START 9613490.000L

W0062-ITC-0625 49 R

0045457

INTERNATIONAL TECHNOLOGY CORPORATION

RECORD COPY

JUL 1994 RECEIVED SOLA

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

OCT 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

6-4-96 MC

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

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

June 23, 1994

JUL 1994 RECEIVED SOLA

Job Number: 536; 538; 545; 577; 629

This is the Certificate of Analysis for the following samples:

SDG:	W0062
Client Project ID:	WHC SAF-94-087 100-FR-3 Groundwater-5th Round
Date Received by Lab:	May 13, May 14 & May 21, 1994
Number of Samples:	Twenty-one (21)
Sample Type:	Water

I. Introduction

On May 13, May 14 and May 21, 1994, twenty-one (21) 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 Compound List (TCL) volatiles and semivolatiles by gas chromatography/mass spectroscopy (GC/MS) in accordance with the EPA CLP 3/90 Statement of Work.

Reviewed and Approved:

Sheree Schneider

Sheree' A. Schneider
Project Manager

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IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

IT Corporation
June 23, 1994
Job Number: 536; 538; 545; 577; 629
Client Project ID: WHC SAF-94-087 100-FR-3 Groundwater-5th Round

II. Analytical Results/Methodology (Continued)

The samples were analyzed for Target Compound List (TCL) pesticides and PCBs by gas chromatography/electron capture detection (GC/ECD) in accordance with the EPA CLP 3/90 Statement of Work.

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.

The samples were analyzed for total cyanide in accordance with the EPA CLP ILM03 Statement of Work.

The samples were analyzed for ammonia based on EPA method 350.2.

The alkalinity of the samples was determined using EPA method 310.1.

The samples were analyzed for chemical oxygen demand (COD) at our ITAS-St. Louis laboratory based on EPA method 410.2.

The samples were analyzed for nitrate-nitrite based on EPA method 353.2.

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 sulfide based on EPA method 376.1.

The total dissolved solids (TDS) content of the samples was determined using EPA method 160.1.

The samples were analyzed for chemical oxygen demand (COD) at the ITAS-Knoxville laboratory using the EPA approved HACH procedure, HACH Water Analysis Handbook, HACH Chemical Company, 1980. The samples were analyzed for chemical oxygen demand (COD) at the ITAS ST. Louis laboratory based on EPA method 410.2. A copy of their report is enclosed.

The samples were analyzed for total organic halogens (TOX) based on EPA method 9020A.

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

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III. Quality Control

The volatiles analyses were performed by purge and trap with a J & W DB-624 capillary column on a Hewlett-Packard 5970 GC/MS/DS and a Finnigan INCOS 500 GC/MS/DS. A matrix spike and a matrix spike duplicate were analyzed using sample BOBMV2. The matrix spike duplicate showed a high recovery for surrogate standard 1,2-dichloroethane-d4. Since the original sample, BOBMV2, and the matrix spike showed good surrogate standard recoveries, a reanalysis of the matrix spike duplicate was not required. All QC results met method specified limits.

The semivolatiles analyses were performed by direct injection of sample extract on a Restek XTI-5 capillary column on a Finnigan INCOS XL GC/MS/DS. A matrix spike and a matrix spike duplicate were analyzed using sample BOBMV2. The matrix spike and matrix spike duplicate showed slightly high recoveries for pentachlorophenol. All QC results were within method specified limits.

Data were reported with qualifiers as follows:

U - Compound analyzed for but not detected; value given is quantitation limit.
E - Compound exceeded calibration range.
D - Compound analyzed at a secondary dilution factor.
J - Compound detected but below quantitation limit; value estimated.
S - Spiked compound.
B - Compound found in method blank.
A - Suspected aldol condensation product.
Y - Indistinguishable isomer in tentatively identified compounds.
N - Presumptive evidence of compound presence.

The samples for work order #536 were digested on May 18, 1994 for ICP and GFAA. The CVAA analysis for mercury was performed on June 1, 1994; the GFAA analyses for arsenic, lead, selenium and thallium were performed form May 23 through May 31, 1994; the remaining metals were analyzed by ICP on June 8, 1994. All run QC was acceptable. A duplicate and a spike were analyzed using sample BOBMV2 (total) and BOBMV3 (dissolved). Spike recovery (accuracy) results were within acceptance limits for all requested parameters for both samples except for selenium by GFAA analysis for BOBMV3 which was slightly outside acceptance limits (74.3%). Duplicate RPD (precision) results were within acceptance limits for all requested parameters for both samples except for copper by ICP analysis for sample BOBMV3. Poor precision for this analyte appears to be attributable to contamination during the sample digestion procedure for the original sample.

The samples for work order #538 and #545 were digested on May 18, 1994 for ICP and GFAA. The CVAA analysis for mercury was performed on June 1, 1994; the GFAA analysis for arsenic, lead, selenium and thallium were performed from May 23 through May 31, 1994; the remaining metals were analyzed by ICP on June 8, 1994. All run QC was acceptable. Both work orders were batched with QC from work order #536.

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5815 MIDDLEBROOK PIKE
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III. Quality Control (Continued)

The samples for work order #577 were digested on May 24, 1994 for ICP and GFAA. The CVAA analysis for mercury was performed on June 1, 1994; the GFAA analyses for arsenic, lead, selenium and thallium were performed from May 24 through May 26, 1994; the remaining metals were analyzed by ICP on June 22, 1994. All run QC was acceptable. The samples were batched with QC from work order #536.

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.

The samples were analyzed for fluoride, chloride, phosphate and sulfate on June 6 and June 13, 1994 by EPA method 300.0. Matrix spike and matrix spike duplicate analyses were performed using sample BOBMV2. All quality control results were acceptable.

The samples were analyzed for alkalinity on May 16 and May 27, 1994. A duplicate was analyzed using sample BOBMV2. All quality control results were acceptable.

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5815 MIDDLEBROOK PIKE
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IT Corporation
June 23, 1994
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III. Quality Control (Continued)

The samples were analyzed for ammonia on June 1 and June 7, 1994. Matrix spike and matrix spike duplicate analyses were performed using sample BOBMV2. All quality control results were acceptable.

The samples were analyzed for nitrate/nitrite on May 25, June 3 and June 7, 1994. Matrix spike and matrix spike duplicate analyses were performed using sample BOBMV2. All quality control results were acceptable.

The pH of the samples was determined on May 17 and May 25, 1994. A duplicate analysis was performed using sample BOBMV2. All quality control results were acceptable.

The specific conductance of the samples was determined on May 19 and June 10, 1994. A duplicate was analyzed using sample number BOBMV2. All quality control results were acceptable.

The samples were analyzed for sulfide on May 16, May 19, and May 25, 1994. Matrix spike and matrix spike duplicate analyses were performed using sample BOBMV2. All quality control results were acceptable.

The total dissolved solids (TDS) of the samples was determined on May 16, May 26 and June 16, 1994. Duplicate analyses were performed using sample number BOBMV2. All quality control results were acceptable.

The samples were analyzed for total organic carbon (TOC) on May 30 and June 14, 1994. Matrix spike and matrix spike duplicate analyses were performed using sample number BOBMV2. All quality control results were acceptable.

The samples were analyzed for total organic halogens (TOX) on June 7, June 9, June 15 and June 16, 1994. Matrix spike and matrix spike duplicate analyses were performed using sample number BOBMV2. All quality control results were acceptable.

The samples were analyzed for chemical oxygen demand (COD) on May 19, 1994 at the ITAS-Knoxville laboratory. Matrix spike and matrix spike duplicate analyses were performed using sample number BOBMV2. The samples were analyzed for chemical oxygen demand (COD) on June 15 and June 16, 1994 at the ITAS St. Louis laboratory. A duplicate was analyzed using sample number BOBMV2. All quality control results were acceptable. Both sets of results are provided in this report.

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

IT Corporation
June 23, 1994
Job Number: 536; 538; 545; 577; 629
Client Project ID: WHC SAF-94-087 100-FR-3 Groundwater-5th Round

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
AA8882	405217-01A-C	BOBMV2	VOC
AA8883	405217-01D-F	"	SVOC
"	405217-01G-I	"	PEST/PCB
AA8884	405217-01J	"	ANIONS
"	"	"	CONDUCTIVITY
"	"	"	pH
AA8885	405217-01K	"	NO2NO3
AA8886	405217-01L	"	ALKALINITY
AA8887	405217-01M	"	TDS
AA8888	405217-01N	"	SULFIDE
AA8889	405217-01O	"	AMMONIA
AA8889	"	"	COD
AA8890	405217-01P	"	METALS-T
AA8891	405217-01Q	"	CYANIDE
AA8892	405217-01R	"	TOC
AA8893	405217-01S	"	TOX
AA8900	405217-02A	BOBMV3	METALS-D
AA8901	405217-03A-C	BOBMV4	VOC
AA8919	405243-01A-C	BOBMR0	VOC

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5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

IT Corporation
June 23, 1994
Job Number: 536; 538; 545; 577; 629
Client Project ID: WHC SAF-94-087 100-FR-3 Groundwater-5th Round

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
AA8920	405243-01D-F	BOBMR0	SVOC
"	405243-01G-I	"	PEST/PCB
AA8921	405243-01J	"	ANIONS
"	"	"	CONDUCTIVITY
"	"	"	pH
AA8922	405243-01K	"	NO2NO3
AA8923	405243-01L	"	ALKALINITY
AA8924	405243-01M	"	TDS
AA8925	405243-01N	"	SULFIDE
AA8926	405243-01O	"	AMMONIA
"	"	"	COD
AA8927	405243-01P	"	METALS-T
AA8928	405243-01Q	"	CYANIDE
AA8929	405243-01R	"	TOC
AA8930	405243-01S	"	TOX
AA8943	405243-02A	BOBMR1	METALS-D
AA8945	405243-03A-C	BOBMR2	VOC
AA8931	405243-04A-C	BOBMR8	VOC
AA8932	405243-04D-F	"	SVOC

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June 23, 1994
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Client Project ID: WHC SAF-94-087 100-FR-3 Groundwater-5th Round

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
AA8932	405243-04G-I	BOBMR8	PEST/PCB
AA8933	405243-04J	"	ANIONS
"	"	"	CONDUCTIVITY
"	"	"	pH
AA8934	405243-04K	"	NO2NO3
AA8935	405243-04L	"	ALKALINITY
AA8936	405243-04M	"	TDS
AA8937	405243-04N	"	SULFIDE
AA8938	405243-04O	"	AMMONIA
"	"	"	COD
AA8939	405243-04P	"	METALS-T
AA8940	405243-04Q	"	CYANIDE
AA8941	405243-04R	"	TOC
AA8942	405243-04S	"	TOX
AA8944	405243-05A	BOBMR9	METALS-D
AA8946	405243-06A-C	BOBMS0	VOC
AA9046	405291-01A-C	BOBMT8	VOC
AA9047	405291-01D-F	"	SVOC
"	405291-01G-I	"	PEST/PCB
AA9048	405291-01J	"	ANIONS
"	"	"	CONDUCTIVITY

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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
AA9048	405291-01J	BOBMT8	pH
AA9049	405291-01K	"	NO2NO3
AA9050	405291-01L	"	ALKALINITY
AA9051	405291-01M	"	TDS
AA9052	405291-01N	"	SULFIDE
AA9053	405291-01O	"	AMMONIA
"	"	"	COD
AA9054	405291-01P	"	METALS-T
AA9055	405291-01Q	"	CYANIDE
AA9056	405291-01R	"	TOC
AA9057	405291-01S	"	TOX
AA9070	405291-02A	BOBMT9	METALS-D
AA9072	405291-03A-C	BOBMV0	VOC
AA9058	405291-04A-C	BOBMT0	VOC
AA9059	405291-04D-F	"	SVOC
"	405291-04G-I	"	PEST/PCB
AA9060	405291-04J	"	ANIONS
"	"	"	CONDUCTIVITY
"	"	"	pH

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

IT Corporation
June 23, 1994
Job Number: 536; 538; 545; 577; 629
Client Project ID: WHC SAF-94-087 100-FR-3 Groundwater-5th Round

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
AA9061	405291-04K	BOBMT0	NO2NO3
AA9062	405291-04L	"	ALKALINITY
AA9063	405291-04M	"	TDS
AA9064	405291-04N	"	SULFIDE
AA9065	405291-04O	"	AMMONIA
"	"	"	COD
AA9066	405291-04P	"	METALS-T
AA9067	405291-04Q	"	CYANIDE
AA9068	405291-04R	"	TOC
AA9069	405291-04S	"	TOX
AA9071	405291-05A	BOBMT1	METALS-D
AA9073	405291-06A-C	BOBMT2	VOC
AA9572	405445-01A-C	BOBMW0	VOC
AA9573	405445-01D-F	"	SVOC
"	405445-01G-I	"	PEST/PCB
AA9574	405445-01J	"	ANIONS
"	"	"	CONDUCTIVITY
"	"	"	pH
AA9575	405445-01K	"	NO2NO3

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
AA9576	405445-01L	BOBMW0	ALKALINITY
AA9577	405445-01M	"	TDS
AA9578	405445-01N	"	SULFIDE
AA9579	405445-01O	"	AMMONIA
"	"	"	COD
AA9580	405445-01P	"	METALS-T
AB0404	405445-01Q	"	CYANIDE
AA9581	405445-01R	"	TOC
AA9582	405445-01S	"	TOX
AA9583	405445-02A	BOBMW1	METALS-D
AA9586	405445-03A-C	BOBMW2	VOC
AA9595	405445-04A-C	BOBMP4	VOC
AA9596	405445-04D-F	"	SVOC
"	405445-04G-I	"	PEST/PCB
AA9597	405445-04J	"	ANIONS
"	"	"	CONDUCTIVITY
"	"	"	pH
AA9598	405445-04K	"	NO2NO3
AA9599	405445-04L	"	ALKALINITY

IT ANALYTICAL SERVICES
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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
AA9600	405445-04M	BOBMP4	TDS
AA9601	405445-04N	"	SULFIDE
AA9602	405445-04O	"	AMMONIA
"	"	"	COD
AA9603	405445-04P	"	METALS-T
AA9604	405445-04Q	"	CYANIDE
AA9605	405445-04R	"	TOC
AA9606	405445-04S	"	TOX
AA9607	405445-05A	BOBMP5	METALS-D
AA9608	405445-06A-C	BOBMP6	VOC

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

IT Corporation
June 23, 1994
Job Number: 536; 538; 545; 577; 629
Client Project ID: WHC SAF-94-087 100-FR-3 Groundwater-5th Round

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

9613496.0016

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

DATE: October 10, 1994

TO: W0062-ITC-062

FROM: Pat Reich H4-19

Telephone: 372-2785

cc:

SUBJECT: SUMMARY VALIDATION

The Validation Summary Report for 100-FR-3 Project, Round 5 Groundwater Sampling for this SDG is filed in BOBMY4-TMA-760.

Pat Reich

54-3000-101 (12/92) GEF014

WO#536

SAMPLE RECEIPT VARIANCE REPORT
ITAS-RICHLAND LABORATORY

WORK ORDER NUMBER: 405215 01-12, 405217 01-3 DATE INITIATED: 5/11/94

INITIATED BY: T Gilmore

DATE/TIME OF SAMPLE (AND/OR RFA & COC) RECEIPT: 5/11/94 1200

CLIENT SAMPLE NUMBER	RFA/COC NUMBERS	ANALYSIS REQUESTED
BOBMS2		Sulfide
BOBMT4		
BOBMS6		
BOBMW4		
BOBMV2		

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: Samples received in 500ml glass, COC shows 500 ml poly.

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

9613496.0018

CUR#1632

Work Order No.: 536

Condition Upon Receipt Variance Report

ITAS - KNOXVILLE Laboratory

Client: IT Richland

Date: 5-14-94

Project No: Westinghouse Hanford

Initiated by: KAK

Analysis Requested: VOA, BNA, Pest/PCB, Anions, NO3/NO2, Alk, TDS, S=, NH4, COD, TAL Metals, CN-, TOC, TOX

RFA/COC Numbers: 453649

Client Sample Numbers Affected: 405217-01(N)-Sulfide; 405217-01(Q)-Cyanide; 405217-01(S)-TOX; 405217-01 (C) VOA

Condition/Variance (Check all that apply):

1. ☐ Not enough sample received for proper analysis.
   Received approximately: _____
2. ☑ Sample received broken/leaking. 405217-01 (C) VOA
3. ☑ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature: _____
   - ☑ pH sulfide=9 cyanid=10 TOX=3
   - ☐ 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): _____

Notes: _____

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: _____ Date: _____

Project Management Review: _____ Date: _____

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

9615496.0019

CUR#1634

Work Order No.: 538

Condition Upon Receipt Variance Report

ITAS - KNOXVILLE Laboratory

Client: IT-Richland

Date: 5-14-94

Project No: Westinghouse Hanford

Initiated by: KAK

Analysis Requested: Cyanide + Ammonia/COD

RFA/COC Numbers: 453651

Client Sample Numbers Affected: BOBMR6 and BOBMR8

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 both were pH 11 for Cyanide
   - ☑ other: BOBMR8 for NH_3 and COD was pH 7
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): _____

Notes: _____

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: Bryan Blomquist Date: 5/16/94

Project Management Review: _____ Date: _____

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

9613496.0020

CUR #1643

Work Order No.: 545

Condition Upon Receipt Variance Report

ITAS - KNOXVILLE Laboratory

Client: IT-Richland

Date: 5-16-94

Project No: Westinghouse Hanford

Initiated by: KAK

Analysis Requested: Cyanide

RFA/COC Numbers: 453653

Client Sample Numbers Affected: BOBMT8 + BOBMTØ

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 both were pH 11
   - ☐ 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): _____

Notes: _____

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: Kenyatta Klemm Date: 5/16/94

Project Management Review: _____ Date: _____

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

9613496.0021

CUR# 1678

Work Order No.: 577

Condition Upon Receipt Variance Report

ITAS - KNOXVILLE Laboratory

Client: IT - Richland

Date: 5-23-94

Project No: Westinghouse Hanford

Initiated by: KAK

Analysis Requested: Cyanide

RFA/COC Numbers: 453657 and 453659

Client Sample Numbers Affected: BOBMWØ and BOBMP4

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 11 (BOBMP4)
   - ☐ 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): BOBMWØ was not received for cyanide.

Notes:

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: Kenny A Klemm Date: 5/24/94

Project Management Review: _____ Date: _____

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

9613496.0022

0000047

WO #577

SAMPLE RECEIPT VARIANCE REPORT
ITAS-RICHLAND LABORATORY

WORK ORDER NUMBER: 405445 DATE INITIATED: 5/20/94

INITIATED BY: T Gilmore

DATE/TIME OF SAMPLE (AND/OR RFA & COC) RECEIPT: 5/20/94 1200

CLIENT SAMPLE NUMBER	RFA/COC NUMBERS	ANALYSIS REQUESTED
BOB MW0		
BOB MW1		
BOB MW2		

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: cooler temp at 1°C.

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

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround: [ ] Priorty [X] Normal

Collector: B.T. WHITTEN	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 199-F7-1	SAF No.: 94-087
Ice Chest No.: ER-18	Field Logbook No.: EFL-1055	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: W24-0-0578-39	Bill of Lading/Air Bill No.: NONE
Possible Sample Hazards/Remarks		

Preservative	HCL/2pH	COOL 4	pH 5-9	COOL 4	H2SO4<2	COOL 4	COOL 4	ZnAc *1	H2SO4<2	HNO3<2	NaOH>12	HCl<2*2	H2SO4<2	HNO3<2	HClpH<2
Type of Container	Gs	aG	aG	P	G/P	G/P	G/P	P	G	G	P	aGs	aGs	G/P	G/P
No. of Container(s)	3	3	3	1	1	1	1	1	1	1	1	1	1	3	3
Volume	40ml	1000ml	1000ml	1000ml	500ml	250ml	500ml	500ml	1000ml	1000ml	1000ml	250ml	500ml	4000ml	1000ml
SAMPLE ANALYSIS 40521707	VOA (CLP)	SEMIVOA (CLP)	PCB/ PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3 40521801	Tc-99
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE	ABC	DEF	GHI	J	K	L	M	N	O	P	Q	R	S		

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA (CLP)	SEMIVOA (CLP)	PCB/ PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3	Tc-99
B0BM.V2	W	05/10/94	1106	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
~~B0BM.V3~~	W	3 kol 5/10/94																
~~B0BM.V4~~	W																	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By: KA Cee	Date/Time: 5/10/94 1323	Received By: K. Trapp / K. Trapp	Date/Time: 5/10/94 1323
Relinquished By: K. Trapp / K. Trapp	Date/Time: 5/10/94 1440	Received By: A Simpson	Date/Time: 5/10/94 1445
Relinquished By: A J Simpson / A Simpson	Date/Time: 5/11/94 1020	Received By: L Sweeney / Sweeney	Date/Time: 5/11/94 1020
Relinquished By: L Sweeney / L Sweeney	Date/Time: 5/11/94 1200	Received By: T Gilmore	Date/Time: 5/11/94 1200

SPECIAL INSTRUCTIONS

*1 = or NaOH Ph>9 *2 = pH>/= to 12 *3 = GROSS ALPHA,BETA(ITAS-RD-3214), GAMMA SPEC(ITAS-RD-3219), U-235/238(ITAS-RD-3234), Pu-239/240(ITAS-RD-3209), Am-241(ITAS-RD-3302 or ITAS-RD-3206), Sr-90(ITAS-RD-3204). NOTE: LOWEST HOLDING TIME = 7 days

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)

000004/8

9413456.0023

0000049

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround: [ ] Priorty [X] Normal

Collector: B.T. WHITTEN	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 199-F7-1	SAF No.: 94-087
Ice Chest No.: ER-18	Field Logbook No.: EFL-1055	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-39	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	N/A	HNO3<2	N/A			HCl pH<2											
Type of Container	Gs	G	G			Gs											
No. of Container(s)	1	1	1			3											
Volume	1000ml	1000ml	40ml			40ml											
	TRITIUM C-14 9052 1801	ICP METALS+ ARSENIC LEAD, Se Tl, Hg (CLP) FI FILTERD	TOTAL ACTIVITY			VOA (CLP) TRIP											
Sample No.	Matrix*	Date Sampled	Time Sampled														
B0BMV2	W	05/10/94	1106	X													
B0BMV3 02A	W	05/10/94	1106		X	X											
B0BMV4 03ABC	W	05/10/94	1106						X								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp	5/10/94 1323	K. Trapp / K. Trapp	5/10/94 1323
K. Trapp / K. Trapp	5/10/94 1440	A J Simpson	5/10/94 1445
A J Simpson (AJ SIMPSON)	5/11/94 1020	L Sweeney / L Sweeney	5/11/94 1020
L Sweeney / L Sweeney	5/11/94 1200	T Gilmore	5/11/94 1200

SPECIAL INSTRUCTIONS

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)

9605140.0025

9613496.0025

IT BATCH SUMMARY/CHAIN OF CUSTODY W0062

ANALYSIS Am MATRIX WATER DUE DATE 6-24-94

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
L 05218	-1B	WHC	QC BATCH REAGENT BLANK
L	-1X		QC BATCH MATRIX BLANK
L 05218	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE
L	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
F 05218Ø to 6-17-94	-01		Duplicate of Sample # 40521801
405218	-01		
405244	-01-02		
405292	-01-02		
405446	-01-02		
	-		
	-		
	-		
	-		
	-		
	-		
	-		
	-		

Batched and QC updated by [illegible] on 6-13-94 Rec'd in C.R. by AS on 6-22-94

Rec'd in Prep Lab by [illegible] on 6-10-94 Data Reviewed and anal. Prep stored [illegible] on 6-24-94

Rec'd in Sep Lab by CY on 6-16 94

Rec'd in Sep lab by [illegible] on 6-22-94 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

9613496.0026

6/15/94

*** AM-241 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

12-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-218

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	L052181B L052181S				
1)	40521801 F052180/		WHC	BOBMV2	

ACTIONS (Initial & Date)

1) INITIATED 5/12/94

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED 6-24-94

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 2

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100 F	SAF No.: 94-087
Ice Chest No.: ER-20	Field Logbook No.: EFL-1054	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: W94-0-0518-43	Bill of Lading/Air Bill No.: NONE
Possible Sample Hazards/Remarks		

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Ref 3A LCS 5/11/94 1516

SAMPLE ANALYSIS: 405243

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA (CLP) ABC	SEMIVOA (CLP) DEF	PCB/PEST (CLP) GHI	ANIONS (IC) SO4 F, Cl, PO4 COND, pH J	NO2/NO3 K	ALK L	TDS M	SULFIDE N	AMMONIA COD O	ICP METALS+ ARSENIC LEAD Se, Tl Hg (CLP) P	CYANIDE (CLP) Q	TOC R	TOX S	*3 405244	Tc-99
				Gs	aG	aG	P	G/P	G/P	G/P	P	G	G	P	aGs	aGs	G/P	G/P
Preservative				HCL/2pH	COOL 4	pH 5-9	COOL 4	H2SO4<2	COOL 4	COOL 4	ZnAc *1	H2SO4<2	HNO3<2	NaOH>12	HCl<2*2	H2SO4<2	HNO3<2	HCl pH<2
Type of Container				Gs	aG	aG	P	G/P	G/P	G/P	P	G	G	P	aGs	aGs	G/P	G/P
No. of Container(s)				3	3	3	1	1	1	1	1	1	1	1	1	1	3	3
Volume				40ml	1000ml	1000ml	1000ml	500ml	250ml	500ml	500ml	1000ml	1000ml	1000ml	250ml	500ml	4000ml	1000ml
BOBMR0 01	W	5/11/94	1330	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
BOBMR1 02	W																	
BOBMR2 03	W																	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	5/11/94 1135	Jerome E. Rogers	5-11-94 1435
Jerome E. Rogers	5-11-94 1530	Sweeney / Sweeney	5-11-94 1530
Sweeney / Sweeney	5/12/94 1200	Karen Hettinger	5-12-94 1200
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

*1 = or NaOH Ph>9 *2 = pH>/= to 12 *3 = GROSS ALPHA,BETA(ITAS-RD-3214), GAMMA SPEC(ITAS-RD-3219), U-235/238(ITAS-RD-3234), Pu-239/240(ITAS-RD-3209), Am-241(ITAS-RD-3302 or ITAS-RD-3206), Sr-90(ITAS-RD-3204). NOTE: LOWEST HOLDING TIME = 7 days

SDL
WC062

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)

0047

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100 F	SAF No.: 94-087
Ice Chest No.	Field Logbook No.: EFL-1054	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A IN94-0-0518-43	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	N/A	HNO3<2	None			HClpH<2										
Type of Container	Gs	G	aGs			Gs										
No. of Container(s)	1	1	1			3										
Volume	1000ml	1000ml	40mL			40ml										
SAMPLE ANALYSIS 405243	TRITIUM C-14	ICP METALS+ ARSENIC LEAD, Se Tl, Hg (CLP)FI FILTERD	Activity Scan			VOA (CLP) TRIP A,B,C										

Sample No.	Matrix*	Date Sampled	Time Sampled															
BOBMRO 01	W	5/11/94	1330	X		X												
BOBMR1 02A	W	↓	↓		X													
BOBMR2 03	W	↓	↓						X									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	5/11/94 1435	[signature]	5-11-94 1435
[signature]	5-11-94 1530	J. Sweeney / J. Sweeney	5-11-94 1530
J. Sweeney / J. Sweeney	1200 5/12/94	[signature]	12:00 5-12-94

SPECIAL INSTRUCTIONS

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)

0048

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 2

Date Turnaround: [ ] Priorty [X] Normal

Collector: K. Tiepp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100F	SAF No.: 94-087
Ice Chest No.: ER-14	Field Logbook No.: EFL-1054	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: U1940-0518-43	Bill of Lading/Air Bill No.: NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Ref 3A LES 5/11/94 1500		

Preservative	HCL/2pH	COOL 4	pH 5-9	COOL 4	H2SO4<2	COOL 4	COOL 4	ZnAc *1	H2SO4<2	HNO3<2	NaOH>12	HCl<2*2	H2SO4<2	HNO3<2	HClpH<2
Type of Container	Gs	aG	aG	P	G/P	G/P	G/P	G	G	G	P	aGs	aGs	G/P	G/P
No. of Container(s)	3	3	3	1	1	1	1	1	1	1	1	1	1	3	3
Volume	40ml	1000ml	1000ml	1000ml	500ml	250ml	500ml	500ml	1000ml	1000ml	1000ml	250ml	500ml	4000ml	1000ml
SAMPLE ANALYSIS 405243	VOA (CLP) A B C	SEMIVOA (CLP) D E F	PCB/PEST (CLP) G H I	ANIONS (IC)SO4 F,Cl, PO4 COND,pH J	NO2/NO3 K	ALK L	TDS M	SULFIDE N	AMMONIA COD O	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP) P	CYANIDE (CLP) Q	TOC R	TOX S	*3 405244402	Tc-99

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA (CLP)	SEMIVOA (CLP)	PCB/PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3	Tc-99
B0BMR8 04	W	5/11/94	0930	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
B0BMR9 05	W																	
B0BMS0 06	W																	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Tiepp/E. Tiepp	5/11/94 1435	[signature]	5-11-94 1435
[signature]	5-11-94 1520	T. Sweeney/T. Sweeney	5-11-94 1520
T. Sweeney/T. Sweeney	5/12/94 1200	[signature]	5/12/94 12:00
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

*1 = or NaOH Ph>9 *2 = pH>/= to 12 *3 = GROSS ALPHA,BETA(ITAS-RD-3214), GAMMA SPEC(ITAS-RD-3219), U-235/238(ITAS-RD-3234), Pu-239/240(ITAS-RD-3209), Am-241(ITAS-RD-3302 or ITAS-RD-3206), Sr-90(ITAS-RD-3204). NOTE: LOWEST HOLDING TIME = 7 days

SDL W0062

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)

00311
0049

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100 F	SAF No.: 94-087
Ice Chest No.: ER-14	Field Logbook No.: EFI-1054	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W194.0.0518-43	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

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

Preservative	N/A	HNO3<2	None			HCl pH<2
Type of Container	Gs	G	9Gs			Gs
No. of Container(s)	1	1	1			3
Volume	1000ml	1000ml	40ml			40ml
SAMPLE ANALYSIS 405243	TRITIUM C-14	ICP METALS+ ARSENIC LEAD, Se Tl, Hg (CLP)FI FILTERD	Activity Gamma			VOA (CLP) TRIP A BC

Sample No.	Matrix*	Date Sampled	Time Sampled																
BOBMR8 04	W	5/11/94	0940	X		X													
BOBMR9 05A	W	↓	↓		X														
BOBMS0 06	W	↓	↓						X										

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	5/11/94 1435	Joan E. Rogers	5-11-94 1435
Joan E. Rogers	5-11-94 1520	K. Sweeney / K. Sweeney	1520 5-11-94
K. Sweeney / K. Sweeney	1200 5-11-94	[illegible]	12:00 5-12-94
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

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)

0050

0000054

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 2

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp / GG Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100F	SAF No.: 94-087
Ice Chest No.:	Field Logbook No.: EFL-1054	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: W94-0-0518-47	Bill of Lading/Air Bill No.: W
Possible Sample Hazards/Remarks:		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE 3x ASS 5/12/94 1437		

Preservative	HCL/2pH	COOL 4	pH 5-9	COOL 4	H2SO4<2	COOL 4	COOL 4	ZnAc *1	H2SO4<2	HNO3<2	NaOH>12	HCl<2*2	H2SO4<2	HNO3<2	HCl pH<2
Type of Container	Gs	aG	aG	P	G/P	G/P	G/P	P	G	G	P	aGs	aGs	G/P	G/P
No. of Container(s)	3	3	3	1	1	1	1	1	1	1	1	1	1	6 3 KT 5/12/94	3
Volume	40ml	1000ml	1000ml	1000ml	500ml	250ml	500ml	500ml	1000ml	1000ml	1000ml	250ml	500ml	~~4000ml~~ 2L KT 5/12/94	1000ml
SAMPLE ANALYSIS : 40529	VOA (CLP) ABC	SEMIVOA (CLP) DEF	PCB/PEST (CLP) GHI	ANIONS (IC)SO4 F,Cl, PO4 COND,pH J	NO2/NO3 K	ALK L	TDS M	SULFIDE N	AMMONIA COD O	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP) P	CYANIDE (CLP) Q	TOC R	TOX S	*3 40529201	Tc-99

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA (CLP)	SEMIVOA (CLP)	PCB/PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3	Tc-99
B0BMT8 01	W	5/12/94	1130	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
B0BMT9 02	W																	
B0BMV0 03	W																	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
G G Hamilton	5/12/94 1400	Joann E. Rogers	5-12-94 1400
Joann E. Rogers	5-12-94 1425	A J Simpson	5/12/94 1432
A J Simpson (AJ SIMPSON)	5/13/94 1130	ITAS	5/13/94 1130

SPECIAL INSTRUCTIONS

*1 = or NaOH Ph>9 *2 = pH>/= to 12 *3 = GROSS ALPHA,BETA(ITAS-RD-3214), GAMMA SPEC(ITAS-RD-3219), U-235/238(ITAS-RD-3234), Pu-239/240(ITAS-RD-3209), Am-241(ITAS-RD-3302 or ITAS-RD-3206), Sr-90(ITAS-RD-3204). NOTE: LOWEST HOLDING TIME = 7 days

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)

0000055

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 2 of 2

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100 F	SAF No.: 94-087
Ice Chest No.	Field Logbook No.: EFC-1054	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-47	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	N/A	HNO3<2	None			HCl pH<2
Type of Container	Gs	G	aGS			Gs
No. of Container(s)	1	1	1			3
Volume	1000ml	1000ml	40mL			40ml
SAMPLE ANALYSIS 405291	TRITIUM C-14 405290	ICP METALS+ ARSENIC LEAD, Se Tl, Hg (CLP)FI FILTERD	Activity Scan			VOA (CLP) ~~TRIP~~ KT 5/12/94

Sample No.	Matrix*	Date Sampled	Time Sampled															
BOBMT8 01	W	5/12/94	1130	X		X												
BOBMT9 02A	W	↓	↓		X													
BOBMV0 03ABC	W	↓	↓						X									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
C G Hamilton	5/12/94 1400	Karen E Rogers	5-12-94 1400
Karen E. Rogers	5-12-94 1425	AJ Simpson	5/12/94 1430
AJ Simpson	5/13/94 1130	JTAS	5/13/94 1130

SPECIAL INSTRUCTIONS

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)

9413196.1053

00000056

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 2

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Tiapp / G G Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100F	SAF No.: 94-087
Ice Chest No.: ER-18	Field Logbook No.: EFL-1054	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: WAA-0-0518-47	Bill of Lading/Air Bill No.
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HCL/2pH	COOL 4	pH 5-9	COOL 4	H2SO4<2	COOL 4	COOL 4	ZnAc *1	H2SO4<2	HNO3<2	NaOH>12	HCl<2*2	H2SO4<2	HNO3<2	HClpH<2
Type of Container	Gs	aG	aG	P	G/P	G/P	G/P	P	G	G	P	aGs	aGs	G/P	G/P
No. of Container(s)	3	3	3	1	1	1	1	1	1	1	1	1	1	KT 5/12/94 6 ~~3~~	3
Volume	40ml	1000ml	1000ml	1000ml	500ml	250ml	500ml	500ml	1000ml	1000ml	1000ml	250ml	500ml	2L KT 5/12/94 ~~4000ml~~	1000ml
SAMPLE ANALYSIS 405291	VOA (CLP)	SEMIVOA (CLP)	PCB/ PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3	Tc-99
	ABC	DEF	GHI	J	k	L	M	N	O	P	Q	R	S	405292 02	

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA (CLP)	SEMIVOA (CLP)	PCB/PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3	Tc-99
60BMT0 04	W	5/12/94	0930	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
60BMT1 05	W																	
60BMT2 06	W																	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
G G Hamilton	5/12/94 1400	Brent E. Rogers	5-12-94 1400
Brent E. Rogers	5-12-94 1425	AJ Simpson / A Simpson	5/12/94 1425
AJ SIMPSON / A Simpson	5/13/94 1126	IT/AS	5/13/94 1130

SPECIAL INSTRUCTIONS

*1 = or NaOH Ph>9 *2 = pH>/= to 12 *3 = GROSS ALPHA,BETA(ITAS-RD-3214), GAMMA SPEC(ITAS-RD-3219), U-235/238(ITAS-RD-3234), Pu-239/240(ITAS-RD-3209), Am-241(ITAS-RD-3302 or ITAS-RD-3206), Sr-90(ITAS-RD-3204). NOTE: LOWEST HOLDING TIME = 7 days

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)

0000057

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100 F	SAF No.: 94-087
Ice Chest No.: ER-18	Field Logbook No.: EFL-1054	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A WG4-0-0518-47	Bill of Lading/Air Bill No.: N/A

Possible Sample Hazards/Remarks:

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

Preservative	N/A	HNO3<2	None			HCl pH<2
Type of Container	Gs	G	gGs			Gs
No. of Container(s)	1	1	1			3
Volume	1000ml	1000ml	40ml			40ml

SAMPLE ANALYSIS

Sample No.	Matrix*	Date Sampled	Time Sampled	TRITIUM C-14 405492-2	ICP METALS+ ARSENIC LEAD, Se Tl, Hg (CLP) FI FILTERD	Activity Scan			VOA (CLP) TRIP									
B0BMT0 64	W	5/12/94	0930	X		X												
B0BMT1 05 A	W	↓	↓		X													
B0BMT206ABC	W	↓	↓						X									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
GG Hamilton	5/12/94 1400	Karen E. Rogers	5-12-94 1400
Karen E. Rogers	5-12-94 1425	A J Simpson	5/12/94 1425
A J Simpson	5/13/94 1126	ITA3	5/13/94 1130

SPECIAL INSTRUCTIONS

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)

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp / G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100 K	SAF No.: 94-087
Ice Chest No.: SMC-516	Field Logbook No.: EFL-1054	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: W94-0-0594-9	Bill of Lading/Air Bill No.: NONE
Possible Sample Hazards/Remarks		

Preservative	HCL/2pH	COOL 4	pH 5-9	COOL 4	H2SO4<2	COOL 4	COOL 4	ZnAc *1	H2SO4<2	HNO3<2	NaOH>12	HCl<2*2	H2SO4<2	HNO3<2	HClpH<2
Type of Container	Gs	aG	aG	P	G/P	G/P	G/P	P	G	G	P	aGs	aGs	G/P	G/P
No. of Container(s)	3	3	3	1	1	1	1	1	1	1	1	1	1	6	3
Volume	40ml	1000ml	1000ml	1000ml	500ml	250ml	500ml	500ml	1000ml	1000ml	1000ml	250ml	500ml	4000ml	1000ml
SAMPLE ANALYSIS 40544501	VOA (CLP) ABC	SEMIVOA (CLP) DEF	PCB/ PEST (CLP) GHI	ANIONS (IC)SO4 F,Cl, PO4 COND,pH J	NO2/NO3 K	ALK L	TDS M	SULFIDE N	AMMONIA COD O	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP) P	CYANIDE (CLP) Q	TOC R	TOX S	*3 4054240 1	Tc-99

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA (CLP)	SEMIVOA (CLP)	PCB/ PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3	Tc-99
B08MW0	W	5/19/94	0945	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
B08MW1	W																	
B08MW2	W																	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	5/19/94 1405	[signature]	5-19-94 1405
[signature]	5-19-94 1425	[signature]	1425 5/19/94
[signature]	5/20/94 1200	[signature] ITAS	5/20/94 1200

SPECIAL INSTRUCTIONS

*1 = or NaOH Ph>9 *2 = pH>/= to 12 *3 = GROSS ALPHA,BETA(ITAS-RD-3214), GAMMA SPEC(ITAS-RD-3219), U-235/238(ITAS-RD-3234), Pu-239/240(ITAS-RD-3209), Am-241(ITAS-RD-3302 or ITAS-RD-3206), Sr-90(ITAS-RD-3204). NOTE: LOWEST HOLDING TIME = 7 days

SDG W0062

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)

0067

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp/G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100F	SAF No.: 94-087
Ice Chest No.	Field Logbook No.: EFL-1094	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0594-9	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

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

Preservative	N/A	HNO3<2	None			HClpH<2										
Type of Container	Gs	G	AGs			Gs										
No. of Container(s)	1	1	1			3										
Volume	1000ml	1000ml	40mL			40ml										
SAMPLE ANALYSIS 405445	TRITIUM C-14 405440	ICP METALS+ ARSENIC LEAD, Se Tl, Hg (CLP)FI FILTERD	Activity Scan			VOA (CLP) TRIP HT 5/19/94										

Sample No.	Matrix*	Date Sampled	Time Sampled	TRITIUM C-14	ICP METALS+ ARSENIC LEAD, Se Tl, Hg (CLP)FI FILTERD	Activity Scan	VOA (CLP) TRIP HT 5/19/94
B0BMW0	W	5/19/94	0945	X		X	
B0BMW102A	W	↓			X		
B0BMW203ABC	W	↓					X

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
K. Trapp/K. Trapp	5/19/94 1405	Helen E. Rogers	5-19-94 1405
Relinquished By: Helen E. Rogers	Date/Time: 5-19-94 1425	Received By: L Sweeney L Sweeney	Date/Time: 1425 5-19-94
Relinquished By: L Sweeney L Sweeney	Date/Time: 1200 5/20/94	Received By: ITAS	Date/Time: 5/20/94 1200
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

SDGW0062

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)

0068

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 2

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100 F	SAF No.: 94-087
Ice Chest No.: EK-1C	Field Logbook No.: EFL-1055	Method of Shipment: HAND DELIVER
Shipped To: LT	Offsite Property No.: W94-0-0594-10	Bill of Lading/Air Bill No.: NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HCL/2pH	COOL 4	pH 5-9	COOL 4	H2SO4<2	COOL 4	COOL 4	ZnAc *1	H2SO4<2	HNO3<2	NaOH>12	HCl<2*2	H2SO4<2	HNO3<2	HCl pH<2
Type of Container	Gs	aG	aG	P	G/P	G/P	G/P	P	G	G	P	aGs	aGs	G/P	G/P
No. of Container(s)	3	3	3	1	1	1	1	1	1	1	1	1	1	3	3
Volume	40ml	1000ml	1000ml	1000ml	500ml	250ml	500ml	500ml	1000ml	1000ml	1000ml	250ml	500ml	4000ml	1000ml
SAMPLE ANALYSIS 40544504	VOA (CLP) ABC	SEMIVOA (CLP) DEF	PCB/ PEST (CLP) GHI	ANIONS (IC)SO4 F,Cl, PO4 COND,pH J	NO2/NO3 K	ALK L	TDS M	SULFIDE N	AMMONIA COD O	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP) P	CYANIDE (CLP) Q	TOC R	TOX S	*3 40544602	Tc-99

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA (CLP)	SEMIVOA (CLP)	PCB/ PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3	Tc-99
BOBMP4	W	5/18/94	1200	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
BOBMP5	W																	
BOBMP6	W																	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	5/18/94 1605	D. Sweeney / D. Sweeney	5/18/94 1605
D. Sweeney / D. Sweeney	5/20/94 1200	ITAS	5/20/94 1200

SPECIAL INSTRUCTIONS

*1 = or NaOH Ph>9 *2 = pH>/= to 12 *3 = GROSS ALPHA,BETA(ITAS-RD-3214), GAMMA SPEC(ITAS-RD-3219), U-235/238(ITAS-RD-3234), Pu-239/240(ITAS-RD-3209), Am-241(ITAS-RD-3302 or ITAS-RD-3206), Sr-90(ITAS-RD-3204). NOTE: LOWEST HOLDING TIME = 7 days

SDG W0062

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)

0069

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100 F	SAF No.: 94-087
Ice Chest No.: ER-IC	Field Logbook No.: EFL-1055	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0594-10	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: 405445

Preservative	N/A	HNO3<2	None			HClpH<2									
Type of Container	Gs	G	aGs			Gs									
No. of Container(s)	1	1	1			3									
Volume	1000ml	1000ml	40ml			40ml									
SAMPLE ANALYSIS	TRITIUM C-14 405446 02	ICP METALS+ ARSENIC LEAD, Se Tl, Hg (CLP)FI FILTERD	Activity Scan			VOA (CLP) TRIP									

Sample No.	Matrix*	Date Sampled	Time Sampled	TRITIUM C-14	ICP METALS+ ARSENIC LEAD, Se Tl, Hg (CLP)FI FILTERD	Activity Scan			VOA (CLP) TRIP									
BOBMP4	W	5/18/94	1200	X		X												
BOBMP5 05A	W	↓	↓		X													
BOBMP6 06ABC	W	↓	↓						X									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	5/18/94 1605	K Sweeney / K Sweeney	5/18/94 1605
K Sweeney / K Sweeney	5/20/94 1200	[illegible] ITAS	5/20/94 1200

SPECIAL INSTRUCTIONS

SDG W0062

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)

0010

9613496.0039

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Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0-0518-3542

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 #: B0B[illegible]V2, B0B[illegible]V3, B0B[illegible]V4 Cooler ID: E[illegible] Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: B0B[illegible]S3, B0B[illegible]S3, ~~B0B~~ B0B[illegible]S4 Cooler ID: E[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-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
[illegible]	13[illegible]04	5/11/94

Location of Property (Area & Bldg.)	Contact	Phone
100-ER-3	P. H. Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
5/11/94	8B410 PD3AA	NA

Originated By	Date	Authorized By	Date
PH Butcher	5/11/94	[illegible]	5/11/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible] Hankel	5/11/94

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)

Received [illegible] ITAS 5/11/94 [illegible]

9615496.0040

0000063

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0 0518-43

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 #: BOBMR0, BOBMR1, BOBMR2 Cooler ID: ER-20 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: BOBMR8, BOBMR9, BOBMS0 Cooler ID: ER-14 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

Location of Property (Area & Bldg.)	Contact	Phone
100-FR-3	P. H. Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
5-12-94	88410 P103AA	N/A

Originated By	Date	Authorized By	Date
PH Butcher	5/12/94	R Simpson	5/12/94
Signature and Name of Property Control	**Custodian Date**	**Property Management Approval**	**Date**
		JD Henkel	5/12/94

PART II – TO BE COMPLETED BY SHIPPING

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

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

9615496.0041

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Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0-051847

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 #: B0BMT0 B0BMT1 B0BMT2 Cooler ID: ER-18 Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: B0BMT8 B0BMT9 B0BMV0 Cooler ID: ER-19 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.

BEST AVAILABLE COPY

Bill of lading # NA

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]	178504	5/13/94

Location of Property (Area & Bldg.)	Contact	Phone
100-FR-3	P. H. Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
5/13/94	88410 / PD3AA	NA

Originated By	Date	Authorized By	Date
P.H. Butcher		[signature]	

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[signature]	5/13/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
[signature] IAS				
Date 5-13-94 11:20am				

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

9613196.0042

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Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0-0-941-9

PART I – TO BE COMPLETED BY ORIGINATOR

Department	ER Eng Support	Section	Field & Analytical Supp	Unit	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 #: B0[illegible]9, B0B[illegible]W1, B0B[illegible]W2 Cooler ID: S[illegible]-516 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 # NA

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. [illegible]	Date 5/20/94
Location of Property (Area & Bldg.) 100 FR-3	Contact P. H. Butcher	Phone (509) 376-4388
Date Ready for Shipment 5/20/94	Cost Code to be Charged 8B410 FD3AA	Approximate Date This Property will be Returned NA
Originated By [illegible]	Date	Authorized By [illegible] Date
Signature and Name of Property Control	Custodian Date	Property Management Approval [illegible] Date 5/20/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
[illegible] ITAS				
Date 5/20/94 [illegible]				

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)

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Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		NGH-U-0544-10

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 #: B[illegible], B[illegible], B[illegible] Cooler ID: E[illegible] Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
1 lbs.	Sample #: [illegible], B[illegible], B[illegible] Cooler ID: E[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

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Bill of lading # NA

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] 534	5/20/94

Location of Property (Area & Bldg.)	Contact	Phone-
100 FR 3	P. H. Butcher	(509) 376-4388

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
5/20/94	8B410 PD3AA	NA

Originated By	Date	Authorized By	Date
P. H. Butcher	5/20/94	C. J. Simpson	5/20/94
Signature and Name of Property Control	**Custodian Date**	**Property Management Approval**	**Date**
		J. P. Hanbel	9/20/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
ITAS				
Date 5/20/94 120				

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. *0001632*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO#536
RL#676

Reference Document No. 453649
Page 1 of 2

Project Name/No. 1: 94-087
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: 5/12/94
Lab Destination 8: Middle brook
Lab Contact 9:
Project Contact/Phone 12:
Carrier/Waybill No. 13:

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
40521701A	BOB MV2 / H_2O	5/10/94 1106	Glass	40ml	HCL 4°C	Voa		
B							FOR LAB USE ONLY	
C							Rec'd [illegible] KAK 5-13-94	
D				1000ml		SemiVoa		
E							FOR LAB USE ONLY	
F								
G						PCB/Pest		
H								

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 W0062

1. Relinquished by 28 (Signature/Affiliation) Tom [illegible] ITAS	Date: 5/12/94 Time: 1600	1. Received by 28 (Signature/Affiliation) Bryan Blomquist ITASKN	Date: 5/13/94 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.

96349.0014

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INTERNATIONAL TECHNOLOGY CORPORATION

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

WO# 536
RL#676

Reference Document No.[30] 453649

Page 2 of 2

Project Name

Project No. 94-087

Samples Shipment Date 5/12/94

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.
883	40521701 I	BOB MV2 / H_2O	5/10/94 1106	Glass	1000ml	4°C	PCB/Pest		
884	J			Poly	1		Anions SO4 FCl Poly pH cond		
885	K				500ml	H_2SO_4	NO2/NO3	pH=<2	
886	L				250ml		Alk		
887	M				500ml		TDS		
888	N			Glass	1	ZnAc	Sulfide	pH=9	
889	O				1000ml	H_2SO_4	Ammonia COD	pH=<2	
890	P					HNO_3	ICP Metals As Pb Se Tl Hg	pH=<2	
891	Q			Poly		NaOH	CN	pH=10	
892	R			Glass	250ml	HCN	TOC	pH=<2	
893	S				500ml	H_2SO_4	TOX	pH=3	
900	40521702 A	BOB MV3 / H_2O			1000ml	HNO_3	ICP Metals As Pb Tl Se Hg		
901	40521703 A	BOB MV4 / H_2O			40ml	HCL	VOC		
	B								
902	C								
		5/12/94							

Blank

White: To accompany samples

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*See back of form for special instructions.

MCA 3/15/91

94-0087-005

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INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001634*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO# 538
RL# 678

Reference Document No. 453651
Page 1 of 3

Project Name/No. 1: 94-087
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: 5/12/94
Lab Destination 8: Middle brook
Lab Contact 9:
Project Contact/Phone 12:
Carrier/Waybill No. 13: 206 4718 801

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
40524301 A	BOBMRO /H2O	5/11/94 1330	Glass	40ml	HCl 4°C	Voa	Rec'd at 5°C KMK 5/13/94	
B							FOR LAB USE ONLY	
C								
D				1000ml		Semi Voa		
E							FOR LAB USE ONLY	
F								
G						PCB/Pest		
H								

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 W0062

1. Relinquished by 28 (Signature/Affiliation) [signature] ITAS	Date: 5/12/94 Time: 1600	1. Received by 28 (Signature/Affiliation) Bryan Blomquist ITASKN	Date: 5/13/94 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.

9400796196

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WO #538

INTERNATIONAL TECHNOLOGY CORPORATION

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

Reference Document No.[30] 453651

Project Name SDG-W0062 Project No. 94-087 Samples Shipment Date 5/12/94

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.
40524301 I	BOBMR0 /H_2O	5/11/94 0930	Glass	1000 ml	4°C	PCB/Pest	Rec'd at 5°C KAC 5-13-94	
J			Poly			Anions pH Cond		
K				500 ml	H_2SO_4	NO_2/NO_3	pH=<2	
L				250 ml		Alk		
M				500 ml		TDS		
N			Glass		ZnAc	Sulfide	pH=10	
O				1000 ml	H_2SO_4	Ammonia COD	pH=<2	
P					HNO_3	ICP metals + As Pb Se Tl Hg	pH=<2	
Q			Poly		NaOH	CN	pH=11	
R			Glass	250 ml	HCL	TOC	pH=<2	
S				500 ml	H_2SO_4	TOX	pH=<2	
40524302 A	BOBMR1 /H_2O			1000 ml	HNO_3	ICP Metals + As Pb Se Tl Hg	pH=<2	
40524303 A	BOBMR2 /H_2O			40 ml	HCL	Voa		
B								
C								
40524304 A	BOBMB8 /H_2O	5/11/94 0930						
B								
C								
D				1000 ml		Semi Voa		
E								

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

MCA 3/15/91

96 3496 0047

0000070

WO#538

INTERNATIONAL TECHNOLOGY CORPORATION

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

Reference Document No.[30] 453651
Page 3 of 3

Project Name SDG W0062 Project No. 94-087 Samples Shipment Date 5/12/94

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.
40524304 F	BOBMR8 /H_2O	5/11/94 0930	Glass	1000ml	4°C	Semi Voa	Rec'd at 5°C KAK 5-13-94	
G						PEST/PCB		
H								
I								
J			Poly			Anions SO4 Fcl PO4 pH Cond		
k				500ml	H_2SO_4	NO_2/NO_3	pH=<2	
L				250ml		Alk		
m				500ml		TDG		
N			Glass		ZnAc	Sulfide	pH=10	
O			Glass	1000ml		Ammonia COD	pH=7	
P						ICP Metals As Pb Se TL Hg	pH=<2	
Q			Poly	5/12/94 H_2O	NaOH	5/12/94 CN	pH=11	
R			Glass	250ml	HCL	TOC	pH=<2	
S				500ml	H_2SO_4	TOX	pH=<2	
40524305 A	BOBMR9 /H_2O			1000ml	HNO_3	ICP Metals + As Pb SE+L Hg	pH=<2	
40524306 A	BOBMS0/H_2O			40ml	HCL	Voa		
B								
C								
5/12/94								

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

MCA 3/15/91

96 0194 0018

0000071

INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001643*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO#545 RL#686

Reference Document No. 453653
Page 1 of 3

Project Name/No. 1: 94-087
Sample Team Members 2:
Profit Center No. 3: 4632
Project Manager 4: Van Pelley
Purchase Order No. 6:
Required Report Date 11:

Samples Shipment Date 7: 5/13/94
Lab Destination 8: Middlebrook
Lab Contact 9:
Project Contact/Phone 12:
Carrier/Waybill No. 13: FedEx 862 0620802

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
40529101 A	BOBMT8 /H2O	5/12/94 1130	Glass	40ml	HCL 4°C	Voa	6°C BPP 5/14/94	
B								
C								
D				1L		Semi Voa		
E								
F								
G						PCB/Pest		
H								

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): SDGW 0062

1. Relinquished by 28 (Signature/Affiliation) ITAS — Date: 5/13/94 Time: 1600	1. Received by 28 (Signature/Affiliation) ITAS KW — Date: 5/14/94 Time: 9:25
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

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

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MCA 3/15/91

INTERNATIONAL TECHNOLOGY CORPORATION

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

WO# 545
RL# 686

Reference Document No.[30] 453653

Project Name SDG W0062

Project No. 94-087

Samples Shipment Date 5/13/94

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.
40529101 I	BOBMT8 / H_2O	5/12/94 1130	Glass	1L	4°C	PCB/Pest	6°C BPG 5/14/94	
J			Poly			Anions SO4 FCl PO4 pH cond		
K				500ml	H_2SO_4	NO2/NO3	pH= <2	
L				250ml		Alk		
M				500ml		TDS		
N			Glass		Znac	Sulfide	pH=10	
O				1L	H_2SO_4	Ammonia COD	pH=<2	
P					HNO_3	Metals ICP + AsSEPbTLHg	pH=<2	
Q			Poly		NaOH	CN	pH=11	
R			Glass	250m	HCL	TOC	pH=<2	
S				500ml	H_2SO_4	TOX	pH=<2	
40529102 A	BOBMT9 / H_2O			1L	HNO_3	Metals	pH=<2	
40529103 A	BOBMV0 / H_2O			40ml	HCL	Voa		
B								
C								
40529104 A	BOBMT0 / H_2O	5/12/94 0930	Glass	40ml	HCL	Voa		
B								
C								
D				1L		SemiVoa		
E								

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

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

#W0545 RL#6086

Reference Document No.[30] 453653

Page 3 of 3

Project Name SDG W0062 Project No. 94-087 Samples Shipment Date 5/13/94

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.
40529104F	BOBMT0 /H_2O	5/12/94 0930	Glass	1L	4°C	Semi Voc	6°C BPP 5/14/94	
G						PCB/Pest		
H								
I								
J			Poly			Anions SO4 Fcl Po4 pH COND		
K				500ml		NO2/NO3	pH=<2	
L				250ml		Alk		
M				500ml		TDS		
N			Glass		ZnAs	Sulfide	pH=10	
O				1L	H_2SO_4	Ammonia COD	pH=<2	
P					HNO_3	ICP Metals AS SE Pb TL Hg	pH=<2	
Q			Poly		NaOH	CN	pH=11	
R			Glass	250ml	HCL	TOC	pH=<2	
S				500ml	H_2SO_4	TOX	pH=<2	
40529105A	BOBMT1 /H_2O			1L	HNO_3	As Se Hg Tl Pb Metals ICP	pH=<2	
40529106A	BOBMT2 /H_2O			40ml	HCL	Voa		
B								
C								
5/13/94								

White: To accompany samples Yellow: Field copy

*See back of form for special instructions.

96134956.0051

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HCA 3/15/91

INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001678*

WO#577 RL#734

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 453657
Page 1 of 2

Project Name/No. 1 SAF 94-087
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 5-20-94
Lab Destination 8 Middlebrook
Lab Contact 9
Project Contact/Phone 12
Carrier/Waybill No. 13

Bill to: 5 I.T. Richland

Report to: 10 I.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
4054450 1A	BOBMW0/WATER	0945 5-19-94	G	40ml	HCl 4°C	Voa	Rec'd 5/21/94 2°C KMC	
B			G	40ml		Voa	FOR LAB USE ONLY	
C			G	40ml		Voa		
D			G	1000ml		Semi Voa		
E			G	1000ml		Semi Voa	FOR LAB USE ONLY	
F			G	1000ml		Semi Voa		
G			G	1000ml		PCB/PEST		
H			G	1000ml		PCB/PEST		

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 W0062

1. Relinquished by 28 (Signature/Affiliation) Karen Rottenberg	Date: 5-20-94 Time: 16:00	1. Received by 28 (Signature/Affiliation) Kenyal Klemm, ITAS-KN	Date: 05-21-94 Time: 09:05
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

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

MCA 3/15/91

0000075

INTERNATIONAL TECHNOLOGY CORPORATION

COC No. 1678 WO#577 RL#734

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

Reference Document No.[30] 453657

Project Name SAF-94-087 Project No. W0062 Samples Shipment Date

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.
573	40544501 I	BOBMW0 / WATER	0945 5-19-94	G	1000ml	4°C	PCB/PEST	Rec'd at 2°C KAK 5/21/94	
574	J			P	1000ml		ANIONS		
575	K			G/P	500ml	H_2SO_4	NO2/NO3	pH=<2	
576	L			G/P	250ml 500ml	KB 5-20-94	ALK		
577	M			G/P	500ml		TDS		
578	N			P	500ml	ZnAc	Sulfide	pH=10	
579	O			G	1000ml	H_2SO_4	Ammonia/COD	pH=<2	
580	P			G	1000ml	HNO_3	ICP METALS	pH=<2	
581	Q			P	1000ml	NaOH	Cyanide	was not received KAK 5/23/94	
582	R			G	250ml	HCL	TOC	Rec'd at 2°C pH=<2 5/21/94	
582	S			G	500ml	H_2SO_4	TOX	pH=<2	
583	40544502 A	BOBMW1 / WATER		G	1000ml	HNO_3	ICP METALS	pH=<2	
586	40544503 A	BOBMW2		G	40ml	HCL	Voa		
	B			G	40ml		Voa		
	C			G	40ml		Voa		

KAK 5-20-94

White: To accompany samples Yellow: Field copy

*See back of form for special instructions.

MCA 3/15/91

96-7196-0053

0000076

INTERNATIONAL TECHNOLOGY CORPORATION

COC NO. *0001679*

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

WO#577 RL#~~734~~ 736 KAK 5-23-94

Reference Document No. 453659

Page 1 of 2

Project Name/No. 1 SAF 94-087

Samples Shipment Date 7 5-20-94

Bill to: 5 I.T. Richland

Sample Team Members 2

Lab Destination 8 Middlebrook

Profit Center No. 3 4632

Lab Contact 9

Project Manager 4 Van Petty

Project Contact/Phone 12

Report to: 10 I.T. Richland

Purchase Order No. 6

Carrier/Waybill No. 13

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	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
75 40544504A	BOBMP4/WATER	12:00 5-18-94	G	40ml	HCL 4°c	VOA	Rec'd 5/21/94 2°c KAK	
B			G	40ml ~~1000ml~~ 5-20-94		KM 5-20-94 Semi Voa	FOR LAB USE ONLY	
C			G	40ml		Voa		
5-96 D			G	1000ml		Semi Voa		
E			G				FOR LAB USE ONLY	
F			G					
G			G	1000ml		PCB/PEST		
H			G			PCB/PEST		

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 W0062

1. Relinquished by 28 (Signature/Affiliation) Karen Hattenburg ITAS	Date: 5-20-94 Time: 16:00	1. Received by 28 (Signature/Affiliation) Kenny Klemm, ITAS KN	Date: 05-21-94 Time: 09:05
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.

96 2496 0054

00000077

INTERNATIONAL TECHNOLOGY CORPORATION

COC No. # 1679

WO# 577
RL# ~~734~~ 736

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

KRA 5-23-94

Reference Document No.[30] 453659

Page 2 of 2

Project Name SAF-94-087 Project No. SDG W0062 Samples Shipment Date 5-20-94

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.
40544504I	BOBMP4/WATER	12:00 5-18-94	G	1000ml	4°C	PCB/PEST	Rec'd 5/21/94 KRA 2°C	
J			G	1000ml		ANIONS		
K			G	500ml	H_2SO_4	NO2/NO3	pH=<2	
L			G/P	250ml		ALK		
M			G/P	500ml		TDS		
N			P	500ml	ZnAs	sulfide	pH=11	
O			G	1000ml	H_2SO_4	Ammonia/COD	pH=<2	
P			G	1000ml	HNO_3	ICP/METALS	pH=<2	
Q			P	1000ml	NaOH	Cyanide	pH=11	
R			G	250ml	HCL	TOC	pH=<2	
S			G	500ml	H_2SO_4	TOX	pH=<2	
40544505A	BOBMP5/WATER		G	1000ml	HNO_3	ICP/METALS	pH=<2	
40544506A	BOBMP6/WATER		G	40ml	HCL	VOA		
B			G	40ml		VOA		
C			G	40ml		VOA		

KRA 5-20-94

MCA 3/15/91

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

0000078

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

WO#538

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	Beta	Mnts
WHC			51294		512	10	14	221	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
B0BMR0		0.7	5	4.0	11	6	30	0.54	2.06	2.0E+00	4.1E+00	7.4E-04	1.5E-03	7.2E-07	7.5E-07	1.8E+02	3.7E+02	Yes	5.4E+01	2.7E+02
B0BMR4		0.8	5	4.0	12	3	31	0.24	2.18	8.8E-01	4.5E+00	3.2E-04	1.6E-03	4.7E-07	7.6E-07	7.9E+01	4.0E+02	Yes	1.3E+02	2.5E+02
B0BMR8		0.9	5	4.0	13	6	18	0.54	0.88	2.1E+00	1.5E+00	7.5E-04	5.5E-04	7.3E-07	3.5E-07	1.9E+02	1.4E+02	Yes	5.0E+01	7.3E+02
TOTAL	uCi							-0.06	-0.92	-2E-01	-2E+00	1.8E-03	3.8E-03	ERR	ERR	ERR	ERR	Yes	ERR	ERR

O.K. JRM
12 May 94

96134964.0059

00000079

WO#545

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts Cntd	BACKGROUND Alpha	Beta	Mnts
WHC	5-13-94		5-13		5-13	10	14	223	240

Customer ID WHC/WATER	pH <2 Rcvd/Req	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 / Aliqoul 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
B0BMT0		2.7	5		1.0		37	3	13	0.24	0.37	9.64E-01	6.32E-01	8.7E-05	5.7E-05	1.2E-07	7.8E-08	8.7E+01	5.7E+01	Yes	1.2E+02	1.8E+03
B0BMT8		0.8	5		2.0		38	1	20	0.04	1.07	1.29E-01	2.26E+00	2.3E-05	4.1E-04	9.3E-08	2.6E-07	1.2E+01	2.0E+02	Yes	8.6E+02	4.9E+02
TOTAL uCi														1.1E-04	2.3E-05							

WFM 5/13/94

9413190087

WO #577

"Yes's" are Category I.
"No" is Cat. II.
JRN 20 May 94

TENNELEC #1

SCREENING CALCULATION SPREADSHEET

Customer Code	Recieved Date	Time	Screening Prep Date	Time	Count Date	Mnts. Cntd	BACKGROUND Alpha	Beta	Mnts
WHC	5-20-94	12:00	5-20		5-20	10	13	219	240

Customer ID	pH <2	Pinchl 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	Rcvd/Req	(mGrms)	mG mL	Gm L	Num.	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Yes/No	Alpha	Beta
BOBJ15		56.9	57	1100.0	11	9	29	0.85	1.99	6.49E+00	3.92E+00	5.7E-02	3.4E-02	4.5E-05	2.0E-05	5.1E+01	3.1E+01	No	1.9E+02	3.2E+03
BOBMYO		0.9	5	4.0	7	8	29	0.75	1.99	2.86E+00	3.75E+00	1.0E-03	1.3E-03	8.6E-07	7.3E-07	2.6E+02	3.4E+02	Yes	3.9E+01	3.0E+02
BOBMW8		4.3	5	4.0	6	4	164	0.35	15.49	9.29E-01	3.30E+01	3.3E-04	1.2E-02	5.9E-07	6.9E-05	8.4E+01	3.0E+03	Yes	1.2E+02	3.4E+01
BOBMWO		3.1	5	4.0	10	5	23	0.45	1.39	1.77E+00	2.67E+00	6.4E-04	9.6E-04	6.6E-07	9.1E-07	1.6E+02	2.4E+02	Yes	6.3E+01	4.2E+02
BOBMP4		4.9	5	4.0	9	3	20	0.25	1.09	9.94E-01	2.17E+00	3.6E-04	7.8E-04	5.1E-07	1.1E-06	9.0E+01	2.0E+02	Yes	1.1E+02	5.1E+02
TOTAL uCi												5.9E-02	4.9E-02							

9413960058

0000081

9613496.0059

0000082

WO#536

SAMPLE STATUS REPORT FOR E 6452. E-BLANK 1-F7-1 TIME: 5/11/94 8:28
DISPATCHED: 4/ 5/94 13:18 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 5/10/94 14:22

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

BOBMV2
BOBMV3
BO3MV4
BOBMV5.
LCS
5/11/94

9613496.0060

0000083

WO #538

05/12/94 07:59 ☎373 3176 222S 3B 002

SAMPLE STATUS REPORT FOR E 6444. E-BLANK 1-F5-42 TIME: 5/12/94 8:39
DISPATCHED: 4/ 5/94 13:10 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 5/12/94 8:34

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

BOBMR0
BOBMR1
BOBMR2
BOBMR3
LCS
5/12/94

WO #538

05/12/94 08:00 ☎373 3176 222S 3B 004

SAMPLE STATUS REPORT FOR E 6446. E-BLANK 1-F5-44 TIME: 5/12/94 8:39
DISPATCHED: 4/ 5/94 13:12 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 5/12/94 8:34

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

BOBMR8
BOBMR9
BOBMS0
BOBMS1

LCS
5/12/94

WO #545

SAMPLE STATUS REPORT FOR E 6449. E-BLANK 1-F5-47 TIME: 5/13/94 8: 8
DISPATCHED: 4/ 5/94 13:15 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 5/13/94 7:51

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 5/13/94

~~BO BM T8~~
~~BO BM T9~~
~~BO BM V0~~
~~BO BM V1~~

BO BM T0
BO BM T1
BO BM T2
BO BM T3

AJS 5/13/94

WO #545

SAMPLE STATUS REPORT FOR E 6451. E-BLANK 1-F6-1 TIME: 5/13/94 8: 8
DISPATCHED: 4/ 5/94 13:17 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 5/13/94 7:52

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 5/13/94
BO BMT0
BO BMT1
BO BMT2
BO BMT3

AJS
5/13/94

BO BMT8
BO BMT9
BO BMV0
BO BMV1

AJS
5/13/94

9615496.0064

05/19/94 10:09 ☎373 3176 222S 3B ☑003

WO #577

SAMPLE STATUS REPORT FOR E 6440. E-BLANK 1-F5-1 TIME: 5/19/94 10:51
DISPATCHED: 4/ 5/94 13: 6 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 5/19/94 7:48

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

8 copies

BO BMP4
BO BMP5
BO BMP6
BO BMP7

AJS 5/24/94

BO BMY8
BO BMY9
BO BMZ0
BO BMZ1

BO BMY0
BO BMY1
BO BMY2
BO BMY3

05/20/94 07:39 ☎373 3176 222S 3B 002

WO #577

SAMPLE STATUS REPORT FOR E 6454. E-BLANK 1-F7-3 TIME: 5/20/94 8:26
DISPATCHED: 4/ 5/94 13:19 SAMPLE HAS NOT BEEN SLURPED
RECEIVED: 5/20/94 7:56

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 BMW0
BO BMW1
BO BMW2 AJS 5/20/94
BO BMW3

9615496.0066

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9595

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9595

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

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

9613496.0067

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9595

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9595

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	2.00	7	J

9613496.0068

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9608

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9608

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

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

9613496.0069

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMP6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9608

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9608

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613496.0070

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8919

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA8919

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMR0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8919

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA8919

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9615496.0072

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8945

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX16

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-625 ID: 0.250 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	4	BJ
67-64-1	Acetone	14	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	2	J
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

9613496.0076

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMR2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8945

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX16

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-625 ID: 0.250 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613496.0074

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8931

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX15

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-625 ID: 0.250 (mm) Dilution Factor: 1.0

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

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

9613496.0075

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8931

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX15

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-625 ID: 0.250 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613496.0076

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMS0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8946

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX17

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-625 ID: 0.250 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	4	BJ
67-64-1	Acetone	14	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	2	J
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	2	J
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMS0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8946

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX17

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-625 ID: 0.250 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9058

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX19

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

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

9613496.0079

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9058

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX19

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613496.0080

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9073

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9073

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

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

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMT2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9073

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9073

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9046

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX18

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	4	BJ
67-64-1	Acetone	8	BJ
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	20	
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

9613496.0083

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9046

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX18

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613496.0084

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9072

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX20

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

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

9613496.0085

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMV0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9072

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX20

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613496.0086

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8882

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX07

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

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

9613496.0087

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8882

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX07

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9615496.0098

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8901

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX10

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	8	BJ
67-64-1	Acetone	14	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	31	
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	2	J
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	36	
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	4	J
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

9613496.0089

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMV4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8901

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX10

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9615496.0090

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9572

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9572

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

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

9613496.0091

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9572

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9572

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	2.00	8	J
2.	UNKNOWN ALKANE	16.27	11	J

9613496.0092

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9586

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9586

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	J
67-64-1	Acetone	8	BJ
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

9613496.0093

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMW2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9586

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9586

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9596

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9596

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

9613496.0095

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9596

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9596

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

9613496.0096

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9596

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9596

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613496.0097

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMRO

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8920

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8920

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMRO

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8920

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8920

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMRO

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8920

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8920

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8932

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8932

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8932

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8932

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8932

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8932

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9059

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9059

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/17/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

9613496.0104

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9059

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9059

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/17/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9059

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9059

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/17/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.15	3	J
2. 314-40-9	BROMACIL	17.47	4	JN

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9047

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9047R

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/17/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

9613496.0107

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9047

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9047R

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/17/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9047

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9047R

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/17/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8883

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8883

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

9613496.0110

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8883

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8883

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	2	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8883

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8883

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613496.0112

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9573

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9573

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9573

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9573

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

9613496.0114

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9573

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9573

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9596

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/21/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/25/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/26/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

9613496.0116

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR0

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8920

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/13/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/16/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/24/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

9613496.0117

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8932

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/13/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/16/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/24/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9059

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/14/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/17/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/23/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

9613496.0119

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9047

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/14/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/17/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/23/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8883

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/13/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/16/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/24/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMWO

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9573

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/21/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/25/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/26/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS_KNOXVILLE Contract: HANFORD
Lab Code: ITSTU Case No.: WO536 SAS No.: SDG No.: W0062
Matrix (soil/water): WATER Lab Sample ID: AA8890
Level (low/med): LOW Date Received: 05/13/94
% 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	9.1	B		F
7440-39-3	Barium	44.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	58500			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	23.8	B		P
7439-92-1	Lead	2.0	U	W	F
7439-95-4	Magnesium	18400			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	7180			P
7782-49-2	Selenium	3.1	B	S	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	55300			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	17.6	B		P
7440-66-6	Zinc	11.1	B		P
5955-70-0	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
TOTAL

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD___
Lab Code: ITSTU_ Case No.: W0536 SAS No.: _____ SDG No.: W0062_
Matrix (soil/water): WATER Lab Sample ID: AA8891
Level (low/med): LOW__ Date Received: 05/13/94
% 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_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
5955-70-0	Cyanide__	10.0	U		AS

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
CYANIDE_ONLY.

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMV3

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD___
Lab Code: ITSTU_ Case No.: WO536 SAS No.: _____ SDG No.: W0062_
Matrix (soil/water): WATER Lab Sample ID: AA8900
Level (low/med): LOW__ Date Received: 05/13/94
% 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__	6.5	B		F
7440-39-3	Barium___	42.3	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium__	5.0	U		P
7440-70-2	Calcium__	57900			P
7440-47-3	Chromium_	10.0	U		P
7440-48-4	Cobalt___	10.0	U		P
7440-50-8	Copper___	46.7		*	P
7439-89-6	Iron____	10.0	U		P
7439-92-1	Lead____	2.0	U		F
7439-95-4	Magnesium	18000			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	7080			P
7782-49-2	Selenium_	3.0	B	WN	F
7440-22-4	Silver___	5.0	U		P
7440-23-5	Sodium___	54000			P
7440-28-0	Thallium_	2.0	U		F
7440-62-2	Vanadium_	17.8	B		P
7440-66-6	Zinc____	5.0	U		P
5955-70-0	Cyanide__				NR

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____
Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:
DISSOLVED

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: WO577 SAS No.: _____ SDG No.: W0062_

Matrix (soil/water): WATER Lab Sample ID: AA9603

Level (low/med): LOW__ Date Received: 05/21/94

% 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	23.1	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	26200			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	182			P
7439-92-1	Lead	2.0	U		F
7439-95-4	Magnesium	4520	B		P
7439-96-5	Manganese	5.3	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	1540	B		P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	3050	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
5955-70-0	Cyanide				NR

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.

BOBMP4

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: WO577 SAS No.: _____ SDG No.: W0062_

Matrix (soil/water): WATER Lab Sample ID: AA9604

Level (low/med): LOW__ Date Received: 05/21/94

% 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_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
5955-70-0	Cyanide__	10.0	U		AS

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

CYANIDE_ONLY.

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMP5

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0577 SAS No.: SDG No.: W0062

Matrix (soil/water): WATER Lab Sample ID: AA9607

Level (low/med): LOW Date Received: 05/21/94

% 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	3220			P
7440-36-0	Antimony	50.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	25.7	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	31800			P
7440-47-3	Chromium	1710			P
7440-48-4	Cobalt	10.7	B		P
7440-50-8	Copper	20.4	B	*	P
7439-89-6	Iron	5530			P
7439-92-1	Lead	2.0	U		F
7439-95-4	Magnesium	4500	B		P
7439-96-5	Manganese	111			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	625			P
7440-09-7	Potassium	1360	B		P
7782-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	3070	B		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	11.3	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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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: ~~WO577~~ 8 SAS No.: _____ SDG No.: W0062_

Matrix (soil/water): WATER WO629 6/24/94 Lab Sample ID: AB0404

Level (low/med): LOW__ Date Received: 06/08/94

% 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_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
5955-70-0	Cyanide__	10.0	U		AS

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

CLIENT_DIDNOT_SEND_WITH_WO577,_SO_RELOGGED_AS_WO629.

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: WO577 SAS No.: _____ SDG No.: W0062_

Matrix (soil/water): WATER Lab Sample ID: AA9580

Level (low/med): LOW__ Date Received: 05/21/94

% 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__	5.1	B		F_
7440-39-3	Barium___	42.8	B		P_
7440-41-7	Beryllium	1.0	U		P_
7440-43-9	Cadmium__	5.0	U		P_
7440-70-2	Calcium__	60400			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____	98.5	B		P_
7439-92-1	Lead____	2.0	U	W	F_
7439-95-4	Magnesium	20100			P_
7439-96-5	Manganese	16.2			P_
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___	20.0	U		P_
7440-09-7	Potassium	6870			P_
7782-49-2	Selenium_	2.9	B	W	F_
7440-22-4	Silver___	5.0	U		P_
7440-23-5	Sodium___	70500			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_
5955-70-0	Cyanide__				NR

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.

BOBMW1

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: W0577 SAS No.: _____ SDG No.: W0062_

Matrix (soil/water): WATER Lab Sample ID: AA9583

Level (low/med): LOW__ Date Received: 05/21/94

% 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__	5.0	B		F_
7440-39-3	Barium___	41.7	B		P_
7440-41-7	Beryllium	1.0	U		P_
7440-43-9	Cadmium__	5.0	U		P_
7440-70-2	Calcium__	58400			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____	34.9	B		P_
7439-92-1	Lead____	2.0	U	W	F_
7439-95-4	Magnesium	19500			P_
7439-96-5	Manganese	13.5	B		P_
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___	20.0	U		P_
7440-09-7	Potassium	6330			P_
7782-49-2	Selenium_	3.2	B	WN	F_
7440-22-4	Silver___	5.0	U		P_
7440-23-5	Sodium___	68200			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_
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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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMRO

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: WO538 SAS No.: _____ SDG No.: W0062_

Matrix (soil/water): WATER Lab Sample ID: AA8927

Level (low/med): LOW__ Date Received: 05/13/94

% 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__	20.7	B		P_
7440-41-7	Beryllium	1.0	U		P_
7440-43-9	Cadmium__	5.0	U		P_
7440-70-2	Calcium__	24200			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____	12.2	B		P_
7439-92-1	Lead____	2.0	U		F_
7439-95-4	Magnesium	4060	B		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	1330	B		P_
7782-49-2	Selenium_	2.0	U	W	F_
7440-22-4	Silver___	5.0	U		P_
7440-23-5	Sodium___	2200	B		P_
7440-28-0	Thallium_	2.0	U		F_
7440-62-2	Vanadium_	10.0	U		P_
7440-66-6	Zinc____	5.7	B		P_
5955-70-0	Cyanide__				NR

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.

BOBMRO

Lab Name: ITAS_KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0538 SAS No.: SDG No.: W0062

Matrix (soil/water): WATER Lab Sample ID: AA8928

Level (low/med): LOW Date Received: 05/13/94

% 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				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
5955-70-0	Cyanide	10.0	U		AS

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CYANIDE_ONLY.

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMR1

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: WO538 SAS No.: SDG No.: W0062
Matrix (soil/water): WATER Lab Sample ID: AA8943
Level (low/med): LOW Date Received: 05/13/94
% 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	19.3	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	23400			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	13.1	B		P
7439-92-1	Lead	2.0	U		F
7439-95-4	Magnesium	3860	B		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	WN	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	2140	B		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	8.6	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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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0538 SAS No.: SDG No.: W0062

Matrix (soil/water): WATER Lab Sample ID: AA8940

Level (low/med): LOW Date Received: 05/13/94

% 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				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
5955-70-0	Cyanide	10.0	U		AS

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CYNAIDE ONLY.

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: WO538 SAS No.: SDG No.: W0062
Matrix (soil/water): WATER Lab Sample ID: AA8939
Level (low/med): LOW Date Received: 05/13/94
% 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	14.2	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	20400			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	35.8	B		P
7439-92-1	Lead	2.0	U		F
7439-95-4	Magnesium	3620	B		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	1000	U		P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	2730	B		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	5.6	B		P
5955-70-0	Cyanide				NR

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.

BOBMR9

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: WO538 SAS No.: SDG No.: W0062
Matrix (soil/water): WATER Lab Sample ID: AA8944
Level (low/med): LOW Date Received: 05/13/94
% 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	17.8	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	25900			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	4580	B		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	1840	B		P
7782-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	3630	B		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	5.5	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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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: W0545 SAS No.: SDG No.: W0062

Matrix (soil/water): WATER Lab Sample ID: AA9066

Level (low/med): LOW Date Received: 05/14/94

% 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	25.1	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	29600			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	10.0	U		P
7439-92-1	Lead	2.0	U	W	F
7439-95-4	Magnesium	3950	B		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	2410	B		P
7782-49-2	Selenium	2.8	B	W	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	3560	B		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	9.0	B		P
5955-70-0	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TOTAL

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS_KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: WO545 SAS No.: SDG No.: W0062

Matrix (soil/water): WATER Lab Sample ID: AA9067

Level (low/med): LOW Date Received: 05/14/94

% 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				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
5955-70-0	Cyanide	10.0	U		AS

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CYANIDE_ONLY.

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMT1

Lab Name: ITAS_KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: WO545 SAS No.: SDG No.: W0062

Matrix (soil/water): WATER Lab Sample ID: AA9071

Level (low/med): LOW Date Received: 05/14/94

% 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	43.8	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	79300			P
7440-47-3	Chromium	15.8			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	29.9		*	P
7439-89-6	Iron	10.0	U		P
7439-92-1	Lead	2.0	U	W	F
7439-95-4	Magnesium	19000			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	5290			P
7782-49-2	Selenium	2.4	B	WN	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	27000			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
5955-70-0	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

DISSOLVED.

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD___
Lab Code: ITSTU_ Case No.: WO545 SAS No.: _____ SDG No.: W0062_
Matrix (soil/water): WATER Lab Sample ID: AA9055
Level (low/med): LOW__ Date Received: 05/14/94
% 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_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium__				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
5955-70-0	Cyanide__	10.0	U		AS

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
CYANIDE_ONLY.

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD___
Lab Code: ITSTU_ Case No.: WO545 SAS No.: _____ SDG No.: W0062_
Matrix (soil/water): WATER Lab Sample ID: AA9054
Level (low/med): LOW__ Date Received: 05/14/94
% 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__	2.6	B		F
7440-39-3	Barium__	62.4	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium__	5.0	U		P
7440-70-2	Calcium__	113000			P
7440-47-3	Chromium_	22.0			P
7440-48-4	Cobalt___	10.0	U		P
7440-50-8	Copper___	10.0	U		P
7439-89-6	Iron____	27.2	B		P
7439-92-1	Lead____	2.0	U	W	F
7439-95-4	Magnesium	25900			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	6290			P
7782-49-2	Selenium_	2.0	U		F
7440-22-4	Silver___	5.0	U		P
7440-23-5	Sodium___	38000			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
5955-70-0	Cyanide__				NR

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____
Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:
TOTAL._____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMT9

Lab Name: ITAS KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: WO545 SAS No.: SDG No.: W0062

Matrix (soil/water): WATER Lab Sample ID: AA9070

Level (low/med): LOW Date Received: 05/14/94

% 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	28.4	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	32700			P
7440-47-3	Chromium	15.6			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U	*	P
7439-89-6	Iron	37.4	B		P
7439-92-1	Lead	2.0	U	W	F
7439-95-4	Magnesium	4420	B		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	3980	B		P
7782-49-2	Selenium	2.0	U	N	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	4150	B		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	10.0	U		P
7440-66-6	Zinc	15.9	B		P
5955-70-0	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

DISSOLVED.

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ALKALINITY ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/16/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6221	2	U
BOBMV2	AA8886	188	+

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

ALKALINITY ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/16/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6221	2	U
BOBMR8	AA8935	66	+
BOBMR0	AA8923	78	+

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

ALKALINITY ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/16/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6222	2	U
BOBMT0	AA9062	204	+
BOBMT8	AA9050	76	+

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

ALKALINITY ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/27/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6268	2	U
BOBMW0	AA9576	181	+
BOBMP4	AA9599	70	+

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

AMMONIA ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/07/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6286	0.1	U
BOBMV2	AA8889	1.35	+

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

AMMONIA ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/01/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6261	0.1	U
BOBMR0	AA8926	0.1	+
BOBMR8	AA8938	0.1	U

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

AMMONIA ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/07/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6286	0.1	U
BOBMT8	AA9053	0.54	+
BOBMT0	AA9065	0.1	U

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

AMMONIA ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/07/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6286	0.1	U
BOBMW0	AA9579	0.21	+
BOBMP4	AA9602	0.1	U

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

CHEMICAL OXYGEN DEMAND ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/19/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBMV2	AA8889	2	+

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

CHEMICAL OXYGEN DEMAND ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/19/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBMR8	AA8938	2	+
BOBMR0	AA8926	2	+

\+ - Positive result.
* - A method blank is not applicable for this analysis.

CHEMICAL OXYGEN DEMAND ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/19/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBMT0	AA9065	1	U
BOBMT8	AA9053	1	U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.
* - A method blank is not applicable for this analysis.

CHEMICAL OXYGEN DEMAND ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/07/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBMW0	AA9579	6	+
BOBMP4	AA9602	1	+

\+ - Positive result.
* - A method blank is not applicable for this analysis.

CHEMICAL OXYGEN DEMAND ANALYSIS

Laboratory Name:	ITAS-St. Louis	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536, 538, 545 & 577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/15/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
BOBMP4	5329-009	5	U

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

CHEMICAL OXYGEN DEMAND ANALYSIS

Laboratory Name:	ITAS-St. Louis	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536, 538, 545 & 577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/16/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
BOBMW0	5329-008	10	+
BOBMR0	5329-012	10	+
BOBMV2	5329-013	10	+
BOBMT8	5329-021	10	+
BOBMT0	5329-022	10	+

+ - Positive result.

NITRATE/NITRITE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/25/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6241	0.02	U
BOBMV2	AA8855	18.3	+

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

NITRATE/NITRITE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/07/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6280	0.02	U
BOBMR0	AA8922	0.31	+
BOBMR8	AA8934	0.45	+

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

NITRATE/NITRITE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/03/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6280	0.02	U
BOBMT8	AA9049	0.92	+
BOBMT0	AA9061	26	+

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

NITRATE/NITRITE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/03/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6280	0.02	U
BOBMW0	AA9575	28.4	+
BOBMP4	AA9598	0.57	+

\+ - 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:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	05/17/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBMV2	AA8884	7.52	-

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

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	05/17/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBMR8	AA8933	7.72	-
BOBMR0	AA8921	7.40	-

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

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pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	05/17/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBMT8	AA9048	7.71	-
BOBMT0	AA9060	7.55	-

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

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	05/25/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBMW0	AA9574	7.80	-
BOBMP4	AA9597	7.55	-

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

SPECIFIC CONDUCTIVITY ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	05/19/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6223	1	U
BOBMV2	AA8884	716	+

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

SPECIFIC CONDUCTIVITY ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	05/19/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6224	1	U
BOBMR8	AA8933	172	+
BOBMR0	AA8921	186	+

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

SPECIFIC CONDUCTIVITY ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	05/19/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6224	1	U
BOBMT0	AA9060	867	+
BOBMT8	AA9048	215	+

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

SPECIFIC CONDUCTIVITY ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	06/10/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6308	1	U
BOBMW0	AA9574	848	+
BOBMP4	AA9597	199	+

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

SULFIDE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/16/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6210	1	U
BOBMV2	AA8888	8	+

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

SULFIDE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/16/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6211	1	U
BOBMR8	AA8937	23	+
BOBMR0	AA8925	4.0	+

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

SULFIDE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/19/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6225	1	U
BOBMT0	AA9064	4	+
BOBMT8	AA9052	6	+

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

SULFIDE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/25/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6263	1	U
BOBMW0	AA9578	8	+
BOBMP4	AA9601	6	+

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

TOTAL DISSOLVED SOLIDS ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/16/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6203	1	U
BOBMV2	AA8887	497	+

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

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TOTAL DISSOLVED SOLIDS ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/16/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6203	1	U
BOBMR0	AA8924	114	+
BOBMR8	AA8936	113	+

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

TOTAL DISSOLVED SOLIDS ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/18/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6234	1	U
BOBMT0	AA9063	592	+
BOBMT8	AA9051	161	+

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

TOTAL DISSOLVED SOLIDS ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/26/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6270	1	U
BOBMW0	AA9577	627	+
BOBMP4	AA9600	166	+

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

TOTAL ORGANIC CARBON ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/30/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6279	1	U
BOBMV2	AA8892	2	+

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

TOTAL ORGANIC CARBON ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/30/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6279	1	U
BOBMR0	AA8929	1	U
BOBMR8	AA8941	1	U

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

TOTAL ORGANIC CARBON ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/30/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6279	1	U
BOBMT8	AA9056	1	U
BOBMT0	AA9068	2	+

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

TOTAL ORGANIC CARBON ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/14/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6328	1	U
BOBMW0	AA9581	2	+
BOBMP4	AA9605	1	U

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

TOTAL ORGANIC HALOGENS ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	µg/l	Analysis Date:	06/07/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6303	20	U
BOBMV2	AA8893	22	+

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

TOTAL ORGANIC HALOGENS ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	µg/l	Analysis Date:	06/07/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6303	20	U
BOBMR0	AA8930	20	U
BOBMR8	AA8942	20	U

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

TOTAL ORGANIC HALOGENS ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	µg/l	Analysis Date:	06/09/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6304	20	U
BOBMT8	AA9057	20	U
BOBMT0	AA9069	20	U

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

TOTAL ORGANIC HALOGENS ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	µg/l	Analysis Date:	06/15/94 & 06/16/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6329	20	U
Method Blank	P6330	20	U
BOBMW0	AA9582	20	U
BOBMP4	AA9606	37	+

Method blank P6329 applies to sample BOBMW0.
Method blank P6330 applies to sample BOBMP4.

+ - 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:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Client Sample ID:	BOBMV2	Preparation Date:	06/06/94
Lab Sample ID:	AA8884	Analysis Date:	06/06/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.8	+	0.40
chloride	16	+	4.0
phosphate	1.0	U	1.0
sulfate	74	+	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:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Client Sample ID:	BOBMV2	Preparation Date:	06/06/94
Lab Sample ID:	AA8884 MS	Analysis Date:	06/06/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	3.3	+	0.4
chloride	48	+	4.0
phosphate	10	+	1.0
sulfate	250	+	15

+ - Positive result.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Client Sample ID:	BOBMV2	Preparation Date:	06/06/94
Lab Sample ID:	AA8884 MSD	Analysis Date:	06/06/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	3.1	+	0.4
chloride	49	+	4.0
phosphate	9.6	+	1.0
sulfate	260	+	15

+ - Positive result.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Client Sample ID:	BOBMR0	Preparation Date:	06/06/94
Lab Sample ID:	AA8921	Analysis Date:	06/06/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
chloride	1.2	+	0.40
phosphate	1.0	U	1.0
sulfate	13	+	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:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Client Sample ID:	BOBMR8	Preparation Date:	06/06/94
Lab Sample ID:	AA8933	Analysis Date:	06/06/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
chloride	1.5	+	0.40
phosphate	1.0	U	1.0
sulfate	13	+	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:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Client Sample ID:	BOBMT8	Preparation Date:	06/06/94
Lab Sample ID:	AA9048	Analysis Date:	06/06/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
chloride	1.5	+	0.40
phosphate	1.0	U	1.0
sulfate	18	+	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:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Client Sample ID:	BOBMT0	Preparation Date:	06/06/94
Lab Sample ID:	AA9060	Analysis Date:	06/06/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
chloride	38	+	4.0
phosphate	1.0	U	1.0
sulfate	120	+	15

+ - 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:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Client Sample ID:	BOBMW0	Preparation Date:	06/13/94
Lab Sample ID:	AA9574	Analysis Date:	06/13/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.88	+	0.40
chloride	24	+	2.0
phosphate	1.0	U	1.0
sulfate	84	+	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:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Client Sample ID:	BOBMP4	Preparation Date:	06/13/94
Lab Sample ID:	AA9597	Analysis Date:	06/13/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
chloride	1.6	+	0.40
phosphate	1.0	U	1.0
sulfate	16	+	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:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538 & 545
Client Sample ID:	Method Blank	Preparation Date:	06/06/94
Lab Sample ID:	P6282	Analysis Date:	06/06/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
chloride	0.40	U	0.40
phosphate	1.0	U	1.0
sulfate	1.5	U	1.5

Applies to samples: BOBMR0, BOBMR8, BOBMT8 and BOBMT0

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:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Client Sample ID:	Method Blank	Preparation Date:	06/13/94
Lab Sample ID:	P6305	Analysis Date:	06/13/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
chloride	0.40	U	0.40
phosphate	1.0	U	1.0
sulfate	1.5	U	1.5

Applies to samples BOBMW0 and BOBMP4

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:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538 & 545
Client Sample ID:	LCS	Preparation Date:	06/06/94
Lab Sample ID:	ICWS 381	Analysis Date:	06/06/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	1.9	+	0.40
chloride	2.9	+	0.40
phosphate	9.2	+	1.0
sulfate	14	+	1.5

+ - Positive result.

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Client Sample ID:	LCS	Preparation Date:	06/13/94
Lab Sample ID:	ICWS 384	Analysis Date:	06/13/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	2.1	+	0.40
chloride	3.1	+	0.40
phosphate	10.0	+	1.0
sulfate	15.0	+	1.5

+ - Positive result.

9615496.0198

Analytical Data Package Prepared For

Westinghouse Hanford

JUL 1994
RECEIVED
SDLA

Radiochemical Analysis By

IT Analytical Services
Richland Laboratory

Sample Delivery Group Number: W0062

WHC IDENTIFICATION NUMBER	ITAS RICHLAND ID NUMBER
B0BMV2	40521801
B0BMR0	40524401
B0BMR8	40524402
B0BMT8	40529201
B0BMT0	40529202
B0BMW0	40546601
BOBMP4	40544602

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INTERNATIONAL TECHNOLOGY CORPORATION

CERTIFICATE OF ANALYSIS

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

June 30, 1994

Attention: J.A.Lerch

SAF Number	:	94-087
Date SDG Closed	:	May 20, 1994
Number of Samples	:	Seven (7)
Sample Type	:	Water
SDG Number	:	W0062
Data Deliverable	:	Stand Alone

I. Introduction

On May 11, 12, 13, and 20, 1994, seven 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
405218-01A	B0BMV2	Water	5/11/94
405244-01A	B0BMR0	Water	5/12/94
405244-02A	B0BMR8	Water	5/12/94
405292-01A	B0BMT8	Water	5/13/94
405292-02A	B0BMT0	Water	5/13/94
405446-01A	B0BMW0	Water	5/20/94
405446-02A	B0BMP4	Water	5/20/94

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:

Alpha Spectroscopy
Americium-241, Curium-244 by method ITAS-RD-3302
Plutonium-238, -239/40 by method ITAS-RD-3209
Uranium-234, 235, 238 by method ITAS-RD-3234
Gamma Spectroscopy
Gamma Scan by method ITAS-RD-3219
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 W0062 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.

Alpha Spectroscopy

Americium-241 by method ITAS-RD-3302
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BMV2) results are within contractual limits.

Plutonium-238, -239/40 by method ITAS-RD-3209
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BMV2) results are within contractual limits.

Uranium-234, 235, 238 by method ITAS-RD-3234
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BMV2) results are within contractual requirements.

Gamma Spectroscopy

Gamma Scan by method ITAS-RD-3219
The Fe-59 detection limit was not met for sample B0BMR8. The batch blank Fe-59 MDC was met, therefore, the sample MDC is accepted. The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BMT0) results are within contractual limits.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3222
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BMR0) results are within contractual limits.

Gross Beta by method ITAS-RD-3222
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BMR0) results are within contractual limits.

Strontium-90 by method ITAS-RD-3204
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BMR0) 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 B0BMV2) 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 sample B0BMP4) results are within contractual requirements.

Tritium by method ITAS-RD-3205
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BMV2) 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

9613496.0203

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0062
LAB SAMPLE ID:	40529201	MATRIX:	WATER
WHC ID:	B0BMT8	DATE RECEIVED:	5/13/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
AM-241	-3.56E-03	7.12E-03	7.14E-03	1.79E-01	pCi/L	81.60%	RD3302
PU-238	-1.33E-02	2.65E-02	2.66E-02	3.17E-01	pCi/L	63.00%	RD3209
PU239/40	0.00E+00	0.00E+00	1.99E-01	1.79E-01	pCi/L	63.00%	RD3209
U-234	1.10E+00	6.77E-01	6.99E-01	5.08E-01	pCi/L	40.90%	RD3234
U-235	1.88E-01	2.89E-01	2.91E-01	4.66E-01	pCi/L	40.90%	RD3234
U-238DA	1.20E+00	7.07E-01	7.32E-01	5.08E-01	pCi/L	40.90%	RD3234
CO-58	3.53E+00	5.49E+00	5.50E+00	1.13E+01	pCi/L	N/A	RD3219
CO-60	1.91E+00	3.97E+00	3.98E+00	8.51E+00	pCi/L	N/A	RD3219
CS-137DA	1.19E+00	2.23E+00	2.23E+00	5.29E+00	pCi/L	N/A	RD3219
EU-152	-1.41E+01	1.98E+01	1.98E+01	3.07E+01	pCi/L	N/A	RD3219
EU-154	5.72E+00	1.06E+01	1.06E+01	2.45E+01	pCi/L	N/A	RD3219
EU-155	6.13E-01	9.04E+00	9.04E+00	1.54E+01	pCi/L	N/A	RD3219
FE-59	8.35E+00	1.07E+01	1.08E+01	2.44E+01	pCi/L	N/A	RD3219
ALPHA	8.43E-01	6.09E-01	6.22E-01	9.21E-01	pCi/L	100.00%	RD3222
BETA	4.04E+00	1.60E+00	1.62E+00	2.86E+00	pCi/L	100.00%	RD3222
STRONTIUM	7.68E-02	3.03E-01	3.04E-01	7.70E-01	pCi/L	100.00%	RD3204
C-14	1.19E+00	1.53E+00	3.19E+00	3.55E+00	pCi/L	100.00%	RD3263
TC-99	5.87E+00	1.06E+00	4.42E+00	2.10E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TRITIUM	-2.52E+01	1.04E+02	2.01E+02	2.46E+02	pCi/L	97.30%	RD3205

Number of Results: 19

9613196.0204

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0062
LAB SAMPLE ID:	40529202	MATRIX:	WATER
WHC ID:	B0BMT0	DATE RECEIVED:	5/13/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
AM-241	-1.02E-02	1.17E-02	1.18E-02	2.11E-01	pCi/L	85.90%	RD3302
PU-238	4.44E-02	1.54E-01	1.54E-01	4.18E-01	pCi/L	56.40%	RD3209
PU239/40	-1.48E-02	2.96E-02	2.97E-02	3.54E-01	pCi/L	56.40%	RD3209
U-234	5.03E+00	1.31E+00	1.51E+00	4.50E-01	pCi/L	49.40%	RD3234
U-235	5.73E-02	1.71E-01	1.71E-01	4.50E-01	pCi/L	49.40%	RD3234
U-238DA	3.69E+00	1.12E+00	1.25E+00	3.85E-01	pCi/L	49.40%	RD3234
CO-58	-9.31E-01	4.75E+00	4.75E+00	8.67E+00	pCi/L	N/A	RD3219
CO-60	-7.72E-01	4.99E+00	4.99E+00	9.33E+00	pCi/L	N/A	RD3219
CS-137DA	2.66E-01	4.29E+00	4.29E+00	7.84E+00	pCi/L	N/A	RD3219
EU-152	-1.72E+01	2.66E+01	2.67E+01	4.36E+01	pCi/L	N/A	RD3219
EU-154	-1.67E+01	1.71E+01	1.72E+01	2.51E+01	pCi/L	N/A	RD3219
EU-155	5.15E+00	8.49E+00	8.50E+00	1.58E+01	pCi/L	N/A	RD3219
FE-59	6.93E+00	1.18E+01	1.18E+01	2.54E+01	pCi/L	N/A	RD3219
ALPHA	1.13E+01	2.71E+00	2.89E+00	1.51E+00	pCi/L	100.00%	RD3222
BETA	1.17E+01	2.11E+00	2.26E+00	2.84E+00	pCi/L	100.00%	RD3222
STRONTIUM	7.74E-01	4.52E-01	4.89E-01	9.47E-01	pCi/L	75.40%	RD3204
C-14	5.11E+00	1.60E+00	3.30E+00	3.55E+00	pCi/L	100.00%	RD3263
TC-99	1.47E+00	9.26E-01	4.06E+00	2.10E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TRITIUM	9.46E+03	2.89E+02	8.43E+02	2.46E+02	pCi/L	97.30%	RD3205

Number of Results: 19

682A-6-93

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0062
LAB SAMPLE ID:	40544601	MATRIX:	WATER
WHC ID:	B0BMW0	DATE RECEIVED:	5/20/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
AM-241	-1.44E-02	1.44E-02	1.46E-02	2.40E-01	pCi/L	80.80%	RD3302
PU-238	0.00E+00	0.00E+00	2.19E-01	1.97E-01	pCi/L	57.20%	RD3209
PU239/40	-1.46E-02	2.91E-02	2.92E-02	3.49E-01	pCi/L	57.20%	RD3209
U-234	2.34E+00	8.31E-01	8.96E-01	4.47E-01	pCi/L	57.70%	RD3234
U-235	1.33E-01	2.05E-01	2.06E-01	3.30E-01	pCi/L	57.70%	RD3234
U-238DA	1.80E+00	7.23E-01	7.67E-01	3.30E-01	pCi/L	57.70%	RD3234
CO-58	-2.23E+00	4.78E+00	4.78E+00	7.82E+00	pCi/L	N/A	RD3219
CO-60	-1.38E+00	2.34E+00	2.35E+00	4.06E+00	pCi/L	N/A	RD3219
CS-137DA	2.87E-01	3.72E+00	3.72E+00	7.12E+00	pCi/L	N/A	RD3219
EU-152	3.25E+00	1.65E+01	1.65E+01	3.65E+01	pCi/L	N/A	RD3219
EU-154	1.04E+01	7.89E+00	7.96E+00	2.24E+01	pCi/L	N/A	RD3219
EU-155	7.30E+00	6.52E+00	6.56E+00	1.28E+01	pCi/L	N/A	RD3219
FE-59	3.11E+00	7.66E+00	7.67E+00	1.75E+01	pCi/L	N/A	RD3219
ALPHA	6.78E+00	2.18E+00	2.26E+00	1.67E+00	pCi/L	100.00%	RD3222
BETA	9.23E+00	2.04E+00	2.14E+00	3.10E+00	pCi/L	100.00%	RD3222
STRONTIUM	2.67E-01	3.29E-01	3.37E-01	7.79E-01	pCi/L	100.00%	RD3204
C-14	-5.86E-01	1.51E+00	3.15E+00	3.55E+00	pCi/L	100.00%	RD3263
TC-99	2.92E+00	9.66E-01	4.18E+00	2.10E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TRITIUM	9.80E+02	1.34E+02	2.56E+02	2.46E+02	pCi/L	97.30%	RD3205

Number of Results: 19

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0062
LAB SAMPLE ID:	40544602	MATRIX:	WATER
WHC ID:	B0BMP4	DATE RECEIVED:	5/20/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
AM-241	-4.13E-03	8.26E-03	8.28E-03	2.08E-01	pCi/L	70.40%	RD3302
PU-238	4.22E-02	1.08E-01	1.08E-01	2.53E-01	pCi/L	79.00%	RD3209
PU239/40	-4.22E-02	4.22E-02	4.26E-02	3.62E-01	pCi/L	79.00%	RD3209
U-234	3.57E-01	3.49E-01	3.52E-01	4.39E-01	pCi/L	53.60%	RD3234
U-235	1.31E-01	2.21E-01	2.22E-01	4.15E-01	pCi/L	53.60%	RD3234
U-238DA	4.23E-01	3.82E-01	3.87E-01	4.81E-01	pCi/L	53.60%	RD3234
CO-58	-1.29E+00	4.18E+00	4.18E+00	7.45E+00	pCi/L	N/A	RD3219
CO-60	7.23E+00	4.17E+00	4.23E+00	1.13E+01	pCi/L	N/A	RD3219
CS-137DA	6.25E-01	2.84E+00	2.84E+00	5.95E+00	pCi/L	N/A	RD3219
EU-152	1.01E+00	2.40E+01	2.40E+01	4.80E+01	pCi/L	N/A	RD3219
EU-154	-8.16E-01	1.48E+01	1.48E+01	2.84E+01	pCi/L	N/A	RD3219
EU-155	1.30E+00	8.47E+00	8.47E+00	1.44E+01	pCi/L	N/A	RD3219
FE-59	1.39E+01	8.81E+00	8.92E+00	2.43E+01	pCi/L	N/A	RD3219
ALPHA	6.23E-01	5.03E-01	5.12E-01	7.57E-01	pCi/L	100.00%	RD3222
BETA	3.17E+01	2.94E+00	3.70E+00	2.69E+00	pCi/L	100.00%	RD3222
STRONTIUM	1.59E+01	1.19E+00	4.17E+00	8.51E-01	pCi/L	89.90%	RD3204
C-14	-5.63E-01	1.51E+00	3.15E+00	3.55E+00	pCi/L	100.00%	RD3263
TC-99	2.12E+00	9.42E-01	4.11E+00	2.10E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TRITIUM	-4.09E+01	1.02E+02	1.99E+02	2.46E+02	pCi/L	97.30%	RD3205

Number of Results: 19

9613496.0207

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0062
LAB SAMPLE ID:	40521801	MATRIX:	WATER
WHC ID:	B0BMV2	DATE RECEIVED:	5/11/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
AM-241	8.29E-02	1.22E-01	1.23E-01	1.74E-01	pCi/L	84.20%	RD3302
PU-238	-1.21E-02	2.41E-02	2.42E-02	2.89E-01	pCi/L	69.20%	RD3209
PU239/40	-4.82E-02	4.82E-02	4.87E-02	4.14E-01	pCi/L	69.20%	RD3209
U-234	3.28E+00	9.39E-01	1.04E+00	4.11E-01	pCi/L	62.80%	RD3234
U-235	2.55E-01	2.66E-01	2.68E-01	3.03E-01	pCi/L	62.80%	RD3234
U-238DA	2.26E+00	7.74E-01	8.35E-01	1.80E-01	pCi/L	62.80%	RD3234
CO-58	-2.49E-01	4.29E+00	4.29E+00	8.17E+00	pCi/L	N/A	RD3219
CO-60	1.94E+00	3.59E+00	3.60E+00	8.32E+00	pCi/L	N/A	RD3219
CS-137DA	2.18E+00	2.90E+00	2.91E+00	6.41E+00	pCi/L	N/A	RD3219
EU-152	2.51E+01	1.67E+01	1.69E+01	4.64E+01	pCi/L	N/A	RD3219
EU-154	7.47E+00	1.30E+01	1.30E+01	2.81E+01	pCi/L	N/A	RD3219
EU-155	5.78E+00	7.37E+00	7.40E+00	1.38E+01	pCi/L	N/A	RD3219
FE-59	-2.11E+00	1.24E+01	1.24E+01	2.27E+01	pCi/L	N/A	RD3219
ALPHA	6.46E+00	2.03E+00	2.12E+00	1.52E+00	pCi/L	100.00%	RD3222
BETA	8.19E+00	1.90E+00	1.99E+00	2.88E+00	pCi/L	100.00%	RD3222
STRONTIUM	2.86E-01	4.55E-01	4.60E-01	1.09E+00	pCi/L	63.30%	RD3204
C-14	1.51E+00	1.54E+00	3.20E+00	3.55E+00	pCi/L	100.00%	RD3263
TC-99	2.43E+00	9.46E-01	4.13E+00	2.10E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TRITIUM	3.80E+02	1.19E+02	2.23E+02	2.46E+02	pCi/L	97.30%	RD3205

Number of Results: 19

682A-6-93

9613496.0208

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0062
LAB SAMPLE ID:	40524401	MATRIX:	WATER
WHC ID:	B0BMR0	DATE RECEIVED:	5/12/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
AM-241	-3.46E-03	6.92E-03	6.94E-03	1.74E-01	pCi/L	84.00%	RD3302
PU-238	-2.06E-02	2.91E-02	2.93E-02	2.91E-01	pCi/L	80.90%	RD3209
PU239/40	-1.03E-02	2.06E-02	2.06E-02	2.46E-01	pCi/L	80.90%	RD3209
U-234	4.76E-01	4.19E-01	4.25E-01	5.73E-01	pCi/L	52.90%	RD3234
U-235	-4.41E-02	3.34E-02	3.40E-02	4.88E-01	pCi/L	52.90%	RD3234
U-238DA	2.96E-01	3.16E-01	3.19E-01	3.93E-01	pCi/L	52.90%	RD3234
CO-58	6.39E+00	5.40E+00	5.44E+00	1.20E+01	pCi/L	N/A	RD3219
CO-60	1.31E+00	3.79E+00	3.79E+00	8.51E+00	pCi/L	N/A	RD3219
CS-137DA	-2.81E+00	4.95E+00	4.95E+00	8.37E+00	pCi/L	N/A	RD3219
EU-152	6.56E+00	1.90E+01	1.90E+01	4.27E+01	pCi/L	N/A	RD3219
EU-154	1.80E+01	1.08E+01	1.10E+01	2.96E+01	pCi/L	N/A	RD3219
EU-155	2.91E+00	8.00E+00	8.01E+00	1.35E+01	pCi/L	N/A	RD3219
FE-59	9.22E+00	1.37E+01	1.38E+01	2.88E+01	pCi/L	N/A	RD3219
ALPHA	4.74E-01	4.58E-01	4.63E-01	7.57E-01	pCi/L	100.00%	RD3222
BETA	8.58E+00	1.93E+00	2.02E+00	2.98E+00	pCi/L	100.00%	RD3222
STRONTIUM	2.63E+00	5.61E-01	8.68E-01	8.17E-01	pCi/L	91.20%	RD3204
C-14	-1.13E+00	1.50E+00	3.14E+00	3.55E+00	pCi/L	100.00%	RD3263
TC-99	2.63E+00	9.70E-01	4.16E+00	2.10E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TRITIUM	-2.14E+01	1.04E+02	2.01E+02	2.46E+02	pCi/L	97.30%	RD3205

Number of Results: 19

682A-6-93

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0062
LAB SAMPLE ID:	40524402	MATRIX:	WATER
WHC ID:	B0BMR8	DATE RECEIVED:	5/12/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
AM-241	4.85E-02	1.06E-01	1.06E-01	2.12E-01	pCi/L	68.90%	RD3302
PU-238	0.00E+00	0.00E+00	1.94E-01	1.75E-01	pCi/L	64.50%	RD3209
PU239/40	-2.59E-02	3.66E-02	3.68E-02	3.65E-01	pCi/L	64.50%	RD3209
U-234	3.75E-01	3.17E-01	3.21E-01	3.97E-01	pCi/L	69.80%	RD3234
U-235	1.10E-01	1.69E-01	1.70E-01	2.73E-01	pCi/L	69.80%	RD3234
U-238DA	3.34E-01	2.93E-01	2.97E-01	3.37E-01	pCi/L	69.80%	RD3234
CO-58	3.11E+00	4.70E+00	4.71E+00	1.03E+01	pCi/L	N/A	RD3219
CO-60	1.31E+00	3.79E+00	3.79E+00	8.51E+00	pCi/L	N/A	RD3219
CS-137DA	-6.75E+00	5.30E+00	5.35E+00	7.96E+00	pCi/L	N/A	RD3219
EU-152	5.05E-01	1.70E+01	1.70E+01	3.26E+01	pCi/L	N/A	RD3219
EU-154	-2.45E+00	7.66E+00	7.66E+00	1.52E+01	pCi/L	N/A	RD3219
EU-155	1.69E+00	8.74E+00	8.75E+00	1.53E+01	pCi/L	N/A	RD3219
FE-59	1.08E+01	1.41E+01	1.42E+01	3.05E+01	pCi/L	N/A	RD3219
ALPHA	3.79E-01	4.83E-01	4.86E-01	9.41E-01	pCi/L	100.00%	RD3222
BETA	7.80E+00	1.84E+00	1.92E+00	2.87E+00	pCi/L	100.00%	RD3222
STRONTIUM	3.76E+00	6.39E-01	1.15E+00	8.35E-01	pCi/L	93.40%	RD3204
C-14	-5.86E-01	1.51E+00	3.15E+00	3.55E+00	pCi/L	100.00%	RD3263
TC-99	3.34E+00	1.00E+00	4.21E+00	2.10E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TRITIUM	-1.10E+02	1.01E+02	1.97E+02	2.46E+02	pCi/L	97.30%	RD3205

Number of Results: 19

9613496.0210

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

DUPLICATE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0062
LAB SAMPLE ID:	F0521801	MATRIX:	WATER
WHC ID:	B0BMV2	DATE RECEIVED:	5/11/94
ORIG LAB SAMPLE ID:	40521801		

ISOTOPE	DUP RESULT	COUNTING ERROR	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
AM-241	-1.30E-02	1.30E-02	1.31E-02	2.17E-01	pCi/L	89.40%	RD3302	8.29E-02	274.39%
PU-238	0.00E+00	0.00E+00	1.65E-01	1.49E-01	pCi/L	75.90%	RD3209	-1.21E-02	200.00%
PU239/40	3.29E-02	1.14E-01	1.14E-01	3.10E-01	pCi/L	75.90%	RD3209	-4.82E-02	1060.13% ~~1060.13%~~
U-234	2.86E+00	9.63E-01	1.05E+00	4.53E-01	pCi/L	52.00%	RD3234	3.28E+00	13.68%
U-235	1.35E-01	2.28E-01	2.29E-01	4.28E-01	pCi/L	52.00%	RD3234	2.55E-01	61.54%
U-238DA	2.20E+00	8.50E-01	9.09E-01	4.96E-01	pCi/L	52.00%	RD3234	2.26E+00	2.69%
C-14	-4.73E-01	1.51E+00	3.15E+00	3.55E+00	pCi/L	100.00	RD3263	1.51E+00	382.45%
TRITIUM	2.39E+02	1.14E+02	2.15E+02	2.46E+02	pCi/L	97.30%	RD3205	3.80E+02	45.56%

Number of Results: 8

682A-6-93

9615496.0211

468

INTERNATIONAL TECHNOLOGY CORPORATION

LOG #: RD-94-_____ page 1 of 2

ITAS-Richland
LABORATORY NONCONFORMANCE MEMO (NCM)

PROJECT ID (Name/Number): WHC W0062

NCM INITIATED BY (Name/Date): Marshall Lane 6/16/94

PARAMETER(S): Gamma

SAMPLE NUMBER(S) AFFECTED: 40524402

MATRIX: WATER

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):
10. ☐ Comments/Explanation: Fe-59 MDC Greater than CRDL on 40524402

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 Daniels 6/20/94

FURTHER ACTION REQUIRED, SEE PAGE 2 OF 2

468

IT CORPORATION

LOG #: RD-94-_____ page 2 of 2

CORRECTIVE ACTION

☒ ROOT CAUSE: INITIALS/DATE nd 6/16/94

Unknown. Fe-54 MDC Less than CRDL in Blank

☒ CORRECTIVE ACTION: INITIALS/DATE nd 6/16/94

Report result And Note in case narrative

☐ RESPONSIBILITY FOR PERFORMING CORRECTIVE ACTION ASSIGNED TO:

☐ ACTIONS TO PREVENT RECURRENCE: INITIALS/DATE

N/A

FIRST LEVEL SUPERVISOR: [signature] DATE: 6/16/94

RESPONSIBLE MANAGER: [signature] DATE: 7/1/94

QC REVIEW

☐ NONCONFORMANCE ☒ DEFICIENCY ☐ RERUN

☐ FURTHER ACTION REQUIRED:

ASSIGNED TO:

QC COORDINATOR: Jodie Carr DATE: 7/1/94

CORRECTIVE ACTION VERIFICATION

☒ VERIFIED ☐ CANNOT VERIFY (specify reason)

REASON:

NCM CLOSURE

QC COORDINATOR: Jodie Carr DATE: 7/1/94

SIGNED ORIGINAL MUST BE RETAINED IN FILE: ☐ QUALITY/OPERATIONS FILE ☒ PROJECT FILE

9613496.0213

6/16/94

*** AM-241 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

13-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-244

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40524401		WHC	B0BMR0	
2)	40524402		WHC	B0BMR8	

ACTIONS (Initial & Date)

1) INITIATED 5/13/94

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB_____

6) DATA REVIEWED AND ANALYTICAL PREP STORED 6-24-94

0080

9615496.0214

6/17/94

*** AM-241 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

16-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP ____W0062_____

MATRIX : WATER

BATCH NUMBER ____5-292_____

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40529201		WHC	BOBMT8	
2)	40529202		WHC	BOBMT0	

ACTIONS (Initial & Date)

1) INITIATED 5/16/94

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB_____

6) DATA REVIEWED AND ANALYTICAL PREP STORED MWR 6-24-94

0081

9613496.0215

6/24/94

*** AM-241 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

20-May-1994
Page 1

CUSTOMER: WHC SAMPLE DELIVERY GROUP W0062

MATRIX : WATER BATCH NUMBER 5-446

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40544601		WHC	BOBMWO	
2)	40544602		WHC	BOBMP4	

ACTIONS (Initial & Date)

1) INITIATED 5/20/94

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB_____

6) DATA REVIEWED AND ANALYTICAL PREP STORED mmm 6-24-94

9613496.0216

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS PU MATRIX WATER DUE DATE 6-24-94

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
L 05218	-1B	WHC	QC BATCH REAGENT BLANK
L	-1X		QC BATCH MATRIX BLANK
L 05218	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE
L	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
F 05218	-01		Duplicate of Sample # 41052801
41052 18	-01		
41052 44	-01-02		
41052 92	-01-02		
41054 46	-01-02		
	-		
	-		
	-		
	-		
	-		
	-		
	-		
	-		

Batched and QC updated by [illegible] on 6-13-94 Rec'd in C.R. by AB on 6-20-94

Rec'd in Prep Lab by [illegible] on 6-16-94 Data Reviewed and anal. Prep stored [illegible] on 6-24-94

Rec'd in Sep Lab by [illegible] 6-17-94 on

Rec'd in Sep lab by S 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

ED 6/20/94 MLK

,15/94

*** PUISO *** 9619196.0217

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

12-May-1994
Page 1

TOMER: WHC

SAMPLE DELIVERY GROUP W0062

RIX : WATER

BATCH NUMBER 5-218

ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
L0521816				
L0521815				
40521801		WHC	BOBMV2	
F0521801				

ACTIONS (Initial & Date)

TIATED 5/12/94

IP LAB RECEIVED _____

MPLE REMAINDER STORED _____

PARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED mmh 6-24-94

Pu 6/20/94 mmh
ED 6/20/94 MLK

0084

6/16/94

9613496.0249 *** PUISO ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

13-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-244

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40524401		WHC	BOBMRO	
2)	40524402		WHC	BOBMRO	

ACTIONS (Initial & Date)

1) INITIATED 5/13/94

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED mmh 6-24-94

Pu 6/20/94 JMM

9613496.0219

6/17/94

*** PUISO ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

16-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP ____W0062_____

MATRIX : WATER

BATCH NUMBER ____5-292_____

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40529201		WHC	BOBMT8	
2)	40529202		WHC	BOBMT0	

ACTIONS (Initial & Date)

1) INITIATED 5/16/94 5/16/94

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB_____

6) DATA REVIEWED AND ANALYTICAL PREP STORED mmm 6-24-94

Pu 6/20/94 JMH

9613496.0220

6/24/94

*** PUIOO ***

CHAIN OF-CUSTODY BATCH ANALYSIS RECORD

20-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-446

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40544601		WHC	BOBMW0	
2)	40544602		WHC	BOBMP4	

ACTIONS (Initial & Date)

1) INITIATED 5/20/94

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB_____

6) DATA REVIEWED AND ANALYTICAL PREP STORED 6-24-94

Pu 6/20/94 JMW

0087

9613496.0221

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS UISO MATRIX WATER DUE DATE 6-24-94

WM62

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
L 05218	-1B	WHC	QC BATCH REAGENT BLANK
L	-1X		QC BATCH MATRIX BLANK
L 05218	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE
L	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
F 05218	- 01		Duplicate of Sample # 40521801
405218	- 01		
405244	- 01-02		
405292	- 01-02		
405446	- 01-02		
	-		
	-		
	-		
	-		
	-		
	-		
	-		
	-		

Batched and QC updated by [illegible] on 6-13-94 Rec'd in C.R. by AS on 6-21-94

Rec'd in Prep Lab by [illegible] on 6-10-94 Data Reviewed and anal. Prep stored MMK on 6-24-94

Rec'd in Sep Lab by [illegible] on 6/14/94

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

Qxl 6.16.94 [illegible]
ED 6/20/94 MLK

0088 [illegible]

9613496.0222

6/15/94

*** UISO ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

12-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-218

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	L0521818				
	L0521815				
1)	40521801		WHC	BOBMV2	
	F0521801				

ACTIONS (Initial & Date)

) INITIATED 5/12/94

) PREP LAB RECEIVED _____

) SAMPLE REMAINDER STORED _____

) SEPARATION LAB RECEIVED 6/14/94

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED 6-24-94

0089

6/16/94

9613496.0223

*** UISO ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

13-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-244

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40524401		WHC	BOBMR0	
2)	40524402		WHC	BOBMR8	

ACTIONS (Initial & Date)

) INITIATED 5/13/94

) PREP LAB RECEIVED _____

) SAMPLE REMAINDER STORED _____

) SEPARATION LAB RECEIVED 6/14/94 Ew

5) COUNTING/MEASUREMENT LAB_____

6) DATA REVIEWED AND ANALYTICAL PREP STORED mmm 6-24-94

0090

9615496.0224

6/17/94

*** UISO ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

16-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-292

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40529201		WHC	BOBMT8	
2)	40529202		WHC	BOBMT0	

ACTIONS (Initial & Date)

) INITIATED 5/16/94

) PREP LAB RECEIVED _____

) SAMPLE REMAINDER STORED _____

) SEPARATION LAB RECEIVED 6/14/94

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED mwm 6-24-94

0091

9613496.0225

6/24/94

*** UISO ***

CHAIN OF CUSTODY BATCH ANALYSIS RECORD

20-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-446

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40544601		WHC	BOBMW0	
2)	40544602		WHC	BOBMP4	

ACTIONS (Initial & Date)

INITIATED 5/20/94

PREP LAB RECEIVED _____

SAMPLE REMAINDER STORED _____

SEPARATION LAB RECEIVED 6/14/94

5) COUNTING/MEASUREMENT LAB_____

6) DATA REVIEWED AND ANALYTICAL PREP STORED mmm 6-24-94

0092

9613496.0276

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS GAMMA MATRIX WATER DUE DATE 6-24-94

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
L 05218	-1B	WHC	QC BATCH REAGENT BLANK
L	-1X		QC BATCH MATRIX BLANK
L 05218	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE
L	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
F 05292	- 02		Duplicate of Sample # 405292 02
405218	- 01		
405244	- 01-02		
405292	- 01-02		
405446	- 01-02		
	-		
	-		
	-		
	-		
	-		
	-		
	-		
	-		

Batched and QC updated by [illegible] on 6-14-94 Rec'd in C.R. by [illegible] on 6-14-94

Rec'd in Prep Lab by [illegible] on 6-10-94 Data Reviewed and anal. Prep stored [illegible] on 6/16/94

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

9613496.0223 *** GAMMA ***

6/15/94

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

12-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-218

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	L0521818 ✓				
	L0521815 ✓		QCAG012		
1)	40521801 ✓		WHC	BOBMV2	

ACTIONS (Initial & Date)

1) INITIATED 5/12/94

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

6/16/94

9613496.0228 *** GAMMA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

13-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-244

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40524401		WHC	BOBMR0	
2)	40524402		WHC	BOBMR8	

ACTIONS (Initial & Date)

1) INITIATED 5/13/94

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9615196.0229

6/17/94

*** GAMMA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

16-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-292

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40529201		WHC	BOBMT8	
2)	40529202		WHC	BOBMT0	
	F052 9202				

ACTIONS (Initial & Date)

1) INITIATED 5/16/94

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613496.0230

6/25/94

*** GAMMA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

20-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-446

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40544601		WHC	BOBMW0	
2)	40544602		WHC	BOBMP4	

ACTIONS (Initial & Date)

1) INITIATED 5/20/94

2) PREP LAB RECEIVED _____

3) SAMPLE REMAINDER STORED _____

4) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB_____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

0096A

IT BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS ALPHA MATRIX WATER DUE DATE 6-24-94

W0062

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
L 05218	-1B	WHC	QC BATCH REAGENT BLANK
L	-1X		QC BATCH MATRIX BLANK
L 05218	-1M or 1S (circle)	EQEG 268	QC BATCH MATRIX/REAGENT SPIKE 10.063 ± .0933 DPM
L	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
F 05244	-01		Duplicate of Sample # 40524401
405218	-01		
405244	-01-02		
405292	-01-02		
405446	-01-02		
	-		
	-		
	-		
	-		
	-		
	-		
	-		
	-		

Batched and QC updated by [illegible] on 6-14-94 Rec'd in C.R. by [illegible] on 14 Jun 94

Rec'd in Prep Lab by [illegible] on 6-10-94 Data Reviewed and anal. Prep stored [illegible] on 6-21-94

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

194

*** ALPHA *** 9613496.0232

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

12-May-1994
Page 1

R: WHC

SAMPLE DELIVERY GROUP W0062

: WATER

BATCH NUMBER 5-218

ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
0521816				
0521815				
0521801		WHC	BOBMV2	

ACTIONS (Initial & Date)

1 5/12/94

RECEIVED

MAINDER STORED

IN LAB RECEIVED

5) COUNTING/MEASUREMENT LAB

6) DATA REVIEWED AND ANALYTICAL PREP STORED

,/94

ALPHA 9615496.0233

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

13-May-1994
Page 1

MER: WHC SAMPLE DELIVERY GROUP W0062

X : WATER BATCH NUMBER 5-244

ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
40524401 F0524401		WHC	BOBMR0	
40524402		WHC	BOBMR8	

ACTIONS (Initial & Date)

TED 5/13/94

LAB RECEIVED _____

REMAINDER STORED _____

TION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB_____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

0099

9615496.0234

6/17/94

*** ALPHA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

16-May-1994
Page 1

CUSTOMER: WHC SAMPLE DELIVERY GROUP W0062

MATRIX : WATER BATCH NUMBER 5-292

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40529201		WHC	BOBMT8	
2)	40529202		WHC	BOBMT0	

ACTIONS (Initial & Date)

INITIATED 5/16/94

PREP LAB RECEIVED _____

SAMPLE REMAINDER STORED _____

SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

0100

9613496.0235

6/29/94

*** ALPHA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

20-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-446

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40544601		WHC	BOBMW0	
2)	40544602		WHC	BOBMP4	

ACTIONS (Initial & Date)

) INITIATED 5/20/94

) PREP LAB RECEIVED _____

) SAMPLE REMAINDER STORED _____

) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

IT

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS BETA MATRIX WATER DUE DATE 6-24-94

W0062

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
L 05218	-1B	WHC	QC BATCH REAGENT BLANK
L	-1X		QC BATCH MATRIX BLANK
L 05218	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE EQAN 2184 = 10.046 ± .142
L	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
F 05244	- 01		Duplicate of Sample # 40524401
405218	- 01		
405244	- 01-02		
405292	- 01-02		
405446	- 01-02		
	-		
	-		
	-		
	-		
	-		
	-		
	-		
	-		

Batched and QC updated by [illegible] on 6-14-94 Rec'd in C.R. by [illegible] on 14 Jun 94

Rec'd in Prep Lab by [illegible] on 6-10-94 Data Reviewed and anal. Prep stored [illegible] on 6-21-94

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

6/15/94

9613496.0237 *** BETA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

12-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-218

ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
L0521815				
L0521815				
1) 40521801		WHC	BOBMV2	

ACTIONS (Initial & Date)

) INITIATED 5/12/94

) PREP LAB RECEIVED _____

) SAMPLE REMAINDER STORED _____

) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB_____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

6/16/94

9613496.0230 *** BETA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

13-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-244

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40524401 F052 4401		WHC	BOBMR0	
2)	40524402		WHC	BOBMR8	

ACTIONS (Initial & Date)

) INITIATED 5/13/94

) PREP LAB RECEIVED _____

) SAMPLE REMAINDER STORED _____

) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613496.0239

6/17/94

*** BETA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

16-May-1994
Page 1

CUSTOMER: WHC SAMPLE DELIVERY GROUP W0062

MATRIX : WATER BATCH NUMBER 5-292

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40529201		WHC	B0BMT8	
2)	40529202		WHC	B0BMT0	

ACTIONS (Initial & Date)

INITIATED 5/16/94

PREP LAB RECEIVED _____

SAMPLE REMAINDER STORED _____

SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613496.0240

6/24/94

*** BETA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

20-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-446

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40544601		WHC	BOBMW0	
2)	40544602		WHC	BOBMP4	

ACTIONS (Initial & Date)

) INITIATED @5/20/94

) PREP LAB RECEIVED _____

) SAMPLE REMAINDER STORED _____

) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB_____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613496.0241

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS Total-SR MATRIX WATER DUE DATE _____

W0062

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
L 05218	-1B	WHC	QC BATCH REAGENT BLANK
L	-1X		QC BATCH MATRIX BLANK
L 05218	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE EQL 1103 30.043 ± .4238
L	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
F 0524401	-		Duplicate of Sample #
5-218	- 1		W0062
5-244	- 1-2		
5-292	- 1-2		
5-446	- 1-2	✓	
	-		
	-		
	-		
	-		
	-		
	-		
	-		
	-		

Batched and QC updated by DM on 6-22-94 Rec'd in C.R. by [illegible] on 6-23-94

Rec'd in Prep Lab by DM on 6-22-94 Data Reviewed and anal. Prep stored [illegible] on 6/24/94

Rec'd in Sep Lab by DM on 6-22-94

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

6/15/94

9613496.0242 *** TOTAL-SR ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

12-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-218

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40521801		WHC	BOBMV2	

ACTIONS (Initial & Date)

) INITIATED 5/12/94

) PREP LAB RECEIVED _____

) SAMPLE REMAINDER STORED _____

) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

6/16/94

9613496.0243 *** TOTAL-SR ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

13-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-244

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40524401 F0524401		WHC	BOBMR0	
2)	40524402		WHC	BOBMR8	

ACTIONS (Initial & Date)

) INITIATED @ 5/13/94

) PREP LAB RECEIVED _____

) SAMPLE REMAINDER STORED _____

) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613496.0244

6/17/94

*** TOTAL-SR ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

16-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-292

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40529201		WHC	BOBMT8	
2)	40529202		WHC	BOBMT0	

ACTIONS (Initial & Date)

) INITIATED 5/16/94

) PREP LAB RECEIVED _____

) SAMPLE REMAINDER STORED _____

) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613496.0245

6/24/94

*** TOTAL-SR ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

20-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-446

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40544601		WHC	BOBMW0	
2)	40544602		WHC	BOBMP4	

ACTIONS (Initial & Date)

) INITIATED 5/20/94

) PREP LAB RECEIVED _____

) SAMPLE REMAINDER STORED _____

) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB_____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613496 0216

BATCH SUMMARY/CHAIN OF CUSTODY

.YSIS C-14 MATRIX WATER DUE DATE 6-24-94

W0062

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
05218	-1B -1N -2N	WHC	QC BATCH REAGENT BLANK
	-1X		QC BATCH MATRIX BLANK
05218	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE IQFL 029 - 2C.029 ± .7272 DPM
	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
0521801	-		Duplicate of Sample #
5-218	- 1		W0062
5-244	- 1-2		
5-292	- 1-2		
5-446	- 1-2		
	-		
	-		
	-		
	-		
	-		
	-		
	-		
	-		

Batched and QC updated by DM on 6-13-94 Rec'd in C.R. by DR on 21 Jun 94

Rec'd in Prep Lab by N/A on Data Reviewed and anal. Prep stored SPR on 6/21/94

Rec'd in Sep Lab by DM on 6-13-94

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

6/15/94

9613496.0247 C-14 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

12-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-218

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40521801		WHC	BOBMV2	
	F0521B01				

ACTIONS (Initial & Date)

) INITIATED 5/12/94

) PREP LAB RECEIVED _____

) SAMPLE REMAINDER STORED _____

) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

6/16/94

9613496.0249 *** C-14 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

13-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W00G2

MATRIX : WATER

BATCH NUMBER 5-244

	ITAC ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40524401		WHC	BOBMR0	
2)	40524402		WHC	BOBMR8	

ACTIONS (Initial & Date)

) INITIATED 5/13/94

) PREP LAB RECEIVED _____

) SAMPLE REMAINDER STORED _____

) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613496.0249

6/17/94

*** C-14 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

16-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W00C02

MATRIX : WATER

BATCH NUMBER 5-292

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40529201		WHC	BOBMT8	
2)	40529202		WHC	BOBMT0	

ACTIONS (Initial & Date)

INITIATED 5/16/94

PREP LAB RECEIVED _____

SAMPLE REMAINDER STORED _____

SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613496.0250

6/24/94

*** C-14 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

20-May-1994
Page 1

CUSTOMER: WHC SAMPLE DELIVERY GROUP W0062

MATRIX : WATER BATCH NUMBER 5-446

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40544601		WHC	BOBMW0	
2)	40544602		WHC	BOBMP4	

ACTIONS (Initial & Date)

INITIATED 5/20/94

PREP LAB RECEIVED _____

SAMPLE REMAINDER STORED _____

SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB_____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS Tc-99 MATRIX water DUE DATE 6/24/94

W0062

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
L 05446	-1B	WHC	QC BATCH REAGENT BLANK
L	-1X		QC BATCH MATRIX BLANK
L W0544601 L054461	-1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE
L	-2M or 2S (circle)		QC BATCH MATRIX/REAGENT SPIKE
F F0544602	-		Duplicate of Sample #
40544601	- 02		L054461N L05446 2N mixtures
40521801	- 01		L05446 3N L05446 4N Blanks
40524401	- 02		
40529201	- 02		
	-		
	-		
	-		
	-		
W0544601	EQ7177		100.51 ± 1.2419 DPM
L054461M	EQ7178		100.08 ± 1.2367 ↓
	-		
	-		

Batched and QC updated by MM on 6/18/94 Rec'd in C.R. by OD on 18 Jun 94

Rec'd in Prep Lab by MM on 6/14/94 Data Reviewed and anal. Prep stored SRB on 6/22/94

Rec'd in Sep Lab by MM on 6/14/94

Rec'd in Sep lab by NA on NA 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

6/15/94

9613496.0250 *** TC-99 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

12-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-218

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40521801		WHC	B0BMV2	

ACTIONS (Initial & Date)

) INITIATED 5/12/94

) PREP LAB RECEIVED _____

) SAMPLE REMAINDER STORED _____

) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB _____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

6/10/94

9615496.0263 *** TC-99 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

13-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-244

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40524401		WHC	B0BMR0	
2)	40524402		WHC	B0BMR8	

ACTIONS (Initial & Date)

INITIATED 5/13/94

PREP LAB RECEIVED _____

SAMPLE REMAINDER STORED _____

SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB_____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613496.0291

6/17/94

*** TC-99 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

16-May-1994
Page 1

CUSTOMER: WHC SAMPLE DELIVERY GROUP W0062

MATRIX : WATER BATCH NUMBER 5-292

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40529201		WHC	BOBMT8	
2)	40529202		WHC	BOBMT0	

ACTIONS (Initial & Date)

) INITIATED 5/16/94

) PREP LAB RECEIVED _____

) SAMPLE REMAINDER STORED _____

) SEPARATION LAB RECEIVED _____

5) COUNTING/MEASUREMENT LAB_____

6) DATA REVIEWED AND ANALYTICAL PREP STORED _____

9613496.0255

6/24/94

*** TC-99 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

20-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-446

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40544601		WHC	BOBMW0	
2)	40544602		WHC	BOBMP4	

ACTIONS (Initial & Date)

INITIATED 5/20/94

PREP LAB RECEIVED 6/14/94 mm

SAMPLE REMAINDER STORED 6/14/94 mm

SEPARATION LAB RECEIVED 6/14/94 mm

5) COUNTING/MEASUREMENT LAB

6) DATA REVIEWED AND ANALYTICAL PREP STORED

BATCH SUMMARY/CHAIN OF CUSTODY

ANALYSIS Tritium MATRIX Water DUE DATE 6-24-94

W0062

WORK ORDER	SEQUENCE #	CLIENT	COMMENTS
L N/A	-1B	WHC	QC BATCH REAGENT BLANK
L 05218	-1X		QC BATCH MATRIX BLANK
L 05218	1M or 1S (circle)		QC BATCH MATRIX/REAGENT SPIKE 31.037±.295 # 2877
L 05218	-2M or 2S (circle) 1S		QC BATCH MATRIX/REAGENT SPIKE EQMJ 120/30.009±.305
F 0521801	-		Duplicate of Sample # 4052 1801
L052181 N	- 3 N		instrument Blanks
40521801	-		
40524401	- 02		
40529201	- 02		
40544601	- 02		
	-		
	-		
	-		
	-		
	-	BAB 6-17/94	
	-		
	-		

Batched and QC updated by BAB on 6/17/94 Rec'd in C.R. by SK on 6-17-94

Rec'd in Prep Lab by N/A on N/A Data Reviewed and anal. Prep stored GA on 6/23/94

Rec'd in Sep Lab by ↓ on ↓

Rec'd in Sep lab by ↓ 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

6/15/94 BAB 6-6-94
6-24-94

9613496.0257 *** TRITIUM ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

12-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-218

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	L0521 81N L0521 82N L0521 83N				
1)	40521801		WHC	BOBMV2	
	F0521801 Dup				
	L0521 81X				
	L0521 81 m		31.037 ± .295 # 2877		
	L0521 81 S		EQMJ120		

ACTIONS (Initial & Date) EQMJ120 PR. 6/17/94

) INITIATED 5/12/94

) PREP LAB RECEIVED BAB 6/2/94

) SAMPLE REMAINDER STORED N/A

) SEPARATION LAB RECEIVED N/A

5) COUNTING/MEASUREMENT LAB

6) DATA REVIEWED AND ANALYTICAL PREP STORED

6/16/94

*** TRITIUM ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

13-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-244

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40524401		WHC	BOBMR0	
2)	40524402		WHC	BOBMR8	

ACTIONS (Initial & Date)

) INITIATED 3/13/94

) PREP LAB RECEIVED BAB 6/2/94

) SAMPLE REMAINDER STORED N/A

) SEPARATION LAB RECEIVED N/A

5) COUNTING/MEASUREMENT LAB

6) DATA REVIEWED AND ANALYTICAL PREP STORED

6/17/94

9413196.0259

*** TRITIUM ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

16-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0062

MATRIX : WATER

BATCH NUMBER 5-292

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40529201		WHC	BOBMT8	
2)	40529202		WHC	BOBMT0	

ACTIONS (Initial & Date)

) INITIATED 5/16/94

) PREP LAB RECEIVED BAB 6/7/94

) SAMPLE REMAINDER STORED N/A

) SEPARATION LAB RECEIVED N/A

5) COUNTING/MEASUREMENT LAB

6) DATA REVIEWED AND ANALYTICAL PREP STORED

9613496.0260

6/24/94

*** TRITIUM ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

20-May-1994
Page 1

CUSTOMER: WHC

SAMPLE DELIVERY GROUP W0562

MATRIX : WATER

BATCH NUMBER 5-446

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
1)	40544601		WHC	BOBMW0	
2)	40544602		WHC	BOBMP4	

ACTIONS (Initial & Date)

INITIATED 5/20/94

PREP LAB RECEIVED BAB 6/7/94

SAMPLE REMAINDER STORED N/A

SEPARATION LAB RECEIVED N/A

5) COUNTING/MEASUREMENT LAB

6) DATA REVIEWED AND ANALYTICAL PREP STORED

9615496.0261

Los Alamos Technical Associates, Inc.

8633 Gage Blvd. / Kennewick, WA 99336 / Telephone (509) 783-4369 / FAX (509) 783-9661

September 20, 1994

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

Dear Connie,

Attached is the data validation report for analytical results for 100-FR-3 Groundwater Operable Unit (SDG W0062-ITC-062). The package was received by Los Alamos Technical Associates on August 3, 1994. Validation of this package began on August 19, and was completed on September 16, 1994.

If you have any questions, please let me know.

Sincerely,

Donald J. Smith
Project Manager

cc: Chris Haecker, LATA
VW402.66

RECEIVED
SEP 20 1994
VALIDATION DOCUMENTATION
SDLA

9613496.0262

DATA VALIDATION REPORT
for
100-FR-3 Groundwater Operable Unit
SDG W0062-ITC-062
LATA VW402.66

RECEIVED
SEP 20 1994
VALIDATION DOCUMENTATION
SDLA

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

September 20, 1994

9613496.0263

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9613496.0264

100-F-3 Groundwater Operable Unit
Data Validation Narrative

INTRODUCTION

All samples in Sample Delivery Group (SDG) W0062-ITC-062 were validated at level "D" as defined in the Data Validation Procedures for Chemical Analyses (WHC-SD-EN-SPP-002) and/or Data Validation Procedures for Radiochemical Analyses (WHC-SD-EN-SPP-001).

The data package was received by Los Alamos Technical Associates (LATA) on August 3, 1994. Validation began on August 19, 1994 and was completed on September 16, 1994.

The chemical analyses were performed by IT Analytical Services-Knoxville. The radiochemical analyses were performed by IT Analytical Services-Richland.

ANALYSES REQUESTED

Twenty-one (21) water samples numbered BOBMV0, BOBMV2, BOBMV3, BOBMV4, BOBMR0, BOBMR1, BOBMR2, BOBMR8, BOBMR9, BOBMS0, BOBMT0, BOBMT1, BOBMT2, BOBMT8, BOBMT9, BOBMW0, BOBMW1, BOBMW2, BOBMP4, BOBMP5 and BOBMP6 were collected by WHC and transferred to ITC for analysis. The following determinations were conducted in this SDG:

1	Volatile Organics		Method CLP
2	Semivolatile Organics		Method CLP
3	Pesticides/PCBs		Method CLP
4	Anions (F, Cl, PO_4 & SO_4)		Method 300.0
	Specific Conductance		Method 120.1
	pH		Method 9040
5	Nitrate+Nitrite		Method 353.2
6	Alkalinity		Method 310.1
7	Total Dissolved Solids		Method 160.1
8	Sulfides		Method 376.1
9	Ammonia		Method 350.2
	Chemical Oxygen Demand		Method HACH or 410.2
10	Metals:	ICP	Method CLP
		Arsenic	Method CLP
		Lead	Method CLP
		Selenium	Method CLP
		Thallium	Method CLP
		Mercury	Method CLP
11	Cyanide		Method CLP
12	Total Organic Carbon		Method 9040
13	Total Organic Halide		Method 9020A

ANALYSES REQUESTED (Cont.)

14	Gross Alpha/Beta		Method ITAS-RD-3222
	Gamma Spectroscopy		Method ITAS-RD-3219
	Uranium 234, 235, 238		Method ITAS-RD-3234
	Plutonium 238, 239/240		Method ITAS-RD-3209
	Americium 241, Curium 244		Method ITAS-RD-3302
	Strontium 89/90		Method ITAS-RD-3204
15	Technetium 99		Method ITAS-IT-RS-0001
16	Tritium		Method ITAS-RD-3205
	Carbon-14		Method ITAS-RD-3247
17	Metals:	ICP	Method CLP Filtered
		Arsenic	Method CLP Filtered
		Lead	Method CLP Filtered
		Selenium	Method CLP Filtered
		Thallium	Method CLP Filtered
		Mercury	Method CLP Filtered
18	Volatile Organics (TRIP)		Method CLP

ANALYSES REQUESTED (Cont.)

Sample vs. Analysis Requested

Sample ID	Date Collected by WHC	Date Rec'd by Lab	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
BOBMV2	5/10/94	5/11/94	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
BOBMV3	5/10/94	5/11/94																	X	
BOBMV4	5/10/94	5/11/94																		X
BOBMR0	5/11/94	5/12/94	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
BOBMR1	5/11/94	5/12/94																	X	
BOBMR2	5/11/94	5/12/94																		X
BOBMR8	5/11/94	5/12/94	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
BOBMR9	5/11/94	5/12/94																	X	
BOBMS0	5/11/94	5/12/94																		X
BOBMT8	5/12/94	5/13/94	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
BOBMT9	5/12/94	5/13/94																	X	
BOBMV0	5/12/94	5/13/94																		X
BOBMT0	5/12/94	5/13/94	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
BOBMT1	5/12/94	5/13/94																	X	
BOBMT2	5/12/94	5/13/94																		X
BOBMW0	5/19/94	5/20/94	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
BOBMW1	5/19/94	5/20/94																	X	
BOBMW2	5/19/94	5/20/94																		X
BOBMP4	5/18/94	5/20/94	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
BOBMP5	5/18/94	5/20/94																	X	
BOBMP6	5/18/94	5/20/94																		X

9613496.0267

DATA QUALITY OBJECTIVES

The data quality objectives for 100-FR-3 Groundwater Operable Unit are specified in the Remedial Investigation/Feasibility Study Work Plan for the 100-FR-3 Groundwater Operable Unit, DOE/RL-91-53, Rev. 0. Precision, accuracy, and detection limit requirements for the project have been derived from the Third Edition of SW-846 (EPA, 1992). Maximum holding times are listed in the 3rd Edition, Final Update I of SW-846 (EPA, July 1992).

The primary objective of the data validation effort was to ensure these data quality objectives were met, and that the data are usable and defensible. This was accomplished through a detailed examination of the data package to recreate the analytical process and verify that proper and acceptable analytical techniques had been applied. The data package was checked for correct submission of required deliverables, correct transcription of raw data to the summary forms, and for proper calculation of a number of parameters.

Precision.	Goals for precision were met.
Accuracy.	Goals for accuracy were met with the exception of those items discussed under "**MINOR DEFICIENCIES**".
Sample Result Verification.	All sample results were supported in the raw data.
Detection Limits.	Detection limit goals were met for all samples except BOBMR8. The MDA for Fe-59 was not met.
Completeness.	The data package was 99% complete for the requested analyses.

Data qualifiers are assigned to any results that have been determined to be deficient. These are discussed below.

MAJOR DEFICIENCIES (REJECTED DATA)

The following major deficiencies resulted in the qualification of the results as unusable.

- The holding time for phosphate by IC was exceeded by more than two times the limit. All sample results were qualified as unusable (UR).

MINOR DEFICIENCIES

The following minor deficiencies were discovered. These minor shortcomings are not expected to significantly affect the overall quality of the data.

MINOR DEFICIENCIES (Cont.)

VOLATILES

- Acetone and methylene chloride were found in the method blank for samples BOBMV2, BOBMV4, BOBMR2, BOBMR8, BOBMS0, BOBMT0, BOBMV0 and BOBMT8. The sample results, which were less than ten times the blank result, were qualified as undetected (U/10U).

- Acetone was found in the method blank for samples BOBMP4, BOBMP6, BOBMW0, BOBMR0, BOBMT2 and BOBMW2. The sample results, which were less than ten times the blank result, were qualified as undetected (10U).

SEMIVOLATILES

- No deficiencies were observed.

PESTICIDES/PCBS

- No deficiencies were observed.

METALS

- Copper was detected in the calibration blank at a negative concentration with sample results non-detect for BOBMV2, -MR0, -MR1, -MR8, -MR9, -MT0, -MT8, -MT9, -MP4, -MW0 and -MW1. The sample results were qualified as estimated (UJ).

- Copper was detected in the preparation blank at a negative concentration with sample results less than ten times the blank for BOBMV3, -MT1 and -MP5. The samples were qualified as estimated (J/BJ).

- Potassium was detected in the calibration blank at a negative concentration with sample results less than two times the blank for BOBMR0, -MR9, -MT0, MP4 and MP5. The sample results were qualified as estimated (J/BJ).

- Potassium was detected in the calibration blank at a negative concentration with sample results non-detect for BOBMR1 and -MR8. The sample results were qualified as estimated (UJ).

MINOR DEFICIENCIES (Cont.)

METALS (Cont.)

- Iron was detected in the calibration blank at a negative concentration with sample results non-detect for BOBMV2, -MV3, -MR0, -MR1, -MR9, -MT0, -MT1 and -MT8. The sample results were qualified as estimated (UJ).

- Iron was detected in the preparation blank at a positive concentration with sample results less than five times the blank for BOBMR8, -MT9 and -MW1. The samples were qualified as undetected (U).

- Zinc was detected in the preparation blank at a negative concentration with sample results less than five times the blank for BOBMV2, -MR0, -MR1, -MR8, -MR9, -MT0, -MT9 and -MP5. The samples were qualified as undetected (U).

- The matrix spike recovery of selenium was less than 75%. Samples BOBMV3, -MV2, -MR1, -MR9, -MT1, -MT9, -MP5 and -MW1 were qualified as estimated (UJ/BJ).

- The analytical spike recoveries for selenium were less than 85% in samples BOBMV3, -MR0, -MR1, -MR8, -MR9, -MT0, -MT1, -MP4, -MP5, -MW0 and -MW1. The sample results were qualified as estimated (UJ/BJ).

- The analytical spike recoveries for lead were less than 85% in samples BOBMT0, -MT1, -MT8, -MT9, -MV2, -MW0 and -MW1. The sample results were qualified as estimated (UJ/BJ).

GENERAL CHEMISTRY

- The holding time for pH was exceeded by more than two times the limit. All sample results were qualified as estimated (J).

- The holding time for the TDS analysis of BOBMP4 was exceeded by less than two times the limit. The result was qualified estimated (J).

RADIOCHEMISTRY

- No deficiencies were observed.

COMMENTS

Radiochemistry

- The expected value for the U-235 spike was not calculated correctly. The Form I was edited by the validator.
- The MDA for Fe-59 (gamma scan) was not met for BOBMR8. No qualifier is necessary.

9613996.0270

REFERENCES

EPA July 1992, *Test Methods for Evaluating Solid Waste (SW-846)*, Third Edition; U.S. Environmental Protection Agency, Washington, D.C.

WHC 1993, *Data Validation Procedures for Chemical Analyses*, WHC-SD-EN-SPP-002, Rev. 2, Westinghouse Hanford Company, Richland, Washington.

WHC 1993, *Data Validation Procedures for Radiochemical Analyses*, WHC-SD-EN-SPP-001, Rev. 1, Westinghouse Hanford Company, Richland, Washington.

DOE 1992, *Remedial Investigation/Feasibility Study Work Plan for the 100-F-3 Operable Unit*, DOE/RL-91-53, Rev. 0, Department of Energy, Hanford Site, Richland, Washington.

DATA VALIDATION APPLIED 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 sample 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 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 are 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 application (i.e., usable for decision making purposes).

N- Indicates presumptive evidence of a compound. The data may not be valid for some specific applications (i.e., usable for decision making purposes).

LABORATORY APPLIED QUALIFIERS

Qualifiers which may be applied by the laboratory in compliance with applicable requirements are as follows.

Organic Data Qualifiers

U- Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the sample quantitation limit corrected for sample dilution and moisture content by the laboratory.

J- Indicates an estimated value. This flag is used when estimating concentrations of tentatively identified compounds (TICs) or when the presence of a TCL compound is confirmed at a concentration of less than the CRQL but greater than the IDL.

N- Indicates presumptive evidence of a compound. This flag is used only by the laboratory for TIC results when the identification is based on a mass spectral library search.

P- This flag is used for pesticide/Aroclor target analytes when there is greater than 25% difference for detected values between the quantitation and confirmation GC columns. The lower of the two concentrations is reported on the report form and the result is flagged with a "P".

C- This flag applies to pesticide results where the identification has been confirmed by GC/MS. This flag should not be used by the laboratory if GC/MS confirmation was attempted but unsuccessful, in which case, the laboratory should use an "X" flag as defined below. The "X" flag is then defined in the SDG narrative.

B- This flag applies to results in which the analyte was detected in both the sample and the associated blank. The combination of the "B" flag with the "U" flag ("BU" or "UB") is expressly prohibited in the analytical SOW.

E- This flag identifies compounds whose concentrations exceed the calibrated range of the GC/MS instrument.

D- This flag identifies compounds identified in an analysis at a secondary dilution factor.

A- Indicates a TIC which is a suspected aldol-condensate product.

X- This is a non-specific flag used to properly define the results. If used, this flag must be properly defined within the body of the SDG.

LABORATORY APPLIED QUALIFIERS

Inorganic Qualifiers

U- Indicates the analyte was analyzed for but not detected in the sample.

B- Indicates the analyte concentration is less than the CRDL but greater than the IDL.

E- Indicates the value reported is estimated due to the presence of interference.

M- Indicates duplicate injection precision criteria were not met during graphite furnace (GFAA) analysis.

N- Indicates spiked sample recovery was not within the control limits.

S- Indicates the reported value was determined by the Method of Standard Additions (MSA).

W- Indicates post-digestion spike for GFAA analysis is outside control limits and the sample absorbance is less than 50% of the spike absorbance.

*- Indicates duplicate analysis was not within control limits.

+- Indicates the correlation coefficient (r) for the MSA was less than 0.995.

9613496.0274

Data Qualification Summary

VOLATILES QUALIFICATION SUMMARY

ANALYTE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
Acetone	U	MR2, MV4, MP6, MS0	BLANKS	Blank contamination.
Acetone	U	MP4, MR0, MR8, MT0, MT2, MT8, MV0, MW2, MV2, MW0	BLANKS	Blank contamination. Result adjusted upward to CRQL (10ug/L).
Methylene Chloride	U	MV2	BLANKS	Blank contamination.
Methylene Chloride	U	MP6, MR2, MR8, MS0, MT0, MT2, MT8, MV0, MV4	BLANKS	Blank contamination. Result adjusted upward to CRQL (10ug/L).

SEMIVOLATILES QUALIFICATION SUMMARY

ANALYTE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
NONE	N/A	NONE	N/A	N/A

PESTICIDES/PCBS QUALIFICATION SUMMARY

ANALYTE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
NONE	N/A	NONE	N/A	N/A

entered by: M
date: 9-30-94

40266QLS.XLS, Qualification Summary

checked by: BM
date: 10-3-9

INORGANICS QUALIFICATION SUMMARY

ANALYTE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
Copper	J/BJ	MV3, MT1, MP5	BLANK	Prep blank negative.
Copper	UJ	MV2, MR0, MR1, MR8, MR9, MT0, MT8, MT9, MP4, MW0, MW1	BLANK	Calibration blank(s) negative.
Iron	U	MR8, MT9, MW1	BLANK	Prep blank positive.
Iron	UJ	MV3, MR9, MT0, MT1	BLANK	Calibration blank(s) negative.
Iron	UJ	MV2, MR0, MR1, MT8	BLANK	Prep blank positive and calibration blank(s) negative.
Potassium	J/BJ	MR0, MR9, MT0, MP4, MP5	BLANK	Calibration blank(s) negative.
Potassium	UJ	MR1, MR8	BLANK	Calibration blank(s) negative.
Zinc	U	MV2, MR0, MR1, MR8, MR9, MT0, MT9, MP5,	BLANK	Prep blank positive.
Selenium	BJ/UJ	MV3,MR1,MR9,MT1,MT9,MP5 MW1,MV2	ACCURACY	Matrix spike recovery < 75%
Selenium	BJ/UJ	MV3,MR0,MR1,MR8,MR9,MT0,MT1 MP4,MP5,MW0,MW1	ACCURACY	Analytical spike recovery < 85%
Lead	BJ/UJ	MT0,MT1,MT8,MT9,MW0,MW1 MV2	ACCURACY	Analytical spike recovery < 85%

GENERAL CHEMISTRY QUALIFICATION SUMMARY

ANALYTE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
Phosphate	UR	ALL	HOLD TIME	Holding time exceeded by > than 2 times.
pH	J	ALL	HOLD TIME	Holding time exceeded by > than 2 times.
TDS	J	BOBMP4	HOLD TIME	Holding time exceeded by < than 2 times.

RADIOCHEMISTRY QUALIFICATION SUMMARY

ANALYTE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
NONE	N/A	NONE	N/A	N/A

entered by: WJC
date: 10-4-94

40266QLS.XLS, Qualification Summary

checked by:
date: 10-4-

9613496.0277

Data Summary Tables

9613496.0278

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.66		HEIS #:	B0BMP4		B0BMP6		B0BMR0		B0BMR2	
		Date:	18-May-94		18-May-94		11-May-94		11-May-94	
		Matrix:	WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	U	10	U	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U	10	U	10	U
Methylene Chloride	75-09-2	µg/L	10	U	1	J	10	U	10	U
Acetone	67-64-1	µg/L	10	U	10	U	10	U	14	U
Carbon Disulfide	75-15-0	µg/L	10	U	10	U	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U	10	U	10	U
1,2-Dichloroethene (total)	540-59-0	µg/L	10	U	10	U	10	U	10	U
Chloroform	67-66-3	µg/L	10	U	10	U	10	U	10	U
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	10	U	10	U	2	J
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	U	10	U	10	U
Carbon Tetrachloride	56-23-5	µg/L	10	U	10	U	10	U	10	U
Bromodichloromethane	75-27-4	µg/L	10	U	10	U	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U	10	U	10	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	10	U	10	U	10	U	10	U
Trichloroethene	79-01-6	µg/L	10	U	10	U	10	U	10	U
Dibromochloromethane	124-48-1	µg/L	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U	10	U	10	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	10	U	10	U	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U	10	U	10	U
4-Methyyl-2-Pentanone	110-75-8	µg/L	10	U	10	U	10	U	10	U
2-Hexanone	591-78-6	µg/L	10	U	10	U	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	U	10	U	10	U
Toluene	108-88-3	µg/L	10	U	10	U	10	U	10	U
Chlorobenzene	108-90-7	µg/L	10	U	10	U	10	U	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U	10	U	10	U
Xylene (Total)	1330-20-7	µg/L	10	U	10	U	10	U	10	U

entered by: BM
date: 9-17-94

shaded areas show changes
by validator ITC062

checked by: BM
date: 9-17-94
mo 9-20-94

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.66		HEIS #:	B0BMR8		B0BMS0		B0BMT0		B0BMT2	
		Date:	11-May-94		11-May-94		12-May-94		12-May-94	
		Matrix:	WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	U	10	U	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U	10	U	10	U
Methylene Chloride	75-09-2	µg/L	*10*	*U*	*10*	*U*	*10*	*U*	1	J
Acetone	67-64-1	µg/L	*10*	*U*	14	*U*	*10*	*U*	*10*	*U*
Carbon Disulfide	75-15-0	µg/L	10	U	10	U	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U	10	U	10	U
1,2-Dichloroethene (total)	540-59-0	µg/L	10	U	10	U	10	U	10	U
Chloroform	67-66-3	µg/L	10	U	10	U	10	U	10	U
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	2	J	10	U	10	U
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	U	10	U	10	U
Carbon Tetrachloride	56-23-5	µg/L	10	U	2	J	10	U	10	U
Bromodichloromethane	75-27-4	µg/L	10	U	10	U	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U	10	U	10	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	10	U	10	U	10	U	10	U
Trichloroethene	79-01-6	µg/L	10	U	10	U	10	U	10	U
Dibromochloromethane	124-48-1	µg/L	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U	10	U	10	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	10	U	10	U	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U	10	U	10	U
4-Methyyl-2-Pentanone	110-75-8	µg/L	10	U	10	U	10	U	10	U
2-Hexanone	591-78-6	µg/L	10	U	10	U	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	U	10	U	10	U
Toluene	108-88-3	µg/L	10	U	10	U	10	U	10	U
Chlorobenzene	108-90-7	µg/L	10	U	10	U	10	U	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U	10	U	10	U
Xylene (Total)	1330-20-7	µg/L	10	U	10	U	10	U	10	U

entered by: BM
date: 9-17-94

shaded areas show changes
by validator ITC062

checked by: BM
date: 9-17-94

9-20-94

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.66		HEIS #:	B0BMT8		B0BMV0		B0BMV2		B0BMV4	
		Date:	12-May-94		12-May-94		10-May-94		10-May-94	
		Matrix:	WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	U	10	U	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U	10	U	10	U
Methylene Chloride	75-09-2	µg/L	*10*	*U*	*10*	*U*	10	*U*	*10*	*U*
Acetone	67-64-1	µg/L	*10*	*U*	*10*	*U*	*10*	*U*	14	*U*
Carbon Disulfide	75-15-0	µg/L	10	U	10	U	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U	10	U	10	U
1,2-Dichloroethene (total)	540-59-0	µg/L	10	U	10	U	10	U	10	U
Chloroform	67-66-3	µg/L	10	U	10	U	10	U	31	
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	10	U	10	U	2	J
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	U	10	U	10	U
Carbon Tetrachloride	56-23-5	µg/L	20		1	J	10	U	36	
Bromodichloromethane	75-27-4	µg/L	10	U	10	U	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U	10	U	10	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	10	U	10	U	10	U	10	U
Trichloroethene	79-01-6	µg/L	10	U	10	U	20		10	U
Dibromochloromethane	124-48-1	µg/L	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U	10	U	10	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	10	U	10	U	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U	10	U	10	U
4-Methyyl-2-Pentanone	110-75-8	µg/L	10	U	10	U	10	U	10	U
2-Hexanone	591-78-6	µg/L	10	U	10	U	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	10	U	10	U	10	U	4	J
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	U	10	U	10	U
Toluene	108-88-3	µg/L	10	U	10	U	10	U	10	U
Chlorobenzene	108-90-7	µg/L	10	U	10	U	10	U	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U	10	U	10	U
Xylene (Total)	1330-20-7	µg/L	10	U	10	U	10	U	10	U

entered by: BM
date: 9-17-94

shaded areas show changes
by validator ITC062

checked by: BM
date: 9-17-
MW 9-20-94

9613496.0281

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.66		HEIS #:	B0BMW0		B0BMW2	
		Date:	19-May-94		12-May-94	
		Matrix:	WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U
Methylene Chloride	75-09-2	µg/L	10	U	1	J
Acetone	67-64-1	µg/L	10	U	10	U
Carbon Disulfide	75-15-0	µg/L	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U
1,2-Dichloroethene (total)	540-59-0	µg/L	10	U	10	U
Chloroform	67-66-3	µg/L	10	U	10	U
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	10	U
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	U
Carbon Tetrachloride	56-23-5	µg/L	10	U	10	U
Bromodichloromethane	75-27-4	µg/L	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	10	U	10	U
Trichloroethene	79-01-6	µg/L	3	J	10	U
Dibromochloromethane	124-48-1	µg/L	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U
4-Methyyl-2-Pentanone	110-75-8	µg/L	10	U	10	U
2-Hexanone	591-78-6	µg/L	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	U
Toluene	108-88-3	µg/L	10	U	10	U
Chlorobenzene	108-90-7	µg/L	10	U	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U
Xylene (Total)	1330-20-7	µg/L	10	U	10	U

entered by: BM
date: 9-17-94

shaded areas show changes
by validator ITC062

checked by: BM
date: 9-17-9

000019 9-20-94

9613496.0282

SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.66		HEIS #:	BOBMP4		BOBMR0		BOBMR8		BOBMT0		BOBMT8	
		Date:	18-May-94		11-May-94		11-May-94		12-May-94		12-May-94	
		Matrix:	WATER		WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Phenol	108-95-2	µg/L	10	U	10	U	10	U	10	U	10	U
bis (2-Chloroethyl) ether	111-44-4	µg/L	10	U	10	U	10	U	10	U	10	U
2-Chlorophenol	95-57-8	µg/L	10	U	10	U	10	U	10	U	10	U
1,3-Dichlorobenzene	541-73-1	µg/L	10	U	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene	106-46-7	µg/L	10	U	10	U	10	U	10	U	10	U
1,2-Dichlorobenzene	95-50-1	µg/L	10	U	10	U	10	U	10	U	10	U
2-Methylphenol	95-48-7	µg/L	10	U	10	U	10	U	10	U	10	U
2,2'-oxybis (1-Chloropropane)	108-60-1	µg/L	10	U	10	U	10	U	10	U	10	U
4-Methylphenol	106-44-5	µg/L	10	U	10	U	10	U	10	U	10	U
N-Nitroso-Di-n-propylamine	621-64-7	µg/L	10	U	10	U	10	U	10	U	10	U
Hexachloroethane	97-72-1	µg/L	10	U	10	U	10	U	10	U	10	U
Nitrobenzene	98-95-3	µg/L	10	U	10	U	10	U	10	U	10	U
Isophorone	78-59-1	µg/L	10	U	10	U	10	U	10	U	10	U
2-Nitrophenol	88-75-5	µg/L	10	U	10	U	10	U	10	U	10	U
2,4-Dimethylphenol	105-67-9	µg/L	10	U	10	U	10	U	10	U	10	U
bis (2-chloroethoxy) methane	111-91-1	µg/L	10	U	10	U	10	U	10	U	10	U
2,4-Dichlorophenol	120-83-2	µg/L	10	U	10	U	10	U	10	U	10	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	10	U	10	U	10	U	10	U	10	U
Naphthalene	91-20-3	µg/L	10	U	10	U	10	U	10	U	10	U
4-Chloroaniline	106-47-8	µg/L	10	U	10	U	10	U	10	U	10	U
Hexachlorobutadiene	87-68-3	µg/L	10	U	10	U	10	U	10	U	10	U
4-Chloro-3-methylphenol	59-50-7	µg/L	10	U	10	U	10	U	10	U	10	U
2-Methylnaphthalene	91-57-6	µg/L	10	U	10	U	10	U	10	U	10	U
Hexachlorocyclopentadiene	77-47-4	µg/L	10	U	10	U	10	U	10	U	10	U
2,4,6-Trichlorophenol	88-06-2	µg/L	10	U	10	U	10	U	10	U	10	U
2,4,5-Trichlorophenol	95-95-4	µg/L	25	U	25	U	25	U	25	U	25	U
2-Chloronaphthalene	91-58-7	µg/L	10	U	10	U	10	U	10	U	10	U
2-Nitroaniline	88-74-4	µg/L	25	U	25	U	25	U	25	U	25	U
Dimethylphthalate	131-11-3	µg/L	10	U	10	U	10	U	10	U	10	U
Acenaphthylene	208-96-8	µg/L	10	U	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	121-14-2	µg/L	10	U	10	U	10	U	10	U	10	U
3-Nitroaniline	99-09-2	µg/L	25	U	25	U	25	U	25	U	25	U
Acenaphthene	83-32-9	µg/L	10	U	10	U	10	U	10	U	10	U
2,4-Dinitrophenol	51-28-5	µg/L	25	U	25	U	25	U	25	U	25	U
Dibenzofuran	132-64-9	µg/L	25	U	25	U	25	U	25	U	25	U
Dibenzofuran	132-64-9	µg/L	10	U	10	U	10	U	10	U	10	U
2,4-Dinitrotoluene	121-14-2	µg/L	10	U	10	U	10	U	10	U	10	U
Diethylphthalate	84-66-2	µg/L	10	U	10	U	10	U	10	U	10	U
4-Chlorophenyl-phenylether	7005-72-3	µg/L	10	U	10	U	10	U	10	U	10	U
Fluorene	86-73-7	µg/L	10	U	10	U	10	U	10	U	10	U
4-Nitroaniline	100-01-6	µg/L	25	U	25	U	25	U	25	U	25	U
4,6-Dinitro-2-Methylphenol	534-52-1	µg/L	25	U	25	U	25	U	25	U	25	U
N-Nitrosodiphenylamine (1)	86-30-6	µg/L	10	U	10	U	10	U	10	U	10	U
4-Bromophyl-phenylether	101-55-3	µg/L	10	U	10	U	10	U	10	U	10	U
Hexachlorobenzene	118-74-1	µg/L	10	U	10	U	10	U	10	U	10	U
Pentachlorophenol	87-86-5	µg/L	25	U	25	U	25	U	25	U	25	U
Phenanthrene	85-01-8	µg/L	10	U	10	U	10	U	10	U	10	U
Anthracene	120-12-7	µg/L	10	U	10	U	10	U	10	U	10	U
Carbazole	85-74-8	µg/L	10	U	10	U	10	U	10	U	10	U
Di-n-Butylphthalate	84-74-2	µg/L	10	U	10	U	10	U	10	U	10	U
Fluroanthene	206-44-0	µg/L	10	U	10	U	10	U	10	U	10	U
Pyrene	129-00-0	µg/L	10	U	10	U	10	U	10	U	10	U
Butylebenzylphthalate	85-68-7	µg/L	10	U	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	91-94-1	µg/L	10	U	10	U	10	U	10	U	10	U
Benzo (a) Anthracene	56-55-3	µg/L	10	U	10	U	10	U	10	U	10	U
Chrysene	218-01-9	µg/L	10	U	10	U	10	U	10	U	10	U
bis (2-Ethylhexyl) Phthalate	117-81-7	µg/L	10	U	5	J	10	U	10	U	10	U
Di-n-Octyle Phthalate	117-81-7	µg/L	10	U	10	U	10	U	10	U	10	U
Benzo (b) Fluoranthene	205-99-2	µg/L	10	U	10	U	10	U	10	U	10	U
Benzo (k) Fluoranthene	207-08-9	µg/L	10	U	10	U	10	U	10	U	10	U
Benzo (k) Pyrene	50-32-8	µg/L	10	U	10	U	10	U	10	U	10	U
Indeno (1,2,3-cd) Pyrene	193-39-5	µg/L	10	U	10	U	10	U	10	U	10	U
Dibenze (a,h) Anthracene	53-70-3	µg/L	10	U	10	U	10	U	10	U	10	U
Benzo (g,h,i) Perylene	191-247-2	µg/L	10	U	10	U	10	U	10	U	10	U

entered by: BM date: 9-17-94 shaded areas indicate changes by the validator ITC062 checked by: BM date: 9-17-94 9-20-94

000020

9613496.0283

SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.66		HEIS #:	B0BMV2		B0BMW0	
		Date:	6-May-94		19-May-94	
		Matrix:	WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q
Phenol	108-95-2	µg/L	10	U	10	U
bis (2-Chloroethyl) ether	111-44-4	µg/L	10	U	10	U
2-Chlorophenol	95-57-8	µg/L	10	U	10	U
1,3-Dichlorobenzene	541-73-1	µg/L	10	U	10	U
1,4-Dichlorobenzene	106-46-7	µg/L	10	U	10	U
1,2-Dichlorobenzene	95-50-1	µg/L	10	U	10	U
2-Methylphenol	95-48-7	µg/L	10	U	10	U
2,2'-oxybis (1-Chloropropane)	108-60-1	µg/L	10	U	10	U
4-Methylphenol	106-44-5	µg/L	10	U	10	U
N-Nitroso-Di-n-propylamine	621-64-7	µg/L	10	U	10	U
Hexachloroethane	97-72-1	µg/L	10	U	10	U
Nitrobenzene	98-95-3	µg/L	10	U	10	U
Isophorone	78-59-1	µg/L	10	U	10	U
2-Nitrophenol	88-75-5	µg/L	10	U	10	U
2,4-Dimethylphenol	105-67-9	µg/L	10	U	10	U
bis (2-chloroethoxy) methane	111-91-1	µg/L	10	U	10	U
2,4-Dichlorophenol	120-83-2	µg/L	10	U	10	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	10	U	10	U
Naphthalene	91-20-3	µg/L	10	U	10	U
4-Chloroaniline	106-47-8	µg/L	10	U	10	U
Hexachlorobutadiene	87-68-3	µg/L	10	U	10	U
4-Chloro-3-methylphenol	59-50-7	µg/L	10	U	10	U
2-Methylnaphthalene	91-57-6	µg/L	10	U	10	U
Hexachlorocyclopentadiene	77-47-4	µg/L	10	U	10	U
2,4,6-Trichlorophenol	88-06-2	µg/L	10	U	10	U
2,4,5-Trichlorophenol	95-95-4	µg/L	25	U	25	U
2-Chloronaphthalene	91-58-7	µg/L	10	U	10	U
2-Nitroaniline	88-74-4	µg/L	25	U	25	U
Dimethylphthalate	131-11-3	µg/L	10	U	10	U
Acenaphthylene	208-96-8	µg/L	10	U	10	U
2,6-Dinitrotoluene	121-14-2	µg/L	10	U	10	U
3-Nitroaniline	99-09-2	µg/L	25	U	25	U
Acenaphthene	83-32-9	µg/L	10	U	10	U
2,4-Dinitrophenol	51-28-5	µg/L	25	U	25	U
Dibenzofuran	132-64-9	µg/L	25	U	25	U
Dibenzofuran	132-64-9	µg/L	10	U	10	U
2,4-Dinitrotoluene	121-14-2	µg/L	10	U	10	U
Diethylphthalate	84-66-2	µg/L	10	U	10	U
4-Chlorophenyl-phenylether	7005-72-3	µg/L	10	U	10	U
Fluorene	86-73-7	µg/L	10	U	10	U
4-Nitroaniline	100-01-6	µg/L	25	U	25	U
4,6-Dinitro-2-Methylphenol	534-52-1	µg/L	25	U	25	U
N-Nitrosodiphenylamine (1)	86-30-6	µg/L	10	U	10	U
4-Bromophyl-phenylether	101-55-3	µg/L	10	U	10	U
Hexachlorobenzene	118-74-1	µg/L	10	U	10	U
Pentachlorophenol	87-86-5	µg/L	25	U	25	U
Phenanthrene	85-01-8	µg/L	10	U	10	U
Anthracene	120-12-7	µg/L	10	U	10	U
Carbazole	85-74-8	µg/L	10	U	10	U
Di-n-Butylphthalate	84-74-2	µg/L	10	U	10	U
Fluroanthene	206-44-0	µg/L	10	U	10	U
Pyrene	129-00-0	µg/L	10	U	10	U
Butylebenzylphthalate	85-68-7	µg/L	10	U	10	U
3,3'-Dichlorobenzidine	91-94-1	µg/L	10	U	10	U
Benzo (a) Anthracene	56-55-3	µg/L	10	U	10	U
Chrysene	218-01-9	µg/L	10	U	10	U
bis (2-Ethylhexyl) Phthalate	117-81-7	µg/L	2	J	10	U
Di-n-Octyle Phthalate	117-81-7	µg/L	10	U	10	U
Benzo (b) Fluoranthene	205-99-2	µg/L	10	U	10	U
Benzo (k) Fluoranthene	207-08-9	µg/L	10	U	10	U
Benzo (k) Pyrene	50-32-8	µg/L	10	U	10	U
Indeno (1,2,3-cd) Pyrene	193-39-5	µg/L	10	U	10	U
Dibenze (a,h) Anthracene	53-70-3	µg/L	10	U	10	U
Benzo (g,h,i) Perylene	191-247-2	µg/L	10	U	10	U

entered by: BM date: 9-17-94 shaded areas indicate changes by the validator ITC062 checked by: BM date: 9-17-94 9-20-94

PESTICIDE/PCB DATA SUMMARY TABLE

FILE #:VW402.66		HEIS #:	B0BMP4		B0BMR0		B0BMR8		B0BMT0	
		Date:	18-May-94		11-May-94		11-May-94		12-May-94	
		Matrix:	WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q
alpha-BHC	319-84-6	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
beta-BHC	319-85-7	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
delta-BHC	319-86-8	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
gamma-BHC (Lindane)	58-89-9	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
Heptachlor	76-44-8	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
Aldrin	309-00-2	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
Heptachlor epoxide	1024-57-3	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
Endosulfan I	959-98-8	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
Dieldrin	60-57-1	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
4,4'-DDE	72-55-9	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
Endrin	72-20-8	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
Endosulfan II	33213-65-9	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
4,4'-DDD	72-54-8	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
Endosulfan sulfate	1031-07-8	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
4,4'-DDT	50-29-3	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
Methoxychlor	72-43-5	µg/L	0.05	U	0.05	U	0.50	U	0.50	U
Endrin ketone	53494-70-5	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
Endrin aldehyde	7421-93-4	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
alpha-Chlordane	5103-71-9	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
gamma-Chlordane	51003-74-2	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
Toxaphene	8001-35-2	µg/L	5.0	U	5.0	U	5.0	U	5.0	U
Aroclor-1016	12674-11-2	µg/L	1.0	U	1.0	U	1.0	U	1.0	U
Aroclor-1221	11104-28-2	µg/L	2.0	U	2.0	U	2.0	U	2.0	U
Aroclor-1232	11141-16-5	µg/L	1.0	U	1.0	U	1.0	U	1.0	U
Aroclor-1242	53469-21-9	µg/L	1.0	U	1.0	U	1.0	U	1.0	U
Aroclor-1248	12672-29-6	µg/L	1.0	U	1.0	U	1.0	U	1.0	U
Aroclor-1254	11097-69-1	µg/L	1.0	U	1.0	U	1.0	U	1.0	U
Aroclor-1260	11096-82-5	µg/L	1.0	U	1.0	U	1.0	U	1.0	U

entered by: JMM
date: 9/20/94

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40266DST.XLS

checked by: [illegible]
date: 9-20

PESTICIDE/PCB DATA SUMMARY TABLE

FILE #:VW402.66		HEIS #:	B0BMT8		B0BMV2		B0BMW0	
		Date:	12-May-94		6-May-94		19-May-94	
		Matrix:	WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q-	Results	Q	Results	Q
alpha-BHC	319-84-6	µg/L	0.050	U	0.050	U	0.050	U
beta-BHC	319-85-7	µg/L	0.050	U	0.050	U	0.050	U
delta-BHC	319-86-8	µg/L	0.050	U	0.050	U	0.050	U
gamma-BHC (Lindane)	58-89-9	µg/L	0.050	U	0.050	U	0.050	U
Heptachlor	76-44-8	µg/L	0.050	U	0.050	U	0.050	U
Aldrin	309-00-2	µg/L	0.050	U	0.050	U	0.050	U
Heptachlor epoxide	1024-57-3	µg/L	0.050	U	0.050	U	0.050	U
Endosulfan I	959-98-8	µg/L	0.050	U	0.050	U	0.050	U
Dieldrin	60-57-1	µg/L	0.10	U	0.10	U	0.10	U
4,4'-DDE	72-55-9	µg/L	0.10	U	0.10	U	0.10	U
Endrin	72-20-8	µg/L	0.10	U	0.10	U	0.10	U
Endosulfan II	33213-65-9	µg/L	0.10	U	0.10	U	0.10	U
4,4'-DDD	72-54-8	µg/L	0.10	U	0.10	U	0.10	U
Endosulfan sulfate	1031-07-8	µg/L	0.10	U	0.10	U	0.10	U
4,4'-DDT	50-29-3	µg/L	0.10	U	0.10	U	0.10	U
Methoxychlor	72-43-5	µg/L	0.50	U	0.50	U	0.50	U
Endrin ketone	53494-70-5	µg/L	0.10	U	0.10	U	0.10	U
Endrin aldehyde	7421-93-4	µg/L	0.10	U	0.10	U	0.10	U
alpha-Chlordane	5103-71-9	µg/L	0.050	U	0.050	U	0.050	U
gamma-Chlordane	51003-74-2	µg/L	0.050	U	0.050	U	0.050	U
Toxaphene	8001-35-2	µg/L	5.0	U	5.0	U	5.0	U
Aroclor-1016	12674-11-2	µg/L	1.0	U	1.0	U	1.0	U
Aroclor-1221	11104-28-2	µg/L	2.0	U	2.0	U	2.0	U
Aroclor-1232	11141-16-5	µg/L	1.0	U	1.0	U	1.0	U
Aroclor-1242	53469-21-9	µg/L	1.0	U	1.0	U	1.0	U
Aroclor-1248	12672-29-6	µg/L	1.0	U	1.0	U	1.0	U
Aroclor-1254	11097-69-1	µg/L	1.0	U	1.0	U	1.0	U
Aroclor-1260	11096-82-5	µg/L	1.0	U	1.0	U	1.0	U

entered by: gm
date: 9/20/94

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40266DST.XLS

checked by: [illegible]
date: 9-20-[illegible]

9613496.0286

METALS/CYANIDE DATA SUMMARY TABLE

FILE#:VW402.66		HEIS #:	B0BMV2		B0BMV3		B0BMR0		B0BMR1		B0BMR8		B0BMR9		B0BMT0	
		Date:	6-May-94		6-May-94		11-May-94		11-May-94		11-May-94		11-May-94		12-May-94	
		Matrix:	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Aluminum	7429-90-5	ug/L	40.0	U	40.0	U	40.0	U	40.0	U	40.0	U	40.0	U	40.0	U
Antimony	7440-36-0	ug/L	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Arsenic	7440-38-2	ug/L	9.1	B	6.5	B	2.0	U	2.0	U	2.0	U	2.0	U	2.1	B
Barium	7440-39-3	ug/L	44.0	B	42.3	B	20.7	B	19.3	B	14.2	B	17.8	B	25.1	B
Beryllium	7440-41-7	ug/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Cadmium	7440-43-9	ug/L	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Calcium	7440-70-2	ug/L	58500		57900		24200		23400		20400		25900		29600	
Chromium	7440-47-3	ug/L	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	11.8	
Cobalt	7440-48-4	ug/L	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U
Copper	7440-50-8	ug/L	10.0	UJ	46.7	J	10.0	UJ	10.0	UJ	10.0	UJ	10.0	UJ	10.0	UJ
Iron	7439-89-6	ug/L	23.8	UJ	10.0	UJ	12.2	UJ	13.1	UJ	35.8	U	10.0	UJ	10.0	UJ
Lead	7439-92-1	ug/L	2.0	UJ	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	UJ
Magnesium	7439-95-4	ug/L	18400		18000		4060	B	3860	B	3620	B	4580	B	3950	B
Manganese	7439-96-5	ug/L	2.0	U	2.0	U	2.0	U	2.0	U	2.4	B	2.0	U	2.0	U
Mercury	7439-97-6	ug/L	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	7440-02-0	ug/L	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U
Potassium	7440-09-7	ug/L	7180		7080		1330	BJ	1000	UJ	1000	UJ	1840	BJ	2410	BJ
Selenium	7782-49-2	ug/L	3.1	BJ	3.0	BJ	2.0	UJ	2.0	UJ	2.0	UJ	2.0	UJ	2.8	BJ
Silver	7440-22-4	ug/L	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Sodium	7440-23-5	ug/L	55300		54000		2200	B	2140	B	2730	B	3630	B	3560	B
Thallium	7440-28-0	ug/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Vanadium	7440-62-2	ug/L	17.6	B	17.8	B	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U
Zinc	7440-66-6	ug/L	11.1	U	5.0	U	5.7	U	8.6	U	5.6	U	5.5	U	9.0	U
Cyanide	5955-70-0	ug/L	10.0	U			10.0	U			10.0	U			10.0	U

FILE#:VW402.66		HEIS #:	B0BMT1		B0BMT8		B0BMT9		B0BMP4		B0BMP5		B0BMW0		B0BMW1	
		Date:	12-May-94		12-May-94		12-May-94		18-May-94		18-May-94		19-May-94		19-May-94	
		Matrix:	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Aluminum	7429-90-5	ug/L	40.0	U	40.0	U	40.0	U	40.0	U	3220		40.0	U	40.0	U
Antimony	7440-36-0	ug/L	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Arsenic	7440-38-2	ug/L	2.0	U	2.6	B	2.0	U	2.0	U	2.0	U	5.1	B	5.0	B
Barium	7440-39-3	ug/L	43.8	B	62.4	B	28.4	B	23.1	B	25.7	B	42.8	B	41.7	B
Beryllium	7440-41-7	ug/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Cadmium	7440-43-9	ug/L	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Calcium	7440-70-2	ug/L	79300		113000		32700		26200		31800		60400		58400	
Chromium	7440-47-3	ug/L	15.8		22.0		15.6		10.0	U	1710		10.0	U	10.0	U
Cobalt	7440-48-4	ug/L	10.0	U	10.0	U	10.0	U	10.0	U	10.7	B	10.0	U	10.0	U
Copper	7440-50-8	ug/L	29.9	J	10.0	UJ	10.0	UJ	10.0	UJ	20.4	BJ	10.0	UJ	10.0	UJ
Iron	7439-89-6	ug/L	10.0	UJ	27.2	UJ	37.4	U	182		5530		98.5	B	34.9	U
Lead	7439-92-1	ug/L	2.0	UJ	2.0	UJ	2.0	UJ	2.0	U	2.0	U	2.0	UJ	2.0	UJ
Magnesium	7439-95-4	ug/L	19000		25900		4420	B	4520	B	4500	B	20100		19500	
Manganese	7439-96-5	ug/L	2.0	U	2.0	U	2.0	U	5.3	B	111		16.2		13.5	B
Mercury	7439-97-6	ug/L	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	7440-02-0	ug/L	20.0	U	20.0	U	20.0	U	20.0	U	625		20.0	U	20.0	U
Potassium	7440-09-7	ug/L	5290		6290		3980	B	1540	BJ	1360	BJ	6870		6330	
Selenium	7782-49-2	ug/L	2.4	BJ	2.0	U	2.0	UJ	2.0	UJ	2.0	UJ	2.9	BJ	3.2	BJ
Silver	7440-22-4	ug/L	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Sodium	7440-23-5	ug/L	27000		38000		4150	B	3050	B	3070	B	70500		68200	
Thallium	7440-28-0	ug/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Vanadium	7440-62-2	ug/L	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U
Zinc	7440-66-6	ug/L	5.0	U	5.0	U	15.9	U	5.0	U	11.3	U	5.0	U	5.0	U
Cyanide	5955-70-0	ug/L			10.0	U			10.0	U			10.0	U		

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entered by: WTC date: 10-4-94

checked by: [illegible] date: 10-4-94

000024

GENERAL CHEMISTRY DATA SUMMARY TABLE

FILE #: VW 402.66		HEIS #:	B0BMV2		B0BMR8		B0BMR0	
		Date:	10-May-94		11-May-94		11-May-94	
		Matrix:	WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q
Fluoride	16984-48-8	mg/l	0.80		0.40	U	0.40	U
Chloride	16884-00-6	mg/l	16		1.5		1.2	
Phosphate	14265-44-2	mg/l	1.0	UR	1.0	UR	1.0	UR
Sulfate	14808-79-8	mg/l	74		13		13	
pH	207	pH units	7.52	J	7.72	J	7.40	J
Nitrite Nitrate	NO_2+NO_3-N	mg/l	18.3		0.45		0.31	
Sulfide	18496-25-8	mg/l	8		23		4	
Specific Conductivity	191	umhos/cm	716		172		186	
Total Organic Carbon	TOC	mg/l	2		1	U	1	U
Total Organic Halogen	C68	ug/L	22		20	U	20	U
Total Dis. Solids	TDS	mg/l	497		113		114	
Chemical Oxygen Demand	COD	mg/l	2		2		2	
Ammonia	7664-41-7	mg/l	1.35		0.1	U	0.1	
Alkalinity	ALKALINITY	mg/l	188		66		78	

FILE #: VW 402.66		HEIS #:	B0BMW0		B0BMT8		B0BMP4	
		Date:	19-May-94		12-May-94		18-May-94	
		Matrix:	WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q
Fluoride	16984-48-8	mg/l	0.88		0.40	U	0.40	U
Chloride	16884-00-6	mg/l	24		1.5		1.6	
Phosphate	14265-44-2	mg/l	1.0	UR	1.0	UR	1.0	UR
Sulfate	14808-79-8	mg/l	84		18		16	
pH	207	pH units	7.80	J	7.71	J	7.55	J
Nitrite Nitrate	NO_2+NO_3-N	mg/l	28.4		0.92		0.57	
Sulfide	18496-25-8	mg/l	8		6		6	
Specific Conductivity	191	umhos/cm	848		215		199	
Total Organic Carbon	TOC	mg/l	2		1	U	1	U
Total Organic Halogen	C68	ug/L	20	U	20	U	37	
Total Dis. Solids	TDS	mg/l	627		161		166	J
Chemical Oxygen Demand	COD	mg/l	6		1	U	1	
Ammonia	7664-41-7	mg/l	0.21		0.54		0.1	U
Alkalinity	ALKALINITY	mg/l	181		76		70	

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ITC062

entered by: gm
date: 9/20/94

checked by: [illegible]
date: 9-20-[illegible]

GENERAL CHEMISTRY DATA SUMMARY TABLE

FILE #: VW 402.66		HEIS #:	BOBMT0	
		Date:	12-May-94	
		Matrix:	WATER	
Constituent	CAS #	Units	Results	Q
Fluoride	16984-48-8	mg/l	0.40	U
Chloride	16884-00-6	mg/l	38	
Phosphate	14265-44-2	mg/l	1.0	UR
Sulfate	14808-79-8	mg/l	120	
pH	207	pH units	7.55	J
Nitrite Nitrate	NO_2+NO_3-N	mg/l	26	
Sulfide	18496-25-8	mg/l	4	
Specific Conductivity	191	umhos/cm	867	
Total Organic Carbon	TOC	mg/l	2	
Total Organic Halogen	C68	ug/L	20	U
Total Dis. Solids	TDS	mg/l	592	
Chemical Oxygen Demand	COD	mg/l	1	U
Ammonia	7664-41-7	mg/l	0.1	U
Alkalinity	ALKALINITY	mg/l	204	

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ITC062

entered by: Jm
date: 9/20/94

checked by: km
date: 9-20-9

RADIOCHEMICAL DATA SUMMARY TABLE

FILE #:VW402.66		HEIS #:	B0BMV2			B0BMR0		
		Date:	10-May-94			11-May-94		
Constituent		Matrix:	WATER			WATER		
	CAS #	Units	Results	Q	MDA	Results	Q	MDA
Gross Alpha	ALPHA	pCi/L	6.46		1.52	0.474	U	0.757
Gross Beta	BETA	pCi/L	8.19		2.88	8.58		2.98
Americium-241	14596-10-2	pCi/L	0.0829	U	0.174	-0.00346	U	0.174
Plutonium-238	13981-16-3	pCi/L	-0.0121	U	0.289	-0.0206	U	0.291
Plutonium-239/240	PU-239/240	pCi/L	-0.0482	U	0.414	-0.0103	U	0.246
Uranium 234	13966-29-5	pCi/L	3.28		0.411	0.476	U	0.573
Uranium 235	15117-96-1	pCi/L	0.255	U	0.303	-0.0441	U	0.488
Uranium 238DA	U-238	pCi/L	2.26		0.18	0.296	U	0.393
Strontium-90	10098-97-2	pCi/L	0.286	U	1.09	2.63		0.877
Carbon-14	14762-75-5	pCi/L	1.51	U	3.55	-1.13	U	3.55
Technetium-99	14133-76-7	pCi/L	2.43		2.1	2.63		2.1
Tritium	10028-17-8	pCi/L	380		246	-21.4	U	246
GAMMA SCAN								
Cobalt-58	13981-38-9	pCi/L	-0.249	U	8.17	6.39	U	12
Cobalt-60	10198-40-0	pCi/L	1.94	U	8.32	1.31	U	8.51
Cesium-137DA	10045-97-3	pCi/L	2.18	U	6.41	-2.81	U	8.37
Europium-152	14683-23-9	pCi/L	25.1	U	46.4	6.56	U	42.7
Europium-154	15585-10-1	pCi/L	7.47	U	28.1	18	U	29.6
Europium-155	14391-16-3	pCi/L	5.78	U	13.8	2.91	U	13.5
Iron-59	14596-12-4	pCi/L	-2.11	U	22.7	9.22	U	28.8

FILE #:VW402.66		HEIS #:	BOBMR8		
		Date:	11-May-94		
Constituent		Matrix:	WATER		
	CAS #	Units	Results	Q	MDA
Gross Alpha	ALPHA	pCi/L	0.379	U	0.941
Gross Beta	BETA	pCi/L	7.8		2.87
Americium-241	14596-10-2	pCi/L	0.0485	U	0.212
Plutonium-238	13981-16-3	pCi/L	0	U	0.175
Plutonium-239/240	PU-239/240	pCi/L	-0.0259	U	0.365
Uranium 234	13966-29-5	pCi/L	0.375	U	0.397
Uranium 235	15117-96-1	pCi/L	0.11	U	0.273
Uranium 238DA	U-238	pCi/L	0.334	U	0.337
Strontium-90	10098-97-2	pCi/L	3.76		0.835
Carbon-14	14762-75-5	pCi/L	-0.586	U	3.55
Technetium-99	14133-76-7	pCi/L	3.34		2.1
Tritium	10028-17-8	pCi/L	-110	U	246
GAMMA SCAN					
Cobalt-58	13981-38-9	pCi/L	3.11	U	10.3
Cobalt-60	10198-40-0	pCi/L	1.31	U	8.51
Cesium-137DA	10045-97-3	pCi/L	-6.75	U	7.96
Europium-152	14683-23-9	pCi/L	0.505	U	32.6
Europium-154	15585-10-1	pCi/L	-2.45	U	15.2
Europium-155	14391-16-3	pCi/L	1.69	U	15.3
Iron-59	14596-12-4	pCi/L	10.8	U	30.5

entered by: [illegible]
date: 9-30-94

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checked by: BM
date: 10-3-94

9613196.0290

RADIOCHEMICAL DATA SUMMARY TABLE

FILE #:VW402.66		HEIS #:	B0BMT8			B0BMT0		
		Date:	12-May-94			12-May-94		
Constituent		Matrix:	WATER			WATER		
	CAS #	Units	Results	Q	MDA	Results	Q	MDA
Gross Alpha	ALPHA	pCi/L	0.843	U	0.921	11.3		1.51
Gross Beta	BETA	pCi/L	4.04		2.86	11.7		2.84
Americium-241	14596-10-2	pCi/L	-0.00356	U	0.179	-0.0102	U	0.211
Plutonium-238	13981-16-3	pCi/L	-0.0133	U	0.317	0.0444	U	0.418
Plutonium-239/240	PU-239/240	pCi/L	0	U	0.179	-0.0148	U	0.354
Uranium 234	13966-29-5	pCi/L	1.1		0.508	5.03		0.45
Uranium 235	15117-96-1	pCi/L	0.188	U	0.466	0.0573	U	0.45
Uranium 238DA	U-238	pCi/L	1.2		0.508	3.69		0.385
Strontium-90	10098-97-2	pCi/L	0.0768	U	0.77	0.774	U	0.947
Carbon-14	14762-75-5	pCi/L	1.19	U	3.55	5.11		3.55
Technetium-99	14133-76-7	pCi/L	5.87		2.1	1.47	U	2.1
Tritium	10028-17-8	pCi/L	-25.2	U	246	9460		246
GAMMA SCAN								
Cobalt-58	13981-38-9	pCi/L	3.53	U	11.3	-0.931	U	8.67
Cobalt-60	10198-40-0	pCi/L	1.91	U	8.51	-0.772	U	9.33
Cesium-137DA	10045-97-3	pCi/L	1.19	U	5.29	0.266	U	7.84
Europium-152	14683-23-9	pCi/L	-14.1	U	30.7	-17.2	U	43.6
Europium-154	15585-10-1	pCi/L	5.72	U	24.5	-16.7	U	25.1
Europium-155	14391-16-3	pCi/L	0.613	U	15.4	5.15	U	15.8
Iron-59	14596-12-4	pCi/L	8.35	U	24.4	6.93	U	25.4

FILE #:VW402.66		HEIS #:	B0BMW0			B0BMP4		
		Date:	19-May-94			18-May-94		
Constituent		Matrix:	WATER			WATER		
	CAS #	Units	Results	Q	MDA	Results	Q	MDA
Gross Alpha	ALPHA	pCi/L	6.78		1.67	0.623	U	0.757
Gross Beta	BETA	pCi/L	9.23		3.1	31.7		2.69
Americium-241	14596-10-2	pCi/L	-0.0144	U	0.24	-0.0041	U	0.208
Plutonium-238	13981-16-3	pCi/L	0	U	0.197	0.0422	U	0.253
Plutonium-239/240	PU-239/240	pCi/L	-0.0146	U	0.349	-0.0422	U	0.362
Uranium 234	13966-29-5	pCi/L	2.34		0.447	0.357	U	0.439
Uranium 235	15117-96-1	pCi/L	0.133	U	0.33	0.131	U	0.415
Uranium 238DA	U-238	pCi/L	1.8		0.33	0.423	U	0.481
Strontium-90	10098-97-2	pCi/L	0.267	U	0.779	15.9		0.851
Carbon-14	14762-75-5	pCi/L	-0.586	U	3.55	-0.563	U	3.55
Technetium-99	14133-76-7	pCi/L	2.92		2.1	2.12		2.1
Tritium	10028-17-8	pCi/L	980		246	-40.9	U	246
GAMMA SCAN								
Cobalt-58	13981-38-9	pCi/L	-2.23	U	7.82	-1.29	U	7.45
Cobalt-60	10198-40-0	pCi/L	-1.38	U	4.06	7.23	U	11.3
Cesium-137DA	10045-97-3	pCi/L	0.287	U	7.12	0.625	U	5.95
Europium-152	14683-23-9	pCi/L	3.25	U	36.5	1.01	U	48
Europium-154	15585-10-1	pCi/L	10.4	U	22.4	-0.816	U	28.4
Europium-155	14391-16-3	pCi/L	7.3	U	12.8	1.3	U	14.4
Iron-59	14596-12-4	pCi/L	3.11	U	17.5	13.9	U	24.3

entered by: [illegible]
date: 9-30-94

shaded areas indicate changes by the validator
40266TBL.XLS

checked by: BM
date: 10-3-9[illegible]

9613496.0291

Sample Results (Form I's)

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9595

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9595

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

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

FORM I VOA 3/90

8-22-94 (WJC)

9613496.0293

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9595

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9595

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	2.00	7	J

FORM I VOA-TIC 3/90

MCW 9-20-94

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9608

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9608

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

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

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

6-30-94 No Qual for Methylene Chloride BM 9-17-94

FORM I VOA 3/90

8-22-00

9615496.0295

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMP6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9608

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9608

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

8-22-94

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8919

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA8919

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

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

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

FORM I VOA 3/90

8-12-94 (WJC)

9615896.0297

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMR0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8919

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA8919

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 3/90

8-22-94

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8945

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX16

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-625 ID: 0.250 (mm) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	~~B~~ 10	~~B~~ U
67-64-1	Acetone	14	~~B~~ U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	2	J
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

8-22-94 (WJC)

9613196.0299

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMR2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8945

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX16

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-625 ID: 0.250 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

8-22-94 (WTC)

3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8931

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX15

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-625 ID: 0.250 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	~~8~~ 10	~~BO~~ U
67-64-1	Acetone	~~6~~ 10	~~BO~~ U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

FORM I VOA 3/90

8-22-94 WJC

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8931

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX15

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-625 ID: 0.250 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMS0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8946

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX17

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-625 ID: 0.250 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	~~4~~ 10	~~B~~ U
67-64-1	Acetone	14	~~B~~ U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	2	J
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	2	J
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

8-22-94 (WJC)

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMS0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8946

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX17

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. _____ Date Analyzed: 05/24/94

GC Column: DB-625 ID: 0.250 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9058

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX19

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

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

8-22-94 (WE)

9613496.0305

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9058

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX19

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

6-22-94 (WJC) 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9073

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9073

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	~~10~~ 8	~~U~~ J
67-64-1	Acetone	10	~~U~~ BJ
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

6-30-94 1

6-30-94 No Qualifier Mock BM 2/17

FORM I VOA 3/90

8-22-94

9613496.0307

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMT2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9073

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9073

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

8-22-94 (WSC)

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9046

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX18

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	~~4~~ 10	~~B~~ U
67-64-1	Acetone	~~8~~ 10	~~B~~ U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	20	
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

FORM I VOA 3/90

B-2264

WJC

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9046

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX18

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9072

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX20

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	~~8~~ 10	~~BJ~~ U
67-64-1	Acetone	~~8~~ 10	~~BJ~~ U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	1	J
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

FORM I VOA 3/90

8-22-94 (WJC)

9613496.0311

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMV0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9072

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX20

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 3/90

8-22-94 WSO

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8882

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX07

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

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

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

8-22-94 (WJC)

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8882

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX07

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

8-22-94
WJC

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8901

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX10

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	~~80~~ 810	~~B~~ U
67-64-1	Acetone	14	~~B~~ U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	31	
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	2	J
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	36	
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	4	J
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

8-22-94 WJC

9615496.0315

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMV4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8901

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX10

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

8-22-94 WTC

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9572

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9572

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	~~8~~ 10	~~B~~ U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	3	J
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

FORM I VOA 3/90

8-22-94 WJC

9613496.0517

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9572

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9572

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	2.00	8	J
2.	UNKNOWN ALKANE	16.27	11	J

8-22-94

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9586

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9586

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	J
67-64-1	Acetone	~~8~~ 10	~~B~~ U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

8-22-94 WJD

9613496.0319

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMW2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9586

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9586

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 3/90

8-22-94
WJC

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9596

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9596 5x'd

Level: (low/med) LOW Date Received: 05/21/94 5-16-94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

8-22-94

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9596

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9596

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

8-22-94

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9596

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9596

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

8-22-94 (WJC)

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMRO

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8920

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8920

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94 sx'd 5-11-94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

8-22-94 (WJC)

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMRO

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8920

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8920

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

8-22-94 (WJC)

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMRO

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8920

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8920

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

6-22-94 (WJC)

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8932

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8932

Level: (low/med) LOW Date Received: 05/13/94 Sx'd 5-11-94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

8-22-94 WJC

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8932

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8932

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

8-22-94 WJC

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8932

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8932

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

8-22-94 WJA

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9059

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9059

Level: (low/med) LOW Date Received: 05/14/94 5x'd 5-12-94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/17/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

8-22-94 WJC

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9059

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9059

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/17/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

8-22-94 (WJC)

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9059

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9059

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/17/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.15	3	J
2. 314-40-9	BROMACIL	17.47	4	JN

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9047

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9047R

Level: (low/med) LOW Date Received: 05/14/94 5-12-94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/17/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

8-22-94
(WJC)

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9047

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9047R

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/17/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

8-22-94

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9047

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9047R

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/17/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

8-22-94

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8883

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8883

Level: (low/med) LOW Date Received: 05/13/94 SK'd 5-10-94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8883

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8883

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	2	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

8-22-94

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8883

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8883

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

8-22-94

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9573

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9573

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94 Sx'd 5-19-94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

6-22-94

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9573

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9573

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

8-22-94

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9573

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9573

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

8-22-94

000078

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9596

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/21/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/25/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/26/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR0

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8920

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/13/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/16/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/24/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8932

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/13/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/16/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/24/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9059

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/14/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/17/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/23/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

8-23-94
WJC

FORM I PEST 3/90

JM 9/20/94

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9047

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/14/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/17/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/23/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 8-23-94 3/90

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8883

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/13/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/16/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/24/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

8-23-94
WJ

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMWO

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9573

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

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/21/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/25/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/26/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0 Sulfur Cleanup: (Y/N) N

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

8-15-94
WJC

9613496.0348

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS KNOXVILLE Contract: HANFORD
Lab Code: ITSTU Case No.: W0536 SAS No.: SDG No.: W0062
Matrix (soil/water): WATER Lab Sample ID: AA8890
Level (low/med): LOW Date Received: 05/13/94
% 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	9.1	B		F	
7440-39-3	Barium	44.0	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	58500			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	UJ
7439-89-6	Iron	23.8	~~B~~		P	UJ
7439-92-1	Lead	2.0	~~U~~	W	F	UJ
7439-95-4	Magnesium	18400			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	7180			P	
7782-49-2	Selenium	3.1	~~B~~	S	F	BJ
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	55300			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	17.6	B		P	
7440-66-6	Zinc	11.1	~~B~~		P	U
5955-70-0	Cyanide				NR	

10/4/94

Color Before: COLORLESS Clarity Before: CLEAR Texture:
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
TOTAL

FORM I - IN

ILM02.1

000086

PKR 10-5-94

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD___
Lab Code: ITSTU_ Case No.: WO536 SAS No.: _____ SDG No.: W0062_
Matrix (soil/water): WATER Lab Sample ID: AA8891
Level (low/med): LOW__ Date Received: 05/13/94
% 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_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
5955-70-0	Cyanide__	10.0	U		AS

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
CYANIDE_ONLY.

FORM I - IN

ILM02.1

8-24-94
WSC

9613496.0350

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMV3

Lab Name: ITAS KNOXVILLE Contract: HANFORD
Lab Code: ITSTU Case No.: W0536 SAS No.: SDG No.: W0062
Matrix (soil/water): WATER Lab Sample ID: AA8900
Level (low/med): LOW Date Received: 05/13/94
% 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	6.5	B		F	
7440-39-3	Barium	42.3	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	57900			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	46.7		*	P	J
7439-89-6	Iron	10.0	~~U~~		P	UJ
7439-92-1	Lead	2.0	U		F	
7439-95-4	Magnesium	18000			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	7080			P	
7782-49-2	Selenium	3.0	~~B~~	~~WN~~	F	BJ
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	54000			P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	17.8	B		P	
7440-66-6	Zinc	5.0	U		P	
5955-70-0	Cyanide				NR	

Color Before: COLORLESS Clarity Before: CLEAR Texture:
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
DISSOLVED

FORM I - IN

ILM02.1

8-24-94
WTC

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMRO

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: WO538 SAS No.: _____ SDG No.: W0062_

Matrix (soil/water): WATER Lab Sample ID: AA8927

Level (low/med): LOW__ Date Received: 05/13/94

% 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	20.7	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	24200			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	UJ
7439-89-6	Iron	12.2	~~B~~		P	~~J~~ UJ
7439-92-1	Lead	2.0	U		F	
7439-95-4	Magnesium	4060	B		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	1330	~~B~~		P	~~J~~ BJ
7782-49-2	Selenium	2.0	~~U~~	W	F	UJ
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	2200	B		P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	5.7	~~B~~		P	U
5955-70-0	Cyanide				NR	

9-7-94

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.

BOBMRO

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: W0538 SAS No.: _____ SDG No.: W0062_

Matrix (soil/water): WATER Lab Sample ID: AA8928

Level (low/med): LOW__ Date Received: 05/13/94

% 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_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
5955-70-0	Cyanide__	10.0	U		AS

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

CYANIDE_ONLY.

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMR1

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: W0538 SAS No.: _____ SDG No.: W0062_

Matrix (soil/water): WATER Lab Sample ID: AA8943

Level (low/med): LOW__ Date Received: 05/13/94

% 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___	19.3	B		P_	
7440-41-7	Beryllium	1.0	U		P_	
7440-43-9	Cadmium__	5.0	U		P_	
7440-70-2	Calcium__	23400			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_	UJ
7439-89-6	Iron_____	13.1	~~B~~		P_	~~J~~ UJ
7439-92-1	Lead____	2.0	U		F_	
7439-95-4	Magnesium	3860	B		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_	UJ
7782-49-2	Selenium_	2.0	~~U~~	~~WN~~	F_	UJ
7440-22-4	Silver___	5.0	U		P_	
7440-23-5	Sodium___	2140	B		P_	
7440-28-0	Thallium_	2.0	U		F_	
7440-62-2	Vanadium_	10.0	U		P_	
7440-66-6	Zinc_____	8.6	~~B~~		P_	U
5955-70-0	Cyanide__				NR	

9-7-94

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

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

DISSOLVED.

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WSC

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: WO538 SAS No.: SDG No.: W0062

Matrix (soil/water): WATER Lab Sample ID: AA8939

Level (low/med): LOW Date Received: 05/13/94

% 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	14.2	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	20400			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	UJ
7439-89-6	Iron	35.8	~~B~~		P	U
7439-92-1	Lead	2.0	U		F	
7439-95-4	Magnesium	3620	B		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	1000	~~U~~		P	UJ
7782-49-2	Selenium	2.0	~~U~~	~~W~~	F	UJ
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	2730	B		P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	5.6	~~B~~		P	U
5955-70-0	Cyanide				NR	

9-1-94

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.

BOBMR8

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: WO538 SAS No.: _____ SDG No.: W0062_

Matrix (soil/water): WATER Lab Sample ID: AA8940

Level (low/med): LOW__ Date Received: 05/13/94

% 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_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
5955-70-0	Cyanide__	10.0	U		AS

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

CYNAIDE_ONLY.

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WJG

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMR9

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: W0538 SAS No.: _____ SDG No.: W0062_

Matrix (soil/water): WATER Lab Sample ID: AA8944

Level (low/med): LOW__ Date Received: 05/13/94

% 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___	17.8	B		P_	
7440-41-7	Beryllium	1.0	U		P_	
7440-43-9	Cadmium__	5.0	U		P_	
7440-70-2	Calcium__	25900			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_	uJ
7439-89-6	Iron_____	10.0	~~U~~		P_	uJ
7439-92-1	Lead_____	2.0	U		F_	
7439-95-4	Magnesium	4580	B		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	1840	~~B~~		P_	~~B~~ BJ
7782-49-2	Selenium_	2.0	~~U~~	~~WN~~	F_	UJ
7440-22-4	Silver___	5.0	U		P_	
7440-23-5	Sodium___	3630	B		P_	
7440-28-0	Thallium_	2.0	U		F_	
7440-62-2	Vanadium_	10.0	U		P_	
7440-66-6	Zinc_____	5.5	~~B~~		P_	u
5955-70-0	Cyanide__				NR	

9-7-94

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

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

DISSOLVED.

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NJC

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: WO545 SAS No.: SDG No.: W0062

Matrix (soil/water): WATER Lab Sample ID: AA9066

Level (low/med): LOW Date Received: 05/14/94

% 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	25.1	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	29600			P	
7440-47-3	Chromium	11.8			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	~~U~~		P	UJ
7439-89-6	Iron	10.0	~~U~~		P	UJ
7439-92-1	Lead	2.0	~~U~~	W	F	UJ
7439-95-4	Magnesium	3950	B		P	
7439-96-5	Manganese	2.0	U		P	BM 9-17-94
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	2410	~~B~~		P	~~B~~ BJ
7782-49-2	Selenium	2.8	~~B~~	W	F	BJ
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	3560	B		P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	9.0	~~B~~		P	U
5955-70-0	Cyanide				NR	

9-7-94

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TOTAL

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: WO545 SAS No.: SDG No.: W0062

Matrix (soil/water): WATER Lab Sample ID: AA9067

Level (low/med): LOW Date Received: 05/14/94

% 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				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
5955-70-0	Cyanide	10.0	U		AS

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CYANIDE ONLY.

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMT1

Lab Name: ITAS KNOXVILLE Contract: HANFORD
Lab Code: ITSTU Case No.: WO545 SAS No.: SDG No.: W0062
Matrix (soil/water): WATER Lab Sample ID: AA9071
Level (low/med): LOW Date Received: 05/14/94
% 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	43.8	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	79300			P	
7440-47-3	Chromium	15.8			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	29.9		*	P	J
7439-89-6	Iron	10.0	~~U~~		P	UJ
7439-92-1	Lead	2.0	~~U~~	~~W~~	F	UJ
7439-95-4	Magnesium	19000			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	5290			P	
7782-49-2	Selenium	2.4	~~B~~	~~WN~~	F	BJ
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	27000			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	
5955-70-0	Cyanide				NR	

Color Before: COLORLESS Clarity Before: CLEAR Texture:
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
DISSOLVED.

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS KNOXVILLE Contract: HANFORD
Lab Code: ITSTU Case No.: WO545 SAS No.: SDG No.: W0062
Matrix (soil/water): WATER Lab Sample ID: AA9054
Level (low/med): LOW Date Received: 05/14/94
% 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	2.6	B		F
7440-39-3	Barium	62.4	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	113000			P
7440-47-3	Chromium	22.0			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	~~U~~		P UJ
7439-89-6	Iron	27.2	~~B~~		P ~~U~~ UJ
7439-92-1	Lead	2.0	~~U~~	W	F UJ
7439-95-4	Magnesium	25900			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	6290			P
7782-49-2	Selenium	2.0	~~U~~ U		F ~~UJ~~ No Qual BM 9-17-94
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	38000			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
5955-70-0	Cyanide				NR

Lab. U [illegible] 9-30-94

9-7-94

Color Before: COLORLESS Clarity Before: CLEAR Texture:
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
TOTAL.

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8-14-94 (WTC)

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD___
Lab Code: ITSTU_ Case No.: WO545 SAS No.: _____ SDG No.: W0062_
Matrix (soil/water): WATER Lab Sample ID: AA9055
Level (low/med): LOW__ Date Received: 05/14/94
% 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_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
5955-70-0	Cyanide__	10.0	U		AS

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
CYANIDE_ONLY._____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMT9

Lab Name: ITAS KNOXVILLE Contract: HANFORD
Lab Code: ITSTU Case No.: W0545 SAS No.: SDG No.: W0062
Matrix (soil/water): WATER Lab Sample ID: AA9070
Level (low/med): LOW Date Received: 05/14/94
% 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	28.4	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	32700			P	
7440-47-3	Chromium	15.6			P	
7440-48-4	Cobalt	10.0	U		P	
7440-50-8	Copper	10.0	~~U~~	*	P	UJ
7439-89-6	Iron	37.4	~~B~~		P	U
7439-92-1	Lead	2.0	~~U~~	~~W~~	F	UJ
7439-95-4	Magnesium	4420	B		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	3980	B		P	
7782-49-2	Selenium	2.0	~~U~~	~~N~~	F	UJ
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	4150	B		P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	15.9	~~B~~		P	U
5955-70-0	Cyanide				NR	

9-7-94

Color Before: COLORLESS Clarity Before: CLEAR Texture:
Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
DISSOLVED.

FORM I - IN

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8-24-94
WJC

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE
Lab Code: ITSTU_ Case No.: W0577 SAS No.: _____ SDG No.: W0062_
Matrix (soil/water): WATER Lab Sample ID: AA9603
Level (low/med): LOW__ Date Received: 05/21/94
% 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	23.1	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	26200			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	UJ
7439-89-6	Iron	182			P	
7439-92-1	Lead	2.0	U		F	
7439-95-4	Magnesium	4520	B		P	
7439-96-5	Manganese	5.3	B		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	1540	~~B~~		P	~~B~~ BJ
7782-49-2	Selenium	2.0	~~U~~	~~W~~	F	UJ
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	3050	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	
5955-70-0	Cyanide				NR	

gg 9-2-94

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.

BOBMP4

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: WO577 SAS No.: _____ SDG No.: W0062_

Matrix (soil/water): WATER Lab Sample ID: AA9604

Level (low/med): LOW__ Date Received: 05/21/94

% 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_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
5955-70-0	Cyanide__	10.0	U		AS

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

CYANIDE_ONLY.

FORM I - IN

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WJC

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMP5

Lab Name: ITAS KNOXVILLE Contract: HANFORD/WE
Lab Code: ITSTU Case No.: W0577 SAS No.: SDG No.: W0062
Matrix (soil/water): WATER Lab Sample ID: AA9607
Level (low/med): LOW Date Received: 05/21/94
% 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	3220			P	
7440-36-0	Antimony	50.0	U		P	
7440-38-2	Arsenic	2.0	U		F	
7440-39-3	Barium	25.7	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	31800			P	
7440-47-3	Chromium	1710			P	
7440-48-4	Cobalt	10.7	B		P	
7440-50-8	Copper	20.4	~~B~~	*	P	~~B~~ BJ
7439-89-6	Iron	5530			P	~~B~~
7439-92-1	Lead	2.0	U		F	
7439-95-4	Magnesium	4500	B		P	
7439-96-5	Manganese	111			P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	625			P	
7440-09-7	Potassium	1360	~~B~~		P	~~B~~ BJ
7782-49-2	Selenium	2.0	~~U~~	~~WN~~	F	UJ
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	3070	B		P	
7440-28-0	Thallium	2.0	U		F	
7440-62-2	Vanadium	10.0	U		P	
7440-66-6	Zinc	11.3	~~B~~		P	u
5955-70-0	Cyanide				NR	

9-7-94

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

Comments:
DISSOLVED.

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WTC

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS_KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0577 SAS No.: SDG No.: W0062

Matrix (soil/water): WATER Lab Sample ID: AA9580

Level (low/med): LOW Date Received: 05/21/94

% 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	5.1	B		F	
7440-39-3	Barium	42.8	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	60400			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	UJ
7439-89-6	Iron	98.5	B		P	
7439-92-1	Lead	2.0	~~U~~	~~W~~	F	UJ
7439-95-4	Magnesium	20100			P	
7439-96-5	Manganese	16.2			P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	6870			P	
7782-49-2	Selenium	2.9	~~B~~	~~W~~	F	BJ
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	70500			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	
5955-70-0	Cyanide				NR	

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

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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WTC

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: ~~WO577~~ 8 SAS No.: _____ SDG No.: W0062_

Matrix (soil/water): WATER WO629 6/24/94 Lab Sample ID: AB0404

Level (low/med): LOW__ Date Received: 06/08/94

% 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_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium__				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
5955-70-0	Cyanide__	10.0	U		AS

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

CLIENT_DIDNOT_SEND_WITH_WO577,_SO_RELOGGED_AS_WO629.

CYANIDE_ONLY.

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WJC

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BOBMW1

Lab Name: ITAS_KNOXVILLE Contract: HANFORD/WE

Lab Code: ITSTU Case No.: W0577 SAS No.: SDG No.: W0062

Matrix (soil/water): WATER Lab Sample ID: AA9583

Level (low/med): LOW Date Received: 05/21/94

% 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	5.0	B		F	
7440-39-3	Barium	41.7	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	5.0	U		P	
7440-70-2	Calcium	58400			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	UJ
7439-89-6	Iron	34.9	~~B~~		P	U
7439-92-1	Lead	2.0	~~U~~	~~W~~	F	UJ
7439-95-4	Magnesium	19500			P	
7439-96-5	Manganese	13.5	B		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	20.0	U		P	
7440-09-7	Potassium	6330			P	
7782-49-2	Selenium	3.2	~~B~~	~~WN~~	F	BJ
7440-22-4	Silver	5.0	U		P	
7440-23-5	Sodium	68200			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	
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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ILM02.1

8-24-94 WJC

8 6/24/94

ALKALINITY ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/16/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6221	2	U
BOBMV2	AA8886	188	+

8-25-94
WJG

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

ALKALINITY ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/16/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6221	2	U
BOBMR8	AA8935	66	+
BOBMR0	AA8923	78	+

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

8-25-94
WJC

ALKALINITY ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/16/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6222	2	U
BOBMT0	AA9062	204	+
BOBMT8	AA9050	76	+

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

8-25-94
(WTC)

ALKALINITY ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/27/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6268	2	U
BOBMW0	AA9576	181	+
BOBMP4	AA9599	70	+

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

6-15-94
WJC

AMMONIA ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/07/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6286	0.1	U
BOBMV2	AA8889	1.35	+

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

8-25-94
Wsc

AMMONIA ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/01/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6261	0.1	U
BOBMR0	AA8926	0.1	+
BOBMR8	AA8938	0.1	U

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

8-25-94

AMMONIA ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/07/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6286	0.1	U
BOBMT8	AA9053	0.54	+
BOBMT0	AA9065	0.1	U

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

8-25-94 WJC

AMMONIA ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/07/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6286	0.1	U
BOBMW0	AA9579	0.21	+
BOBMP4	AA9602	0.1	U

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

8-25-94
WJC

CHEMICAL OXYGEN DEMAND ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/19/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBMV2	AA8889	2	+ ~~J~~ BMY 7/7

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

8-25-94 WJC

CHEMICAL OXYGEN DEMAND ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/19/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBMR8	AA8938	2	+ ~~J~~ BM 9-17-94
BOBMR0	AA8926	2	+ ~~J~~

\+ - Positive result.
* - A method blank is not applicable for this analysis.

8-23-94 (WJC)

CHEMICAL OXYGEN DEMAND ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/19/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBMT0	AA9065	1	BM 6-3-94 U ~~U~~ ~~U~~ BM 9..
BOBMT8	AA9053	1	U

U - Compound was analyzed for but not detected. The number is the detection limit for the sample.
* - A method blank is not applicable for this analysis.

8-25-94 WJS

CHEMICAL OXYGEN DEMAND ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/07/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBMW0	AA9579	6	+
BOBMP4	AA9602	1	+

\+ - Positive result.
* - A method blank is not applicable for this analysis.

8-25-94
WJC

NITRATE/NITRITE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/25/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6241	0.02	U
BOBMV2	AA8855	18.3	+

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

8-25-94
WJO

NITRATE/NITRITE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/07/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6280	0.02	U
BOBMR0	AA8922	0.31	+
BOBMR8	AA8934	0.45	+

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

8-25-94

NITRATE/NITRITE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/03/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6280	0.02	U
BOBMT8	AA9049	0.92	+
BOBMT0	AA9061	26	+

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

8-25-94

NITRATE/NITRITE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/03/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6280	0.02	U
BOBMW0	AA9575	28.4	+
BOBMP4	AA9598	0.57	+

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

8-25-94
WJC

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	05/17/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBMV2	AA8884	7.52	- J

9-30-94

8-25-94

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

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	05/17/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBMR8	AA8933	7.72	- J
BOBMR0	AA8921	7.40	- J

mw 9-30-94

8-25-94 WJC

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

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	05/17/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBMT8	AA9048	7.71	- J
BOBMT0	AA9060	7.55	- J

9-30-94

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

6-25-94 (WJC)

pH ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	standard units	Analysis Date:	05/25/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	*	-	-
BOBMW0	AA9574	7.80	- J
BOBMP4	AA9597	7.55	- J

6-30-94

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

6-25-94 (WJC)

SPECIFIC CONDUCTIVITY ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	05/19/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6223	1	U
BOBMV2	AA8884	716	+

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

8-25-94
(WJC)

SPECIFIC CONDUCTIVITY ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	05/19/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6224	1	U
BOBMR8	AA8933	172	+
BOBMR0	AA8921	186	+

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

8-25-94
(WSH)

SPECIFIC CONDUCTIVITY ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	05/19/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6224	1	U
BOBMT0	AA9060	867	+
BOBMT8	AA9048	215	+

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

8-2544
WTC

SPECIFIC CONDUCTIVITY ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	umhos/cm	Analysis Date:	06/10/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6308	1	U
BOBMW0	AA9574	848	+
BOBMP4	AA9597	199	+

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

8-25-94

SULFIDE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/16/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6210	1	U
BOBMV2	AA8888	8	+

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

8-25-94 (JE)

SULFIDE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/16/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6211	1	U
BOBMR8	AA8937	23	+
BOBMR0	AA8925	4.0	+

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

8-25-94

SULFIDE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/19/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6225	1	U
BOBMT0	AA9064	4	+
BOBMT8	AA9052	6	+

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

8-25-94

SULFIDE ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/25/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6263	1	U
BOBMW0	AA9578	8	+
BOBMP4	AA9601	6	+

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

8-25-94 WJC

TOTAL DISSOLVED SOLIDS ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/16/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6203	1	U
BOBMV2	AA8887	497	+

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

6-23-94

TOTAL DISSOLVED SOLIDS ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/16/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6203	1	U
BOBMR0	AA8924	114	+
BOBMR8	AA8936	113	+

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

8-25-94 (WSG)

TOTAL DISSOLVED SOLIDS ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/18/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6234	1	U
BOBMT0	AA9063	592	+
BOBMT8	AA9051	161	+

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

8-25-94 WTC

TOTAL DISSOLVED SOLIDS ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/26/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6270	1	U
BOBMW0	AA9577	627	+
BOBMP4	AA9600	166	~~+~~ J

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

8-25-94
WDG

TOTAL ORGANIC CARBON ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/30/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6279	1	U
BOBMV2	AA8892	2	+

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

8-25-94

TOTAL ORGANIC CARBON ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/30/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6279	1	U
BOBMR0	AA8929	1	U
BOBMR8	AA8941	1	U

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

8-25-94 WJC

TOTAL ORGANIC CARBON ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	05/30/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6279	1	U
BOBMT8	AA9056	1	U
BOBMT0	AA9068	2	+

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

8-25-94 (WC)

TOTAL ORGANIC CARBON ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	mg/l	Analysis Date:	06/14/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6328	1	U
BOBMW0	AA9581	2	+
BOBMP4	AA9605	1	U

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

8-25-94 (WBC)

TOTAL ORGANIC HALOGENS ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	µg/l	Analysis Date:	06/07/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6303	20	U
BOBMV2	AA8893	22	+

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

8-25-94 (abc)

TOTAL ORGANIC HALOGENS ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	µg/l	Analysis Date:	06/07/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6303	20	U
BOBMR0	AA8930	20	U
BOBMR8	AA8942	20	U

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

8-25-94

TOTAL ORGANIC HALOGENS ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	µg/l	Analysis Date:	06/09/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6304	20	U
BOBMT8	AA9057	20	U
BOBMT0	AA9069	20	U

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

8-25-94 (ubc)

TOTAL ORGANIC HALOGENS ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Sample Matrix:	Water	Extraction Date:	N/A
Concentration Units:	μg/l	Analysis Date:	06/15/94 & 06/16/94

Client Sample ID	Lab Sample ID	Result	Qualifiers
Method Blank	P6329	20	U
Method Blank	P6330	20	U
BOBMW0	AA9582	20	U
BOBMP4	AA9606	37	+

Method blank P6329 applies to sample BOBMW0.
Method blank P6330 applies to sample BOBMP4.

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

8-25-94 WTC

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Client Sample ID:	BOBMR0	Preparation Date:	06/06/94
Lab Sample ID:	AA8921	Analysis Date:	06/06/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
chloride	1.2	+	0.40
phosphate	1.0	~~U~~ UR	1.0
sulfate	13	+	1.5

9-14-94 WOC

+ - 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:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	538
Client Sample ID:	BOBMR8	Preparation Date:	06/06/94
Lab Sample ID:	AA8933	Analysis Date:	06/06/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
chloride	1.5	+	0.40
phosphate	1.0	~~U~~ UR	1.0
sulfate	13	+	1.5

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

9-8-94

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Client Sample ID:	BOBMT8	Preparation Date:	06/06/94
Lab Sample ID:	AA9048	Analysis Date:	06/06/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
chloride	1.5	+	0.40
phosphate	1.0	~~U~~ UR	1.0
sulfate	18	+	1.5

9-8-94 [illegible]

+ - 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:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	545
Client Sample ID:	BOBMT0	Preparation Date:	06/06/94
Lab Sample ID:	AA9060	Analysis Date:	06/06/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
chloride	38	+	4.0
phosphate	1.0	~~U~~ UR	1.0
sulfate	120	+	15

9-8-94 (WBC)

+ - 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:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Client Sample ID:	BOBMW0	Preparation Date:	06/13/94
Lab Sample ID:	AA9574	Analysis Date:	06/13/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.88	+	0.40
chloride	24	+	2.0
phosphate	1.0	~~U~~ UR	1.0
sulfate	84	+	7.5

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

9-8-94 (WOC)

ANION ANALYSIS

Laboratory Name:	ITAS-Knoxville	SDG Number:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	536
Client Sample ID:	BOBMV2	Preparation Date:	06/06/94
Lab Sample ID:	AA8884	Analysis Date:	06/06/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.8	+	0.40
chloride	16 ok	+	4.0
phosphate	~~10~~ 9-8-94 WDC	~~U~~ UR	1.0
sulfate	74	+	1.5

9-8-94 WDC

+ - 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:	W0062
Contract Name:	Westinghouse Hanford	Job Number:	577
Client Sample ID:	BOBMP4	Preparation Date:	06/13/94
Lab Sample ID:	AA9597	Analysis Date:	06/13/94
Sample Matrix:	Water	Concentration Units:	mg/l

Compound	Result	Qualifier	Detection Limit
fluoride	0.40	U	0.40
chloride	1.6	+	0.40
phosphate	1.0	~~U~~ VR	1.0
sulfate	16	+	7.5

9-8-94 WJC

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

9613496.0416

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0062
LAB SAMPLE ID:	40529201	MATRIX:	WATER
WHC ID:	B0BMT8	DATE RECEIVED:	5/13/94

ISOTOPE		RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
AM-241	U	-3.56E-03	7.12E-03	7.14E-03	1.79E-01	pCi/L	81.60%	RD3302
PU-238	U	-1.33E-02	2.65E-02	2.66E-02	3.17E-01	pCi/L	63.00%	RD3209
PU239/40	U	0.00E+00	0.00E+00	1.99E-01	1.79E-01	pCi/L	63.00%	RD3209
U-234		1.10E+00	6.77E-01	6.99E-01	5.08E-01	pCi/L	40.90%	RD3234
U-235	U	1.88E-01	2.89E-01	2.91E-01	4.66E-01	pCi/L	40.90%	RD3234
U-238DA		1.20E+00	7.07E-01	7.32E-01	5.08E-01	pCi/L	40.90%	RD3234
CO-58	U	3.53E+00	5.49E+00	5.50E+00	1.13E+01	pCi/L	N/A	RD3219
CO-60	U	1.91E+00	3.97E+00	3.98E+00	8.51E+00	pCi/L	N/A	RD3219
CS-137DA	U	1.19E+00	2.23E+00	2.23E+00	5.29E+00	pCi/L	N/A	RD3219
EU-152	U	-1.41E+01	1.98E+01	1.98E+01	3.07E+01	pCi/L	N/A	RD3219
EU-154	U	5.72E+00	1.06E+01	1.06E+01	2.45E+01	pCi/L	N/A	RD3219
EU-155	U	6.13E-01	9.04E+00	9.04E+00	1.54E+01	pCi/L	N/A	RD3219
FE-59	U	8.35E+00	1.07E+01	1.08E+01	2.44E+01	pCi/L	N/A	RD3219
ALPHA	U	8.43E-01	6.09E-01	6.22E-01	9.21E-01	pCi/L	100.00%	RD3222
BETA		4.04E+00	1.60E+00	1.62E+00	2.86E+00	pCi/L	100.00%	RD3222
TOTAL STRONTIUM	U	7.68E-02	3.03E-01	3.04E-01	7.70E-01	pCi/L	100.00%	RD3204
C-14	U	1.19E+00	1.53E+00	3.19E+00	3.55E+00	pCi/L	100.00%	RD3263
TC-99		5.87E+00	1.06E+00	4.42E+00	2.10E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TRITIUM	U	-2.52E+01	1.04E+02	2.01E+02	2.46E+02	pCi/L	97.30%	RD3205

Number of Results: 19

MW 6-25-94

42A-6-93

9613496.0417

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SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0062
LAB SAMPLE ID:	40529202	MATRIX:	WATER
WHC ID:	B0BMT0	DATE RECEIVED:	5/13/94

ISOTOPE		RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
AM-241	U	-1.02E-02	1.17E-02	1.18E-02	2.11E-01	pCi/L	85.90%	RD3302
PU-238	U	4.44E-02	1.54E-01	1.54E-01	4.18E-01	pCi/L	56.40%	RD3209
PU239/40	U	-1.48E-02	2.96E-02	2.97E-02	3.54E-01	pCi/L	56.40%	RD3209
U-234		5.03E+00	1.31E+00	1.51E+00	4.50E-01	pCi/L	49.40%	RD3234
U-235	U	5.73E-02	1.71E-01	1.71E-01	4.50E-01	pCi/L	49.40%	RD3234
U-238DA		3.69E+00	1.12E+00	1.25E+00	3.85E-01	pCi/L	49.40%	RD3234
CO-58	U	-9.31E-01	4.75E+00	4.75E+00	8.67E+00	pCi/L	N/A	RD3219
CO-60	U	-7.72E-01	4.99E+00	4.99E+00	9.33E+00	pCi/L	N/A	RD3219
CS-137DA	U	2.66E-01	4.29E+00	4.29E+00	7.84E+00	pCi/L	N/A	RD3219
EU-152	U	-1.72E+01	2.66E+01	2.67E+01	4.36E+01	pCi/L	N/A	RD3219
EU-154	U	-1.67E+01	1.71E+01	1.72E+01	2.51E+01	pCi/L	N/A	RD3219
EU-155	U	5.15E+00	8.49E+00	8.50E+00	1.58E+01	pCi/L	N/A	RD3219
FE-59	U	6.93E+00	1.18E+01	1.18E+01	2.54E+01	pCi/L	N/A	RD3219
ALPHA		1.13E+01	2.71E+00	2.89E+00	1.51E+00	pCi/L	100.00%	RD3222
BETA		1.17E+01	2.11E+00	2.26E+00	2.84E+00	pCi/L	100.00%	RD3222
TOTAL STRONTIUM	U	7.74E-01	4.52E-01	4.89E-01	9.47E-01	pCi/L	75.40%	RD3204
C-14		5.11E+00	1.60E+00	3.30E+00	3.55E+00	pCi/L	100.00%	RD3263
TC-99	U	1.47E+00	9.26E-01	4.06E+00	2.10E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TRITIUM		9.46E+03	2.89E+02	8.43E+02	2.46E+02	pCi/L	97.30%	RD3205

Number of Results: 19

MW 8-25-94

~~0010~~

082A-6-93

9613496.0418

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0062
LAB SAMPLE ID:	40544601	MATRIX:	WATER
WHC ID:	B0BMW0	DATE RECEIVED:	5/20/94

ISOTOPE		RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
AM-241	U	-1.44E-02	1.44E-02	1.46E-02	2.40E-01	pCi/L	80.80%	RD3302
PU-238	U	0.00E+00	0.00E+00	2.19E-01	1.97E-01	pCi/L	57.20%	RD3209
PU239/40	U	-1.46E-02	2.91E-02	2.92E-02	3.49E-01	pCi/L	57.20%	RD3209
U-234		2.34E+00	8.31E-01	8.96E-01	4.47E-01	pCi/L	57.70%	RD3234
U-235	U	1.33E-01	2.05E-01	2.06E-01	3.30E-01	pCi/L	57.70%	RD3234
U-238DA		1.80E+00	7.23E-01	7.67E-01	3.30E-01	pCi/L	57.70%	RD3234
CO-58	U	-2.23E+00	4.78E+00	4.78E+00	7.82E+00	pCi/L	N/A	RD3219
CO-60	U	-1.38E+00	2.34E+00	2.35E+00	4.06E+00	pCi/L	N/A	RD3219
CS-137DA	U	2.87E-01	3.72E+00	3.72E+00	7.12E+00	pCi/L	N/A	RD3219
EU-152	U	3.25E+00	1.65E+01	1.65E+01	3.65E+01	pCi/L	N/A	RD3219
EU-154	U	1.04E+01	7.89E+00	7.96E+00	2.24E+01	pCi/L	N/A	RD3219
EU-155	U	7.30E+00	6.52E+00	6.56E+00	1.28E+01	pCi/L	N/A	RD3219
FE-59	U	3.11E+00	7.66E+00	7.67E+00	1.75E+01	pCi/L	N/A	RD3219
ALPHA		6.78E+00	2.18E+00	2.26E+00	1.67E+00	pCi/L	100.00%	RD3222
BETA		9.23E+00	2.04E+00	2.14E+00	3.10E+00	pCi/L	100.00%	RD3222
TOTAL STRONTIUM	U	2.67E-01	3.29E-01	3.37E-01	7.79E-01	pCi/L	100.00%	RD3204
C-14	U	-5.86E-01	1.51E+00	3.15E+00	3.55E+00	pCi/L	100.00%	RD3263
TC-99		2.92E+00	9.66E-01	4.18E+00	2.10E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TRITIUM		9.80E+02	1.34E+02	2.56E+02	2.46E+02	pCi/L	97.30%	RD3205

Number of Results: 19

8-25-94

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 682A-6-93

9613496.0419

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0062
LAB SAMPLE ID:	40544602	MATRIX:	WATER
WHC ID:	B0BMP4	DATE RECEIVED:	5/20/94

ISOTOPE		RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
AM-241	U	-4.13E-03	8.26E-03	8.28E-03	2.08E-01	pCi/L	70.40%	RD3302
PU-238	U	4.22E-02	1.08E-01	1.08E-01	2.53E-01	pCi/L	79.00%	RD3209
PU239/40	U	-4.22E-02	4.22E-02	4.26E-02	3.62E-01	pCi/L	79.00%	RD3209
U-234	U	3.57E-01	3.49E-01	3.52E-01	4.39E-01	pCi/L	53.60%	RD3234
U-235	U	1.31E-01	2.21E-01	2.22E-01	4.15E-01	pCi/L	53.60%	RD3234
U-238DA	U	4.23E-01	3.82E-01	3.87E-01	4.81E-01	pCi/L	53.60%	RD3234
CO-58	U	-1.29E+00	4.18E+00	4.18E+00	7.45E+00	pCi/L	N/A	RD3219
CO-60	U	7.23E+00	4.17E+00	4.23E+00	1.13E+01	pCi/L	N/A	RD3219
CS-137DA	U	6.25E-01	2.84E+00	2.84E+00	5.95E+00	pCi/L	N/A	RD3219
EU-152	U	1.01E+00	2.40E+01	2.40E+01	4.80E+01	pCi/L	N/A	RD3219
EU-154	U	-8.16E-01	1.48E+01	1.48E+01	2.84E+01	pCi/L	N/A	RD3219
EU-155	U	1.30E+00	8.47E+00	8.47E+00	1.44E+01	pCi/L	N/A	RD3219
FE-59	U	1.39E+01	8.81E+00	8.92E+00	2.43E+01	pCi/L	N/A	RD3219
ALPHA	U	6.23E-01	5.03E-01	5.12E-01	7.57E-01	pCi/L	100.00%	RD3222
BETA		3.17E+01	2.94E+00	3.70E+00	2.69E+00	pCi/L	100.00%	RD3222
TOTAL STRONTIUM		1.59E+01	1.19E+00	4.17E+00	8.51E-01	pCi/L	89.90%	RD3204
C-14	U	-5.63E-01	1.51E+00	3.15E+00	3.55E+00	pCi/L	100.00%	RD3263
TC-99		2.12E+00	9.42E-01	4.11E+00	2.10E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TRITIUM	U	-4.09E+01	1.02E+02	1.99E+02	2.46E+02	pCi/L	97.30%	RD3205

Number of Results: 19

MW 8-25-94

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682A-6-93

9613496.0420

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0062
LAB SAMPLE ID:	40521801	MATRIX:	WATER
WHC ID:	B0BMV2	DATE RECEIVED:	5/11/94

ISOTOPE		RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
AM-241	U	8.29E-02	1.22E-01	1.23E-01	1.74E-01	pCi/L	84.20%	RD3302
PU-238	U	-1.21E-02	2.41E-02	2.42E-02	2.89E-01	pCi/L	69.20%	RD3209
PU239/40	U	-4.82E-02	4.82E-02	4.87E-02	4.14E-01	pCi/L	69.20%	RD3209
U-234		3.28E+00	9.39E-01	1.04E+00	4.11E-01	pCi/L	62.80%	RD3234
U-235	U	2.55E-01	2.66E-01	2.68E-01	3.03E-01	pCi/L	62.80%	RD3234
U-238DA		2.26E+00	7.74E-01	8.35E-01	1.80E-01	pCi/L	62.80%	RD3234
CO-58	U	-2.49E-01	4.29E+00	4.29E+00	8.17E+00	pCi/L	N/A	RD3219
CO-60	U	1.94E+00	3.59E+00	3.60E+00	8.32E+00	pCi/L	N/A	RD3219
CS-137DA	U	2.18E+00	2.90E+00	2.91E+00	6.41E+00	pCi/L	N/A	RD3219
EU-152	U	2.51E+01	1.67E+01	1.69E+01	4.64E+01	pCi/L	N/A	RD3219
EU-154	U	7.47E+00	1.30E+01	1.30E+01	2.81E+01	pCi/L	N/A	RD3219
EU-155	U	5.78E+00	7.37E+00	7.40E+00	1.38E+01	pCi/L	N/A	RD3219
FE-59	U	-2.11E+00	1.24E+01	1.24E+01	2.27E+01	pCi/L	N/A	RD3219
ALPHA		6.46E+00	2.03E+00	2.12E+00	1.52E+00	pCi/L	100.00%	RD3222
BETA		8.19E+00	1.90E+00	1.99E+00	2.88E+00	pCi/L	100.00%	RD3222
TOTAL STRONTIUM	U	2.86E-01	4.55E-01	4.60E-01	1.09E+00	pCi/L	63.30%	RD3204
C-14	U	1.51E+00	1.54E+00	3.20E+00	3.55E+00	pCi/L	100.00%	RD3263
TC-99		2.43E+00	9.46E-01	4.13E+00	2.10E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TRITIUM		3.80E+02	1.19E+02	2.23E+02	2.46E+02	pCi/L	97.30%	RD3205

Number of Results: 19

MW 8-25-94

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682A-6-93

9613496.0421

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0062
LAB SAMPLE ID:	40524401	MATRIX:	WATER
WHC ID:	B0BMR0	DATE RECEIVED:	5/12/94

ISOTOPE		RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
AM-241	U	-3.46E-03	6.92E-03	6.94E-03	1.74E-01	pCi/L	84.00%	RD3302
PU-238	U	-2.06E-02	2.91E-02	2.93E-02	2.91E-01	pCi/L	80.90%	RD3209
PU239/40	U	-1.03E-02	2.06E-02	2.06E-02	2.46E-01	pCi/L	80.90%	RD3209
U-234	U	4.76E-01	4.19E-01	4.25E-01	5.73E-01	pCi/L	52.90%	RD3234
U-235	U	-4.41E-02	3.34E-02	3.40E-02	4.88E-01	pCi/L	52.90%	RD3234
U-238DA	U	2.96E-01	3.16E-01	3.19E-01	3.93E-01	pCi/L	52.90%	RD3234
CO-58	U	6.39E+00	5.40E+00	5.44E+00	1.20E+01	pCi/L	N/A	RD3219
CO-60	U	1.31E+00	3.79E+00	3.79E+00	8.51E+00	pCi/L	N/A	RD3219
CS-137DA	U	-2.81E+00	4.95E+00	4.95E+00	8.37E+00	pCi/L	N/A	RD3219
EU-152	U	6.56E+00	1.90E+01	1.90E+01	4.27E+01	pCi/L	N/A	RD3219
EU-154	U	1.80E+01	1.08E+01	1.10E+01	2.96E+01	pCi/L	N/A	RD3219
EU-155	U	2.91E+00	8.00E+00	8.01E+00	1.35E+01	pCi/L	N/A	RD3219
FE-59	U	9.22E+00	1.37E+01	1.38E+01	2.88E+01	pCi/L	N/A	RD3219
ALPHA	U	4.74E-01	4.58E-01	4.63E-01	7.57E-01	pCi/L	100.00%	RD3222
BETA		8.58E+00	1.93E+00	2.02E+00	2.98E+00	pCi/L	100.00%	RD3222
TOTAL STRONTIUM		2.63E+00	5.61E-01	8.68E-01	8.17E-01	pCi/L	91.20%	RD3204
C-14	U	-1.13E+00	1.50E+00	3.14E+00	3.55E+00	pCi/L	100.00%	RD3263
TC-99		2.63E+00	9.70E-01	4.16E+00	2.10E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TRITIUM	U	-2.14E+01	1.04E+02	2.01E+02	2.46E+02	pCi/L	97.30%	RD3205

Number of Results: 19

8-24-94
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9613496.0922

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0062
LAB SAMPLE ID:	40524402	MATRIX:	WATER
WHC ID:	B0BMR8	DATE RECEIVED:	5/12/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
AM-241 U	4.85E-02	1.06E-01	1.06E-01	2.12E-01	pCi/L	68.90%	RD3302
PU-238 U	0.00E+00	0.00E+00	1.94E-01	1.75E-01	pCi/L	64.50%	RD3209
PU239/40 U	-2.59E-02	3.66E-02	3.68E-02	3.65E-01	pCi/L	64.50%	RD3209
U-234 U	3.75E-01	3.17E-01	3.21E-01	3.97E-01	pCi/L	69.80%	RD3234
U-235 U	1.10E-01	1.69E-01	1.70E-01	2.73E-01	pCi/L	69.80%	RD3234
U-238DA U	3.34E-01	2.93E-01	2.97E-01	3.37E-01	pCi/L	69.80%	RD3234
CO-58 U	3.11E+00	4.70E+00	4.71E+00	1.03E+01	pCi/L	N/A	RD3219
CO-60 U	1.31E+00	3.79E+00	3.79E+00	8.51E+00	pCi/L	N/A	RD3219
CS-137DA U	-6.75E+00	5.30E+00	5.35E+00	7.96E+00	pCi/L	N/A	RD3219
EU-152 U	5.05E-01	1.70E+01	1.70E+01	3.26E+01	pCi/L	N/A	RD3219
EU-154 U	-2.45E+00	7.66E+00	7.66E+00	1.52E+01	pCi/L	N/A	RD3219
EU-155 U	1.69E+00	8.74E+00	8.75E+00	1.53E+01	pCi/L	N/A	RD3219
FE-59 U	1.08E+01	1.41E+01	1.42E+01	3.05E+01	pCi/L	N/A	RD3219
ALPHA U	3.79E-01	4.83E-01	4.86E-01	9.41E-01	pCi/L	100.00%	RD3222
BETA	7.80E+00	1.84E+00	1.92E+00	2.87E+00	pCi/L	100.00%	RD3222
TOTAL STRONTIUM	3.76E+00	6.39E-01	1.15E+00	8.35E-01	pCi/L	93.40%	RD3204
C-14 U	-5.86E-01	1.51E+00	3.15E+00	3.55E+00	pCi/L	100.00%	RD3263
TC-99	3.34E+00	1.00E+00	4.21E+00	2.10E+00	pCi/L	95.10%	ITAS-IT-RS-0001
TRITIUM U	-1.10E+02	1.01E+02	1.97E+02	2.46E+02	pCi/L	97.30%	RD3205

Number of Results: 19

MW 8-25-94

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9613496.0423

Checklists

9613496.0424

LATA GC/MS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E

PROJECT: 100-FR-3	SDG: W0062-ITC-062	
VALIDATOR: COWAN	LATA NO.: W40~~X~~Z.66	DATE: 8-19-94
SAF NO.: SAF-94-087	LAB: ITC	CASE:
QAPP REFERENCE:	SAP REFERENCE:	

If there is no QAPP or SAP reference, contact the WHC Technical Representative.
If the document(s) are not provided, default to the Method acceptance criteria.

ANALYSES PERFORMED

☑ CLP Volatiles	☐ SW-846 8240 (cap column)	☐ SW-846 8260 (pac column)	☐ CLP Semivolatiles	☐ SW-846 8270 (cap column)	☐ SW-846 8270 (pac column)
☐	☐	☐	☐	☐	☐

SAMPLES/MATRIX

There are 14 water samples which includes 5 trip blanks.
BOBMV2, BOBMV4, BOBMR0, BOBR2, BOBMR8, BOBMS0, BOBMT8,
BOBMV0, BOBMT0, BOBMT2, BOBMW0, BOBMW2, BOBMP4,
BOBMP6

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 *(see HOLDING TIME SUMMARY form)*

Are sample holding times acceptable? ..... (Yes) No N/A

Comments:

Samples were all preserved with HCL and analysed within their 14 day holding time.

Reviewed [signature] 9-6-94

[signature] 7/20/94

3. INSTRUMENT TUNING AND CALIBRATION *(see CALIBRATION DATA SUMMARY form)*

Is the GC/MS tuning/performance check acceptable? . . . . . (Yes) No N/A

★ **VOA:** Verify the calculation of the mass abundance percentages for the 95/96, 176/177 and 174/176 ratios.

★ **SVOA:** Verify the calculation of the mass abundance percentages for the 199/198 and 443/442 ratios.

Are initial calibrations acceptable? . . . . . (Yes) No N/A

★ Verify the RRF and %RSD values and recalculate the individual and average RRF values and RSD values for two TCL compounds for Volatiles (V) and Semivolatiles (S).

★

Relative Response Factor

$$RRF = \frac{A_x C_{is}}{A_{is} C_x}$$

where:

A_x (V/S) = area of the characteristic ion measured for the sample
A_{is} (V/S) = area of the characteristic ion measured for the internal standard
C_x (V/S) = concentration [(VOA ng) (SVOA ng/µL)] of the compound of interest
C_{is} (V/S) = concentration [(VOA ng) (SVOA ng/µL)] of the associated internal standard

★

Relative Standard Deviation

$$\%RSD = \frac{STDEV}{MEAN} \times 100$$

where:

MEAN = mean of the initial five relative response factors
STDEV = standard deviation of the initial five RRFs per compound

$$= \sqrt{\sum_{i=1}^{n} \frac{(RRF_i - RRF)^2}{n-1}}$$

Are continuing calibrations acceptable? . . . . . (Yes) No N/A

★ Verify that the RRF and %D values are within the required limits and recalculate the individual RRF and %D values for at least two TCL compounds for Volatiles (V) and Semivolatiles (S).

★

Percent Difference

$$\%D = \frac{(RRF_i - RRF_s)}{RRF_i} \times 100$$

where:

RRF_i (V/S) = initial calibration average relative response factor
RRF_s (V/S) = continuing calibration average relative response factor

Comments:_____

Jm 9/20/94

LATA GC/MS DATA VALIDATION CHECKLIST

4. BLANKS *(see BLANK AND SAMPLE DATA SUMMARY form)*

Were laboratory blanks analyzed? . . . . . Yes No N/A

Are laboratory blank results acceptable? . . . . . Yes No N/A

Comments:

MeCl, and Acetone contamination detected in blank.

There are two blanks associated with samples in package:
Samples associated w/ VBLKAA9908: MV2, MV4, MR2, MR8, MS0, MT0, MT8, MV0
" " " VBLKAA9914 MP4, MP6, MW0, MR0, MT2, ~~MT6~~, MW2

5. ACCURACY *(see ACCURACY DATA SUMMARY form)*

Were surrogates/System Monitoring Compounds analyzed? . . . . . Yes No N/A

Are all surrogate/System Monitoring Compound recoveries acceptable? . . . . . Yes No N/A

★

Surrogate Recovery

$$\%R = \left(\frac{Q_d}{Q_a}\right) \times 100$$

where:
Q_d (V/S) = quantity of surrogate determined (analysis result)
Q_a (V/S) = quantity of surrogate added (true value)

Were MS/MSD samples analyzed? . . . . . Yes No N/A

Are all MS/MSD recoveries acceptable? . . . . . Yes No N/A

★

Spike Recovery

$$MS\%R = \frac{MS - OS}{SA} \times 100 \quad \text{or} \quad MSD\%R = \frac{MSD - OS}{SA} \times 100$$

where:
MS/MSD (V/S) = spiked sample result
OS (V/S) = sample result
SA (V/S) = spike added

Comments:

6. PRECISION *(see PRECISION DATA SUMMARY form)*

Are all MS/MSD RPD values acceptable? . . . . . Yes No N/A

★

Relative Percent Difference

$$RPD = \frac{|MS - MSD|}{\left(\frac{MS + MSD}{2}\right)} \times 100$$

where =
MS = MS recovery
MSD = MSD recovery

Comments:

7. FIELD QC SAMPLES

Were field QC samples (field/trip blanks, duplicates, splits, performance audit) identified? Yes No N/A

Are field/trip blank results 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

Are performance audit sample results acceptable? . . . . . Yes No N/A

Comments:

All trip Samples (BOBMV4, BOBMR2, BOBMS0, BOBMT2 and BOBMP6) were validated.

8. SYSTEM PERFORMANCE

Were internal standards analyzed? . . . . . Yes No N/A

Are internal standard areas acceptable? . . . . . Yes No N/A

Are internal standard retention times acceptable? . . . . . Yes No N/A

Comments:

gm 9/20/94

LATA GC/MS DATA VALIDATION CHECKLIST

9. COMPOUND IDENTIFICATION AND QUANTITATION

Is compound identification acceptable? . . . . . Yes No N/A

Is compound quantitation acceptable? . . . . . Yes No N/A

★

Results Calculations for VOA water (VW) samples

$$\text{Concentration } (\mu g/L) = \frac{(A_x VW)\ (I_s VW)\ (D_f VW)}{(A_{is} VW)\ (RRFVW)\ (V_o VW)}$$

where:

$A_x VW$ = area of the quantitation ion (EICP) for the compound of interest
$A_{is} VW$ = area of the quantitation ion (EICP) for the specified internal standard
$I_s VW$ = amount of internal standard added (ng)
RRFVW = relative response factor (ambient temperature purge of the calibration standard)
$V_o VW$ = volume of water purged (ml)
$D_f VW$ = dilution factor

★

Results Calculations for VOA soil/sediment (VLS) samples (low level)

$$\text{Concentration } (\mu g/Kg) = \frac{(A_x VLS)\ (I_s VLS)}{(A_{is} VLS)\ (RRFVLS)\ (W_s VLS)\ (SVLS)}$$

where:

$A_x VLS$ = area of the quantitation ion (EICP) for the compound of interest
$A_{is} VLS$ = area of the quantitation ion (EICP) for the specified internal standard
$I_s VLS$ = amount of internal standard added (ng)
RRFVLS = relative response factor (ambient temperature purge of the calibration standard)
$W_s VLS$ = weight of sample added (g)
SVLS = dry weight conversion factor [(100 - %moisture)/100]

★

Results Calculations for VOA soil/sediment (VMS) samples (medium level)

$$\text{Concentration } (\mu g/Kg) = \frac{(A_x VMS)\ (I_s VMS)\ (V_t VMS)\ (1000)\ (D_f VMS)}{(A_{is} VMS)\ (RRFVMS)\ (V_a VMS)\ (W_s VMS)\ (SVMS)}$$

where:

$A_x VMS$ = area of the quantitation ion (EICP) for the compound of interest
$A_{is} VMS$ = area of the quantitation ion (EICP) for the specified internal standard
$I_s VMS$ = amount of internal standard added (ng)
RRFVMS = relative response factor (ambient temperature purge of the calibration standard)
$W_s VMS$ = weight of sample extracted (g)
$D_f VMS$ = dilution factor
SVMS = dry weight conversion factor [(100 - %moisture)/100]
$V_t VMS$ = total volume methanol extract (ml)
$V_a VMS$ = volume of the aliquot (ml)

9. COMPOUND IDENTIFICATION AND QUANTITATION (continued)

★

Results Calculations for SVOA water (SW) samples

$$\text{Concentration } (\mu g/L) = \frac{(A_x SW)\ (I_s SW)\ (V_t SW)\ (D_f SW)}{(A_{is} SW)\ (RRFSW)\ (V_o SW)\ (V_i SW)}$$

where:

$A_x SW$ = area of the quantitation ion (EICP) for the compound of interest
$A_{is} SW$ = area of the quantitation ion (EICP) for the specified internal standard
$I_s SW$ = amount of internal standard added (ng)
RRFSW = relative response factor for the daily calibration standard
$V_o SW$ = volume of water extracted (ml)
$V_i SW$ = volume of extract injected (µL)
$V_t SW$ = volume of concentrated extract (µL)
$D_f SW$ = dilution factor

★

Results Calculations for SVOA soil/sediment (SS) samples

$$\text{Concentration } (\mu g/Kg) = \frac{(A_x SS)\ (I_s SS)\ (V_t SS)\ (D_f SS)}{(A_{is} SS)\ (RRFSS)\ (V_i SS)\ (W_s SS)\ (SSS)}$$

where:

$A_x SS$ = area of the quantitation ion (EICP) for the compound of interest
$A_{is} SS$ = area of the quantitation ion (EICP) for the specified internal standard
$I_s SS$ = amount of internal standard added (ng)
RRFSS = relative response factor for the daily calibration standard
$W_s SS$ = weight of sample extracted (g)
$D_f SS$ = dilution factor
SSS = dry weight conversion factor [(100 - %moisture)/100]
$V_t SS$ = total volume of concentrated extract (µL)
$V_i SS$ = volume of the extract injected (µL)

Comments:_____

10. REPORTED RESULTS AND QUANTITATION LIMITS

Are results reported for all requested analyses? . . . . . Yes No N/A

Are all results supported in the raw data? . . . . . Yes No N/A

Do results meet the CRQLs? . . . . . Yes No N/A

Has the laboratory properly identified and coded all TIC? . . . . . Yes No N/A

Comments:_____

LATA GC/MS DATA VALIDATION CHECKLIST

VALIDATION SUMMARY

MAJOR DEFICIENCIES:

There are no major deficiencies.

MINOR DEFICIENCIES:

Methylene chloride contamination and Acetone were reported in blanks at levels ~~slightly~~ less than ~~and slightly greater than~~ the CRQL. In all cases the Sample result was less than ten times any blank result for Methylene Chloride or Acetone. Therefore, Methylene Chloride and Acetone results were qualified non-detect (u) with an upward adjustment to the CRQL when values were reported less than the CRQL.

* Acetone and methylene chloride were found in the prep blanks for BOBMV2, -MV4, -MR2, -MR8, -MS0, -MT0, -MV0 and -MT8. The samples are qualified as undetected (u or 10u).

~~COMMENTS:~~ * Acetone was found in the prep blank for Samples BOBMP4, -MP6, -MW0, -MR0, MT2 and -MW2. The sample results are qualified as undetected (10u). BM 9-17-94

BM 9/20/94

HOLDING TIME SUMMARY

SDG: W0062-ITC-062	VALIDATOR: COWAN	DATE: 9-7-94	PAGE 1 OF 1
COMMENTS: ~~GENERAL GC~~ CLP VOLATILES			

FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
BOBMW2	CLP VOLATILES	5-10-94		5-14-94	~~14~~	14	NONE
BOBMW4	"	"		5-24-94	9-7-94 (WJC)	"	"
BOBMR0	"	5-11-94		5-25-94		"	"
BOBMR2	"	"		5-24-94		"	"
BOBMR8	"	"		5-24-94		"	"
BOBMS0	"	"		5-24-94		"	"
BOBMT8	"	5-12-94		5-24-94		"	"
BOBMV0	"	"		5-24-94		"	"
BOBMT0	"	5-12-94		5-24-94		"	"
BOBMT2	"	"		5-25-94		"	"
BOBMW0	"	5-19-94		5-25-94		"	"
BOBMW2	"	"		5-25-94		"	"
BOBMR4	"	5-18-94		5-25-94		"	"
BOBMR6	"	"		"			"

PNO-DVF-017, R1

000169

9409270126

BLANK AND SAMPLE DATA SUMMARY

SDG: W0062-ITC-062	VALIDATOR: COWAN	DATE: 97-54	PAGE 1 OF 1

COMMENTS: ~~INORGANIC ANALYSES.~~ VOLATILES ANALYSIS

FIELD SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
VBLKAA9906	$MeCl_2$	4						VARIOUS	u/10u
	Acetone	2						"	u/10u
VBLKAA9714	Acetone	4						VARIOUS	u/10u

PNO-DVF-014, R1

0001170

2/16/98 9:46 PM

VOLATILES QUALIFICATION SUMMARY

ANALYTE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
Acetone	U	BOBMR2 BOBMS0 BOBMV4 BOBMP6	BLANKS	Sample results were less than 10x the associated blank value.
Acetone	10U	BOBMP4 BOBMR0 BOBMR8 BOBMT0 BOBMT2 BOBMT8 BOBMV0 BOBMV2 BOBMW0 BOBMW2	BLANKS	Sample results were < 10x the associated blank value and < CRDL.
Methylene chloride	U	BOBMV2	BLANKS	Sample results were less than 10x the associated blank value.
Methylene chloride	10U	BOBMR2 BOBMR8 BOBMS0 BOBMT0 BOBMT8 BOBMV0 BOBMV4	BLANKS	Sample results were < 10x the associated blank value and < CRDL.

entered by: BM
date: 9-17-94

40266QLS.XLS, Qualification Summary

checked by: BM
date: 9-17-94

 9-19-94

RELATIVE RESPONSE FACTOR

Analysis: GC/MS VOA
SDG: W0062-ITC-062
Sample ID: RRF20

Date: 19-Aug-94
Validator: Cowan

Constituent	Response for Analyte of Interest	Concentration of Internal Standard	Area of Internal Standard	Concentration of Analyte of Interest	RRF
	AxV	CisV	AisV	CxV	
Acetone	13592	50.00	38105	20.00	0.892
Benzene	101565	50.00	184744	20.00	1.374

RELATIVE STANDARD DEVIATION

Analysis: GC/MS VOA
SDG: W0062-ITC-062
Date: 19-Aug-94
Validator: Cowan

Constituent: Chloromethane

RRF1
2.219
1.94
2.094
2.167
2.305

MEAN	STDEV	RSD
2.145	0.1380	6.4

RELATIVE STANDARD DEVIATION

Analysis: GC/MS VOA
SDG: W0062-ITC-062
Date: 19-Aug-94
Validator: Cowan

Constituent: Xylene

RRF2
0.636
0.568
0.507
0.532
0.415

MEAN	STDEV	RSD
0.532	0.0813	15.3

PERCENT DIFFERENCE

Analysis: GC/MS VOA
SDG: W0062-ITC-062
Sample ID: RRF50

Date: 19-Aug-94
Validator: Cowan

Constituent	Initial Calibration Average RRF RRFiV	Continuing Calibration Average RRF RRFsV	%D
Methylene Chloride	2.147	1.926	10.3%
Acetone	0.927	0.771	16.8%

SURROGATE RECOVERY

Analysis: GC/MS VOA
SDG: W0062-ITC-062
Sample ID: B0BMP4

Date: 19-Aug-94
Validator: Cowan

Constituent	quantity of surrogate determined QdV	quantity of surrogate added QaV	%RV
1,2-Dichloroethane	47.80	50.00	95.6%
Tolulene-d8	50.40	50.00	100.8%
4-Bromoform	49.40	50.00	98.8%

PERCENT RECOVERY AND RELATIVE PERCENT DIFFERENCE (MS/MSD)

Analysis: GC/MS VOA
SDG: W0062-ITC-062
Sample ID: B0BMV2

Date: 19-Aug-94
Validator: Cowan

Constituent	MS Result MSV	MSD Result MSDV	Sample Result OSV	Spike Added SAV	MSV %R	MSDV %R	RPDV
Benzene	47.40	50.70	0.00	50.00	94.8%	101.4%	6.7%
Trichloroethene	68.40	74.80	19.70	50.00	97.4%	110.2%	12.3%

RESULTS CALCULATIONS FOR VOA WATER SAMPLES

Analysis: GC/MS VOA
SDG: W0062-ITC-062
Sample ID: Acetone

Date: 19-Aug-94
Validator: Cowan

Constituent	Area of the Quant Ion for the Constituent of Interest	Area of the Quant Ion for the Internal Standard	Amount of Internal Standard added (ng)	Relative Response Factor	Volume of Water Purged (ml)	Dilution Factor	Conc (µg/L)
	AxVW	AisVW	IsVW	RRFVW	VoVW	DfVW	
B0BMV4	5856	26392	50	0.77	1.00	1	14.41
B0BMR2	6203	28463	50	0.77	1.00	1	14.15
B0BMS0	5710	27313	50	0.77	1.00	1	13.58
B0BMT2	867	31955	50	0.77	1.00	1	1.76
B0BMP6	1442	30575	50	0.77	1.00	1	3.06

9647496.0440

BOB MV2 BOB MV4 BOB MV4 MV6 MV0 BOB MT0 BOB MT8 BOB MV0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKAA9908

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: PB0524

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX04

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

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

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

8-22-94 (MJC)

BOBMIP4 BOBMH2
BOBMI6
BOBMH0

9613496.0441
BOBMF0

BOBMT2
BOBMR0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKAA9714

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9714

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: WB0525

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

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

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

8-22-94 WJ

9613496.0442

LATA GC/MS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E

PROJECT: 100-FR-3	SDG: W0062-ITC-062	
VALIDATOR: COWAN	LATA NO.: WW4~~0~~3.66	DATE: 8-22-94
SAF NO.: SAF-94-087	LAB: ITC	CASE:
QAPP REFERENCE:	SAP REFERENCE:	

If there is no QAPP or SAP reference, contact the WHC Technical Representative.
If the document(s) are not provided, default to the Method acceptance criteria.

ANALYSES PERFORMED

☐ CLP Volatiles	☐ SW-846 8240 (cap column)	☐ SW-846 8260 (pac column)	☑ CLP Semivolatiles	☐ SW-846 8270 (cap column)	☐ SW-846 8270 (pac column)
☐	☐	☐	☐	☐	☐

SAMPLES/MATRIX

There are seven water samples: BOBMW2, BOBMW0, BOBMW8, BOBMT8, BOBMT0, BOBMW0, BOBMW4

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 *(see HOLDING TIME SUMMARY form)*

Are sample holding times acceptable? ..... (Yes) No N/A

Comments:

All samples received at laboratory at 4°C and extracted within their 7 day holding time. All analyses done within 40 days after extraction.

Reviewed by JJ Jones 9-7-94 gm 9/7/94

3. INSTRUMENT TUNING AND CALIBRATION *(see CALIBRATION DATA SUMMARY form)*

Is the GC/MS tuning/performance check acceptable? . . . . . (Yes) No N/A

★ **VOA:** Verify the calculation of the mass abundance percentages for the 95/96, 176/177 and 174/176 ratios.

★ **SVOA:** Verify the calculation of the mass abundance percentages for the 199/198 and 443/442 ratios.

Are initial calibrations acceptable? . . . . . (Yes) No N/A

★ Verify the RRF and %RSD values and recalculate the individual and average RRF values and RSD values for two TCL compounds for Volatiles (V) and Semivolatiles (S).

★

Relative Response Factor

$$RRF = \frac{A_x C_{is}}{A_{is} C_x}$$

where:

A_x (V/S) = area of the characteristic ion measured for the sample
A_{is} (V/S) = area of the characteristic ion measured for the internal standard
C_x (V/S) = concentration [(VOA ng) (SVOA ng/µL)] of the compound of interest
C_{is} (V/S) = concentration [(VOA ng) (SVOA ng/µL)] of the associated internal standard

★

Relative Standard Deviation

$$\%RSD = \frac{STDEV}{MEAN} \times 100$$

where:

MEAN = mean of the initial five relative response factors
STDEV = standard deviation of the initial five RRFs per compound

$$= \sqrt{\sum_{i=1}^{n} \frac{(RRF_i - RRF)^2}{n-1}}$$

Are continuing calibrations acceptable? . . . . . (Yes) No N/A

★ Verify that the RRF and %D values are within the required limits and recalculate the individual RRF and %D values for at least two TCL compounds for Volatiles (V) and Semivolatiles (S).

★

Percent Difference

$$\%D = \frac{(RRF_i - RRF_s)}{RRF_i} \times 100$$

where:

RRF_i (V/S) = initial calibration average relative response factor
RRF_s (V/S) = continuing calibration average relative response factor

Comments:_____

JM 9/2/94

LATA GC/MS DATA VALIDATION CHECKLIST

4. BLANKS *(see BLANK AND SAMPLE DATA SUMMARY form)*

Were laboratory blanks analyzed? . . . . . Yes No N/A

Are laboratory blank results acceptable? . . . . . Yes No N/A

Comments:

5. ACCURACY *(see ACCURACY DATA SUMMARY form)*

Were surrogates/System Monitoring Compounds analyzed? . . . . . Yes No N/A

Are all surrogate/System Monitoring Compound recoveries acceptable? . . . . . Yes No N/A

★

Surrogate Recovery

$$\%R = \left(\frac{Q_d}{Q_a}\right) \times 100$$

where:
Q_d (V/S) = quantity of surrogate determined (analysis result)
Q_a (V/S) = quantity of surrogate added (true value)

Were MS/MSD samples analyzed? . . . . . Yes No N/A

Are all MS/MSD recoveries acceptable? . . . . . Yes No N/A

BM 10-3-94

★

Spike Recovery

$$MS\%R = \frac{MS - OS}{SA} \times 100 \quad \text{or} \quad MSD\%R = \frac{MSD - OS}{SA} \times 100$$

where:
MS/MSD (V/S) = spiked sample result
OS (V/S) = sample result
SA (V/S) = spike added

Comments: MS/MSD recoveries high (>UCL) for pentachlorophenol. As surrogate recoveries are all within acceptance criteria, data is not qualified.

6. PRECISION *(see PRECISION DATA SUMMARY form)*

Are all MS/MSD RPD values acceptable? . . . . . Yes No N/A

★

Relative Percent Difference

$$RPD = \frac{|MS - MSD|}{\left(\frac{MS + MSD}{2}\right)} \times 100$$

where =
MS = MS recovery
MSD = MSD recovery

Comments:

7. FIELD QC SAMPLES

Were field QC samples (field/trip blanks, duplicates, splits, performance audit) identified? Yes No N/A

Are field/trip blank results 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

Are performance audit sample results acceptable? . . . . . Yes No N/A

Comments:

8. SYSTEM PERFORMANCE

Were internal standards analyzed? . . . . . Yes No N/A

Are internal standard areas acceptable? . . . . . Yes No N/A

Are internal standard retention times acceptable? . . . . . Yes No N/A

Comments:

Jm 9/20/94

9. COMPOUND IDENTIFICATION AND QUANTITATION

Is compound identification acceptable? . . . . . Yes No N/A

Is compound quantitation acceptable? . . . . . Yes No N/A

★

Results Calculations for VOA water (VW) samples

$$\text{Concentration } (\mu g/L) = \frac{(A_x VW)\ (I_s VW)\ (D_f VW)}{(A_{is} VW)\ (RRFVW)\ (V_o VW)}$$

where:

$A_x VW$ = area of the quantitation ion (EICP) for the compound of interest
$A_{is} VW$ = area of the quantitation ion (EICP) for the specified internal standard
$I_s VW$ = amount of internal standard added (ng)
RRFVW = relative response factor (ambient temperature purge of the calibration standard)
$V_o VW$ = volume of water purged (ml)
$D_f VW$ = dilution factor

★

Results Calculations for VOA soil/sediment (VLS) samples (low level)

$$\text{Concentration } (\mu g/Kg) = \frac{(A_x VLS)\ (I_s VLS)}{(A_{is} VLS)\ (RRFVLS)\ (W_s VLS)\ (SVLS)}$$

where:

$A_x VLS$ = area of the quantitation ion (EICP) for the compound of interest
$A_{is} VLS$ = area of the quantitation ion (EICP) for the specified internal standard
$I_s VLS$ = amount of internal standard added (ng)
RRFVLS = relative response factor (ambient temperature purge of the calibration standard)
$W_s VLS$ = weight of sample added (g)
SVLS = dry weight conversion factor [(100 - %moisture)/100]

★

Results Calculations for VOA soil/sediment (VMS) samples (medium level)

$$\text{Concentration } (\mu g/Kg) = \frac{(A_x VMS)\ (I_s VMS)\ (V_t VMS)\ (1000)\ (D_f VMS)}{(A_{is} VMS)\ (RRFVMS)\ (V_a VMS)\ (W_s VMS)\ (SVMS)}$$

where:

$A_x VMS$ = area of the quantitation ion (EICP) for the compound of interest
$A_{is} VMS$ = area of the quantitation ion (EICP) for the specified internal standard
$I_s VMS$ = amount of internal standard added (ng)
RRFVMS = relative response factor (ambient temperature purge of the calibration standard)
$W_s VMS$ = weight of sample extracted (g)
$D_f VMS$ = dilution factor
SVMS = dry weight conversion factor [(100 - %moisture)/100]
$V_t VMS$ = total volume methanol extract (ml)
$V_a VMS$ = volume of the aliquot (ml)

9. COMPOUND IDENTIFICATION AND QUANTITATION (continued)

★

Results Calculations for SVOA water (SW) samples

$$\text{Concentration } (\mu g/L) = \frac{(A_x SW)\ (I_s SW)\ (V_t SW)\ (D_f SW)}{(A_{is} SW)\ (RRFSW)\ (V_o SW)\ (V_i SW)}$$

where:

$A_x SW$ = area of the quantitation ion (EICP) for the compound of interest
$A_{is} SW$ = area of the quantitation ion (EICP) for the specified internal standard
$I_s SW$ = amount of internal standard added (ng)
RRFSW = relative response factor for the daily calibration standard
$V_o SW$ = volume of water extracted (ml)
$V_i SW$ = volume of extract injected (µL)
$V_t SW$ = volume of concentrated extract (µL)
$D_f SW$ = dilution factor

★

Results Calculations for SVOA soil/sediment (SS) samples

$$\text{Concentration } (\mu g/Kg) = \frac{(A_x SS)\ (I_s SS)\ (V_t SS)\ (D_f SS)}{(A_{is} SS)\ (RRFSS)\ (V_i SS)\ (W_s SS)\ (SSS)}$$

where:

$A_x SS$ = area of the quantitation ion (EICP) for the compound of interest
$A_{is} SS$ = area of the quantitation ion (EICP) for the specified internal standard
$I_s SS$ = amount of internal standard added (ng)
RRFSS = relative response factor for the daily calibration standard
$W_s SS$ = weight of sample extracted (g)
$D_f SS$ = dilution factor
SSS = dry weight conversion factor [(100 - %moisture)/100]
$V_t SS$ = total volume of concentrated extract (µL)
$V_i SS$ = volume of the extract injected (µL)

Comments:_____

10. REPORTED RESULTS AND QUANTITATION LIMITS

Are results reported for all requested analyses? . . . . . Yes No N/A

Are all results supported in the raw data? . . . . . Yes No N/A

Do results meet the CRQLs? . . . . . Yes No N/A

Has the laboratory properly identified and coded all TIC? . . . . . Yes No N/A

Comments:_____

Jm 9/20/94

LATA GC/MS DATA VALIDATION CHECKLIST

VALIDATION SUMMARY

MAJOR DEFICIENCIES:

None

MINOR DEFICIENCIES:

None

COMMENTS: Matrix QC values are slightly above the Upper Control Limit for Pentachlorophenol. No data are qualified because of excellent surrogate recoveries for spiked samples.

9/20/94

HOLDING TIME SUMMARY

SDG: W0062-ITC-062	VALIDATOR: COWAN	DATE: 9-7-94	PAGE 1 OF 1
COMMENTS: GENERAL GC SEMIVOLATILES - CLP			

FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
BOBAU2	CLP SEMIVOLATILES	5-10-94	5-~~15~~ 16-94	5-~~16~~ 18-94 9-7-94 (WJC)	7	40	NONE
BOBMR0	"	5-11-94	5-16-94	5-18-94	7	40	"
BOBMR8	"	5-11-94	5-16-94	5-18-94	7	40	"
BOBMT8	"	5-12-94	~~5-13-94~~ 5-17-94	~~5-16-94~~ 5-18-94 9-7-94 (WJC)	7	40	"
BOBMT0	"	5-12-94	5-14-94	~~5-17-94~~ 5-18-94 9-7-94 (WJC)	7	40	"
BOBMW0	"	5-19-94	5-24-94	6-7-94	7	40	"
BOBMP4	"	5-16-94	5-24-94	6-7-94	7	40	"

PNO-DVF-017, R1

000187

RELATIVE RESPONSE FACTOR

Analysis: GC/MS VOA
SDG: W0062-ITC-062
Sample ID: RRF120

Date: 22-Aug-94
Validator: Cowan

Constituent	Response for Analyte of Interest	Concentration of Internal Standard	Area of Internal Standard	Concentration of Analyte of Interest	RRF
	AxV	CisV	AisV	CxV	
Nitrobenzene	53678.00	20.00	33932.00	60.00	0.527
Dibenzofuran	73040.00	20.00	17000.00	60.00	1.432

RELATIVE STANDARD DEVIATION

Analysis GC/MS VOA
SDG: W0062-ITC-062
Date: 22-Aug-94
Validator: Cowan

Constituent: Naphthalene

RRF1
1.04
1.036
0.99
0.966
0.917

MEAN	STDEV	RSD
0.990	0.0513	5.2

RELATIVE STANDARD DEVIATION

Analysis GC/MS VOA
SDG: W0062-ITC-062
Date: 22-Aug-94
Validator: Cowan

Constituent: Isophorone

RRF2
0.767
0.9
0.877
0.964
0.946

MEAN	STDEV	RSD
0.891	0.0775	8.7

PERCENT DIFFERENCE

Analysis: GC/MS VOA
SDG: W0062-ITC-062

Date: 22-Aug-94
Validator: Cowan

Constituent	Initial Calibration Average RRF RRFiV	Continuing Calibration Average RRF RRFsV	%D
Phenol	1.752	1.458	16.8%
4-Nitrophenol	0.199	0.2	0.5%

SURROGATE RECOVERY

Analysis: GC/MS VOA
SDG: W0062-ITC-062
Sample ID: BOBMP4

Date: 22-Aug-94
Validator: Cowan

Constituent	quantity of surrogate determined QdV	quantity of surrogate added QaV	%RV
Nitrobenzene	34.20	50.00	68.4%
Tribromophenol	58.40	75.00	77.9%

PERCENT RECOVERY AND RELATIVE PERCENT DIFFERENCE (MS/MSD)

Analysis: GC/MS VOA
SDG: W0062-ITC-062
Sample ID: B0BMV2

Date: 22-Aug-94
Validator: Cowan

Constituent	MS Result MSV	MSD Result MSDV	Sample Result OSV	Spike Added SAV	MSV %R	MSDV %R	RPDV
Phenol	63.10	58.20	0.00	75.00	84.1%	77.6%	8.1%
Acenaphthene	37.50	38.20	0.00	50.00	75.0%	76.4%	1.8%

RESULTS CALCULATIONS FOR SVOA WATER SAMPLES

Analysis: GC/MS SVOA
SDG: W0062-ITC-062
Sample ID: BOBMP4

Date: 22-Aug-94
Validator: Cowan

Constituent	Area of the Quant Ion for the Constituent of Interest	Area of the Quant Ion for the Internal Standard	Amount of Internal Standard added (ng)	Relative Response Factor	Volume water extracted (mL)	Volume of extract injected (µL)	Volume of concentrated extract (µL)	Dilution Factor	Conc (µg/L)
	AxSW	AisSW	IsSW	RRFSW	VoSW	ViSW	VtSW	DfSW	
Phenol	324.00	29720.00	20.00	1.46	1000.00	2.00	1000.00	1.00	0.07
Nitrobenzene	462.00	99744.00	20.00	0.49	1000.00	2.00	1000.00	1.00	0.10

JM 9/20/94

RESULTS CALCULATIONS FOR SVOA WATER SAMPLES

Analysis: GC/MS SVOA
SDG: W0062-ITC-062
Sample ID: B0BMV2

Date: 22-Aug-94
Validator: Cowan

Constituent	Area of the Quant Ion for the Constituent of Interest	Area of the Quant Ion for the Internal Standard	Amount of Internal Standard added (ng)	Relative Response Factor	Volume water extracted (mL)	Volume of extract injected (µL)	Volume of concentrated extract (µL)	Dilution Factor	Conc (µg/L)
	AxSW	AisSW	IsSW	RRFSW	VoSW	ViSW	VtSW	DfSW	
Phenol	0.00	10164.00	20.00	1.46	1000.00	2.00	1000.00	1.00	0.00
Nitrobenzene	146.00	28891.00	20.00	0.49	1000.00	2.00	1000.00	1.00	0.10

JM 9/20/94

9615496.0457

LATA PESTICIDE/PCB DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	(D)	E

PROJECT: 100-FR-3	SDG: W0062-ITC-062	
VALIDATOR: CONAN	LATA NO.: WW402.66	DATE: 8-23-94
SAF NO.: SAF-94-087	LAB: ITC	CASE:
QAPP REFERENCE:	SAP REFERENCE:	

If there is no QAPP or SAP reference, contact the WHC Technical Representative.
If the document(s) are not provided, default to the Method acceptance criteria.

ANALYSES PERFORMED

☑ CLP 3/90	☐ SW-846 8080	☐ SW-846 8081	☐	☐	☐

SAMPLES/MATRIX

These Are Seven water Samples: BOBMV2, BOBMN0, BOBMR8, BOBMT8, BOBMT0, BOBMW0, BOBMP4

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 *(see HOLDING TIME SUMMARY form)*

Are sample holding times acceptable? ..... (Yes) No N/A

Comments:

All Samples were received unpreserved at 4°C and extracted within 7 days from Sample collections. All holding times were met.

Reviewed by JJ Jones 9-1-94

JM 9/20/94

3. INSTRUMENT PERFORMANCE AND CALIBRATIONS *(see CALIBRATION DATA SUMMARY form)*

3.1 INSTRUMENT PERFORMANCE (METHOD 8080 AND 8081)

Are DDT retention times acceptable . . . . . Yes No N/A

Are DBC retention times acceptable? . . . . . Yes No N/A

★

DBC Retention Time Percent Difference

$$\%D = \frac{(RT_i - RT_s)}{RT_i} \times 100$$

where:
RT_i = absolute retention time of DBC (initial standard)
RT_s = absolute retention time of DBC (subsequent standards/samples)

Are calibration standard retention times acceptable? . . . . . Yes No N/A

★ Recalculate the retention time windows for at least two pesticide compounds. For CLP, see the table in Section 8.4 for retention time windows from the mean retention time value. For SW-846, calculate the mean plus or minus three times the standard deviation as described in Method 8000A.

Are DDT and endrin breakdowns acceptable? . . . . . Yes No N/A

★

Percent Breakdown

$$\%breakdown = \frac{TDA}{TPA} \times 100$$

where:
(TDA) total degradation peak area = the total peak areas of DDE + DDD or endrin aldehyde + endrin ketone
(TPA) total peak area = the total of all associated peak areas for DDE, DDE + DDT or endrin aldehyde, endrin ketone + endrin

For confirmation by GC/MS; is the GC/MS tuning/performance check acceptable (use GC/MS checklist)? . . . . . Yes No N/A

Comments:_____

JM 9/20/94

3.2 CALIBRATIONS (METHOD 8080 AND 8081)

Are all EVAL standard calibration factors and %RSD values acceptable? . . . . . Yes No N/A

Are all quantitation column calibration factor %RSD values acceptable? . . . . . Yes No N/A

★

Relative Standard Deviation

$$\%RSD = \frac{STDEV}{MEAN} \times 100$$

where:
MEAN = mean of the initial five response (calibration) factors
STDEV = standard deviation of the initial five RFs/CFs per compound

$$= \sqrt{\sum_{i=1}^{n} \frac{(RF_i - RF)^2}{n-1}}$$

Were the analytical sequence requirements met? . . . . . Yes No N/A

Are all continuing calibration %D values acceptable? . . . . . Yes No N/A

★ Recalculate at least two of the %D values from the raw data and compare to the reported results.

★

Percent Difference

$$\%D = \frac{(RF_i - RF_s)}{RF_i} \times 100$$

where:
RF_i = initial calibration response (calibration) factor
RF_s = continuing calibration response (calibration) factor

Comments:

3.3 INSTRUMENT PERFORMANCE AND INITIAL CALIBRATION (3/90 SOW)

Was the initial calibration sequence performed? . . . . . (Yes) No N/A

Was the resolution acceptable in the resolution check mix? All > 60% . . . . . (Yes) No N/A

Is resolution acceptable in the PEM, INDA and INDB? . . . . . (Yes) No N/A

★ 100% 90% 90%

Resolution

$$\text{resolution} = \frac{P_v}{P_h} \times 100$$

where:
P_v = the peak height of the valley of the larger peak
P_h = the peak height of the smaller peak being resolved

Are DDT and Endrin breakdowns acceptable? . . . . . (Yes) No N/A

Are all retention times in PEMs and calibration mixes acceptable? . . . . . (Yes) No N/A

Are all RPD values in the PEMs acceptable? . . . . . (Yes) No N/A

Are all %RSD values acceptable? . . . . . (Yes) No N/A

Comments:

3.4 CALIBRATION VERIFICATION (3/90 SOW)

Were the analytical sequence requirements met? . . . . . (Yes) No N/A

Is resolution acceptable in the PEMs? . . . . . (Yes) No N/A

Are initial calibrations acceptable? . . . . . (Yes) No N/A

Are all retention times acceptable in the PEMs, INDA and INDB mixes? . . . . . (Yes) No N/A

Are all RPD values in the PEMs acceptable? . . . . . (Yes) No N/A

Are the DDT and endrin breakdowns acceptable? . . . . . (Yes) No N/A

Was GPC cleanup performed? . . . . . Yes (No) N/A

Is the GPC calibration check acceptable? . . . . . MM 9-30-94 . . . . . Yes ~~No~~ (N/A)

Was Florisil cleanup performed? . . . . . (Yes) No N/A

Is the Florisil performance check acceptable? . . . . . (Yes) No N/A

Comments: No GPC cleanup was not required for these samples MM 9-30-94

JM 9/20/94

LATA PESTICIDE/PCB DATA VALIDATION CHECKLIST

4. BLANKS *(see BLANK AND SAMPLE DATA SUMMARY form)*

Were laboratory blanks analyzed? . . . . . Yes No N/A

Are laboratory blank results acceptable? . . . . . Yes No N/A

Comments:

5. ACCURACY *(see ACCURACY DATA SUMMARY form)*

Were surrogates analyzed? . . . . . Yes No N/A

Are all surrogate recoveries acceptable? . . . . . Yes No N/A

★

Surrogate Recovery

$$\%R = \left(\frac{Q_d}{Q_a}\right) \times 100$$

where:
Q_d = quantity of surrogate determined (analysis result)
Q_a = quantity of surrogate added (true value)

Were MS/MSD samples analyzed? . . . . . Yes No N/A

Are all MS/MSD recoveries acceptable? . . . . . Yes No N/A

Were LCS samples analyzed? . . . . . Yes No N/A

Are all LCS results acceptable? . . . . . Yes No N/A

★

Spike Recovery

$$\%R = \frac{MS - OS}{SA} \times 100$$

where:
MS or MSD = spiked sample result
OS = sample result
SA = spike added

Comments: LCS in SW-846 protocol only

6. PRECISION *(see PRECISION DATA SUMMARY form)*

Are all duplicate RPD values acceptable? . . . . . Yes No N/A

★

Relative Percent Difference

$$RPD = \frac{|MS - MSD|}{\left(\frac{MS + MSD}{2}\right)} \times 100$$

where:
MS = MS recovery
MSD = MSD recovery

Comments:

7. FIELD QC SAMPLES

Were field QC samples (field/trip blanks, duplicates, splits, performance audit) identified? . . . . . Yes No N/A

Are field/trip blank results 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

Are performance audit sample results acceptable? . . . . . Yes No N/A

Comments:

8. SYSTEM PERFORMANCE

Is chromatographic performance acceptable? . . . . . Yes No N/A

Are all positive results resolved acceptably? . . . . . Yes No N/A

Comments:

All non-detects in data.

9/20/94

9. COMPOUND IDENTIFICATION AND QUANTITATION

Is compound identification acceptable? . . . . . Yes No N/A

Is compound quantitation acceptable? . . . . . Yes No N/A

★ Recalculate the valid detected results of at least two samples.

★

External Standard Calibration, Aqueous (EW) Samples

$$\text{Concentration } (\mu g/L) = \frac{(A_xEW)(AEW)(V_tEW)(DEW)}{(A_sEW)(V_iEW)(V_sEW)}$$

where:

A_xEW = response for sample (area counts/peak height)
AEW = amount of standard (ng)
A_sEW = response for external standard (area counts/peak height)
V_iEW = volume of extract injected (µL)
DEW = dilution factor
V_tEW = volume of total extract (µL)
V_sEW = volume of sample extracted (ml)

★

External Standard Calibration, Nonaqueous (ES) Samples

$$\text{Concentration } (\mu g/Kg) = \frac{(A_xES)(AES)(V_tES)(DES)}{(A_sES)(V_iES)(WES)(SES)}$$

where:

A_xES = response for sample (area counts/peak height)
AES = amount of standard (ng)
A_sES = response for external standard (area counts/peak height)
V_iES = volume of extract injected (µL)
DES = dilution factor
V_tES = volume of total extract (µL)
WES = weight of sample (g)
SES = dry weight conversion factor [(100 - %moisture)/100]

Comments:

Jm 9/20/94

9. COMPOUND IDENTIFICATION AND QUANTITATION (continued)

★

Internal Standard Calibration, Aqueous (IW) Samples

$$\text{Concentration } (\mu g/L) = \frac{(A_x IW)(C_{is} IW)(DIW)}{(A_{is} IW)(RFIW)(V_s IW)}$$

where:
$A_x IW$ = response for sample (area counts/peak height)
$C_{is} IW$ = amount of internal standard added (ng)
$A_{is} IW$ = response for internal standard (area counts/peak height)
DIW = dilution factor
RFIW = response factor for the analyte
$V_s IW$ = volume of sample extracted (ml)

★

Internal Standard Calibration, Nonaqueous (IS) Samples

$$\text{Concentration } (\mu g/Kg) = \frac{(A_x IS)(C_{is} IS)(DIS)}{(A_{is} IS)(RFIS)(W_s IS)(SIS)}$$

where:
$A_x IS$ = response for sample (area counts/peak height)
$C_{is} IS$ = amount of internal standard added (ng)
$A_{is} IS$ = response for internal standard (area counts/peak height)
DIS = dilution factor
RFIS = response factor for the analyte
$W_s IS$ = weight of sample extracted (g)
SIS = dry weight conversion factor [(100 - %moisture)/100]

Comments:

10. REPORTED RESULTS AND QUANTITATION LIMITS

Are results reported for all requested analyses? . . . . . Yes No N/A

Are all results supported in the raw data? . . . . . Yes No N/A

Do results meet the CRQLs? . . . . . Yes No N/A

Comments:

LATA PESTICIDE/PCB DATA VALIDATION CHECKLIST

VALIDATION SUMMARY

MAJOR DEFICIENCIES: None

MINOR DEFICIENCIES: None

COMMENTS:

JM 9/28/94

Analysis: Pesticides/PCBs
SDG: W0062-ITC-062

Date: 23-Aug-94
Validator: Cowan

Constituent	Total Degradation Peak Area of DDE+DDD or endrin aldehyde +endrin ketone TDA	Total Peak Area of DDE, DDE+DDT or endrin aldehyde, endrin ketone+endrin TPA	% Breakdown
PEMCZ -DDT BREAKDOWN	70579.00	406169.00	17.4%
PEMCZ-ENDRIN BREAKDOWN	5827.00	252149.00	2.3%

RELATIVE STANDARD DEVIATION

Analysis: Pesticides/PCBs
SDG: W0062-ITC-062 Date: 23-Aug-94
Standard ID: INDA Validator: Cowan

Constituent: Alpha-BHC

RF1	MEAN	STDEV	RSD
10400000	10283333.333	292973.2639	2.8
9950000			
10500000			

RELATIVE STANDARD DEVIATION

Analysis: Pesticides/PCBs
SDG: W0062-ITC-062 Date: 23-Aug-94
Standard ID: INDA Validator: Cowan

Constituent: Decachlorobiphenyl (surrogate)

RF2	MEAN	STDEV	RSD
4620000	4183333.333	440037.8772	10.5
4190000			
3740000			

RESOLUTION

Analysis: Pesticides/PCBs
SDG: W0062-ITC-062

Date: 23-Aug-94
Validator: Cowan

Constituent	Peak height of valley of the larger peak Pv	Peak height of smaller peak being resolved Ph	Resolution
4,4'-DDE & Dieldrin (RESCCZ)	2.5	110	97.7%

SURROGATE RECOVERY

Analysis: Pesticides/PCBs
SDG: W0062-ITC-062
Sample ID: B0BMR0

Date: 23-Aug-94
Validator: Cowan

Constituent	quantity of surrogate determined Qd	quantity of surrogate added Qa	%R
TCX = Tetrachloro-m-xylene	0.0195	0.0200	97.5%

9/20/94

PERCENT RECOVERY AND RELATIVE PERCENT DIFFERENCE (MS/MSD)

Analysis: Pesticides/PCBs
SDG: W0062-ITC-062
Sample ID: B0BMV2

Date: 23-Aug-94
Validator: Cowan

Constituent	MS Result	MSD Result	Sample Result	Spike Added	MS %R	MSD %R	RPD
	MS	MSD	OS	SA			
Aldrin	0.55	0.57	0.00	0.50	109.8%	114.0%	3.8%

8m 9/20/94

LATA INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E

PROJECT: 100-FR-3		SDG: W0062-ITC-062
VALIDATOR: COWAN	LATA NO.: VW4~~0~~7.66	DATE: 8-24-94
SAF NO.: SAF-94-087	LAB: ITC	CASE:
QAPP REFERENCE:		SAP REFERENCE:

If there is no QAPP or SAP reference, contact the WHC Technical Representative.
If the document(s) are not provided, default to the Method acceptance criteria.

ANALYSES PERFORMED

☑ CLP/ICP	☑ CLP/GFAA	☑ CLP/Hg	☑ CLP/CN	☐	☐
☐ SW-846/ICP	☐ SW-846/GFAA	☐ SW-846/Hg	☐ SW-846/CN	☐	☐

SAMPLES/MATRIX

There are 14 water samples: BOBMV2, BOBMV3, BOBMR0, BOBMR1, BOBMR8, BOBMR9, BOBMT6, BOBMT9, BOBMT0, BOBMW0, BOBMW1, BOBMY4, BOBMT5, and BOBMT1 mw 9-30-94

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:

2. HOLDING TIMES *(see HOLDING TIME SUMMARY form)*

Are sample holding times acceptable? . . . . . (Yes) No N/A

Comments: All samples for metals analysis preserved with HNO_3 and analysed with holding time. All samples for cyanide analysis preserved with NaOH and analysed within their 14 day holding time.

Reviewed by JJones 9-7-94

mm 9/20/94

3. INSTRUMENT PERFORMANCE AND CALIBRATIONS *(see CALIBRATION DATA SUMMARY form)*

Were initial calibrations performed on all instruments? . . . . . (Yes) No N/A

Are initial calibrations acceptable? . . . . . (Yes) No N/A

★ Recalculate the correlation coefficient (r) of the standard curves for atomic absorption and cyanide analyses.

Correlation Coefficient (r)

$$r = \frac{N \sum x_i y_i - \sum x_i \sum y_i^{1/2}}{[N \sum x_i^2 - (\sum x_i)^2]^{1/2} \; [N \sum y_i^2 - (\sum y_i)^2]^{1/2}}$$

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

★ Recalculate at least one ICV and CCV recovery for each method.

★

ICV/CCV Recovery

$$\%R = \frac{\text{observed value}}{\text{true value}} \times 100$$

Comments:

4. BLANKS *(see BLANK AND SAMPLE DATA SUMMARY form)*

Were ICB and CCB checks performed for all applicable analyses? . . . . . (Yes) No N/A

Are ICB and CCB results acceptable? . . . . . ~~yes~~ NO (Yes) No N/A

Were preparation blanks analyzed? . . ~~Minor deficiencies~~ . . . . . yes (PB) ~~Yes~~ (No) N/A

Are preparation blank results acceptable? . . . . . NO ~~Yes~~ (No) N/A

Comments: Negative blank values greater than the IDL for Copper, potassium and Iron.

Prep blank contamination Zinc, Iron

Neg Prep blank - Copper

9/20/94

LATA INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

5. ACCURACY *(see ACCURACY DATA SUMMARY form)*

Were spike samples analyzed? . . . . . Yes No N/A

Are all spike sample recoveries acceptable? . . . . . Yes No N/A

Were laboratory control samples (LCS) analyzed? . . . . . Yes No N/A

Are all LCS recoveries acceptable? . . . . . Yes No N/A

★

Spike Recovery

$$\%R = \frac{SSR - SR}{SA} \times 100$$

where:
SSR = spiked sample result
SR = sample result
SA = spike added

Comments: This spikes for Se < 75% for MR3, MRO, MR1, MR8, MR9, MTO, MTI, MV2, MP4, MP5, MW0, MW1

~~Post digest spikes out for Se %R < 85%~~ moved to pg 213

~~" " " " Pb %R < 85%~~ moved to pg 213

6. PRECISION *(see PRECISION DATA SUMMARY form)*

Were laboratory duplicates analyzed? . . . . . Yes No N/A

Are all duplicate RPD values acceptable? . . ~~Minor deficiency~~ . . . . . Yes No N/A

★

Relative Percent Difference

$$RPD = \frac{|OS - D|}{\left(\frac{OS + D}{2}\right)} \times 100$$

where:
OS = sample concentration (original sample/MS)
D = duplicate concentration (duplicate sample/MSD)

Comments: ~~Fe is in 6 of MS's qualified, RPD > 20%~~

~~Copper is all detect samples qualified as Range > CRDL~~

9-7-94

LATA INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

6. PRECISION (continued) *(see PRECISION DATA SUMMARY form)*

Were ICP serial dilution samples analyzed? . . . . . Yes No N/A

Are all ICP serial dilution %D values acceptable? ~~Have differences~~ . . ~~yes~~ . . Yes ~~No~~ N/A ~~NA~~

★ ~~JM~~ 9-7-94

$$\%D = \frac{|I - S|}{I} \times 100$$

Percent Difference

where:
I = analyte concentration before dilution
S = analyte concentration after serial dilution

Comments: ~~%D > 10% for Iron Sample BOBMP5 > 50 x IDL~~
~~J qualified.~~

(CLP) Fe result is < 50 x IDL %D not applicable ~~JM~~ 9-7-94
BOBMN2 (serial dilution sample)

7. FIELD QC SAMPLES

Were field QC samples (field/trip blanks, duplicates, splits, performance audit) identified? Yes No N/A

Are field/trip blank results 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

Are performance audit sample results acceptable? . . . . . Yes No N/A

Comments:

JM 9/20/94

LATA INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

8. FURNACE AA QUALITY CONTROL

Were duplicate injections performed as required? . . . . . Yes No N/A

Are all duplicate injection %RSD values acceptable? . . . . . Yes No N/A

Were analytical spikes performed as required? . . . . . Yes No N/A

Are all analytical spike recoveries acceptable? . . . . . 6-30-94 . . . . Yes No N/A

Was MSA performed as required? . . . . . Yes No N/A

Are all MSA results acceptable? . . . . . Yes No N/A

Comments:

MSA BOBMV2 R term acceptable MW 6-30-94

Analytical Spike Se <85% MV3, MR0, MR1, MR8, MR9, MT0, MT1, MP4 MP5, MW0, MW1 (BJ/UJ) estimated

Analytical Spike Pb <85% MT0, MT1, MT8, MT9, MW0, MW1, MV2 qualified estimated (BJ/UJ).

MM 8/20/94

9. 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

★

Inorganics Analysis Results Calculation, water sample

Concentration (µg/L) = CONCW × DFW

where:

CONCW = concentration off calibration curve (µg/L)

DFW = dilution factor (if any)

★

Inorganics Analysis Results Calculation, soil sample

$$\text{Concentration (mg/Kg)} = \frac{\text{CONCS} \times \text{DFS} \times \text{VOL}}{\text{WS} \times \text{SS}}$$

where:

CONCS = concentration off calibration curve (mg/L)

DFS = dilution factor (if any)

VOL = volume of final extract (ml)

WS = weight of sample (g)

SS = dry weight conversion factor [(100 − %moisture) × 100]

Do results meet the CRDLs? . . . . . Yes No N/A

Comments:

LATA INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

VALIDATION SUMMARY

MAJOR DEFICIENCIES: NONE

MINOR DEFICIENCIES:

Negative calibration blank values with absolute values greater than the IDL were reported for Copper, Iron, and potassium. Both non-detects and detects were qualified. Prepblank contamination for Zinc and Iron resulted in qualification of samples as per "Blank and Sample Data Summary" ~~Iron and Copper had RPDs greater than 20%. Sample BOBMP3 was J-qualified for iron while all Copper detects were qualified.~~ ~~gg~~ 9-7-94

~~The Serial Dilution (%D) was greater than 10% for Iron. As sample BOBMP5 had a concentration greater than 50 times the IDL for Iron, the result was J-qualified~~ ~~gg~~ 9-7-94

COMMENTS:

Matrix spike recoveries below 75% for Se - Samples MV3, MR1, MR9, MT1, MT9, MP5, MV1/MV2 UJ/BJ-qualified. ~~MR0, MR8, MT0, MV2, MP4~~ MW 10-4-94

MW 10-4-94

Analytical spike recoveries below 85% for Se - Samples MV3, MR0, MR1, MR8, MR9, MT0, MT1, MT4, MP5, MV0 and MV1 UJ/BJ-qualified.

Anal. spike % below 85% for Pb - Samples MT0, MT1, MT8, MT9, MV0 and MV1 UJ/BJ-qualified.

-MV2

gm 9/20/94

MW 10-4-94

BLANK AND SAMPLE DATA SUMMARY

SDG:	W0062-ITC-062	VALIDATOR: B COWAN (JMJ)							DATE:	07-Sep-94
COMMENTS:	INORGANIC ANALYSIS									
BLANK TYPE ~~FIELD SAMPLE~~ ~~ID~~ MW9-3[illegible]	COMPOUND	RESULT	Q	RT	UNITS	2X RESULT	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
CB	COPPER	-13.5	B	N/A	µg/L	27.0			MV2, MR0, MR1, MR8, MR9, MT0, MT8, MT9, MP4, MW0, MW1	UJ
PB	COPPER	-10.4	B	N/A	µg/L			104.0	MV3, MT1, MP5	J/BJ
CB	IRON	-14.8	B	N/A	µg/L	29.6			MV3, MR9, MT0, MT1	UJ
PB	IRON	15.9	B	N/A	µg/L		79.5		MR8, MT9, MW1	U
PB	IRON	15.9	B	N/A	µg/L		79.5		MV2, MR0, MR1, MT8	UJ
CB		-14.8	B	N/A	µg/L	29.6				
CB	POTASSIUM	-1477.4	B	N/A	µg/L	2954.8			MR0, MR9, MT0, MP4, MP5	J/BJ
CB	POTASSIUM	-1477.4	B	N/A	µg/L	2954.8			MR1, MR8	UJ
PB	ZINC	5.3	B	N/A	µg/L		26.4		MV2, MR0, MR1, MR8, MR9, MT0, MT9, MP5	U

000216

8410-9/94 96

U.S. EPA - CLP

3
BLANKS

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: WO577 SAS No.: _____ SDG No.: W0062_

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L_

(ω) PBW0621
A PBW0524A (9679)
PBW 0524A (9673)
CPBW0621A (A9996)

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Aluminum	40.0	U	40.0	U	40.0	U	40.0	U	40.000	U	P
Antimony	50.0	U	50.0	U	50.0	U	50.0	U	50.000	U	P
Arsenic	2.0	U	2.0	U	2.0	U	2.0	U	2.000	U	F
Barium	2.0	U	2.0	U	2.0	U	2.0	U	2.000	U	P
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	P
Cadmium	5.0	U	5.0	U	5.0	U	5.0	U	5.000	U	P
Calcium	-29.6	B	-29.9	B	20.0	U	20.0	U	54.050	B	P
Chromium	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Cobalt	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Copper	-13.5	B	-12.8	B	-10.2	B	-12.8	B	-10.400	B	P
Iron	-14.8	B	-13.7	B	-10.4	B	10.0	U	15.890	B	P
Lead	2.0	U	2.0	U	2.0	U	2.0	U	2.000	U	F
Magnesium	30.0	U	30.0	U	30.0	U	30.0	U	30.000	U	P
Manganese	2.0	U	2.0	U	2.0	U	2.0	U	2.000	U	P
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.200	U	CV
Nickel	20.0	U	20.0	U	20.0	U	20.0	U	20.000	U	P
Potassium	1000.0	U	1000.0	U	1000.0	U	1000.0	U	1000.000	U	P
Selenium	2.0	U	2.0	U	2.0	U	2.0	U	2.000	U	F
Silver	5.0	U	5.0	U	5.0	U	5.0	U	5.000	U	P
Sodium	100.0	U	100.0	U	100.0	U	100.0	U			P
Thallium	2.0	U	2.0	U	2.0	U	2.0	U	2.000	U	F
Vanadium	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Zinc	5.0	U	5.0	U	5.0	U	5.0	U	5.280	B	P
Cyanide	10.0	U	10.0	U					10.000	U	AS

Cu : [-] > IDL UJ,J

Fe : [-] > IDL UJ,J

FORM III - IN

ILM02.1

8-24-93

8/24/94

U.S. EPA - CLP

3
BLANKS

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: W0577 SAS No.: _____ SDG No.: W0062_

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L_

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	(CN) PBW0525 ~~CLCSW0601B~~ 8 6/24/94 CPBW0601B 8 Prepa-ration Blank	C	M
Aluminum			40.0	U	40.0	U					P
Antimony			50.0	U	50.0	U					P
Arsenic			2.0	U	2.0	U	2.0	U			F
Barium			2.0	U	2.0	U					P
Beryllium			1.0	U	1.0	U					P
Cadmium			5.0	U	5.0	U					P
Calcium			40.1	B	20.0	U					P
Chromium			10.0	U	10.0	U					P
Cobalt			10.0	U	10.0	U					P
Copper			10.0	U	10.0	U					P
Iron			10.0	U	-13.1	B					P
Lead			2.0	U	2.0	U	2.0	U			F
Magnesium			30.0	U	-60.2	B					P
Manganese			2.0	U	2.0	U					P
Mercury									0.200	U	CV
Nickel			20.0	U	20.0	U					P
Potassium			1000.0	U	-1477.4	B					P
Selenium			2.0	U	2.0	U	2.0	U			F
Silver			5.0	U	5.0	U					P
Sodium			100.0	U							P
Thallium											NR
Vanadium			10.0	U	10.0	U					P
Zinc			5.0	U	5.0	U					P
Cyanide	10.0	U	10.0	U	10.0	U			10.000	U	AS

k: [-] > IDL UJ, J

FORM III - IN

ILM02.1
8 6/24/94

WJC 8-24-94

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

BOBMV3

Lab Name: ITAS_KNOXVILLE_____ Contract:HANFORD___

Lab Code: ITSTU_ Case No.: W0536 SAS No.: _____ SDG No.: W0062_
Matrix: __WATER_____ Level (low/med): _LOW____
% Solids for Sample: __0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	2037.3500		40.0000	U	2000.00	101.9		P
Antimony	75-125	520.3600		50.0000	U	500.00	104.1		P
Arsenic	75-125	41.9700		6.5100	B	40.00	88.6		F
Barium	75-125	2009.2000		42.2800	B	2000.00	98.3		P
Beryllium	75-125	52.0200		1.0000	U	50.00	104.0		P
Cadmium	75-125	45.4800		5.0000	U	50.00	91.0		P
Calcium									NR
Chromium	75-125	203.2200		10.0000	U	200.00	101.6		P
Cobalt	75-125	488.5100		10.0000	U	500.00	97.7		P
Copper	75-125	245.8100		46.6900		250.00	79.6		P
Iron	75-125	993.2700		10.0000	U	1000.00	99.3		P
Lead	75-125	16.9500		2.0000	U	20.00	84.8		F
Magnesium									NR
Manganese	75-125	488.6300		2.0000	U	500.00	97.7		P
Mercury	75-125	1.0830		0.2000	U	1.00	108.3		CV
Nickel	75-125	495.2400		20.0000	U	500.00	99.0		P
Potassium									NR
Selenium	75-125	10.4300		3.0000	B	10.00	74.3	N	F
Silver	75-125	50.2200		5.0000	U	50.00	100.4		P
Sodium									NR
Thallium	75-125	50.6100		2.0000	U	50.00	101.2		F
Vanadium	75-125	501.9000		17.8500	B	500.00	96.8		P
Zinc	75-125	480.0200		5.0000	U	500.00	96.0		P
Cyanide									NR

Comments:
DISSOLVED

FORM V (Part 1) - IN ILM02.1

9-9-94
WJC

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: W0577 SAS No.: _____ SDG No.: W0062_

Matrix (soil/water): WATER Level (low/med): _LOW__

% Solids for Sample: __0.0 % Solids for Duplicate: ___0.0

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M	
Aluminum		40.0000	U	40.0000	U			P	
Antimony		50.0000	U	50.0000	U			P	
Arsenic	10.0	9.0600	B	8.0000	B	12.4		F	
Barium	200.0	43.9800	B	43.9800	B	0.0		P	
Beryllium		1.0000	U	1.0000	U			P	
Cadmium		5.0000	U	5.0000	U			P	
Calcium		58547.1900		60314.1000		3.0		P	
Chromium		10.0000	U	10.0000	U			P	
Cobalt		10.0000	U	10.0000	U			P	
Copper		10.0000	U	10.0000	U			P	
Iron	100.0	23.8400	B	16 Clear 39.8600	B	50.3		P	150
Lead		2.0000	U	2.0000	U			F	
Magnesium	5000.0	18422.8200		18868.6000		2.4		P	
Manganese		2.0000	U	2.0000	U			P	
Mercury		0.2000	U	0.2000	U			CV	
Nickel		20.0000	U	20.0000	U			P	
Potassium	5000.0	7180.3400		1.1 clear 7054.0300		1.8		P	
Selenium	5.0	3.1000	B	2.0000	U	200.0		F	5
Silver		5.0000	U	5.0000	U			P	
Sodium		55276.0000		56569.0000		2.3		P	
Thallium		2.0000	U	2.0000	U			F	
Vanadium	50.0	17.5900	B	3 clear 16.4200	B	6.9		P	
Zinc	20.0	11.1300	B	14.5200	B	26.4		P	20
Cyanide								NR	

~~Iron (BOBMP5) RPD > 15% J~~ JAJ 9-7-94

FORM VI - IN

ILM02.1
8 6/24/94

WOC 8-24-94

Sample values <5xCRDL
acceptance criteria is
± CRDL (not RPD)
JAJ 9-7-94

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

BOBMV3

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: WO577 SAS No.: _____ SDG No.: W0062_

Matrix (soil/water): WATER Level (low/med): _LOW__

% Solids for Sample: __0.0 % Solids for Duplicate: ___0.0

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		40.0000	U	40.0000	U			P
Antimony		50.0000	U	50.0000	U			P
Arsenic		6.5100	B	7.8200	B	18.3		F
Barium		42.2800	B	47.0500	B	10.7		P
Beryllium		1.0000	U	1.0000	U			P
Cadmium		5.0000	U	5.0000	U			P
Calcium		57906.5600		62710.3100		8.0		P
Chromium		10.0000	U	10.0000	U			P
Cobalt		10.0000	U	10.0000	U			P
Copper	25.0	46.6900		37.7 LCAOC 10.0000	U	200.0	*	P 25
Iron		10.0000	U	10.0000	U			P
Lead		2.0000	U	2.0000	U			F
Magnesium	5000.0	18034.9800		19632.7200		8.5		P
Manganese		2.0000	U	2.0000	U			P
Mercury		0.2000	U	0.2000	U			CV
Nickel		20.0000	U	20.0000	U			P
Potassium	5000.0	7082.3400		6655.4800		6.2		P
Selenium		3.0000	B	2.7700	B	8.0		F
Silver		5.0000	U	5.0000	U			P
Sodium		53955.0000		59259.0000		9.4		P
Thallium		2.0000	U	4 LCAOC 2.0000	U			F
Vanadium		17.8500	B	13.8300	B	25.4		P 50
Zinc		5.0000	U	5.0000	U			P
Cyanide								NR

Cu (all detects) → J

Range > ± CRDL

FORM VI - IN

ILM02.1
8 6/24/94

WJC 8-24-94

U.S. EPA - CLP

9

ICP SERIAL DILUTION

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS_KNOXVILLE_____ Contract: HANFORD/WE

Lab Code: ITSTU_ Case No.: WO577 SAS No.: _____ SDG No.: W0062_

Matrix (soil/water): WATER Level (low/med): LOW__

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M	
Aluminum	40.00	U	200.00	U			P	
Antimony	50.00	U	250.00	U			P	
Arsenic							NR	
Barium	43.98	B	44.55	B	1.3		P	
Beryllium	1.00	U	5.00	U			P	
Cadmium	5.00	U	25.00	U			P	
Calcium	58547.19		58689.00		0.2		P	-OK
Chromium	10.00	U	50.00	U			P	
Cobalt	10.00	U	50.00	U			P	
Copper	10.00	U	50.00	U			P	
Iron	23.84	B	50.00	U	100.0		P	100
Lead							NR	
Magnesium	18422.82		18471.65	B	0.3		P	-OK
Manganese	2.00	U	10.00	U			P	
Mercury							NR	
Nickel	20.00	U	100.00	U			P	
Potassium	7180.34		6947.30	B	3.2		P	
Selenium							NR	
Silver	5.00	U	25.00	U			P	
Sodium	55276.00		54575.00		1.3		P	-OK
Thallium							NR	
Vanadium	17.59	B	50.00	U	100.0		P	50
Zinc	11.13	B	25.00	U	100.0		P	20
Cyanide							NR	

Iron ~~%D > 10%, SK > 50x IDL (BOBMP5)~~ 9-7-94

FORM IX - IN

ILM02.1
8 6/24/94

50X IDL

8-24-94 (WOC)

LINEAR REGRESSION ANALYSIS

Analysis: Inorganic (metals/CN)
Constituent: Arsenic by GFAA
SDG: W0062-ITC-062

Calibration Date: 23-May-94

Date: 24-Aug-94
Validator: Cowan

Concentration	Absorbance
0.00	-0.001
10.00	0.070
20.00	0.141
40.00	0.265
60.00	0.388
80.00	0.501

r: 0.9993	r^2: 0.9986
slope: 159.6500	x intercept: -1.2730
1/slope: 0.0063	y intercept: 0.0083

LINEAR REGRESSION ANALYSIS

Analysis: Inorganic (metals/CN)
Constituent: Mercury by CV
SDG: W0062-ITC-062

Calibration Date: 1-Jun-94

Date: 24-Aug-94
Validator: Cowan

Concentration	Absorbance
0.00	1.000
0.50	1.300
1.00	24.500
2.00	46.000
3.00	70.500
6.00	135.000

r: 0.9960	r^2: 0.9920
slope: 0.0430	x intercept: 0.0902
1/slope: 23.2719	y intercept: -1.7112

PERCENT RECOVERY (ICV/CCV)

Analysis: Inorganic (metals/CN)
SDG: W0062-ITC-062

Date: 24-Aug-94
Validator: Cowan

Constituent	Observed Value	True Value	%R
	O	A	
Aluminum (ICP)	40302.22	40000.00	100.8%
Mercury (CV)	4.17	4.00	104.3%
Arsenic (GFAA)	36.15	40.00	90.4%
Cyanide (AS)	184.00	200.00	92.0%

MATRIX SPIKE RECOVERY (MS)

Analysis: Inorganic (metals/CN)
SDG: W0062-ITC-062
Sample ID: B0BMV2

Date: 24-Aug-94
Validator: Cowan

Constituent	Spike Sample Result SSR	Sample Result SR	Spike Added SA	%R
Aluminum (ICP)	2099.38	0.00	2000.00	105.0%
Mercury (CV)	1.06	0.00	1.00	106.0%
Arsenic (GFAA)	45.48	9.06	40.00	91.1%
Cyanide (AS)	178.00	0.00	200.00	89.0%

9/20/94
9/30/94

PERCENT RECOVERY (LCS)

Analysis: Inorganic (metals/CN)
SDG: W0062-ITC-062

Date: 24-Aug-94
Validator: Cowan

Constituent	Observed value	True value	%R
	OLCS	ALCS	
Aluminum (ICP)	1941.56	2000.00	97.1%
Mercury (CV)	4.35	4.00	108.8%
Arsenic (GFAA)	34.79	40.00	87.0%
Cyanide (AS)	218.00	200.00	109.0%

RELATIVE PERCENT DIFFERENCE

Analysis: Inorganic (metals/CN)
SDG: W0062-ITC-062
Sample ID: BOBMV2

Date: 24-Aug-94
Validator: Cowan

Constituent	Original (Sample) concentration OS	Duplicate concentration D	RPD
Aluminum (ICP)	40.00	40.00	0.0%
Mercury (CV)	0.20	0.20	0.0%
Arsenic (GFAA)	9.06	8.00	12.4%
Cyanide (AS)	10.00	10.00	0.0%

PERCENT DIFFERENCE (ICP SERIAL DILUTION)

Analysis: ICP
SDG: W0062-ITC-062
Sample ID: BOBMV2

Date: 24-Aug-94
Validator: Cowan

Constituent	Analyte Concentration before Dilution	Analyte Concentration after Serial Dilution	%D
	I	S	
Barium (ICP)	43.98	44.55	1.3%

INORGANICS RESULTS CALCULATION, WATER

Analysis: Inorganic (metals/CN)
SDG: W0062-ITC-062
Sample ID: B0BMV2

Date: 24-Aug-94
Validator: Cowan

Constituent	Concentration from curve CONCW	Dilution Factor DFW	Concentration (µg/L)
Arsenic by GFAA	9.06	1	9.1
Hg by CV	4.35	1	4.4

9613496.0492

LATA GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	(D)	E

PROJECT: 100-FR-3	SDG: W0062-ITC-062	
VALIDATOR: COWAN	LATA NO: VW40~~7~~.66	DATE: 8-25-94
SAF NO.: SAF-94-087	LAB: ITC	CASE:
QAPP REFERENCE:	SAP REFERENCE:	

If there is no QAPP or SAP reference, contact the WHC Technical Representative.
If the document(s) are not provided, default to the Method acceptance criteria.

ANALYSES PERFORMED

☑ Alkalinity 310.1	☐ Chloride 325.3	☑ pH 9040/150.1	☑ TOC 9060/415.1	☑ TDS 160.1 ☐ TSS 160.2	☐
☑ Anions 300.0	☐ Chromium+6 7196	☐ Phenols 9065/420.1	☑ TOX 9020/9022	☐ Sulfate 375.4	☐
☑ Ammonia 350.3	☑ COD 410.1	☐ Phosphorus 365.2	☐ TKN 351.3	☑ Sulfide 9030/376.1	☐
☐ BOD 405.1	☑ Nitrate+Nitrite 353.2	☐ Oil & Grease 413.1	☐ TPH 9070/418.1	☑ Specific Conductivity	☐

SAMPLES/MATRIX

7 Water Samples (BOB): MV2, MR0, MR8, MT8, MT0, MW0, MP4

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 *(see HOLDING TIME SUMMARY form)*

Are sample holding times acceptable? . . . . . Yes (No) N/A

Comments: Missed TDS holding time on BOBMP4

~~Missed COD holding time on (BOB) MR0, MV2, MT8, MT0~~ 9-9-94 (WJC)

Missed holding time on pH and PO4 - all Samples

Reviewed by JJones 9-7-94

9/20/94

3. INSTRUMENT CALIBRATION *(see CALIBRATION DATA SUMMARY form)*

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

★ For methods requiring a calibration curve (three standards and a blank) use the following equation for correlation coefficient (r).

Correlation Coefficient (r)

$$r = \frac{N \sum x_i y_i - \sum x_i \sum y_i}{[N \sum x_i^2 - (\sum x_i)^2]^{1/2} \; [N \sum y_i^2 - (\sum y_i)^2]^{1/2}}$$

★ For methods requiring ICV/CCV or a calibration check standard, calculate recovery as follows:

Recovery

$$\%R = \frac{\text{observed value}}{\text{true value}} \times 100$$

Comments:

4. BLANKS *(see BLANK AND SAMPLE DATA SUMMARY form)*

Were laboratory blanks analyzed? . . . . . Yes No N/A

Are laboratory blank results acceptable? . . . . . Yes No N/A

Comments:

5. ACCURACY *(see ACCURACY DATA SUMMARY form)*

Were spike samples analyzed at the required frequency? . . . . . Yes No N/A

Are all spike recoveries acceptable? . . . . . Yes No N/A

★

Spike Recovery

$$\%R = \frac{SSR - SR}{SA} \times 100$$

where:
SSR = spiked sample result
SR = sample result
SA = spike added

Were LCS analyses performed at the required frequency? . . . . . Yes No N/A

Are all LCS recoveries acceptable? . . . . . Yes No N/A

★

Recovery

$$\%R = \frac{\text{observed value}}{\text{true value}} \times 100$$

Comments:

6. PRECISION *(see PRECISION DATA SUMMARY form)*

Were laboratory duplicate samples analyzed at the required frequency? . . . . . Yes No N/A

Are all duplicate RPD values acceptable? . . . . . Yes No N/A

★

Relative Percent Difference

$$RPD = \frac{|OS - D|}{\left(\frac{OS + D}{2}\right)} \times 100$$

where:
OS = sample concentration (original sample/MS)
D = duplicate concentration (duplicate sample/MSD)

Comments:

7. FIELD QC SAMPLES

Were field QC samples (field/trip blanks, duplicates, splits, performance audit) identified? Yes No N/A

Are field/trip blank results 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

Are performance audit sample results acceptable? . . . . . Yes No N/A

Comments:

8. ANALYTE QUANTITATION

Was analyte quantitation performed properly? . . . . . Yes No N/A

Are results calculated properly? . . . . . Yes No N/A

★ For methods with calibration curves:

General Chemistry Results Calculation, water sample

Concentration (µg/L) = CONCW × DfW

where:

CONCW = concentration off calibration curve (µg/L)

DfW = dilution factor (if any)

or

General Chemistry Results Calculation, soil sample

$$\text{Concentration (mg/Kg)} = \frac{(\text{CONCS} \times \text{DfS} \times \text{VOL})}{(\text{WS} \times \text{SS})}$$

where:

CONCS = concentration off calibration curve (mg/L)

VOL = volume of final extract (ml)

WS = weight of sample (g)

DfS = dilution factor (if any)

SS = dry weight conversion [(100 − %moisture) × 100]

★ For all other results calculations, see the analytical method.

Comments:

9. 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

Do results meet the CRDLs? . . . . . Yes No N/A

Comments:

JM 9/20/94

LATA GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

VALIDATION SUMMARY

MAJOR DEFICIENCIES: ~~None~~ 9-8-94 (DJC)

All PO4 results were UR-qualified due to a greater than 2X missed holding time.

9-8-94 (WJC)

MINOR DEFICIENCIES:

The Holding time was missed for TDS analysis on sample BOBHPH. ~~Cob holding times were missed for samples MRO, MV2, MT8, MTO.~~ All missed holding times resulted in a J/UJ qualification. No data were rejected. 9-9-94 (WJC)

Holding times were missed for all samples for pH and phosphate analysis. pH results were J-qualified while phosphate results were UR-qualified.

9-8-94 (WJC)

COMMENTS:

DJD 9/20/94

HOLDING TIME SUMMARY

SDG: W0062-IC-062	VALIDATOR: Cordan	DATE: 9-8-94	PAGE 1 OF 1

COMMENTS: INORGANIC ANALYSES

FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
B03W1P4	TDS	5-18-94		5-26-94		7 days	J
All	pH	5-16 to 5/19		5-17-94		ASAP	J
All	PO4 by IC	5-16 to 5/19		6-6 & 6-13		2 days	UR

PNO-DVF-014, R1

000236

96139476.0198

LINEAR REGRESSION ANALYSIS

Analysis: General Chemistry
Constituent: N02/N03
SDG: W0062-ITC-062

Calibration Date: 25-May-94

Date: 25-Aug-94
Validator: Cowan

Concentration	Absorbance
0.00	0.000
0.02	0.001
0.04	0.002
0.10	0.005
0.40	0.020
1.00	0.051
2.00	0.102

r 1.0000	r^2 1.0000
slope 19.5807	x intercept 0.0053
1/slope 0.0511	y intercept -0.0003

LINEAR REGRESSION ANALYSIS

Analysis: General Chemistry
Constituent: NH3 (350.2)
SDG: W0062-ITC-062

Calibration Date: 3-Jan-94

Date: 25-Aug-94
Validator: Cowan

Concentration	Absorbance
0.10	0.002
0.50	0.088
1.00	0.226
1.50	0.320
2.00	0.419
2.50	0.539

r 0.9987	r^2 0.9974
slope 4.4957	x intercept 0.0728
1/slope 0.2224	y intercept -0.0155

LINEAR REGRESSION ANALYSIS

Analysis: General Chemistry
Constituent: Fluoride by IC
SDG: W0062-ITC-062

Calibration Date: 31-May-94

Date: 25-Aug-94
Validator: Cowan

Concentration	Absorbance
0.40	467196.000
2.00	2392712.000
4.00	5523691.000

r 0.9974	r^2 0.9947
slope 0.0000	x intercept 0.1635
1/slope 1418665.0737	y intercept -215976.9016

MATRIX SPIKE RECOVERY (MS)

Analysis: General Chemistry
SDG: W0062-ITC-062
Sample ID: B0BMV2

Date: 25-Aug-94
Validator: Cowan

Constituent	Spike Sample Result SSR	Sample Result SR	Spike Added SA	%R
Ammonia	0.89	0.00	1.00	89.0%
COD	44.00	0.00	50.00	88.0%
NO2/NO3	21.00	4.56	20.00	82.2%
Sulfide	52.00	12.80	37.60	104.3%
TOC	26.50	0.00	25.00	106.0%
TOX	42.70	0.00	50.00	85.4%
Fluoride	3.30	0.80	2.00	125.0%
Chloride	48.00	16.00	~~25.00~~ 30.00	~~128.0%~~ 107%

JJC 9-12-94

9-12-94

GENERAL CHEMISTRY

MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS REPORT FORM

Laboratory Name:	ITAS-KNOXVILLE	Work Order Number(s):	536
Client Sample ID:	BOBMV2	Prep Date:	06-Jun-94
Lab Sample ID:	AA8884	Concentration Units:	MG/L PPM
Sample Matrix:	WATER	LIMS Test Code:	
		(IF APPLICABLE)	

Parameter	Analysis Date	Original Sample (A)	Spike Added (B)	MS (C)	%R	MSD (D)	%R	RPD
fluoride	06-Jun-94	0.8	2	3.3	125	3.2	120	4
chloride		16	30	48	107	49	110	3
phosphate		1 U	10	10	100	9.6	96	4
sulfate		74	150	250	117	260	124	6

$$\%R = \frac{C - A}{B} \times 100.$$

$$\%RPD = [(D - C)/((D + C)\,0.5)] * 100$$

9-12-94

\+ - Positive result.

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

Second Level Review by: [illegible] 6-27-94

Initials Date

MSANION.WK4

PERCENT RECOVERY (LCS)

Analysis: General Chemistry
SDG: W0062-ITC-062

Date: 25-Aug-94
Validator: Cowan

Constituent	Observed value	True value	%R
	OLCS	ALCS	
Fluoride	1.90	2.00	95.0%
Chloride	2.90	3.00	96.7%
Nitrite	2.50	2.50	100.0%
Bromide	10.00	10.00	100.0%
Nitrate	2.60	2.50	104.0%
Phosphate	10.00	10.00	100.0%
Sulfate	16.00	15.00	106.7%

RELATIVE PERCENT DIFFERENCE

Analysis: General Chemistry
SDG: W0062-ITC-062
Sample ID: B0BMV2

Date: 25-Aug-94
Validator: Cowan

Constituent	Original (Sample) concentration	Duplicate concentration	RPD
	OS	D	
Alkalinity	110.00	110.00	0.0%
COD	5.00	5.00	0.0%
pH	7.53	7.53	0.0%
Cond.	389.00	386.00	0.8%
TDS	28.00	24.00	15.4%

JM 9/20/94

GENERAL CHEMISTRY RESULTS CALCULATION, WATER

Analysis: General Chemistry
SDG: W0062-ITC-062
Sample ID: See Below

Date: 25-Aug-94
Validator: Cowan

Constituent	Concentration from curve CONCW	Dilution Factor DfW	Concentration (µg/L)
Alkalinity (B0BMR0)	3.90	20	78.0
NH3 (B0BMR0)	0.14	1	0.14
COD (B0BMR0)	2.00	1	2.0
Fluoride (B0BMV2)	0.52	1	0.5

GENERAL CHEMISTRY QUALIFICATION SUMMARY

ANALYTE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
TDS	J	MP4	Hold Time	Holding time exceeded by less than two times.
pH	J	All	Hold Time	Holding time exceeded.
Phosphate	UR	All	Hold Time	Holding time exceeded by more than two times.

entered by: [illegible]
date: 9-18-97

40266QLS.GNC, Qualification Summary

checked by: [illegible]
date: 9/20/

x.2
7Sa = 1.4
only 1 sd to validate

9613496.0507

W40266

LATA RADIOCHEMISTRY DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E

PROJECT: 100-FR3		SDG: W0062-ITC-062	
VALIDATOR: MWebb	LATA NO.: VW401. 402.66		DATE: 8-23-94
SAF NO.: 94-087	LAB: ITC		CASE: —
QAPP REFERENCE:		SAP REFERENCE:	

If there is no QAPP or SAP reference, contact the WHC Technical Representative.
If the document(s) are not provided, default to the Method acceptance criteria.

ANALYSES PERFORMED

☒ Gross Alpha ☒ Gross Beta	☐ Strontium-89 ☒ Strontium-90	☒ Technetium-99	☒ Isotopic Anal. Alpha Spec. Am	☐ Gamma Spectroscopy	☐ Iodine-129
☐ Total Uranium (KPA)	☐ Radium-226 ☐ Radium-228	☒ (LSC) Liquid Scintillation H3	☒ PuISO	☒ UISO	☒ C14

SAMPLES/MATRIX (1801) BOBMV2 BOBMW0 (4601) (all waters)
(4401) BOBMR0 BOBMP4 (4602)
(4402) BOBMR8
(9201) BOBMT8
(9202) BOBMT0

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification forms present? ..... (Yes) No N/A
Compliance screening form present? ..... (Yes) No N/A
Is a case narrative present? ..... (Yes) No N/A
Were all analyses requested reported? ..... (Yes) No N/A
Are all results supported in the raw data? ..... (Yes) No N/A

Comments:

2. CHAIN-OF-CUSTODY/HOLDING TIMES

Are sample holding times acceptable? ..... (Yes) No N/A
Are samples preserved correctly? ..... (Yes) No N/A
Was the pH of the sample checked prior to analysis? ..... 4-20-94 (Yes) ~~No~~ N/A

Comments: There is no evidence that the pH was checked prior to analysis. pH accepted. There is no variance report. Assumed to be OK.

Reviewed JJ Jones 9-7-94

9/12/94

BOBMW0 = 40544601 not 40546601 (pg 1) (comment pg)

LATA RADIOCHEMISTRY DATA VALIDATION CHECKLIST

3. INITIAL CALIBRATION

Instruments/detectors calibrated within one year of sample analysis? ..... 8-23-94 pm ~~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: Yearly Calibration was not done on all the γ detectors, but Continuing Calibration is acceptable - The lacking re-calibration does not affect the data

4. CONTINUING CALIBRATION

Background checked at proper frequency? ..... Yes No N/A

Background check acceptable? ..... Yes No N/A

Efficiency checked at proper frequency? ..... Yes No N/A

Efficiency check acceptable? ..... Yes No N/A

Calibration check standards NIST traceable? ..... Yes No N/A

Calibration check standards expired? ..... Yes No N/A

Comments:

5. BLANKS *(see BLANK AND SAMPLE DATA SUMMARY form)*

Method blank analyzed? ..... Yes No N/A

Method blank results acceptable? ..... Yes No N/A

Analytes detected in method blank? ..... Yes No N/A

Transcription/Calculation Errors? ..... Yes No N/A

Comments:

JM 9/20/94

6. MATRIX SPIKES *(see ACCURACY DATA SUMMARY form)*

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

★

Spike Recovery

$$\%R = \frac{SSR - SR}{SA} \times 100$$

where:
SSR = spiked sample result
SR = sample result
SA = spike added

Comments: _____

7. LABORATORY CONTROL SAMPLES *(see ACCURACY DATA SUMMARY form)*

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

★

Recovery

$$\%R = \frac{\text{observed value}}{\text{true value}} \times 100$$

Comments: _____

JM 9/20/94

LATA RADIOCHEMISTRY DATA VALIDATION CHECKLIST

8. CHEMICAL RECOVERY *(see ACCURACY DATA SUMMARY form)*

Chemical carrier added? . . . . . Yes No N/A

Chemical recovery acceptable? . . . . . Yes No N/A

Tracer added? . . . . . Yes No N/A

Tracer recovery acceptable? . . . . . Yes No N/A

Standards traceable? . . . . . Yes No N/A

Standards expired? . . . . . Yes No N/A

Transcription/Calculation errors? . . . . . Yes No N/A

★

Alpha Spec Tracer Recovery

$$\frac{A.1 - B.1}{(2.22)(E.1)(T.1)}$$

where:

A.1 = gross counts per minute
B.1 = background counts per minute of tracer
2.22 = conversion factor, dpm/pCi
E.1 = detector efficiency
T.1 = activity (pCi) of tracer added to sample (can be determined by taking dpm of tracer added divided by 2.22)

Comments: _____

9. DUPLICATES *(see PRECISION DATA SUMMARY form)*

Duplicates Analyzed? . . . . . Yes No N/A

RPD Values Acceptable? . . . . . Yes No N/A

Transcription/Calculation Errors? . . . . . Yes No N/A

★

Relative Percent Difference

$$RPD = \frac{|OS - D|}{\left(\frac{OS + D}{2}\right)} \times 100$$

where:

OS = sample concentration (original sample/MS)
D = duplicate concentration (duplicate sample/MSD)

Comments: _____

JM 9/20/94

LATA RADIOCHEMISTRY DATA VALIDATION CHECKLIST

10. FIELD QC SAMPLES

Field blank(s) identified? . . . . . Yes **(No)** N/A

Field blank results acceptable? . . . . . Yes No **(N/A)**

Analytes detected in field blank(s)? . . . . . Yes No **(N/A)**

Field duplicate sample(s) identified? . . . . . Yes **(No)** N/A

Field duplicate RPD values acceptable? . . . . . Yes No **(N/A)**

Field split sample(s) identified? . . . . . Yes **(No)** N/A

Field split RPD values acceptable? . . . . . Yes No **(N/A)**

Performance audit sample(s) identified? . . . . . Yes **(No)** N/A

Performance audit sample results acceptable? . . . . . Yes No **(N/A)**

Comments: _____

11. DETECTION LIMITS (LEVELS D & E)

MDA's meet required detection limits? . . . . . ~~Yes~~ **(No)** N/A

Transcription/calculation errors? . . . . . Yes **(No)** N/A

★

$$\frac{\text{Minimum Detectable Activity (MDA)}}{\dfrac{4.66 \times \sqrt{(B.2)(T.2)}}{2.22(E.2)(I.2)(R.2)(D.2)(V.2)(Y.2)(T.2)}}$$

where:

- B.2 = background counts per minute (cpm) or the reported standard deviation of the background (S) cpm
- T.2 = counting time for associated sample
- 2.22 = conversion dpm/pCi
- E.2 = detector efficiency
- I.2 = ingrowth correction factor (if applicable or 1)
- R.2 = carrier recovery factor (if applicable or 1)
- D.2 = decay factor (if applicable or 1)
- Y.2 = chemical yield factor (if applicable or 1)
- V.2 = sample volume in liters or grams

Comments: Fe59 MDA (γ scan) was not achieved for Sample B0BMR8

LATA RADIOCHEMISTRY DATA VALIDATION CHECKLIST

Results Calculation Equations

Gross α/β and Tritium

$$\frac{(A.3 - B.3) \times C.3}{(2.22)(E.3)(V.3)}$$

where:

A.3 = gross counts per minute
B.3 = background counts per minute
C.3 = activity of α fraction in β channel*
2.22 = conversion factor, dpm/pCi
E.3 = detector efficiency
V.3 = sample volume, liters or grams
*if for calculation of gross β, otherwise substitute 1

Strontium (total)

$$\frac{A.4 - B.4}{(2.22)(E.4)(I.4)(D.4)(R.4)(V.4)}$$

where:

A.4 = gross counts per minute
B.4 = background counts per minute
2.22 = conversion factor, dpm/pCi
E.4 = detector efficiency
I.4 = ingrowth correction factor
R.4 = carrier recovery factor
D.4 = strontium decay factor
V.4 = sample volume, liters or grams

Strontium-90 (corrected for Sr-89)

$$\frac{A.5 - B.5}{(2.22)(Y.5)(E.5)(I.5)(D.5)(R.5)(V.5)}$$

where:

A.5 = gross counts per minute
B.5 = background counts per minute
Y.5 = yttrium-90 yield factor
2.22 = conversion factor, dpm/pCi
E.5 = detector efficiency
I.5 = ingrowth correction factor
R.5 = strontium-89 yield factor
D.5 = strontium decay factor
V.5 = sample volume, liters or grams

LATA RADIOCHEMISTRY DATA VALIDATION CHECKLIST

Results Calculation Equations, continued

Technetium-99

$$\frac{A.6 - B.6}{(2.22)(E.6)(R.6)(V.6)}$$

where:
- A.6 = gross counts per minute
- B.6 = background counts per minute
- 2.22 = conversion factor, dpm/pCi
- E.6 = detector efficiency
- R.6 = carrier recovery factor
- V.6 = sample volume, liters or grams

Alpha Spec Isotopes

$$\frac{A.7 - B.7}{(2.22)(E.7)(R.7)(V.7)}$$

where:
- A.7 = gross counts per minute for isotope
- B.7 = background counts per minute for detector
- 2.22 = conversion factor, dpm/pCi
- E.7 = detector efficiency
- R.7 = tracer recovery factor
- V.7 = sample amount, liters or grams

Gamma Spec Isotopes

$$\frac{A.8}{(2.22)(B.8)(D.8)(E.8)(V.8)(T.8)}$$

where:
- A.8 = peak area for isotope
- D.8 = decay factor for isotope
- 2.22 = conversion factor, dpm/pCi
- B.8 = abundance factor for isotope
- E.8 = efficiency factor for isotope
- V.8 = sample amount, liters or grams
- T.8 = live time (minutes)

Results Calculation Equations, continued

Total Uranium by Laser Fluorometry

$$\frac{(W.9 - I.9)(R.9)(D.9)}{U.9 - W.9}$$

where:

W.9 = sample reading with Fluran
I.9 = initial sample reading
R.9 = concentration of uranium standard after dilution with sample (µg/L)
D.9 = dilution factor
U.9 = sample reading with uranium standard

Radium-226 by Radon Emanation

$$D = \frac{COUNT}{(2.22)(CAL)(VOL)} \times \frac{1}{1 - e^{-\lambda t_1}} \times \frac{1}{e^{-\lambda t_2}} \times \frac{t_3}{1 - e^{-\lambda t_3}}$$

where:

COUNT = net count rate, cpm
CAL = calibration constant of the de-emanation system and the scintillation cell in counts per minutes/disintigrations per minute of radon-222
VOL = sample aliquot in liters
t_1 = the elapsed time in days between the first and second de-emanations, and λ is the decay constant for radon-222 (0.181 d^{-1})
t_2 = the time interval in hours between the second de-emanation and counting, and λ is the decay constant of radon-222 (0.00755hr^{-1})
t_3 = the counting time in minutes, and λ is the decay constant of radon-222 (1.26×10^{-4} min^{-1})
2.22 = conversion factor, dpm/pCi

Validator	Date	SDG	VW Number
MC Webb	8-25-94	W0062-ITC-062	VW402.66

RADIOCHEMICAL DATA QUALIFICATION SUMMARY

Analyte	Qualifier	Sample	Reason
Alpha	None	NA	NA
Beta	None	NA	NA
Sr-total	None	NA	NA
C14	None	NA	NA
Tc99	None	NA	NA
Tritium	None	NA	NA
Am241	None	NA	NA
Pu238	None	NA	NA
Pu239	None	NA	NA
U234	None	NA	NA
U235	None	NA	NA
U238	None	NA	NA
Gamma Scan	None	NA	NA

Validator	Date	SDG	VW Number
MC Webb	8-25-94	W0062-ITC-062	VW402.66

RADIOCHEMICAL DATA QUALIFICATION SUMMARY

MAJOR DEFICIENCIES:

1. None

MINOR DEFICIENCIES:

1. None

COMMENTS:

1. Sample BOBMW0 laboratory ID is 40544601 not 40546601 (page 1).
2. There is no evidence that the pH was checked prior to analysis. This is not a validation "point", but is important in the evaluation of the data.
3. The expected value for the U-235 spike was not calculated correctly. The Form 1 was edited by the validator.
4. The MDA for Fe59 (gamma scan) was not met for BOBMR8. No qualifier is necessary.

ignore per 4-2044

9613496.0517

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

LABORATORY CONTROL SAMPLE

LAB NAME: ITAS-RICHLAND **SDG:** W0062
LAB SAMPLE ID: L052181S **MATRIX:** WATER

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	EXPECTED	RECOVERY
AM-241	6.69E+00	1.07E+00	1.47E+00	2.29E-01	pCi/L	84.50%	6.79E+00	98.53%
PU239/40	4.36E+00	1.16E+00	1.32E+00	3.67E-01	pCi/L	54.30%	4.58E+00	95.20%
U-234	8.91E+00	1.54E+00	1.98E+00	3.56E-01	pCi/L	62.50%	8.65E+00	103.01%
U-235	3.07E-01	2.99E-01	3.02E-01	3.77E-01	pCi/L	62.50%	1.75E-01	175.43%
U-238DA	8.78E+00	1.53E+00	1.96E+00	3.32E-01	pCi/L	62.50%	9.06E+00	96.91%
CO-60	4.98E+01	1.25E+01	1.35E+01	N/A	pCi/L	N/A	4.97E+01	100.20%
CS-137DA	1.15E+02	1.59E+01	1.96E+01	N/A	pCi/L	N/A	1.12E+02	102.68%
EU-152	9.59E+01	3.39E+01	3.52E+01	8.69E+01	pCi/L	N/A	9.95E+01	96.38%
ALPHA	1.77E+01	1.88E+00	3.53E+00	4.77E-01	pCi/L	100.00%	2.27E+01	77.97%
BETA	2.26E+01	2.53E+00	3.00E+00	2.70E+00	pCi/L	100.00%	2.26E+01	100.00%
STRONTIUM	1.39E+01	1.11E+00	3.71E+00	8.30E-01	pCi/L	93.20%	1.35E+01	102.96%
C-14	1.79E+03	8.44E+01	1.85E+02	3.55E+00	pCi/L	100.00%	1.80E+03	99.44%
TRITIUM	2.48E+03	1.74E+02	3.52E+02	2.46E+02	pCi/L	97.30%	2.70E+03	91.85%

Number of Results: 13

Expected for U-235

$$\frac{8.0388 * .0218}{(2.22)(.2)} = .3547 \text{ pCi/L}$$

$$\frac{\text{found}}{\text{exp}} * 100 = \%R$$

$$100 \times \frac{.307}{.395} = 77.7\% \text{ OK}$$

Calc error on part of lab.

[illegible] 8.25.94

~~0074~~

9613496.0518

DATE 23-Jun-94 CALCULATED RESULTS SUMMARY dir$era_caldat:405218U PAGE 1

(NUM)	IT #	ISOTOPE	RESULT	ERROR*	COUNT ERROR*	YIELD	CALC MDA	UNITS	COMMENTS	DIAGNOSTICS
(3)	L052181B	U234	3.064E-01	1.946E-01	1.929E-01	0.375	5.53E-01	PCI/L		No Contr Values
(5)	L052181B	U235	-1.776E-02	1.265E-02	1.256E-02	0.375	5.07E-01	PCI/L		No Contr Values
(7)	L052181B	U238	-3.553E-02	1.800E-02	1.776E-02	0.375	5.93E-01	PCI/L		No Contr Values
(11)	L052181S	U234	8.912E+00	9.882E-01	7.718E-01	0.625	3.56E-01	PCI/L	103.0	No Contr Values
	EQIC 146		8.6508 ± .03646							
(13)	L052181S	U235	3.067E-01	1.510E-01	1.495E-01	0.625	3.77E-01	PCI/L	175.0	No Contr Values
			.1752 ± .001663							
(15)	L052181S	U238	8.784E+00	9.781E-01	7.660E-01	0.625	3.32E-01	PCI/L	96.9	No Contr Values
			9.0599 ± .03818							
(19)	40521801	U234	3.280E+00	5.217E-01	4.693E-01	0.628	4.10E-01	PCI/L		No Contr Values
(21)	40521801	U235	2.547E-01	1.341E-01	1.329E-01	0.628	3.03E-01	PCI/L		No Contr Values
(23)	40521801	U238	2.256E+00	4.173E-01	3.868E-01	0.628	1.80E-01	PCI/L		No Contr Values
(27)	F0521801	U234	2.855E+00	5.253E-01	4.814E-01	0.520	4.53E-01	PCI/L		No Contr Values
(29)	F0521801	U235	1.347E-01	1.146E-01	1.141E-01	0.520	4.28E-01	PCI/L		No Contr Values
(31)	F0521801	U238	2.201E+00	4.546E-01	4.247E-01	0.520	4.96E-01	PCI/L		No Contr Values
(35)	40524401	U234	4.761E-01	2.126E-01	2.097E-01	0.529	5.73E-01	PCI/L		No Contr Values
(37)	40524401	U235	-4.414E-02	1.700E-02	1.668E-02	0.529	4.88E-01	PCI/L		No Contr Values
(39)	40524401	U238	2.964E-01	1.595E-01	1.580E-01	0.529	3.93E-01	PCI/L		No Contr Values
(43)	40524402	U234	3.746E-01	1.605E-01	1.585E-01	0.698	3.97E-01	PCI/L		No Contr Values
(45)	40524402	U235	1.098E-01	8.496E-02	8.463E-02	0.698	2.72E-01	PCI/L		No Contr Values
(47)	40524402	U238	3.341E-01	1.482E-01	1.465E-01	0.698	3.37E-01	PCI/L		No Contr Values
(51)	40529201	U234	1.097E+00	3.496E-01	3.383E-01	0.409	5.08E-01	PCI/L		No Contr Values
(53)	40529201	U235	1.875E-01	1.454E-01	1.446E-01	0.409	4.65E-01	PCI/L		No Contr Values
(55)	40529201	U238	1.199E+00	3.662E-01	3.534E-01	0.409	5.08E-01	PCI/L		No Contr Values
(59)	40529202	U234	5.029E+00	7.534E-01	6.528E-01	0.494	4.50E-01	PCI/L		No Contr Values
(61)	40529202	U235	5.730E-02	8.544E-02	8.533E-02	0.494	4.50E-01	PCI/L		No Contr Values
(63)	40529202	U238	3.694E+00	6.235E-01	5.590E-01	0.494	3.85E-01	PCI/L		No Contr Values
(67)	40544601	U234	2.344E+00	4.478E-01	4.154E-01	0.577	4.47E-01	PCI/L		No Contr Values

% spike recovery

within 35

U235 Spike level

$\frac{8.0388 * .0218}{(2.22)(.2)} =$

.3547

% R = $\frac{.3067}{.3547} \times 100 =$ 77.2%

MW 8-25-94

$\frac{8.0388 \pm .03388}{2.22} \times \frac{1000}{5} \times .4778$

.0218

.5004

6-24-94

MM

~~0628~~

000256

9613496.0519

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

DUPLICATE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0062
LAB SAMPLE ID:	F0544602	MATRIX:	WATER
WHC ID:	B0BMP4	DATE RECEIVED:	5/20/94
ORIG LAB SAMPLE ID:	40544602		

ISOTOPE	DUP RESULT	COUNTING ERROR	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
TC-99	5.22E+00	1.02E+00	4.36E+00	2.10E+00	pCi/L	95.10%	ITAS-IT-RS-0001	2.12E+00	84.47%

Number of Results: 1

Tc99 results < 5* QRDL (15) OK
accepted
MW
8-25-94

~~0013~~

9613496.0520

IT ANALYTICAL SERVICES
RICHLAND, WA
(509) 375-3131

DUPLICATE RESULTS

LAB NAME:	ITAS-RICHLAND	SDG:	W0062
LAB SAMPLE ID:	F0521801	MATRIX:	WATER
WHC ID:	B0BMV2	DATE RECEIVED:	5/11/94
ORIG LAB SAMPLE ID:	40521801		

ISOTOPE	DUP RESULT	COUNTING ERROR	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
AM-241	-1.30E-02	1.30E-02	1.31E-02	2.17E-01	pCi/L	89.40%	RD3302	8.29E-02	274.39%
PU-238	0.00E+00	0.00E+00	1.65E-01	1.49E-01	pCi/L	75.90%	RD3209	-1.21E-02	200.00%
PU239/40	3.29E-02	1.14E-01	1.14E-01	3.10E-01	pCi/L	75.90%	RD3209	-4.82E-02	~~1060.13%~~ 1060.13%
U-234	2.86E+00	9.63E-01	1.05E+00	4.53E-01	pCi/L	52.00%	RD3234	3.28E+00	13.68%
U-235	1.35E-01	2.28E-01	2.29E-01	4.28E-01	pCi/L	52.00%	RD3234	2.55E-01	61.54%
U-238DA	2.20E+00	8.50E-01	9.09E-01	4.96E-01	pCi/L	52.00%	RD3234	2.26E+00	2.69%
C-14	-4.73E-01	1.51E+00	3.15E+00	3.55E+00	pCi/L	100.00	RD3263	1.51E+00	382.45%
TRITIUM	2.39E+02	1.14E+02	2.15E+02	2.46E+02	pCi/L	97.30%	RD3205	3.80E+02	45.56%

Number of Results: 8

H3 RPD > 20%
results < 5x CRDL accepted

[illegible] 8-25-94

~~0016~~

MATRIX SPIKE RECOVERY (MS)

Analysis: Radiochemistry
SDG: W0055-ITC-060

Date: 24-Aug-94
Validator: MC Webb

Constituent	Spike Sample Result SSR	Sample Result SR	Spike Added SA	%R
Tc99 BOBMQ6	253.10	0.00	270.51	93.6%
Tc99 BOBMS2	259.70	0.00	270.49	96.0%

000259

PERCENT RECOVERY (LCS)

Analysis: Radiochemistry
SDG: W0055-ITC-060

Date: 24-Aug-94
Validator: MC Webb

Constituent	Observed value	True value	%R
	OLCS	ALCS	
Alpha	18.80	22.70	82.8%
Beta	20.74	22.59	91.8%
Co60	27.00	24.86	108.6%
Cs137	55.10	49.60	111.1%
Eu152	47.40	50.12	94.6%
C14	1697.00	1824.00	93.0%
Sr total	13.49	13.52	99.7%
Tc99	252.50	270.46	93.4%
Tritium	2623.00	2796.13	93.8%
Am241	7.05	6.79	103.9%
Pu239	4.81	4.58	105.1%
U234	9.71	8.68	111.9%
U235	0.26	0.40	66.8%
U238	9.53	9.09	104.9%

000260

ALPHA SPEC TRACER RECOVERY

Analysis: Radiochemistry
SDG: W0055-ITC-060

Date: 24-Aug-94
Validator: MC Webb

Constituent		Gross counts per minute	Background counts per minute of tracer	Detector efficiency	Activity (pCi) of tracer added to sample	%R
		A.1	B.1	E.1	T.1	
Am243	BOBMX6	1.205	0	3.225	5.0287	0.772789
Pu242	BOBMX6	1.505	0.001	3.7	7.1362	0.779799
U232	BOBMX6	2.555	0.0184	3.7	10.071	0.931925

000261

RELATIVE PERCENT DIFFERENCE

Analysis: Radiochemistry
SDG: W0055-ITC-060

Date: 24-Aug-94
Validator: MC Webb

Constituent		Original (Sample) concentration OS	Duplicate concentration D	RPD
Alpha	BOBMW4	17.0000	17.6900	3.98%
Beta	BOBMW4	15.8000	16.5700	4.76%
Sr total	BOBMS2	non detect	non detect	NC
C14	BOBMT4	10.4100	10.3200	0.87%
Tc99	BOBMT4	non detect	non detect	NC
Tritium	BOBMQ6	1326.0000	1297.0000	2.21%
Am241	BOBMX6	non detect	non detect	NC
Pu238	BOBMX6	non detect	nondetect	NC
Pu239	BOBMX6	non detect	non detect	NC
U234	BOBMS6	4.2380	3.6410	15.15%
U235	BOBMS6	0.3604	non detect	NC
U238	BOBMS6	2.4100	2.9270	19.37%
GEA	BOBMS2 nuclides	Undetected	Undetected	NC

MINIMUM DETECTABLE ACTIVITY (MDA)

Analysis: Radiochemistry
SDG: W0055-ITC-060

Date: 24-Aug-94
Validator: MC Webb

Constituent	Background counts per minute (cpm) or Standard Deviation of background (cpm)	Counting time for associated sample	Detector Efficiency	Ingrowth correction factor	Carrier recovery factor	Decay factor	Chemical yield factor	Sample volume (L or g)	MDA
	B.2	T.2	E.2	I.2	R.2	D.2	Y.2	V.2	
BOBMX6 alpha	0.028	100.000	4.020	1.000	1.000	1.000	1.000	0.200	0.950
BOBRX6 beta	1.144	100.000	2.738	1.000	1.000	1.000	1.000	0.200	3.234
BOBMX6 Sr90	1.104	50.000	2.202	1.000	1.000	1.000	0.832	1.000	0.888
C14 blank	19.200	200.000	1.072	1.000	1.000	1.000	1.000	0.200	3.511
Tc99 blank	26.810	125.000	1.052	1.000	0.951	1.000	1.000	0.500	2.168
Tritium blank	5.850	125.000	2.509	1.000	0.973	1.000	1.000	0.005	238.727
U234 BOBMX6	0.002	200.000	3.700	1.000	0.932	1.000	1.000	0.200	0.253
U235 BOBMX6	0.002	200.000	3.700	1.000	0.932	1.000	1.000	0.200	0.239
U238 BOBMX6	0.003	200.000	3.700	1.000	0.932	1.000	1.000	0.200	0.277
Pu238 BOBMX6	0.001	200.000	3.703	1.001	0.780	1.000	1.000	0.200	0.256
Pu239 BOBMX6	0.004	200.000	3.700	1.000	0.780	1.000	1.000	0.200	0.367
Am241 BOBMX6	0.000	200.000	3.225	1.000	0.770	1.000	1.000	0.200	0.190

000263

RESULTS CALCULATION GROSS ALPHA/BETA AND TRITIUM

Analysis: Radiochemistry
SDG: W0055-ITC-060

Date: 24-Aug-94
Validator: MC Webb

Constituent		Gross Counts per minute	Background Counts per minute	Yield (for tritium only)	Detector Efficiency	Sample volume (L or g)	Result
		A.3	B.3	C.3	E.3	V.3	
Alpha	BOBMX6	0.510	0.028	1.00	4.020	0.200	4.3641
Beta	BOBMX6	4.000	1.144	1.00	2.738	0.200	17.6120

LSC		DPM sample	DPM blank	Yield	Decay	Volume	
C14	BOBMX6	24.560	20.590	1.00	1.000	0.200	8.9414
H3	BOBMX6	28.910	14.683	0.97	1.010	0.005	1330.4510

000264

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RESULTS CALCULATION TOTAL STRONTIUM

Analysis: Radiochemistry
SDG: W0055-ITC-060

Date: 24-Aug-94
Validator: MC Webb

Constituent		Gross Counts per minute	Background Counts per minute	Ingrowth correction Factor	Detector Efficiency	Carrier recovery factor	Sample volume (L or g)	Result
		A.4	B.4	I.4	E.4	R.4	V.4	
Sr total	BOBMX6	11.700	1.104	1.876	2.202	0.832	1.00	6.7336
INGROWTH FACTOR		Sr D/C	Y D/C	delta T (hr)	= e**(-Lt)	L =1.083E-2		
	BOBMX6	2.2020	1.988	144.33	0.2095	X	X	1.876

000265

RESULTS CALCULATION TECHNETIUM-99

Analysis: Radiochemistry
SDG: W0055-ITC-060

Date: 24-Aug-94
Validator: MC Webb

Constituent		DPM of the sample	DPM of the blank	Decay Factor	Yield	Sample volume (L or g)	Result
		A.6	B.6	E.6	R.6	V.6	
Tc99	BOBMX6	27.750	28.160	1.000	0.95	0.500	-0.3884

000266

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RESULTS CALCULATION ALPHA SPEC ISOTOPES

Analysis: Radiochemistry
SDG: W0055-ITC-060

Date: 24-Aug-94
Validator: MC Webb

Constituent		Gross Counts per minute	Background Counts per minute	Detector Efficiency	Tracer recovery factor	Sample volume (L or g)	Result
		A.7	B.7	E.7	R.7	V.7	
Am241	BOBMX6	0.0000	0.0004	3.225	0.770	0.200	-0.0038
Pu238	BOBMX6	0.0000	0.0010	3.700	0.780	0.200	-0.0107
Pu239	BOBMX6	0.0050	0.0040	3.700	0.780	0.200	0.0107
U234	BOBMX6	0.2700	0.0020	3.700	0.932	0.200	2.3963
U235	BOBMX6	0.0050	0.0016	3.700	0.932	0.200	0.0304
U238	BOBMX6	0.1850	0.0028	3.700	0.932	0.200	1.6291

0002697

0250 9/4/94

9613496.0530

Laboratory Case Narratives

INTERNATIONAL TECHNOLOGY CORPORATION

CERTIFICATE OF ANALYSIS

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

June 30, 1994

Attention: J.A.Lerch

SAF Number	:	94-087
Date SDG Closed	:	May 20, 1994
Number of Samples	:	Seven (7)
Sample Type	:	Water
SDG Number	:	W0062
Data Deliverable	:	Stand Alone

I. Introduction

On May 11, 12, 13, and 20, 1994, seven 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
405218-01A	B0BMV2	Water	5/11/94
405244-01A	B0BMR0	Water	5/12/94
405244-02A	B0BMR8	Water	5/12/94
405292-01A	B0BMT8	Water	5/13/94
405292-02A	B0BMT0	Water	5/13/94
405446-01A	B0BMW0	Water	5/20/94
405446-02A	B0BMP4	Water	5/20/94

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:

Alpha Spectroscopy
Americium-241, Curium-244 by method ITAS-RD-3302
Plutonium-238, -239/40 by method ITAS-RD-3209
Uranium-234, 235, 238 by method ITAS-RD-3234
Gamma Spectroscopy
Gamma Scan by method ITAS-RD-3219
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 W0062 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.

Alpha Spectroscopy

Americium-241 by method ITAS-RD-3302
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BMV2) results are within contractual limits.

Plutonium-238, -239/40 by method ITAS-RD-3209
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BMV2) results are within contractual limits.

Uranium-234, 235, 238 by method ITAS-RD-3234
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BMV2) results are within contractual requirements.

Gamma Spectroscopy

Gamma Scan by method ITAS-RD-3219
The Fe-59 detection limit was not met for sample B0BMR8. The batch blank Fe-59 MDC was met, therefore, the sample MDC is accepted. The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BMT0) results are within contractual limits.

Gas Proportional Counting

Gross Alpha by method ITAS-RD-3222
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BMR0) results are within contractual limits.

Gross Beta by method ITAS-RD-3222
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BMR0) results are within contractual limits.

Strontium-90 by method ITAS-RD-3204
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BMR0) 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 B0BMV2) 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 sample B0BMP4) results are within contractual requirements.

Tritium by method ITAS-RD-3205
The LCS, batch blank, sample and sample duplicate (duplicate of sample B0BMV2) 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

JM 9/22/94
1008

9613496.0535

INTERNATIONAL TECHNOLOGY CORPORATION

RECORD COPY

JUL 1994 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

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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 23, 1994

JUL 1994 RECEIVED SDLA

Job Number: 536; 538; 545; 577; 629

This is the Certificate of Analysis for the following samples:

SDG:	W0062
Client Project ID:	WHC SAF-94-087 100-FR-3 Groundwater-5th Round
Date Received by Lab:	May 13, May 14 & May 21, 1994
Number of Samples:	Twenty-one (21)
Sample Type:	Water

I. Introduction

On May 13, May 14 and May 21, 1994, twenty-one (21) 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 Compound List (TCL) volatiles and semivolatiles by gas chromatography/mass spectroscopy (GC/MS) in accordance with the EPA CLP 3/90 Statement of Work.

Reviewed and Approved:

Sheree Schneider

Sheree' A. Schneider
Project Manager

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

IT Corporation
June 23, 1994
Job Number: 536; 538; 545; 577; 629
Client Project ID: WHC SAF-94-087 100-FR-3 Groundwater-5th Round

II. Analytical Results/Methodology (Continued)

The samples were analyzed for Target Compound List (TCL) pesticides and PCBs by gas chromatography/electron capture detection (GC/ECD) in accordance with the EPA CLP 3/90 Statement of Work.

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.

The samples were analyzed for total cyanide in accordance with the EPA CLP ILM03 Statement of Work.

The samples were analyzed for ammonia based on EPA method 350.2.

The alkalinity of the samples was determined using EPA method 310.1.

The samples were analyzed for chemical oxygen demand (COD) at our ITAS-St. Louis laboratory based on EPA method 410.2.

The samples were analyzed for nitrate-nitrite based on EPA method 353.2.

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 sulfide based on EPA method 376.1.

The total dissolved solids (TDS) content of the samples was determined using EPA method 160.1.

The samples were analyzed for chemical oxygen demand (COD) at the ITAS-Knoxville laboratory using the EPA approved HACH procedure, HACH Water Analysis Handbook, HACH Chemical Company, 1980. The samples were analyzed for chemical oxygen demand (COD) at the ITAS ST. Louis laboratory based on EPA method 410.2. A copy of their report is enclosed.

The samples were analyzed for total organic halogens (TOX) based on EPA method 9020A.

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

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

IT Corporation
June 23, 1994
Job Number: 536; 538; 545; 577; 629
Client Project ID: WHC SAF-94-087 100-FR-3 Groundwater-5th Round

III. Quality Control

The volatiles analyses were performed by purge and trap with a J & W DB-624 capillary column on a Hewlett-Packard 5970 GC/MS/DS and a Finnigan INCOS 500 GC/MS/DS. A matrix spike and a matrix spike duplicate were analyzed using sample BOBMV2. The matrix spike duplicate showed a high recovery for surrogate standard 1,2-dichloroethane-d4. Since the original sample, BOBMV2, and the matrix spike showed good surrogate standard recoveries, a reanalysis of the matrix spike duplicate was not required. All QC results met method specified limits.

The semivolatiles analyses were performed by direct injection of sample extract on a Restek XTI-5 capillary column on a Finnigan INCOS XL GC/MS/DS. A matrix spike and a matrix spike duplicate were analyzed using sample BOBMV2. The matrix spike and matrix spike duplicate showed slightly high recoveries for pentachlorophenol. All QC results were within method specified limits.

Data were reported with qualifiers as follows:

U - Compound analyzed for but not detected; value given is quantitation limit.
E - Compound exceeded calibration range.
D - Compound analyzed at a secondary dilution factor.
J - Compound detected but below quantitation limit; value estimated.
S - Spiked compound.
B - Compound found in method blank.
A - Suspected aldol condensation product.
Y - Indistinguishable isomer in tentatively identified compounds.
N - Presumptive evidence of compound presence.

The samples for work order #536 were digested on May 18, 1994 for ICP and GFAA. The CVAA analysis for mercury was performed on June 1, 1994; the GFAA analyses for arsenic, lead, selenium and thallium were performed form May 23 through May 31, 1994; the remaining metals were analyzed by ICP on June 8, 1994. All run QC was acceptable. A duplicate and a spike were analyzed using sample BOBMV2 (total) and BOBMV3 (dissolved). Spike recovery (accuracy) results were within acceptance limits for all requested parameters for both samples except for selenium by GFAA analysis for BOBMV3 which was slightly outside acceptance limits (74.3%). Duplicate RPD (precision) results were within acceptance limits for all requested parameters for both samples except for copper by ICP analysis for sample BOBMV3. Poor precision for this analyte appears to be attributable to contamination during the sample digestion procedure for the original sample.

The samples for work order #538 and #545 were digested on May 18, 1994 for ICP and GFAA. The CVAA analysis for mercury was performed on June 1, 1994; the GFAA analysis for arsenic, lead, selenium and thallium were performed from May 23 through May 31, 1994; the remaining metals were analyzed by ICP on June 8, 1994. All run QC was acceptable. Both work orders were batched with QC from work order #536.

IT Corporation
June 23, 1994
Job Number: 536; 538; 545; 577; 629
Client Project ID: WHC SAF-94-087 100-FR-3 Groundwater-5th Round

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
AA8882	405217-01A-C	BOBMV2	VOC
AA8883	405217-01D-F	"	SVOC
"	405217-01G-I	"	PEST/PCB
AA8884	405217-01J	"	ANIONS
"	"	"	CONDUCTIVITY
"	"	"	pH
AA8885	405217-01K	"	NO2NO3
AA8886	405217-01L	"	ALKALINITY
AA8887	405217-01M	"	TDS
AA8888	405217-01N	"	SULFIDE
AA8889	405217-01O	"	AMMONIA
AA8889	"	"	COD
AA8890	405217-01P	"	METALS-T
AA8891	405217-01Q	"	CYANIDE
AA8892	405217-01R	"	TOC
AA8893	405217-01S	"	TOX
AA8900	405217-02A	BOBMV3	METALS-D
AA8901	405217-03A-C	BOBMV4	VOC
AA8919	405243-01A-C	BOBMR0	VOC

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

IT Corporation
June 23, 1994
Job Number: 536; 538; 545; 577; 629
Client Project ID: WHC SAF-94-087 100-FR-3 Groundwater-5th Round

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
AA8920	405243-01D-F	BOBMR0	SVOC
"	405243-01G-I	"	PEST/PCB
AA8921	405243-01J	"	ANIONS
"	"	"	CONDUCTIVITY
"	"	"	pH
AA8922	405243-01K	"	NO2NO3
AA8923	405243-01L	"	ALKALINITY
AA8924	405243-01M	"	TDS
AA8925	405243-01N	"	SULFIDE
AA8926	405243-01O	"	AMMONIA
"	"	"	COD
AA8927	405243-01P	"	METALS-T
AA8928	405243-01Q	"	CYANIDE
AA8929	405243-01R	"	TOC
AA8930	405243-01S	"	TOX
AA8943	405243-02A	BOBMR1	METALS-D
AA8945	405243-03A-C	BOBMR2	VOC
AA8931	405243-04A-C	BOBMR8	VOC
AA8932	405243-04D-F	"	SVOC

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

IT Corporation
June 23, 1994
Job Number: 536; 538; 545; 577; 629
Client Project ID: WHC SAF-94-087 100-FR-3 Groundwater-5th Round

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
AA8932	405243-04G-I	BOBMR8	PEST/PCB
AA8933	405243-04J	"	ANIONS
"	"	"	CONDUCTIVITY
"	"	"	pH
AA8934	405243-04K	"	NO2NO3
AA8935	405243-04L	"	ALKALINITY
AA8936	405243-04M	"	TDS
AA8937	405243-04N	"	SULFIDE
AA8938	405243-04O	"	AMMONIA
"	"	"	COD
AA8939	405243-04P	"	METALS-T
AA8940	405243-04Q	"	CYANIDE
AA8941	405243-04R	"	TOC
AA8942	405243-04S	"	TOX
AA8944	405243-05A	BOBMR9	METALS-D
AA8946	405243-06A-C	BOBMS0	VOC
AA9046	405291-01A-C	BOBMT8	VOC
AA9047	405291-01D-F	"	SVOC
"	405291-01G-I	"	PEST/PCB
AA9048	405291-01J	"	ANIONS
"	"	"	CONDUCTIVITY

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

IT Corporation
June 23, 1994
Job Number: 536; 538; 545; 577; 629
Client Project ID: WHC SAF-94-087 100-FR-3 Groundwater-5th Round

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
AA9048	405291-01J	BOBMT8	pH
AA9049	405291-01K	"	NO2NO3
AA9050	405291-01L	"	ALKALINITY
AA9051	405291-01M	"	TDS
AA9052	405291-01N	"	SULFIDE
AA9053	405291-01O	"	AMMONIA
"	"	"	COD
AA9054	405291-01P	"	METALS-T
AA9055	405291-01Q	"	CYANIDE
AA9056	405291-01R	"	TOC
AA9057	405291-01S	"	TOX
AA9070	405291-02A	BOBMT9	METALS-D
AA9072	405291-03A-C	BOBMV0	VOC
AA9058	405291-04A-C	BOBMT0	VOC
AA9059	405291-04D-F	"	SVOC
"	405291-04G-I	"	PEST/PCB
AA9060	405291-04J	"	ANIONS
"	"	"	CONDUCTIVITY
"	"	"	pH

IT Corporation
June 23, 1994
Job Number: 536; 538; 545; 577; 629
Client Project ID: WHC SAF-94-087 100-FR-3 Groundwater-5th Round

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
AA9061	405291-04K	BOBMT0	NO2NO3
AA9062	405291-04L	"	ALKALINITY
AA9063	405291-04M	"	TDS
AA9064	405291-04N	"	SULFIDE
AA9065	405291-04O	"	AMMONIA
"	"	"	COD
AA9066	405291-04P	"	METALS-T
AA9067	405291-04Q	"	CYANIDE
AA9068	405291-04R	"	TOC
AA9069	405291-04S	"	TOX
AA9071	405291-05A	BOBMT1	METALS-D
AA9073	405291-06A-C	BOBMT2	VOC
AA9572	405445-01A-C	BOBMW0	VOC
AA9573	405445-01D-F	"	SVOC
"	405445-01G-I	"	PEST/PCB
AA9574	405445-01J	"	ANIONS
"	"	"	CONDUCTIVITY
"	"	"	pH
AA9575	405445-01K	"	NO2NO3

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

IT Corporation
June 23, 1994
Job Number: 536; 538; 545; 577; 629
Client Project ID: WHC SAF-94-087 100-FR-3 Groundwater-5th Round

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
AA9576	405445-01L	BOBMW0	ALKALINITY
AA9577	405445-01M	"	TDS
AA9578	405445-01N	"	SULFIDE
AA9579	405445-01O	"	AMMONIA
"	"	"	COD
AA9580	405445-01P	"	METALS-T
AB0404	405445-01Q	"	CYANIDE
AA9581	405445-01R	"	TOC
AA9582	405445-01S	"	TOX
AA9583	405445-02A	BOBMW1	METALS-D
AA9586	405445-03A-C	BOBMW2	VOC
AA9595	405445-04A-C	BOBMP4	VOC
AA9596	405445-04D-F	"	SVOC
"	405445-04G-I	"	PEST/PCB
AA9597	405445-04J	"	ANIONS
"	"	"	CONDUCTIVITY
"	"	"	pH
AA9598	405445-04K	"	NO2NO3
AA9599	405445-04L	"	ALKALINITY

IT ANALYTICAL SERVICES
5815 MIDDLEBROOK PIKE
KNOXVILLE, TN

IT Corporation
June 23, 1994
Job Number: 536; 538; 545; 577; 629
Client Project ID: WHC SAF-94-087 100-FR-3 Groundwater-5th Round

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
AA9600	405445-04M	BOBMP4	TDS
AA9601	405445-04N	"	SULFIDE
AA9602	405445-04O	"	AMMONIA
"	"	"	COD
AA9603	405445-04P	"	METALS-T
AA9604	405445-04Q	"	CYANIDE
AA9605	405445-04R	"	TOC
AA9606	405445-04S	"	TOX
AA9607	405445-05A	BOBMP5	METALS-D
AA9608	405445-06A-C	BOBMP6	VOC

IT Corporation
June 23, 1994
Job Number: 536; 538; 545; 577; 629
Client Project ID: WHC SAF-94-087 100-FR-3 Groundwater-5th Round

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

9613496.0547

Chain-of-Custody Information

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround: [ ] Priorty [X] Normal

Collector: B T. WHITTEN	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 199-F7-1	SAF No.: 94-087
Ice Chest No.: FR-18	Field Logbook No.: FTL-1055	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: 1021-C-0518-39	Bill of Lading/Air Bill No.: NONE
Possible Sample Hazards/Remarks		

Preservative	HCL/2pH	COOL 4	pH 5-9	COOL 4	H2SO4<2	COOL 4	COOL 4	ZnAc *1	H2SO4<2	HNO3<2	NaOH>12	HCl<2*2	H2SO4<2	HNO3<2	HClpH<2
Type of Container	Gs	aG	aG	P	G/P	G/P	G/P	P	G	G	P	aGs	aGs	G/P	G/P
No. of Container(s)	3	3	3	1	1	1	1	1	1	1	1	1	1	3	3
Volume	40ml	1000ml	1000ml	1000ml	500ml	250ml	500ml	500ml	1000ml	1000ml	1000ml	250ml	500ml	4000ml	1000ml
SAMPLE ANALYSIS 40521701	VOA (CLP)	SEMIVOA (CLP)	PCB/ PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3	Tc-99
	ABC	DEF	GHI	J	k	L	m	N	O	P	Q	R	S	40521801	

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA	SEMIVOA	PCB/PEST	ANIONS	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS	CYANIDE	TOC	TOX	*3	Tc-99
[illegible]	W	05/10/94	1106	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
[illegible]	W	[illegible]																
[illegible]	W	5/10/94																

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
[illegible] KA Co	5/10/94 1323	K. Jones / K. Tropp	5/10/94 1323
K. Jones / K. Tropp	5/10/94 1446	C.P. Simpson	5/10/94 1995
C.P. Simpson	5/11/94 1020	T. Sweeney / Sweeney	5/11/94 1020
T. Sweeney / T. Sweeney	5/11/94 1200	T. Gilmore	5/11/94 1200

SPECIAL INSTRUCTIONS

*1 = or NaOH Ph>9 *2 = pH>/= to 12 *3 = GROSS ALPHA,BETA(ITAS-RD-3214), GAMMA SPEC(ITAS-RD-3219), U-235/238(ITAS-RD-3234), Pu-239/240(ITAS-RD-3209), Am-241(ITAS-RD-3302 or ITAS-RD-3206), Sr-90(ITAS-RD-3204). NOTE: LOWEST HOLDING TIME = 7 days

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)

0000048

0002286

9615076.1518

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround: [ ] Priorty [X] Normal

Collector: B T [illegible]	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 199-F7-1	SAF No.: 94-087
Ice Chest No.: ER-18	Field Logbook No.: [illegible]	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A [illegible]	Bill of Lading/Air Bill No.: N/A [illegible]
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	N/A	HNO3<2	N/A			HClpH<2
Type of Container	Gs	G	G			Gs
No. of Container(s)	1	1	1			3
Volume	1000ml	1000ml	40ml			40ml
SAMPLE ANALYSIS	TRITIUM C-14 4052 1801	ICP METALS+ ARSENIC LEAD, Se Tl, Hg (CLP)FI FILTERD	[illegible]			VOA (CLP) TRIP

Sample No.	Matrix*	Date Sampled	Time Sampled															
[illegible]	W	05/10/94	1100	X														
[illegible] 02A	W	05/10/94	1100		X	X												
[illegible] 03ABC	W	05/10/94	1100						X									

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
[illegible]	5/10/94 1323	[illegible]	5/10/94 1323
Relinquished By	Date/Time	Received By	Date/Time
[illegible]	5/10/94 1410	C.P. Simpson	5/10/94 1415
Relinquished By	Date/Time	Received By	Date/Time
C.P. Simpson	5/11/94 1020	J. Sweeney	5/11/94 1020
Relinquished By	Date/Time	Received By	Date/Time
J. Sweeney	5/11/94 1200	T. Gilmore	5/11/94 1200

SPECIAL INSTRUCTIONS

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)

0000049

0002287

9416159

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST WO#538

Page 1 of 2

Date Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100 F	SAF No.: 94-087
Ice Chest No.: ER-20	Field Logbook No.: EFL-1054	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: IN94-0-0518-43	Bill of Lading/Air Bill No.: NONE
Possible Sample Hazards/Remarks		

Special Handling and/or Storage: Ref 3A LCS
COOL TO 4 DEGREES CENTIGRADE 5/11/94 1516

Preservative	HCL/2pH	COOL 4	pH 5-9	COOL 4	H2SO4<2	COOL 4	COOL 4	ZnAc *1	H2SO4<2	HNO3<2	NaOH>12	HCl<2*2	H2SO4<2	HNO3<2	HClpH<2
Type of Container	Gs	aG	aG	P	G/P	G/P	G/P	P	G	G	P	aGs	aGs	G/P	G/P
No. of Container(s)	3	3	3	1	1	1	1	1	1	1	1	1	1	3	3
Volume	40ml	1000ml	1000ml	1000ml	500ml	250ml	500ml	500ml	1000ml	1000ml	1000ml	250ml	500ml	4000ml	1000ml
SAMPLE ANALYSIS 405243	VOA (CLP) A,B,C	SEMIVOA (CLP) D,E,F	PCB/PEST (CLP) G,H,I	ANIONS (IC)SO4 F,Cl, PO4 COND,pH J	NO2/NO3 K	ALK L	TDS M	SULFIDE N	AMMONIA COD O	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP) P	CYANIDE (CLP) Q	TOC R	TOX S	*3 405244	Tc-99 01

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA (CLP)	SEMIVOA (CLP)	PCB/PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3	Tc-99
B0BMR0 01	W	5/11/94	1330	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
B0BMR1 02	W																	
B0BMR2 03	W																	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	5/11/94 1435	[signature]	5-11-94 1435
[signature]	5-11-94 1530	[signature]	5-11-94 1530
[signature] / D. Sweeney	5/11/94 1200	[signature]	5/11/94 1200

SPECIAL INSTRUCTIONS
*1 = or NaOH Ph>9 *2 = pH>/= to 12 *3 = GROSS ALPHA,BETA(ITAS-RD-3214), GAMMA SPEC(ITAS-RD-3219), U-235/238(ITAS-RD-3234), Pu-239/240(ITAS-RD-3209), Am-241(ITAS-RD-3302 or ITAS-RD-3206), Sr-90(ITAS-RD-3204). NOTE: LOWEST HOLDING TIME = 7 days

SDW
WCC62

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)

0000050

0002888

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

WO#538

Page 2 of 2

Date Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100 F	SAF No.: 94-087
Ice Chest No.	Field Logbook No.: EFL-1054	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A 1.U24-0.0518-43	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: 405243

Preservative	N/A	HNO3<2	None			HCl pH<2
Type of Container	Gs	G	VOA			Gs
No. of Container(s)	1	1	1			3
Volume	1000ml	1000ml	40ml			40ml
	TRITIUM C-14	ICP METALS+ ARSENIC LEAD, Se Tl, Hg (CLP) FI FILTERD	Arriving ZnA			VOA (CLP) TRIP A,B,C

Sample No.	Matrix*	Date Sampled	Time Sampled															
60BMR1 01	W	5/11/94	1330	X		X												
60BMR1 02A	W	↓	↓		X													
60BMR2 03	W	↓	↓						X									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	5/11/94 1435	[illegible]	5-11-94 1435
[illegible]	5-11-94 1530	J. Sweeney / J. Sweeney	5-11-94 1530
J. Sweeney / J. Sweeney	5/12/94 1200	[illegible]	[illegible] 5/12/94
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

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)

0000051

000289

9619.059

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

WJ#538

Page 1 of 2

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Tiepp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100F	SAF No.: 94-087
Ice Chest No.: FR-14	Field Logbook No.: EFL-1054	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: W9410-0518-43	Bill of Lading/Air Bill No.: NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Ref 3A LS 5/11/94 1500		

Preservative	HCL/2pH	COOL 4	pH 5-9	COOL 4	H2SO4<2	COOL 4	COOL 4	ZnAc *1	H2SO4<2	HNO3<2	NaOH>12	HCl<2*2	H2SO4<2	HNO3<2	HCl pH<2
Type of Container	Gs	aG	aG	P	G/P	G/P	G/P	G	G	G	P	aGs	aGs	G/P	G/P
No. of Container(s)	3	3	3	1	1	1	1	1	1	1	1	1	1	3	3
Volume	40ml	1000ml	1000ml	1000ml	500ml	250ml	500ml	500ml	1000ml	1000ml	1000ml	250ml	500ml	4000ml	1000ml
SAMPLE ANALYSIS 405243	VOA (CLP) A B C	SEMIVOA (CLP) D E F	PCB/ PEST (CLP) G H I	ANIONS (IC)SO4 F,Cl, PO4 COND,pH J	NO2/NO3 K	ALK L	TDS M	SULFIDE N	AMMONIA COD O	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP) P	CYANIDE (CLP) Q	TOC R	TOX S	*3 405244 02	Tc-99

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA (CLP)	SEMIVOA (CLP)	PCB/ PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3	Tc-99
B0BMR8 04	W	5/11/94	0930	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
B0BMR9 05	W																	
B0BMS0 06	W																	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Tiepp/K. Tiepp	5/11/94 1435	[signature]	5-11-94 1435
[signature]	5-11-94 1520	[signature]	1520 5-11-94
L. Sweeney L. Sweeney	5/12/94 1200	[signature]	5/12/94 12:00

SPECIAL INSTRUCTIONS

*1 = or NaOH Ph>9 *2 = pH>/= to 12 *3 = GROSS ALPHA,BETA(ITAS-RD-3214), GAMMA SPEC(ITAS-RD-3219), U-235/238(ITAS-RD-3234), Pu-239/240(ITAS-RD-3209), Am-241(ITAS-RD-3302 or ITAS-RD-3206), Sr-90(ITAS-RD-3204). NOTE: LOWEST HOLDING TIME = 7 days

SDL WCC602

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)

0000052

9413496.0552

000290

0000053

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

WOFF538

Page 2 of 2

Date Turnaround: [ ] Priority [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100 F	SAF No.: 94-087
Ice Chest No.: ER-14	Field Logbook No.: EF-1054	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W74.0 0518-43	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	N/A	HNO3<2	None			HCl pH<2
Type of Container	Gs	G	Gs			Gs
No. of Container(s)	1	1	1			3
Volume	1000ml	1000ml	40ml			40ml
SAMPLE ANALYSIS 405243	TRITIUM C-14	ICP METALS+ ARSENIC LEAD, Se Tl, Hg (CLP)FI FILTERD	Actinides Gamma			VOA (CLP) TRIP A BC

Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBMR8 04	W	5/11/94	1330	X		X											
BOBMR9 05A	W	↓	↓		X												
BOBMS0 06	W	↓	↓						X								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp/K. Trapp	5/11/94 1435	[illegible]	5-11-94 1435
[illegible]	5-11-94 1520	[illegible]	1520 5-11-94
[illegible]	1200 5-11-94	[illegible]	5-12-94

SPECIAL INSTRUCTIONS

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)

9410250553

000291

0000054

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST WO#545

Page 1 of 2

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp / GG Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100 F	SAF No.: 94-087
Ice Chest No.	Field Logbook No.: EFL-1054	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: W94-0-0518-47	Bill of Lading/Air Bill No.: W
Possible Sample Hazards/Remarks		

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE 3c AJS 5/12/94 1433

SAMPLE ANALYSIS: 405291

Preservative	HCL/2pH	COOL 4	pH 5-9	COOL 4	H2SO4<2	COOL 4	COOL 4	ZnAc *1	H2SO4<2	HNO3<2	NaOH>12	HCl<2*2	H2SO4<2	HNO3<2	HClpH<2
Type of Container	Gs	aG	aG	P	G/P	G/P	G/P	P	G	G	P	aGs	aGs	G/P	G/P
No. of Container(s)	3	3	3	1	1	1	1	1	1	1	1	1	1	6 3	3
Volume	40ml	1000ml	1000ml	1000ml	500ml	250ml	500ml	500ml	1000ml	1000ml	1000ml	250ml	500ml	~~4000ml~~	1000ml
	VOA (CLP)	SEMIVOA (CLP)	PCB/ PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3	Tc-99
	ABC	DEF	GHI	J	K	L	M	N	O	P	Q	R	S	405291	01

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA (CLP)	SEMIVOA (CLP)	PCB/ PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3	Tc-99
[illegible] 01	W	5/12/94	1130	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
[illegible] 02	W																	
[illegible] 03	W																	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
GG Hamilton	5/12/94 1400	Karen E. Rogers	5-12-94 1400
Karen E. Rogers	5-12-94 1425	AJ Simpson	5/12/94 1432
AJ Simpson (AJ SIMPSON)	5/13/94 1130	ITAS	5/13/94 1130

SPECIAL INSTRUCTIONS
*1 = or NaOH Ph>9 *2 = pH>/= to 12 *3 = GROSS ALPHA,BETA(ITAS-RD-3214), GAMMA SPEC(ITAS-RD-3219), U-235/238(ITAS-RD-3234), Pu-239/240(ITAS-RD-3209), Am-241(ITAS-RD-3302 or ITAS-RD-3206), Sr-90(ITAS-RD-3204). NOTE: LOWEST HOLDING TIME = 7 days

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)

262000

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

WO#545

Page 2 of 2

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 1607-F	SAF No.: 94-087
Ice Chest No.	Field Logbook No.: EFC-1054	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A WG4-0-0518-47	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks		

Preservative	N/A	HNO3<2	None			HCl pH<2
Type of Container	Gs	G	GGS			Gs
No. of Container(s)	1	1	1			3
Volume	1000ml	1000ml	40mL			40ml

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

SAMPLE ANALYSIS: 405291

Sample No.	Matrix*	Date Sampled	Time Sampled	TRITIUM C-14 (405290)	ICP METALS+ ARSENIC LEAD, Se Tl, Hg (CLP)FI FILTERD	Activity Scan			VOA (CLP) TRIP-K 5/13/94									
BCBMTF 01	W	5/12/94	1130	X		X												
[illegible] 02A	W	↓	↓		X													
[illegible] 03ABC	W	↓	↓						X									

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By	Date/Time
Relinquished By	G G Hamilton	5/12/94 1400	Received By	5-12-94 1400
Relinquished By		5-12-94 1425	Received By AJ Simpson	5/12/94 1430
Relinquished By	AJ SIMPSON	5/13/94 1130	Received By	ITAS 5/13/94 1130
Relinquished By			Received By	

SPECIAL INSTRUCTIONS

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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9413496.0555

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

WI#545

Page 1 of 2

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Tripp · G G Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100F	SAF No.: 94-087
Ice Chest No.: ER-18	Field Logbook No.: EFL-10574	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: WHI-0-0518-47	Bill of Lading/Air Bill No.:
Possible Sample Hazards/Remarks:		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HCL/2pH	COOL 4	pH 5-9	COOL 4	H2SO4<2	COOL 4	COOL 4	ZnAc *1	H2SO4<2	HNO3<2	NaOH>12	HCl<2*2	H2SO4<2	HNO3<2	HClpH<2
Type of Container	Gs	aG	aG	P	G/P	G/P	G/P	P	G	G	P	aGs	aGs	G/P	G/P
No. of Container(s)	3	3	3	1	1	1	1	1	1	1	1	1	1	6 3	3
Volume	40ml	1000ml	1000ml	1000ml	500ml	250ml	500ml	500ml	1000ml	1000ml	1000ml	250ml	500ml	~~4000ml~~	1000ml
SAMPLE ANALYSIS 405291	VOA (CLP) ABC	SEMIVOA (CLP) DEF	PCB/ PEST (CLP) GHI	ANIONS (IC)SO4 F,Cl, PO4 COND,pH J	NO2/NO3 k	ALK L	TDS M	SULFIDE N	AMMONIA COD O	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP) P	CYANIDE (CLP) Q	TOC R	TOX S	*3 405291 202	Tc-99

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA (CLP) ABC	SEMIVOA (CLP) DEF	PCB/ PEST (CLP) GHI	ANIONS (IC)SO4 F,Cl, PO4 COND,pH J	NO2/NO3 k	ALK L	TDS M	SULFIDE N	AMMONIA COD O	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP) P	CYANIDE (CLP) Q	TOC R	TOX S	*3	Tc-99
600MT1 04	W	5/12/94	0930	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
600MT1 05	W																	
600MT2 06	W																	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
G G Hamilton	5/12/94 1400	Lorene E. Rogers	5-12-94 1400
Lorene E. Rogers	5-12-94 1425	AJ Simpson	5/13/94 1425
AJ SIMPSON	5/13/94 1126	[illegible] JMS	5/13/94 1130

SPECIAL INSTRUCTIONS

*1 = or NaOH Ph>9 *2 = pH>/= to 12 *3 = GROSS ALPHA,BETA(ITAS-RD-3214), GAMMA SPEC(ITAS-RD-3219), U-235/238(ITAS-RD-3234), Pu-239/240(ITAS-RD-3209), Am-241(ITAS-RD-3302 or ITAS-RD-3206), Sr-90(ITAS-RD-3204). NOTE: LOWEST HOLDING TIME = 7 days

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 WO#545

Page 2 of 2

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 1620 F	SAF No.: 94-087
Ice Chest No.: ER-18	Field Logbook No.: EFL-1054	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0518-47	Bill of Lading/Air Bill No.: N/A
Possible Sample Hazards/Remarks		

Preservative	N/A	HNO3<2	None			HClpH<2											
Type of Container	Gs	G	Gs			Gs											
No. of Container(s)	1	1	1			3											
Volume	1000ml	1000ml	40ml			40ml											
SAMPLE ANALYSIS	TRITIUM C-14	ICP METALS+ ARSENIC LEAD, Se Tl, Hg (CLP)FI FILTERD	Acidity			VOA (CLP) TRIP											

Sample No.	Matrix*	Date Sampled	Time Sampled															
60AMT 64	W	5/12/94	0930	X		X												
60AMT 105A	W	↓	↓		X													
60AMT 206ABC	W	↓	↓						X									

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By	Date/Time
Relinquished By	G.O. Hamilton	5/12/94 1400	Karen E. Rogers	5-12-94 1400
Relinquished By	Karen E. Rogers	5-12-94 1425	A. Simpson	5/12/94 1425
Relinquished By	A. Simpson	5/13/94 1126	ITA3	5/13/94 1130
Relinquished By			Received By	

SPECIAL INSTRUCTIONS

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)

0002295

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

WO#577

Page 1 of 2

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp / G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100 K	SAF No.: 94-087
Ice Chest No.: MC - 516	Field Logbook No.: EFL-1054	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: W94-0-0594-9	Bill of Lading/Air Bill No.: NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	HCL/2pH	COOL 4	pH 5-9	COOL 4	H2SO4<2	COOL 4	COOL 4	ZnAc *1	H2SO4<2	HNO3<2	NaOH>12	HCl<2*2	H2SO4<2	HNO3<2	HClpH<2
Type of Container	Gs	aG	aG	P	G/P	G/P	G/P	P	G	G	P	aGs	aGs	G/P	G/P
No. of Container(s)	3	3	3	1	1	1	1	1	1	1	1	1	1	6	3
Volume	40ml	1000ml	1000ml	1000ml	500ml	250ml	500ml	500ml	1000ml	1000ml	1000ml	250ml	500ml	~~4000ml~~	1000ml
SAMPLE ANALYSIS 40544501	VOA (CLP) A B C	SEMIVOA (CLP) D E F	PCB/ PEST (CLP) G H I	ANIONS (IC)SO4 F,Cl, PO4 COND,pH J	NO2/NO3 K	ALK L	TDS M	SULFIDE N	AMMONIA COD O	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP) P	CYANIDE (CLP) Q	TOC R	TOX S	*3 4054	Tc-99 4601

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA (CLP)	SEMIVOA (CLP)	PCB/ PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3	Tc-99
600MW0	W	5/19/94	0945	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
600MW1	W																	
600MW2	W																	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	1405 5/19/94	Jerome E. Rogers	5-19-94 1405
Jerome E. Rogers	5-19-94 1425	Sweeney L. Sweeney	1425 5/19/94
Sweeney L. Sweeney	1200 5/20/94	IT4S	5/20/94 1200
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

*1 = or NaOH Ph>9 *2 = pH>/= to 12 *3 = GROSS ALPHA,BETA(ITAS-RD-3214), GAMMA SPEC(ITAS-RD-3219), U-235/238(ITAS-RD-3234), Pu-239/240(ITAS-RD-3209), Am-241(ITAS-RD-3302 or ITAS-RD-3206), Sr-90(ITAS-RD-3204). NOTE: LOWEST HOLDING TIME = 7 days

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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WO #577

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 2 of 2

Date Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp/G. Hamilton	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100F	SAF No.: 94-087
Ice Chest No.	Field Logbook No.: EFL-1094	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W94-0-0594-9	Bill of Lading/Air Bill No.: N/A NONE
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE		

Preservative	N/A	HNO3<2	None			HCl pH<2
Type of Container	Gs	G	gGs			Gs
No. of Container(s)	1	1	1			3
Volume	1000ml	1000ml	40 mL			40ml
SAMPLE ANALYSIS 405445	TRITIUM C-14 405440	ICP METALS+ ARSENIC LEAD, Se Tl, Hg (CLP)FI FILTERD	Activity Scan			VOA (CLP) ~~TRIP~~ HT 5/19/94

Sample No.	Matrix*	Date Sampled	Time Sampled															
60GMW10	W	5/19/94	0945	X		X												
60GMW102A	W	↓			X													
60GMW103ABC	W	↓							X									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp/K. Trapp	5/19/94 1405	Karen E. Rogers	5-19-94 1405
Karen E. Rogers	5-19-94 1425	L. Sweeney L. Sweeney	1425 5-19-94
L. Sweeney L. Sweeney	5/20/94 1200	ITFS	5/20/94 1200

SPECIAL INSTRUCTIONS

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

BC-6000-828 (12/92)

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96-TPA-059

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 2

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100 F	SAF No.: 94-087
Ice Chest No.: EK-IC	Field Logbook No.: EFL-1055	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: W94-0-0594-10	Bill of Lading/Air Bill No.: NONE
Possible Sample Hazards/Remarks		

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

Preservative	HCL/2pH	COOL 4	pH 5-9	COOL 4	H2SO4<2	COOL 4	COOL 4	ZnAc *1	H2SO4<2	HNO3<2	NaOH>12	HCl<2*2	H2SO4<2	HNO3<2	HClpH<2
Type of Container	Gs	aG	aG	P	G/P	G/P	G/P	P	G	G	P	aGs	aGs	G/P	G/P
No. of Container(s)	3	3	3	1	1	1	1	1	1	1	1	1	1	3	3
Volume	40ml	1000ml	1000ml	1000ml	500ml	250ml	500ml	500ml	1000ml	1000ml	1000ml	250ml	500ml	4000ml	1000ml
SAMPLE ANALYSIS 40544504	VOA (CLP)	SEMIVOA (CLP)	PCB/ PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3 40544602	Tc-99
	ABC	DEF	GHI	J	K	L	M	N	O	P	Q	R	S		

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA (CLP)	SEMIVOA (CLP)	PCB/ PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3	Tc-99
BOBMP4	W	5/18/94	1200	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
BOBMP5	W																	
BOBMP6	W																	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	5/18/94 1005	D. Sweeney / Sweeney	5/18/94 1605
D. Sweeney / Sweeney	5/20/94 1200	[illegible] ITAS	5/20/94 1200

SPECIAL INSTRUCTIONS

*1 = or NaOH Ph>9 *2 = pH>/= to 12 *3 = GROSS ALPHA,BETA(ITAS-RD-3214), GAMMA SPEC(ITAS-RD-3219), U-235/238(ITAS-RD-3234), Pu-239/240(ITAS-RD-3209), Am-241(ITAS-RD-3302 or ITAS-RD-3206), Sr-90(ITAS-RD-3204). NOTE: LOWEST HOLDING TIME = 7 days

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 2 of 2

Data Turnaround: [ ] Priorty [X] Normal

Collector: K. Trapp	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 100 F	SAF No.: 94-087
Ice Chest No.: ER-K	Field Logbook No.: EFL-1055	Method of Shipment: HAND DELIVER
Shipped To: IT	Offsite Property No.: N/A W194-0-0594-10	Bill of Lading/Air Bill No.: N/A NONE

Possible Sample Hazards/Remarks

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

Preservative	N/A	HNO3<2	None			HCl pH<2
Type of Container	Gs	G	aGs			Gs
No. of Container(s)	1	1	1			3
Volume	1000ml	1000ml	40mL			40ml
SAMPLE ANALYSIS 405445	TRITIUM C-14 405446 02	ICP METALS+ ARSENIC LEAD, Se Tl, Hg (CLP)FI FILTERD	Activity Scan			VOA (CLP) TRIP

Sample No.	Matrix*	Date Sampled	Time Sampled															
BOGMP4	W	5/18/94	1200	X		X												
BOGMP5 05A	W	↓	↓		X													
BOBMP606ABC	W	↓	↓						X									

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
K. Trapp / K. Trapp	5/19/94 1605	Sweeney / Sweeney	5/19/94 1605
Relinquished By	Date/Time	Received By	Date/Time
Sweeney / Sweeney	5/20/94 1200	ITAS	5/20/94 1200
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

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)

0000061

000299

9513946.0561

9613496.0562

VEDD Printout

VALIDATION ELECTRONIC DELIVERABLE SDG W0062-ITC-062

Monday, October 4, 1994

HEIS-SN	Form	FormNr	LabCode	ConstID	Media	Value	ConcFlag	Qual	CountErr	Units
B0BMP4	CLP	1A	ITASKN	67-64-1	SW	10		U		UG/L
B0BMP6	CLP	1A	ITASKN	67-64-1	SW			U		
B0BMR2	CLP	1A	ITASKN	75-09-2	SW	10		U		UG/L
B0BMR2	CLP	1A	ITASKN	67-64-1	SW			U		
B0BMR8	CLP	1A	ITASKN	67-64-1	SW	10		U		UG/L
B0BMR8	CLP	1A	ITASKN	75-09-2	SW	10		U		UG/L
B0BMS0	CLP	1A	ITASKN	75-09-2	SW	10		U		UG/L
B0BMS0	CLP	1A	ITASKN	67-64-1	SW			U		
B0BMT0	CLP	1A	ITASKN	67-64-1	SW	10		U		UG/L
B0BMT0	CLP	1A	ITASKN	75-09-2	SW	10		U		UG/L
B0BMT2	CLP	1A	ITASKN	67-64-1	SW	10		U		UG/L
B0BMT8	CLP	1A	ITASKN	67-64-1	SW	10		U		UG/L
B0BMT8	CLP	1A	ITASKN	75-09-2	SW	10		U		UG/L
B0BMV0	CLP	1A	ITASKN	75-09-2	SW	10		U		UG/L
B0BMV0	CLP	1A	ITASKN	67-64-1	SW	10		U		UG/L
B0BMV2	CLP	1A	ITASKN	67-64-1	SW	10		U		UG/L
B0BMV2	CLP	1A	ITASKN	75-09-2	SW			U		
B0BMV4	CLP	1A	ITASKN	75-09-2	SW	10		U		UG/L
B0BMV4	CLP	1A	ITASKN	67-64-1	SW			U		
B0BMW0	CLP	1A	ITASKN	67-64-1	SW	10		U		UG/L
B0BMW2	CLP	1A	ITASKN	67-64-1	SW	10		U		
B0BMV2	CLP	1A	ITASKN	7440-50-8	SW			UJ		
B0BMV2	CLP	1A	ITASKN	7439-89-6	SW			UJ		
B0BMV2	CLP	1A	ITASKN	7439-92-1	SW			UJ		
B0BMV2	CLP	1A	ITASKN	7440-66-6	SW			U		
B0BMV3	CLP	1A	ITASKN	7440-50-8	SW			J		
B0BMV3	CLP	1A	ITASKN	7439-89-6	SW			UJ		
B0BMV3	CLP	1A	ITASKN	7782-49-2	SW			BJ		
B0BMR0	CLP	1A	ITASKN	7440-50-8	SW			UJ		
B0BMR0	CLP	1A	ITASKN	7439-89-6	SW			UJ		
B0BMR0	CLP	1A	ITASKN	7440-09-7	SW			BJ		
B0BMR0	CLP	1A	ITASKN	7782-49-2	SW			UJ		
B0BMR0	CLP	1A	ITASKN	7440-66-6	SW			U		

Entered by: Jm

Checked by: BM 10-3-94

00030101

95-196-1563

VALIDATION ELECTRONIC DELIVERABLE SDG W0062-ITC-062

Monday, October 4, 1994

B0BMR1	CLP	1A	ITASKN	7440-50-8	SW			UJ		
B0BMR1	CLP	1A	ITASKN	7439-89-6	SW			UJ		
B0BMR1	CLP	1A	ITASKN	7440-09-7	SW			UJ		
B0BMR1	CLP	1A	ITASKN	7782-49-2	SW			UJ		
B0BMR1	CLP	1A	ITASKN	7440-66-6	SW			U		
B0BMR8	CLP	1A	ITASKN	7440-50-8	SW			UJ		
B0BMR8	CLP	1A	ITASKN	7439-89-6	SW			U		
B0BMR8	CLP	1A	ITASKN	7440-09-7	SW			UJ		
B0BMR8	CLP	1A	ITASKN	7782-49-2	SW			UJ		
B0BMR8	CLP	1A	ITASKN	7440-66-6	SW			U		
B0BMR9	CLP	1A	ITASKN	7440-50-8	SW			UJ		
B0BMR9	CLP	1A	ITASKN	7439-89-6	SW			UJ		
B0BMR9	CLP	1A	ITASKN	7440-09-7	SW			BJ		
B0BMR9	CLP	1A	ITASKN	7782-49-2	SW			UJ		
B0BMR9	CLP	1A	ITASKN	7440-66-6	SW			U		
B0BMT0	CLP	1A	ITASKN	7440-50-8	SW			UJ		
B0BMT0	CLP	1A	ITASKN	7439-89-6	SW			UJ		
B0BMT0	CLP	1A	ITASKN	7439-92-1	SW			UJ		
B0BMT0	CLP	1A	ITASKN	7440-09-7	SW			BJ		
B0BMT0	CLP	1A	ITASKN	7782-49-2	SW			BJ		
B0BMT0	CLP	1A	ITASKN	7440-66-6	SW			U		
B0BMT1	CLP	1A	ITASKN	7440-50-8	SW			J		
B0BMT1	CLP	1A	ITASKN	7439-89-6	SW			UJ		
B0BMT1	CLP	1A	ITASKN	7439-92-1	SW			UJ		
B0BMT1	CLP	1A	ITASKN	7782-49-2	SW			BJ		
B0BMT8	CLP	1A	ITASKN	7440-50-8	SW			UJ		
B0BMT8	CLP	1A	ITASKN	7439-89-6	SW			UJ		
B0BMT8	CLP	1A	ITASKN	7439-92-1	SW			UJ		
B0BMT9	CLP	1A	ITASKN	7440-50-8	SW			UJ		
B0BMT9	CLP	1A	ITASKN	7439-89-6	SW			U		
B0BMT9	CLP	1A	ITASKN	7439-92-1	SW			UJ		
B0BMT9	CLP	1A	ITASKN	7782-49-2	SW			U		
B0BMT9	CLP	1A	ITASKN	7440-66-6	SW			U		
B0BMP4	CLP	1A	ITASKN	7440-50-8	SW			UJ		

Entered by: JM

Checked by: BM 10-3-94

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9517496 0561

VALIDATION ELECTRONIC DELIVERABLE SDG W0062-ITC-062

Monday, October 4, 1994

B0BMP4	CLP	1A	ITASKN	7440-09-7	SW			BJ		
B0BMP4	CLP	1A	ITASKN	7782-49-2	SW			UJ		
B0BMP5	CLP	1A	ITASKN	7440-50-8	SW			BJ		
B0BMP5	CLP	1A	ITASKN	7440-09-7	SW			BJ		
B0BMP5	CLP	1A	ITASKN	7782-49-2	SW			UJ		
B0BMP5	CLP	1A	ITASKN	7440-66-6	SW			U		
B0BMW0	CLP	1A	ITASKN	7440-50-8	SW			UJ		
B0BMW0	CLP	1A	ITASKN	7439-92-1	SW			UJ		
B0BMW0	CLP	1A	ITASKN	7782-49-2	SW			BJ		
B0BMW1	CLP	1A	ITASKN	7440-50-8	SW			UJ		
B0BMW1	CLP	1A	ITASKN	7439-89-6	SW			U		
B0BMW1	CLP	1A	ITASKN	7439-92-1	SW			UJ		
B0BMW1	CLP	1A	ITASKN	7782-49-2	SW			BJ		
B0BMV2	CLP	1A	ITASKN	14265-44-2	SW			UR		
B0BMV2	CLP	1A	ITASKN	207	SW			J		
B0BMR8	CLP	1A	ITASKN	14265-44-2	SW			UR		
B0BMR8	CLP	1A	ITASKN	207	SW			J		
B0BMW0	CLP	1A	ITASKN	14265-44-2	SW			UR		
B0BMW0	CLP	1A	ITASKN	207	SW			J		
B0BMT8	CLP	1A	ITASKN	14265-44-2	SW			UR		
B0BMT8	CLP	1A	ITASKN	207	SW			J		
B0BMP4	CLP	1A	ITASKN	14265-44-2	SW			UR		
B0BMP4	CLP	1A	ITASKN	207	SW			J		
B0BMP4	CLP	1A	ITASKN	TDS	SW			J		
B0BMR0	CLP	1A	ITASKN	14265-44-2	SW			UR		
B0BMR0	CLP	1A	ITASKN	207	SW			J		

Entered by: JM

Checked by: BM 10.3.94

000030

9613496.0566

END OF PACKAGE