																				
Case	SDG: W0043																			
Sample Number	B0BNX4		B0BNX8		B0BNY2		B0BNY6		B0BP06		B0BP08		B0BP12		B0BP20		B0BP30		B0BP42	
Location	1-B2-13		1-B3-46		1-B4-1		1-B4-5		6-63-90		6-65-72		6-66-64		6-72-92		6-72-92		6-72-92	
Remarks																	EB		EB	
Sample Date	04/18/94		04/13/94		04/21/94		04/25/94		04/24/94		04/27/94		04/25/94		04/26/94		04/26/94		04/26/94	
Radiochemistry Analysis	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Gross Alpha	0.742	U	1.26		1.43		0.746	U	1.84		2.56		1.54		0.533	U	0.0608	U	0.168	U
Gross Beta	7.13		143	U	59.6		33.7		5.46		10.2		50.5		1.88	U	0.657	U	1.71	U
Tritium	13600	R	4750	R	2860	R	2430	R	83.9	UR	26200	R	5510	R	1010	R	80.0	UR	9.64	UR
Carbon-14	1.80	U	1.55	U	-1.82	U	0.338	U	-1.91	U	-1.19	U	0.0451	U	1.89	U	-1.44	U	-0.608	U
Strontium-90	-0.118	U	56.7		17.1		4.85		-0.201	U	-0.200	U	0.0459	U	0.287	U	-0.0872	U	0.323	U
Technetium-99	12.5		98.9		66.2		60.9		1.81	U	23.8		182		2.05	U	2.09	U	2.66	

EB = Equipment Blank

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IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
SDG NO.: W0043
LAB SAMPLE ID: 40428901
MATRIX: WATER
WHC ID: B0BNX8
DATE RECEIVED: 4/15/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER	
ALPHA	1.26E+00	8.05E-01	8.20E-01	1.16E+00	1	RD3222	
BETA	1.43E+02	5.93E+00	1.17E+01	2.89E+00	1	RD3222	U
TOTAL-SR	5.67E+01	1.98E+00	1.49E+01	8.11E-01	0.987	RD3204	
C-14	1.55E+00	1.60E+00	3.39E+00	3.69E+00	1	RD3263	U
TC-99	9.89E+01	2.01E+00	1.39E+01	2.13E+00	0.951	ITAS-IT-RS-0001	
TRITIUM	4.75E+03	2.15E+02	5.11E+02	2.50E+02	0.94	RD3205	R

LAB SAMPLE ID: 40435101
MATRIX: WATER
WHC ID: B0BNX4
DATE RECEIVED: 4/19/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER	
ALPHA	7.42E-01	6.64E-01	6.70E-01	1.11E+00	1	RD3222	U
BETA	7.13E+00	1.86E+00	1.92E+00	2.99E+00	1	RD3222	
TOTAL-SR	-1.18E-01	2.54E-01	2.56E-01	8.04E-01	0.9	RD3204	U
C-14	1.80E+00	1.60E+00	3.40E+00	3.69E+00	1	RD3263	U
TC-99	1.25E+01	1.12E+00	5.09E+00	2.13E+00	0.951	ITAS-IT-RS-0001	
TRITIUM	1.36E+04	3.35E+02	1.15E+03	2.50E+02	0.94	RD3205	F

1. Samples not analyzed within 7 days of distillation (R, UR)

RJS
9/15/94

682A-6-93

9613476.0527

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
SDG NO.: W0043
LAB SAMPLE ID: 40443001
MATRIX: WATER
WHC ID: B0BNY2
DATE RECEIVED: 4/22/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER	
ALPHA	1.43E+00	7.83E-01	8.03E-01	8.41E-01	1	RD3222	
BETA	5.96E+01	3.95E+00	5.77E+00	2.83E+00	1	RD3222	
TOTAL-SR	1.71E+01	1.22E+00	4.28E+00	8.67E-01	0.761	RD3204	
C-14	-1.82E+00	1.52E+00	3.21E+00	3.62E+00	1	RD3263	U
TC-99	6.62E+01	1.72E+00	1.04E+01	2.13E+00	0.951	ITAS-IT-RS-0001	
TRITIUM	2.86E+03	1.79E+02	3.82E+02	2.50E+02	0.94	RD3205	R

LAB SAMPLE ID: 40450201
MATRIX: WATER
WHC ID: B0BP20
DATE RECEIVED: 4/27/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER	
ALPHA	5.33E-01	6.16E-01	6.20E-01	1.17E+00	1	RD3222	U
BETA	1.88E+00	1.51E+00	1.51E+00	3.04E+00	1	RD3222	U
TOTAL-SR	2.87E-01	2.99E-01	3.08E-01	7.86E-01	0.889	RD3204	U
C-14	1.89E+00	1.56E+00	3.25E+00	3.58E+00	1	RD3263	1
TC-99	2.05E+00	9.46E-01	4.23E+00	2.13E+00	0.951	ITAS-IT-RS-0001	1
TRITIUM	1.01E+03	1.37E+02	2.63E+02	2.50E+02	0.94	RD3205	R

1. Samples not analyzed within 7 days of distillation (UR, R)

RJS 9/15/94
0009

682A-6-93

9613476.0528

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
SDG NO.: W0043
LAB SAMPLE ID: 40450202
MATRIX: WATER
WHC ID: B0BP42
DATE RECEIVED: 4/27/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER	
ALPHA	1.68E-01	2.53E-01	2.54E-01	5.05E-01	1	RD3222	U
BETA	1.71E+00	1.29E+00	1.29E+00	2.55E+00	1	RD3222	U
TOTAL-SR	3.23E-01	3.38E-01	3.47E-01	8.93E-01	0.858	RD3204	U
C-14	-6.08E-01	1.52E+00	3.19E+00	3.58E+00	1	RD3263	U
TC-99	2.66E+00	9.59E-01	4.28E+00	2.13E+00	0.951	ITAS-IT-RS-0001	
TRITIUM	9.64E+00	1.06E+02	2.08E+02	2.50E+02	0.94	RD3205	UR'

LAB SAMPLE ID: 40450203
MATRIX: WATER
WHC ID: B0BP06
DATE RECEIVED: 4/27/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER	
ALPHA	1.84E+00	9.09E-01	9.40E-01	1.11E+00	1	RD3222	
BETA	5.46E+00	1.74E+00	1.78E+00	2.97E+00	1	RD3222	
TOTAL-SR	-2.01E-01	2.57E-01	2.61E-01	8.52E-01	0.833	RD3204	U
C-14	-1.91E+00	1.50E+00	3.16E+00	3.58E+00	1	RD3263	U
TC-99	1.81E+00	9.49E-01	4.21E+00	2.13E+00	0.951	ITAS-IT-RS-0001	U
TRITIUM	8.39E+01	1.09E+02	2.11E+02	2.50E+02	0.94	RD3205	UR

1. Samples not analyzed within 7 days of distillation (R, UR)

RJS 9/16/94

0010

682A-6-93

9613476.0529

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

AB NAME: ITAS-RICHLAND
SDG NO.: W0043
AB SAMPLE ID: 40450204
MATRIX: WATER
VHC ID: B0BP30
DATE RECEIVED: 4/27/94
EPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER	
ALPHA	6.08E-02	1.86E-01	1.86E-01	4.53E-01	1	RD3222	U
BETA	6.57E-01	1.24E+00	1.24E+00	2.66E+00	1	RD3222	U
TOTAL-SR	-8.72E-02	2.48E-01	2.48E-01	7.82E-01	0.865	RD3204	U
C-14	-1.44E+00	1.51E+00	3.17E+00	3.58E+00	1	RD3263	U
TC-99	2.09E+00	9.53E-01	4.23E+00	2.13E+00	0.951	ITAS-IT-RS-0001	U
TRITIUM	8.00E+01	1.09E+02	2.11E+02	2.50E+02	0.94	RD3205	UR 1

AB SAMPLE ID: 40450205
MATRIX: WATER
VHC ID: B0BNY6
DATE RECEIVED: 4/27/94
EPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER	
ALPHA	7.46E-01	6.67E-01	6.73E-01	1.12E+00	1	RD3222	U
BETA	3.37E+01	3.08E+00	3.89E+00	2.83E+00	1	RD3222	
TOTAL-SR	4.85E+00	6.33E-01	1.39E+00	7.60E-01	0.933	RD3204	
C-14	3.38E-01	1.53E+00	3.21E+00	3.58E+00	1	RD3263	U
TC-99	6.09E+01	1.71E+00	9.86E+00	2.13E+00	0.951	ITAS-IT-RS-0001	
TRITIUM	2.43E+03	1.71E+02	3.53E+02	2.50E+02	0.94	RD3205	R 1

1. Sample not analyzed within 7 days of distillation (UR, R)

RJS 9/13/94

0011

682A-6-93

9613476.0530

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME: ITAS-RICHLAND
SDG NO.: W0043
LAB SAMPLE ID: 40450206
MATRIX: WATER
WHC ID: B0BP12
DATE RECEIVED: 4/27/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER	
ALPHA	1.54E+00	8.16E-01	8.38E-01	8.52E-01	1	RD3222	
BETA	5.05E+01	3.71E+00	5.14E+00	3.06E+00	1	RD3222	
TOTAL-SR	4.59E-02	2.69E-01	2.69E-01	7.93E-01	0.916	RD3204	U
C-14	4.51E-02	1.53E+00	3.20E+00	3.58E+00	1	RD3263	U
TC-99	1.82E+02	2.59E+00	2.28E+01	2.13E+00	0.951	ITAS-IT-RS-0001	
TRITIUM	5.51E+03	2.28E+02	5.64E+02	2.50E+02	0.94	RD3205	F

LAB SAMPLE ID: 40456701
MATRIX: WATER
WHC ID: B0BP08
DATE RECEIVED: 4/29/94
REPORTING UNITS: pCi/L

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	YIELD	METHOD NUMBER	
ALPHA	2.56E+00	1.07E+00	1.12E+00	1.14E+00	1	RD3222	
BETA	1.02E+01	2.06E+00	2.18E+00	3.04E+00	1	RD3222	
TOTAL-SR	-2.00E-01	2.74E-01	2.78E-01	8.98E-01	0.851	RD3204	1
C-14	-1.19E+00	1.51E+00	3.17E+00	3.58E+00	1	RD3263	1
TC-99	2.38E+01	1.27E+00	6.13E+00	2.13E+00	0.951	ITAS-IT-RS-0001	
TRITIUM	2.62E+04	4.52E+02	2.06E+03	2.50E+02	0.94	RD3205	

1. Samples not analyzed within 7 days of distillation (UR, R

RJS 9/15/94

0012

682A-6-93

9613476.0531

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

INTERNATIONAL TECHNOLOGY CORPORATION

CERTIFICATE OF ANALYSIS

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

June 16, 1994

Attention: J.A.Lerch

SAF Number	:	94-129
Date SDG Closed	:	April 29, 1994
Number of Samples	:	Ten (10)
Sample Type	:	Water
SDG Number	:	W0043
Data Deliverable	:	Stand Alone

I. Introduction

On April 15, 19, 22, 27, and 29, 1994, ten water samples were received by ITAS-Richland for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the WHC specific IDs:

ITAS-Richland ID	WHC ID	Matrix	Date of Receipt
404289-01A	B0BNX8	Water	4/15/94
404351-01A	B0BNX4	Water	4/19/94
404430-01A	B0BNY2	Water	4/22/94
404502-01A	B0BP20	Water	4/27/94
404502-02A	B0BP42	Water	4/27/94
404502-03A	B0BP06	Water	4/27/94
404502-04A	B0BP30	Water	4/27/94
404502-05A	B0BNY6	Water	4/27/94
404502-06A	B0BP12	Water	4/27/94
404567-01A	B0BP08	Water	4/29/94

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gas Proportional Counting
Gross Alpha by method ITAS-RD-3222
Gross Beta by method ITAS-RD-3222
Strontium-90 by method ITAS-RD-3204
Liquid Scintillation Counting
Carbon-14 by method ITAS-RD-3247
Technetium-99 by method ITAS-IT-RS-0001
Tritium by method ITAS-RD-3205

III. Quality Control

The analytical results for each analysis performed under SDG W0043 include a minimum of one Laboratory Control Sample (LCS), one method (reagent) blank, and one duplicate. Any exceptions have been noted in the "Comments" section.

Quality control sample results are reported in the same units as sample results.

IV. Comments

Results from the initial radioactivity screening of these samples classified them as Category I.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3222
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BP30) results are within contractual limits.

Gross Beta by method ITAS-RD-3222
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BP30) results are within contractual limits.

Strontium-90 by method ITAS-RD-3204
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BP20) results are within contractual requirements.

Liquid Scintillation Counting

Carbon-14 by method ITAS-RD-3247
Samples B0BNX8 and B0BNX4 were inadvertently batched and analyzed with samples from SDG W0031 for the C-14 analysis. For the analytical batch containing these two samples the LCS (L042601S and L042602S), batch blank (L042601B), sample and sample duplicate (duplicate of samples B0BNX2 and B0BNZ2 from SDG W0031) results are within contractual requirements. These quality control sample results were previously reported with SDG W0031.

Sample B0BNY2 was also inadvertently batched with SDG W0031, however, the sample was omitted from the batch when the samples were counted. When the prepped sample was found to be missing from the batch (SDG W0031), cocktail was added to the sample and the sample was added to the bottom of the Batch Summary Form for SDG W0040 and counted with SDG W0040. The sample was prepared with SDG W0031 and, therefore, the reference QC samples for B0BNY2 are the same as the reference QC samples for the other SDG W0031 batch samples.

The remainder of the SDG W0043 samples (B0BP20, B0BP42, B0BP06, B0BP30, B0BNY6, B0BP12, and B0BP08) were batched and analyzed together. The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BP12) results are within contractual requirements.

Technetium-99 by method ITAS-IT-RS-0001
The matrix spikes, LCS, batch blank, sample and sample duplicate (duplicate of samples B0BNY6 and B0BNY2) results are within contractual requirements.

Tritium by method ITAS-RD-3205
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BNX8) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Reviewed and approved:

Suzanne Gaines

Suzanne Gaines
Project Manager

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priorty [X] Normal

Collector: Collector / G.G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Des.: 100-BC-5	Sampling Location: 100B	SAF No.: 94-129
Ice Chest No.: SMC 118	Field Logbook No.:	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0336-43	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks:		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Refrig 2C AJS 4/13/94 1375		

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2								
Type of Container	G/P	P	G/P	G/P	Gs	uGs	G/P								
No. of Container(s)	1	1	5	2	3	1	1								
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml								
SAMPLE ANALYSIS 40428801	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 40428901	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 40428802A								

Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBNX8	W	4/13/94	1015	X	X	X	X	X	X								
BOBNX9	W	↓	↓							X							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
G.G. Hamilton	4/13/94 1335	AJ SIMPSON AJ Simpson	4/13/94 1335
AJ SIMPSON AJ Simpson	4/15/94 1000	L Sweeney L Sweeney	4/15/94 1000
L Sweeney L Sweeney	4/15/94 1400	Karen Hattenling	4/15/94 14:40

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION: Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000021

9613476.0537

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-U-0336-43

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Env Eng. & Tech	EFS	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to
IT Analytical Services
2800 G.W. WAY
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description. (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample No: B0BNX8, B0BNX9 Cooler ID: SMG-118 Polycooler with groundwater samples packed in wet ice and vermiculite	NA

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
R Hastings	157173	4/15/94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	PH Butcher	(509) 376 4358

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-15-94	8B410 PB5AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4-15-94	PH Butcher	4-15-94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		JP Henkel	4/15/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
R Boyd				
Date 4-15-94 1440				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Green – Property Control Custodian (Issuing Office) Yellow – Receiver Pink – Originator

0030

000022

1

54-2000-479 (09/89)

9613476.0538

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1500 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

Per Shipping Container

Date/Time Received ~~4-14~~ 4-15-94 14:30 Client Name BOBIN X8/BORN X9

Project/Client # SAF - ~~94-130~~ 94-129 Batch or Case # WHC

Cooler ID (if noted on the outside of cooler) SMC 118

1. Condition of shipping container? O/C
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☑ No ☐
7. Number of sample containers in cooler: 14
8. Samples have: ✓ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ✓ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 3°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☑

Printed Name/Signature Karen Stahlberg Date/Time 4-15-94 14:40

FORM NO. LS-042, Rev.0, 2/94

0033

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	Beta	Mnts
WHC			41594		415	10	14	212	240

PUH category I
JRN 15 Apr 94

Customer ID WHC/WATER	pH <2 Rcvd/Reiq	RESIDUE Wght (mGrms)	Vol. Anal. mG mL	Sample Size Gm L	SMPLE CNT DATA Hldr Num.	Total Alpha	Counts Beta	Net Sample Counts/Minute Alpha	Beta	DPM / Aliqout Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Beta
B0BNH9		0.9	5	4.0	35	8	76	0.74	6.72	2.7E+00	1.4E+01	9.7E-04	5.0E-03	8.6E-07	1.4E-06	2.4E+02	1.2E+03	Yes	4.1E+01	8.0E+01
B0BNX8		0.3	5	1.0	36	13	39	1.24	3.02	4.7E+00	5.6E+00	4.2E-04	5.1E-04	2.8E-07	2.3E-07	4.2E+02	5.1E+02	Yes	2.4E+01	2.0E+02
B0BNJ1		2.0	5	4.0	37	4	73	0.34	6.42	1.2E+00	1.3E+01	4.2E-04	4.9E-03	5.7E-07	1.5E-05	1.0E+02	1.2E+03	Yes	9.6E+01	8.2E+01
TOTAL	uCi							-0.06	-0.88	-2E-01	-2E+00	1.8E-03	1.0E-02	ERR	ERR	ERR	ERR	Yes	ERR	ERR

9613476.0539

000024

0010

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priorty [X] Normal

Collector: K.D. Lee	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100-BC-5	SAF No.: 94-129
Ice Chest No.: GWS015	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0336-48	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	N/A	HNO3<2	
Type of Container	G/P	P	G/P	G/P	Gs	G	G/P	
No. of Container(s)	1	1	5	2	3	1	1	
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	20ml	1000ml	
SAMPLE ANALYSIS 404350	ICP METALS AA METALS Hg CLP 914	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	TOTAL ACTIVITY	ICP METALS, AA METALS, Hg CLP FILTERD	

Sample No.	Matrix*	Date Sampled	Time Sampled														
B0B1XX4	W	04/18/94	1133	X	X	X	X	X	X	02A							
B0B1XX5	W	04/18/94	1133							X							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
Kirby D. Lee K.D. Lee	04/18/94 1400	L Sweeney L Sweeney	4/18/94 1400
L Sweeney L Sweeney	4/18/94 1150	[illegible] TG Gilmore	4/18/94 1150

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION: Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

000025

DISTRIBUTION

9613476.0541

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0-0336-48

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Eng. Env. & Tech	EFS	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
IT Analytical Services 2800 G.W. WAY Richland, WA 99352	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample #; BOBNX4, BOBNX5 Cooler ID: GWS015 Poly cooler with groundwater samples packed in wet ice and vermiculite	NA

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling Supports RI/FS work in the 100 AREA

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
[signature]	157556	4/19/94

Location of Property (Area & Bldg.)	Contact	Phone
100-RC-5	PH Butcher	509 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-19-94	8K410 P85AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4-19-94	P.H. Butcher	4/19/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[signature]	4/19/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

[signature] ITAS 4/19/94 000026

0042

54-3000-479 (09/89)

9613476.0542

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0-C336-018

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Eng. Env. & Tech.	EFS	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
IT Waste Services 2200 G.W. WAY [illegible] WA [illegible]	Full Title

Quantity	Description, (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample #: BCBNX4, BCBNX5 Cooler #: GILSC15 Disposal with groundwater samples [illegible] in wet ice and vermiculite	NA

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling [illegible] RI/FS work in the 100 Area

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
[illegible]	[illegible]	[illegible]

Location of Property (Area & Bldg.)	Contact	Phone
[illegible]	[illegible]	509 372-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
[illegible]	[illegible]	NA

Originated By	Date	Authorized By	Date
[illegible]	[illegible]	[illegible]	[illegible]

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible]	4/19/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

ITAS 4/19/94 000022

0913

54-3000-479 (09/89)

9613476.0543

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1500 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

* Per Shipping Container

Date/Time Received 4/19/94 1150 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) GWS015

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/19/94 1150

FORM NO. LS-042, Rev.0, 2/94

0044

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

All Category I
JRN 19 Apr 94

Customer Code WHC	Recieved Date	Time	Screening Prep Date 41994	Time	Count Date 419	Mnts. Cntd 10	BACKGROUND Alpha 4	Beta 104	Mnts 120

Customer ID WHC/LIQ	pH <2 Rcvd/Reiq	RESIDUE Wght (mGrms)	Vol. Anal. mG	mL	Sample Size Gm	L	SMPLE CNT DATA Hldr Num.	Total Alpha	Counts Beta	Net Sample Counts/Minute Alpha	Beta	DPM / Aliqout Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Beta
94102-01.D18		72.4	72		850.0		1	1	13	0.07	0.43	5.7E-01	9.9E-01	3.0E-03	5.2E-03	7.9E-06	5.5E-06	3.5E+00	6.1E+00	Yes	2.8E+03	1.6E+04
94102-02.D18		22.5	23		250.0		2	0	16	-0.03	0.73	-2E-01	1.7E+00	-1E-03	8.3E-03	-3E-06	6.3E-06	-4E+00	3.3E+01	Yes	-2E+03	3.0E+03
WHC/WATER														0.0E+00	0.0E+00							
B0BNX4		0.7	5		1.0		3	4	21	0.37	1.23	1.4E+00	2.4E+00	1.3E-04	2.2E-04	1.5E-07	2.4E-07	1.3E+02	2.2E+02	Yes	6.0E+01	4.6E+02
TOTAL	uCi									-0.03	-0.87	-1E-01	-2E+00	2.1E-03	1.4E-02	ERR	ERR	ERR	ERR	Yes	ERR	ERR

9613476.0544

000029

0043

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-7	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-3	Bill of Lading/Air Bill No.: N/A W94-NCS 4-22-94 NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	oGs	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD

404429 404430 01

Sample No.	Matrix*	Date Sampled	Time Sampled							
01 B0BNY2	W	4/21/94	0920	X	X	X	X	X	X	
02 B0BNY3	W	↓	↓							X A

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	4/22/94 0752	L. Sweeney L. Sweeney	4/22/94 0752
L. Sweeney L. Sweeney	4/22/94 1400	R. Boyd RJ	4/22/94 1400
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000030

0046

SAMPLE STATUS REPORT FOR E 6263. E-BLANK 1-B4-1 TIME: 4/22/94 8:19
DISPATCHED: 4/ 1/94 15:11 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 4/22/94 7:43

EXT.	DETER.	RESULTS OR STATUS	OUT OF RANGE?	GOOD ANS?	CHARGE CODE
****	********	**********	***	***	******
4271	TOT-ACT	< 5.00000E 01 pCi/G	N	Y	VOGEL

END OF REPORT.

BOBNY2
BOBNY3

LCS
4/22/94

0047

9613476.0547

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0-0518-3

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to

IT Analytical Services
2800 George Washington Way
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs.	Sample #: BOBP02, BOBP03, BOBP26, BOBP27 Cooler ID: ER-9 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: BOBNY2, BOBNY3, BOBP10, BOBP11 Cooler ID: ER-7 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

Bill of lading # NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
R Nelson	157906	4-22-94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	P. H. Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-22-94	8B410 PB5AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4/22/94	P H Butcher	4/22/94
Signature and Name of Property Control	**Custodian Date**	**Property Management Approval**	**Date**
		JP Hankel	4/22/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
R. Boyd Jr				
Date 4-22-94 1400				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Green – Property Control Custodian (Issuing Office) Yellow – Retain Pink – Originator

0040

000032

54-3000-479 (09/89)

9613476.0548

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
2800 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(1 Per Shipping Container)

Date/Time Received 4-22-94 1400 Client Name WHC

Project/Client # 94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) ER-7

1. Condition of shipping container? D.IC
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 4-22-94 24
8. Samples have: X tape ____ hazard labels
   X custody seals ____ appropriate sample labels
9. Samples are: X in good condition ____ leaking
   X broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) n/a
    Request for analysis #(s) n/a
    Airbill # n/a Carrier n/a
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☒

Printed Name/Signature Karen Schlenley Date/Time 4-22-94 1400

FORM NO. LS-042, Rev.0, 2/94

0049

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

all Cat. I
JRn 22 Apr 94

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	Beta	Mnts
WHC			42294		422	10	13	232	240

Customer ID WHC/WATER	pH <2 Rcvd/Reiq	RESIDUE Wght (mGrms)	Vol. Anal. mG	mL	Sample Size Gm	L	SMPLE CNT DATA Hldr Num.	Total Alpha	Counts Beta	Net Sample Counts/Minute Alpha	Beta	DPM / Aliqout Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Beta
B0BP26		0.9	5		4.0		5	6	46	0.55	3.63	2.0E+00	7.4E+00	7.3E-04	2.7E-03	7.3E-07	1.0E-06	1.8E+02	6.7E+02	Yes	5.5E+01	1.5E+02
B0BP10		0.7	5		1.0		6	1	20	0.05	1.03	1.5E-01	2.2E+00	1.3E-05	2.0E-04	4.9E-08	1.3E-07	1.3E+01	2.0E+02	Yes	7.6E+02	5.1E+02
B0BNY2		0.9	5		1.0		7	6	25	0.55	1.53	2.1E+00	2.9E+00	1.9E-04	2.6E-04	1.6E-07	2.2E-07	1.9E+02	2.6E+02	Yes	5.3E+01	3.8E+02
B0BP02		1.3	5		1.0		8	2	11	0.15	0.13	5.7E-01	1.9E-01	5.1E-05	1.7E-05	9.0E-08	1.6E-08	5.1E+01	1.7E+01	Yes	1.9E+02	5.9E+03
B0BP00		1.2	5		1.0		9	1	14	0.05	0.43	1.7E-01	6.9E-01	1.5E-05	6.1E-05	4.9E-08	4.3E-07	1.5E+01	6.1E+01	Yes	6.7E+02	1.2E+03
B0BNY4		0.6	5		1.0		10	3	22	0.25	1.23	9.2E-01	2.5E+00	8.3E-05	2.2E-04	1.2E-07	3.7E-07	8.3E+01	2.2E+02	Yes	1.2E+02	4.5E+02
B0BNP7		0.5	5		4.0		11	1	17	0.05	0.73	1.6E-01	1.5E+00	5.6E-05	5.5E-04	1.9E-07	4.1E-06	1.4E+01	1.4E+02	Yes	7.2E+02	7.2E+02
B0BNM5		2.6	5		4.0		12	5	173	0.45	16.33	1.3E+00	3.5E+01	4.6E-04	1.2E-02	6.6E-07	5.4E-05	1.2E+02	3.1E+03	Yes	8.7E+01	3.2E+01
B0BNP3		0.5	5		4.0		14	1	17	0.05	0.73	1.6E-01	1.5E+00	5.6E-05	5.5E-04	1.9E-07	4.1E-06	1.4E+01	1.4E+02	Yes	7.2E+02	7.2E+02
TOTAL	uCi									-0.05	-0.97	-2E-01	-2E+00	1.7E-03	1.7E-02	ERR	ERR	ERR	ERR	Yes	ERR	ERR

000034

0050

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: 042	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0578-15	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Retain 2A AJS 4/26/94 1620

SAMPLE ANALYSIS: 404501

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	Gs	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ML	1000ml
	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Actinin Scan	ICP METALS, AA METALS, Hg CLP FILTERD 02A

Sample No.	Matrix*	Date Sampled	Time Sampled														
B0BP20 01	W	4/26/94	1300	X	X	X	X	X	X								
B0BP21 02	W	↓	↓							X							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	1610 4/26/94	AJ SIMPSON / AJ Simpson	4/26/94 1620
AJ Simpson / AJ SIMPSON	4/27/94 1021	L Sunderman / L Sunderman	4/27/94 1021
		Heidelberg	4/27 1210

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000035

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: 042	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0578-15	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Refais 2A AJS 4/26/94 1615

SAMPLE ANALYSIS: 404501

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2										
Type of Container	G/P	P	G/P	G/P	Gs	mGS	G/P										
No. of Container(s)	1	1	5	2	3	1	1										
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml										
	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD CHA										
Sample No.	Matrix*	Date Sampled	Time Sampled														
B0BP42 03	W	4/26/94	1445	X	X	X	X	X	X								
B0BP43 04	W	↓								Y							

404501 0204

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: K. Vinson / K. Trapp	Date/Time: 4/26/94 1610	Received By: AJ Simpson	Date/Time: 4/26/94 1615
Relinquished By: AJ Simpson	Date/Time: 4/27/94 1021	Received By: L Sweeney / L Sweeney	Date/Time: 4/27/94 1021
Relinquished By: L Sweeney / L Sweeney	Date/Time: 4/27/94 1210	Received By: Heidelberg	Date/Time: 4/27/94
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

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- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000036

0036

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 P	SAF No.: 94-129
Ice Chest No.: GWS020	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0578-1S	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE 3C AJS 4/26/94 1610

SAMPLE ANALYSIS: 404501

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	inGS	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 40450203	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 06A

Sample No.	Matrix*	Date Sampled	Time Sampled														
B0BP06 05	W	4/26/94	1035	X	X	X	X	X	X								
B0BP07 06	W	↓	↓							X							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	4/26/94 1600	AJ Simpson AJSIMPSON	4/26/94 1610
AJ SIMPSON AJ Simpson	4/27/94 1016	L Sweeney L Sweeney	4/27/94 1016
L Sweeney L Sweeney	4-27-94 1210	Heidelberg	4/27/1210
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
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- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000037

0033

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: GWS 02.C	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-15	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE 3C AJS 1608 4/26/94		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2	
Type of Container	G/P	P	G/P	G/P	Gs	aGs	G/P	
No. of Container(s)	1	1	5	2	3	1	1	
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ML	1000ml	
SAMPLE ANALYSIS 404501	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD D8A	

Sample No.	Matrix*	Date Sampled	Time Sampled														
B0BP30 07	W	4/26/94	1415	X	X	X	X	X	X								
B0BP31 08	W	↓	↓							↓							

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By: K. Trapp / K. Trapp Date/Time: 1610 4/26/94	Received By: AJ SIMPSON AJ Simpson Date/Time: 4/26/94 1608	
Relinquished By: AJ Simpson AJ SIMPSON Date/Time: 4/27/94 10 17	Received By: L Sweeney L Sweeney Date/Time: 4/27/94 1017	
Relinquished By: L Sweeney L Sweeney Date/Time: 4-27-94 1210	Received By: Hudellee Date/Time: 4/27 1210	
Relinquished By: Date/Time:	Received By: Date/Time:	

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
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- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000038

C.J.4

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-9	Field Logbook No.: EFL-1076	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A U194-0-0578-11	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Rotrus 3 ZAJS

SAMPLE ANALYSIS: 404501

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 10A								
Preservative				HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2								
Type of Container				G/P	P	G/P	G/P	Gs	aGs	G/P								
No. of Container(s)				1	1	5	2	3	1	1								
Volume				1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml								
BOBNV6 9	W	4/25/94	1040	+	+	+	+	+	+									
BOBNV7 10	W	↓	↓							+								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	4/25/94 1355	AJ Simpson	4/25/94 1355
AJ Simpson / AJ SIMPSON	4/27/94 0922	L Sweeney / L Sweeney	4/27/94 0922
L Sweeney / L Sweeney	4-27-94 1210	[illegible]	4/27 1210

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

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- SL = Sludge
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- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9413476.0559

000039

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Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Tropp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-9	Field Logbook No.: EFL-1076	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0578-11	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Refrig 3x AJS		

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	aG	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml
SAMPLE ANALYSIS 404501	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Radion Scan	ICP METALS, AA METALS, Hg CLP FILTERD 12A

Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBP12 11	W	4/25/94	1205	X	X	X	X	X	X								
BOBP13 12	W	↓								X							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: K. Tropp / K. Tropp	Date/Time: 4/25/94 1355	Received By: AJSIMPSON RQ Simpson	Date/Time: 4/25/94 1355
Relinquished By: AJSIMPSON RQ Simpson	Date/Time: 4/27/94 0925	Received By: L Sweeney L Sweeney	Date/Time: 4/27/94 0925
Relinquished By: L Sweeney L Sweeney	Date/Time: 4-27-94 1210	Received By: Heidelberg	Date/Time: 4/27 1210
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000040

0055

9613476.0555

9613476.0556

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-U-0518-15

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to
IT Analytical Services
2800 George Washington Way
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs.	Sample #: B0BP42, B0BP43, B0BP20, B0BP21 Cooler ID: 042 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: B0BP30, B0BP31, B0BP06, B0BP07 Cooler ID: GWS020 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

Bill of lading # NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
	152933	4/22/94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	P. H. Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-27-94	8B410 PR5AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4/27/94	[illegible]	4/27/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible]	

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
[illegible]				
Date 4/27/94				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

0557

54-3000-479 (09/89)

INTERNATIONAL TECHNOLOGY CORPORATION
9613476.0557
Regional Office
1800 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

* Per Shipping Container

Date/Time Received 4/27 1210 Client Name WHC

Project/Client # 94-129 Batch or Case # n/a

Cooler ID (if noted on the outside of cooler) 042

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 27
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 40

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) n/a
    Request for analysis #(s) ↓
    Airbill # ↓ Carrier ↓
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature JHiedeberg Date/Time 4/27 1210

FORM NO. LS-042, Rev.0, 2/94

0058

9613476.0558

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1550 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

* Per Shipping Container

Date/Time Received 4/27 1210 Client Name WHC

Project/Client # 94-129 Batch or Case # na

Cooler ID (if noted on the outside of cooler) SWS 020

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 78
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 2°

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) ____
    Request for analysis #(s) ____
    Airbill # ____ Carrier ____
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature [signature] Date/Time 4/27 1210

FORM NO. LS-042, Rev.0, 2.94

0059

INTERNATIONAL TECHNOLOGY CORPORATION
9613476.0559
Regional Office
1230 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

* Per Shipping Container

Date/Time Received 4/27 1210 Client Name WHC

Project/Client # 94-129 Batch or Case # na

Cooler ID (if noted on the outside of cooler) ER9

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: _____
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature _____

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) _____
    Request for analysis #(s) na
    Airbill # _____ Carrier _____
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature [signature] Date/Time 4/27 1210

FORM NO. LS-042, Rev.0, 2.94

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

all below mmf 4-27-94

all Cat I mmf 4-27-94

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	Beta	Mnts
WHC			42794		427	10	20	228	240

Customer ID WHC/WATER	pH <2 Rcvd/Relq	RESIDUE Wght (mGrms)	Vol. Anal. mG mL	Sample Size Gm L	SMPLE CNT DATA Hldr Num.	Total Counts Alpha	Beta	Net Sample Counts/Minute Alpha	Beta	DPM / Aliqout Alpha	Beta	uCi per Sample Alpha	Beta	2 Sigma Error uCi per Sample Alpha	Beta	pCi/(Gm or L) Alpha	Beta	Catagory 1 Yes/No	Aliquot to Cat 1 Gm or Ltr Alpha	Beta
B0BNM9		0.9	5	4.0	1	8	42	0.72	3.25	2.7E+00	6.5E+00	9.7E-04	2.3E-03	8.4E-07	9.5E-07	2.4E+02	5.8E+02	Yes	4.1E+01	1.7E+02
B0BNN1		1.8	5	4.0	2	3	49	0.22	3.95	7.4E-01	8.3E+00	2.7E-04	3.0E-03	4.5E-07	1.0E-06	6.6E+01	7.5E+02	Yes	1.5E+02	1.3E+02
B0BNK1		1.5	5	4.0	3	2	48	0.12	3.85	3.4E-01	8.1E+00	1.2E-04	2.9E-03	3.2E-07	2.3E-05	3.1E+01	7.3E+02	Yes	3.3E+02	1.4E+02
B0BRK9		0.1	5	4.0	4	1	9	0.02	-0.05	6.6E-02	-1E-01	2.4E-05	-4E-05	1.2E-07	-2E-07	5.9E+00	-1E+01	Yes	1.7E+03	-9E+03
B0BP06		0.5	5	1.0	5	2	14	0.12	0.45	4.4E-01	8.8E-01	4.0E-05	7.9E-05	7.9E-08	1.7E-07	4.0E+01	7.9E+01	Yes	2.5E+02	1.3E+03
B0BNN5		1.1	5	4.0	6	5	23	0.42	1.35	1.6E+00	2.6E+00	5.7E-04	9.4E-04	6.3E-07	9.6E-07	1.4E+02	2.3E+02	Yes	7.0E+01	4.3E+02
B0BP30		0.2	5	1.0	7	0	11	-0.08	0.15	-3E-01	3.7E-01	-3E-05	3.4E-05	-7E-08	5.6E-08	-3E+01	3.4E+01	Yes	-3E+02	3.0E+03
B0BP20		1.7	5	1.0	8	5	20	0.42	1.05	1.6E+00	2.0E+00	1.5E-04	1.8E-04	1.6E-07	1.6E-07	1.5E+02	1.8E+02	Yes	6.9E+01	5.6E+02
B0BRL7		1.7	5	4.0	9	2	42	0.12	3.25	3.6E-01	6.9E+00	1.3E-04	2.5E-03	3.2E-07	1.7E-05	3.2E+01	6.2E+02	Yes	3.1E+02	1.6E+02
B0BNN3		2.2	5	4.0	10	1	41	0.02	3.15	-3E-02	6.7E+00	-1E-05	2.4E-03	-1E-07	1.7E-04	-3E+00	6.1E+02	Yes	-3E+03	1.7E+02
B0BP12		1.8	5	1.0	11	1	16	0.02	0.65	4.6E-02	1.4E+00	4.1E-06	1.2E-04	3.0E-08	3.0E-06	4.1E+00	1.2E+02	Yes	2.4E+03	8.1E+02
B0BRL5		0.3	5	4.0	12	1	10	0.02	0.05	6.3E-02	9.6E-02	2.3E-05	3.4E-05	1.2E-07	1.7E-07	5.7E+00	8.6E+00	Yes	1.8E+03	1.2E+04
B0BNY8		1.7	5	1.0	13	1	24	0.02	1.45	2.0E-02	3.1E+00	1.6E-06	2.8E-04	2.9E-08	2.2E-05	1.8E+00	2.8E+02	Yes	5.5E+03	3.6E+02
B0BNY6		1.8	5	1.0	14	1	19	0.02	0.95	3.6E-02	2.0E+00	3.3E-06	1.8E-04	3.0E-08	6.6E-06	3.3E+00	1.8E+02	Yes	3.1E+03	5.5E+02
B0BP42		0.1	5	1.0	15	1	11	0.02	0.15	6.0E-02	3.1E-01	5.4E-06	2.8E-05	2.9E-08	2.4E-07	5.4E+00	2.8E+01	Yes	1.9E+03	3.6E+03
TOTAL	uCi							-0.08	-0.95	-3E-01	-2E+00	2.3E-03	1.5E-02	ERR	ERR	ERR	ERR	Yes	ERR	ERR

Rcvd at 3:45 pm KAA

000045

96164276.0560

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: GWS014	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A U94-00578-26	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks:

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

Retain 3A AJS 4/27/94 AJS 1342 Retain 3A

SAMPLE ANALYSIS: 404566

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP METALS AA METALS Hg CLP	ANIONS F,SO4 COND pH	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD
Preservative				HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2
Type of Container				G/P	P	G/P	G/P	Gs	aGS	G/P
No. of Container(s)				1	1	5	2	6 KT 4/27/94 3	1	1
Volume				1000mL	1000mL	1000mL	1000mL	500mL KT 4/27/94 ~~1000mL~~	40mL	1000mL
				A	B	404566	01			02A
BOBP08 01	W	4/27/94	1030 ~~1015~~ KT 4/27/94	X	X	X	X	X	X	
BOBP09 02	W	↓	↓							X

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: K. Trapp / K. Trapp		4/27/94 1340
Received By: AJ SIMPSON / AJ Simpson		4/27/94 1340
Relinquished By: AJ SIMPSON / AJ Simpson		4/29/94 1027
Received By: L Sweeney / L Sweeney		4/29/94 1030
Relinquished By: L Sweeney / L Sweeney		4.29.94 1210
Received By: Karen Sterling		4-29-94 1210
Relinquished By:		
Received By:		

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000046

000046

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Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-U-0518-26

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from [X] Contractor [ ] Vendor

Routing [X] Contractor [ ] Vendor

Shipped to	Off-site Custodian
IT Analytical Services 2800 George Washington Way Richland, WA 99352	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs.	Sample #: BUBP08, BUBP09 Cooler ID: GWSC44 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: Cooler ID: NA Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

[ ] Classified [X] Unclassified [ ] Shipped Under DOE Contract [ ] Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

Bill of lading # NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
R Nelson	157785	4-29-94

Location of Property (Area & Bldg.)	Contact	Phone
100-FX-5	P. H. Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4/29/94	8B410 PBSFW	N/A

Originated By	Date	Authorized By	Date
PH Butcher	4/29/94	A Simpson	4/29/94
Signature and Name of Property Control	**Custodian Date**	**Property Management Approval**	**Date**
		J P Hankel	4/29/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

0063

54-3000-479 (09/89)

9613476.0563

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1400 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

* Per Shipping Container

Date/Time Received 4-29-94 12:10 Client Name WHC

Project/Client # 94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) GWS044

1. Condition of shipping container? OK.
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☐ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☑ No ☐
7. Number of sample containers in cooler: 17
8. Samples have: ✓ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 4°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) NA
    Request for analysis #(s) NA
    Airbill # NA Carrier NA
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☑

Printed Name/Signature Karen Ackenberg KAS Date/Time 4-29-94 12:10

FORM NO. LS-042, Rev.0, 2/94

0064

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

All are Category I
JRN 29 Apr 94

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	Beta	Mnts
WHC			42994		429	10	18	227	240

Customer ID	pH <2	RESIDUE Wght	Vol. Anal.		Sample Size		SMPLE CNT DATA Hldr	Total	Counts	Net Sample Counts/Minute		DPM / Aliqout		uCi per Sample		2 Sigma Error uCi per Sample		pCi/(Gm or L)		Catagory 1	Aliquot to Cat 1 Gm or Ltr	
WHC/WATER	Rcvd/Relq	(mGrms)	mG	mL	Gm	L	Num.	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Yes/No	Alpha	Beta
B0BNL1		1.9	5		4.0		1	1	25	0.03	1.55	5.0E-02	3.3E+00	1.8E-05	1.2E-03	1.5E-07	6.4E-07	4.5E+00	3.0E+02	Yes	2.2E+03	3.4E+02
B0BNJ3		2.0	5		4.0		2	4	23	0.33	1.35	1.3E+00	2.7E+00	4.5E-04	9.6E-04	5.6E-07	6.0E-07	1.1E+02	2.4E+02	Yes	8.9E+01	4.1E+02
B0BNJ9		2.0	5		4.0		3	5	48	0.43	3.85	1.6E+00	8.0E+00	5.7E-04	2.9E-03	6.4E-07	4.9E-06	1.4E+02	7.2E+02	Yes	7.1E+01	1.4E+02
B0BP08		1.8	5		1.0		4	3	20	0.23	1.05	8.6E-01	2.1E+00	7.8E-05	1.9E-04	1.1E-07	3.1E-07	7.8E+01	1.9E+02	Yes	1.3E+02	5.3E+02
B0BNL9		0.6	5		4.0		5	1	7	0.03	-0.25	1.0E-01	-5E-01	3.8E-05	-2E-04	1.4E-07	-1E-06	9.5E+00	-5E+01	Yes	1.1E+03	-2E+03
B0BRM1		1.2	5		4.0		6	2	11	0.13	0.15	4.9E-01	2.5E-01	1.8E-04	8.9E-05	3.3E-07	1.0E-07	4.4E+01	2.2E+01	Yes	2.3E+02	4.5E+03
B0BNK9		1.1	5		4.0		7	0	12	-0.08	0.25	-3E-01	5.9E-01	-1E-04	2.1E-04	-3E-07	4.9E-07	-3E+01	5.3E+01	Yes	-4E+02	1.9E+03
TOTAL	uCi									-0.08	-0.95	-3E-01	-2E+00	1.2E-03	5.3E-03	ERR	ERR	ERR	ERR	Yes	ERR	ERR

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Appendix 5

Data Validation Supporting Documentation

RADIOCHEMICAL DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	(D)	E
PROJECT: WHC/BHI			DATA PACKAGE: T00568		
VALIDATOR: RJS		LAB: IT		DATE: 9/15/94	
CASE:			SDG: W0043		

ANALYSES PERFORMED

☒ Gross Alpha/Beta	☒ Strontium-90	☒ Technetium-99	☐ Alpha Spectroscopy	☐ Gamma Spectroscopy	
☐ Total Uranium	☐ Radium-22	☒ Tritium	☒ C^{14}		

SAMPLES/MATRIX B0BNX8, B0BNX4, B0BP20, B0BNY6
B0BP12, B0BP08, B0BNY2, B0BP06, B0BP30
B0BP42
(10 water samples)

1. Completeness . . . . . ☐ N/A

Technical verification forms present? . . . . . (Yes) No N/A

Comments:

2. Initial Calibration . . . . . ☐ N/A

Instruments/detectors calibrated within one year of sample analysis? . . . . . (Yes) No N/A

Initial calibration acceptable? . . . . . (Yes) No N/A

Standards NIST traceable? . . . . . (Yes) No N/A

Standards Expired? . . . . . Yes (No) N/A

Comments: Gross α, β ✓
Sr^{90} ✓
Tc^{99} ✓
3H ✓
C^{14} ✓

3. Continuing Calibration . . . . . ☐ N/A

Calibration checked within one week of sample analysis? . . . Yes No N/A
Calibration check acceptable? . . . . . Yes No N/A
Calibration check standards NIST traceable? . . . . . Yes No N/A
Calibration check standards expired? . . . . . Yes No N/A

Comments: Gross α, β ✓
Sr^{90} ✓
C^{14} ✓
3H ✓
Tc^{99} ✓

4. Blanks . . . . . ☐ N/A

Method blank analyzed? . . . . . Yes No N/A
Method blank results acceptable? . . . . . Yes No N/A
Analytes detected in method blank? . . . . . Yes No N/A
Field blank(s) analyzed? . . . . . Yes No N/A
Field blank results acceptable? . . . . . Yes No N/A
Analytes detected in field blank(s)? . . . . . Yes No N/A
Transcription/Calculation Errors? . . . . . Yes No N/A

Comments: Gross α, β ✓
Sr^{90} ✓
Tc^{99} ✓
C^{14} ✓
3H ✓

5. Matrix Spikes . . . . . ☐ N/A

Matrix spike analyzed? . . . . . Yes No N/A
Spike recoveries acceptable? . . . . . Yes No N/A
Spike source traceable? . . . . . Yes No N/A
Spike source expired? . . . . . Yes No N/A
Transcription/Calculation Errors? . . . . . Yes No N/A

Comments: Tc^{99} (2 matrix Spikes) 111%
99% (✓)

6. Laboratory Control Samples . . . . . ☐ N/A

LCS analyzed? . . . . . Yes No N/A
LCS recoveries acceptable? . . . . . Yes No N/A
LCS traceable? . . . . . Yes No N/A
Transcription/Calculation Errors? . . . . . Yes No N/A

Comments: Gross α, β ✓
Sr^{90} ✓
C^{14} ✓
^{3}H ✓
Tc^{99} ✓

7. Chemical Recovery . . . . . ☐ N/A

Chemical carrier added? . . . . . Yes No N/A
Chemical recovery acceptable? . . . . . Yes No N/A
Chemical carrier traceable? . . . . . Yes No N/A
Chemical carrier expired? . . . . . Yes No N/A
Transcription/Calculation errors? . . . . . Yes No N/A

Comments: Sr^{90} ✓

8. Duplicates . . . . . ☐ N/A

Duplicates Analyzed? . . . . . Yes No N/A
RPD Values Acceptable? . . . . . Yes No N/A
Transcription/Calculation Errors? . . . . . Yes No N/A

Comments: Gross α < 5xRDL 52% ✓
Gross β < 5xRDL 8% ✓
Sr^{90} < 1RDL 10.4
^{3}H > 5xRDL (12%) ✓
C^{14} < 5xRDL ✓

9. Field QC Samples . . . . . ☒ N/A

Field duplicate sample(s) analyzed? . . . . . Yes ~~No~~ N/A
Field duplicate RPD values acceptable? . . . . . Yes No N/A
Field split sample(s) analyzed? . . . . . ~~Yes~~ No N/A
Field split RPD values acceptable? . . . . . Yes No N/A
Performance audit sample(s) analyzed? . . . . . Yes No N/A
Performance audit sample results acceptable? . . . . . Yes No N/A

Comments:

10. Holding Times

Are sample holding times acceptable? . . . . . Yes No N/A

Comments: Tritium - Samples not analyzed within 7 days of distillation (R, UR)

11. Results and Detection Limits (Levels D & E) . . . . . ☐ N/A

Results reported for all required sample analyses? . . . . . Yes No N/A
Results supported in raw data? . . . . . Yes No N/A
Results Acceptable? . . . . . Yes No N/A
Transcription/Calculation errors? . . . . . Yes No N/A
MDA's meet required detection limits? . . . . . Yes No N/A
Transcription/calculation errors? . . . . . Yes No N/A

Comments:

RECORD COPY

Date: September 19, 1994
To: Westinghouse Hanford Company (technical representative)
From: A.T. Kearney, Inc.
Subject: Wet Chemistry - Data Package No. W0031-ITC-041 (SDG No. W0043)

INTRODUCTION

This memo presents the results of data validation on Data Package No. W0031-ITC-041 prepared by the International Technology Corporation (ITC) laboratory. A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation Level	Analysis
B0BNX4	04/18/94	Water	D	See Note 1
B0BNX8	04/21/94	Water	D	See Note 1
B0BNY6	04/25/94	Water	D	See Note 1
B0BP06	04/26/94	Water	D	See Note 1
B0BP08	04/27/94	Water	D	See Note 1
B0BP12	04/25/94	Water	D	See Note 1
B0BP20	04/26/94	Water	D	See Note 1
B0BP30	04/26/94	Water	D	See Note 1
B0BP42	04/26/94	Water	D	See Note 1

Note 1. Requested Method: Anions: F, S04, Cond., pH

Data validation was conducted in accordance with the WHC statement of work (WHC 1994) and validation procedures (WHC 1993). Appendices 1 through 5 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualifications
Appendix 3. Qualified Data Summary and Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation

DATA QUALITY OBJECTIVES

- **Holding Times**

Analytical holding times for fluoride, pH, sulfate, and specific conductance were assessed to ascertain whether the holding time requirements were met by the laboratory. The holding time requirements are as follows: 28 days for fluoride; specific conductance and sulfate; and 24 hours for pH.

The 24-hour holding time for pH was exceeded for sample numbers B0BNX4, B0BNX8, B0BNY6, B0BP06, B0BP08, B0BP12, B0BP20, B0BP30 and B0BP42 in SDG No. W0043. All associated results were qualified as estimates and flagged "J".

Holding times for all other analytes reviewed met QC requirements.

- **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 are qualified as non-detected "U".

All laboratory blank results were acceptable.

- **Accuracy**

Matrix Spike

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.

All matrix spike results were acceptable.

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).

All LCS results were found to be acceptable.

- **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.

- **Sample Result Verification 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.

  The reviewer verified that the results and detection limits fell within the linear range of the instrument. All sample result verification and detection limits were acceptable.

- **Completeness**

  Data Package No. W0031-ITC-041 (SDG No. W0043) was submitted for validation and verified for completeness.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

A review of instrument continuing calibration information and QC data indicate that instrument performance was adequate for all analyses. Holding times were exceeded for pH in all samples and associated results were qualified as estimates and flagged "J". Estimated results are usable for limited purposes only. All other validated results are considered accurate within the standard error associated with the methods.

REFERENCES

EPA, 1987, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, Environmental Protection Agency, Washington, D.C.

EPA, 1988c, *EPA Contract Laboratory Program Statement of Work for Inorganics Analyses, Multi-Media, Multi-Concentration*, U.S. Environmental Protection Agency, Washington, D.C.

EPA, 1988d, *Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses*, U.S. Environmental Protection Agency, Washington, D.C.

EPA, 1990, *EPA Contract Laboratory Program Statement of Work for Inorganic Analyses, Multi-media, Multi-Concentration*, U.S. Environmental Protection Agency, Washington, D.C.

WHC, 1992a, *Data Validation Procedures for Chemical Analyses*, WHC-SD-EN-SPP-002, Rev. 2, Westinghouse Hanford Company, October 1993.

9613476.0574

Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers which may be applied by data validators in compliance with the procedures herein are as follows:

U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the same quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

J - Indicates the compound or analyte was analyzed for and detected. The associated concentration is an estimate, but the data are usable for decision-making purposes.

BJ - Applied to inorganic analyses only. Indicates the analyte concentration was greater than the IDL but less than the CRDL and is considered an estimated value.

R - Indicates the compound or analyte was analyzed for, detected, and due to an identified QC deficiency, the data are unusable.

UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified QC deficiency.

JN - Indicates a tentatively identified compound (TIC) that has been determined to be valid in terms of identification and quantitation.

UJN - Indicates a tentatively identified compound (TIC) that has been determined to be presumptive and valid (JN) in terms of identification and quantitation and has been qualified as undetected (U) due to associated blank contamination.

NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications usable for decision-making purposes).

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Appendix 2

Summary of Data Qualification

DATA QUALIFICATION SUMMARY

SDG: W0043	REVIEWER: SC	DATE: 8/11/94	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
pH	J	B0BNX4, B0BNX8, B0BNY6, B0BP06, B0BP08, B0BP12, B0BP20, B0BP30, B0BP42	Holding Times Exceeded

9613476.0578

Appendix 3

Qualified Data Summary and Annotated Laboratory Reports

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

Project: WESTINGHOUSE-HANFORD																					
Laboratory: IT																					
Case	SDG: W0043																				
Sample Number		B0BNX4		B0BNX8		B0BNY6		B0BP06		B0BP08		B0BP12		B0BP20		B0BP30		B0BP42			
Location		1-B2-13		1-B3-46		1-B4-5		6-63-90		6-65-72		6-66-64		6-72-92		6-72-92		6-72-92			
Remarks																EB		EB			
Sample Date		04/18/94		04/13/94		04/25/94		04/26/94		04/27/94		04/25/94		04/26/94		04/26/94		04/26/94			
Wet Chemistry Analytes	CRDL	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Fluoride	300.0	0.40	U	0.46		0.40	U	0.40	U	0.70		0.50		0.40	U	0.40	U	0.40	U		
Sulfate	300.0	41		45		46		27		34		39		38		1.5	U	1.5	U		
pH	9040	7.65	J	8.0	J	8.02	J	8.02	J	7.71	J	8.09	J	8.08	J	6.53	J	6.16	J		
Specific Conductivity (umhos/cm)	120.1	405.0		1.0	U	427		2.0		405		427		394		2.0		350			

EB = Equipment Blank

000010

9513976.0579

9613476.0580

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	383
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	05/10/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBNX8	AA6809	8.0 J	-

9/15/94 RJS

* - A method blank is not applicable for this analysis.

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	417
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	04/26/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBNX4	AA7285	7.65 J	-

9/15/94
RJC

* - A method blank is not applicable for this analysis.

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	454
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	05/03/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBNY6	AA7802	8.02 J	-
BOBP12	AA7804	8.09 J	-
BOBP06	AA7798	8.02 J	-
BOBP20	AA7786	8.08 J	-
BOBP30	AA7800	6.53 J	-
BOBP42	AA7796	6.16 J	-

RJS 9/15/94

* - A method blank is not applicable for this analysis.

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	463
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	05/06/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBP08	AA7894	7.71 J	-

RJJ 9/15/94

* - A method blank is not applicable for this analysis.

SPECIFIC CONDUCTANCE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	383
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	05/10/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6190	1	U
BOBNX8	AA6809	1	U

9/15/94
RJS

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

SPECIFIC CONDUCTANCE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	417
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	04/27/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6154	1	U
BOBNX4	AA7285	405	+

9/15/94
RJS

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

SPECIFIC CONDUCTANCE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	454
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	05/02/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6133	1	U
BOBNY6	AA7802	427	+
BOBP12	AA7804	427	+
BOBP20	AA7786	394	+
BOBP06	AA7798	2	+
BOBP30	AA7800	2	+
BOBP42	AA7796	350	+

RJS 9/15/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

SPECIFIC CONDUCTANCE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	463
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	05/04/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6151	1	U
BOBP08	AA7894	405	+

RJS 9/15/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	463
Client Sample ID:	BOBP08	Preparation Date:	05/19/94
Lab Sample ID:	AA7894	Analysis Date:	05/19/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.70	+	0.40
sulfate	34	+	3.0

RJS
9/15/94

+ - Positive result.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	454
Client Sample ID:	BOBP20	Preparation Date:	05/19/94
Lab Sample ID:	AA7786	Analysis Date:	05/19/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
sulfate	38	+	7.5

RJS
9/15/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	454
Client Sample ID:	BOBP12	Preparation Date:	05/18/94
Lab Sample ID:	AA7804	Analysis Date:	05/18/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.5	+	0.40
sulfate	39	+	7.5

RJS
9/15/94

+ - Positive result.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	454
Client Sample ID:	BOBNY6	Preparation Date:	05/18/94
Lab Sample ID:	AA7802	Analysis Date:	05/18/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
sulfate	46	+	7.5

RJS
9/15/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	454
Client Sample ID:	BOBP30	Preparation Date:	05/18/94
Lab Sample ID:	AA7800	Analysis Date:	05/18/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
sulfate	1.5	U	1.5

RJS
7/15/94

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	454
Client Sample ID:	BOBP06	Preparation Date:	05/18/94
Lab Sample ID:	AA7798	Analysis Date:	05/18/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
sulfate	27	+	1.5

RJS
9/15/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	454
Client Sample ID:	BOBP42	Preparation Date:	05/18/94
Lab Sample ID:	AA7796	Analysis Date:	05/18/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
sulfate	1.5	U	1.5

RJS
9/15/94

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	417
Client Sample ID:	BOBNX4	Preparation Date:	05/16/94
Lab Sample ID:	AA7285	Analysis Date:	05/16/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
sulfate	41	+	7.5

RSS 9/16/94

+ - Positive result.
U - Compound was analyzed for but not detected. The number is the detection limit for the sample.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0043
Contract Name:	Westinghouse Hanford	Job Number:	383
Client Sample ID:	BOBNX8	Preparation Date:	05/11/94
Lab Sample ID:	AA6809	Analysis Date:	05/11/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.46	+	0.40
sulfate	45	+	3.0

RJS
9/16/94

+ - Positive result.

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Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT Corporation
2800 George Washington Way
Richland, WA 99352
Attn: Van Pettey

June 13, 1994

Job Number: 383; 417; 426; 454; 463

This is the Certificate of Analysis for the following samples:

SDG:	W0043
Client Project ID:	WHC SAF# 194-129 100-BC-5 Groundwater Round-6
Date Received by Lab:	April 16, April 20, April 29 and April 30, 1994
Number of Samples:	Twenty (20)
Sample Type:	Water

I. Introduction

On April 16, April 20, April 29 and April 30, 1994, twenty (20) water samples arrived at ITAS-Richland, Washington and were transferred to ITAS-Knoxville for chemical analysis. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

II. Analytical Results/Methodology

The analytical results for this report are presented by analytical test. Each set of data will include sample identification information and the analytical results.

The samples were analyzed for Target Analyte List (TAL) metals by cold vapor atomic absorption spectroscopy (CVAA), graphite furnace atomic absorption spectroscopy (GFAA), and inductively coupled plasma spectroscopy (ICP) in accordance with the EPA CLP ILM03 Statement of Work.

Reviewed and Approved:

Sheree A. Schneider

Sheree' A. Schneider
Project Manager

II. Analytical Results/Methodology (Continued)

The pH of the samples was determined using EPA method 150.1.

The specific conductance of the samples was measured using EPA method 120.1.

The samples were analyzed for anions by ion chromatography using EPA method 300.0.

III. Quality Control

The samples for work order #417 were digested on May 4, 1994 for ICP and May 4 and May 10, 1994 for GFAA. The CVAA analysis for mercury was performed on May 9, 1994; the GFAA analyses for arsenic, lead, selenium and thallium were performed from May 6 through May 10, 1994 and June 7, 1994; the remaining metals were analyzed by ICP on May 31, 1994. All run QC was acceptable. Samples were batched with work order #454.

The samples for work order #426 were digested on May 20, 1994 for ICP and May 5, 1994 for GFAA. The CVAA analysis for mercury was performed on May 9, 1994; the GFAA analyses for arsenic, lead, selenium and thallium were performed from May 5 through May 11, 1994; the remaining metals were analyzed by ICP on May 24, 1994. All run QC was acceptable. Samples were batched with QC from work order #454.

The samples for work order #454 were digested on May 18, 1994 for ICP and GFAA. The CVAA analysis for mercury was performed on May 18, 1994; the GFAA analyses for arsenic, lead, selenium and thallium were performed from May 18-23, 1994; the remaining metals were analyzed by ICP on May 25, 1994. All run QC was acceptable. A duplicate/spike pair was prepared using sample number BOBP20 (total) & BOBP21 (dissolved). Spike recovery (accuracy) results were within acceptance limits for all parameters for both samples except for lead by GFAA and mercury by CVAA for BOBP20 (total). Matrix interferences created by the high calcium concentrations may be attributable to poor spike recovery for both analytes. Duplicate RPD (precision) results were within acceptance limits for all parameters for both samples.

The samples for work order #463 were digested on May 12, 1994 for ICP and GFAA. The CVAA analysis for mercury was performed on May 18, 1994; the GFAA analyses for arsenic, lead, selenium and thallium were performed from May 18 through May 24, 1994; the remaining metals were analyzed by ICP on May 25, 1994. All run QC was acceptable. Samples were batched with QC from work order #454.

III. Quality Control (Continued)

Data were reported with qualifiers as follows:

"C" Qualifiers

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.
B - Value greater than instrument detection limit, but less than contract required quantitation limit.

"O" Qualifiers

* - Duplicate analysis outside control limits.
N - Spiked sample recovery outside control limits.
W - Post-digestion spike for GFAA was out of control limits (85-115%), while sample absorbance was less than 50% of spike absorbance.
S - The reported value was determined by method of standard additions.

"M" Qualifiers

P - Analysis performed by ICP.
V - Analysis performed by CVAA.
F - Analysis performed by GFAA.
C - Cyanide analysis by manual distillation/colorimetric determination.

Miscellaneous

D - Duplicate.
S - Spike.
NR - Not required.
G - Native analyte > 4 times spike added, therefore, acceptance criteria do not apply.
X - Detection limits higher than normal due to sample matrix interferences.

Duplicate analyses for pH were performed using sample numbers BOBP20 and BOBNX8. Results were acceptable.

Duplicate analyses for specific conductance were performed using sample numbers BOBP20 and BOBNX8. Results were acceptable.

Matrix spike and matrix spike duplicate analyses for anions were performed using sample numbers BOBP20 and BOBNX8. Results were acceptable.

III. Quality Control (Continued)

Table I is a cross reference between client sample IDs and laboratory sample IDs.

TABLE I

Knoxville ID	Richland ID	WHC ID	Test
AA6809	4044288-01B	BOBNX8	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7284	W404350-01A	BOBNX4	METALS-T
AA7285	W404350-01B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7286	W404350-02A	BOBNX5	METALS-D
AA7371	404429-01A	BOBNY2	METALS-T
AA7372	404429-02A	BOBNY3	METALS-D
AA7785	404501-01A	B0BP20	METALS-T
AA7786	404501-01B	"	ANIONS
"	404501-01B	"	pH
"	404501-01B	"	CONDUCTIVITY
AA7805	404501-02A	BOBP21	METALS-D
AA7795	404501-03A	BOBP42	METALS-T

III. Quality Control (Continued)

Table I is a cross reference between client sample IDs and laboratory sample IDs.

TABLE I

Knoxville ID	Richland ID	WHC ID	Test
AA7796	404501-03B	BOBP42	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7806	404501-04A	BOBP43	METALS-D
AA7797	404501-05A	BOBP06	METALS-T
AA7798	404501-05B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7807	404501-06A	BOBP07	METALS-D
AA7799	404501-07A	BOBP30	METALS-T
AA7800	404501-07B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7808	404501-08A	BOBP31	METALS-D

III. Quality Control (Continued)

Table I is a cross reference between client sample IDs and laboratory sample IDs.

TABLE I

Knoxville ID	Richland ID	WHC ID	Test
AA7801	404501-09A	BOBNY6	METALS-T
AA7802	404501-09B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7809	404501-10A	BOBNY7	METALS-D
AA7803	404501-11A	BOBP12	METALS-T
AA7804	404501-11B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7810	404501-12A	BOBP13	METALS-D
AA7893	404566-01A	BOBP08	METALS-T
AA7894	404566-01B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7895	404566-02A	BOBP09	METALS-D

IT Corporation
June 13, 1994
Job Number: 383; 417; 426; 454; 463
Client Project ID: WHC SAF #194-129 100-BC-5 Groundwater Round-6

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

IV. Certification

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature:

Reviewed and Approved:

Sheree' A. Schneider
Project Manager

682-1-89

9613476.0605

WO#417

INTERNATIONAL TECHNOLOGY CORPORATION

National Office
[illegible] George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

Per Shipping Container

Date/Time Received 4/19/94 1150 Client Name WHC

Project/Client # 94-123 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) GWS015

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/19/94 1150

FORM NO. LS-042, Rev.0, 2.94

9613476.0606

WO#426

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
2350 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

1 Per Shipping Container

Date/Time Received 4-22-94 14:00 Client Name WHC

Project/Client # 94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) ER-8

1. Condition of shipping container? O.K.
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ 4-22-94 No ☐
7. Number of sample containers in cooler: ~~12~~ 24
8. Samples have: X tape ____ hazard labels
   X custody seals ____ appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) n/a
    Request for analysis #(s) n/a
    Airbill # n/a Carrier n/a
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☒

Printed Name/Signature Karen Achtenberg Date/Time 4-22-94 14:00

FORM NO. LS-042, Rev.0, 2/94

9613476.0607

WO#454

INTERNATIONAL TECHNOLOGY CORPORATION

National Office
[illegible] George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

For Shipping Containers

Date/Time Received 4/27 1210 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) 042

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes X No ☐
3. Custody Seals dated and signed? Yes X No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes X No ☐
5. Vermiculite/packing material is: Wet ☐ Dry X
6. Each sample is in a plastic bag? Yes X No ☐
7. Number of sample containers in cooler: 27
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes X No ☐

Sample temperature 40

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #(s) N/A
    Request for analysis #(s) ↓
    Airbill # ↓ Carrier ↓
12. Have any anomalies been identified above? Yes ☐ No X
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature J Hildebrand Date/Time 4/27 1210

FORM NO. LS-042, Rev.0, 2 94

9613476.0608

WO #454

INTERNATIONAL TECHNOLOGY CORPORATION

National Office
[illegible] George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

For Shipping Containers

Date/Time Received 4/27 1210 Client Name WHC

Project/Client # 94-129 Batch or Case # NA

Cooler ID (if noted on the outside of cooler) NWS 020

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 78
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 2°

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #(s) N/A
    Request for analysis #(s) N/A
    Airbill # ✓ Carrier ____
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Henderson Date/Time 4/27 1210

FORM NO. LS-042, Rev.0 2 94

9613476.0609

WO#454

INTERNATIONAL TECHNOLOGY CORPORATION

National Office
[illegible] George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

For Shipping Containers

Date/Time Received 4/27 1210 Client Name WHC

Project/Client # 94I-129 Batch or Case # —

Cooler ID (if noted on the outside of cooler) ERG

1. Condition of shipping container? GU
2. Custody Seals on cooler intact? Yes ✓ No ☐
3. Custody Seals dated and signed? Yes ✓ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ✓ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ✓
6. Each sample is in a plastic bag? Yes ✓ No ☐
7. Number of sample containers in cooler: _____
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ✓ No ☐

Sample temperature _____

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) _____
    Request for analysis #(s) N/A
    Airbill # _____ Carrier _____
12. Have any anomalies been identified above? Yes ☐ No ✓
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature [illegible] Date/Time 4/27 1210

FORM NO. LS-042, Rev.0, 2 94

9613476.0610

WO #463

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1500 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

* Per Shipping Container

Date/Time Received 4-29-94 12:10 Client Name WHC

Project/Client # 94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) GWS044

1. Condition of shipping container? OK.
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☐ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 17
8. Samples have: ✓ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 4°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☒

Printed Name/Signature Karen Ashenburg Date/Time 4-29-94 12:10

FORM NO. LS-042, Rev.0, 2/94

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priorty [X] Normal

Collector: K.D. Lee	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100-BC-5	SAF No.: 94-129
Ice Chest No.: CHUSC15	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W194-C-0336-48	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	N/A	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	G	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	20ml	1000ml
SAMPLE ANALYSIS 404350	ICP METALS AA METALS Hg CLP 814	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99 404351 01	TRITIUM C-14	TOTAL ACTIVITY	ICP METALS, AA METALS, Hg CLP FILTERD

Sample No.	Matrix*	Date Sampled	Time Sampled							
B0BNX4	W	04/18/94	1133	X	X	X	X	X	X	02A
B0BNX5	W	04/18/94	1133							X

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K.D. Lee K.D. Lee	4/18/94 1400	L Sweeney L Sweeney	4/18/94 1400
L Sweeney L Sweeney	4/18/94 1150	[illegible] Gilmore	4/18/94 1150

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000042

9613976.0611

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priorty [X] Normal

Collector: Greg Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Des.: 100-BC-5	Sampling Location: 100B	SAF No.: 94-129
Ice Chest No.: SMC 118	Field Logbook No.:	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0336-43	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks:

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Relinq 2C AJS 4/13/94 1375

SAMPLE ANALYSIS: 40428801

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2									
Type of Container	G/P	P	G/P	G/P	Gs	uGs	G/P									
No. of Container(s)	1	1	5	2	3	1	1									
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40 ml	1000ml									
	ICP METALS AA METALS Hg CLP A	ANIONS F, SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 40428901	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 40428802A									
Sample No.	Matrix*	Date Sampled	Time Sampled													
B0BNX8	W	4/13/94	1015	X	X	X	X	X	X							
B0BNX9	W	↓	↓							X						

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: G G Hamilton	Date/Time: 1335 4/13/94	Received By: AJ SIMPSON AJ Simpson	Date/Time: 4/13/94 1335
Relinquished By: AJ SIMPSON AJ Simpson	Date/Time: 4/15/94 1000	Received By: L Sweeney	Date/Time: 4/15/94 1000
Relinquished By: L Sweeney	Date/Time: 4/15/94 1400	Received By: [illegible]	Date/Time: 4/15/94 14:40
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000043

DQA 6/21/94

00451

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Tripp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 C	SAF No.: 94-129
Ice Chest No.: 0442	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-15	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE 2A AJS 4/26/94 1620		

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	[illegible]	HNO3<2									
Type of Container	G/P	P	G/P	G/P	Gs	[illegible]	G/P									
No. of Container(s)	1	1	5	2	3	1	1									
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ML	1000ml									
SAMPLE ANALYSIS 404501	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD 02A									

Sample No.	Matrix*	Date Sampled	Time Sampled														
B0BR20 01	W	4/26/94	1700	X	X	X	X	X	X								
B0BR21 02	W	↓	↓														

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Tripp / K. Tripp	4/26/94 1610	A.J. SIMPSON / A.J. Simpson	4/26/94 1620
A.J. SIMPSON / A.J. Simpson	4/27/94 1021	[illegible]	4/27/94 1021
		H. Heidelberg	4/27 1210

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION: Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000044

9613476.0613

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K. Tiepp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 1.26 ft	SAF No.: 94-129
Ice Chest No.: C-4.2	Field Logbook No.: EFL-1636	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W194-0-0518-15	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Refer ZA AJS 4/26/94 1615

SAMPLE ANALYSIS: 404501

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14		ICP METALS, AA METALS, Hg CLP FILTERD CHA							
						40450202											
B0BP42 03	W	4/26/94	1445	X	X	X	X	X	X								
B0BP43 04	W	↓								Y							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: K. Vinson / K. Tiepp	Date/Time: 1610 4/26/94	Received By: AJ Simpson	Date/Time: 4/26/94 1615
Relinquished By: AJ Simpson	Date/Time: 4/27/94 1021	Received By: L Sweeney / L Sweeney	Date/Time: 4/27/94 1021
Relinquished By: L Sweeney / L Sweeney	Date/Time: 4/27/94 1210	Received By: Heidelberg	Date/Time: 4/27/94
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS: DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000045

9613476.0614

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K. Tripp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 F	SAF No.: 94-129
Ice Chest No.: GWS020	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0578-15	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE 32 AJS 4/26/94 1610

SAMPLE ANALYSIS: 404501

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4		HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs		G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	[illegible]	1000ml
	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 404502	Tc-99	TRITIUM C-14 43	[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD D A

Sample No.	Matrix*	Date Sampled	Time Sampled														
B08P06 05	W	4/26/94	16[illegible]	X	1	1	1	1	1								
B08P07 06	W	↓	↓							1							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: K. Tripp / K. Tripp, Date/Time: 4/26/94 1600	Received By: AJ Simpson AJ Simpson, Date/Time: 4/26/94 1610		
Relinquished By: AJ Simpson / AJ Simpson, Date/Time: 4/27/94 1016	Received By: L Sweeney / L Sweeney, Date/Time: 4/27/94 1016		
Relinquished By: L Sweeney / L Sweeney, Date/Time: 4-27-94 1210	Received By: Heidelberg, Date/Time: 4/27/1210		
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000046

9619746.0615

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: GWS02C)	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W24-0-0518-15	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Relinq 3C AJS 1608 4/26/94

SAMPLE ANALYSIS: 404501

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs		G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml
	ICP METALS AA METALS Hg CLP A	ANIONS F, SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14		ICP METALS, AA METALS, Hg CLP FILTERD 08A

Sample No.	Matrix*	Date Sampled	Time Sampled														
B0BP30 07	W	4/26/94	1415	X	X	X	X	X	X								
B0BP31 08	W	↓	↓							X							

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: K. Trapp / K. Trapp	Received By: AJ Simpson / AJ Simpson	4/26/94 1608
Relinquished By: AJ Simpson / AJ Simpson	Received By: L Sweeney / L Sweeney	4/27/94 1017
Relinquished By: L Sweeney / L Sweeney	Received By: [illegible]	4-27-94 1210
Relinquished By:	Received By:	

SPECIAL INSTRUCTIONS: DATA DELIVERABLE-STANDALONE

Matrix*: S = Soil; SE = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air; DS = Drum Solids; DL = Drum Liquids; T = Tissue; WI = Wipe; L = Liquid; V = Vegetation; X = Other

LABORATORY SECTION: Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000047

9613476.0616

WO

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Tipp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-9	Field Logbook No.: EFI-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A U374-0-0578-11	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE 12/12/15 JL AJS		

SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP	ANIONS F,SO4 COND pH	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD
Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	(vial)	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml
404501	A	B	404502	05			10A

Sample No.	Matrix*	Date Sampled	Time Sampled							
BOBNY6 9	W	4/25/94	1041	+	+	+	+	+	+	
BOBNY7 10	W	↓	↓							1

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By	Date/Time
Relinquished By	K. Tipp / K. Tipp	4/25/94 1355	CA Simpson	4/26/94 1355
Relinquished By	AJ SIMPSON CA Simpson	4/27/94 0922	L Sweeney, L Sweeney	4/27/94 0922
Relinquished By	L Sweeney / L Sweeney	4-27-94 1210	J Heidelberg	4/27 1210
Relinquished By			Received By	

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000048

9413476.0617

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priorty [X] Normal

Collector: K. Tropp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: K10 B	SAF No.: 94-129
Ice Chest No.: ER-9	Field Logbook No.: EFL-1026	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W194-0-0578-11	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Rebaig 3x AJS		

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	[illegible]	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40 ml	1000ml
SAMPLE ANALYSIS 404501	ICP METALS AA METALS Hg CLP A	ANIONS F, SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 40450206	Tc-99	TRITIUM C-14	[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD 12 A

Sample No.	Matrix*	Date Sampled	Time Sampled							
BOBP12 11	W	4/25/94	1205	X	X	X	X	X	X	
BOBP13 12	W	↓								X

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Umpp / K. Tropp	4/25/94 1355	AJ SIMPSON / RJ Simpson	4/26/94 1345
AJ SIMPSON / RJ Simpson	4/27/94 0925	J Sweeney / J Sweeney	4/27/94 0925
J Sweeney / J Sweeney	4-27-94 1210	Heudelling	4/27 1210

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION — Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION — Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9413476.0618

000049

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: GWS0114	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W194-0-0518-26	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

Relinq AJS 4/27/94; Relinq AJS 1342; Relinq 3A

SAMPLE ANALYSIS: 404566

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Gross	ICP METALS, AA METALS, Hg CLP FILTERD 02A							
Preservative				HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2							
Type of Container				G/P	P	G/P	G/P	G	G	G/P							
No. of Container(s)				1	1	5	2	6	1	1							
Volume				1000ml	1000ml	1000ml	1000ml	500ml ~~1000ml~~	40mL	1000ml							
404566 01	W	4/27/94	1030 ~~1015~~ KT 4/27/94	X	X	X	X	X	X								
404566 02	W	↓	↓							X							

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: K. Trapp / K. Trapp		4/27/94 1340
Received By: AJ SIMPSON	AJ Simpson	4/27/94 1340
Relinquished By: AJ SIMPSON	AJ Simpson	4/29/94 1027
Received By: L Sweeney / L Sweeney		4/29/94 1090
Relinquished By: L Sweeney / L Sweeney		4.29.94 1210
Received By: Naomi Sutterling		4-29-94 1210
Relinquished By:		
Received By:		

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000050

9613476.0619

9613476.0620

WO#417

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-C-C336-018

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Eng. Env. & Tech	EFS	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
IT Analytical Services 2200 G.W. WAY Kent WA 98032	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample #: BCBNX1, BCBNX5 Cooler #: GW5C15 Returned with non-hazardous sample material if not re-used [illegible]	NA

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 Area

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date
[signature]	15[illegible]	4/19/94

Location of Property (Area & Bldg.)	Contact	Phone
100-FR-3	[illegible] Butcher	50[illegible]

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-19-94	8K410 P85AA	NA

Originated By	Date	Authorized By	Date
[illegible] Butcher	4/19/94	[illegible]	

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[signature]	4/19/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

[signature] ITAS 4/19/94 1150

54-3000-479 (09/89)

9613476.0621

WO#454

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		WG4-6 / 518-15

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
IT Analytical Services 2800 George Washington Way Richland, WA 99352	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs.	Sample #: BOBP43, BOBP26, BOBP21 Cooler ID: C42 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: BOBP30, BOBP31, BOBP26, BOBP40 Cooler ID: C4SC2C Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

Bill of lading # NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date
	157933	6/27/94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	P. H. Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
6/27/94	8B410 PB5AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	6/27/94	[illegible]	6/27/94
Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible]	6/27/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
[illegible]				
Date 6/27/94				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

54-3000-479 (09/89)

9613476.0622

WO#463

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-C-C518-26

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to

IT Analytical Services
2800 George Washington Way
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs.	Sample #: BCBP08, BOBP09 Cooler ID: GWSC44 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: Cooler ID: Polycooler with groundwater samples packed in wet ice and vermiculite NA	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

Bill of lading # NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
R Nelson	157785	4-29-94

Location of Property (Area & Bldg.)	Contact	Phone
100-BC-5	P. H. Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
~~4-26~~ 4/29/94	88410 PBSAA	NA

Originated By	Date	Authorized By	Date
PH Butcher	4/29/94	A Simpson	4/29/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		J P Hankel	4/29/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

54-3000-479 (09/89)

INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001481*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO# 50 ... 4/96

Reference Document No. 340580
Page 1 of ___

Project Name/No. [1] 94-129
Sample Team Members [2]
Profit Center No. [3] 4632
Project Manager [4] Van Petty
Purchase Order No. [6]
Required Report Date [11]

Samples Shipment Date [7] 4-15-94
Lab Destination [8] Middlebrook
Lab Contact [9]
Project Contact/Phone [12]
Carrier/Waybill No. [13]

Bill to: [5] F.T. Richland

Report to: [10] F.T. Richland

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Pre-servative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
40428801 A	BOBNX8	4-13-94 10:15	G	1L		METALS	3° C BB 4/14/94 <2	
↓ B	↓	↓	P	1L		ANIONS	↓	
A	BOBNX9	↓	G	1L		METALS	<2	
	JH 4/15/94							

FOR LAB USE ONLY

FOR LAB USE ONLY

Special Instructions: [23] As per WHC Contract

Possible Hazard Identification: [24]
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: [25]
Return to Client ☒ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required: [26]
Normal ☒ Rush ☐

QC Level: [27]
I. ☐ II. ☐ III. ☐ Project Specific (specify) SAF 94-129

1. Relinquished by (Signature/Affiliation) Heidelberg	Date: 4/15/94 Time: 1600	1. Received by [28] (Signature/Affiliation) Bryan Blanquet ITAS KH	Date: 4/16/94 Time: 9:30
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: [29] SDG-W0031

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

MCA 3/15/91

000054

9615976.0623

INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. 0001512

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO#41 RL#529

Reference Document No. 340390

Page 1 of 1

Project Name/No. 1 94-129

Sample Team Members 2

Profit Center No. 3 4632

Project Manager 4 VanPetley

Purchase Order No. 6

Required Report Date 11

Samples Shipment Date 7 4/19/94

Lab Destination 8 Middlebrook

Lab Contact 9

Project Contact/Phone 12

Carrier/Waybill No. 13 112 8740 864

Bill to: 5 ITAS Richland

Report to: 10 ITAS Richland

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Preservative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
W40435001 A	BOB NX4 /H_2O	4/18/94 1133	Glass	1000ml	HNO_3 4°C	Metals	4°C KAK 4-20-94	
B	|	|	Poly	|	|	Anions	FOR LAB USE ONLY	
02A	BOB NX5 /H_2O	|	Glass	|	HNO_3	metals		
	4/19/94							
							FOR LAB USE ONLY	

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required: 26
Normal ☒ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0031

1. Relinquished by 28 (Signature/Affiliation) ITAS	Date: 4/19/94 Time: 1600	1. Received by 28 (Signature/Affiliation) Kenya A. Klemm ITMS-KN	Date: 04-20-94 Time: 09810
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

MCA 3/15/91

White: To accompany samples

Yellow: Field copy

*See back of form for special instructions.

000055

9613476.0624

INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001523*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO#426 W#538

Reference Document No. 453601

Page 1 of 1

Project Name/No. 1 SAP 94-129

Sample Team Members 2

Profit Center No. 3 4632

Project Manager 4 Van Petty

Purchase Order No. 6

Required Report Date 11

Samples Shipment Date 7 4-23-94

Lab Destination 8 Middle Brook

Lab Contact 9

Project Contact/Phone 12

Carrier/Waybill No. 13 887557606 5

Bill to: 5 IT Richland

Report to: 10 IT Richland

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
40442901A	BOBNY2 / water	4-21-94 0920	G/P	1000ml	Cool 4°	ICP, GFAA, Hg	<2 5 BHG 4/25/94	
B	↓	↓	P	↓	↓	Anions, Cond, ~~Hg~~ PH CN	4-22-94	
40442902A	BOBNY3 ↓	↓	G/P	↓	↓	ICP, GFAA, Hg	<2	
		PB	4-22-94					

FOR LAB USE ONLY

FOR LAB USE ONLY

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive ____ (mos.)

Turnaround Time Required: 26
Normal ☐ Rush ☐ As Per WHC Contract

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0031

1. Relinquished by 28 (Signature/Affiliation) R. Boyd IT	Date: 4-23-94 Time: 1200	1. Received by 28 (Signature/Affiliation) Bryan Blomquist IT TASKW	Date: 4/25/94 Time: 8:55
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

MCA 3/15/91

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

000056

96134769.0625

INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001550*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO # 965 RL

Reference Document No. 45J61U

Project Name/No. [1] SAF94-129

Sample Team Members [2]

Profit Center No. [3] 4632

Project Manager [4] YAN PETTEY

Purchase Order No. [6]

Required Report Date [11]

Samples Shipment Date [7] 4-28-94

Lab Destination [8] Middlebrook

Lab Contact [9]

Project Contact/Phone [12]

Carrier/Waybill No. [13] 150 9385 473

Bill to: [5] IT Richland

Report to: [10] IT Richland

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Pre-servative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
40450101 A	BOBP20 / water	4/26 1300	G/P	1000 ml	Cool 4°C	ICP, GFAA, Hg	5°C BPB 4/29/94 <2	
B	↓	↓	P	↓	↓	Anions, SO4, Cond, PH (4/28/94)	FOR LAB USE ONLY	
02A	BOBP21 / water	↓	G/P	↓	↓	ICP, GFAA, Hg	<2	
03A	BOBP42 / water	4/26 1445	↓	↓	↓	ICP, GFAA, Hg	<2	
B	↓	↓	P	↓	↓	Anions, SO4, Cond, PH.	FOR LAB USE ONLY	
04A	BOBP43 / water	↓	G/P	↓	↓	ICP, GFAA, Hg	<2	
05A	BOBP06 / water	4/26 1035	↓	↓	↓	ICP, GFAA, Hg	<2	
B	↓	↓	P	↓	↓	Anions, SO4, Cond, PH.	↓	

Special Instructions: [23] As per WHC Contract

Possible Hazard Identification: [24] Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: [25] Return to Client ☒ Disposal by Lab ☐ Archive _____ (mos.)

Turnaround Time Required: [26] Normal ☒ Rush ☐

QC Level: [27] I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0043

1. Relinquished by [28] (Signature/Affiliation) R. Boyd IT	Date: 4-28-94 Time: 1600	1. Received by [28] (Signature/Affiliation) Bryan Blanquist ITASKN	Date: 4/29/94 Time: 8:45
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: [29]

MCA 3/15/91

White: To accompany samples

Yellow: Field copy

*See back of form for special instructions.

000057

9613476.0626

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 453610
Page 2 of 2

Project Name SAF 94-129

Project No. SDL W0043

Samples Shipment Date 4-28-94

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
40450106A	BOBP07 /Water	4/26 1035	G/P	1000ml	Cool 4°	ICP, GFAA, Hg	5°C BPB 4/29/94 <2	
07A	BOBP30 /Water	4/26 1415	↓			ICP, GFAA, Hg	<2	FOR LAB USE ONLY
B	↓		P			ANIONS, SO4, Cond, PH		
08A	BOBP31 /Water	↓	G/P			ICP, GFAA, Hg	<2	
09A	BOBN46 /Water	4/25 1040	↓			ICP, GFAA, Hg	<2	
B	↓		P			ANIONS, SO4, Cond, PH		
10A	BOBN47 /Water	↓	G/P			ICP, GFAA, Hg	<2	
11A	BOBP12 /Water	4/25 1205	↓			ICP, GFAA, Hg	<2	
B	↓		P			ANIONS, SO4, Cond, PH		
12A	BOBP13 /Water	↓	G/P	↓	↓	ICP, GFAA, Hg	<2	
	JH 4/28/94							

White: To accompany samples Yellow: Field copy

*See back of form for special instructions.

MCA 3/15/91

850058

9613476.0627

INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001557*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO #463 Rev #580

Reference Document No. 453616
Page 1 of 1

Project Name/No. 1 SAF94-129
Sample Team Members 2
Profit Center No. 3 4632
Project Manager 4 Van Pettey
Purchase Order No. 6
Required Report Date 11

Samples Shipment Date 7 4-29-94
Lab Destination 8 Middlebrook
Lab Contact 9
Project Contact/Phone 12
Carrier/Waybill No. 13 150 9934167

Bill to: 5 IT Richland
Report to: 10 IT Richland

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Preservative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
40456601A	BOBP08 /water	4/27 1030	G/P	1000ml	Cool 4°	ICP, GFAA, Hg	4°C BPB 4/30/94 <2	
↓ B	↓	↓	P	↓	↓	ANIONS, SO4, Cond, PH	↓	
40456602A	BOBP09 /water	↓	G/P	↓	↓	ICP, GFAA, Hg	↓	
	JH 4/29/94							

FOR LAB USE ONLY

FOR LAB USE ONLY

Special Instructions: 23 As per WHC Contract

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive _____ (mos.)

Turnaround Time Required: 26
Normal ☒ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0043

1. Relinquished by 28 (Signature/Affiliation) Heidelberg	Date: 4-29-94 Time: 16:00	1. Received by 28 (Signature/Affiliation) Bryan Blomquist / IT ASKN	Date: 4/30/94 Time: 9:35
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

MCA 3/15/91

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

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Appendix 5

Data Validation Supporting Documentation

GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	(D)	E
PROJECT: WHC/BHI			DATA PACKAGE: T00568		
VALIDATOR: RJS		LAB: IT		DATE: 9/15/94	
CASE:			SDG: W0043		

ANALYSES PERFORMED

☒ Anions/IC	☐ TOC	☐ TOX	☐ TPH-418.1	Oil and Grease	Alkalinity
☐ Ammonia	☐ BOD/COD	☐ Chloride	☐ Chromium-VI	☒ pH	☐ NO_2/NO_3
☒ Sulfate	☐ TDS	☐ TKN	☐ Phosphate	☒ Specific Conductance	☐
☐	☐	☐	☐	☒ Fluoride	☐

SAMPLES/MATRIX BOBP08, BOBP20, BOBP12, BOBNY6
BOBNX4, BOBNX8, BOBP06, BOBP30, BOBP42
(9 samples) (WATER)

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Is technical verification documentation present? . . . . . (Yes) No N/A

Is a case narrative present? . . . . . (Yes) No N/A

Comments:

2. HOLDING TIMES

Are sample holding times acceptable? . . . . . Yes (No) N/A

Comments:

PH — Analyzed outside of Holding time limit (24 hrs.)
= All samples qualified "J"

GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

3. INSTRUMENT CALIBRATION

Was initial calibration performed for all applicable analyses? Yes No N/A

Are initial calibration results acceptable? . . . . . Yes No N/A

Was a calibration check performed for all applicable analyses? Yes No N/A

Are calibration check results acceptable? . . . . . Yes No N/A

Comments:

4. BLANKS

Were laboratory blanks analyzed? . . . . . Yes No N/A

Are laboratory blank results acceptable? . . . . . Yes No N/A

Were field/trip blanks analyzed? . . . . . Yes No N/A

Are field/trip blank results acceptable? . . . . . Yes No N/A

Comments:

5. ACCURACY

Were spike samples analyzed at the required frequency? . . . . Yes No N/A

Are spike recoveries acceptable? . . . . . Yes No N/A

Were LCS analyses performed at the required frequency? . . . . Yes No N/A

Are LCS recoveries acceptable? . . . . . Yes No N/A

Comments:

6. PRECISION

Were laboratory duplicate samples analyzed at the required frequency? . . . . . Yes No N/A

Are laboratory duplicate sample RPD values acceptable? . . . . Yes No N/A

Are field duplicate RPD values acceptable? . . . . . Yes No N/A

Are field split RPD values acceptable? . . . . . Yes No N/A

GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

Comments:

7. ANALYTE QUANTITATION

Was analyte quantitation performed properly? . . . . . Yes No N/A

Comments:

8. REPORTED RESULTS AND DETECTION LIMITS

Are results reported for all requested analyses? . . . . . Yes No N/A

Are results supported in the raw data? . . . . . Yes No N/A

Are results calculated properly? . . . . . Yes No N/A

Do results meet the CRDLs? . . . . . Yes No N/A

Comments:

GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

Comments (attach additional sheets as necessary):

HOLDING TIME SUMMARY

SDG: W0043	VALIDATOR: RJS	DATE: 9/15/94	PAGE____OF____
COMMENTS:			

FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
BOBNX8	pH	4/13/94	—	5/10/94	—	24 hrs.	J
BOBNX4		4/18/94	—	4/26/94	—		
BOBNY6		4/25/94	—	5/3/94	—		
BOBP12		4/25/94	—	5/3/94	—		
BOBP06		4/26/94	—	5/3/94	—		
BOBP20		4/26/94	—	5/3/94	—		
BOBP30		4/26/94	—	5/3/94	—		
BOBP42		4/26/94	—	5/3/94	—		
BOBP08		4/27/94	—	5/6/94	—		

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RECORD COPY

Date: September 19, 1994
To: Westinghouse Hanford Company (technical representative)
From: A.T. Kearney, Inc.
Subject: Inorganics - Data Package No. W0031-ITC-041 (SDG No. W0043)

INTRODUCTION

This memo presents the results of data validation on Data Package No. W0031-ITC-041 prepared by the International Technology Corporation (ITC) laboratory. A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation Level	Analysis
B0BNX4	04/18/94	Water	D	See Note 1
B0BNX5	04/18/94	Water (Filtered)	D	See Note 2
B0BNY2	04/21/94	Water	D	See Note 1
B0BNY3	04/21/94	Water (Filtered)	D	See Note 2
B0BNY6	04/25/94	Water	D	See Note 1
B0BNY7	04/25/94	Water (Filtered)	D	See Note 2
B0BP06	04/26/94	Water	D	See Note 1
B0BP07	04/26/94	Water (Filtered)	D	See Note 2
B0BP08	04/27/94	Water	D	See Note 1
B0BP09	04/27/94	Water (Filtered)	D	See Note 2
B0BP12	04/25/94	Water	D	See Note 1
B0BP13	04/25/94	Water (Filtered)	D	See Note 2
B0BP20	04/26/94	Water	D	See Note 1
B0BP21	04/26/94	Water (Filtered)	D	See Note 2
B0BP30	04/26/94	Water	D	See Note 1
B0BP31	04/26/94	Water (Filtered)	D	See Note 2
B0BP42	04/26/94	Water	D	See Note 1
B0BP43	04/26/94	Water (Filtered)	D	See Note 2

Note 1. Requested Method: CLP-ICP Metals/AA Metals: Hg (unfiltered)
Note 2. Requested Method: CLP-ICP Metals/AA Metals: Hg (filtered)

Data validation was conducted in accordance with the WHC statement of work (WHC 1994) and validation procedures (WHC 1993). Appendices 1 through 5 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualifications
Appendix 3. Qualified Data Summary and Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation

DATA QUALITY OBJECTIVES

- **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, and within six months for all other metals.

All holding time requirements for all analytes in the data package were met.

- **Blanks**

Positive Blanks

In the case of positive blank results, 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 and flagged "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, sample numbers B0BNX4 and B0BP08 in SDG No. W0043 were flagged "U" for aluminum.

Due to the presence of laboratory blank contamination, sample numbers B0BP30, B0BP31, B0BP42 and B0BP43 in SDG No. W0043 were flagged "U" for calcium.

Due to the presence of laboratory blank contamination, sample numbers B0BNY7, B0BP07, B0BP12, B0BP13, B0BP20, B0BP21, B0BP30, B0BP31 and B0BP42 in SDG No. W0043 were flagged "U" for iron.

Due to the presence of laboratory blank contamination, sample number B0BNX5 in SDG No. W0043 was flagged "U" for lead.

Due to the presence of laboratory blank contamination, sample numbers B0BNY2 and B0BNY3 in SDG No. W0043 were flagged "U" for potassium.

Due to the presence of laboratory blank contamination, sample numbers B0BP30, B0BP31, B0BP42 and B0BP43 in SDG No. W0043 were flagged "U" for sodium.

Negative Blanks

In the case of negative blank results, if the absolute value of any calibration blank exceeds the Instrument Detection Limit (IDL), all non-detects are qualified as estimates and flagged "J", and all positive results within two times the absolute value of the blank result are qualified as estimates and flagged "J". In the case of preparation blanks, if the absolute value exceeds the Contract Required Detection Limit (CRDL), all non-detects are rejected and flagged "R" and all detected that are less than ten times the absolute value of the preparation blank result are qualified as estimates and flagged "J".

Due to the presence of negative laboratory contamination, sample number B0BNY2 in SDG No. W0043 was flagged "UJ" for arsenic.

Due to the presence of negative laboratory contamination, sample number B0BNY3 in SDG No. W0043 was flagged "BJ" for arsenic.

All other laboratory blank results were acceptable.

- **Accuracy**

Matrix Spike

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 below the QC recovery limit and the associated results were flagged "J" for lead in sample numbers B0BNY2 and B0BP30 in SDG No. W0043.

The matrix spike recovery fell below the QC recovery limit and the associated results were flagged "UJ" for lead in sample numbers B0BNX4, B0BNY6, B0BP06, B0BP08, B0BP12 and B0BP42 in SDG No. W0043.

The matrix spike recovery fell below the QC recovery limit and the associated result was flagged "BJ" for lead in sample number B0BP20 in SDG No. W0043.

All other matrix spike recovery results were acceptable.

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 LCS results were found to be acceptable.

- **Precision**

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".

All laboratory duplicate recovery results were acceptable.

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 $\geq$50 times the IDL for an analyte and the %D is outside the control limits the associated data must be qualified as estimates "J".

All ICP serial dilution results were acceptable.

- **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, but no judgement on the data was made.

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

Total	Filtered
B0BNX4	B0BNX5
B0BNY2	B0BNY3
B0BNY6	B0BNY7
B0BP06	B0BP07
B0BP08	B0BP09
B0BP12	B0BP13
B0BP20	B0BP21
B0BP30	B0BP31
B0BP42	B0BP43

- **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.

Duplicate Injections

Each furnace analysis requires a minimum of two injections (burns), except for full MSA. For concentrations greater than CRDL, the duplicate injection readings must agree within 20% RSD or 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.

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 <10 percent, all non-detects were rejected and flagged "UR".

The analytical spike recovery fell outside the established QC limits and the associated results were flagged "BJ" for arsenic in sample numbers B0BNY6, B0BNY7 and B0BP12 in SDG No. W0043.

The analytical spike recovery fell outside the established QC limits and the associated results were flagged "UJ" for lead in sample numbers B0BNX4, B0BNX5, B0BNY6, B0BNY7, B0BP06, B0BP07, B0BP09, B0BP12, B0BP13, B0BP21 and B0BP31 in SDG No. W0043.

The analytical spike recovery fell outside the established QC limits and the associated result was flagged "BJ" for lead in sample number B0BP20 in SDG No. W0043.

The analytical spike recovery fell outside the established QC limits and the associated result was flagged "J" for selenium in sample number B0BP06 in SDG No. W0043.

The analytical spike recovery fell outside the established QC limits and the associated results were flagged "UJ" for selenium in sample numbers B0BP30 and B0BP42 in SDG No. W0043.

The analytical spike recovery fell outside the established QC limits and the associated result were flagged "BJ" for selenium in sample numbers B0BNY6 and B0BP06 in SDG No. W0043.

The analytical spike recovery fell outside the established QC limits and the associated result was flagged "UJ" for thallium in sample number B0BNX5 in SDG No. W0043.

All other analytical spike recovery results were acceptable.

- **Sample Result Verification 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.

  The reviewer verified that the results and detection limits fell within the linear range of the instrument. All sample result verification and detection limits were acceptable.

- **Completeness**

  Data Package No. W0031-ITC-041 (SDG No. W0043) was submitted for validation and verified for completeness.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

Positive and negative blank contamination were noted in several samples. Associated sample results were flagged accordingly. Contamination, however, was not sufficiently high to affect the usability of the data. Minor matrix spike and analytical spike problems were noted for several samples. All results were flagged accordingly. Data flagged "J" are usable for limited purposes only. Except as noted in the preceding sections, all other validated data are usable for all purposes.

REFERENCES

EPA, 1987, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, Environmental Protection Agency, Washington, D.C.

EPA, 1988c, *EPA Contract Laboratory Program Statement of Work for Inorganics Analyses, Multi-Media, Multi-Concentration*, U.S. Environmental Protection Agency, Washington, D.C.

EPA, 1988d, *Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses*, U.S. Environmental Protection Agency, Washington, D.C.

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EPA, 1990, *EPA Contract Laboratory Program Statement of Work for Inorganic Analyses, Multi-media, Multi-Concentration*, U.S. Environmental Protection Agency, Washington, D.C.

WHC, 1992a, *Data Validation Procedures for Chemical Analyses*, WHC-SD-EN-SPP-002, Rev. 2, Westinghouse Hanford Company, October 1993.

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Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers which may be applied by data validators in compliance with the procedures herein are as follows:

U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the same quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

J - Indicates the compound or analyte was analyzed for and detected. The associated concentration is an estimate, but the data are usable for decision-making purposes.

BJ - Applied to inorganic analyses only. Indicates the analyte concentration was greater than the IDL but less than the CRDL and is considered an estimated value.

R - Indicates the compound or analyte was analyzed for, detected, and due to an identified QC deficiency, the data are unusable.

UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified QC deficiency.

JN - Indicates a tentatively identified compound (TIC) that has been determined to be valid in terms of identification and quantitation.

UJN - Indicates a tentatively identified compound (TIC) that has been determined to be presumptive and valid (JN) in terms of identification and quantitation and has been qualified as undetected (U) due to associated blank contamination.

NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications usable for decision-making purposes).

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Appendix 2

Summary of Data Qualification

DATA QUALIFICATION SUMMARY

SDG: W0043	REVIEWER: RJS	DATE: 7/26/94	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Aluminum	U	B0BNX4, B0BP08	Lab Blank Contamination
Calcium	U	B0BP30, B0BP31, B0BP42, B0BP43	Lab Blank Contamination
Iron	U	B0BNY7, B0BP07, B0BP12, B0BP13, B0BP20, B0BP21, B0BP30, B0BP31, B0BP42	Lab Blank Contamination
Lead	U	B0BNX5	Lab Blank Contamination
Potassium	U	B0BNY2, B0BNY3	Lab Blank Contamination
Sodium	U	B0BP30, B0BP31, B0BP42, B0BP43	Lab Blank Contamination
Arsenic	UJ	B0BNY2	Negative Blank Contamination
Arsenic	BJ	B0BNY3	Negative Blank Contamination
Arsenic	BJ	B0BNY6, B0BNY7, B0BP12	GFAA Analytical Spike
Lead	UJ	B0BNX4, B0BNX5, B0BNY6, B0BNY7, B0BP06, B0BP07, B0BP09, B0BP12, B0BP13, B0BP21, B0BP31	GFAA Analytical Spike
Lead	BJ	B0BP20	GFAA Analytical Spike
Selenium	UJ	B0BP30, B0BP42	GFAA Analytical Spike
Selenium	BJ	B0BNY6, B0BP06	GFAA Analytical Spike
Thallium	UJ	B0BNX5	GFAA Analytical Spike
Lead	J	B0BNY2, B0BP30	Matrix Spike
Lead	UJ	B0BNX4, B0BNY6, B0BP06, B0BP08, B0BP12, B0BP42	Matrix Spike
Lead	BJ	B0BP20	Matrix Spike

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Appendix 3

Qualified Data Summary and Annotated Laboratory Reports

INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: IT																					
Case	SDG: W0043																				
Sample Number		B0BNX4		B0BNX5		B0BNY2		B0BNY3		B0BNY6		B0BNY7		B0BP06		B0BP07		B0BP08		B0BP09	
Location		1-B2-13		1-B2-13		1-B4-1		1-B4-1		1-B4-5		1-B4-5		6-63-90		6-63-90		6-65-72		6-65-72	
Remarks				FIL				FIL				FIL				FIL				FIL	
Sample Date		04/18/94		04/18/94		04/21/94		04/21/94		04/25/94		04/25/94		04/26/94		04/26/94		04/27/94		04/27/94	
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	63.8	U	40.0	U	40.0	U	40.0	U	40.0	U	52.0	B	44.6	B	40.0	U	49.7	U	40.0	U
Antimony	60	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Arsenic	10	2.0	U	2.0	U	2.0	UJ	2.3	BJ	2.3	BJ	2.4	BJ	2.0	U	2.0	UJ	3.5	B	4.1	B
Barium	200	35.4	B	36.3	B	29.7	B	27.1	B	15.3	B	15.1	B	13.7	B	11.6	B	18.7	B	15.0	B
Beryllium	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Cadmium	5	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Calcium	5000	42600		42600		48900		44700		43100		43200		35500		30000		34100		27700	
Chromium	10	25.2		18.6		16.1		14.8		18.3		14.7		10.0	U	10.0	U	12.4		10.0	U
Cobalt	50	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	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	65.4		10.0	U
Iron	100	67.2	B	16.5	B	39.2	B	10.0	U	78.5	B	12.3	U	201		14.7	U	47.7	B	16.6	B
Lead	3	2.0	UJ	3.4	UJ	2.3	BJ	2.0	U	2.0	UJ	2.0	UJ	2.0	UJ	2.0	UJ	2.0	UJ	2.0	UJ
Magnesium	5000	9940		9960		6720		6150		7820		7790		12400		10400		10100		8200	
Manganese	15	2.0	U	2.0	U	2.2	B	2.0	U	2.0	U	2.0	U	4.0	B	2.0	U	2.0	U	2.0	U
Mercury	0.2	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	40	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U
Potassium	5000	3100	B	2920	B	5330	U	4510	U	4720	B	4730	B	3660	B	3250	B	5850		4100	B
Selenium	5	2.0	U	2.0	U	2.0	U	2.1	B	2.7	BJ	2.0	U	2.4	BJ	2.0	U	2.0	U	2.0	U
Silver	10	5.0	U	5.0	U	5.1	B	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Sodium	5000	10200		10100		10200		9360		10500		10400		11300		9530		20900		17000	
Thallium	10	2.0	U	2.0	UJ	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Vanadium	50	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	20.8	B	16.1	B	17.5	B	12.6	B
Zinc	20	76.1		7.5	B	16.6	B	12.7	B	28.7		5.0	U	7.2	B	5.0	U	14.8	B	5.0	U
Cyanide	10	NA		N/A		NA		N/A		NA		N/A		NA		N/A		NA		N/A	

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

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INORGANIC ANALYSIS, WATER MATRIX, (µg/L)

Project: WESTINGHOUSE-HANFORD																					
Laboratory: IT																					
Case	SDG: W0043																				
Sample Number		B0BP12		B0BP13		B0BP20		B0BP21		B0BP30		B0BP31		B0BP42		B0BP43					
Location		6-66-64		6-66-64		6-72-92		6-72-92		6-72-92		6-72-92		6-72-92		6-72-92					
Remarks				FIL				FIL		EB		EB,FIL		EB		EB					
Sample Date		04/25/94		04/25/94		04/26/94		04/26/94		04/26/94		04/26/94		04/26/94		04/26/94					
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	40.0	U	50.3	B	40.0	U	40.0	U	41.4	B	46.3	B	40.0	U	40.0	U				
Antimony	60	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U				
Arsenic	10	3.6	BJ	2.9	B	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U				
Barium	200	10.9	B	10.8	B	22.9	B	24.4	B	2.0	U	2.0	U	2.0	U	2.0	U				
Beryllium	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U				
Cadmium	5	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U				
Calcium	5000	30300		31700		40200		37600		99.3	U	62.8	U	115	U	78.2	U				
Chromium	10	10.0	U	10.0	U	10.4		10.0	U	10.0	U	10.0	U	10.0	U	10.0	U				
Cobalt	50	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	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	59.9	U	11.8	U	24.0	U	10.0	U	25.3	U	16.5	U	10.5	U	10.0	U				
Lead	3	2.0	UJ	2.0	UJ	2.8	BJ	2.0	UJ	3.6	J	2.0	UJ	2.0	UJ	2.0	U				
Magnesium	5000	8790		9190		9860		9220		30.0	U	30.0	U	30.0	U	30.0	U				
Manganese	15	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U				
Mercury	0.2	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U				
Nickel	40	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U				
Potassium	5000	4030	B	4700	B	3140	B	3170	B	1000	U	1000	U	1000	U	1000	U				
Selenium	5	2.0	U	2.0	U	2.0	U	2.0	U	2.0	UJ	2.0	U	2.0	UJ	2.0	U				
Silver	10	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U				
Sodium	5000	17400		18100		7870		7240		155	U	242	U	182	U	140	U				
Thallium	10	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U				
Vanadium	50	10.0	U	12.3	B	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U				
Zinc	20	48.2		5.0	U	5.0	U	5.0	U	5.0	U	6.1	B	5.0	U	5.0	U				
Cyanide	10	NA		N/A		NA		N/A		NA		N/A		NA		N/A					

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

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNX4

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE
Lab Code: ITSTU_ Case No.: WO417 SAS No.: _____ SDG No.: W0043_
Matrix (soil/water): WATER Lab Sample ID: AA7284
Level (low/med): LOW__ Date Received: 04/20/94
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	63.8	~~B~~		P	U
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	U		F	
7440-39-3	Barium	35.4	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	42600			P	
7440-47-3	Chromium	25.2			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	67.2	B		P	
7439-92-1	Lead	2.0	~~U~~	~~WN~~	F	UJ
7439-95-4	Magnesium	9940			P	
7439-96-5	Manganese	2.0	U		P	
7439-97-6	Mercury	0.20	U	~~N~~	CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	3100	B		P	
7782-49-2	Selenium	2.0	U		F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	10200			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	76.1			P	

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___
Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

RJS
9/15/94

FORM I - IN

ILM02.1
8 6/7/94

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNX5

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE
Lab Code: ITSTU_ Case No.: W0417 SAS No.: _____ SDG No.: W0043_
Matrix (soil/water): WATER Lab Sample ID: AA7286
Level (low/med): LOW__ Date Received: 04/20/94
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	40.0	U		P_	
7440-36-0	Antimony_	50.0	U		P_	
7440-38-2	Arsenic__	2.0	U		F_	
7440-39-3	Barium___	36.3	B		P_	
7440-41-7	Beryllium	1.0	U		P_	
7440-43-9	Cadmium__	5.0	U		P_	
7440-70-2	Calcium__	42600			P_	
7440-47-3	Chromium_	18.6			P_	
7440-48-4	Cobalt___	10.0	U		P_	
7440-50-8	Copper___	10.0	U		P_	
7439-89-6	Iron____	16.5	B		P_	
7439-92-1	Lead____	3.4		W	F_	UJ
7439-95-4	Magnesium	9960			P_	
7439-96-5	Manganese	2.0	U		P_	
7439-97-6	Mercury__	0.20	U		CV	
7440-02-0	Nickel___	20.0	U		P_	
7440-09-7	Potassium	2920	B		P_	
7782-49-2	Selenium_	2.0	U		F_	
7440-22-4	Silver___	5.0	U		P_	
7440-23-5	Sodium___	10100			P_	
7440-28-0	Thallium_	2.0	U	W	F_	UJ
7440-62-2	Vanadium_	10.0	U		P_	
7440-66-6	Zinc____	7.5	B		P_	
5955-70-0	Cyanide__				NR	

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___
Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:
DISSOLVED.

RJS
9/15/94

FORM I - IN

ILM02.1
8 6/5/94

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U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNY2

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0426 SAS No.: SDG No.: W0043
Matrix (soil/water): WATER Lab Sample ID: AA7371
Level (low/med): LOW Date Received: 04/25/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	40.0	U		P	
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	~~U~~		F	UJ
7440-39-3	Barium	29.7	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	48900			P	
7440-47-3	Chromium	16.1			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	39.2	B		P	
7439-92-1	Lead	2.3	~~B~~	~~N~~	F	~~J~~ BJ RS 9/15/94
7439-95-4	Magnesium	6720			P	
7439-96-5	Manganese	2.2	B		P	
7439-97-6	Mercury	0.20	U	~~N~~	CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	5330			P	U
7782-49-2	Selenium	2.0	U	~~W~~	F	
7440-22-4	Silver	5.1	B		P	
7440-23-5	Sodium	10200			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	16.6	B		P	

Total

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

RJ 7.26.94 ILM02.1 & 6/6/94

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNY3

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: WO426 SAS No.: SDG No.: W0043

Matrix (soil/water): WATER Lab Sample ID: AA7373

Level (low/med): LOW Date Received: 04/25/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.3	~~B~~		F ~~J~~ BJ as 9/16/94
7440-39-3	Barium	27.1	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	44700			P
7440-47-3	Chromium	14.8			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	10.0	U		P
7439-92-1	Lead	2.0	U		F
7439-95-4	Magnesium	6150			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	4510	~~B~~		P U
7782-49-2	Selenium	2.1	B		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	9360			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	12.7	B		P

Filtered

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

DISSOLVED

FORM I - IN

RJS 7.26.94

ILM02.1 & 6/6/94

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U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNY6

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: WO454 SAS No.: SDG No.: W0043

Matrix (soil/water): WATER Lab Sample ID: AA7801

Level (low/med): LOW Date Received: 04/29/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	40.0	U		P	
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.3	~~B~~	~~W~~	F	BJ
7440-39-3	Barium	15.3	B		P	[redacted] - as 9/15/94
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	43100			P	
7440-47-3	Chromium	18.3			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	78.5	B		P	
7439-92-1	Lead	2.0	~~U~~	~~WN~~	F	UJ
7439-95-4	Magnesium	7820			P	
7439-96-5	Manganese	2.0	U		P	
7439-97-6	Mercury	0.20	U	~~N~~	CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	4720	B		P	
7782-49-2	Selenium	2.7	~~B~~	~~W~~	F	BJ
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	10500			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	28.7			P	

Color Before: CCLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

RJS 9/15/94

FORM I - IN

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U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBNY7

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0454 SAS No.: SDG No.: W0043

Matrix (soil/water): WATER Lab Sample ID: AA7809

Level (low/med): LOW Date Received: 04/29/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	52.0	B		P	
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.4	~~B~~	W	F	BJ
7440-39-3	Barium	15.1	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	43200			P	
7440-47-3	Chromium	14.7			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	12.3	~~B~~		P	U
7439-92-1	Lead	2.0	~~U~~	W	F	UJ
7439-95-4	Magnesium	7790			P	
7439-96-5	Manganese	2.0	U		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	4730	B		P	
7782-49-2	Selenium	2.0	U		F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	10400			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	5.0	U		P	

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

DISSOLVED.

FORM I - IN

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U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP06

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0454 SAS No.: SDG No.: W0043

Matrix (soil/water): WATER Lab Sample ID: AA7797

Level (low/med): LOW Date Received: 04/29/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Total

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	44.6	B		P	
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	U		F	
7440-39-3	Barium	13.7	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	35500			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	201			P	
7439-92-1	Lead	2.0	~~B~~	~~WN~~	F	UJ
7439-95-4	Magnesium	12400			P	
7439-96-5	Manganese	4.0	B		P	
7439-97-6	Mercury	0.20	U	~~N~~	CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	3660	B		P	
7782-49-2	Selenium	2.4	~~B~~	~~N~~	F	~~J~~ BJ as 9/15/94
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	11300			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	20.8	B		P	
7440-66-6	Zinc	7.2	B		P	

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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ILM02.1

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP07

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0454 SAS No.: SDG No.: W0043

Matrix (soil/water): WATER Lab Sample ID: AA7807

Level (low/med): LOW Date Received: 04/29/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	40.0	U		P	
7440-36-0	Antimony	50.0	U		P	UJ
7440-38-2	Arsenic	2.0	~~U~~		~~F~~	~~UJ~~ SC 8/1/94
7440-39-3	Barium	11.6	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	30000			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	14.7	~~B~~		P	U
7439-92-1	Lead	2.0	~~U~~	~~N~~	F	UJ
7439-95-4	Magnesium	10400			P	
7439-96-5	Manganese	2.0	U		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	3250	B		P	
7782-49-2	Selenium	2.0	U		F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	9530			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	16.1	B		P	
7440-66-6	Zinc	5.0	U		P	

Filtered

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

DISSOLVED.

FORM I - IN

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP08

Lab Name: ITAS KNOXVILLE Contract: HANFORD
Lab Code: ITSTU Case No.: W0463 SAS No.: SDG No.: W0043
Matrix (soil/water): WATER Lab Sample ID: AA7893
Level (low/med): LOW Date Received: 04/30/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	49.7	~~B~~		P	U
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	3.5	B		F	
7440-39-3	Barium	18.7	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	34100			P	
7440-47-3	Chromium	12.4			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	65.4			P	
7439-89-6	Iron	47.7	B		P	
7439-92-1	Lead	2.0	~~U~~	~~N~~	F	UJ
7439-95-4	Magnesium	10100			P	
7439-96-5	Manganese	2.0	U		P	
7439-97-6	Mercury	0.20	U	~~N~~	CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	5850			P	
7782-49-2	Selenium	2.0	U		F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	20900			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	17.5	B		P	
7440-66-6	Zinc	14.8	B		P	

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
TOTAL

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9/15/94

FORM I - IN

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP09

Lab Name: ITAS KNOXVILLE Contract: HANFORD
Lab Code: ITSTU Case No.: W0463 SAS No.: SDG No.: W0043
Matrix (soil/water): WATER Lab Sample ID: AA7895
Level (low/med): LOW Date Received: 04/30/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	40.0	U		P	
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	4.1	B		F	
7440-39-3	Barium	15.0	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	27700			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	16.6	B		P	
7439-92-1	Lead	2.0	~~B~~	W	F	UJ
7439-95-4	Magnesium	8200			P	
7439-96-5	Manganese	2.0	U		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	4100	B		P	
7782-49-2	Selenium	2.0	U		F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	17000			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	12.6	B		P	
7440-66-6	Zinc	5.0	U		P	

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
DISSOLVED

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FORM I - IN

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP12

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: WO454 SAS No.: _____ SDG No.: W0043_

Matrix (soil/water): WATER Lab Sample ID: AA7803

Level (low/med): LOW__ Date Received: 04/29/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum_	40.0	U		P_	
7440-36-0	Antimony_	50.0	U		P_	
7440-38-2	Arsenic__	3.6	~~B~~	W	F_	BJ
7440-39-3	Barium___	10.9	B		P_	
7440-41-7	Beryllium	1.0	U		P_	
7440-43-9	Cadmium__	5.0	U		P_	
7440-70-2	Calcium__	30300			P_	
7440-47-3	Chromium_	10.0	U		P_	
7440-48-4	Cobalt___	10.0	U		P_	
7440-50-8	Copper___	10.0	U		P_	
7439-89-6	Iron____	59.9	~~B~~		P_	U
7439-92-1	Lead____	2.0	~~U~~	N	F_	UJ
7439-95-4	Magnesium	8790			P_	
7439-96-5	Manganese	2.0	U		P_	
7439-97-6	Mercury__	0.20	U	N	CV	
7440-02-0	Nickel___	20.0	U		P_	
7440-09-7	Potassium	4030	B		P_	
7782-49-2	Selenium_	2.0	U		F_	
7440-22-4	Silver___	5.0	U		P_	
7440-23-5	Sodium___	17400			P_	
7440-28-0	Thallium_	2.0	U		F_	
7440-62-2	Vanadium_	10.0	U		P_	
7440-66-6	Zinc_____	48.2			P_	

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP13

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0454 SAS No.: SDG No.: W0043

Matrix (soil/water): WATER Lab Sample ID: AA7810

Level (low/med): LOW Date Received: 04/29/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	50.3	B		P	
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.9	B		F	
7440-39-3	Barium	10.8	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	31700			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	11.8	~~B~~		P	U
7439-92-1	Lead	2.0	~~B~~	W	F	UJ
7439-95-4	Magnesium	9190			P	
7439-96-5	Manganese	2.0	U		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	4700	B		P	
7782-49-2	Selenium	2.0	U		F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	18100			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	12.3	B		P	
7440-66-6	Zinc	5.0	U		P	

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

DISSOLVED.

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP20

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: WO454 SAS No.: SDG No.: W0043
Matrix (soil/water): WATER Lab Sample ID: AA7785
Level (low/med): LOW Date Received: 04/29/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	40.0	U		P	
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	U		F	
7440-39-3	Barium	22.9	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	40200			P	
7440-47-3	Chromium	10.4			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	24.0	~~B~~		P	U
7439-92-1	Lead	2.8	~~B~~	WN	F	BJ
7439-95-4	Magnesium	9860			P	
7439-96-5	Manganese	2.0	U		P	
7439-97-6	Mercury	0.20	U	N	CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	3140	B		P	
7782-49-2	Selenium	2.0	U		F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	7870			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	5.0	U		P	

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP21

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0454 SAS No.: SDG No.: W0043
Matrix (soil/water): WATER Lab Sample ID: AA7805
Level (low/med): LOW Date Received: 04/29/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.0	U		P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	24.4	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	37600			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	10.0	U		P
7439-92-1	Lead	2.0	~~U~~	W	F UJ
7439-95-4	Magnesium	9220			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	3170	B		P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	7240			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	5.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
DISSOLVED.

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP30

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: WO454 SAS No.: SDG No.: W0043
Matrix (soil/water): WATER Lab Sample ID: AA7799
Level (low/med): LOW Date Received: 04/29/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	41.4	B		P	
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	U		F	
7440-39-3	Barium	2.0	U		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	99.3	~~B~~		P	U
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	25.3	~~B~~		P	U
7439-92-1	Lead	3.6	/	~~N~~	F	J
7439-95-4	Magnesium	30.0	U		P	
7439-96-5	Manganese	2.0	U		P	
7439-97-6	Mercury	0.20	U	~~N~~	CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	1000	U		P	
7782-49-2	Selenium	2.0	~~W~~	~~W~~	F	UJ
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	155	~~B~~		P	U
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	5.0	U		P	

Total

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP31

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: WO454 SAS No.: SDG No.: W0043
Matrix (soil/water): WATER Lab Sample ID: AA7808
Level (low/med): LOW Date Received: 04/29/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Filtered

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	46.3	B		P	
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	U		F	
7440-39-3	Barium	2.0	U		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	62.8	~~B~~		P	U
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	16.5	~~B~~		P	U
7439-92-1	Lead	2.0	~~U~~	N	F	UJ
7439-95-4	Magnesium	30.0	U		P	
7439-96-5	Manganese	2.0	U		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	1000	U		P	
7782-49-2	Selenium	2.0	U	N	F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	242	~~B~~		P	U
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	6.1	B		P	

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
DISSOLVED.

FORM I - IN

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP42

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0454 SAS No.: SDG No.: W0043
Matrix (soil/water): WATER Lab Sample ID: AA7795
Level (low/med): LOW Date Received: 04/29/94
% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Total

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	40.0	U		P	
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	U		F	
7440-39-3	Barium	2.0	U		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	115	~~B~~		P	U
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	10.5	~~B~~		P	U
7439-92-1	Lead	2.0	~~B~~	~~N~~	F	UJ
7439-95-4	Magnesium	30.0	U		P	
7439-96-5	Manganese	2.0	U		P	
7439-97-6	Mercury	0.20	U	~~N~~	CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	1000	U		P	
7782-49-2	Selenium	2.0	~~B~~		F	UJ
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	182	~~B~~		P	U
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	5.0	U		P	

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBP43

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: WO454 SAS No.: SDG No.: W0043

Matrix (soil/water): WATER Lab Sample ID: AA7806

Level (low/med): LOW Date Received: 04/29/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Filtered

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	40.0	U		P	
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	U		F	
7440-39-3	Barium	2.0	U		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	78.2	~~B~~		P	u
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	10.0	U		P	
7439-92-1	Lead	2.0	U		F	
7439-95-4	Magnesium	30.0	U		P	
7439-96-5	Manganese	2.0	U		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	1000	U		P	
7782-49-2	Selenium	2.0	U	W	F	
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	140	~~B~~		P	u
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	5.0	U		P	

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

DISSOLVED.

FORM I - IN

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Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

IT Corporation
2800 George Washington Way
Richland, WA 99352
Attn: Van Pettey

June 13, 1994

Job Number: 383; 417; 426; 454; 463

This is the Certificate of Analysis for the following samples:

SDG:	W0043
Client Project ID:	WHC SAF# 194-129 100-BC-5 Groundwater Round-6
Date Received by Lab:	April 16, April 20, April 29 and April 30, 1994
Number of Samples:	Twenty (20)
Sample Type:	Water

I. Introduction

On April 16, April 20, April 29 and April 30, 1994, twenty (20) water samples arrived at ITAS-Richland, Washington and were transferred to ITAS-Knoxville for chemical analysis. The list of analytical tests performed, as well as date of receipt and analysis, can be found in the attached report.

II. Analytical Results/Methodology

The analytical results for this report are presented by analytical test. Each set of data will include sample identification information and the analytical results.

The samples were analyzed for Target Analyte List (TAL) metals by cold vapor atomic absorption spectroscopy (CVAA), graphite furnace atomic absorption spectroscopy (GFAA), and inductively coupled plasma spectroscopy (ICP) in accordance with the EPA CLP ILM03 Statement of Work.

Reviewed and Approved:

Sheree A. Schneider

Sheree' A. Schneider
Project Manager

II. Analytical Results/Methodology (Continued)

The pH of the samples was determined using EPA method 150.1.

The specific conductance of the samples was measured using EPA method 120.1.

The samples were analyzed for anions by ion chromatography using EPA method 300.0.

III. Quality Control

The samples for work order #417 were digested on May 4, 1994 for ICP and May 4 and May 10, 1994 for GFAA. The CVAA analysis for mercury was performed on May 9, 1994; the GFAA analyses for arsenic, lead, selenium and thallium were performed from May 6 through May 10, 1994 and June 7, 1994; the remaining metals were analyzed by ICP on May 31, 1994. All run QC was acceptable. Samples were batched with work order #454.

The samples for work order #426 were digested on May 20, 1994 for ICP and May 5, 1994 for GFAA. The CVAA analysis for mercury was performed on May 9, 1994; the GFAA analyses for arsenic, lead, selenium and thallium were performed from May 5 through May 11, 1994; the remaining metals were analyzed by ICP on May 24, 1994. All run QC was acceptable. Samples were batched with QC from work order #454.

The samples for work order #454 were digested on May 18, 1994 for ICP and GFAA. The CVAA analysis for mercury was performed on May 18, 1994; the GFAA analyses for arsenic, lead, selenium and thallium were performed from May 18-23, 1994; the remaining metals were analyzed by ICP on May 25, 1994. All run QC was acceptable. A duplicate/spike pair was prepared using sample number BOBP20 (total) & BOBP21 (dissolved). Spike recovery (accuracy) results were within acceptance limits for all parameters for both samples except for lead by GFAA and mercury by CVAA for BOBP20 (total). Matrix interferences created by the high calcium concentrations may be attributable to poor spike recovery for both analytes. Duplicate RPD (precision) results were within acceptance limits for all parameters for both samples.

The samples for work order #463 were digested on May 12, 1994 for ICP and GFAA. The CVAA analysis for mercury was performed on May 18, 1994; the GFAA analyses for arsenic, lead, selenium and thallium were performed from May 18 through May 24, 1994; the remaining metals were analyzed by ICP on May 25, 1994. All run QC was acceptable. Samples were batched with QC from work order #454.

III. Quality Control (Continued)

Data were reported with qualifiers as follows:

"C" Qualifiers

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.
B - Value greater than instrument detection limit, but less than contract required quantitation limit.

"Q" Qualifiers

* - Duplicate analysis outside control limits.
N - Spiked sample recovery outside control limits.
W - Post-digestion spike for GFAA was out of control limits (85-115%), while sample absorbance was less than 50% of spike absorbance.
S - The reported value was determined by method of standard additions.

"M" Qualifiers

P - Analysis performed by ICP.
V - Analysis performed by CVAA.
F - Analysis performed by GFAA.
C - Cyanide analysis by manual distillation/colorimetric determination.

Miscellaneous

D - Duplicate.
S - Spike.
NR - Not required.
G - Native analyte > 4 times spike added, therefore, acceptance criteria do not apply.
X - Detection limits higher than normal due to sample matrix interferences.

Duplicate analyses for pH were performed using sample numbers BOBP20 and BOBNX8. Results were acceptable.

Duplicate analyses for specific conductance were performed using sample numbers BOBP20 and BOBNX8. Results were acceptable.

Matrix spike and matrix spike duplicate analyses for anions were performed using sample numbers BOBP20 and BOBNX8. Results were acceptable.

IT Corporation
June 13, 1994
Job Number: 383; 417; 426; 454; 463
Client Project ID: WHC SAF #194-129 100-BC-5 Groundwater Round-6

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

III. Quality Control (Continued)

Table I is a cross reference between client sample IDs and laboratory sample IDs.

TABLE I

Knoxville ID	Richland ID	WHC ID	Test
AA6809	4044288-01B	BOBNX8	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7284	W404350-01A	BOBNX4	METALS-T
AA7285	W404350-01B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7286	W404350-02A	BOBNX5	METALS-D
AA7371	404429-01A	BOBNY2	METALS-T
AA7372	404429-02A	BOBNY3	METALS-D
AA7785	404501-01A	B0BP20	METALS-T
AA7786	404501-01B	"	ANIONS
"	404501-01B	"	pH
"	404501-01B	"	CONDUCTIVITY
AA7805	404501-02A	BOBP21	METALS-D
AA7795	404501-03A	BOBP42	METALS-T

682-1-89

IT Corporation
June 13, 1994
Job Number: 383; 417; 426; 454; 463
Client Project ID: WHC SAF #194-129 100-BC-5 Groundwater Round-6

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

III. Quality Control (Continued)

Table I is a cross reference between client sample IDs and laboratory sample IDs.

TABLE I

Knoxville ID	Richland ID	WHC ID	Test
AA7796	404501-03B	BOBP42	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7806	404501-04A	BOBP43	METALS-D
AA7797	404501-05A	BOBP06	METALS-T
AA7798	404501-05B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7807	404501-06A	BOBP07	METALS-D
AA7799	404501-07A	BOBP30	METALS-T
AA7800	404501-07B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7808	404501-08A	BOBP31	METALS-D

682-1-89

III. Quality Control (Continued)

Table I is a cross reference between client sample IDs and laboratory sample IDs.

TABLE I

Knoxville ID	Richland ID	WHC ID	Test
AA7801	404501-09A	BOBNY6	METALS-T
AA7802	404501-09B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7809	404501-10A	BOBNY7	METALS-D
AA7803	404501-11A	BOBP12	METALS-T
AA7804	404501-11B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7810	404501-12A	BOBP13	METALS-D
AA7893	404566-01A	BOBP08	METALS-T
AA7894	404566-01B	"	ANIONS
"	"	"	pH
"	"	"	CONDUCTIVITY
AA7895	404566-02A	BOBP09	METALS-D

IT Corporation
June 13, 1994
Job Number: 383; 417; 426; 454; 463
Client Project ID: WHC SAF #194-129 100-BC-5 Groundwater Round-6

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

IV. Certification

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature:

Reviewed and Approved:

Sheree A. Schneider

Sheree' A. Schneider
Project Manager

682-1-89

9613476.0676

WO#417

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1020 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

Per Shipping Container

Date/Time Received 4/19/94 1150 Client Name WHC

Project/Client # 94-125 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) GW5015

1. Condition of shipping container? ok
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☐ No ☑ all in 1 bag
7. Number of sample containers in cooler: 14
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ✓ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature Tom Gilmore [signature] Date/Time 4/19/94 1150

FORM NO. LS-042, Rev.0, 2.94

WO#426

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office
1300 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

1 Per Shipping Container

Date/Time Received 4-22-94 14:00 Client Name WHC

Project/Client # 94-129 Batch or Case #

Cooler ID (if noted on the outside of cooler) ER-8

1. Condition of shipping container? O.K.
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ 4-22-94 No ☐
7. Number of sample containers in cooler: ~~12~~ 24
8. Samples have: X tape ____ hazard labels
   X custody seals ____ appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 2°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) n/a
    Request for analysis #(s) n/a
    Airbill # n/a Carrier n/a
12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☒

Printed Name/Signature Karen Achtenberg Date/Time 4-22-94 14:00

FORM NO. LS-042, Rev.0, 2/94

9613476.0678

WO#454

INTERNATIONAL TECHNOLOGY CORPORATION

[illegible] Office
[illegible] George Washington Way
[illegible], Washington 99352

SAMPLE CHECK-IN LIST

For Shipping Containers

Date/Time Received 4/27 1210 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) 042

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes X No ☐
3. Custody Seals dated and signed? Yes X No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes X No ☐
5. Vermiculite/packing material is: Wet ☐ Dry X
6. Each sample is in a plastic bag? Yes X No ☐
7. Number of sample containers in cooler: 27
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes X No ☐
    Sample temperature 40
11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #(s) N/A
    Request for analysis #(s) ↓
    Airbill # ↓ Carrier ↓
12. Have any anomalies been identified above? Yes ☐ No X
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature J Hildebrand Date/Time 4/27 1210

FORM NO. LS-042, Rev.0, 2 94

9613476.0029

WO F454

INTERNATIONAL TECHNOLOGY CORPORATION

National Office
[illegible] George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

Per Shipping Container

Date/Time Received 4/27 1210 Client Name WHC

Project/Client # 94-129 Batch or Case # N/A

Cooler ID (if noted on the outside of cooler) MWS 020

1. Condition of shipping container? OK
2. Custody Seals on cooler intact? Yes ☒ No ☐
3. Custody Seals dated and signed? Yes ☒ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☒ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☒
6. Each sample is in a plastic bag? Yes ☒ No ☐
7. Number of sample containers in cooler: 78
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☒ No ☐

Sample temperature 2°

11. The following paperwork should be accounted for (N/A if not applicable):

    Chain of Custody #(s) N/A

    Request for analysis #(s) N/A

    Airbill # N/A Carrier N/A

12. Have any anomalies been identified above? Yes ☐ No ☒
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature [illegible] Date/Time 4/27 1210

FORM NO. LS-042 Rev.0 2 94

9613476.0680

WO #454

INTERNATIONAL TECHNOLOGY CORPORATION

[illegible] Office
[illegible] George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

For Shipping Containers

Date/Time Received 4/27 1210 Client Name WHC

Project/Client # 941-129 Batch or Case # [illegible]

Cooler ID (if noted on the outside of cooler) ERG

1. Condition of shipping container? GW
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☑ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag: Yes ☑ No ☐
7. Number of sample containers in cooler: _____
8. Samples have: ____ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature _____

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #(s) _____
    Request for analysis #(s) [illegible]
    Airbill # _____ Carrier _____
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☐

Printed Name/Signature [illegible] Date/Time 4/27 1210

FORM NO. LS-042, Rev 0, 2 94

9613476.0681

WO #463

INTERNATIONAL TECHNOLOGY CORPORATION

National Office
1020 George Washington Way
Richland, Washington 99352

SAMPLE CHECK-IN LIST

(Per Shipping Container)

Date/Time Received 4-29-94 12:10 Client Name WHC

Project/Client # 94-129 Batch or Case # _____

Cooler ID (if noted on the outside of cooler) GWS044

1. Condition of shipping container? OK.
2. Custody Seals on cooler intact? Yes ☑ No ☐
3. Custody Seals dated and signed? Yes ☑ No ☐
4. Chain of Custody record is taped on inside of cooler lid? Yes ☐ No ☐
5. Vermiculite/packing material is: Wet ☐ Dry ☑
6. Each sample is in a plastic bag? Yes ☑ No ☐
7. Number of sample containers in cooler: 17
8. Samples have: ✓ tape ____ hazard labels
   ✓ custody seals ____ appropriate sample labels
9. Samples are: ✓ in good condition ____ leaking
   ____ broken ____ have air bubbles
   ____ other
10. Coolant present? Yes ☑ No ☐

Sample temperature 4°C

11. The following paperwork should be accounted for (N/A if not applicable):
    Chain of Custody #'(s) N/A
    Request for analysis #(s) N/A
    Airbill # N/A Carrier N/A
12. Have any anomalies been identified above? Yes ☐ No ☑
13. Memos have been initiated for all anomalies identified above? Yes ☑

Printed Name/Signature Karen Ackenberg Date/Time 4-29-94 12:10

FORM NO. LS-042, Rev.0, 2/94

WUF41+

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: K.D. Lee	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 4/15/94 100-BC-5	SAF No.: 94-129
Ice Chest No.: CWSC15	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W74-C-0336-48	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	N/A	HNO3<2	
Type of Container	G/P	P	G/P	G/P	Gs	G	G/P	
No. of Container(s)	1	1	5	2	3	1	1	
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	20ml	1000ml	
SAMPLE ANALYSIS 404350	ICP METALS AA METALS Hg CLP 91A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	TOTAL ACTIVITY	ICP METALS, AA METALS, Hg CLP FILTERD	

Sample No.	Matrix*	Date Sampled	Time Sampled															
BCBNX4	W	04/18/94	1133	X	X	X	X	X	X	02A								
BCBNX5	W	04/15/94	1.33							X								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
Kirby D. Lee K.D. Lee	4/15/94 1400	Sweeney L Sweeney	4/18/94 1400
Sweeney L Sweeney	4/18/94 1150	J Gilmore	4/18/94 1150

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION — Received By: ____ Title: ____ Date/Time: ____

FINAL SAMPLE DISPOSITION — Disposal Method: ____ Disposed By: ____ Date/Time: ____

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

0000033

0000049

9613476.0682

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priorty [X] Normal

Collector: Collectors / G.G. Hamilton

Company Contact: PH BUTCHER

Telephone No.: 509-376-4388

Project Des.: 100-BC-5

Sampling Location: 100B

SAF No.: 94-129

Ice Chest No.: SMC118

Field Logbook No.:

Method of Shipment: HAND DELIVER

Shipped To: IT

Offsite Property No.: N/A W94-0-0336-43

Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Refrig 2C AJS 4/13/94 1335

SAMPLE ANALYSIS: 40428801

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	None	HNO3<2										
Type of Container	G/P	P	G/P	G/P	Gs	uGs	G/P										
No. of Container(s)	1	1	5	2	3	1	1										
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml										
	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 40428901	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 40428802A										

Sample No.	Matrix*	Date Sampled	Time Sampled															
B0BNX8	W	4/13/94	1015	X	X	X	X	X	X									
B0BNX9	W	↓	↓							X								

050000

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
G.G. Hamilton	1335 4/13/94	AJ SIMPSON AJ Simpson	4/13/94 1335
AJ SIMPSON AJ Simpson	4/15/94 1000	L Sweeney L Sweeney	4/15/94 1000
L Sweeney L Sweeney	4/15/94 1400	Karen Hatt Karen Hatt	4/15/94 14:40

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION — Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION — Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

9613476.0683

DZA 6-21-5

0000034

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

WO#426

Page 1 of 1

Date Turnaround: ☐ Priority ☒ Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-7	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-3	Bill of Lading/Air Bill No.: N/A W94-NCS 4-22-94 NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	Gs	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	1 qt	1000ml
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP A	ANIONS F, SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Arizona Sam	ICP METALS, AA METALS, Hg CLP FILTERD

404429 40143001

	Sample No.	Matrix*	Date Sampled	Time Sampled							
01	B0BNY2	W	4/21/94	0920	X	X	X	X	X	X	
02	B0BNY3	W	↓	↓							X A

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By: K. Trapp / K. Trapp 4/22/94 0752	Received By: L. Sweeney L. Sweeney 4/22/94 0752	
Relinquished By: L. Sweeney L. Sweeney 4/22/94 1400	Received By: R. Boyd 4/22/94 1400	
Relinquished By:	Received By:	
Relinquished By:	Received By:	

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000051

9613476.0684

W0451

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 F	SAF No.: 94-129
Ice Chest No.: C42	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-15	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE 2A A.S.S 4/26/94 1620		

SAMPLE ANALYSIS: 404501

Preservative	HNO3<2	COOL 4	HNO3<2	HCLpH<2	COOL 4	[illegible]	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	[illegible]	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40ml	1000ml
	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD 02A

Sample No.	Matrix*	Date Sampled	Time Sampled														
B0BR20 01	W	4/26/94	1700	X	X	X	X	X	X								
B0BP21 02	W	↓	↓							X							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: K. Trapp / K. Trapp 4/26/94 1610	Received By: A.J. SIMPSON / A.J. Simpson 4/27/94 1620		
Relinquished By: A.J. SIMPSON / A.J. Simpson 4/27/94 1021	Received By: F. Surovey / F. Surovey 4/27/94 1021		
Relinquished By: Date/Time	Received By: Heidelberg 4/27 1210		
Relinquished By: Date/Time	Received By: Date/Time		

SPECIAL INSTRUCTIONS: DATA DELIVERABLE-STANDALONE

Matrix*: S = Soil; SE = Sediment; SD = Solid; SL = Sludge; W = Water; O = Oil; A = Air; DS = Drum Solids; DL = Drum Liquids; T = Tissue; WI = Wipe; L = Liquid; V = Vegetation; X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-628 (12/92)

000052

9413476.0685

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Tiepp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 1.30 ft	SAF No.: 94-129
Ice Chest No.: C-42	Field Logbook No.: EFL-1636	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-15	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE RFIS 2A ASS 4/26/94 1615

SAMPLE ANALYSIS: 404501

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	[illegible]	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	[illegible]	G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40 ml	1000ml
	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	[illegible]	ICP METALS, AA METALS, Hg CLP FILTERD C4A

Sample No.	Matrix*	Date Sampled	Time Sampled														
B0BP42 03	W	4/26/94	1445	X	X	X	X	X	X								
B0BP43 04	W	↓								Y							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Vincent / K. Tiepp	4/26/94 1610	AJ SIMPSON AJ Simpson	4/26/94 1615
AJ SIMPSON AJ Simpson	4/27/94 1021	Sweeney / Sweeney	4/27/94 1021
Sweeney / Sweeney	4/27/94 1210	Herdeckerg	4/27/94
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS: DATA DELIVERABLE-STANDALONE

Matrix*: S = Soil; SE = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air; DS = Drum Solids; DL = Drum Liquids; T = Tissue; WI = Wipe; L = Liquid; V = Vegetation; X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000053

9613476.0686

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 F	SAF No.: 94-129
Ice Chest No.: GWS020	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: LT	Offsite Property No.: N/A W94-0-0578-15	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE 3C AJS 4/26/94 1610

SAMPLE ANALYSIS: 404501

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4		HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs		G/P
No. of Container(s)	1	1	5	2	3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	1000ml		1000ml
SAMPLE ANALYSIS	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14 404502 03		ICP METALS, AA METALS, Hg CLP FILTERD 06A

Sample No.	Matrix*	Date Sampled	Time Sampled														
B0BP06 05	W	4/26/94	1610	X	1	1	1	1	1								
B0BP07 06	W	↓	↓							1							

CHAIN OF POSSESSION

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	4/26/94 1610	AJ Simpson AJ Simpson	4/26/94 1610
AJ Simpson AJ Simpson	4/27/94 1016	L Sweeney L Sweeney	4/27/94 1016
L Sweeney L Sweeney	4-27-94 1210	Heidelberg	4/27/1210

SPECIAL INSTRUCTIONS: DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION: Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000054

9613476.0087

WO

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: GWS02C0	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W74-0-0518-15	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Relinq 3C AJS 1608 4/26/94

SAMPLE ANALYSIS: 404501

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP METALS AA METALS Hg CLP (Preservative: HNO3<2, Type: G/P, No. of Container(s): 1, Volume: 1000ml)	ANIONS F,SO4 COND pH (Preservative: COOL 4, Type: P, No. of Container(s): 1, Volume: 1000ml)	GROSS ALPHA/ BETA Sr-90 (Preservative: HNO3<2, Type: G/P, No. of Container(s): 5, Volume: 1000ml)	Tc-99 (Preservative: HCL pH<2, Type: G/P, No. of Container(s): 2, Volume: 1000ml)	TRITIUM C-14 (Preservative: COOL 4, Type: Gs, No. of Container(s): 3, Volume: 1000ml)	(Preservative: None, Type: [illegible], No. of Container(s): 1, Volume: 40mL)	ICP METALS, AA METALS, Hg CLP FILTERD (Preservative: HNO3<2, Type: G/P, No. of Container(s): 1, Volume: 1000ml)
				A	B	404502	04			03A
B0BP30 07	W	4/26/94	1415	X	X	X	X	X	X	
B0BP31 08	W	↓	↓							X

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: K. Trapp / K. Trapp	Date/Time: 1600 4/26/94	Received By: AJ Simpson / AJ Simpson	Date/Time: 4/26/94 1608
Relinquished By: AJ Simpson / AJ Simpson	Date/Time: 4/27/94 10 17	Received By: L Sweeney / L Sweeney	Date/Time: 4/27/94 1017
Relinquished By: L Sweeney / L Sweeney	Date/Time: 4-27-94 1210	Received By: Hudellee	Date/Time: 4/27 1210
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS: DATA DELIVERABLE-STANDALONE

Matrix*: S = Soil; SE = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air; DS = Drum Solids; DL = Drum Liquids; T = Tissue; WI = Wipe; L = Liquid; V = Vegetation; X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

BC-6000-828 (12/92)

000055

9413476.0680

WO#4511

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: ER-9	Field Logbook No.: EFI-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A 1394-0-0518-11	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Rotaris & AJS		

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2	
Type of Container	G/P	P	G/P	G/P	Gs	glass	G/P	
No. of Container(s)	1	1	5	2	3	1	1	
Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40mL	1000ml	
SAMPLE ANALYSIS 404501	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90 40450205	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD 10A	

Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBNY6 9	W	4/25/94	1041	+	+	+	+	+	+								
BOBNY7 10	W	↓	↓							1							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	4/25/94 1355	CA Simpson	4/26/94 1355
CA Simpson AJ SIMPSON	4/27/94 0922	L Sweeney / L Sweeney	4/27/94 0922
L Sweeney / L Sweeney	4-27-94 1210	[illegible]	4/27 1210
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SD = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION — Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION — Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000056

9613476.0699

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Tropp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 1210 B	SAF No.: 94-129
Ice Chest No.: ER-9	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W194-0-0578-11	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Rebag 3x AJS

SAMPLE ANALYSIS: 404501

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP METALS AA METALS Hg CLP A	ANIONS F,SO4 COND pH B	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Nat'l Gamma	ICP METALS, AA METALS, Hg CLP FILTERD 12A
			Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2
			Type of Container	G/P	P	G/P	G/P	Gs	40 oz	G/P
			No. of Container(s)	1	1	5	2	3	1	1
			Volume	1000ml	1000ml	1000ml	1000ml	1000ml	40 oz	1000ml
BOBP12 11	W	4/25/94	1205	X	X	X	X	X	X	
BOBP13 12	W	↓								↓

404502 06

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: K. Tropp / K. Tropp		1355 4/25/94
Received By: RG Simpson AJ SIMPSON		4/26/94 1355
Relinquished By: RG Simpson AJ SIMPSON		4/27/94 0925
Received By: L Sweeney L Sweeney		4/27/94 0925
Relinquished By: L Sweeney L Sweeney		4-27-94 1210
Received By: H Heidelberg		4/27 1210
Relinquished By:		
Received By:		

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000057

9413476.0690

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-BC-5	Sampling Location: 100 B	SAF No.: 94-129
Ice Chest No.: GWS0114	Field Logbook No.: EFL-1036	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W194-000518-26	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

AJS 4/27/94 Relinq AJS 4/27/94 AJS 1342 Relinq 3A

Preservative	HNO3<2	COOL 4	HNO3<2	HCL pH<2	COOL 4	None	HNO3<2
Type of Container	G/P	P	G/P	G/P	Gs	GG	G/P
No. of Container(s)	1	1	5	2	6 KT 4/27/94 3	1	1
Volume	1000ml	1000ml	1000ml	1000ml	500ml KT 4/27/94 ~~1000ml~~	40mL	1000ml

SAMPLE ANALYSIS: 404566

	ICP METALS AA METALS Hg CLP	ANIONS F, SO4 COND pH	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD
	A	B	404567		01		02A

Sample No.	Matrix*	Date Sampled	Time Sampled	ICP METALS AA METALS Hg CLP	ANIONS F, SO4 COND pH	GROSS ALPHA/ BETA Sr-90	Tc-99	TRITIUM C-14	Activity Scan	ICP METALS, AA METALS, Hg CLP FILTERD
B0BP08 01	W	4/27/94	~~1015~~ 1030 KT 4/27/94	X	X	X	X	X	X	
B0BP09 02	W	↓	↓							X

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By: K. Trapp / K. Trapp		4/27/94 1340
Received By: AJ SIMPSON / AJ Simpson		4/27/94 1340
Relinquished By: AJ SIMPSON / AJ Simpson		4/29/94 1027
Received By: L Sweeney / L Sweeney		4/29/94 1030
Relinquished By: L Sweeney / L Sweeney		4.29.94 1210
Received By: Karen McKinling		4/29/94 1210
Relinquished By:		
Received By:		

SPECIAL INSTRUCTIONS
DATA DELIVERABLE-STANDALONE

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

000058

9613476.0691

9613476.0692

WO#417

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-C-C336-418

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Eng. Env. & Tech	EFS	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
IT Analytical Services 2200 G.W. WAY [illegible] WA 98352	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Sample #: DCBNX1, DCBNX5 Cooler #: GUSC15 Refrigerator with [illegible] water sample [illegible] if wet ice and [illegible]	NA

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 Area

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date
[illegible]	15[illegible]	[illegible]

Location of Property (Area & Bldg.)	Contact	Phone
100-FR-[illegible]	[illegible] Butcher	5[illegible]

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
4-19-94	8R410 P85AA	NA

Originated By	Date	Authorized By	Date
[illegible] Butcher	4-19-94	[illegible]	[illegible]

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible]	4/19/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:	
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain	Green – Property Control Custodian (Issuing Office) Pink – Originator

[illegible] ITAS 4/19/94 1150

54-3000-479 (09/89)

9613476.0693

WO#454

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		WG4-6 / 518-15

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to

IT Analytical Services
2800 George Washington Way
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs.	Sample #: BOBP43, BOBP20, BOBP21 Cooler ID: C42 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: BOBP30, BOBP31, BOBP[illegible], BOBP[illegible] Cooler ID: GWSC30 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

Bill of lading # NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No 152933	Date 4/22/94
Location of Property (Area & Bldg.) 100-BC-5	Contact P. H. Butcher	Phone (509) 376-4388
Date Ready for Shipment 4/22/94	Cost Code to be Charged 88410 PB5AA	Approximate Date This Property will be Returned NA
Originated By PH Butcher	Date 4/22/94 Authorized By [illegible]	Date 4/27/94
Signature and Name of Property Control	Custodian Date / Property Management Approval [illegible]	Date [illegible]

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
[illegible]				
Date 4/27/94				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Green – Property Control Custodian (Issuing Office) Yellow – Retain Pink – Originator

54-3000-479 (09/89)

9613476.0694

WO#463

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-C-0518-2C

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
ER Eng Support	Field & Analytical Supp	ER Field Sampling

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing ☒ Contractor ☐ Vendor

Shipped to

IT Analytical Services
2800 George Washington Way
Richland, WA 99352

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 lbs.	Sample #: BLBP08, BOBP09 Cooler ID: GWSC44 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: Cooler ID: NA Polycooler with groundwater samples packed in wet ice and vermiculite	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 AREA

Bill of lading # NONE

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release: R Nelson	RM Survey No. 157785	Date 4-29-94
Location of Property (Area & Bldg.) 100-BC-5	Contact P. H. Butcher	Phone (509) 376-4388
Date Ready for Shipment ~~4-26~~ 4/29/94	Cost Code to be Charged 88410 PBSAA	Approximate Date This Property will be Returned NA
Originated By PH Butcher	Date 4/29/94	Authorized By [illegible] Date 4/29/94
Signature and Name of Property Control	Custodian Date	Property Management Approval [illegible] Date 4/29/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

54-3000-479 (09/89)

INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001481*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

wo#36/ Rl #46

Reference Document No. 340380
Page 1 of ___

Project Name/No. [1] 94-129
Sample Team Members [2]
Profit Center No. [3] 4632
Project Manager [4] VAN PETTY
Purchase Order No. [6]
Required Report Date [11]

Samples Shipment Date [7] 4-15-94
Lab Destination [8] Middlebrook
Lab Contact [9]
Project Contact/Phone [12]
Carrier/Waybill No. [13]

Bill to: [5] F.T. Richland
Report to: [10] F.T. Richland

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Pre-servative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
40428801 A	BOBNX8	4-13-94 10:15	G	1L		METALS	3°C BB 4/14/94 <2	
↓ B	↓	↓	P	1L		ANIONS	↓	
A	BOBNX9	↓	G	1L		METALS	<2	
	JH 4/15/94							

FOR LAB USE ONLY

Special Instructions: [23] As per WHC Contract

Possible Hazard Identification: [24]
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: [25]
Return to Client ☒ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required: [26]
Normal ☒ Rush ☐

QC Level: [27]
I. ☐ II. ☐ III. ☐ Project Specific (specify) SAF 94-129

1. Relinquished by [28] (Signature/Affiliation) Heidelberg	Date: 4/15/94 Time: 1600	1. Received by [28] (Signature/Affiliation) Bryan Blanquet ITAKN	Date: 4/16/94 Time: 9:30
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: [29] SDG-W0031

MCA 3/15/91

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

290000

9613476.0695

INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001514*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO#41T RL#529

Reference Document No. 310390
Page 1 of 1

Project Name/No. 1: 94-129
Sample Team Members 2:
Profit Center No. 3: 4632
Project Manager 4: VanPetley
Purchase Order No. 6:
Required Report Date 11:

Samples Shipment Date 7: 4/19/94
Lab Destination 8: Middlebrook
Lab Contact 9:
Project Contact/Phone 12:
Carrier/Waybill No. 13: 112 8740 864

Bill to: 5 ITAS Richland

Report to: 10 ITAS Richland

White: To accompany samples
Yellow: Field copy

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Preservative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
W40435001 A	BOB NX4 / H_2O	4/18/94 1133	Glass	1000ml	HNO_3 4°C	Metals	4°C KAK 4-20-94	
B	\	\	Poly	\	\	Anions	FOR LAB USE ONLY	
02A	BOB NX5 / H_2O	\	Glass	\	HNO_3	Metals		
	4/19/94							
							FOR LAB USE ONLY	

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required: 26
Normal ☒ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0031

1. Relinquished by 28 (Signature/Affiliation) ITAS	Date: 4/19/94 Time: 1600	1. Received by 28 (Signature/Affiliation) Kenya A. Klemm ITAS-KN	Date: 04-20-94 Time: 09810
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

*See back of form for special instructions.

MCA 3/15/91

000063

9613476.0696

INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001523*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO#426 LV#538

Reference Document No. 453601

Page 1 of 1

Project Name/No.[1] SAP 94-129

Sample Team Members[2]

Profit Center No.[3] 4632

Project Manager[4] Van Petty

Purchase Order No.[6]

Required Report Date[11]

Samples Shipment Date[7] 4-23-94

Lab Destination[8] Middle Brook

Lab Contact[9]

Project Contact/Phone[12]

Carrier/Waybill No.[13] 8875576065

Bill to:[5] IT Richland

Report to:[10] IT Richland

ONE CONTAINER PER LINE

Sample Number[14]	Sample Description/Type[15]	Date/Time Collected[16]	Container Type[17]	Sample Volume[18]	Pre-servative[19]	Requested Testing Program[20]	Condition on Receipt[21]	Disposal Record No.[22]
40442901A	BOBNY2 / water	4-21-94 0920	G/P	1000ml	Cool 4°	ICP, GFAA, Hg	<2 5° BHB 4/25/94	
↓ B	↓	↓	P	↓	↓	Anions, Cond, ~~Hg~~ PH	4-22-94	
40442902A	BOBNY3 ↓	↓	G/P	↓	↓	ICP, GFAA, Hg	<2	
		RB	4-23-94					

FOR LAB USE ONLY

FOR LAB USE ONLY

Special Instructions:[23]

Possible Hazard Identification:[24] Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal:[25] Return to Client ☒ Disposal by Lab ☐ Archive ____ (mos.)

Turnaround Time Required:[26] Normal ☐ Rush ☐ As Per WHC Contract

QC Level:[27] I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0031

1. Relinquished by[28] (Signature/Affiliation) R. Boyd IT	Date: 4-23-94 Time: 1200	1. Received by[28] (Signature/Affiliation) Bryan B [illegible] IT-TASKS	Date: 4/25/94 Time: 8:55
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments:[29]

MCA 3/15/91

White: To accompany samples

Yellow: Field copy

*See back of form for special instructions.

000064

9613476.0697

COC NO. *0001550*

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO# 454 RL# 965

Reference Document No. 453610
Page 1 of 2

Project Name/No. [1] SAF94-129
Sample Team Members [2]
Profit Center No. [3] 4632
Project Manager [4] YAN PETTEY
Purchase Order No. [6]
Required Report Date [11]

Samples Shipment Date [7] 4-28-94
Lab Destination [8] Middlebrook
Lab Contact [9]
Project Contact/Phone [12]
Carrier/Waybill No. [13] 150 9385 473

Bill to: [5] IT Richland
Report to: [10] IT Richland

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Pre-servative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
40450101 A	BOBP20 / water	4/26 1300	G/P	1000ml	Cool 4°	ICP, GFAA, Hg	5°C BPB 4/29/94 <2	
B	↓	↓	P	↓	↓	TH 4/28/94 Anions, SO4, Cond, PH	↓	
02A	BOBP21 / water	↓	G/P			ICP, GFAA, Hg	<2	
03A	BOBP42 / water	4/26 1445	↓			ICP, GFAA, Hg	<2	
B	↓	↓	P			Anions, SO4, Cond, PH.		
04A	BOBP43 / water	↓	G/P			ICP, GFAA, Hg	<2	
05A	BOBP06 / water	4/26 1035	↓			ICP, GFAA, Hg	<2	
B	↓	↓	P	↓	↓	Anions, SO4, Cond, PH.	↓	

FOR LAB USE ONLY

FOR LAB USE ONLY

Special Instructions: [23] As per WHC Contract

Possible Hazard Identification: [24]
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: [25]
Return to Client ☒ Disposal by Lab ☐ Archive _____ (mos.)

Turnaround Time Required: [26]
Normal ☒ Rush ☐

QC Level: [27]
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0043

1. Relinquished by [28] (Signature/Affiliation) R. Boyd IT	Date: 4-28-94 Time: 1600	1. Received by [28] (Signature/Affiliation) Bryan Blomquist ITASKN	Date: 4/29/94 Time: 8:45
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: [29]

MCA 3/15/91

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

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INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 453610
Page 2 of 2

Project Name SAF 94-129

Project No. SDL W0043

Samples Shipment Date 4-28-94

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
40450106A	BOBP07 /Water	4/26 1035	G/P	1000ml	Cool 4°	ICP, GFAA, Hg	5°C BPB 4/29/94 <2	
07A	BOBP30 /Water	4/26 1415	↓			ICP, GFAA, Hg	<2	
B	↓		P			ANIONS, SO4, Cond, PH		
08A	BOBP31 /Water	↓	G/P			ICP, GFAA, Hg	<2	
09A	BOBNY6 /Water	4/25 1040	↓			ICP, GFAA, Hg	<2	
B	↓		P			ANIONS, SO4, Cond, PH		
10A	BOBNY7 /Water	↓	G/P			ICP, GFAA, Hg	<2	
11A	BOBP12 /Water	4/25 1205	↓			ICP, GFAA, Hg	<2	
B	↓		P			ANIONS, SO4, Cond, PH		
12A	BOBP13 /Water	↓	G/P			ICP, GFAA, Hg	<2	
	JH 4/28/94							

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

MCA 3/15/91

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INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. •0001557•

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO# 462 RL# 580

Reference Document No. 453616
Page 1 of 1

Project Name/No. 1 SAF 94-129
Sample Team Members 2
Profit Center No. 3 4632
Project Manager 4 Van Pettey
Purchase Order No. 6
Required Report Date 11

Samples Shipment Date 7 4-29-94
Lab Destination 8 Middlebrook
Lab Contact 9
Project Contact/Phone 12
Carrier/Waybill No. 13 150 934 167

Bill to: 5 IT Richland
Report to: 10 IT Richland

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
40456601 A	BOBP08 /water	4/27 1030	G/P	1000ml	Cool 4°	ICP, GFAA, Hg	4°C BPB 4/30/94 <2	
↓ B	↓	↓	P	↓	↓	ANIONS, SO4, Cond, PH	↓	
40456602 A	BOBP09 /water	↓	G/P	↓	↓	ICP, GFAA, Hg	↓	
	JH 4/29/94							

FOR LAB USE ONLY

FOR LAB USE ONLY

Special Instructions: 23 As per WHC Contract

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive _____ (mos.)

Turnaround Time Required: 26
Normal ☒ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0043

1. Relinquished by 28 (Signature/Affiliation) Heidelberg	Date: 4-29-94 Time: 16:00	1. Received by 28 (Signature/Affiliation) Bryan Blomquist / TASKN	Date: 4/30/94 Time: 9:35
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

MCA 3/15/91

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

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Appendix 5

Data Validation Supporting Documentation

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	~~D~~	E

PROJECT:		DATA PACKAGE: T00568
VALIDATOR: RJS	LAB: ITC	DATE: 7.26.94
CASE: 100-BC-5 CASE NO.'s 417, 426, 454, 463		SDG: W0043

ANALYSES PERFORMED

☒ CLP/ICP	☒ CLP/GFAA	☒ CLP/Hg	☐ CLP/Cyanide	☐	☐
☐ SW-846/ICP	☐ SW-846/GFAA	☐ SW-846/Hg	☐ SW-846 Cyanide	☐	☐

SAMPLES/MATRIX BOBP30, BOBP31, BOBP42, BOBP43 - Equipment blanks
BOBP06, BOBP07, BOBNY2, BOBNY3 - split samples
(VALIDATED)

~~BOBNY4, BOBNY5, BOBNY6, BOBNY7, BOBP12, BOBP13~~
~~BOBP30, BOBP31, BOBP08, BOBP09~~ ~~(NOT VALIDATED)~~ RJS 9/15/94

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Is technical verification documentation present? . . . . . (Yes) No N/A

Is a case narrative present? . . . . . (Yes) No N/A

Comments: [illegible] (✓)
SC 5/1/94 [illegible]

2. HOLDING TIMES

Are sample holding times acceptable? . . . . . (Yes) No N/A

Comments: Metals ✓ < 6 mo.
Hg collected 4/26/94 (✓)
analyzed 5/9/ and 5/18/94

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

3. INSTRUMENT PERFORMANCE AND CALIBRATIONS

Were initial calibrations performed on all instruments? . . . . Yes No N/A
Are initial calibrations acceptable? . . . . . Yes No N/A
Are ICP interference checks acceptable? . . . . . Yes No N/A
Were ICV and CCV checks performed on all instruments? . . . . . Yes No N/A
Are ICV and CCV checks acceptable? . . . . . Yes No N/A
Comments:

4. BLANKS

Were ICB and CCB checks performed for all applicable analyses? Yes No N/A
Are ICB and CCB results acceptable? . . . . . RS 9/15/94 Yes No N/A
Were preparation blanks analyzed? . . . . . Yes No N/A
Are preparation blank results acceptable? . . . . . RS 9/15/94 Yes No N/A
Were field/trip blanks analyzed? . . . . . Yes No N/A
Are field/trip blank results acceptable? . . . . . Yes No N/A
Comments: Minor blank and Prep blank contamination

5. ACCURACY

Were spike samples analyzed? . . . . . Yes No N/A
Are spike sample recoveries acceptable? . . . . . RS 9/15/94 Yes No N/A
Were laboratory control samples (LCS) analyzed? . . . . . Yes No N/A
Are LCS recoveries acceptable? . . . . . Yes No N/A
Comments: Lead 61% (J, UJ)
Inactive Spike BOB20 Hg 126.8% Sample <IDL — no qualifiers

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

6. PRECISION

Were laboratory duplicates analyzed? . . . . . Yes No N/A

Are laboratory duplicate samples RPD values acceptable? . . . . Yes No N/A

Were ICP serial dilution samples analyzed? . . . . . Yes No N/A

Are ICP serial dilution %D values acceptable? . . . . . Yes No N/A

Are field duplicate RPD values acceptable? . . . . . Yes No N/A

Are field split RPD values acceptable? . . . . . Yes No N/A

SC 8/1/9

Comments:

7. FURNACE AA QUALITY CONTROL

Were duplicate injections performed as required? . . . . . Yes No N/A

Are duplicate injection %RSD values acceptable? . . . . . Yes No N/A

Were analytical spikes performed as required? . . . . . Yes No N/A

Are analytical spike recoveries acceptable? . . . . . RF 9/13/94 Yes No N/A

Was MSA performed as required? . . . . . Yes No N/A

Are MSA results acceptable? . . . . . Yes No N/A

Comments: Several samples with GFAA Spikes outside of QC limits.

8. REPORTED RESULTS AND DETECTION LIMITS

Are results reported for all requested analyses? . . . . . Yes No N/A

Are all results supported in the raw data? . . . . . Yes No N/A

Are results calculated properly? . . . . . Yes No N/A

Do results meet the CRDLs? . . . . . Yes No N/A

Comments:

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: WHC/BHI			DATA PACKAGE: T00568		
VALIDATOR: RJS		LAB: IT		DATE: 9/14/94	
CASE:			SDG: W0043		
ANALYSES PERFORMED					
☑ CLP/ICP	☒ CLP/GFAA	☐ CLP/Hg	☐ CLP/Cyanide	☐	☐
☐ SW-846/ICP	☐ SW-846/GFAA	☐ SW-846/Hg	☐ SW-846 Cyanide	☐	☐

SAMPLES/MATRIX B0BNX4, B0BNX5, B0BNY6, B0BNY7
B0BP12, B0BP13, B0BP20, B0BP21, B0BP08
B0BP09

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Is technical verification documentation present? . . . . . (Yes) No N/A

Is a case narrative present? . . . . . (Yes) No N/A

Comments:

2. HOLDING TIMES

Are sample holding times acceptable? . . . . . (Yes) No N/A

Comments: Metals ✓
Hg < 28 days ✓

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

3. INSTRUMENT PERFORMANCE AND CALIBRATIONS

Were initial calibrations performed on all instruments? . . . . Yes No N/A

Are initial calibrations acceptable? . . . . . Yes No N/A

Are ICP interference checks acceptable? . . . . . Yes No N/A

Were ICV and CCV checks performed on all instruments? . . . . . Yes No N/A

Are ICV and CCV checks acceptable? . . . . . Yes No N/A

Comments:

4. BLANKS

Were ICB and CCB checks performed for all applicable analyses? Yes No N/A

Are ICB and CCB results acceptable? . . . . . Yes No N/A

Were preparation blanks analyzed? . . . . . Yes No N/A

Are preparation blank results acceptable? . . . . . Yes No N/A

Were field/trip blanks analyzed? . . . . . Yes No N/A

Are field/trip blank results acceptable? . . . . . Yes No N/A

Comments: BOBNX5: Pb (Prep), BOBNX4: Al (CCB4), BOBPO8: Al (prep), BOBPI3: Fe (prep), BOBPA03 Fe (prep), BOBNY7: Fe (prep) BOBPI2: Fe (prep)

5. ACCURACY

Were spike samples analyzed? . . . . . Yes No N/A

Are spike sample recoveries acceptable? . . . . . Yes No N/A

Were laboratory control samples (LCS) analyzed? . . . . . Yes No N/A

Are LCS recoveries acceptable? . . . . . Yes No N/A

Comments: BOBNX4 (Pb), BOBPO8: Pb (61.0%), BOBNY6: Pb (61.0), BOBPA0: Pb (61.0%), BOBPI2: Pb 61.0%,

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

6. PRECISION

Were laboratory duplicates analyzed? . . . . . Yes No N/A

Are laboratory duplicate samples RPD values acceptable? . . . . Yes No N/A

Were ICP serial dilution samples analyzed? . . . . . Yes No N/A

Are ICP serial dilution %D values acceptable? . . . . . Yes No N/A

Are field duplicate RPD values acceptable? . . . . . Yes No N/A

Are field split RPD values acceptable? . . . . . Yes No N/A

Comments:

7. FURNACE AA QUALITY CONTROL

Were duplicate injections performed as required? . . . . . Yes No N/A

Are duplicate injection %RSD values acceptable? . . . . . Yes No N/A

Were analytical spikes performed as required? . . . . . Yes No N/A

Are analytical spike recoveries acceptable? . . . . . Yes No N/A

Was MSA performed as required? . . . . . Yes No N/A

Are MSA results acceptable? . . . . . Yes No N/A

Comments: BOBNX5: Pb (115.4%), : Tl (117.6%), BOBNX4: Pb (117.4%), BOBP09: Pb (80.8%), BOBNY6: As (82.3%) Pb (81.7%), Se (74%), BOBP21: Pb (71.3%), BOBP13: Pb (73.4%), BOBP20: Pb (78.9%) BOBNY7: As (83.4%), Pb (73.2%), BOBP12: As (82.9%), Pb (83.9%)

8. REPORTED RESULTS AND DETECTION LIMITS

Are results reported for all requested analyses? . . . . . Yes No N/A

Are all results supported in the raw data? . . . . . Yes No N/A

Are results calculated properly? . . . . . Yes No N/A

Do results meet the CRDLs? . . . . . Yes No N/A

Comments:

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

Comments (attach additional sheets as necessary):

BLANK AND SAMPLE DATA SUMMARY

SDG: W0043	VALIDATOR: RJS	DATE: 9/15/94	PAGE ____ OF ____

COMMENTS:

SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
CCB #4	Aluminum	46.1			ug/L	230.5	461	BOBNX4	U
Prep	Lead	2.18				10.9	21.8	BOBNX5	U
~~Prep~~	~~Aluminum~~	~~49.7~~				~~248.5~~	~~497~~	~~BOBP08~~	~~U~~
Prep	Aluminum	40.84				204.2	408.4	BOBP08	U
Prep	Iron	12.66				63.3	126.6	BOBNY7	U
								BOBP12	U
								BOBP13	U
								BOBP20	U
								BOBP21	U

ACCURACY DATA SUMMARY

SDG: W0043	VALIDATOR: RJS	DATE: 9/15/94	PAGE____OF____	
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
BOBP20S	LEAD	61.0	BOBNX4	UJ
			BOBP08	UJ
			BOBNY6	UJ
			BOBP12	UJ
			BOBP20	BJ
BOBNX4 A	LEAD	117.4	BOBNX4	UJ
BOBNX5 A	LEAD	115.4 %	BOBNX5	UJ
BOBNX5 A	Thallium	117.6	BOBNX5	UJ
BOBP09 A	LEAD	80.8 %	BOBP09	UJ
BOBNY6 A	Arsenic	82.3	BOBNY6	BJ
	LEAD	81.7		UJ
	Selenium	74		BJ
BOBNY7 A	Arsenic	83.4	BOBNY7	BJ
BOBNY7 A	LEAD	73.2	BOBNY7	UJ
BOBP12 A	Arsenic	82.9	BOBP12	BJ
BOBP12 A	LEAD	83.9	BOBP12	UJ
BOBP13 A	LEAD	73.4	BOBP13	UJ
BOBP20 A	LEAD	78.9	BOBP20	BJ
BOBP21 A	LEAD	71.3	BOBP21	UJ

SC 8/1/94 W0043

BLANK AND SAMPLE DATA SUMMARY

SDG: ~~W0043~~ ~~W0043~~ es 9/1/94	VALIDATOR: RJS	DATE: 7·26·94	PAGE ____ OF ____
COMMENTS: 18 sample ~~8 [illegible]~~ RS CASE No. 424+ 454.			

SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
Prep blank	Arsenic	-2.20			ug/L	+11.00	+22.00	BOBNY2	UJ
↓	↓	↓				↓	↓	BOBNY3	J
CCB #3	Potassium	1395.10				6975.50	13951.00	BOBNY2	U
↓	↓	↓				↓	↓	BOBNY3	U
Prep Blank	Calcium	51.09				255.45	510.90	BOBP30 BOBP31	U
↓	↓	↓				↓	↓	BOBP42 BOBP43	U
Prep blank	IRON	12.66				63.30	126.60	BOBP07 BOBP30	U
↓	↓	↓				↓	↓	BOBP31 BOBP42	U
Prep blank	Sodium	104.39				521.95	1043.90	BOBP30 BOBP31	U
↓	↓	↓				↓	↓	BOBP42 BOBP43	U

Case No. W0426

Case No. W0424

B-3

11/0.9/4/96

SDG-SPP-002, Rev. 2

RS 9/2/94

~~W0051~~ W0043

ACCURACY DATA SUMMARY

SDG: ~~W0043~~	VALIDATOR: RJS	DATE: 7-26-94	PAGE ____ OF ____
COMMENTS: ~~18 samples — 8 validated~~			

SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
~~Matrix Spike~~	LEAD	61.0	~~BOBP42~~	~~J~~
(BOBP20S)			BOBP06	UJ
			BOBP30	J
			BOBP42	UJ
BOBP06A ~~GFAA Analytical Spike~~	LEAD	~~78.9~~ 96.9%	BOBP06	UJ
BOBP07A	75.8	~~75.8~~ 1.68%	BOBP07	UJ
BOBP31A	81.6	~~81.6~~ 1.83%	BOBP31	UJ
ET BOBP07A	~~Arsenic~~	~~81.4 %~~	~~BOBP07~~	~~UJ~~
BOBP06A	Selenium	71.2 %	BOBP06	J
BOBP30A		83.6 %	BOBP30	UJ
BOBP42A		79.0 %	BOBP42	UJ

ET

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WTC-SU-ER-JF-0026, REV. 2

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