0054407 W03332

SEVERN TRENT SERVICES

STL St. Louis
13715 Rider Trail North
Earth City, MO 63045

Tel 314 298 8566
Fax 314 298 8757
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. 100HR3(2)SEEP

C01-001

Lot #: F0J170107
SDG #: W03332

Joan Kessner

Bechtel Hanford, Inc.
3190 George Washington Way
Richland, WA 99352

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JAN 22 2001
EDMC

SEVERN TRENT LABORATORIES, INC.

MWard

MARTI WARD
Project Manager

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November 27, 2000

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Earth City, MO 63045

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CASE NARRATIVE

Bechtel Hanford Incorporated
3190 George Washington Way
Richland, Washington 99352

November 27, 2000
Attention: Joan Kessner

Project Number	:	38953
SDG	:	W03332
Number of Samples	:	24
SAF	:	C01-001
Sample Matrix	:	water
Data Deliverable	:	Summary
Date SDG Closed	:	October 27, 2000

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II. Introduction

Beyween October 14, 2000 and October 27, 2000, twenty-four water samples were received by STL-St. Louis for chemical analysis. Several of the COCs did not have the collection information filled in. The lab utilized the information found on the bottles. The samples were received within temperature criteria. See the attached Sample Summary sheet for the client and lab Ids for these samples.

III. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits.

Analyses requested: 300.0 Anions IC - Sulfate
6010 ICP Metals

Deviation from Request: There were no deviations.

IV. Definitions

The following codes are used to denote laboratory quality control samples and can be found in the data summary section of this report:

QCBLK- Quality Control Blank, Method Blank
QCLCS- Quality Control Laboratory Control Sample, Blank Spike
MS- Matrix Spike
DUP- Matrix Duplicate
MSD- Matrix Spike Duplicate

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STL St. Louis

Bechtel Hanford Incorporated
November 27, 2000
Project Number: 38953
SDG: W03332
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V. Comments

General: The term "Detection Limit" used in the analytical data reports refers to either the lab's standard reporting limits or contractually required reporting limits, whichever is applicable.

Please refer to the attached cross-reference table for the standard preparation methods used at Quanterra, St. Louis.

Wet Chemistry: A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Duplicate were analyzed with each preparation batch per the protocol for this analysis.

The Anions for several COCs were received at the St. Louis lab on the day the holding time expired. See notation made by the Richland lab on the Sample Check In List included with the chain-of-custody information.

Sample B10JP9 for anions analysis had a collection date of 10-13-00 on the bottles and 10-17-00 on the COC. The client was notified of the discrepancy via e-mail. The collection date on the bottle was correct. See the copy of the e-mail included with this narrative.

The Sulfate MS recovery for sample B10JR2 was above the QC criteria. The spike data was flagged with an "N" qualifier. The duplicate results were in control. LCS recoveries met criteria.

Metals: A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

The Iron recovery of the MS for sample B10JR2 was below the 75% criteria. The spike data was flagged with an "N" qualifier. The MSD recovery was within QC limits. LCS recoveries were acceptable.

I certify that this Data package 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:

Marti Ward

Marti Ward
St. Louis Project Manager

/

Ward, Marti

From: Ward, Marti
Sent: Friday, October 20, 2000 10:48 AM
To: Waddell, Jackie; 'JHKessne@mail.bhi-erc.com'
Subject: Anions - W03332
Importance: High

Sample B10JP9 for Anions has a collection date of 10-13 on the bottle and 10-17 on the chain-of-custody. We are analyzing the sample and will use a collection date of 10-17-00 unless we are instructed to do otherwise. A note will be made in the narrative.

Ward, Marti

From: Waddell, Jackie
Sent: Monday, October 30, 2000 9:21 AM
To: Ward, Marti
Subject: FW: Sample Date

-----Original Message-----
From: Kessner, Joan H [mailto:JHKessne@mail.bhi-erc.com]
Sent: Thursday, October 26, 2000 10:58 AM
To: 'Jackie'
Subject: FW: Sample Date

Jackie---
Would you please pass this information on to Marti.....looks like I left her email address somewhere.....
Thanks,
Joan

> -----Original Message-----
> From: Trent, Stephen J
> Sent: Thursday, October 26, 2000 10:56 AM
> To: Kessner, Joan H
> Subject: Sample Date
>
> Joan:
>
> Samplers confirmed the correct sample date for the anions bottle for
> sample B10JP9 (W03332) should be 10/17/00.
>
> Steve

SAMPLE SUMMARY

F0J170107

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
DM85P	001	B10JR1	10/12/00	
DM86C	002	B10JT2	10/12/00	
DM86F	003	B10JT9	10/12/00	
DM86N	004	B10JV0	10/12/00	
DM86P	005	B10JR2	10/13/00	11:35
DM861	006	B10JT3	10/13/00	11:35
DM865	007	B10JR4	10/13/00	09:07
DM866	008	B10JT5	10/13/00	09:07

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

METHODS SUMMARY

F0J170107

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Chloride	MCAWW 300.0A	MCAWW 300.0A
Fluoride	MCAWW 300.0A	MCAWW 300.0A
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3010A
Nitrate as N	MCAWW 300.0A	MCAWW 300.0A
Nitrite as N	MCAWW 300.0A	MCAWW 300.0A
Sulfate	MCAWW 300.0A	MCAWW 300.0A

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F0J190272

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
DNFT9	001	B10JP7	10/17/00	11:40
DNFVV	002	B10JR8	10/17/00	11:40
DNFV2	003	B10JP8	10/17/00	10:13
DNFWC	004	B10JR9	10/17/00	10:13
DNFWG	005	B10JP9	10/17/00	10:13
DNFWP	006	B10JT0	10/17/00	10:13
DNFWX	007	B10JR0	10/17/00	11:04
DNFW3	008	B10JT1	10/17/00	11:04

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

METHODS SUMMARY

F0J190272

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Chloride	MCAWW 300.0A	MCAWW 300.0A
Fluoride	MCAWW 300.0A	MCAWW 300.0A
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3010A
Nitrate as N	MCAWW 300.0A	MCAWW 300.0A
Nitrite as N	MCAWW 300.0A	MCAWW 300.0A
Sulfate	MCAWW 300.0A	MCAWW 300.0A

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

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SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis

Run Date: 10/17/00
Time: 7:23:00
User Id.: CLARKEJ

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: 100HR3(2)SEEP
REPORT TO: Joan Kessner
P.O. NUMBER: MRC-SBB-A-19981
SITE: C01-001
AMOUNT REC"D: 2X500P
STORAGE LOC: S16,METALS
LOT COMMENTS: QC is billable
MATRIX: WATER
SAMPLE ID: B10JR1
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 38953
LAB ID: F-0J170107-001
WORK ORDER: DM85P
RECEIVING DATE: 10/13/00
SAMPLING DATE: 10/12/00
ANALYTICAL DUE DATE: 11/13/00N
REPORT DUE DATE: 11/27/00
PRIORITY: 31
SAMPLING TIME:
RECEIVING TIME: 9:20
SDG# : W03332

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Chloride (300.0, Ion Chromatography)	06	10/17/00	0/00/00	11/09/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-CX-5I) DM85P-1-AA Protocol: A QC Program: CLIENT: HANFORD				
Fluoride (300.0, Ion Chromatography)	06	10/17/00	0/00/00	11/09/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-C8-5I) DM85P-1-AC Protocol: A QC Program: CLIENT: HANFORD				
Nitrate as N (300.0, Ion Chromatography)	06	10/17/00	0/00/00	10/14/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-C9-5I) DM85P-1-AD Protocol: A QC Program: CLIENT: HANFORD				
Nitrite as N (300.0, Ion Chromatography)	06	10/17/00	0/00/00	10/14/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-GO-5I) DM85P-1-AE Protocol: A QC Program: CLIENT: HANFORD				
Sulfate (300.0, Ion Chromatography)	06	10/17/00	0/00/00	11/09/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-CY-5I) DM85P-1-AF Protocol: A QC Program: CLIENT: HANFORD				
Inductively Coupled Plasma (6010B)	06	10/17/00	0/00/00	4/10/01
METALS, TOTAL - Waters				
M6010_L AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,SR,VX,ZN				
(I-05-QO-5I) DM85P Protocol: A QC Program: CLIENT: HANFORD				

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SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis

Run Date: 10/17/00
Time: 7:23:00
User Id.: CLARKEJ

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: 100HR3(2)SEEP
REPORT TO: Joan Kessner
P.O. NUMBER: MRC-SBB-A-19981
SITE: C01-001
AMOUNT REC"D: 500P
STORAGE LOC: METALS
LOT COMMENTS: QC is billable
MATRIX: WATER
SAMPLE ID: B10JT2
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 38953
LAB ID: F-0J170107-002
WORK ORDER: DM86C
RECEIVING DATE: 10/13/00
SAMPLING DATE: 10/12/00
ANALYTICAL DUE DATE: 11/13/00N
REPORT DUE DATE: 11/27/00
PRIORITY: 31
SAMPLING TIME:
RECEIVING TIME: 9:20
SDG# : W03332

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B)	06	10/17/00	0/00/00	4/10/01

METALS, FILTERED (DISS) -> TOTAL
M6010DS AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,SR,VX,ZN
(I-55-QO-5I) DM86C Protocol: A QC Program: CLIENT: HANFORD

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SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis

Run Date: 10/17/00
Time: 7:23:00
User Id.: CLARKEJ

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: 100HR3(2)SEEP
REPORT TO: Joan Kessner
P.O. NUMBER: MRC-SBB-A-19981
SITE: C01-001
AMOUNT REC"D: 2X500P
STORAGE LOC: S16,METALS
LOT COMMENTS: QC is billable
MATRIX: WATER
SAMPLE ID: B10JT9
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 38953
LAB ID: F-0J170107-003
WORK ORDER: DM86F
RECEIVING DATE: 10/13/00
SAMPLING DATE: 10/12/00
ANALYTICAL DUE DATE: 11/13/00N
REPORT DUE DATE: 11/27/00
PRIORITY: 31
SAMPLING TIME:
RECEIVING TIME: 9:20
SDG# : W03332

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B)	06	10/17/00	0/00/00	4/10/01
METALS, TOTAL - Waters				
M6010_L AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,SR,VX,ZN				
(I-05-QO-5I) DM86F Protocol: A QC Program: CLIENT: HANFORD				
Chloride (300.0, Ion Chromatography)	06	10/17/00	0/00/00	11/09/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-CX-5I) DM86F-1-AF Protocol: A QC Program: CLIENT: HANFORD				
Fluoride (300.0, Ion Chromatography)	06	10/17/00	0/00/00	11/09/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-C8-5I) DM86F-1-AG Protocol: A QC Program: CLIENT: HANFORD				
Nitrate as N (300.0, Ion Chromatography)	06	10/17/00	0/00/00	10/14/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-C9-5I) DM86F-1-AH Protocol: A QC Program: CLIENT: HANFORD				
Nitrite as N (300.0, Ion Chromatography)	06	10/17/00	0/00/00	10/14/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-GO-5I) DM86F-1-AJ Protocol: A QC Program: CLIENT: HANFORD				
Sulfate (300.0, Ion Chromatography)	06	10/17/00	0/00/00	11/09/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-CY-5I) DM86F-1-AK Protocol: A QC Program: CLIENT: HANFORD				

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SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis

Run Date: 10/17/00
Time: 7:23:00
User Id.: CLARKEJ

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: 100HR3(2)SEEP
REPORT TO: Joan Kessner
P.O. NUMBER: MRC-SBB-A-19981
SITE: C01-001
AMOUNT REC"D: 500P
STORAGE LOC: METALS
LOT COMMENTS: QC is billable
MATRIX: WATER
SAMPLE ID: B10JV0
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 38953
LAB ID: F-0J170107-004
WORK ORDER: DM86N
RECEIVING DATE: 10/13/00
SAMPLING DATE: 10/12/00
ANALYTICAL DUE DATE: 11/13/00N
REPORT DUE DATE: 11/27/00
PRIORITY: 31
SAMPLING TIME:
RECEIVING TIME: 9:20
SDG# : W03332

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B)	06	10/17/00	0/00/00	4/10/01

METALS, FILTERED (DISS) -> TOTAL
M6010DS AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,SR,VX,ZN
(I-55-QO-5I) DM86N Protocol: A QC Program: CLIENT: HANFORD

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 10/17/00
Page 1 CLIENT ANALYSIS SUMMARY Time: 7:23:00
STL St. Louis User Id.: CLARKEJ

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 38953
PROJECT MANAGER: MARTI WARD LAB ID: F-0J170107-005
PROJECT #: 100HR3(2)SEEP WORK ORDER: DM86P
REPORT TO: Joan Kessner RECEIVING DATE: 10/14/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 10/13/00
SITE: C01-001 ANALYTICAL DUE DATE: 11/13/00N
AMOUNT REC'D: 2X500P REPORT DUE DATE: 11/27/00
STORAGE LOC: S16,METALS PRIORITY: 31
LOT COMMENTS: QC is billable SAMPLING TIME: 11:35
MATRIX: WATER RECEIVING TIME: 9:20
SAMPLE ID: B10JR2
QC PACKAGE: Special Report - see checklist SDG# : W03332
SAMPLE COMMENTS:
ANIONS REQUIRE DUPLICATE
Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B)	06	10/17/00	0/00/00	4/11/01
METALS, TOTAL - Waters				
M6010_L AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,SR,VX,ZN				
(I-05-QO-5I) DM86P Protocol: A QC Program: CLIENT: HANFORD				
Chloride (300.0, Ion Chromatography)	06	10/17/00	0/00/00	11/10/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-CX-5I) DM86P-1-AF Protocol: A QC Program: CLIENT: HANFORD				
Fluoride (300.0, Ion Chromatography)	06	10/17/00	0/00/00	11/10/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-C8-5I) DM86P-1-AG Protocol: A QC Program: CLIENT: HANFORD				
Nitrate as N (300.0, Ion Chromatography)	06	10/17/00	0/00/00	10/15/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-C9-5I) DM86P-1-AH Protocol: A QC Program: CLIENT: HANFORD				
Nitrite as N (300.0, Ion Chromatography)	06	10/17/00	0/00/00	10/15/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-GO-5I) DM86P-1-AJ Protocol: A QC Program: CLIENT: HANFORD				
Sulfate (300.0, Ion Chromatography)	06	10/17/00	0/00/00	11/10/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-CY-5I) DM86P-1-AK Protocol: A QC Program: CLIENT: HANFORD				

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 10/17/00
Page 1 CLIENT ANALYSIS SUMMARY Time: 7:23:00
STL St. Louis User Id.: CLARKEJ

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: 100HR3(2)SEEP
REPORT TO: Joan Kessner
P.O. NUMBER: MRC-SBB-A-19981
SITE: C01-001
AMOUNT REC"D: 2X500P
STORAGE LOC: S16,METALS
LOT COMMENTS: QC is billable
MATRIX: WATER
SAMPLE ID: B10JR2
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:
ANIONS REQUIRE DUPLICATE
Beginning Depth: .00 **Ending Depth:** .00

QUOTE/SAR #: 38953
LAB ID: F-0J170107-005-D
WORK ORDER: DM86P MSD
RECEIVING DATE: 10/14/00
SAMPLING DATE: 10/13/00
ANALYTICAL DUE DATE: 11/13/00N
REPORT DUE DATE: 11/27/00
PRIORITY: 31
SAMPLING TIME: 11:35
RECEIVING TIME: 9:20
SDG# : W03332

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B)	06	10/17/00	0/00/00	4/10/01

METALS, TOTAL - Waters
M6010_L AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,SR,VX,ZN
(I-05-QO-5I) DM86P Protocol: A QC Program: CLIENT: HANFORD

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 10/17/00
Page 1 CLIENT ANALYSIS SUMMARY Time: 7:23:00
STL St. Louis User Id.: CLARKEJ

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 38953
PROJECT MANAGER: MARTI WARD LAB ID: F-0J170107-005-S
PROJECT #: 100HR3(2)SEEP WORK ORDER: DM86P MS
REPORT TO: Joan Kessner RECEIVING DATE: 10/14/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 10/13/00
SITE: C01-001 ANALYTICAL DUE DATE: 11/13/00N
AMOUNT REC"D: 2X500P REPORT DUE DATE: 11/27/00
STORAGE LOC: S16,METALS PRIORITY: 31
LOT COMMENTS: QC is billable SAMPLING TIME: 11:35
MATRIX: WATER RECEIVING TIME: 9:20
SAMPLE ID: B10JR2
QC PACKAGE: Special Report - see checklist SDG# : W03332
SAMPLE COMMENTS:
ANIONS REQUIRE DUPLICATE
Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B)	06	10/17/00	0/00/00	4/10/01
METALS, TOTAL - Waters				
M6010_L AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,SR,VX,ZN				
(I-05-QO-5I) DM86P Protocol: A QC Program: CLIENT: HANFORD				
Chloride (300.0, Ion Chromatography)	06	10/17/00	0/00/00	11/09/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-CX-5I) DM86P-1-CM Protocol: A QC Program: CLIENT: HANFORD				
Fluoride (300.0, Ion Chromatography)	06	10/17/00	0/00/00	11/09/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-C8-5I) DM86P-1-CN Protocol: A QC Program: CLIENT: HANFORD				
Nitrate as N (300.0, Ion Chromatography)	06	10/17/00	0/00/00	10/14/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-C9-5I) DM86P-1-CP Protocol: A QC Program: CLIENT: HANFORD				
Nitrite as N (300.0, Ion Chromatography)	06	10/17/00	0/00/00	10/14/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-GO-5I) DM86P-1-CQ Protocol: A QC Program: CLIENT: HANFORD				
Sulfate (300.0, Ion Chromatography)	06	10/17/00	0/00/00	11/09/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-CY-5I) DM86P-1-CR Protocol: A QC Program: CLIENT: HANFORD				

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SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis

Run Date: 10/17/00
Time: 7:23:00
User Id.: CLARKEJ

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: 100HR3(2)SEEP
REPORT TO: Joan Kessner
P.O. NUMBER: MRC-SBB-A-19981
SITE: C01-001
AMOUNT REC"D: 500F
STORAGE LOC: METALS
LOT COMMENTS: QC is billable
MATRIX: WATER
SAMPLE ID: B10JT3
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 38953
LAB ID: F-0J170107-006
WORK ORDER: DM861
RECEIVING DATE: 10/14/00
SAMPLING DATE: 10/13/00
ANALYTICAL DUE DATE: 11/13/00N
REPORT DUE DATE: 11/27/00
PRIORITY: 31
SAMPLING TIME: 11:35
RECEIVING TIME: 9:20
SDG# : W03332

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B)	06	10/17/00	0/00/00	4/11/01

METALS, FILTERED (DISS) -> TOTAL
M6010DS AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,SR,VX,ZN
(I-55-QO-5I) DM861 Protocol: A QC Program: CLIENT: HANFORD

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 10/17/00
Page 1 CLIENT ANALYSIS SUMMARY Time: 7:23:00
STL St. Louis User Id.: CLARKEJ

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 38953
PROJECT MANAGER: MARTI WARD LAB ID: F-0J170107-007
PROJECT #: 100HR3(2)SEEP WORK ORDER: DM865
REPORT TO: Joan Kessner RECEIVING DATE: 10/14/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 10/13/00
SITE: C01-001 ANALYTICAL DUE DATE: 11/13/00N
AMOUNT REC"D: 2X500P REPORT DUE DATE: 11/27/00
STORAGE LOC: S16,METALS PRIORITY: 31
LOT COMMENTS: QC is billable SAMPLING TIME: 9:07
MATRIX: WATER RECEIVING TIME: 9:20
SAMPLE ID: B10JR4
QC PACKAGE: Special Report - see checklist SDG# : W03332
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B)	06	10/17/00	0/00/00	4/11/01
METALS, TOTAL - Waters				
M6010_L AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,SR,VX,ZN				
(I-05-QO-5I) DM865 Protocol: A QC Program: CLIENT: HANFORD				
Chloride (300.0, Ion Chromatography)	06	10/17/00	0/00/00	11/10/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-CX-5I) DM865-1-AF Protocol: A QC Program: CLIENT: HANFORD				
Fluoride (300.0, Ion Chromatography)	06	10/17/00	0/00/00	11/10/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-C8-5I) DM865-1-AG Protocol: A QC Program: CLIENT: HANFORD				
Nitrate as N (300.0, Ion Chromatography)	06	10/17/00	0/00/00	10/15/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-C9-5I) DM865-1-AH Protocol: A QC Program: CLIENT: HANFORD				
Nitrite as N (300.0, Ion Chromatography)	06	10/17/00	0/00/00	10/15/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-GO-5I) DM865-1-AJ Protocol: A QC Program: CLIENT: HANFORD				
Sulfate (300.0, Ion Chromatography)	06	10/17/00	0/00/00	11/10/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-CY-5I) DM865-1-AK Protocol: A QC Program: CLIENT: HANFORD				

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 10/17/00
Page 1 CLIENT ANALYSIS SUMMARY Time: 7:23:00
STL St. Louis User Id.: CLARKEJ

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: 100HR3(2)SEEP
REPORT TO: Joan Kessner
P.O. NUMBER: MRC-SBB-A-19981
SITE: C01-001
AMOUNT REC"D: 500P
STORAGE LOC: METALS
LOT COMMENTS: QC is billable
MATRIX: WATER
SAMPLE ID: B10JT5
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 38953
LAB ID: F-0J170107-008
WORK ORDER: DM866
RECEIVING DATE: 10/14/00
SAMPLING DATE: 10/13/00
ANALYTICAL DUE DATE: 11/13/00N
REPORT DUE DATE: 11/27/00
PRIORITY: 31
SAMPLING TIME: 9:07
RECEIVING TIME: 9:20
SDG# : W03332

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B)	06	10/17/00	0/00/00	4/11/01

METALS, FILTERED (DISS) -> TOTAL
M6010DS AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,SR,VX,ZN
(I-55-QO-5I) DM866 Protocol: A QC Program: CLIENT: HANFORD

W03332

0-27023

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PNNL W03332

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.# C01-001-

Page 1 of 1

Collector: E. RADFORD	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-001	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3(2) SEEP SAMPLING, OCTOBER 2000	Logbook No.	Ice Chest No. Temp.
Shipped To (Lab): Severn Trent Incorporated	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
" " STX
W03332 JW130267

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX STL log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10JR2		W	10/13/00	1135	1x500-mL G/P	6010_METALS_ICP: List-1 (19) ✓	HNO3 to pH <2
(3) B10JR2		W			1x500-mL P	300.0_ANIONS_IC: List-1 (8) ✓	Cool 4°
B10JR2		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B10JR2		W			1x20-mL P	Activity Scan	None
B10JR2		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1)	None
(3) B10JT3 (F)		W			1x500-mL G/P	6010_METALS_ICP: List-1 (19) ✓	HNO3 to pH <2

DM5GK

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
E. RADFORD			10/13/00 1435	K. Ashenburg			10-13-00 1325
				Jody Watson			10/14/00 0820

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

STL St. Louis

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W03332

STL St. Louis

PNNL W03332

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # C01-001-7

Page 1 of 1

Director E. RADFORD	Contact/Requester JEK PENNER	Telephone No. (509) 375-6688 MSIN PAX
F No. C01-001	Sampling Origin HANFORD SITE	Purchase Order/Charge Code
ject Title 100HR3(2) SEEP SAMPLING, OCTOBER 2000	Logbook No.	Ice Chest No. Temp.
pped To (Lab) Severn Trent Laboratories	Method of Shipment GOVT. VEHICLE	Bill of Lading/Air Bill No.
atocol CERCLA	Data Turnaround 45 Days	Offsite Property No.

HEMICAL SAMPLE HAZARDS/REMARKS
SDL
W03332 JAJ130267

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☒ No ☐
Submit deliverables & invoices to JH Kenner
FAX STL log-in to JH Kenner (372-9187) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
10JR2		W	10/10/00	1135	1x500-mL GP	6010_METALS_ICP: List-I (19) ✓	HNO3 to pH <2
10JR2		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5) ✓	Cool 4°
10JR2		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
10JR2		W			1x20-mL P	Activity Scan	None
10JR2		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1)	None
10JT3 (F)		W			1x500-mL GP	6010_METALS_ICP: List-I (19) ✓	HNO3 to pH <2

DM56-K

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
E. Radford			10/13/00 1325	K. Ashenburg			10-13-00 1325
K. Ashenburg			10-13-00 1600	Jody Watson			10/13/00 1600

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

W03332

STL St. Louis

PNNL W03332

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # C01-001

Page 1 of 1

Collector: E Radford	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4648 MSIN FAX
SAF No.: C01-001	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3(2) SEEP SAMPLING, OCTOBER 2000	Logbook No.	Ice Chest No. Temp.
Shipped To (Lab): Severn Trent Incorporated	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX STL log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10JR4		W	10-13-00	0907	1x500-mL G/P	6010_METALS_ICP: List-1 (19) ✓	HNO3 to pH <2
(1) B10JR4		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5) ✓	Cool 4C
B10JR4		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B10JR4		W			1x20-mL P	Activity Scan > DM56-Q	None
B10JR4		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1)	None
(8) B10JT5 (F)		W			1x500-mL G/P	6010_METALS_ICP: List-1 (19) ✓	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
E. Radford			10-12-00 1325	K. DeMenling			10-13-00 1325
Relinquished By			Date/Time	Received By			Date/Time
				Jody WATSON			10/14/00 0820
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

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STL St. Louis

NNL W03332

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.# C01-001-9

Page 1 of 1

lector E Radford	Contact/Requestor DH KESSNER	Telephone No. (509) 375-4688 MAIN FAX
F No. 3DL-001	Sampling Origin HANFORD SITE	Purchase Order/Charge Code
ject Title 100-HR-3(2) SEEP SAMPLING OCTOBER 2000	Logbook No.	Ice Chest No. Temp.
pped To (Lab) Severn Trent Incorporated	Method of Shipment GOVT VEHICLE	Bill of Lading/Air Bill No.
tocol CERCLA	Date Turnaround 45 Days	Offsite Property No.

OSSIBLE SAMPLE HAZARDS/REMARKS
--

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Submit deliverables & invoices to DH Kessner
FAX STL log-in to JH Kessner (372-9487) & DL Stewart (372-1204)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
10JR4		W	10-13-00	0857	1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2
10JR4		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool 4C
10JR4		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
10JR4		W			1x2L-mL P	Activity Scan	None
10JR4		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1)	None
10JT5 (F)		W			1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2

DM56-Q

Relinquished By (Print) L. RAYORS Sign	Date/Time 10-13-00 1425	Received By (Print) K. DeHenley Sign	Date/Time 10-13-00 1825
Relinquished By K. DeHenley	Date/Time 10-13-00 1600	Received By Jody WATSON	Date/Time 10/13/00 0220
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

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CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # C01-001-

Page 1 of 1

Collector: E. RADFORD	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-001	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3(2) SEEP SAMPLING OCTOBER 2000	Logbook No.	Ice Chest No. Temp.
Shipped To (Lab): Severn Trent Incorporated	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX STL log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

	Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
	B10JR1		W			1x500-mL G/P	6010_METALS_ICP: List-1 (19) ✓	HNO3 to pH <2
(1)	B10JR1		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5) ✓	Cool 4C
	B10JR1		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
	B10JR1		W			1x20-mL P	Activity Scan	None
	B10JR1		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1)	None
(2)	B10JT2 (F)		W			1x500-mL G/P	6010_METALS_ICP: List-1 (19) ✓	HNO3 to pH <2

DM35J

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
E. RADFORD	E. Radford		10/12/00	Josh Hughes			10/12/00 15:50
Josh Hughes			10/12/00 16:00	Judy Watson			10/13/00 0920

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

STL St. Louis

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PNNL W03332

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.# C01-001

Page 1 of 1

Collector E. RADFORD	Contact/Requester JH KESSNER	Telephone No. (509) 375-4688 MSIN FAX
SAF No. C01-001	Sampling Origin HANFORD SITE	Purchase Order/Charge Code
Project Title 100HR3(2) SEEP SAMPLING, OCTOBER 2000	Logbook No.	Ice Chest No. Temp.
Shipped To (Lab) TMA/RECRA	Method of Shipment GOVT. VEHICLE	Bill of Lading/Air Bill No.
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exception: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10JT9		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW ✓	HNO3 to pH <2
B10JT9		W			1x500-mL P	IC Anions - 300.0 ✓	Cool 4C
B10JT9		W			1x20-mL P.	Activity Scan	None
B10JT9		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10JT9		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10JT9		W			1x250-mL P	Tritium - H3	None
B10JV0 (F)		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW ✓	HNO3 to pH <2

DM35K

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
E. RADFORD		E Radford	10/12/00	Josh Hughes		Josh Hughes	10/12/00 15:50
Josh Hughes		Josh Hughes	10/13/00 16:00	Jolly Water		Jolly Water	10/14/00 0920

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

STL St. Louis

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Date/Time Received: 10-13-00 1325 SDG#: W03332

Work Order Number: 102130267 SAF#: CO1-001

Shipping Container ID: not marked Chain of Custody #: CO1-001-7 CO1-001-9

1. Outermost shipping container damaged? Yes [] No [✓]

2. Custody Seals on shipping container intact? Yes [] No [✓]

3. Custody Seals dated and signed? Yes [✓] No []

4. Chain-of-Custody record present? Yes [✓] No []

5. Chain-of-Custody includes the following information:
   - Client name Yes [✓] No []
   - Project name or number Yes [✓] No []
   - Sample date/time for each sample Yes [✓] No []
   - Container types, sizes and number of containers Yes [✓] No []
   - Short description of sample, i.e., matrix Yes [✓] No []
   - Analyses requested Yes [✓] No []
   - Preservation used or "none" or N/A if not applicable Yes [✓] No []
   - Date and time of relinquish and receipt Yes [✓] No []
   - Signatures of those persons relinquishing and receiving Yes [✓] No []

6. Sample numbers on chain of custody match those on sample containers? Yes [✓] No []

7. Collection date and date of laboratory receipt are within project specific holding time requirements? Yes [✓] No []

8. Cooler temperature: 4°C

9. Vermiculite/packing materials is: Wet [] Dry [✓]

10. Samples have: [✓] tape [] hazard labels
    [✓] custody seals [] appropriate sample labels

11. Samples are: [✓] in good condition [] leaking
    [] broken [] have air bubbles

12. Were any anomalies identified in sample receipt? Yes [] No [✓]

13. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: K. Lettenley Date: 10-13-00

Telephone/Fax/E:mailed to: _____ On _____ By _____

Committed to *Your* Success

Lot No.: FOJ170107
W03332

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Hanford
Date: 10-14-00 Time: 920
Quote No: 38953
Initiated by: JW
Shipper/No: Airborne 2663521840
RFA/COC Numbers: C01-002-2, C01-001-7, C01-002-1, C01-008-6, C01-001-5, C01-001-7

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.
2. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature: _____
   - ☐ pH _____
   - ☐ other: _____
3. ☐ Sample received in improper container.
4. ☐ Sample received withour proper paperwork. Explain: _____
5. ☐ Paperwork received without sample.
6. ☐ No sample ID on sample container.
7. ☐ Custody tape disturbed/broken/missing/not tamper evident type (circle all that apply).
8. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
9. ☐ All coolers on airbill not received with shipment.
10. ☐ Sample volume insufficient for analysis
11. ☐ Other (explain below) _____

☒ **No variances were noted during sample receipt.**
☒ **Cooler Temperature Upon Receipt in °C:** 6.4°C

Temperature Variance Does Not Affect the Following Analyses: _____

Notes: _____

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____
☐ Client's Name: _____ Informed in writing on: _____ By: _____
☐ Sample(s) processed "as is". _____
☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) JWBatson Date: 10/14/00
Project Management Review: Mulard Date: 10/17/00

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE
THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED
IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY HIS/HER INITIALS AND THE DATE NEXT TO THAT ITEM

Form: SL-ADMIN-0004, Revised 6/21/00 SOP Reference: STL-QA-0006

PSL20300
Page 1

SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis

Run Date: 10/19/00
Time: 15:30:28
User Id.: WILSONS

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: 100HR3(2)SEEP
REPORT TO: Joan Kessner
P.O. NUMBER: MRC-SBB-A-19981
SITE: C01-001
AMOUNT REC"D: 2X500P
STORAGE LOC: S13,METS
LOT COMMENTS: QC is billable
MATRIX: WATER
SAMPLE ID: B10JP7
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 38953
LAB ID: F-0J190272-001
WORK ORDER: DNFT9
RECEIVING DATE: 10/19/00
SAMPLING DATE: 10/17/00
ANALYTICAL DUE DATE: 11/20/00N
REPORT DUE DATE: 12/04/00
PRIORITY: 31
SAMPLING TIME: 11:40
RECEIVING TIME: 8:35
SDG# : W03332

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Chloride (300.0, Ion Chromatography)	06	10/19/00	0/00/00	11/14/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-CX-5I) DNFT9-1-AA Protocol: A QC Program: CLIENT: HANFORD				
Inductively Coupled Plasma (6010B)	06	10/19/00	0/00/00	4/15/01
METALS, TOTAL - Waters				
M6010_L AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,SR,VX,ZN				
(I-05-QO-5I) DNFT9 Protocol: A QC Program: CLIENT: HANFORD				
Fluoride (300.0, Ion Chromatography)	06	10/19/00	0/00/00	11/14/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-C8-5I) DNFT9-1-A0 Protocol: A QC Program: CLIENT: HANFORD				
Nitrate as N (300.0, Ion Chromatography)	06	10/19/00	0/00/00	10/19/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-C9-5I) DNFT9-1-A1 Protocol: A QC Program: CLIENT: HANFORD				
Nitrite as N (300.0, Ion Chromatography)	06	10/19/00	0/00/00	10/19/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-GO-5I) DNFT9-1-A2 Protocol: A QC Program: CLIENT: HANFORD				
Sulfate (300.0, Ion Chromatography)	06	10/19/00	0/00/00	11/14/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-CY-5I) DNFT9-1-A3 Protocol: A QC Program: CLIENT: HANFORD				

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SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis

Run Date: 10/19/00
Time: 15:30:28
User Id.: WILSONS

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: 100HR3(2)SEEP
REPORT TO: Joan Kessner
P.O. NUMBER: MRC-SBB-A-19981
SITE: C01-001
AMOUNT REC'D: 500P
STORAGE LOC: METS
LOT COMMENTS: QC is billable
MATRIX: WATER
SAMPLE ID: B10JR8
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 38953
LAB ID: F-0J190272-002
WORK ORDER: DNFVV
RECEIVING DATE: 10/19/00
SAMPLING DATE: 10/17/00
ANALYTICAL DUE DATE: 11/20/00N
REPORT DUE DATE: 12/04/00
PRIORITY: 31
SAMPLING TIME: 11:40
RECEIVING TIME: 8:35
SDG# : W03332

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B)	06	10/19/00	0/00/00	4/15/01

METALS, FILTERED (DISS) -> TOTAL
M6010DS AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,SR,VX,ZN
(I-55-QO-5I) DNFVV Protocol: A QC Program: CLIENT: HANFORD

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SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis

Run Date: 10/19/00
Time: 15:30:28
User Id.: WILSONS

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: 100HR3(2)SEEP
REPORT TO: Joan Kessner
P.O. NUMBER: MRC-SBB-A-19981
SITE: C01-001
AMOUNT REC"D: 2X500P
STORAGE LOC: S13,METS
LOT COMMENTS: QC is billable
MATRIX: WATER
SAMPLE ID: B10JP8
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 38953
LAB ID: F-0J190272-003
WORK ORDER: DNFV2
RECEIVING DATE: 10/19/00
SAMPLING DATE: 10/17/00
ANALYTICAL DUE DATE: 11/20/00N
REPORT DUE DATE: 12/04/00
PRIORITY: 31
SAMPLING TIME: 10:13
RECEIVING TIME: 8:35
SDG# : W03332

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Chloride (300.0, Ion Chromatography)	06	10/19/00	0/00/00	11/14/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-CX-5I) DNFV2-1-AA Protocol: A QC Program: CLIENT: HANFORD				
Inductively Coupled Plasma (6010B)	06	10/19/00	0/00/00	4/15/01
METALS, TOTAL - Waters				
M6010_L AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,SR,VX,ZN				
(I-05-QO-5I) DNFV2 Protocol: A QC Program: CLIENT: HANFORD				
Fluoride (300.0, Ion Chromatography)	06	10/19/00	0/00/00	11/14/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-C8-5I) DNFV2-1-A0 Protocol: A QC Program: CLIENT: HANFORD				
Nitrate as N (300.0, Ion Chromatography)	06	10/19/00	0/00/00	10/19/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-C9-5I) DNFV2-1-A1 Protocol: A QC Program: CLIENT: HANFORD				
Nitrite as N (300.0, Ion Chromatography)	06	10/19/00	0/00/00	10/19/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-GO-5I) DNFV2-1-A2 Protocol: A QC Program: CLIENT: HANFORD				
Sulfate (300.0, Ion Chromatography)	06	10/19/00	0/00/00	11/14/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-CY-5I) DNFV2-1-A3 Protocol: A QC Program: CLIENT: HANFORD				

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SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis

Run Date: 10/19/00
Time: 15:30:28
User Id.: WILSONS

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: 100HR3(2)SEEP
REPORT TO: Joan Kessner
P.O. NUMBER: MRC-SBB-A-19981
SITE: C01-001
AMOUNT REC"D: 500P
STORAGE LOC: METS
LOT COMMENTS: QC is billable
MATRIX: WATER
SAMPLE ID: B10JR9
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 38953
LAB ID: P-0J190272-004
WORK ORDER: DNFWC
RECEIVING DATE: 10/19/00
SAMPLING DATE: 10/17/00
ANALYTICAL DUE DATE: 11/20/00N
REPORT DUE DATE: 12/04/00
PRIORITY: 31
SAMPLING TIME: 10:13
RECEIVING TIME: 8:35
SDG# : W03332

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B)	06	10/19/00	0/00/00	4/15/01

METALS, FILTERED (DISS) -> TOTAL
M6010DS AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,SR,VX,ZN
(I-55-QO-5I) DNFWC Protocol: A QC Program: CLIENT: HANFORD

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SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis

Run Date: 10/19/00
Time: 15:30:28
User Id.: WILSONS

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: 100HR3(2)SEEP
REPORT TO: Joan Kessner
P.O. NUMBER: MRC-SBB-A-19981
SITE: C01-001
AMOUNT REC"D: 2X500P
STORAGE LOC: S13,METS
LOT COMMENTS: QC is billable
MATRIX: WATER
SAMPLE ID: B10JP9
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 38953
LAB ID: F-0J190272-005
WORK ORDER: DNFWG
RECEIVING DATE: 10/19/00
SAMPLING DATE: 10/17/00
ANALYTICAL DUE DATE: 11/20/00N
REPORT DUE DATE: 12/04/00
PRIORITY: 31
SAMPLING TIME: 10:13
RECEIVING TIME: 8:35
SDG# : W03332

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Chloride (300.0, Ion Chromatography)	06	10/19/00	0/00/00	11/14/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-CX-5I) DNFWG-1-AA Protocol: A QC Program: CLIENT: HANFORD				
Inductively Coupled Plasma (6010B)	06	10/19/00	0/00/00	4/15/01
METALS, TOTAL - Waters				
M6010_L AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,SR,VX,ZN				
(I-05-QO-5I) DNFWG Protocol: A QC Program: CLIENT: HANFORD				
Fluoride (300.0, Ion Chromatography)	06	10/19/00	0/00/00	11/14/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-C8-5I) DNFWG-1-A0 Protocol: A QC Program: CLIENT: HANFORD				
Nitrate as N (300.0, Ion Chromatography)	06	10/19/00	0/00/00	10/19/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-C9-5I) DNFWG-1-A1 Protocol: A QC Program: CLIENT: HANFORD				
Nitrite as N (300.0, Ion Chromatography)	06	10/19/00	0/00/00	10/19/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-GO-5I) DNFWG-1-A2 Protocol: A QC Program: CLIENT: HANFORD				
Sulfate (300.0, Ion Chromatography)	06	10/19/00	0/00/00	11/14/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-CY-5I) DNFWG-1-A3 Protocol: A QC Program: CLIENT: HANFORD				

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SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis

Run Date: 10/19/00
Time: 15:30:28
User Id.: WILSONS

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: 100HR3(2)SEEP
REPORT TO: Joan Kessner
P.O. NUMBER: MRC-SBB-A-19981
SITE: C01-001
AMOUNT REC"D: 500P
STORAGE LOC: ~~G15~~ METS SW 10.19.00
LOT COMMENTS: QC is billable
MATRIX: WATER
SAMPLE ID: B10JT0
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 38953
LAB ID: F-0J190272-006
WORK ORDER: DNFWP
RECEIVING DATE: 10/19/00
SAMPLING DATE: 10/17/00
ANALYTICAL DUE DATE: 11/20/00N
REPORT DUE DATE: 12/04/00
PRIORITY: 31
SAMPLING TIME: 10:13
RECEIVING TIME: 8:35
SDG# : W03332

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B)	06	10/19/00	0/00/00	4/15/01

METALS, FILTERED (DISS) -> TOTAL
M6010DS AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,SR,VX,ZN
(I-SS-QO-SI) DNFWP Protocol: A QC Program: CLIENT: HANFORD

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SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis

Run Date: 10/19/00
Time: 15:30:28
User Id.: WILSONS

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: 100HR3(2)SEEP
REPORT TO: Joan Kessner
P.O. NUMBER: MRC-SBB-A-19981
SITE: C01-001
AMOUNT REC'D: 2X500P
STORAGE LOC: S13,METS
LOT COMMENTS: QC is billable
MATRIX: WATER
SAMPLE ID: B10JR0
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 38953
LAB ID: F-0J190272-007
WORK ORDER: DNFWX
RECEIVING DATE: 10/19/00
SAMPLING DATE: 10/17/00
ANALYTICAL DUE DATE: 11/20/00N
REPORT DUE DATE: 12/04/00
PRIORITY: 31
SAMPLING TIME: 11:04
RECEIVING TIME: 8:35
SDG# : W03332

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Chloride (300.0, Ion Chromatography)	06	10/19/00	0/00/00	11/14/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-CX-5I) DNFWX-1-AA Protocol: A QC Program: CLIENT: HANFORD				
Inductively Coupled Plasma (6010B)	06	10/19/00	0/00/00	4/15/01
METALS, TOTAL - Waters				
M6010_L AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,SR,VX,ZN				
(I-05-QO-5I) DNFWX Protocol: A QC Program: CLIENT: HANFORD				
Fluoride (300.0, Ion Chromatography)	06	10/19/00	0/00/00	11/14/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-C8-5I) DNFWX-1-A0 Protocol: A QC Program: CLIENT: HANFORD				
Nitrate as N (300.0, Ion Chromatography)	06	10/19/00	0/00/00	10/19/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-C9-5I) DNFWX-1-A1 Protocol: A QC Program: CLIENT: HANFORD				
Nitrite as N (300.0, Ion Chromatography)	06	10/19/00	0/00/00	10/19/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-GO-5I) DNFWX-1-A2 Protocol: A QC Program: CLIENT: HANFORD				
Sulfate (300.0, Ion Chromatography)	06	10/19/00	0/00/00	11/14/00
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(I-88-CY-5I) DNFWX-1-A3 Protocol: A QC Program: CLIENT: HANFORD				

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SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis

Run Date: 10/19/00
Time: 15:30:28
User Id.: WILSONS

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: 100HR3(2)SEEP
REPORT TO: Joan Kessner
P.O. NUMBER: MRC-SBB-A-19981
SITE: C01-001
AMOUNT REC"D: 500P
STORAGE LOC: ~~S13~~ MET5 10/18/19.00
LOT COMMENTS: QC is billable
MATRIX: WATER
SAMPLE ID: B10JT1
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 38953
LAB ID: F-0J190272-008
WORK ORDER: DNFW3
RECEIVING DATE: 10/19/00
SAMPLING DATE: 10/17/00
ANALYTICAL DUE DATE: 11/20/00N
REPORT DUE DATE: 12/04/00
PRIORITY: 31
SAMPLING TIME: 11:04
RECEIVING TIME: 8:35
SDG# : W03332

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B)	06	10/19/00	0/00/00	4/15/01

METALS, FILTERED (DISS) -> TOTAL
M6010DS AG,AL,BA,BE,CA,CD,CO,CR,CU,FE,KX,MG,MN,NA,NI,SB,SR,VX,ZN
(I-55-QO-5I) DNFW3 Protocol: A QC Program: CLIENT: HANFORD

W03332

CUT 1270 6°

PNNL W03332

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # C01-001-

Page 1 of 1

Collector: Ed Radford	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN: FAX:
SAF No.: C01-001	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code:
Project Title: 100HR3(2) SEEP SAMPLING OCTOBER 2000	Logbook No.:	Ice Chest No.: TJ-1 Temp.:
Shipped To (Lab): Severn Trent Incorporated	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.:
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.:

POSSIBLE SAMPLE HAZARDS/REMARKS: ** ** SDG W03332 J0J180147

SPECIAL INSTRUCTIONS: Hold Time. Submit deliverables & invoices to JH Kessner. FAX STL log-in to JH Kessner (372-9487) & DL Stewart (372-1784). Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis (no QC)	Preservative
B10JP7	1	W	10/17	11:40	1x500-mL G/P	6010_METALS_ICP: List-1 (16)	HNO3 to pH <2
B10JP7		W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (6)	Cool 4C
B10JP7		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B10JP7		W			1x20-mL P	Activity Scan	None
B10JP7		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1)	None
B10JR8 (F)	✓	W	✓	✓	1x500-mL G/P	6010_METALS_ICP: List-1 (16)	HNO3 to pH <2

DMABG

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
E. RADFORD		Ed Radford	10/17/00 11:40	Rachel Sharp			10/17 11:40
Rachel Sharp			10/18 0845	E. RADFORD		Ed Radford	10/18 0845
E. RADFORD		Ed Radford	10/18 0845	L. Schlenker			10-18-00 845
L. Schlenker			10-18-00 1600	Susan Boss		SB	10-19-00 0835

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) | Disposed By | Date/Time

STL St. Louis

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STL St. Louis

PNNL W03332	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C.# C01-001- Page 1 of 1

Collector: E.R. Radford	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-001	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3(2) SEEP SAMPLING, OCTOBER 2000	Logbook No.	Ice Chest No.: TT-1 Temp.
Shipped To (Lab): Severn Trent Incorporated	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS: ** **

SPECIAL INSTRUCTIONS: Hold Time — Total Activity Exemption: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX STL log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10JP6	3	W	10/17	10:13	1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2
B10JP8		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool 4C
B10JP8		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B10JP8		W			1x20-mL P	Activity Scan	None
B10JP8		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1)	None
B10JR9 (F)	4	W			1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2

JH 10/18/00
DM NABK

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
E. RADFORD		E Radford	10/17/00 10:13	Lochie Olivas		Lochie Olivas	10/17 10:13
Lochie Olivas			10/17 0145	E. RADFORD		E Radford	10/17 0145
E. RADFORD		E Radford	10/17 0145	R. Schlenker		R. Schlenker	10/18/00 0845
R. Schlenker			10/18-00 1600	Sue Stoop	STL	Sue Stoop	10/19-00 0835

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) — Disposed By — Date/Time

W03332

STL St. Louis

PNNL W03332	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C.# C01-001-
		Page 1 of 1

Collector: E. Bedford	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN: FAX:
SAF No.: C01-001	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code:
Project Title: 100HR3(2) SPEP SAMPLING OCTOBER 2000	Logbook No.:	Ice Chest No.: TJ-1 Temp.:
Shipped To (Lab): Severn Trent Incorporated	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.:
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.:

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX STL log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10JP9	5	W	10/17	10:13	1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2
B10JP9		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5) anions bottle reads 10-13 for coll. date 4	Cool 4C
B10JP9		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B10JP9		W			1x20-mL P	Activity Scan DNA8R	None
B10JP9		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1) sd 10-19-00	None
B10JT0 (F)	6	W			1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
R. Radford		E. Bedford	10/17/00 10:13	Lockel Slaugh			10/17 10:13
Lockel Slaugh			10/17 0845	E. Radford		E. Bedford	10/17 0845
E. Radford		E. Bedford	10/17 0845	L. Ashtenburg			10-18-00 0845
L. Ashtenburg			10-18-00 1600	[illegible]		STL	10-19-00 0835

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By: SN 10-19-00 Date/Time:

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STL St. Louis

PNNL W03332

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # C01-001-

Page 1 of 1

Collector: Ed Radford	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4088 MSIN FAX
SAF No.: C01-001	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3(2) SEEP SAMPLING, OCTOBER 2000	Logbook No.	Ice Chest No.: TJ-1 Temp.
Shipped To (Lab): Severn Trent Incorporated	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS: Hold Time — Total Activity Exception: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX STL log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10JR0	1	W	10/17	11:04	1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2
B10JR0		W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (6)	Cool 4C
B10JR0		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B10JR0		W			1x20-mL P	Activity Scan	None
B10JR0		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1)	None
B10JT1 (F)	6	W	↓	↓	1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2

DUABV

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
E. Radford		E Radford	10/17/00 11:04	Rachel Slaugh		Rachel Slaugh	10/17 11:04
Rachel Slaugh			10/18 0845	E. Radford		E Radford	10/18 0845
E. Radford		E Radford	10/18 0845	2100 COM K. Ashenhurst		K. Ashenhurst	10/18/00 845
K. Ashenhurst			10-18-00 1600	Sue Robb SR			10-19-00 0835

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) — Disposed By — Date/Time

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Date/Time Received: 10-18-00 845 SDG#: W03332

Work Order Number: JOJ180147 SAF#: C01-001, C01-002, X01-003

Shipping Container ID: Not Marked Chain of Custody #: C01-001-1, 2, 3, 4 X00-030 C01-002-1, X01-003-3 X01-030-6 X01-030-7

1. Outermost shipping container damaged? Yes [] No [✓]

2. Custody Seals on shipping container intact? Yes [✓] No []

3. Custody Seals dated and signed? Yes [✓] No []

4. Chain-of-Custody record present? Yes [✓] No []

5. Chain-of-Custody includes the following information:
   - Client name Yes [✓] No []
   - Project name or number Yes [✓] No []
   - Sample date/time for each sample Yes [✓] No []
   - Container types, sizes and number of containers Yes [✓] No []
   - Short description of sample, i.e., matrix Yes [✓] No []
   - Analyses requested Yes [✓] No []
   - Preservation used or "none" or N/A if not applicable Yes [✓] No []
   - Date and time of relinquish and receipt Yes [✓] No []
   - Signatures of those persons relinquishing and receiving Yes [✓] No []

6. Sample numbers on chain of custody match those on sample containers? Yes [✓] No []

7. Collection date and date of laboratory receipt are within project specific holding time requirements? Yes [✓] No []

8. Cooler temperature: 4°C 44 Bottles

9. Vermiculite/packing materials is: Wet [] Dry [✓]

10. Samples have: ✓ tape ____ hazard labels
    ✓ custody seals ____ appropriate sample labels

11. Samples are: ✓ in good condition ____ leaking
    ____ broken ____ have air bubbles

12. Were any anomalies identified in sample receipt? Yes [✓] No []

13. Description of anomalies (include sample numbers): Anions will be out of hold time when they arrive in St. Louis

Sample Custodian/Laboratory: K. Ackenburg Date: 10-18-00

Telephone/Fax/E:mailed to: ____ On ____ By ____

STL St. Louis

Committed to *Your* Success

Lot No.: FQT190272

W03332

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: PNNL

Date: 10.19.00 Time: 0835

Quote No: 38953

Initiated by: Sue Hoe

Shipper/No: Airborne 0026 3523 741

RFA/COC Numbers: C01-001-1 Thru 4

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.
2. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature: _____
   - ☐ pH _____
   - ☐ other: _____
3. ☐ Sample received in improper container.
4. ☐ Sample received without proper paperwork. Explain: _____
5. ☐ Paperwork received without sample.
6. ☐ No sample ID on sample container.
7. ☐ Custody tape disturbed/broken/missing/not tamper evident type (circle all that apply).
8. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
9. ☐ All coolers on airbill not received with shipment.
10. ☐ Sample volume insufficient for analysis
11. ☐ Other (explain below)

☐ **No variances were noted during sample receipt.**

☐ **Cooler Temperature Upon Receipt in °C:** 6°

Temperature Variance Does Not Affect the Following Analyses: _____

Notes: All 100 % full. All pres. bottles have correct pH. see chain 001-3. Anions bottle collection date (10-13) does not match COC collection date (10-17)

Corrective Action:

☒ Client's Name: Jackie Waddell Joan Kessner Informed verbally on: email/10-20 By: MWard

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☒ Sample(s) processed "as is". note in narrative

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) Sue Hoe Date: 10-19-00

Project Management Review: MWard Date: 10.20.00 10.19.00

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE
THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED
IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY HIS/HER INITIALS AND THE DATE NEXT TO THAT ITEM

Form: SL-ADMIN-0004, Revised 6/21/00 SOP Reference: STL-QA-0006

METALS

BECHTEL HANFORD, INC.

Client Sample ID: B10JR1

TOTAL Metals

Lot-Sample #...: F0J170107-001 **Matrix.....:** WATER
Date Sampled...: 10/12/00 **Date Received..:** 10/13/00

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0292371						
Aluminum	**265**	**200**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM85P1AG**
		Dilution Factor: 1		MDL.....: 85.2		
Antimony	ND	60.0	ug/L	SW846 6010B	10/18-10/30/00	DM85P1AH
		Dilution Factor: 1		MDL.....: 39.1		
Barium	**36.3 B**	**200**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM85P1AJ**
		Dilution Factor: 1		MDL.....: 7.3		
Beryllium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DM85P1AK
		Dilution Factor: 1		MDL.....: 0.60		
Cadmium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DM85P1AL
		Dilution Factor: 1		MDL.....: 2.8		
Calcium	**26600**	**5000**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM85P1AM**
		Dilution Factor: 1		MDL.....: 160		
Chromium	**23.1**	**10.0**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM85P1AN**
		Dilution Factor: 1		MDL.....: 7.5		
Cobalt	ND	50.0	ug/L	SW846 6010B	10/18-10/30/00	DM85P1AP
		Dilution Factor: 1		MDL.....: 4.6		
Copper	ND	25.0	ug/L	SW846 6010B	10/18-10/30/00	DM85P1AQ
		Dilution Factor: 1		MDL.....: 6.4		
Iron	**415**	**100**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM85P1AR**
		Dilution Factor: 1		MDL.....: 56.6		
Magnesium	**6600**	**5000**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM85P1AT**
		Dilution Factor: 1		MDL.....: 161		
Manganese	**24.9**	**15.0**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM85P1AU**
		Dilution Factor: 1		MDL.....: 1.9		
Nickel	ND	40.0	ug/L	SW846 6010B	10/18-10/30/00	DM85P1AV
		Dilution Factor: 1		MDL.....: 13.3		
Potassium	**3840 B**	**5000**	**ug/L**	**SW846 6010B**	**10/18-10/24/00**	**DM85P1AW**
		Dilution Factor: 1		MDL.....: 1800		

(Continued on next page)

BECHTEL HANFORD, INC.

Client Sample ID: B10JR1

TOTAL Metals

Lot-Sample #...: F0J170107-001 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	ND	10.0	ug/L	SW846 6010B	10/18-10/30/00	DM85P1AX
		Dilution Factor: 1		MDL.....: 7.4		
Sodium	8080	5000	ug/L	SW846 6010B	10/18-10/24/00	DM85P1A0
		Dilution Factor: 1		MDL.....: 172		
Strontium	150	50.0	ug/L	SW846 6010B	10/18-10/30/00	DM85P1A1
		Dilution Factor: 1		MDL.....: 1.8		
Vanadium	9.9 B	20.0	ug/L	SW846 6010B	10/18-10/30/00	DM85P1A2
		Dilution Factor: 1		MDL.....: 6.9		
Zinc	14.9 B	20.0	ug/L	SW846 6010B	10/18-10/30/00	DM85P1A3
		Dilution Factor: 1		MDL.....: 4.2		

NOTE(S):

B Estimated result. Result is less than RL.

BECHTEL HANFORD, INC.

Client Sample ID: B10JT9

TOTAL Metals

Lot-Sample #...: F0J170107-003 **Matrix.....:** WATER
Date Sampled...: 10/12/00 **Date Received..:** 10/13/00

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0292371						
Aluminum	**2330**	**200**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM86F1AL**
		Dilution Factor: 1		MDL.....: 85.2		
Antimony	ND	60.0	ug/L	SW846 6010B	10/18-10/30/00	DM86F1AM
		Dilution Factor: 1		MDL.....: 39.1		
Barium	**67.3 B**	**200**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM86F1AN**
		Dilution Factor: 1		MDL.....: 7.3		
Beryllium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DM86F1AP
		Dilution Factor: 1		MDL.....: 0.60		
Cadmium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DM86F1AQ
		Dilution Factor: 1		MDL.....: 2.8		
Calcium	**28600**	**5000**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM86F1AR**
		Dilution Factor: 1		MDL.....: 160		
Chromium	**23.6**	**10.0**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM86F1AT**
		Dilution Factor: 1		MDL.....: 7.5		
Cobalt	ND	50.0	ug/L	SW846 6010B	10/18-10/30/00	DM86F1AU
		Dilution Factor: 1		MDL.....: 4.6		
Copper	**10.0 B**	**25.0**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM86F1AV**
		Dilution Factor: 1		MDL.....: 6.4		
Iron	**2680**	**100**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM86F1AW**
		Dilution Factor: 1		MDL.....: 56.6		
Magnesium	**7370**	**5000**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM86F1AX**
		Dilution Factor: 1		MDL.....: 161		
Manganese	**177**	**15.0**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM86F1A0**
		Dilution Factor: 1		MDL.....: 1.9		
Nickel	ND	40.0	ug/L	SW846 6010B	10/18-10/30/00	DM86F1A1
		Dilution Factor: 1		MDL.....: 13.3		
Potassium	**4560 B**	**5000**	**ug/L**	**SW846 6010B**	**10/18-10/24/00**	**DM86F1A2**
		Dilution Factor: 1		MDL.....: 1800		

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BECHTEL HANFORD, INC.

Client Sample ID: B10JT9

TOTAL Metals

Lot-Sample #...: F0J170107-003 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	ND	10.0	ug/L	SW846 6010B	10/18-10/30/00	DM86F1A3
		Dilution Factor: 1		MDL.....: 7.4		
Sodium	8640	5000	ug/L	SW846 6010B	10/18-10/24/00	DM86F1AA
		Dilution Factor: 1		MDL.....: 172		
Strontium	164	50.0	ug/L	SW846 6010B	10/18-10/30/00	DM86F1AC
		Dilution Factor: 1		MDL.....: 1.8		
Vanadium	16.1 B	20.0	ug/L	SW846 6010B	10/18-10/30/00	DM86F1AD
		Dilution Factor: 1		MDL.....: 6.9		
Zinc	56.5	20.0	ug/L	SW846 6010B	10/18-10/30/00	DM86F1AE
		Dilution Factor: 1		MDL.....: 4.2		

NOTE(S):

B Estimated result. Result is less than RL.

BECHTEL HANFORD, INC.

Client Sample ID: B10JR2

TOTAL Metals

Lot-Sample #...: F0J170107-005 **Matrix.....:** WATER
Date Sampled...: 10/13/00 **Date Received..:** 10/14/00

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0292371						
Aluminum	ND	200	ug/L	SW846 6010B	10/18-10/30/00	DM86P1AL
		Dilution Factor: 1		MDL.....: 85.2		
Antimony	ND	60.0	ug/L	SW846 6010B	10/18-10/30/00	DM86P1AM
		Dilution Factor: 1		MDL.....: 39.1		
Barium	**33.2 B**	**200**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM86P1AN**
		Dilution Factor: 1		MDL.....: 7.3		
Beryllium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DM86P1AP
		Dilution Factor: 1		MDL.....: 0.60		
Cadmium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DM86P1AQ
		Dilution Factor: 1		MDL.....: 2.8		
Calcium	**35600**	**5000**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM86P1AR**
		Dilution Factor: 1		MDL.....: 160		
Chromium	**29.8**	**10.0**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM86P1AT**
		Dilution Factor: 1		MDL.....: 7.5		
Cobalt	ND	50.0	ug/L	SW846 6010B	10/18-10/30/00	DM86P1AU
		Dilution Factor: 1		MDL.....: 4.6		
Copper	ND	25.0	ug/L	SW846 6010B	10/18-10/30/00	DM86P1AV
		Dilution Factor: 1		MDL.....: 6.4		
Iron	**118**	**100**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM86P1AW**
		Dilution Factor: 1		MDL.....: 56.6		
Magnesium	**7970**	**5000**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM86P1AX**
		Dilution Factor: 1		MDL.....: 161		
Manganese	ND	15.0	ug/L	SW846 6010B	10/18-10/30/00	DM86P1A0
		Dilution Factor: 1		MDL.....: 1.9		
Nickel	ND	40.0	ug/L	SW846 6010B	10/18-10/30/00	DM86P1A1
		Dilution Factor: 1		MDL.....: 13.3		
Potassium	**3090 B**	**5000**	**ug/L**	**SW846 6010B**	**10/18-10/24/00**	**DM86P1A2**
		Dilution Factor: 1		MDL.....: 1800		

(Continued on next page)

BECHTEL HANFORD, INC.

Client Sample ID: B10JR2

TOTAL Metals

Lot-Sample #...: F0J170107-005 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	ND	10.0	ug/L	SW846 6010B	10/18-10/30/00	DM86P1A3
		Dilution Factor: 1		MDL.....: 7.4		
Sodium	8260	5000	ug/L	SW846 6010B	10/18-10/24/00	DM86P1AA
		Dilution Factor: 1		MDL.....: 172		
Strontium	175	50.0	ug/L	SW846 6010B	10/18-10/30/00	DM86P1AC
		Dilution Factor: 1		MDL.....: 1.8		
Vanadium	ND	20.0	ug/L	SW846 6010B	10/18-10/30/00	DM86P1AD
		Dilution Factor: 1		MDL.....: 6.9		
Zinc	ND	20.0	ug/L	SW846 6010B	10/18-10/30/00	DM86P1AE
		Dilution Factor: 1		MDL.....: 4.2		

NOTE(S):

B Estimated result. Result is less than RL.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F0J170107 **Matrix.....:** WATER
Date Sampled...: 10/13/00 **Date Received..:** 10/14/00

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F0J170107-005 **Prep Batch #...:** 0292371									
Aluminum									
	ND	2000	2200	ug/L	110		SW846 6010B	10/18-10/30/00	DM86P1CT
	ND	2000	2140	ug/L	107	2.6	SW846 6010B	10/18-10/30/00	DM86P1CU
				Dilution Factor: 1					
Antimony									
	ND	500	486	ug/L	97		SW846 6010B	10/18-10/30/00	DM86P1CV
	ND	500	487	ug/L	97	0.13	SW846 6010B	10/18-10/30/00	DM86P1CW
				Dilution Factor: 1					
Barium									
	33.2	2000	2030	ug/L	100		SW846 6010B	10/18-10/30/00	DM86P1CX
	33.2	2000	2020	ug/L	99	0.46	SW846 6010B	10/18-10/30/00	DM86P1C0
				Dilution Factor: 1					
Beryllium									
	ND	50.0	53.2	ug/L	106		SW846 6010B	10/18-10/30/00	DM86P1C1
	ND	50.0	53.1	ug/L	106	0.28	SW846 6010B	10/18-10/30/00	DM86P1C2
				Dilution Factor: 1					
Cadmium									
	ND	50.0	48.1	ug/L	96		SW846 6010B	10/18-10/30/00	DM86P1C3
	ND	50.0	48.0	ug/L	96	0.24	SW846 6010B	10/18-10/30/00	DM86P1C4
				Dilution Factor: 1					
Calcium									
	35600	50000	85400	ug/L	99		SW846 6010B	10/18-10/30/00	DM86P1C5
	35600	50000	85000	ug/L	99	0.45	SW846 6010B	10/18-10/30/00	DM86P1C6
				Dilution Factor: 1					
Chromium									
	29.8	200	224	ug/L	97		SW846 6010B	10/18-10/30/00	DM86P1C7
	29.8	200	224	ug/L	97	0.35	SW846 6010B	10/18-10/30/00	DM86P1C8
				Dilution Factor: 1					
Cobalt									
	ND	500	459	ug/L	92		SW846 6010B	10/18-10/30/00	DM86P1C9
	ND	500	458	ug/L	92	0.40	SW846 6010B	10/18-10/30/00	DM86P1DA
				Dilution Factor: 1					
Copper									
	ND	250	242	ug/L	97		SW846 6010B	10/18-10/30/00	DM86P1DC
	ND	250	243	ug/L	97	0.52	SW846 6010B	10/18-10/30/00	DM86P1DD
				Dilution Factor: 1					

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F0J170107 **Matrix.....:** WATER
Date Sampled...: 10/13/00 **Date Received..:** 10/14/00

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Iron									
	118	1000	817 N	ug/L	70		SW846 6010B	10/18-10/30/00	DM86P1DE
	118	1000	896	ug/L	78	9.3	SW846 6010B	10/18-10/30/00	DM86P1DF
			Dilution Factor: 1						
Magnesium									
	7970	50000	57300	ug/L	99		SW846 6010B	10/18-10/30/00	DM86P1DG
	7970	50000	57100	ug/L	98	0.47	SW846 6010B	10/18-10/30/00	DM86P1DH
			Dilution Factor: 1						
Manganese									
	ND	500	495	ug/L	99		SW846 6010B	10/18-10/30/00	DM86P1A4
	ND	500	492	ug/L	98	0.46	SW846 6010B	10/18-10/30/00	DM86P1A5
			Dilution Factor: 1						
Nickel									
	ND	500	477	ug/L	95		SW846 6010B	10/18-10/30/00	DM86P1A6
	ND	500	475	ug/L	95	0.37	SW846 6010B	10/18-10/30/00	DM86P1A7
			Dilution Factor: 1						
Potassium									
	3090	50000	51700	ug/L	97		SW846 6010B	10/18-10/24/00	DM86P1A8
	3090	50000	51700	ug/L	97	0.09	SW846 6010B	10/18-10/24/00	DM86P1A9
			Dilution Factor: 1						
Silver									
	ND	50.0	40.9	ug/L	82		SW846 6010B	10/18-10/30/00	DM86P1CA
	ND	50.0	42.6	ug/L	85	4.2	SW846 6010B	10/18-10/30/00	DM86P1CC
			Dilution Factor: 1						
Sodium									
	8260	50000	57800	ug/L	99		SW846 6010B	10/18-10/24/00	DM86P1CD
	8260	50000	58000	ug/L	100	0.39	SW846 6010B	10/18-10/24/00	DM86P1CE
			Dilution Factor: 1						
Strontium									
	175	1000	1190	ug/L	101		SW846 6010B	10/18-10/30/00	DM86P1CF
	175	1000	1190	ug/L	101	0.24	SW846 6010B	10/18-10/30/00	DM86P1CG
			Dilution Factor: 1						
Vanadium									
	ND	500	501	ug/L	100		SW846 6010B	10/18-10/30/00	DM86P1CH
	ND	500	499	ug/L	100	0.23	SW846 6010B	10/18-10/30/00	DM86P1CJ
			Dilution Factor: 1						

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F0J170107 **Matrix.....:** WATER
Date Sampled...: 10/13/00 **Date Received..:** 10/14/00

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Zinc									
	ND	500	477	ug/L	95		SW846 6010B	10/18-10/30/00	DM86P1CK
	ND	500	461	ug/L	92	3.3	SW846 6010B	10/18-10/30/00	DM86P1CL

Dilution Factor: 1

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

BECHTEL HANFORD, INC.

Client Sample ID: B10JR4

TOTAL Metals

Lot-Sample #...: F0J170107-007 **Matrix.....:** WATER
Date Sampled...: 10/13/00 **Date Received..:** 10/14/00

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0292371						
Aluminum	ND	200	ug/L	SW846 6010B	10/18-10/30/00	DM8651AL
		Dilution Factor: 1		MDL.....: 85.2		
Antimony	ND	60.0	ug/L	SW846 6010B	10/18-10/30/00	DM8651AM
		Dilution Factor: 1		MDL.....: 39.1		
Barium	ND	200	ug/L	SW846 6010B	10/18-10/30/00	DM8651AN
		Dilution Factor: 1		MDL.....: 7.3		
Beryllium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DM8651AP
		Dilution Factor: 1		MDL.....: 0.60		
Cadmium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DM8651AQ
		Dilution Factor: 1		MDL.....: 2.8		
Calcium	ND	5000	ug/L	SW846 6010B	10/18-10/30/00	DM8651AR
		Dilution Factor: 1		MDL.....: 160		
Chromium	ND	10.0	ug/L	SW846 6010B	10/18-10/30/00	DM8651AT
		Dilution Factor: 1		MDL.....: 7.5		
Cobalt	ND	50.0	ug/L	SW846 6010B	10/18-10/30/00	DM8651AU
		Dilution Factor: 1		MDL.....: 4.6		
Copper	ND	25.0	ug/L	SW846 6010B	10/18-10/30/00	DM8651AV
		Dilution Factor: 1		MDL.....: 6.4		
Iron	ND	100	ug/L	SW846 6010B	10/18-10/30/00	DM8651AW
		Dilution Factor: 1		MDL.....: 56.6		
Magnesium	ND	5000	ug/L	SW846 6010B	10/18-10/30/00	DM8651AX
		Dilution Factor: 1		MDL.....: 161		
Manganese	ND	15.0	ug/L	SW846 6010B	10/18-10/30/00	DM8651A0
		Dilution Factor: 1		MDL.....: 1.9		
Nickel	ND	40.0	ug/L	SW846 6010B	10/18-10/30/00	DM8651A1
		Dilution Factor: 1		MDL.....: 13.3		
Potassium	ND	5000	ug/L	SW846 6010B	10/18-10/24/00	DM8651A2
		Dilution Factor: 1		MDL.....: 1800		

(Continued on next page)

BECHTEL HANFORD, INC.

Client Sample ID: B10JR4

TOTAL Metals

Lot-Sample #...: F0J170107-007 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	ND	10.0	ug/L	SW846 6010B	10/18-10/30/00	DM8651A3
		Dilution Factor: 1		MDL.....: 7.4		
Sodium	ND	5000	ug/L	SW846 6010B	10/18-10/24/00	DM8651AA
		Dilution Factor: 1		MDL.....: 172		
Strontium	ND	50.0	ug/L	SW846 6010B	10/18-10/30/00	DM8651AC
		Dilution Factor: 1		MDL.....: 1.8		
Vanadium	ND	20.0	ug/L	SW846 6010B	10/18-10/30/00	DM8651AD
		Dilution Factor: 1		MDL.....: 6.9		
Zinc	ND	20.0	ug/L	SW846 6010B	10/18-10/30/00	DM8651AE
		Dilution Factor: 1		MDL.....: 4.2		

BECHTEL HANFORD, INC.

Client Sample ID: B10JF7

TOTAL Metals

Lot-Sample #...: F0J190272-001 Matrix.....: WATER
Date Sampled...: 10/17/00 Date Received..: 10/19/00

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0319251						
Aluminum	145 B	200	ug/L	SW846 6010B	11/14-11/18/00	DNFT91AC
		Dilution Factor: 1		MDL.....: 85.2		
Antimony	ND	60.0	ug/L	SW846 6010B	11/14-11/18/00	DNFT91AD
		Dilution Factor: 1		MDL.....: 39.1		
Barium	53.7 B	200	ug/L	SW846 6010B	11/14-11/18/00	DNFT91AE
		Dilution Factor: 1		MDL.....: 7.3		
Beryllium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DNFT91AF
		Dilution Factor: 1		MDL.....: 0.60		
Cadmium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DNFT91AG
		Dilution Factor: 1		MDL.....: 2.8		
Calcium	41100	5000	ug/L	SW846 6010B	11/14-11/18/00	DNFT91AH
		Dilution Factor: 1		MDL.....: 160		
Chromium	162	10.0	ug/L	SW846 6010B	11/14-11/18/00	DNFT91AJ
		Dilution Factor: 1		MDL.....: 7.5		
Cobalt	ND	50.0	ug/L	SW846 6010B	11/14-11/18/00	DNFT91AK
		Dilution Factor: 1		MDL.....: 4.6		
Copper	ND	25.0	ug/L	SW846 6010B	11/14-11/18/00	DNFT91AL
		Dilution Factor: 1		MDL.....: 6.4		
Iron	171	100	ug/L	SW846 6010B	11/14-11/18/00	DNFT91AM
		Dilution Factor: 1		MDL.....: 56.6		
Magnesium	8920	5000	ug/L	SW846 6010B	11/14-11/18/00	DNFT91AN
		Dilution Factor: 1		MDL.....: 161		
Manganese	8.8 B	15.0	ug/L	SW846 6010B	11/14-11/18/00	DNFT91AP
		Dilution Factor: 1		MDL.....: 1.9		
Nickel	ND	40.0	ug/L	SW846 6010B	11/14-11/18/00	DNFT91AQ
		Dilution Factor: 1		MDL.....: 13.3		
Potassium	ND	5000	ug/L	SW846 6010B	11/14-11/17/00	DNFT91AR
		Dilution Factor: 1		MDL.....: 1800		

(Continued on next page)

BECHTEL HANFORD, INC.

Client Sample ID: B10JP7

TOTAL Metals

Lot-Sample #...: F0J190272-001 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	ND	10.0	ug/L	SW846 6010B	11/14-11/18/00	DNFT91AT
		Dilution Factor: 1		MDL.....: 7.4		
Sodium	4390 B	5000	ug/L	SW846 6010B	11/14-11/17/00	DNFT91AU
		Dilution Factor: 1		MDL.....: 172		
Strontium	229	50.0	ug/L	SW846 6010B	11/14-11/18/00	DNFT91AV
		Dilution Factor: 1		MDL.....: 1.8		
Vanadium	ND	20.0	ug/L	SW846 6010B	11/14-11/18/00	DNFT91AW
		Dilution Factor: 1		MDL.....: 6.9		
Zinc	6.6 B	20.0	ug/L	SW846 6010B	11/14-11/18/00	DNFT91AX
		Dilution Factor: 1		MDL.....: 4.2		

NOTE(S):

B Estimated result. Result is less than RL.

BECHTEL HANFORD, INC.

Client Sample ID: B10JP8

TOTAL Metals

Lot-Sample #...: F0J190272-003 **Matrix.....:** WATER
Date Sampled...: 10/17/00 **Date Received..:** 10/19/00

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0319251						
Aluminum	ND	200	ug/L	SW846 6010B	11/14-11/18/00	DNFV21AC
		Dilution Factor: 1		MDL.....: 85.2		
Antimony	ND	60.0	ug/L	SW846 6010B	11/14-11/18/00	DNFV21AD
		Dilution Factor: 1		MDL.....: 39.1		
Barium	**40.5 B**	**200**	**ug/L**	**SW846 6010B**	**11/14-11/18/00**	**DNFV21AE**
		Dilution Factor: 1		MDL.....: 7.3		
Beryllium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DNFV21AF
		Dilution Factor: 1		MDL.....: 0.60		
Cadmium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DNFV21AG
		Dilution Factor: 1		MDL.....: 2.8		
Calcium	**30700**	**5000**	**ug/L**	**SW846 6010B**	**11/14-11/18/00**	**DNFV21AH**
		Dilution Factor: 1		MDL.....: 160		
Chromium	**87.6**	**10.0**	**ug/L**	**SW846 6010B**	**11/14-11/18/00**	**DNFV21AJ**
		Dilution Factor: 1		MDL.....: 7.5		
Cobalt	ND	50.0	ug/L	SW846 6010B	11/14-11/18/00	DNFV21AK
		Dilution Factor: 1		MDL.....: 4.6		
Copper	ND	25.0	ug/L	SW846 6010B	11/14-11/18/00	DNFV21AL
		Dilution Factor: 1		MDL.....: 6.4		
Iron	ND	100	ug/L	SW846 6010B	11/14-11/18/00	DNFV21AM
		Dilution Factor: 1		MDL.....: 56.6		
Magnesium	**6890**	**5000**	**ug/L**	**SW846 6010B**	**11/14-11/18/00**	**DNFV21AN**
		Dilution Factor: 1		MDL.....: 161		
Manganese	ND	15.0	ug/L	SW846 6010B	11/14-11/18/00	DNFV21AP
		Dilution Factor: 1		MDL.....: 1.9		
Nickel	ND	40.0	ug/L	SW846 6010B	11/14-11/18/00	DNFV21AQ
		Dilution Factor: 1		MDL.....: 13.3		
Potassium	**2110 B**	**5000**	**ug/L**	**SW846 6010B**	**11/14-11/17/00**	**DNFV21AR**
		Dilution Factor: 1		MDL.....: 1800		

(Continued on next page)

BECHTEL HANFORD, INC.

Client Sample ID: B10JP8

TOTAL Metals

Lot-Sample #...: F0J190272-003 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	ND	10.0	ug/L	SW846 6010B	11/14-11/18/00	DNFV21AT
		Dilution Factor: 1		MDL.....: 7.4		
Sodium	3700 B	5000	ug/L	SW846 6010B	11/14-11/17/00	DNFV21AU
		Dilution Factor: 1		MDL.....: 172		
Strontium	177	50.0	ug/L	SW846 6010B	11/14-11/18/00	DNFV21AV
		Dilution Factor: 1		MDL.....: 1.8		
Vanadium	ND	20.0	ug/L	SW846 6010B	11/14-11/18/00	DNFV21AW
		Dilution Factor: 1		MDL.....: 6.9		
Zinc	4.7 B	20.0	ug/L	SW846 6010B	11/14-11/18/00	DNFV21AX
		Dilution Factor: 1		MDL.....: 4.2		

NOTE(S):

B Estimated result. Result is less than RL.

BECHTEL HANFORD, INC.

Client Sample ID: B10JP9

TOTAL Metals

Lot-Sample #...: F0J190272-005 **Matrix.....:** WATER
Date Sampled...: 10/17/00 **Date Received..:** 10/19/00

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0319251						
Aluminum	ND	200	ug/L	SW846 6010B	11/14-11/18/00	DNFWG1AC
		Dilution Factor: 1		MDL.....: 85.2		
Antimony	ND	60.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWG1AD
		Dilution Factor: 1		MDL.....: 39.1		
Barium	40.2 B	200	ug/L	SW846 6010B	11/14-11/18/00	DNFWG1AE
		Dilution Factor: 1		MDL.....: 7.3		
Beryllium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWG1AF
		Dilution Factor: 1		MDL.....: 0.60		
Cadmium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWG1AG
		Dilution Factor: 1		MDL.....: 2.8		
Calcium	30400	5000	ug/L	SW846 6010B	11/14-11/18/00	DNFWG1AH
		Dilution Factor: 1		MDL.....: 160		
Chromium	87.2	10.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWG1AJ
		Dilution Factor: 1		MDL.....: 7.5		
Cobalt	ND	50.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWG1AK
		Dilution Factor: 1		MDL.....: 4.6		
Copper	ND	25.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWG1AL
		Dilution Factor: 1		MDL.....: 6.4		
Iron	ND	100	ug/L	SW846 6010B	11/14-11/18/00	DNFWG1AM
		Dilution Factor: 1		MDL.....: 56.6		
Magnesium	6850	5000	ug/L	SW846 6010B	11/14-11/18/00	DNFWG1AN
		Dilution Factor: 1		MDL.....: 161		
Manganese	ND	15.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWG1AP
		Dilution Factor: 1		MDL.....: 1.9		
Nickel	ND	40.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWG1AQ
		Dilution Factor: 1		MDL.....: 13.3		
Potassium	1920 B	5000	ug/L	SW846 6010B	11/14-11/17/00	DNFWG1AR
		Dilution Factor: 1		MDL.....: 1800		

(Continued on next page)

BECHTEL HANFORD, INC.

Client Sample ID: B10JP9

TOTAL Metals

Lot-Sample #...: F0J190272-005 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	ND	10.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWG1AT
		Dilution Factor: 1		MDL.....: 7.4		
Sodium	3630 B	5000	ug/L	SW846 6010B	11/14-11/17/00	DNFWG1AU
		Dilution Factor: 1		MDL.....: 172		
Strontium	174	50.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWG1AV
		Dilution Factor: 1		MDL.....: 1.8		
Vanadium	ND	20.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWG1AW
		Dilution Factor: 1		MDL.....: 6.9		
Zinc	6.1 B	20.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWG1AX
		Dilution Factor: 1		MDL.....: 4.2		

NOTE(S):

B Estimated result. Result is less than RL.

BECHTEL HANFORD, INC.

Client Sample ID: B10JR0

TOTAL Metals

Lot-Sample #...: F0J190272-007 **Matrix.....:** WATER
Date Sampled...: 10/17/00 **Date Received..:** 10/19/00

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0319251						
Aluminum	**134 B**	**200**	**ug/L**	**SW846 6010B**	**11/14-11/18/00**	**DNFWX1AC**
		Dilution Factor: 1		MDL.....: 85.2		
Antimony	ND	60.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWX1AD
		Dilution Factor: 1		MDL.....: 39.1		
Barium	**34.2 B**	**200**	**ug/L**	**SW846 6010B**	**11/14-11/18/00**	**DNFWX1AE**
		Dilution Factor: 1		MDL.....: 7.3		
Beryllium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWX1AF
		Dilution Factor: 1		MDL.....: 0.60		
Cadmium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWX1AG
		Dilution Factor: 1		MDL.....: 2.8		
Calcium	**27800**	**5000**	**ug/L**	**SW846 6010B**	**11/14-11/18/00**	**DNFWX1AH**
		Dilution Factor: 1		MDL.....: 160		
Chromium	**34.3**	**10.0**	**ug/L**	**SW846 6010B**	**11/14-11/18/00**	**DNFWX1AJ**
		Dilution Factor: 1		MDL.....: 7.5		
Cobalt	ND	50.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWX1AK
		Dilution Factor: 1		MDL.....: 4.6		
Copper	ND	25.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWX1AL
		Dilution Factor: 1		MDL.....: 6.4		
Iron	**147**	**100**	**ug/L**	**SW846 6010B**	**11/14-11/18/00**	**DNFWX1AM**
		Dilution Factor: 1		MDL.....: 56.6		
Magnesium	**5640**	**5000**	**ug/L**	**SW846 6010B**	**11/14-11/18/00**	**DNFWX1AN**
		Dilution Factor: 1		MDL.....: 161		
Manganese	**8.8 B**	**15.0**	**ug/L**	**SW846 6010B**	**11/14-11/18/00**	**DNFWX1AP**
		Dilution Factor: 1		MDL.....: 1.9		
Nickel	ND	40.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWX1AQ
		Dilution Factor: 1		MDL.....: 13.3		
Potassium	ND	5000	ug/L	SW846 6010B	11/14-11/17/00	DNFWX1AR
		Dilution Factor: 1		MDL.....: 1800		

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BECHTEL HANFORD, INC.

Client Sample ID: B10JR0

TOTAL Metals

Lot-Sample #...: F0J190272-007 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	ND	10.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWX1AT
		Dilution Factor: 1		MDL.....: 7.4		
Sodium	3170 B	5000	ug/L	SW846 6010B	11/14-11/17/00	DNFWX1AU
		Dilution Factor: 1		MDL.....: 172		
Strontium	148	50.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWX1AV
		Dilution Factor: 1		MDL.....: 1.8		
Vanadium	ND	20.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWX1AW
		Dilution Factor: 1		MDL.....: 5.9		
Zinc	24.1	20.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWX1AX
		Dilution Factor: 1		MDL.....: 4.2		

NOTE(S):

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F0J190272 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F0K140000-251 Prep Batch #...: 0319251						
Aluminum	ND	200	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1AA
		Dilution Factor: 1				
Antimony	ND	60.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1AC
		Dilution Factor: 1				
Barium	ND	200	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1AD
		Dilution Factor: 1				
Beryllium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1AE
		Dilution Factor: 1				
Cadmium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1AF
		Dilution Factor: 1				
Calcium	ND	5000	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1AG
		Dilution Factor: 1				
Chromium	ND	10.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1AH
		Dilution Factor: 1				
Cobalt	ND	50.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1AJ
		Dilution Factor: 1				
Copper	ND	25.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1AK
		Dilution Factor: 1				
Iron	91.0 B	100	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1AL
		Dilution Factor: 1				
Magnesium	ND	5000	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1AM
		Dilution Factor: 1				
Manganese	ND	15.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1AN
		Dilution Factor: 1				
Nickel	ND	40.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1AP
		Dilution Factor: 1				
Potassium	ND	5000	ug/L	SW846 6010B	11/14-11/17/00	DPR9K1AQ
		Dilution Factor: 1				
Silver	ND	10.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1AR
		Dilution Factor: 1				

(Continued on next page)

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F0J190272 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Sodium	ND	5000	ug/L	SW846 6010B	11/14-11/17/00	DPR9K1AT
		Dilution Factor: 1				
Strontium	ND	50.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1AU
		Dilution Factor: 1				
Vanadium	ND	20.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1AV
		Dilution Factor: 1				
Zinc	5.5 B	20.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1AW
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F0J170107 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F0J180000-371 **Prep Batch #...:** 0292371						
Aluminum	ND	200	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1CK
		Dilution Factor: 1				
Antimony	ND	60.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1CL
		Dilution Factor: 1				
Barium	ND	200	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1CM
		Dilution Factor: 1				
Beryllium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1CN
		Dilution Factor: 1				
Cadmium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1CP
		Dilution Factor: 1				
Calcium	ND	5000	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1CQ
		Dilution Factor: 1				
Chromium	ND	10.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1CR
		Dilution Factor: 1				
Cobalt	ND	50.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1CT
		Dilution Factor: 1				
Copper	ND	25.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1CU
		Dilution Factor: 1				
Iron	ND	100	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1CV
		Dilution Factor: 1				
Magnesium	ND	5000	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1CW
		Dilution Factor: 1				
Manganese	ND	15.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1CX
		Dilution Factor: 1				
Nickel	ND	40.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1C0
		Dilution Factor: 1				
Potassium	ND	5000	ug/L	SW846 6010B	10/18-10/24/00	DNC0P1C1
		Dilution Factor: 1				
Silver	ND	10.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1C2
		Dilution Factor: 1				

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F0J170107 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Sodium	ND	5000	ug/L	SW846 6010B	10/18-10/24/00	DNC0P1C3
		Dilution Factor: 1				
Strontium	ND	50.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1C4
		Dilution Factor: 1				
Vanadium	ND	20.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1C5
		Dilution Factor: 1				
Zinc	ND	20.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1C6
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F0J170107 Matrix.....: WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: F0J180000-371 Prep Batch #...: 0292371							
Aluminum	1000	1160	ug/L	116	SW846 6010B	10/18-10/30/00	DNC0P1C7
			Dilution Factor: 1				
Antimony	1000	985	ug/L	99	SW846 6010B	10/18-10/30/00	DNC0P1C8
			Dilution Factor: 1				
Barium	1000	982	ug/L	98	SW846 6010B	10/18-10/30/00	DNC0P1C9
			Dilution Factor: 1				
Beryllium	1000	1040	ug/L	104	SW846 6010B	10/18-10/30/00	DNC0P1DA
			Dilution Factor: 1				
Cadmium	1000	980	ug/L	98	SW846 6010B	10/18-10/30/00	DNC0P1DC
			Dilution Factor: 1				
Calcium	20000	20100	ug/L	100	SW846 6010B	10/18-10/30/00	DNC0P1DD
			Dilution Factor: 1				
Chromium	1000	968	ug/L	97	SW846 6010B	10/18-10/30/00	DNC0P1DE
			Dilution Factor: 1				
Cobalt	1000	935	ug/L	94	SW846 6010B	10/18-10/30/00	DNC0P1DF
			Dilution Factor: 1				
Copper	1000	980	ug/L	98	SW846 6010B	10/18-10/30/00	DNC0P1DG
			Dilution Factor: 1				
Iron	1000	853	ug/L	85	SW846 6010B	10/18-10/30/00	DNC0P1DH
			Dilution Factor: 1				
Magnesium	20000	19800	ug/L	99	SW846 6010B	10/18-10/30/00	DNC0P1DJ
			Dilution Factor: 1				
Manganese	1000	981	ug/L	98	SW846 6010B	10/18-10/30/00	DNC0P1DK
			Dilution Factor: 1				
Nickel	1000	959	ug/L	96	SW846 6010B	10/18-10/30/00	DNC0P1DL
			Dilution Factor: 1				
Potassium	20000	20800	ug/L	104	SW846 6010B	10/18-10/24/00	DNC0P1DM
			Dilution Factor: 1				

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LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F0J170107 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	250	236	ug/L	94	SW846 6010B	10/18-10/30/00	DNC0P1DN
			Dilution Factor: 1				
Sodium	20000	19600	ug/L	98	SW846 6010B	10/18-10/24/00	DNC0P1DP
			Dilution Factor: 1				
Strontium	1000	1020	ug/L	102	SW846 6010B	10/18-10/30/00	DNC0P1DQ
			Dilution Factor: 1				
Vanadium	1000	984	ug/L	98	SW846 6010B	10/18-10/30/00	DNC0P1DR
			Dilution Factor: 1				
Zinc	1000	927	ug/L	93	SW846 6010B	10/18-10/30/00	DNC0P1DT
			Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F0J190272 Matrix.....: WATER

LCS Lot-Sample#: F0K140000-251 Prep Batch #...: 0319251

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Aluminum	1000	1170	ug/L	117	SW846 6010B	11/14-11/18/00	DPR9K1CX
			Dilution Factor: 1				
Antimony	1000	1030	ug/L	103	SW846 6010B	11/14-11/18/00	DPR9K1C0
			Dilution Factor: 1				
Barium	1000	1050	ug/L	105	SW846 6010B	11/14-11/18/00	DPR9K1C1
			Dilution Factor: 1				
Beryllium	1000	1090	ug/L	109	SW846 6010B	11/14-11/18/00	DPR9K1C2
			Dilution Factor: 1				
Cadmium	1000	1050	ug/L	104	SW846 6010B	11/14-11/18/00	DPR9K1C3
			Dilution Factor: 1				
Calcium	20000	20600	ug/L	103	SW846 6010B	11/14-11/18/00	DPR9K1C4
			Dilution Factor: 1				
Chromium	1000	1030	ug/L	103	SW846 6010B	11/14-11/18/00	DPR9K1C5
			Dilution Factor: 1				
Cobalt	1000	1000	ug/L	100	SW846 6010B	11/14-11/18/00	DPR9K1C6
			Dilution Factor: 1				
Copper	1000	1050	ug/L	104	SW846 6010B	11/14-11/18/00	DPR9K1C7
			Dilution Factor: 1				
Iron	1000	901	ug/L	90	SW846 6010B	11/14-11/18/00	DPR9K1C8
			Dilution Factor: 1				
Magnesium	20000	20500	ug/L	102	SW846 6010B	11/14-11/18/00	DPR9K1C9
			Dilution Factor: 1				
Manganese	1000	1050	ug/L	105	SW846 6010B	11/14-11/18/00	DPR9K1DA
			Dilution Factor: 1				
Nickel	1000	1030	ug/L	103	SW846 6010B	11/14-11/18/00	DPR9K1DC
			Dilution Factor: 1				
Potassium	20000	20400	ug/L	102	SW846 6010B	11/14-11/17/00	DPR9K1DD
			Dilution Factor: 1				

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LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F0J190272 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	250	253	ug/L	101	SW846 6010B	11/14-11/18/00	DPR9K1DE
			Dilution Factor: 1				
Sodium	20000	19800	ug/L	99	SW846 6010B	11/14-11/17/00	DPR9K1DF
			Dilution Factor: 1				
Strontium	1000	1100	ug/L	110	SW846 6010B	11/14-11/18/00	DPR9K1DG
			Dilution Factor: 1				
Vanadium	1000	1030	ug/L	103	SW846 6010B	11/14-11/18/00	DPR9K1DH
			Dilution Factor: 1				
Zinc	1000	989	ug/L	99	SW846 6010B	11/14-11/18/00	DPR9K1DJ
			Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

BECHTEL HANFORD, INC.

Client Sample ID: B10JT2

DISSOLVED Metals

Lot-Sample #...: F0J170107-002 Matrix.....: WATER
Date Sampled...: 10/12/00 Date Received..: 10/13/00

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0292371						
Aluminum	ND	200	ug/L	SW846 6010B	10/18-10/30/00	DM86C1AA
		Dilution Factor: 1		MDL.....: 85.2		
Antimony	ND	60.0	ug/L	SW846 6010B	10/18-10/30/00	DM86C1AC
		Dilution Factor: 1		MDL.....: 39.1		
Barium	31.7 B	200	ug/L	SW846 6010B	10/18-10/30/00	DM86C1AD
		Dilution Factor: 1		MDL.....: 7.3		
Beryllium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DM86C1AE
		Dilution Factor: 1		MDL.....: 0.60		
Cadmium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DM86C1AF
		Dilution Factor: 1		MDL.....: 2.8		
Calcium	26500	5000	ug/L	SW846 6010B	10/18-10/30/00	DM86C1AG
		Dilution Factor: 1		MDL.....: 160		
Chromium	21.7	10.0	ug/L	SW846 6010B	10/18-10/30/00	DM86C1AH
		Dilution Factor: 1		MDL.....: 7.5		
Cobalt	ND	50.0	ug/L	SW846 6010B	10/18-10/30/00	DM86C1AJ
		Dilution Factor: 1		MDL.....: 4.6		
Copper	ND	25.0	ug/L	SW846 6010B	10/18-10/30/00	DM86C1AK
		Dilution Factor: 1		MDL.....: 6.4		
Iron	ND	100	ug/L	SW846 6010B	10/18-10/30/00	DM86C1AL
		Dilution Factor: 1		MDL.....: 56.6		
Magnesium	6600	5000	ug/L	SW846 6010B	10/18-10/30/00	DM86C1AM
		Dilution Factor: 1		MDL.....: 161		
Manganese	ND	15.0	ug/L	SW846 6010B	10/18-10/30/00	DM86C1AN
		Dilution Factor: 1		MDL.....: 1.9		
Nickel	ND	40.0	ug/L	SW846 6010B	10/18-10/30/00	DM86C1AP
		Dilution Factor: 1		MDL.....: 13.3		
Potassium	2310 B	5000	ug/L	SW846 6010B	10/18-10/24/00	DM86C1AQ
		Dilution Factor: 1		MDL.....: 1800		

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BECHTEL HANFORD, INC.

Client Sample ID: B10JT2

DISSOLVED Metals

Lot-Sample #...: F0J170107-002 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	ND	10.0	ug/L	SW846 6010B	10/18-10/30/00	DM86C1AR
		Dilution Factor: 1		MDL.....: 7.4		
Sodium	8580	5000	ug/L	SW846 6010B	10/18-10/24/00	DM86C1AT
		Dilution Factor: 1		MDL.....: 172		
Strontium	152	50.0	ug/L	SW846 6010B	10/18-10/30/00	DM86C1AU
		Dilution Factor: 1		MDL.....: 1.8		
Vanadium	8.0 B	20.0	ug/L	SW846 6010B	10/18-10/30/00	DM86C1AV
		Dilution Factor: 1		MDL.....: 6.9		
Zinc	ND	20.0	ug/L	SW846 6010B	10/18-10/30/00	DM86C1AW
		Dilution Factor: 1		MDL.....: 4.2		

NOTE(S):

B Estimated result. Result is less than RL.

BECHTEL HANFORD, INC.

Client Sample ID: B10JV0

DISSOLVED Metals

Lot-Sample #...: F0J170107-004 **Matrix.....:** WATER
Date Sampled...: 10/12/00 **Date Received..:** 10/13/00

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0292371						
Aluminum	ND	200	ug/L	SW846 6010B	10/18-10/30/00	DM86N1AA
		Dilution Factor: 1		MDL.....: 85.2		
Antimony	ND	60.0	ug/L	SW846 6010B	10/18-10/30/00	DM86N1AC
		Dilution Factor: 1		MDL.....: 39.1		
Barium	**31.2 B**	**200**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM86N1AD**
		Dilution Factor: 1		MDL.....: 7.3		
Beryllium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DM86N1AE
		Dilution Factor: 1		MDL.....: 0.60		
Cadmium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DM86N1AF
		Dilution Factor: 1		MDL.....: 2.8		
Calcium	**26200**	**5000**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM86N1AG**
		Dilution Factor: 1		MDL.....: 160		
Chromium	**21.9**	**10.0**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM86N1AH**
		Dilution Factor: 1		MDL.....: 7.5		
Cobalt	ND	50.0	ug/L	SW846 6010B	10/18-10/30/00	DM86N1AJ
		Dilution Factor: 1		MDL.....: 4.6		
Copper	ND	25.0	ug/L	SW846 6010B	10/18-10/30/00	DM86N1AK
		Dilution Factor: 1		MDL.....: 6.4		
Iron	ND	100	ug/L	SW846 6010B	10/18-10/30/00	DM86N1AL
		Dilution Factor: 1		MDL.....: 56.6		
Magnesium	**6540**	**5000**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM86N1AM**
		Dilution Factor: 1		MDL.....: 161		
Manganese	ND	15.0	ug/L	SW846 6010B	10/18-10/30/00	DM86N1AN
		Dilution Factor: 1		MDL.....: 1.9		
Nickel	ND	40.0	ug/L	SW846 6010B	10/18-10/30/00	DM86N1AP
		Dilution Factor: 1		MDL.....: 13.3		
Potassium	**4850 B**	**5000**	**ug/L**	**SW846 6010B**	**10/18-10/24/00**	**DM86N1AQ**
		Dilution Factor: 1		MDL.....: 1800		

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BECHTEL HANFORD, INC.

Client Sample ID: B10JV0

DISSOLVED Metals

Lot-Sample #...: F0J170107-004 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	ND	10.0	ug/L	SW846 6010B	10/18-10/30/00	DM86N1AR
		Dilution Factor: 1		MDL.....: 7.4		
Sodium	8530	5000	ug/L	SW846 6010B	10/18-10/24/00	DM86N1AT
		Dilution Factor: 1		MDL.....: 172		
Strontium	149	50.0	ug/L	SW846 6010B	10/18-10/30/00	DM86N1AU
		Dilution Factor: 1		MDL.....: 1.8		
Vanadium	8.3 B	20.0	ug/L	SW846 6010B	10/18-10/30/00	DM86N1AV
		Dilution Factor: 1		MDL.....: 6.9		
Zinc	ND	20.0	ug/L	SW846 6010B	10/18-10/30/00	DM86N1AW
		Dilution Factor: 1		MDL.....: 4.2		

NOTE(S):

B Estimated result. Result is less than RL.

BECHTEL HANFORD, INC.

Client Sample ID: B10JT3

DISSOLVED Metals

Lot-Sample #...: F0J170107-006 **Matrix.....:** WATER
Date Sampled...: 10/13/00 **Date Received..:** 10/14/00

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0292371						
Aluminum	ND	200	ug/L	SW846 6010B	10/18-10/30/00	DM8611AA
		Dilution Factor: 1		MDL.....: 85.2		
Antimony	ND	60.0	ug/L	SW846 6010B	10/18-10/30/00	DM8611AC
		Dilution Factor: 1		MDL.....: 39.1		
Barium	**33.4 B**	**200**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM8611AD**
		Dilution Factor: 1		MDL.....: 7.3		
Beryllium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DM8611AE
		Dilution Factor: 1		MDL.....: 0.60		
Cadmium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DM8611AF
		Dilution Factor: 1		MDL.....: 2.8		
Calcium	**36200**	**5000**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM8611AG**
		Dilution Factor: 1		MDL.....: 160		
Chromium	**29.9**	**10.0**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM8611AH**
		Dilution Factor: 1		MDL.....: 7.5		
Cobalt	ND	50.0	ug/L	SW846 6010B	10/18-10/30/00	DM8611AJ
		Dilution Factor: 1		MDL.....: 4.6		
Copper	ND	25.0	ug/L	SW846 6010B	10/18-10/30/00	DM8611AK
		Dilution Factor: 1		MDL.....: 6.4		
Iron	ND	100	ug/L	SW846 6010B	10/18-10/30/00	DM8611AL
		Dilution Factor: 1		MDL.....: 56.6		
Magnesium	**8080**	**5000**	**ug/L**	**SW846 6010B**	**10/18-10/30/00**	**DM8611AM**
		Dilution Factor: 1		MDL.....: 161		
Manganese	ND	15.0	ug/L	SW846 6010B	10/18-10/30/00	DM8611AN
		Dilution Factor: 1		MDL.....: 1.9		
Nickel	ND	40.0	ug/L	SW846 6010B	10/18-10/30/00	DM8611AP
		Dilution Factor: 1		MDL.....: 13.3		
Potassium	**2510 B**	**5000**	**ug/L**	**SW846 6010B**	**10/18-10/24/00**	**DM8611AQ**
		Dilution Factor: 1		MDL.....: 1800		

(Continued on next page)

BECHTEL HANFORD, INC.

Client Sample ID: B10JT3

DISSOLVED Metals

Lot-Sample #...: F0J170107-006 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	ND	10.0	ug/L	SW846 6010B	10/18-10/30/00	DM8611AR
		Dilution Factor: 1		MDL.....: 7.4		
Sodium	8260	5000	ug/L	SW846 6010B	10/18-10/24/00	DM8611AT
		Dilution Factor: 1		MDL.....: 172		
Strontium	178	50.0	ug/L	SW846 6010B	10/18-10/30/00	DM8611AU
		Dilution Factor: 1		MDL.....: 1.8		
Vanadium	ND	20.0	ug/L	SW846 6010B	10/18-10/30/00	DM8611AV
		Dilution Factor: 1		MDL.....: 6.9		
Zinc	4.7 B	20.0	ug/L	SW846 6010B	10/18-10/30/00	DM8611AW
		Dilution Factor: 1		MDL.....: 4.2		

NOTE(S):

B Estimated result. Result is less than RL.

BECHTEL HANFORD, INC.

Client Sample ID: B10JT5

DISSOLVED Metals

Lot-Sample #...: F0J170107-008 **Matrix.....:** WATER
Date Sampled...: 10/13/00 **Date Received..:** 10/14/00

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0292371						
Aluminum	ND	200	ug/L	SW846 6010B	10/18-10/30/00	DM8661AA
		Dilution Factor: 1		MDL.....: 85.2		
Antimony	ND	60.0	ug/L	SW846 6010B	10/18-10/30/00	DM8661AC
		Dilution Factor: 1		MDL.....: 39.1		
Barium	ND	200	ug/L	SW846 6010B	10/18-10/30/00	DM8661AD
		Dilution Factor: 1		MDL.....: 7.3		
Beryllium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DM8661AE
		Dilution Factor: 1		MDL.....: 0.60		
Cadmium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DM8661AF
		Dilution Factor: 1		MDL.....: 2.8		
Calcium	ND	5000	ug/L	SW846 6010B	10/18-10/30/00	DM8661AG
		Dilution Factor: 1		MDL.....: 160		
Chromium	ND	10.0	ug/L	SW846 6010B	10/18-10/30/00	DM8661AH
		Dilution Factor: 1		MDL.....: 7.5		
Cobalt	ND	50.0	ug/L	SW846 6010B	10/18-10/30/00	DM8661AJ
		Dilution Factor: 1		MDL.....: 4.6		
Copper	ND	25.0	ug/L	SW846 6010B	10/18-10/30/00	DM8661AK
		Dilution Factor: 1		MDL.....: 6.4		
Iron	ND	100	ug/L	SW846 6010B	10/18-10/30/00	DM8661AL
		Dilution Factor: 1		MDL.....: 56.6		
Magnesium	ND	5000	ug/L	SW846 6010B	10/18-10/30/00	DM8661AM
		Dilution Factor: 1		MDL.....: 161		
Manganese	ND	15.0	ug/L	SW846 6010B	10/18-10/30/00	DM8661AN
		Dilution Factor: 1		MDL.....: 1.9		
Nickel	ND	40.0	ug/L	SW846 6010B	10/18-10/30/00	DM8661AP
		Dilution Factor: 1		MDL.....: 13.3		
Potassium	ND	5000	ug/L	SW846 6010B	10/18-10/24/00	DM8661AQ
		Dilution Factor: 1		MDL.....: 1800		

(Continued on next page)

BECHTEL HANFORD, INC.

Client Sample ID: B10JT5

DISSOLVED Metals

Lot-Sample #...: F0J170107-008 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	ND	10.0	ug/L	SW846 6010B	10/18-10/30/00	DM8661AR
		Dilution Factor: 1		MDL.....: 7.4		
Sodium	ND	5000	ug/L	SW846 6010B	10/18-10/24/00	DM8661AT
		Dilution Factor: 1		MDL.....: 172		
Strontium	ND	50.0	ug/L	SW846 6010B	10/18-10/30/00	DM8661AU
		Dilution Factor: 1		MDL.....: 1.8		
Vanadium	ND	20.0	ug/L	SW846 6010B	10/18-10/30/00	DM8661AV
		Dilution Factor: 1		MDL.....: 6.9		
Zinc	ND	20.0	ug/L	SW846 6010B	10/18-10/30/00	DM8661AW
		Dilution Factor: 1		MDL.....: 4.2		

BECHTEL HANFORD, INC.

Client Sample ID: B10JR8

DISSOLVED Metals

Lot-Sample #...: F0J190272-002 **Matrix.....:** WATER
Date Sampled...: 10/17/00 **Date Received..:** 10/19/00

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0319251						
Aluminum	ND	200	ug/L	SW846 6010B	11/14-11/18/00	DNFVV1AA
		Dilution Factor: 1		MDL.....: 85.2		
Antimony	ND	60.0	ug/L	SW846 6010B	11/14-11/18/00	DNFVV1AC
		Dilution Factor: 1		MDL.....: 39.1		
Barium	**51.8 B**	**200**	**ug/L**	**SW846 6010B**	**11/14-11/18/00**	**DNFVV1AD**
		Dilution Factor: 1		MDL.....: 7.3		
Beryllium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DNFVV1AE
		Dilution Factor: 1		MDL.....: 0.60		
Cadmium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DNFVV1AF
		Dilution Factor: 1		MDL.....: 2.8		
Calcium	**40700**	**5000**	**ug/L**	**SW846 6010B**	**11/14-11/18/00**	**DNFVV1AG**
		Dilution Factor: 1		MDL.....: 160		
Chromium	**160**	**10.0**	**ug/L**	**SW846 6010B**	**11/14-11/18/00**	**DNFVV1AH**
		Dilution Factor: 1		MDL.....: 7.5		
Cobalt	ND	50.0	ug/L	SW846 6010B	11/14-11/18/00	DNFVV1AJ
		Dilution Factor: 1		MDL.....: 4.6		
Copper	ND	25.0	ug/L	SW846 6010B	11/14-11/18/00	DNFVV1AK
		Dilution Factor: 1		MDL.....: 6.4		
Iron	ND	100	ug/L	SW846 6010B	11/14-11/18/00	DNFVV1AL
		Dilution Factor: 1		MDL.....: 56.6		
Magnesium	**8790**	**5000**	**ug/L**	**SW846 6010B**	**11/14-11/18/00**	**DNFVV1AM**
		Dilution Factor: 1		MDL.....: 161		
Manganese	ND	15.0	ug/L	SW846 6010B	11/14-11/18/00	DNFVV1AN
		Dilution Factor: 1		MDL.....: 1.9		
Nickel	ND	40.0	ug/L	SW846 6010B	11/14-11/18/00	DNFVV1AP
		Dilution Factor: 1		MDL.....: 13.3		
Potassium	ND	5000	ug/L	SW846 6010B	11/14-11/17/00	DNFVV1AQ
		Dilution Factor: 1		MDL.....: 1800		

(Continued on next page)

BECHTEL HANFORD, INC.

Client Sample ID: B10JR8

DISSOLVED Metals

Lot-Sample #...: F0J190272-002 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	ND	10.0	ug/L	SW846 6010B	11/14-11/18/00	DNFVV1AR
		Dilution Factor: 1		MDL.....: 7.4		
Sodium	4350 B	5000	ug/L	SW846 6010B	11/14-11/17/00	DNFVV1AT
		Dilution Factor: 1		MDL.....: 172		
Strontium	226	50.0	ug/L	SW846 6010B	11/14-11/18/00	DNFVV1AU
		Dilution Factor: 1		MDL.....: 1.8		
Vanadium	ND	20.0	ug/L	SW846 6010B	11/14-11/18/00	DNFVV1AV
		Dilution Factor: 1		MDL.....: 6.9		
Zinc	7.5 B	20.0	ug/L	SW846 6010B	11/14-11/18/00	DNFVV1AW
		Dilution Factor: 1		MDL.....: 4.2		

NOTE(S):

B Estimated result. Result is less than RL.

BECHTEL HANFORD, INC.

Client Sample ID: B10JR9

DISSOLVED Metals

Lot-Sample #...: F0J190272-004 Matrix.....: WATER
Date Sampled...: 10/17/00 Date Received..: 10/19/00

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0319251						
Aluminum	ND	200	ug/L	SW846 6010B	11/14-11/18/00	DNFWC1AA
		Dilution Factor: 1		MDL.....: 85.2		
Antimony	ND	60.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWC1AC
		Dilution Factor: 1		MDL.....: 39.1		
Barium	40.2 B	200	ug/L	SW846 6010B	11/14-11/18/00	DNFWC1AD
		Dilution Factor: 1		MDL.....: 7.3		
Beryllium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWC1AE
		Dilution Factor: 1		MDL.....: 0.60		
Cadmium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWC1AF
		Dilution Factor: 1		MDL.....: 2.8		
Calcium	30300	5000	ug/L	SW846 6010B	11/14-11/18/00	DNFWC1AG
		Dilution Factor: 1		MDL.....: 160		
Chromium	88.5	10.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWC1AH
		Dilution Factor: 1		MDL.....: 7.5		
Cobalt	ND	50.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWC1AJ
		Dilution Factor: 1		MDL.....: 4.6		
Copper	ND	25.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWC1AK
		Dilution Factor: 1		MDL.....: 6.4		
Iron	ND	100	ug/L	SW846 6010B	11/14-11/18/00	DNFWC1AL
		Dilution Factor: 1		MDL.....: 56.6		
Magnesium	6840	5000	ug/L	SW846 6010B	11/14-11/18/00	DNFWC1AM
		Dilution Factor: 1		MDL.....: 161		
Manganese	ND	15.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWC1AN
		Dilution Factor: 1		MDL.....: 1.9		
Nickel	ND	40.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWC1AP
		Dilution Factor: 1		MDL.....: 13.3		
Potassium	ND	5000	ug/L	SW846 6010B	11/14-11/17/00	DNFWC1AQ
		Dilution Factor: 1		MDL.....: 1800		

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BECHTEL HANFORD, INC.

Client Sample ID: B10JR9

DISSOLVED Metals

Lot-Sample #...: F0J190272-004 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	ND	10.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWC1AR
		Dilution Factor: 1		MDL.....: 7.4		
Sodium	3610 B	5000	ug/L	SW846 6010B	11/14-11/17/00	DNFWC1AT
		Dilution Factor: 1		MDL.....: 172		
Strontium	175	50.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWC1AU
		Dilution Factor: 1		MDL.....: 1.8		
Vanadium	ND	20.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWC1AV
		Dilution Factor: 1		MDL.....: 6.9		
Zinc	4.4 B	20.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWC1AW
		Dilution Factor: 1		MDL.....: 4.2		

NOTE(S):

B Estimated result. Result is less than RL.

BECHTEL HANFORD, INC.

Client Sample ID: B10JT0

DISSOLVED Metals

Lot-Sample #...: F0J190272-006 **Matrix.....:** WATER
Date Sampled...: 10/17/00 **Date Received..:** 10/19/00

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0319251						
Aluminum	ND	200	ug/L	SW846 6010B	11/14-11/18/00	DNFWP1AA
		Dilution Factor: 1		MDL.....: 85.2		
Antimony	ND	60.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWP1AC
		Dilution Factor: 1		MDL.....: 39.1		
Barium	40.3 B	200	ug/L	SW846 6010B	11/14-11/18/00	DNFWP1AD
		Dilution Factor: 1		MDL.....: 7.3		
Beryllium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWP1AE
		Dilution Factor: 1		MDL.....: 0.60		
Cadmium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWP1AF
		Dilution Factor: 1		MDL.....: 2.8		
Calcium	30600	5000	ug/L	SW846 6010B	11/14-11/18/00	DNFWP1AG
		Dilution Factor: 1		MDL.....: 160		
Chromium	88.9	10.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWP1AH
		Dilution Factor: 1		MDL.....: 7.5		
Cobalt	ND	50.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWP1AJ
		Dilution Factor: 1		MDL.....: 4.6		
Copper	ND	25.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWP1AK
		Dilution Factor: 1		MDL.....: 6.4		
Iron	ND	100	ug/L	SW846 6010B	11/14-11/18/00	DNFWP1AL
		Dilution Factor: 1		MDL.....: 56.6		
Magnesium	6930	5000	ug/L	SW846 6010B	11/14-11/18/00	DNFWP1AM
		Dilution Factor: 1		MDL.....: 161		
Manganese	ND	15.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWP1AN
		Dilution Factor: 1		MDL.....: 1.9		
Nickel	ND	40.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWP1AP
		Dilution Factor: 1		MDL.....: 13.3		
Potassium	ND	5000	ug/L	SW846 6010B	11/14-11/17/00	DNFWP1AQ
		Dilution Factor: 1		MDL.....: 1800		

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BECHTEL HANFORD, INC.

Client Sample ID: B10JT0

DISSOLVED Metals

Lot-Sample #...: F0J190272-006 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	ND	10.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWP1AR
		Dilution Factor: 1		MDL.....: 7.4		
Sodium	3670 B	5000	ug/L	SW846 6010B	11/14-11/17/00	DNFWP1AT
		Dilution Factor: 1		MDL.....: 172		
Strontium	177	50.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWP1AU
		Dilution Factor: 1		MDL.....: 1.8		
Vanadium	ND	20.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWP1AV
		Dilution Factor: 1		MDL.....: 6.9		
Zinc	5.0 B	20.0	ug/L	SW846 6010B	11/14-11/18/00	DNFWP1AW
		Dilution Factor: 1		MDL.....: 4.2		

NOTE(S):

B Estimated result. Result is less than RL.

BECHTEL HANFORD, INC.

Client Sample ID: B10JT1

DISSOLVED Metals

Lot-Sample #...: F0J190272-008 Matrix.....: WATER
Date Sampled...: 10/17/00 Date Received..: 10/19/00

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0319251						
Aluminum	179 B	200	ug/L	SW846 6010B	11/14-11/18/00	DNFW31AA
		Dilution Factor: 1		MDL.....: 85.2		
Antimony	ND	60.0	ug/L	SW846 6010B	11/14-11/18/00	DNFW31AC
		Dilution Factor: 1		MDL.....: 39.1		
Barium	36.0 B	200	ug/L	SW846 6010B	11/14-11/18/00	DNFW31AD
		Dilution Factor: 1		MDL.....: 7.3		
Beryllium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DNFW31AE
		Dilution Factor: 1		MDL.....: 0.60		
Cadmium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DNFW31AF
		Dilution Factor: 1		MDL.....: 2.8		
Calcium	28400	5000	ug/L	SW846 6010B	11/14-11/18/00	DNFW31AG
		Dilution Factor: 1		MDL.....: 160		
Chromium	34.7	10.0	ug/L	SW846 6010B	11/14-11/18/00	DNFW31AH
		Dilution Factor: 1		MDL.....: 7.5		
Cobalt	ND	50.0	ug/L	SW846 6010B	11/14-11/18/00	DNFW31AJ
		Dilution Factor: 1		MDL.....: 4.6		
Copper	ND	25.0	ug/L	SW846 6010B	11/14-11/18/00	DNFW31AK
		Dilution Factor: 1		MDL.....: 6.4		
Iron	255	100	ug/L	SW846 6010B	11/14-11/18/00	DNFW31AL
		Dilution Factor: 1		MDL.....: 56.6		
Magnesium	5780	5000	ug/L	SW846 6010B	11/14-11/18/00	DNFW31AM
		Dilution Factor: 1		MDL.....: 161		
Manganese	18.0	15.0	ug/L	SW846 6010B	11/14-11/18/00	DNFW31AN
		Dilution Factor: 1		MDL.....: 1.9		
Nickel	ND	40.0	ug/L	SW846 6010B	11/14-11/18/00	DNFW31AP
		Dilution Factor: 1		MDL.....: 13.3		
Potassium	ND	5000	ug/L	SW846 6010B	11/14-11/17/00	DNFW31AQ
		Dilution Factor: 1		MDL.....: 1800		

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BECHTEL HANFORD, INC.

Client Sample ID: B10JT1

DISSOLVED Metals

Lot-Sample #...: F0J190272-008 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	ND	10.0	ug/L	SW846 6010B	11/14-11/18/00	DNFW31AR
		Dilution Factor: 1		MDL.....: 7.4		
Sodium	3190 B	5000	ug/L	SW846 6010B	11/14-11/17/00	DNFW31AT
		Dilution Factor: 1		MDL.....: 172		
Strontium	152	50.0	ug/L	SW846 6010B	11/14-11/18/00	DNFW31AU
		Dilution Factor: 1		MDL.....: 1.8		
Vanadium	ND	20.0	ug/L	SW846 6010B	11/14-11/18/00	DNFW31AV
		Dilution Factor: 1		MDL.....: 6.9		
Zinc	13.0 B	20.0	ug/L	SW846 6010B	11/14-11/18/00	DNFW31AW
		Dilution Factor: 1		MDL.....: 4.2		

NOTE(S):

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: F0J170107 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F0J180000-371 **Prep Batch #...:** 0292371						
Aluminum	ND	200	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1AM
		Dilution Factor: 1				
Antimony	ND	60.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1AN
		Dilution Factor: 1				
Barium	ND	200	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1AP
		Dilution Factor: 1				
Beryllium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1AQ
		Dilution Factor: 1				
Cadmium	ND	5.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1AR
		Dilution Factor: 1				
Calcium	ND	5000	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1AT
		Dilution Factor: 1				
Chromium	ND	10.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1AU
		Dilution Factor: 1				
Cobalt	ND	50.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1AV
		Dilution Factor: 1				
Copper	ND	25.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1AW
		Dilution Factor: 1				
Iron	ND	100	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1AA
		Dilution Factor: 1				
Magnesium	ND	5000	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1AC
		Dilution Factor: 1				
Manganese	ND	15.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1AD
		Dilution Factor: 1				
Nickel	ND	40.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1AE
		Dilution Factor: 1				
Potassium	ND	5000	ug/L	SW846 6010B	10/18-10/24/00	DNC0P1AF
		Dilution Factor: 1				
Silver	ND	10.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1AG
		Dilution Factor: 1				

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METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: F0J170107 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Sodium	ND	5000	ug/L	SW846 6010B	10/18-10/24/00	DNC0P1AH
		Dilution Factor: 1				
Strontium	ND	50.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1AJ
		Dilution Factor: 1				
Vanadium	ND	20.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1AK
		Dilution Factor: 1				
Zinc	ND	20.0	ug/L	SW846 6010B	10/18-10/30/00	DNC0P1AL
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: F0J190272 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F0K140000-251 **Prep Batch #...:** 0319251						
Aluminum	ND	200	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1AX
		Dilution Factor: 1				
Antimony	ND	60.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1A0
		Dilution Factor: 1				
Barium	ND	200	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1A1
		Dilution Factor: 1				
Beryllium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1A2
		Dilution Factor: 1				
Cadmium	ND	5.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1A3
		Dilution Factor: 1				
Calcium	ND	5000	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1A4
		Dilution Factor: 1				
Chromium	ND	10.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1A5
		Dilution Factor: 1				
Cobalt	ND	50.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1A6
		Dilution Factor: 1				
Copper	ND	25.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1A7
		Dilution Factor: 1				
Iron	91.0 B	100	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1A8
		Dilution Factor: 1				
Magnesium	ND	5000	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1A9
		Dilution Factor: 1				
Manganese	ND	15.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1CA
		Dilution Factor: 1				
Nickel	ND	40.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1CC
		Dilution Factor: 1				
Potassium	ND	5000	ug/L	SW846 6010B	11/14-11/17/00	DPR9K1CD
		Dilution Factor: 1				
Silver	ND	10.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1CE
		Dilution Factor: 1				

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METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: F0J190272 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Sodium	ND	5000	ug/L	SW846 6010B	11/14-11/17/00	DPR9K1CF
		Dilution Factor: 1				
Strontium	ND	50.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1CG
		Dilution Factor: 1				
Vanadium	ND	20.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1CH
		Dilution Factor: 1				
Zinc	5.5 B	20.0	ug/L	SW846 6010B	11/14-11/18/00	DPR9K1CJ
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

DISSOLVED Metals

Client Lot #...: F0J170107 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: F0J180000-371 **Prep Batch #...:** 0292371							
Aluminum	1000	1160	ug/L	116	SW846 6010B	10/18-10/30/00	DNC0P1A9
			Dilution Factor: 1				
Antimony	1000	985	ug/L	99	SW846 6010B	10/18-10/30/00	DNC0P1CA
			Dilution Factor: 1				
Barium	1000	982	ug/L	98	SW846 6010B	10/18-10/30/00	DNC0P1CC
			Dilution Factor: 1				
Beryllium	1000	1040	ug/L	104	SW846 6010B	10/18-10/30/00	DNC0P1CD
			Dilution Factor: 1				
Cadmium	1000	980	ug/L	98	SW846 6010B	10/18-10/30/00	DNC0P1CE
			Dilution Factor: 1				
Calcium	20000	20100	ug/L	100	SW846 6010B	10/18-10/30/00	DNC0P1CF
			Dilution Factor: 1				
Chromium	1000	968	ug/L	97	SW846 6010B	10/18-10/30/00	DNC0P1CG
			Dilution Factor: 1				
Cobalt	1000	935	ug/L	94	SW846 6010B	10/18-10/30/00	DNC0P1CH
			Dilution Factor: 1				
Copper	1000	980	ug/L	98	SW846 6010B	10/18-10/30/00	DNC0P1CJ
			Dilution Factor: 1				
Iron	1000	853	ug/L	85	SW846 6010B	10/18-10/30/00	DNC0P1AX
			Dilution Factor: 1				
Magnesium	20000	19800	ug/L	99	SW846 6010B	10/18-10/30/00	DNC0P1A0
			Dilution Factor: 1				
Manganese	1000	981	ug/L	98	SW846 6010B	10/18-10/30/00	DNC0P1A1
			Dilution Factor: 1				
Nickel	1000	959	ug/L	96	SW846 6010B	10/18-10/30/00	DNC0P1A2
			Dilution Factor: 1				
Potassium	20000	20800	ug/L	104	SW846 6010B	10/18-10/24/00	DNC0P1A3
			Dilution Factor: 1				

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LABORATORY CONTROL SAMPLE DATA REPORT

DISSOLVED Metals

Client Lot #...: F0J170107 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	250	236	ug/L	94	SW846 6010B	10/18-10/30/00	DNC0P1A4
			Dilution Factor: 1				
Sodium	20000	19600	ug/L	98	SW846 6010B	10/18-10/24/00	DNC0P1A5
			Dilution Factor: 1				
Strontium	1000	1020	ug/L	102	SW846 6010B	10/18-10/30/00	DNC0P1A6
			Dilution Factor: 1				
Vanadium	1000	984	ug/L	98	SW846 6010B	10/18-10/30/00	DNC0P1A7
			Dilution Factor: 1				
Zinc	1000	927	ug/L	93	SW846 6010B	10/18-10/30/00	DNC0P1A8
			Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

DISSOLVED Metals

Client Lot #...: F0J190272 Matrix.....: WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: F0K140000-251 Prep Batch #...: 0319251							
Aluminum	1000	1170	ug/L	117	SW846 6010B	11/14-11/18/00	DPR9K1DK
			Dilution Factor: 1				
Antimony	1000	1030	ug/L	103	SW846 6010B	11/14-11/18/00	DPR9K1DL
			Dilution Factor: 1				
Barium	1000	1050	ug/L	105	SW846 6010B	11/14-11/18/00	DPR9K1DM
			Dilution Factor: 1				
Beryllium	1000	1090	ug/L	109	SW846 6010B	11/14-11/18/00	DPR9K1DN
			Dilution Factor: 1				
Cadmium	1000	1050	ug/L	104	SW846 6010B	11/14-11/18/00	DPR9K1DP
			Dilution Factor: 1				
Calcium	20000	20600	ug/L	103	SW846 6010B	11/14-11/18/00	DPR9K1DQ
			Dilution Factor: 1				
Chromium	1000	1030	ug/L	103	SW846 6010B	11/14-11/18/00	DPR9K1DR
			Dilution Factor: 1				
Cobalt	1000	1000	ug/L	100	SW846 6010B	11/14-11/18/00	DPR9K1DT
			Dilution Factor: 1				
Copper	1000	1050	ug/L	104	SW846 6010B	11/14-11/18/00	DPR9K1DU
			Dilution Factor: 1				
Iron	1000	901	ug/L	90	SW846 6010B	11/14-11/18/00	DPR9K1DV
			Dilution Factor: 1				
Magnesium	20000	20500	ug/L	102	SW846 6010B	11/14-11/18/00	DPR9K1DW
			Dilution Factor: 1				
Manganese	1000	1050	ug/L	105	SW846 6010B	11/14-11/18/00	DPR9K1DX
			Dilution Factor: 1				
Nickel	1000	1030	ug/L	103	SW846 6010B	11/14-11/18/00	DPR9K1D0
			Dilution Factor: 1				
Potassium	20000	20400	ug/L	102	SW846 6010B	11/14-11/17/00	DPR9K1D1
			Dilution Factor: 1				

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LABORATORY CONTROL SAMPLE DATA REPORT

DISSOLVED Metals

Client Lot #...: F0J190272 Matrix.....: WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	250	253	ug/L	101	SW846 6010B	11/14-11/18/00	DPR9K1D2
			Dilution Factor: 1				
Sodium	20000	19800	ug/L	99	SW846 6010B	11/14-11/17/00	DPR9K1D3
			Dilution Factor: 1				
Strontium	1000	1100	ug/L	110	SW846 6010B	11/14-11/18/00	DPR9K1D4
			Dilution Factor: 1				
Vanadium	1000	1030	ug/L	103	SW846 6010B	11/14-11/18/00	DPR9K1D5
			Dilution Factor: 1				
Zinc	1000	989	ug/L	99	SW846 6010B	11/14-11/18/00	DPR9K1D6
			Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

WET CHEMISTRY

BECHTEL HANFORD, INC.

Client Sample ID: B10JR1

General Chemistry

Lot-Sample #...: F0J170107-001 **Work Order #...:** DM85P **Matrix.....:** WATER
Date Sampled...: 10/12/00 **Date Received..:** 10/13/00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	3.6	0.20	mg/L	MCAWW 300.0A	10/15/00	0300514
		Dilution Factor: 1		MDL.....: 0.035		
Fluoride	0.21	0.10	mg/L	MCAWW 300.0A	10/15/00	0300513
		Dilution Factor: 1		MDL.....: 0.010		
Nitrate	2.1 D	0.10	mg/L	MCAWW 300.0A	10/15/00	0300516
		Dilution Factor: 5		MDL.....: 0.053		
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	10/15/00	0300515
		Dilution Factor: 1		MDL.....: 0.0074		
Sulfate	23.2	2.5	mg/L	MCAWW 300.0A	10/15/00	0300517
		Dilution Factor: 5		MDL.....: 0.54		

NOTE(S):

RL Reporting Limit

D Result was obtained from the analysis of a dilution.

BECHTEL HANFORD, INC.

Client Sample ID: B10JT9

General Chemistry

Lot-Sample #...: F0J170107-003 Work Order #...: DM86F Matrix.....: WATER
Date Sampled...: 10/12/00 Date Received..: 10/13/00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	3.6	0.20	mg/L	MCAWW 300.0A	10/15/00	0300514
		Dilution Factor: 1		MDL.....: 0.035		
Fluoride	0.22	0.10	mg/L	MCAWW 300.0A	10/15/00	0300513
		Dilution Factor: 1		MDL.....: 0.010		
Nitrate	2.3 D	0.10	mg/L	MCAWW 300.0A	10/15/00	0300516
		Dilution Factor: 5		MDL.....: 0.053		
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	10/15/00	0300515
		Dilution Factor: 1		MDL.....: 0.0074		
Sulfate	22.9	2.5	mg/L	MCAWW 300.0A	10/15/00	0300517
		Dilution Factor: 5		MDL.....: 0.54		

NOTE(S):

RL Reporting Limit

D Result was obtained from the analysis of a dilution.

BECHTEL HANFORD, INC.

Client Sample ID: B10JR2

General Chemistry

Lot-Sample #...: F0J170107-005 **Work Order #...:** DM86P **Matrix.....:** WATER
Date Sampled...: 10/13/00 **Date Received..:** 10/14/00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	6.8 D	1.0	mg/L	MCAWW 300.0A	10/15/00	0300514
		Dilution Factor: 5		MDL.....: 0.17		
Fluoride	0.18	0.10	mg/L	MCAWW 300.0A	10/15/00	0300513
		Dilution Factor: 1		MDL.....: 0.010		
Nitrate	3.4 D	0.10	mg/L	MCAWW 300.0A	10/15/00	0300516
		Dilution Factor: 5		MDL.....: 0.053		
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	10/15/00	0300515
		Dilution Factor: 1		MDL.....: 0.0074		
Sulfate	35.6	2.5	mg/L	MCAWW 300.0A	10/15/00	0300517
		Dilution Factor: 5		MDL.....: 0.54		

NOTE(S):

RL Reporting Limit

D Result was obtained from the analysis of a dilution.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F0J170107 **Work Order #...:** DM86P-SMP DM86P-DUP **Matrix.....:** WATER

Date Sampled...: 10/13/00 **Date Received..:** 10/14/00

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride						SD Lot-Sample #:	F0J170107-005	
	6.8 D	6.7 D	mg/L	1.5	(0-20)	MCAWW 300.0A	10/16/00	0300514
			Dilution Factor: 5					
Fluoride						SD Lot-Sample #:	F0J170107-005	
	0.18	0.19	mg/L	6.1	(0-20)	MCAWW 300.0A	10/16/00	0300513
			Dilution Factor: 1					
Nitrate						SD Lot-Sample #:	F0J170107-005	
	3.4 D	3.3 D	mg/L	3.6	(0-20)	MCAWW 300.0A	10/16/00	0300516
			Dilution Factor: 5					
Nitrite						SD Lot-Sample #:	F0J170107-005	
	ND	ND	mg/L	0	(0-20)	MCAWW 300.0A	10/16/00	0300515
			Dilution Factor: 1					
Sulfate						SD Lot-Sample #:	F0J170107-005	
	35.6	36.7	mg/L	2.9	(0-20)	MCAWW 300.0A	10/16/00	0300517
			Dilution Factor: 5					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

D Result was obtained from the analysis of a dilution.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: F0J170107 **Matrix.....:** WATER
Date Sampled...: 10/13/00 **Date Received..:** 10/14/00

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride			Work Order #...:		DM86P1CM	MS Lot-Sample #: F0J170107-005		
	6.8	20.0	28.8 D	mg/L	110	MCAWW 300.0A	10/16/00	0300514
			Dilution Factor: 10					
Fluoride			Work Order #...:		DM86P1CN	MS Lot-Sample #: F0J170107-005		
	0.18	2.00	2.00	mg/L	91	MCAWW 300.0A	10/16/00	0300513
			Dilution Factor: 1					
Nitrate			Work Order #...:		DM86P1CP	MS Lot-Sample #: F0J170107-005		
	3.4	2.00	5.33 D	mg/L	95	MCAWW 300.0A	10/16/00	0300516
			Dilution Factor: 10					
Nitrite			Work Order #...:		DM86P1CQ	MS Lot-Sample #: F0J170107-005		
	ND	2.00	2.07 D	mg/L	103	MCAWW 300.0A	10/16/00	0300515
			Dilution Factor: 10					
Sulfate			Work Order #...:		DM86P1CR	MS Lot-Sample #: F0J170107-005		
	35.6	20.0	63.2 N	mg/L	138	MCAWW 300.0A	10/16/00	0300517
			Dilution Factor: 10					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

D Result was obtained from the analysis of a dilution.

BECHTEL HANFORD, INC.

Client Sample ID: B10JR4

General Chemistry

Lot-Sample #...: F0J170107-007 **Work Order #...:** DM865 **Matrix.....:** WATER
Date Sampled...: 10/13/00 **Date Received..:** 10/14/00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	ND	0.20	mg/L	MCAWW 300.0A	10/15/00	0300514
		Dilution Factor: 1		MDL.....: 0.035		
Fluoride	ND	0.10	mg/L	MCAWW 300.0A	10/15/00	0300513
		Dilution Factor: 1		MDL.....: 0.010		
Nitrate	ND	0.020	mg/L	MCAWW 300.0A	10/15/00	0300516
		Dilution Factor: 1		MDL.....: 0.011		
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	10/15/00	0300515
		Dilution Factor: 1		MDL.....: 0.0074		
Sulfate	ND	0.50	mg/L	MCAWW 300.0A	10/15/00	0300517
		Dilution Factor: 1		MDL.....: 0.11		

BECHTEL HANFORD, INC.

Client Sample ID: B10JP7

General Chemistry

Lot-Sample #...: F0J190272-001 Work Order #...: DNFT9 Matrix.....: WATER
Date Sampled...: 10/17/00 Date Received..: 10/19/00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	6.5	2.0	mg/L	MCAWW 300.0A	10/19/00	0314105
		Dilution Factor: 10		MDL.....: 0.035		
Fluoride	0.15	0.10	mg/L	MCAWW 300.0A	10/19/00	0313402
		Dilution Factor: 1		MDL.....: 0.010		
Nitrate	4.5	0.20	mg/L	MCAWW 300.0A	10/19/00	0314106
		Dilution Factor: 10		MDL.....: 0.011		
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	10/19/00	0314107
		Dilution Factor: 1		MDL.....: 0.0074		
Sulfate	50.3	5.0	mg/L	MCAWW 300.0A	10/19/00	0314108
		Dilution Factor: 10		MDL.....: 0.11		

BECHTEL HANFORD, INC.

Client Sample ID: B10JP8

General Chemistry

Lot-Sample #...: F0J190272-003 Work Order #...: DNFV2 Matrix.....: WATER
Date Sampled...: 10/17/00 Date Received..: 10/19/00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	5.9	1.0	mg/L	MCAWW 300.0A	10/19/00	0314105
		Dilution Factor: 5		MDL.....: 0.035		
Fluoride	0.14	0.10	mg/L	MCAWW 300.0A	10/19/00	0313402
		Dilution Factor: 1		MDL.....: 0.010		
Nitrate	2.6	0.10	mg/L	MCAWW 300.0A	10/19/00	0314106
		Dilution Factor: 5		MDL.....: 0.011		
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	10/19/00	0314107
		Dilution Factor: 1		MDL.....: 0.0074		
Sulfate	30.7	2.5	mg/L	MCAWW 300.0A	10/19/00	0314108
		Dilution Factor: 5		MDL.....: 0.11		

BECHTEL HANFORD, INC.

Client Sample ID: B10JP9

General Chemistry

Lot-Sample #...: F0J190272-005 Work Order #...: DNFWG Matrix.....: WATER
Date Sampled...: 10/17/00 Date Received..: 10/19/00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	6.0	1.0	mg/L	MCAWW 300.0A	10/19/00	0314105
		Dilution Factor: 5		MDL.....: 0.035		
Fluoride	0.13	0.10	mg/L	MCAWW 300.0A	10/19/00	0313402
		Dilution Factor: 1		MDL.....: 0.010		
Nitrate	2.6	0.10	mg/L	MCAWW 300.0A	10/19/00	0314106
		Dilution Factor: 5		MDL.....: 0.011		
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	10/19/00	0314107
		Dilution Factor: 1		MDL.....: 0.0074		
Sulfate	31.1	2.5	mg/L	MCAWW 300.0A	10/19/00	0314108
		Dilution Factor: 5		MDL.....: 0.11		

BECHTEL HANFORD, INC.

Client Sample ID: B10JR0

General Chemistry

Lot-Sample #...: F0J190272-007 Work Order #...: DNFWX Matrix.....: WATER
Date Sampled...: 10/17/00 Date Received..: 10/19/00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	5.2	1.0	mg/L	MCAWW 300.0A	10/19/00	0314105
		Dilution Factor: 5		MDL.....: 0.035		
Fluoride	ND	0.10	mg/L	MCAWW 300.0A	10/19/00	0313402
		Dilution Factor: 1		MDL.....: 0.010		
Nitrate	295	10.0	mg/L	MCAWW 300.0A	10/19/00	0314106
		Dilution Factor: 500		MDL.....: 0.011		
Nitrite	ND	0.10	mg/L	MCAWW 300.0A	10/19/00	0314107
		Dilution Factor: 5		MDL.....: 0.0074		
Sulfate	94.3	2.5	mg/L	MCAWW 300.0A	10/19/00	0314108
		Dilution Factor: 5		MDL.....: 0.11		

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F0J170107 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: DNWER1AA		MB Lot-Sample #:	F0J260000-514	
	ND	0.20	mg/L	MCAWW 300.0A	10/15/00	0300514
		Dilution Factor: 1				
Fluoride		Work Order #: DNWEP1AA		MB Lot-Sample #:	F0J260000-513	
	ND	0.10	mg/L	MCAWW 300.0A	10/15/00	0300513
		Dilution Factor: 1				
Nitrate		Work Order #: DN2QK1AA		MB Lot-Sample #:	F0J260000-516	
	ND	0.020	mg/L	MCAWW 300.0A	10/15/00	0300516
		Dilution Factor: 1				
Nitrite		Work Order #: DN2QC1AA		MB Lot-Sample #:	F0J260000-515	
	ND	0.020	mg/L	MCAWW 300.0A	10/15/00	0300515
		Dilution Factor: 1				
Sulfate		Work Order #: DN2VW1AA		MB Lot-Sample #:	F0J260000-517	
	ND	0.50	mg/L	MCAWW 300.0A	10/15/00	0300517
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F0J190272 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: DP1E01AA		MB Lot-Sample #:	F0K090000-105	
	ND	0.20	mg/L	MCAWW 300.0A	10/19/00	0314105
		Dilution Factor: 1				
Fluoride		Work Order #: DP1LV1AA		MB Lot-Sample #:	F0K080000-402	
	ND	0.10	mg/L	MCAWW 300.0A	10/19/00	0313402
		Dilution Factor: 1				
Nitrate		Work Order #: DP1E41AA		MB Lot-Sample #:	F0K090000-106	
	ND	0.020	mg/L	MCAWW 300.0A	10/19/00	0314106
		Dilution Factor: 1				
Nitrite		Work Order #: DP1E71AA		MB Lot-Sample #:	F0K090000-107	
	ND	0.020	mg/L	MCAWW 300.0A	10/19/00	0314107
		Dilution Factor: 1				
Sulfate		Work Order #: DP1E91AA		MB Lot-Sample #:	F0K090000-108	
	ND	0.50	mg/L	MCAWW 300.0A	10/19/00	0314108
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Lot-Sample #...: F0J170107 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride			WO#:DNWER1AC-LCS/DNWER1AD-LCSD				LCS Lot-Sample#: F0J260000-514	
	1.00	0.957	mg/L	96		MCAWW 300.0A	10/15/00	0300514
	1.00	0.939	mg/L	94	1.9	MCAWW 300.0A	10/15/00	0300514
			Dilution Factor: 1					
Fluoride			WO#:DNWEP1AC-LCS/DNWEP1AD-LCSD				LCS Lot-Sample#: F0J260000-513	
	1.00	0.956	mg/L	96		MCAWW 300.0A	10/15/00	0300513
	1.00	0.988	mg/L	99	3.3	MCAWW 300.0A	10/15/00	0300513
			Dilution Factor: 1					
Nitrate			WO#:DN2QK1AC-LCS/DN2QK1AD-LCSD				LCS Lot-Sample#: F0J260000-516	
	0.200	0.189	mg/L	94		MCAWW 300.0A	10/15/00	0300516
	0.200	0.186	mg/L	93	1.6	MCAWW 300.0A	10/15/00	0300516
			Dilution Factor: 1					
Nitrite			WO#:DN2QC1AC-LCS/DN2QC1AD-LCSD				LCS Lot-Sample#: F0J260000-515	
	0.0800	0.0850	mg/L	106		MCAWW 300.0A	10/15/00	0300515
	0.0800	0.0830	mg/L	104	2.4	MCAWW 300.0A	10/15/00	0300515
			Dilution Factor: 1					
Sulfate			WO#:DN2VW1AC-LCS/DN2VW1AD-LCSD				LCS Lot-Sample#: F0J260000-517	
	4.00	3.64	mg/L	91		MCAWW 300.0A	10/15/00	0300517
	4.00	3.58	mg/L	90	1.6	MCAWW 300.0A	10/15/00	0300517
			Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Lot-Sample #...: F0J190272 Matrix.....: WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		WO#:DP1E01AC-LCS/DP1E01AD-LCSD				LCS Lot-Sample#: F0K090000-105		
	1.00	0.895	mg/L	90		MCAWW 300.0A	10/19/00	0314105
	1.00	0.901	mg/L	90	0.66	MCAWW 300.0A	10/19/00	0314105
		Dilution Factor: 1						
Fluoride		WO#:DP1LV1AC-LCS/DP1LV1AD-LCSD				LCS Lot-Sample#: F0K080000-402		
	1.00	0.920	mg/L	92		MCAWW 300.0A	10/19/00	0313402
	1.00	0.935	mg/L	94	1.6	MCAWW 300.0A	10/19/00	0313402
		Dilution Factor: 1						
Nitrate		WO#:DP1E41AC-LCS/DP1E41AD-LCSD				LCS Lot-Sample#: F0K090000-106		
	0.200	0.210	mg/L	105		MCAWW 300.0A	10/19/00	0314106
	0.200	0.217	mg/L	108	3.3	MCAWW 300.0A	10/19/00	0314106
		Dilution Factor: 1						
Nitrite		WO#:DP1E71AC-LCS/DP1E71AD-LCSD				LCS Lot-Sample#: F0K090000-107		
	0.0800	0.0840	mg/L	105		MCAWW 300.0A	10/19/00	0314107
	0.0800	0.0850	mg/L	106	1.2	MCAWW 300.0A	10/19/00	0314107
		Dilution Factor: 1						
Sulfate		WO#:DP1E91AC-LCS/DP1E91AD-LCSD				LCS Lot-Sample#: F0K090000-108		
	4.00	3.76	mg/L	94		MCAWW 300.0A	10/19/00	0314108
	4.00	3.82	mg/L	96	1.6	MCAWW 300.0A	10/19/00	0314108
		Dilution Factor: 1						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

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Bechtel Hanford

Analysis By

Severn Trent Laboratories Richland

2800 G.W. Way, Richland, Wa 99352, (509) 375-3131

Data Package Contains 54 Pages

Report Nbr: 12170

SDG No.	SAF No.	CLIENT ID No.		STL ID No.
W03332	C01-001	B10JR2	.....	9DM5GK10
		B10JR4	.....	9DM5GQ10
		B10JP7	.....	9DNA8G10
		B10JP7	.....	9DNA8G20
		B10JP8	.....	9DNA8K10
		B10JP9	.....	9DNA8R10
		B10JR0	.....	9DNA8V10

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Comments:

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STL Richland
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Richland, WA 99352-1613

Tel: 509 375 3131
Fax: 509 375 5590
www.stl-inc.com

CERTIFICATE OF ANALYSIS

Bechtel Hanford, Inc.
3350 George Washington Way
Richland, WA 99352

December 14, 2000

Attention: Joan Kessner

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SAF Number	:	C01-001
Date SDG Closed	:	October 27, 2000
Number of Samples	:	Six (6)
Sample Type	:	Water
SDG Number	:	W03332
Data Deliverable	:	45-Day / Summary

I. Introduction

On October 13, and October 18, 2000, six water samples were received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Bechtel Hanford, Inc. (BHI) specific IDs:

STLR ID#	BHI ID#	MATRIX	DATE OF RECEIPT
9DM5GK10	B10JR2	WATER	10/13/00
9DM5GQ10	B10JR4	WATER	10/13/00
9DNA8G10	B10JP7	WATER	10/18/00
9DNA8K10	B10JP8	WATER	10/18/00
9DNA8R10	B10JP9	WATER	10/18/00
9DNA8V10	B10JR0	WATER	10/18/00

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.

STL Richland is a part of Severn Trent Laboratories, Inc.

The requested analyses were:

Gas Proportional Counting
Gross Alpha by method RICH-RC-5014
Gross Beta by method RICH-RC-5014

Liquid Scintillation Counting
Tritium by method RICH-RC-5007

III. Quality Control

The analytical results for each analysis performed under SDG W03332 includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

IV. Comments

Gas Proportional Counting
Gross Alpha by method RICH-RC-5014:
The LCS, batch blank, samples and sample duplicate (B10JR2) results are within contractual requirements.

Gross Beta by method RICH-RC-5014:
The LCS, batch blank, samples and sample duplicate (B10JR2) results are within contractual requirements.

Liquid Scintillation Counting
Tritium by method RICH-RC-5007:
The LCS, batch blank, samples, and sample duplicate (B10JR2) 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.

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Reviewed and approved:

for Jackie Waddell
Project Manager

Drinking Water Method Cross References

	DRINKING WATER METHOD CROSS REFERENCES	
Referenced Method	**Isotope(s)**	**STL Richland's SOP number**
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460-70	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D57174-91	Uranium	RICH-RC-5058
Tritium	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/vn), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

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SAMPLE RESULTS

LAB NAME:	**STL Richland**		**SDG: /RPT GRP:**	W03332 / 12170
LOT,RPT DB ID:	J0J130267-1	9DM5GK10	**MATRIX:**	WATER
CLIENT ID:	B10JR2		**DATE RECEIVED:**	10/13/00 1:25:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
ALPHA	1.11E+00	U	1.0E+00	1.1E+00	1.66E+00	pCi/L	100.00%	RICHRC5014	DM5GK	0334233
BETA	3.24E+00	J	1.5E+00	1.5E+00	2.72E+00	pCi/L	100.00%	RICHRC5014	DM5GK	0334234
H-3	1.24E+03		1.1E+02	3.1E+02	3.62E+02	pCi/L	100.00%	RICHRC5007	DM5GK	0301460

Number of Results: 3

Result = IDL When Not Detected
(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result <

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SAMPLE RESULTS

LAB NAME:	**STL Richland**		**SDG: /RPT GRP:**	W03332 / 12170
LOT,RPT DB ID:	J0J130267-2	9DM5GQ10	**MATRIX:**	WATER
CLIENT ID:	B10JR4		**DATE RECEIVED:**	10/13/00 1:25:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
ALPHA	5.21E-01	U	5.4E-01	5.5E-01	8.97E-01	pCi/L	100.00%	RICHRC5014	DM5GQ	0334233
BETA	1.23E-01	U	1.2E+00	1.2E+00	2.60E+00	pCi/L	100.00%	RICHRC5014	DM5GQ	0334234
H-3	3.16E+02	U	3.5E+01	2.5E+02	3.65E+02	pCi/L	100.00%	RICHRC5007	DM5GQ	0301460

Number of Results: 3

Result = IDL When Not Detected
(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result <

SEVERN TRENT SERVICES

SAMPLE RESULTS

LAB NAME:	**STL Richland**		**SDG: /RPT GRP:**	W03332 / 12170
LOT,RPT DB ID:	J0J180147-1	9DNA8G10	**MATRIX:**	WATER
CLIENT ID:	B10JP7		**DATE RECEIVED:**	10/18/00 8:45:00 AM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
ALPHA	4.40E+00		2.0E+00	2.3E+00	1.90E+00	pCi/L	100.00%	RICHRC5014	DNA8G	0301462
H-3	2.71E+02	U	3.0E+01	2.5E+02	3.66E+02	pCi/L	100.00%	RICHRC5007	DNA8G	0301460

Number of Results: 2

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SAMPLE RESULTS

LAB NAME:	STL Richland		**SDG: /RPT GRP:**	W03332 / 12170
LOT,RPT DB ID:	J0J180147-1	9DNA8G20	**MATRIX:**	WATER
CLIENT ID:	B10JP7		**DATE RECEIVED:**	10/18/00 8:45:00 AM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
BETA	3.47E+00	J	1.6E+00	1.7E+00	2.98E+00	pCi/L	100.00%	RICHRC5014	DNA8G	0301463

Number of Results: 1

SEVERN TRENT SERVICES

SAMPLE RESULTS

LAB NAME:	STL Richland	**SDG: /RPT GRP:**	W03332 / 12170
LOT,RPT DB ID:	J0J180147-2 9DNA8K10	**MATRIX:**	WATER
CLIENT ID:	B10JP8	**DATE RECEIVED:**	10/18/00 8:45:00 AM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
ALPHA	1.24E+00	U	9.9E-01	1.0E+00	1.34E+00	pCi/L	100.00%	RICHRC5014	DNA8K	0301462
BETA	5.46E+00		1.7E+00	1.8E+00	2.87E+00	pCi/L	100.00%	RICHRC5014	DNA8K	0301463
H-3	1.31E+03		1.1E+02	3.2E+02	3.62E+02	pCi/L	100.00%	RICHRC5007	DNA8K	0301460

Number of Results: 3

Result = IDL When Not Detected
(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result <

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SAMPLE RESULTS

LAB NAME:	**STL Richland**	**SDG: /RPT GRP:**	W03332 / 12170
LOT,RPT DB ID:	J0J180147-3 9DNA8R10	**MATRIX:**	WATER
CLIENT ID:	B10JP9	**DATE RECEIVED:**	10/18/00 8:45:00 AM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
ALPHA	3.72E-01	U	7.4E-01	7.5E-01	1.67E+00	pCi/L	100.00%	RICHRC5014	DNA8R	0301462
BETA	4.96E+00		1.6E+00	1.7E+00	2.73E+00	pCi/L	100.00%	RICHRC5014	DNA8R	0301463
H-3	1.15E+03		1.0E+02	3.1E+02	3.60E+02	pCi/L	100.00%	RICHRC5007	DNA8R	0301460

Number of Results: 3

Result = IDL When Not Detected
(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result <

SEVERN TRENT SERVICES

SAMPLE RESULTS

LAB NAME:	STL Richland	**SDG: /RPT GRP:**	W03332 / 12170
LOT,RPT DB ID:	J0J180147-4 9DNA8V10	**MATRIX:**	WATER
CLIENT ID:	B10JR0	**DATE RECEIVED:**	10/18/00 8:45:00 AM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
ALPHA	2.22E+00	J	1.4E+00	1.5E+00	1.71E+00	pCi/L	100.00%	RICHRC5014	DNA8V	0301462
BETA	5.21E+00		1.7E+00	1.8E+00	2.96E+00	pCi/L	100.00%	RICHRC5014	DNA8V	0301463
H-3	1.12E+03		9.8E+01	3.1E+02	3.64E+02	pCi/L	100.00%	RICHRC5007	DNA8V	0301460

Number of Results: 3

Result = IDL When Not Detected
(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result <

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DUPLICATE RESULTS

LAB NAME:	**STL Richland**		**SDG: /RPT GRP:**	W03332 / 12170
LOT,RPT DB ID:	J0J130267-1	DM5GK1FR	**MATRIX:**	WATER
CLIENT ID:	B10JR2 DUP		**DATE RECEIVED:**	10/13/00 1:25:00 P
ORIG LAB ID:	9DM5GK10			

ANALYTE	DUP RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
H-3	1.44E+03		1.2E+02	3.3E+02	3.59E+02	pCi/L	100.00%	RICHRC5007	1.24E+03	14.75%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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DUPLICATE RESULTS

LAB NAME:	**STL Richland**		**SDG: /RPT GRP:**	W03332 / 12170
LOT,RPT DB ID:	J0J130267-1	DM5GK1GR	**MATRIX:**	WATER
CLIENT ID:	B10JR2 DUP		**DATE RECEIVED:**	10/13/00 1:25:00 P
ORIG LAB ID:	9DM5GK10			

ANALYTE	DUP RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
ALPHA	1.60E+00	U	1.3E+00	1.4E+00	1.98E+00	pCi/L	100.00%	RICHRC5014	1.11E+00	36.67%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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DUPLICATE RESULTS

LAB NAME:	**STL Richland**		**SDG: /RPT GRP:**	W03332 / 12170
LOT,RPT DB ID:	J0J130267-1	DM5GK1HR	**MATRIX:**	WATER
CLIENT ID:	B10JR2 DUP		**DATE RECEIVED:**	10/13/00 1:25:00 P
ORIG LAB ID:	9DM5GK10			

ANALYTE	DUP RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
BETA	2.84E+00	J	1.4E+00	1.5E+00	2.65E+00	pCi/L	100.00%	RICHRC5014	3.24E+00	13.23%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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rptChemRadDup; v3.41

SEVERN TRENT SERVICES

BLANK RESULTS

LAB NAME: STL Richland **SDG /RPT GRP:** W03332 / 12170

LOT,RPT DB ID: J0J270000-460 DN0J71DB **MATRIX:** WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
H-3	1.01E+02	U	1.2E+01	2.3E+02	3.64E+02	pCi/L	100.00%	RICHRC5007	DN0J71	0301460

Number of Results: 1

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

Severn Trent Laboratories Richland

rptChemRadBlank; v3.41 00016

SEVERN TRENT SERVICES

BLANK RESULTS

LAB NAME: STL Richland **SDG /RPT GRP:** W03332 / 12170

LOT,RPT DB ID: J0J270000-460 DN0J71FX **MATRIX:** WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
H-3	-2.22E+01	U	2.7E+00	2.2E+02	3.62E+02	pCi/L	100.00%	RICHRC5007	DN0J71	0301460

Number of Results: 1

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

SEVERN TRENT SERVICES

BLANK RESULTS

LAB NAME: STL Richland **SDG /RPT GRP:** W03332 / 12170

LOT,RPT DB ID: J0J270000-463 DN0K21AB **MATRIX:** WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
BETA	-6.64E-01	U	1.1E+00	1.1E+00	2.63E+00	pCi/L	100.00%	RICHRC5014	DN0K2	0301463

Number of Results: 1

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

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SEVERN TRENT SERVICES

BLANK RESULTS

LAB NAME: STL Richland **SDG /RPT GRP:** w03332 / 12170

LOT,RPT DB ID: J0J270000-462 DN0KN1AB **MATRIX:** WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
ALPHA	2.34E-01	U	3.6E-01	3.6E-01	6.72E-01	pCi/L	100.00%	RICHRC5014	DN0KN	0301462

Number of Results: 1

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

Severn Trent Laboratories Richland

rptChemRadBlank; v3.41

SEVERN TRENT SERVICES

BLANK RESULTS

LAB NAME: STL Richland **SDG /RPT GRP:** W03332 / 12170

LOT,RPT DB ID: J0K290000-233 DQG9C1AB **MATRIX:** WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
ALPHA	1.31E-01	U	3.6E-01	3.6E-01	8.84E-01	pCi/L	100.00%	RICHRC5014	DQG9C	0334233

Number of Results: 1

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

Severn Trent Laboratories Richland

rptChemRadBlank; v3.41

SEVERN TRENT SERVICES

BLANK RESULTS

LAB NAME: STL Richland **SDG /RPT GRP:** W03332 / 12170

LOT,RPT DB ID: J0K290000-234 DQG9F1AB **MATRIX:** WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
BETA	9.37E-02	U	1.1E+00	1.1E+00	2.51E+00	pCi/L	100.00%	RICHRC5014	DQG9F	0334234

Number of Results: 1

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

Severn Trent Laboratories Richland

rptChemRadBlank; v3.41

SEVERN TRENT SERVICES

LABORATORY CONTROL SAMPLE

LAB NAME: STL Richland **SDG: /RPT GRP:** W03332 / 12170

LAB SAMPLE ID: DN0J71CS **MATRIX:** WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
H-3	2.75E+03		1.9E+02	4.1E+02	3.66E+02	pCi/L	100.00%	2.73E+03	100.81%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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LABORATORY CONTROL SAMPLE

LAB NAME:	STL Richland	**SDG: /RPT GRP:**	W03332 / 12170
LAB SAMPLE ID:	DN0J71EM	**MATRIX:**	WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
H-3	2.62E+03		1.8E+02	4.0E+02	3.65E+02	pCi/L	100.00%	2.73E+03	95.93%

Number of Results: 1

SEVERN TRENT SERVICES

LABORATORY CONTROL SAMPLE

LAB NAME:	STL Richland	**SDG: /RPT GRP:**	W03332 / 12170
LAB SAMPLE ID:	DN0K21CS	**MATRIX:**	WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
BETA	2.29E+01		2.5E+00	4.0E+00	2.72E+00	pCi/L	100.00%	2.25E+01	102.09%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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LABORATORY CONTROL SAMPLE

LAB NAME:	STL Richland	**SDG: /RPT GRP:**	w03332 / 12170
LAB SAMPLE ID:	DN0KN1CS	**MATRIX:**	WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
ALPHA	2.29E+01		3.1E+00	5.9E+00	8.91E-01	pCi/L	100.00%	2.27E+01	100.79%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

Severn Trent Laboratories Richland
rptChemRadLcs; v3.41

SEVERN TRENT SERVICES

LABORATORY CONTROL SAMPLE

LAB NAME: STL Richland **SDG: /RPT GRP:** W03332 / 12170

LAB SAMPLE ID: DQG9C1CS **MATRIX:** WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
ALPHA	2.19E+01		3.0E+00	5.6E+00	8.90E-01	pCi/L	100.00%	2.27E+01	96.49%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

Severn Trent Laboratories Richland

rptChemRadLcs; v3.41

SEVERN TRENT SERVICES

LABORATORY CONTROL SAMPLE

LAB NAME:	STL Richland	**SDG: /RPT GRP:**	W03332 / 12170
LAB SAMPLE ID:	DQG9F1CS	**MATRIX:**	WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
BETA	2.81E+01		2.7E+00	4.7E+00	2.70E+00	pCi/L	100.00%	2.25E+01	125.14%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

Severn Trent Laboratories Richland

rptChemRadLcs; v3.41

SEVERN TRENT SERVICES

Data Review Checklist
RADIOCHEMISTRY

Lot Number: JOJ130267				
Client ID: BNI				
Due Date: 11-27-00				
QC Batch Number: 0334233		SDG Number:		
Method Test Parameter:				
Matrix: Water				
Review Item	Yes (√)	No (√)	N/A (√)	2nd Level Review (√)
A. Calibration 1. Is the calibration documentation included where applicable?			✓	✓
B. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓	
2. Were all sample holding times met?	✓			
3. Is the sample Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			
C. QC Samples 1. Is the blank yield within acceptance criteria?			✓	
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			
3. Does the blank result meet the Contract criteria?	✓			
4. Is the blank result ≤ the Contract Detection Limit?	✓			
5. Is the blank result > the Contract Detection Limit but the sample result ≤ the Contract Detection Limit?			✓	
6. Is the LCS result within acceptance criteria?	✓			
7. Is the LCS yield within acceptance criteria?			✓	
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			
9. Do the MS/MSD results and yields meet acceptance criteria?			-	
10. Do the duplicate sample results and yields meet acceptance criteria?	✓			
D. Other 1. Are all Nonconformances included and noted?			-	
2. Are all required forms filled out?	✓			
3. Was the correct methodology used?	✓			
4. Was transcription checked?	✓			
5. Were all calculations checked at a minimum frequency?	✓			
6. Were units checked?	✓			✓

Comments on any "No" response: _____

First Level Review: Pam Kerchgeski Date: 12-12-00

Second Level Review: Karen Shull Date: 12-14-00

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SEVERN TRENT SERVICES

Data Review Checklist
RADIOCHEMISTRY

Lot Number: J0J180147				
Client ID: PGW				
Due Date: 11-29-00				
QC Batch Number: 0301462		SDG Number: W03332		
Method Test Parameter: α				
Matrix: Water				
Review Item	Yes (√)	No (√)	N/A (√)	2nd Level Review (√)
A. Calibration 1. Is the calibration documentation included where applicable?			√	√
B. Sample Analysis 1. Are the sample yields within acceptance criteria?			√	
2. Were all sample holding times met?			√	
3. Is the sample Minimum Detectable Activity ≤ the Contract Detection Limit?	√			
C. QC Samples 1. Is the blank yield within acceptance criteria?			√	
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	√			
3. Does the blank result meet the Contract criteria?	√			
4. Is the blank result ≤ the Contract Detection Limit?	√			
5. Is the blank result > the Contract Detection Limit but the sample result ≤ the Contract Detection Limit?			√	
6. Is the LCS result within acceptance criteria?	√			
7. Is the LCS yield within acceptance criteria?			√	
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	√			
9. Do the MS/MSD results and yields meet acceptance criteria?			√	
10. Do the duplicate sample results and yields meet acceptance criteria?	√			
D. Other 1. Are all Nonconformances included and noted?			√	
2. Are all required forms filled out?	√			
3. Was the correct methodology used?	√			
4. Was transcription checked?	√			
5. Were all calculations checked at a minimum frequency?	√			
6. Were units checked?	√			

Comments on any "No" response: _____

First Level Review: Dick Hawkins Date: 12-6-00

Second Level Review: Kevin Gull Date: 12-7-00

12/7/00

LS-038, Rev. 7, 8/00

SEVERN TRENT SERVICES

Data Review Checklist
RADIOCHEMISTRY

Lot Number: J0J130267				
Client ID: BHI				
Due Date: 11-27-00				
QC Batch Number: 0334234	SDG Number:			
Method Test Parameter: Beta				
Matrix: Water				
Review Item	Yes (√)	No (√)	N/A (√)	2nd Level Review (√)
A. Calibration 1. Is the calibration documentation included where applicable?			✓	✓
B. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓	✓
2. Were all sample holding times met?	✓			✓
3. Is the sample Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			✓
C. QC Samples 1. Is the blank yield within acceptance criteria?			✓	✓
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			✓
3. Does the blank result meet the Contract criteria?	✓			✓
4. Is the blank result ≤ the Contract Detection Limit?	✓			✓
5. Is the blank result > the Contract Detection Limit but the sample result ≤ the Contract Detection Limit?			✓	✓
6. Is the LCS result within acceptance criteria?	✓			✓
7. Is the LCS yield within acceptance criteria?			✓	✓
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			✓
9. Do the MS/MSD results and yields meet acceptance criteria?			✓	✓
10. Do the duplicate sample results and yields meet acceptance criteria?	✓			✓
D. Other 1. Are all Nonconformances included and noted?			✓	✓
2. Are all required forms filled out?	✓			✓
3. Was the correct methodology used?	✓			✓
4. Was transcription checked?	✓			✓
5. Were all calculations checked at a minimum frequency?	✓			✓
6. Were units checked?	✓			✓

Comments on any "No" response: _____

First Level Review: Pam Kranzberg Date: 12-12-00

Second Level Review: Kevin Sull Date: 12-14-00

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SEVERN TRENT SERVICES

Data Review Checklist
RADIOCHEMISTRY

Lot Number: JOJ 180147				
Client ID: PGW				
Due Date: 11-29-00				
QC Batch Number: 0301463		SDG Number: SDG 3332		
Method Test Parameter: Beta				
Matrix: Water				
Review Item	Yes (√)	No (√)	N/A (√)	2nd Level Review (√)
A. Calibration 1. Is the calibration documentation included where applicable?			✓	✓
B. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓	
2. Were all sample holding times met?			✓	
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			
C. QC Samples 1. Is the blank yield within acceptance criteria?			✓	
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			
3. Does the blank result meet the Contract criteria?	✓			
4. Is the blank result < the Contract Detection Limit?	✓			
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	
6. Is the LCS result within acceptance criteria?	✓			
7. Is the LCS yield within acceptance criteria?			✓	
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			
9. Do the MS/MSD results and yields meet acceptance criteria?			✓	
10. Do the duplicate sample results and yields meet acceptance criteria?	✓			
D. Other 1. Are all Nonconformances included and noted? JO2570			✓	
2. Are all required forms filled out?	✓			
3. Was the correct methodology used?	✓			
4. Was transcription checked?	✓			
5. Were all calculations checked at a minimum frequency?	✓			
6. Were units checked?	✓			

Comments on any "No" response: _____

First Level Review: [signature] Date: 12-12-00

Second Level Review: [signature] Date: 12-12-00

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Clouseau Nonconformance Memo

SEVERN TRENT SERVICES

NCM #:	J02570	Classification:	**Anomaly**
NCM Initiated By:	David Harbinson	Status:	**CLOSED**
Date Opened:	12/12/00	Production Area:	Environmental - Prep
Date Closed:	12/13/00	Tests:	Beta by GPC-Sr/Y
		Lot #'s (Sample #'s):	J0J180147 (1,2,3,4); J0J270000 (463)
		QC Batch:	0301463
Nonconformance:	Dups not within acceptance limits		
Subcategory:	Other (explanation required)		

Problem Description / Root Cause

Name	Date	Description
David Harbinson	12/12/00	Unknown, will monitor.

Corrective Action

Name	Date	Corrective Action
David Harbinson	12/12/00	Recount dups., within limits, report data.

Quality Assurance Verification

Verified By	Due Date	Status	Notes:
Jodie Carnes	N/A	Verified/completed	

Client Notification Summary

Client	Project Manager	Date Notified	Response Date	How Notified
PACIFIC NORTHWEST NATION	Jackie Waddell	12/12/00	12/12/00	not notified
	Response	**Response Details**		
	No response saved			

Approval History

Name	Date Approved:	Position
David Harbinson	12/12/00	Group Leader
Jackie Waddell	12/12/00	Project Manager
Jodie Carnes	12/13/00	Quality Assurance

SEVERN TRENT SERVICES

Data Review Checklist
RADIOCHEMISTRY

Lot Number: J0J130267 J0J180147
Client ID: BHI
Due Date: 11-27-00
QC Batch Number: 0301460 SDG Number: WQ3332
Method Test Parameter: Tritium
Matrix: Water

Review Item	Yes (√)	No (√)	N/A (√)	2nd Level Review (√)
A. Calibration 1. Is the calibration documentation included where applicable?			✓	✓
B. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓	✓
2. Were all sample holding times met?	✓			✓
3. Is the sample Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			✓
C. QC Samples 1. Is the blank yield within acceptance criteria?			✓	✓
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			✓
3. Does the blank result meet the Contract criteria?	✓			✓
4. Is the blank result ≤ the Contract Detection Limit?	✓			✓
5. Is the blank result > the Contract Detection Limit but the sample result > the Contract Detection Limit?			✓	✓
6. Is the LCS result within acceptance criteria?	✓			✓
7. Is the LCS yield within acceptance criteria?			✓	✓
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			✓
9. Do the MS/MSD results and yields meet acceptance criteria?			✓	✓
10. Do the duplicate sample results and yields meet acceptance criteria?	✓			✓
D. Other 1. Are all Nonconformances included and noted?			✓	✓
2. Are all required forms filled out?	✓			✓
3. Was the correct methodology used?	✓			✓
4. Was transcription checked?	✓			✓
5. Were all calculations checked at a minimum frequency?	✓			✓
6. Were units checked?	✓			✓

Comments on any "No" response:

First Level Review: Pam Kennington Date: 11-8-00

Second Level Review: Jackie Wadelee Date: 11/9/00

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CHAIN OF CUSTODY

Q-27023

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # C01-001-7
		Page 1 of 1

Collector E. RADFORD	Contact/Requester JH KESSNER	Telephone No. (509) 375-4688 MSIN FAX
SAF No. C01-001	Sampling Origin HANFORD SITE	Purchase Order/Charge Code
Project Title 100HR3(2) SEEP SAMPLING, OCTOBER 2000	Logbook No.	Ice Chest No. Temp.
Shipped To (Lab) Severn Trent Incorporated	Method of Shipment GOVT. VEHICLE	Bill of Lading/Air Bill No.
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** SDG
W03332 JOJ130267

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX STL log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10JR2		W	10/13/00	1135	1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2
B10JR2		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool 4C
B10JR2		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B10JR2		W			1x20-mL P	Activity Scan DM56K	None
B10JR2		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1)	None
B10JT3 (F)		W			1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
E. RADFORD	E. Radford		10/13/00 1425	K. Ashenburg			10-13-00 1325
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

00035

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # C01-001-9
		Page 1 of 1

Collector E Radford	Contact/Requester JH KESSNER	Telephone No. (509) 375-4688 MSIN FAX
SAF No. C01-001	Sampling Origin HANFORD SITE	Purchase Order/Charge Code
Project Title 100HR3(2) SEEP SAMPLING, OCTOBER 2000	Logbook No.	Ice Chest No. Temp.
Shipped To (Lab) Severn Trent Incorporated	Method of Shipment GOVT. VEHICLE	Bill of Lading/Air Bill No.
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX STL log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10JR4		W	10-13-00	0907	1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2
B10JR4		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool 4C
B10JR4		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B10JR4		W			1x20-mL P	Activity Scan DM56-Q	None
B10JR4		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1)	None
B10JT5 (F)		W			1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
E. Radford			10-12-00 1325	K. Ashenley			10-13-00 1325
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

9300

Figure 1. Sample Check-in List

Date/Time Received: 10 13 00 1325 SDG#: W03332

Work Order Number: J12J130267 SAF#: C01-001

Shipping Container ID: not marked Chain of Custody #: C01-001-7 C01-001-9

1. Outermost shipping container damaged? Yes [] No [✓]

2. Custody Seals on shipping container intact? Yes [✓] No []

3. Custody Seals dated and signed? Yes [✓] No []

4. Chain-of-Custody record present? Yes [✓] No []

5. Chain-of-Custody includes the following information:
   - Client name Yes [✓] No []
   - Project name or number Yes [✓] No []
   - Sample date/time for each sample Yes [✓] No []
   - Container types, sizes and number of containers Yes [✓] No []
   - Short description of sample, i.e., matrix Yes [✓] No []
   - Analyses requested Yes [✓] No []
   - Preservation used or "none" or N/A if not applicable Yes [✓] No []
   - Date and time of relinquish and receipt Yes [✓] No []
   - Signatures of those persons relinquishing and receiving Yes [✓] No []

6. Sample numbers on chain of custody match those on sample containers? Yes [✓] No []

7. Collection date and date of laboratory receipt are within project specific holding time requirements? Yes [✓] No []

8. Cooler temperature: 4°C

9. Vermiculite/packing materials is: Wet [] Dry [✓]

10. Samples have: ✓ tape ____ hazard labels
    ✓ custody seals ____ appropriate sample labels

11. Samples are: ✓ in good condition ____ leaking
    ____ broken ____ have air bubbles

12. Were any anomalies identified in sample receipt? Yes [] No [✓]

13. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: L. Dettenbrey Date: 10-13-0

Telephone/Fax/E:mailed to: _____ On _____ By _____

Client Sample Screening Results

16-Oct-00

(R) 10/16/00

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW	B0XMM4DM7MC		~~10/16/2000 8:52:00 AM~~ 10-16-00	QUAD21A	0/16/2000 10:24:09 AM	B0XMM4DM7MC	30	6	0.108333333	32	0.08166667
	DM7MC	LIQUID		Bkg:	10/16/2000 5:57:03 AM	BKG	600	55	0.091666667	591	0.985
Anl Date:	10/16/00	Tot Sa, Alq:	1.05E+01 ,	1.00E+01	Alp; (Dpm/	3.25E-01 (uCi/	1.54E-04 (pCi/	1.47E+01	~~+ 2.2E+01~~	CAT	1.7E+00 Lab
Ppt mg:	2.2	Units:	L ,	ml	Bet; Alq):	1.09E-01 Sa):	5.13E-05 L/g):	4.89E+00	+ 1.8E+01	I	~~1.0E+01~~ Alq L/g
PGW	B10D84DM5M6		10/16/2000 8:52:00 AM	QUAD21A	10/16/2000 3:07:17 PM	B10D84DM5M6	30	25	0.741666667	98	2.28166667
	DK5M6	LIQUID		Bkg:	10/16/2000 5:57:03 AM	BKG	600	55	0.091666667	591	0.985
Anl Date:	10/16/00	Tot Sa, Alq:	4.00E+00 ,	1.00E+01	Alp; (Dpm/	2.29E+00 (uCi/	4.12E-04 (pCi/	1.03E+02	+ 3.0E+01	CAT	2.4E-01 Lab
Ppt mg:	5.6	Units:	L ,	ml	Bet; Alq):	4.23E+00 Sa):	7.62E-04 L/g):	1.91E+02	+ 2.9E+01	I	2.6E-01 Alq L/g
PGW	B10D85DM5M2		10/16/2000 8:52:00 AM	QUAD21B	10/16/2000 3:07:17 PM	B10D85DM5M2	30	17	0.471666667	77	1.585
	DK5M2	LIQUID		Bkg:	10/16/2000 5:57:03 AM	BKG	600	57	0.095	589	0.98166667
Anl Date:	10/16/00	Tot Sa, Alq:	3.50E+00 ,	1.00E+01	Alp; (Dpm/	1.53E+00 (uCi/	2.41E-04 (pCi/	6.88E+01	+ 2.8E+01	CAT	3.6E-01 Lab
Ppt mg:	5.6	Units:	L ,	ml	Bet; Alq):	2.82E+00 Sa):	4.45E-04 L/g):	1.27E+02	+ 2.6E+01	I	3.9E-01 Alq L/g
PGW	B10DC1DM5MQ		10/16/2000 8:52:00 AM	QUAD21C	10/16/2000 3:07:17 PM	B10DC1DM5MQ	30	6	0.14	65	1.28833333
	DK5MQ	LIQUID		Bkg:	10/16/2000 5:57:03 AM	BKG	600	36	0.06	527	0.87833333
Anl Date:	10/16/00	Tot Sa, Alq:	5.00E+00 ,	1.00E+01	Alp; (Dpm/	3.71E-01 (uCi/	8.36E-05 (pCi/	1.67E+01	+ 2.0E+01	CAT	1.5E+00 Lab
Ppt mg:	0.6	Units:	L ,	ml	Bet; Alq):	2.45E+00 Sa):	5.52E-04 L/g):	1.10E+02	+ 2.4E+01	I	4.5E-01 Alq L/g
PGW	B10DF4DM5MW		10/16/2000 8:52:00 AM	QUAD21D	10/16/2000 3:07:17 PM	B10DF4DM5MW	30	19	0.515	64	1.20833333
	DK5MW	LIQUID		Bkg:	10/16/2000 5:57:03 AM	BKG	600	71	0.118333333	555	0.925
Anl Date:	10/16/00	Tot Sa, Alq:	4.00E+00 ,	1.00E+01	Alp; (Dpm/	1.64E+00 (uCi/	2.95E-04 (pCi/	7.37E+01	+ 2.7E+01	CAT	3.4E-01 Lab
Ppt mg:	4.6	Units:	L ,	ml	Bet; Alq):	2.10E+00 Sa):	3.79E-04 L/g):	9.48E+01	+ 2.4E+01	I	5.3E-01 Alq L/g
PGW	B10JR2DM5GK		10/16/2000 8:52:00 AM	QUAD22A	10/16/2000 3:07:19 PM	B10JR2DM5GK	30	19	0.498333333	66	1.145
	DK5GK	LIQUID		Bkg:	10/16/2000 5:56:15 AM	BKG	600	81	0.135	633	1.055
Anl Date:	10/16/00	Tot Sa, Alq:	2.00E+00 ,	1.00E+01	Alp; (Dpm/	1.40E+00 (uCi/	1.27E-04 (pCi/	6.33E+01	+ 2.5E+01	CAT	4.0E-01 Lab
Ppt mg:	1	Units:	L ,	ml	Bet; Alq):	1.83E+00 Sa):	1.65E-04 L/g):	8.25E+01	+ 2.3E+01	I	6.1E-01 Alq L/g

00038

(B) 10/16/00

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW	B10JR4DM5GQ		10/16/2000 8:52:00 AM	QUAD22B	10/16/2000 3:07:19 PM	B10JR4DM5GQ	30	5	0.06	53	0.61333333
	DK5GQ	LIQUID		Bkg:	10/16/2000 5:56:15 AM	BKG	600	64	0.106666667	692	1.15333333

Anl Date:	10/16/00	Tot Sa, Alq:	2.00E+00	, 1.00E+01	Alp:	(Dpm/	1.64E-01	(uCi/	1.47E-05	(pCi/	7.37E+00	+ 2.2E+01	CAT	3.4E+00	Lab
Ppt mg:	0	Units:	L	, ml	Bet;	Alq):	1.13E+00	Sa):	1.02E-04	L|g):	5.09E+01	+ 2.1E+01	1	9.8E-01	Alq L|g

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # C01-001-1
		Page 1 of 1

Collector: Ed Radford	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-001	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3(2) SEEP SAMPLING OCTOBER 2000	Logbook No.	Ice Chest No.: TJ-1 Temp.
Shipped To (Lab): Severn Trent Incorporated	Method of Shipment: GOVT VEHICLE	Bill of Lading/Air Bill No.
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **
SDG
W03332 JOJ180147

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX STL log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10JP7		W	10/17	11:40	1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2
B10JP7		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool 4C
B10JP7		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B10JP7		W			1x20-mL P	Activity Scan DMA86	None
B10JP7		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1)	None
B10JR8 (F)		W			1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
E. RADFORD Ed Radford	10/17/00 11:40	Rachel Sloan	10/17 11:40
Rachel Sloan	10/18 0845	E. RADFORD Ed Radford	10/18 0845
E. RADFORD Ed Radford	10/18 0845	K. Schlenk 2100pm	10-18-00 845
Relinquished By	Date/Time	Received By	Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

00000

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # C01-001-2
		Page 1 of 1

Collector: E. Radford	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-001	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3(2) SEEP SAMPLING, OCTOBER 2000	Logbook No.	Ice Chest No.: TJ-1 Temp.
Shipped To (Lab): Severn Trent Incorporated	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX STL log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10JP8		W	10/17	10:13	1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2
B10JP8		W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool 4C
B10JP8		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2) JH 10/18/00	HNO3 to pH <2
B10JP8		W			1x20-mL P	Activity Scan DM NABK	None
B10JP8		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1)	None
B10JR9 (F)		W	↓	↓	1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
E. RADFORD		E Radford	10/17/00 10:13	Lochie Storey		Lochie Storey	10/17 10:13
Lochie Storey		Lochie Storey	10/18 0845	E. RADFORD		E Radford	10/18 0845
E. RADFORD		E Radford	10/18 0845	K. Ashtenburg 2100gm		K. Ashtenburg	10/18/00 845
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # C01-001-3
		Page 1 of 1

Collector: E. Bedford	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-001	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3(2) SEEP SAMPLING, OCTOBER 2000	Logbook No.	Ice Chest No.: TJ-1 Temp.
Shipped To (Lab): Severn Trent Incorporated	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX STL log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10JP9		W	10/17	10:13	1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2
B10JP9		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool 4C
B10JP9		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B10JP9		W			1x20-mL P	Activity Scan	None
B10JP9		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1)	None
B10JT0 (F)		W			1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2

DNA8R

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
R. RADFORD / E. Bedford	10/17/00 10:13	Lochel Slaugh	10/17 10:13
Lochel Slaugh	10/17 0845	E. RADFORD / E. Bedford	10/17 0845
E. RADFORD / E. Bedford	10/17 0845	K. Ashtenburg	10-18-00 0845

Matrix *

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

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # C01-001-4
		Page 1 of 1

Collector: Ed Radford	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-001	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3(2) SEEP SAMPLING, OCTOBER 2000	Logbook No.	Ice Chest No.: TJ-1 Temp.
Shipped To (Lab): Severn Trent Incorporated	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX STL log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10JR0		W	10/17	11:04	1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2
B10JR0		W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool 4C
B10JR0		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B10JR0		W			1x20-mL P	Activity Scan } DNA8V	None
B10JR0		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1)	None
B10JT1 (F)		W	↓	↓	1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
E. RADFORD		E Radford	10/17/00 11:04	Rachel Sharp		Rachel Sharp	10/17 11:04
Rachel Sharp			10/18 0845	E. RADFORD		E Radford	10/18 0845
E. RADFORD		E Radford	10/18 0845	K. Ashenburg 2100 PM			10/18/00 845
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

3

Date/Time Received: 10-18-00 845 SDG#: W03332

Work Order Number: JW180147 SAF#: C01-001, C01-002, X01-003

Shipping Container ID: Not Marked Chain of Custody #: C01-001-1, 2, 3, 4 X00-030 C01-002-4, X01-003-3 X01-030-6 X01-030-7

1. Outermost shipping container damaged? Yes [ ] No [✓]

2. Custody Seals on shipping container intact? Yes [✓] No [ ]

3. Custody Seals dated and signed? Yes [✓] No [ ]

4. Chain-of-Custody record present? Yes [✓] No [ ]

5. Chain-of-Custody includes the following information:
   - Client name Yes [✓] No [ ]
   - Project name or number Yes [✓] No [ ]
   - Sample date/time for each sample Yes [✓] No [ ]
   - Container types, sizes and number of containers Yes [✓] No [ ]
   - Short description of sample, i.e., matrix Yes [✓] No [ ]
   - Analyses requested Yes [✓] No [ ]
   - Preservation used or "none" or N/A if not applicable Yes [✓] No [ ]
   - Date and time of relinquish and receipt Yes [✓] No [ ]
   - Signatures of those persons relinquishing and receiving Yes [✓] No [ ]

6. Sample numbers on chain of custody match those on sample containers? Yes [✓] No [ ]

7. Collection date and date of laboratory receipt are within project specific holding time requirements? Yes [✓] No [ ]

8. Cooler temperature: 4°C 44 Bottles

9. Vermiculite/packing materials is: Wet [ ] Dry [✓]

10. Samples have: ✓ tape ____ hazard labels ✓ custody seals ____ appropriate sample labels

11. Samples are: ✓ in good condition ____ leaking ____ broken ____ have air bubbles

12. Were any anomalies identified in sample receipt? Yes [✓] No [ ]

13. Description of anomalies (include sample numbers): Anions will be out of hold time when they arrive in St. Louis

Sample Custodian/Laboratory: K. Ackenburg Date: 10-18-00

Telephone/Fax/E:mailed to: _____ On _____ By _____

J0J180147

(B) 10/19/00

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B10JP7DNA8G		0/19/2000 10:05:00 AM	QUAD22C	10/19/2000 1:39:29 PM	B10JP7DNA8G	30	7	0.166666667	29	0.12
DNA8G	LIQUID		Bkg:	10/19/2000 1:27:08 AM	BKG	600	40	0.066666667	508	0.84666667

Anl Date: 10/19/00 Tot Sa, Alq: 2.00E+00 , 1.00E+01 Alp; (Dpm/ 4.97E-01 (uCi/ 4.47E-05 (pCi/ 2.24E+01 ± 2.0E+01 CAT I 1.1E+00 Lab
Ppt mg: 1.6 Units: L , ml Bet; Alq): 1.20E-01 Sa): 1.08E-05 L|g): 5.39E+00 ± 1.5E+01 9.3E+00 Alq L|g

PGW B10JP8DNA8K		0/19/2000 10:05:00 AM	QUAD22D	10/19/2000 1:39:29 PM	B10JP8DNA8K	30	4	0.058333333	37	-0.0733333
DNA8K	LIQUID		Bkg:	10/19/2000 1:27:08 AM	BKG	600	45	0.075	784	1.30666667

Anl Date: 10/19/00 Tot Sa, Alq: 2.00E+00 , 1.00E+01 Alp; (Dpm/ 1.80E-01 (uCi/ 1.62E-05 (pCi/ 8.12E+00 ± 2.4E+01 CAT I 3.1E+00 Lab
Ppt mg: 1.6 Units: L , ml Bet; Alq): -1.72E-01 Sa): -1.55E-05 L|g): -7.75E+00 ± 1.9E+01 2.0E+00 Alq L|g

PGW B10JP9DNA8R		0/19/2000 10:05:00 AM	QUAD23B	10/19/2000 1:39:27 PM	B10JP9DNA8R	30	3	0.043333333	30	0.06333333
DNA8R	LIQUID		Bkg:	10/19/2000 1:27:18 AM	BKG	600	34	0.056666667	562	0.93666667

Anl Date: 10/19/00 Tot Sa, Alq: 2.00E+00 , 1.00E+01 Alp; (Dpm/ 1.31E-01 (uCi/ 1.18E-05 (pCi/ 5.89E+00 ± 2.0E+01 CAT I 4.2E+00 Lab
Ppt mg: 1.4 Units: L , ml Bet; Alq): 9.31E-02 Sa): 8.39E-06 L|g): 4.19E+00 ± 1.6E+01 1.2E+01 Alq L|g

PGW B10JR0DNA8V		0/19/2000 10:05:00 AM	QUAD23C	10/19/2000 1:39:27 PM	B10JR0DNA8V	30	2	0	28	0.03333333
DNA8V	LIQUID		Bkg:	10/19/2000 1:27:18 AM	BKG	600	40	0.066666667	540	0.9

Anl Date: 10/19/00 Tot Sa, Alq: 2.00E+00 , 1.00E+01 Alp; (Dpm/ -8.67E-04 (uCi/ -7.81E-08 (pCi/ -3.91E-02 ± 1.8E+01 CAT I 2.0E+00 Lab
Ppt mg: 1 Units: L , ml Bet; Alq): 6.47E-02 Sa): 5.83E-06 L|g): 2.91E+00 ± 1.6E+01 1.7E+01 Alq L|g

PGW B10JX5DNA80		0/19/2000 10:05:00 AM	QUAD24A	10/19/2000 1:39:25 PM	B10JX5DNA80	30	9	0.208333333	42	0.365
DNA80	LIQUID		Bkg:	10/19/2000 1:27:06 AM	BKG	600	55	0.091666667	621	1.035

Anl Date: 10/19/00 Tot Sa, Alq: 4.50E+00 , 1.00E+01 Alp; (Dpm/ 6.56E-01 (uCi/ 1.33E-04 (pCi/ 2.96E+01 ± 2.4E+01 CAT I 8.5E-01 Lab
Ppt mg: 2.4 Units: L , ml Bet; Alq): 5.92E-01 Sa): 1.20E-04 L|g): 2.67E+01 ± 1.9E+01 1.9E+00 Alq L|g

00045

RQC053

Parent Batch:
Associated Batches:

α, β

Severn Trent Laboratories, Inc.
Information Sheet Rad Prep

****
* *
* QC BATCH: 0334233 *
* *
****

Run Date: 11/29/00
Time: 9:36:19

S7: Gross Alpha by GPC using Am-241 curve
AZ: Gross Alpha PrpRC5014
5I: CLIENT: HANFORD

Analytical Due Date: 11/27/00
Project Manager: JW2

Lot# Work Order	Client Matrix	Analyt Due	Client Aliquot	Name Geometry	Count Time	Mid/Ave Date/Time	Tracer ID Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Beta	PM Bin
J0J130267-001 DM5GK-1-AA Comments:	WATER WATER	11/27/00	Bechtel .0000	Hanford,	.000	10/13/00 11:35		3	pCi/L	**NYS 111-10/00	**NYS	JW2
J0J130267-001 X DM5GK-1-AG Comments:	WATER WATER	11/27/00	Bechtel .0000	Hanford,	.000	10/13/00 11:35		3	pCi/L	**NYS 111-10/00	**NYS	JW2
J0J130267-002 DM5GQ-1-AA Comments:	WATER WATER	11/27/00	Bechtel .0000	Hanford,	.000	10/13/00 9:07		3	pCi/L	**NYS 111-10/00	**NYS	JW2
J0K290000-233 B DQG9C-1-AA Comments:	WATER WATER	11/27/00	Bechtel	Hanford,		10/13/00 11:35		3	pCi/L	**NA	**NA	JW2
J0K290000-233 C DQG9C-1-AC Comments:	WATER WATER	11/27/00	Bechtel	Hanford,		10/13/00 11:35			pCi/L	**NA	**NA	JW2

Total Number of Samples In Batch: 00005

Batch Information: Dry Wt: N Decay Correct: Y Blank Sub: None Call In:

Uncert: Both Sigma: 1.960 ODR: Target List + Other Detected

BLANK CRDL		Tracer Yield	Type	QC Control Limits
Alpha	3		RPD	

** NYS = Not Yet Screened
** NA = Not Applicable
** Other = Other than Gross Alpha or Gross Beta
++ Indicates that Batch Information has changed for this sample. Print worksheet for details.

00046

RQC053

Parent Batch:
Associated Batches:

α, β

Severn Trent Laboratories, Inc.
Information Sheet Rad Prep

****
* *
* QC BATCH: 0301462 *
* *
****

W03332

S7: Gross Alpha by GPC using Am-241 curve
AZ: Gross Alpha PrpRC5014
5I: CLIENT: HANFORD

Run Date: 11/29/00
Time: 9:20:38

Page: 1

Analytical Due Date: 11/27/00

Project Manager: JW2

Lot# Work Order	Client	Analyt Due Matrix	Client Name Aliquot	Geometry	Count Time	Mid/Ave Date/Time		Tracer ID Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Beta	PM Bin
J0J180147-001 DNA8G-1-AA Comments:	WATER WATER	11/29/00	Pacific Northwest .0000		.000	10/17/00	11:40		3.00E+00	pCi/L	2.24E-14 111-10/00	5.39E-15	JW2
J0J180147-002 DNA8K-1-AA Comments:	WATER WATER	11/29/00	Pacific Northwest .0000		.000	10/17/00	10:13		3.00E+00	pCi/L	8.12E-15 111-10/00	0.0E+00	JW2
J0J180147-002 X DNA8K-1-AE Comments:	WATER WATER	11/29/00	Pacific Northwest .0000		.000	10/17/00	10:13		3.00E+00	pCi/L	8.12E-15 111-10/00	0.0E+00	JW2
J0J180147-003 DNA8R-1-AA Comments:	WATER WATER	11/29/00	Pacific Northwest .0000		.000	10/17/00	10:13		3.00E+00	pCi/L	5.89E-15 111-10/00	4.19E-15	JW2
J0J180147-004 DNA8V-1-AA Comments:	WATER WATER	11/29/00	Pacific Northwest .0000		.000	10/17/00	11:04		3.00E+00	pCi/L	0.0E+00 111-10/00	2.91E-15	JW2
J0J270000-462 B DN0KN-1-AA Comments:	WATER WATER	11/27/00	Pacific Northwest			10/13/00	9:07		3	pCi/L	**NA	**NA	JW2
J0J270000-462 C DN0KN-1-AC Comments:	WATER WATER	11/27/00	Pacific Northwest			10/13/00	9:07		400	pCi/L	**NA	**NA	JW2

00047

```
************************
*                      *
*  QC BATCH: 0301462   *
*                      *
************************
```

Total Number of Samples In Batch: 00007

Batch Information: Dry Wt: N | Decay Correct: Y | Blank Sub: None | Call In:

Uncert: Both | Sigma: 1.960 | ODR: Target List + Other Detected

BLANK CRDL		Tracer Yield	Type	QC Control Limits
Alpha	3		RPD	

** NYS = Not Yet Screened
** NA = Not Applicable
** Other = Other than Gross Alpha or Gross Beta
++ Indicates that Batch Information has changed for this sample. Print worksheet for details.

RQC053

Parent Batch:
Associated Batches:

α, β

Severn Trent Laboratories, Inc.
Information Sheet Rad Prep

****
* *
* QC BATCH: 0334234 *
* *
****

Run Date: 11/29/00
Time: 9:36:50

Page: 1

S8: Gross Beta by GPC using Sr/Y-90 curve
BC: Gross Beta PrpRC5014
5I: CLIENT: HANFORD

Analytical Due Date: 11/27/00

Project Manager: JW2

Lot# / Work Order	Client	Analyt Due / Matrix	Client Name / Aliquot	Geometry	Count Time	Mid/Ave Date/Time	Tracer ID / Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Screen Info - (Ci) Beta	PM Bin
J0J130267-001 DM5GK-1-AC Comments:	WATER WATER	11/27/00	Bechtel Hanford, .0000		.000	10/13/00 11:35		4	pCi/L	**NYS 111-10/00	**NYS	JW2
J0J130267-001 X DM5GK-1-AH Comments:	WATER WATER	11/27/00	Bechtel Hanford, .0000		.000	10/13/00 11:35		4	pCi/L	**NYS 111-10/00	**NYS	JW2
J0J130267-002 DM5GQ-1-AC Comments:	WATER WATER	11/27/00	Bechtel Hanford, .0000		.000	10/13/00 9:07		4	pCi/L	**NYS 111-10/00	**NYS	JW2
J0K290000-234 B DQG9F-1-AA Comments:	WATER WATER	11/27/00	Bechtel Hanford,			10/13/00 11:35		4	pCi/L	**NA	**NA	JW2
J0K290000-234 C DQG9F-1-AC Comments:	WATER WATER	11/27/00	Bechtel Hanford,			10/13/00 11:35			pCi/L	**NA	**NA	JW2

Total Number of Samples In Batch: 00005

Batch Information: Dry Wt: N Decay Correct: Y Blank Sub: None Call In:

Uncert: Both Sigma: 1.960 ODR: Target List + Other Detected

BLANK CRDL		Tracer Yield	Type	QC Control Limits
Beta	4		RPD	

** NYS = Not Yet Screened
** NA = Not Applicable
** Other = Other than Gross Alpha or Gross Beta
++ Indicates that Batch Information has changed for this sample. Print worksheet for details.

00049

RQC053

Parent Batch:
Associated Batches:
:
:
:
:

Severn Trent Laboratories, Inc.
Information Sheet Rad Prep

****
* *
* QC BATCH: 0301463 *
* *
****

Run Date: 12/06/00
Time: 15:31:39

S8: Gross Beta by GPC using Sr/Y-90 curve
BC: Gross Beta PrpRC5014
5I: CLIENT: HANFORD

Analytical Due Date: 11/29/00
Project Manager: JW2

Lot# Work Order	Client	Analyt Matrix	Due	Client Aliquot	Name Geometry	Count Time	Mid/Ave Date/Time		Tracer ID Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Beta	PM Bin
J0J180147-001 DNA8G-1-AC Comments:	WATER WATER	11/29/00		Pacific Northwest .0000		.000	10/17/00	11:40		4.00E+00	pCi/L	2.24E-14 111-10/00	5.39E-15	JW2
J0J180147-001 X DNA8G-1-AE Comments:	WATER WATER	11/29/00		Pacific Northwest .0000		.000	10/17/00	11:40		4.00E+00	pCi/L	2.24E-14 111-10/00	5.39E-15	JW2
J0J180147-001 DNA8G-2-AC Comments:	WATER WATER	11/29/00		Pacific Northwest .0000		.000	10/17/00	11:40		4.00E+00	pCi/L	2.24E-14 111-10/00	5.39E-15	JW2
J0J180147-001 X DNA8G-2-AE Comments:	WATER WATER	11/29/00		Pacific Northwest .0000		.000	10/17/00	11:40		4.00E+00	pCi/L	2.24E-14 111-10/00	5.39E-15	JW2
J0J180147-002 DNA8K-1-AC Comments:	WATER WATER	11/29/00		Pacific Northwest .0000		.000	10/17/00	10:13		4.00E+00	pCi/L	8.12E-15 111-10/00	0.0E+00	JW2
J0J180147-003 DNA8R-1-AC Comments:	WATER WATER	11/29/00		Pacific Northwest .0000		.000	10/17/00	10:13		4.00E+00	pCi/L	5.89E-15 111-10/00	4.19E-15	JW2
J0J180147-004 DNA8V-1-AC Comments:	WATER WATER	11/29/00		Pacific Northwest .0000		.000	10/17/00	11:04		4.00E+00	pCi/L	0.0E+00 111-10/00	2.91E-15	JW2
J0J270000-463 B DN0K2-1-AA Comments:	WATER	11/29/00		Pacific Northwest			10/17/00	11:40		4.00E+00	pCi/L	**NA	**NA	JW2
J0J270000-463 C DN0K2-1-AC Comments:	WATER	11/29/00		Pacific Northwest			10/17/00	11:40		400	pCi/L	**NA	**NA	JW2

```
************************
*                      *
*  QC BATCH: 0301463   *
*                      *
************************
```

Total Number of Samples In Batch: 00009

Batch Information:	Dry Wt: N	Decay Correct: Y	Blank Sub: None	Call In:
	Uncert: Both	Sigma: 1.960	ODR: Target List + Other Detected	

BLANK CRDL		Tracer Yield	Type	QC Control Limits
Beta	4.00E+00		RPD	

** NYS = Not Yet Screened
** NA = Not Applicable
** Other = Other than Gross Alpha or Gross Beta
++ Indicates that Batch Information has changed for this sample. Print worksheet for details.

Quanterra

DUE DATE 11-29-00

REANALYSIS REQUEST

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

CUSTOMER PGW

ANALYSIS [illegible]

MATRIX [illegible]

SAMPLE DELIVERY GROUP J0J180

OLD BATCH NUMBER 030463

NEW BATCH NUMBER

	LAB SAMPLE ID	CUSTOMER ID	COMMENTS
1)	DNA8G1AC		DUPS OOL
2)	DNA8G1AE-X		
3)			
4)			
5)			
6)			
7)			
8)			
9)			
10)			
11)			
12)			
13)			
14)			
15)			
16)			
17)			
18)			
19)			
20)			

RC-126 1/99 REV 1

000

RQC053

Parent Batch:
Associated Batches:

α, β

Severn Trent Laboratories, Inc.
Information Sheet Rad Prep

****
* *
* QC BATCH: 0301460 *
* *
****

W03332

S6: Tritium by Liquid Scint
AR: H-3 Prp/SepRC5007
5I: CLIENT: HANFORD

Run Date: 10/27/00
Time: 15:22:36

Page: 1

Analytical Due Date: 11/27/00

Project Manager: JW2

Lot# Work Order	Client Matrix	Analyt Due	Client Aliquot	Name Geometry	Count Time	Mid/Ave Date/Time	Tracer ID Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Beta	PM Bin
J0J130267-001 DM5GK-1-AD Comments:	WATER WATER	11/27/00	Bechtel .0000	Hanford,	.000	10/13/00 11:35		400	pCi/L	**NYS 111-10/00	**NYS	JW2
J0J130267-001 X DM5GK-1-AF Comments:	WATER WATER	11/27/00	Bechtel .0000	Hanford,	.000	10/13/00 11:35		400	pCi/L	**NYS 111-10/00	**NYS	JW2
J0J130267-002 DM5GQ-1-AD Comments:	WATER WATER	11/27/00	Bechtel .0000	Hanford,	.000	10/13/00 9:07		400	pCi/L	**NYS 111-10/00	**NYS	JW2
J0J180147-001 DNA8G-1-AD Comments:	WATER WATER	11/29/00	Bechtel .0000	Hanford,	.000	10/17/00 11:40		4.00E+02	pCi/L	2.24E-14 111-10/00	5.39E-15	JW2
J0J180147-002 DNA8K-1-AD Comments:	WATER WATER	11/29/00	Bechtel .0000	Hanford,	.000	10/17/00 10:13		4.00E+02	pCi/L	8.12E-15 111-10/00	0.0E+00	JW2
J0J180147-003 DNA8R-1-AD Comments:	WATER WATER	11/29/00	Bechtel .0000	Hanford,	.000	10/17/00 10:13		4.00E+02	pCi/L	5.89E-15 111-10/00	4.19E-15	JW2
J0J180147-004 DNA8V-1-AD Comments:	WATER WATER	11/29/00	Bechtel .0000	Hanford,	.000	10/17/00 11:04		4.00E+02	pCi/L	0.0E+00 111-10/00	2.91E-15	JW2
J0J270000-460 B DN0J7-1-AA Comments:	WATER WATER	11/27/00	Bechtel	Hanford,		10/13/00 11:35		400	pCi/L	**NA	**NA	JW2
J0J270000-460 C DN0J7-1-AC Comments:	WATER WATER	11/27/00	Bechtel	Hanford,		10/13/00 11:35		400	pCi/L	**NA	**NA	JW2

2 PELLETS NaOH REQUIRED
FOR ALL SAMPLES.
M.J.
11-3-00

00053

****
* QC BATCH: 0301460 *
****

Lot# Work Order	Client	Matrix	Analyt Due Aliquot	Client Name Geometry	Count Time	Mid/Ave Date/Time	Tracer ID Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Beta	PM Bin
J0J270000-460 B DN0J7-1-AD		WATER	11/27/00	Bechtel Hanford,		10/13/00 11:35		400	pCi/L	**NA	**NA	JW2
Comments:												
J0J270000-460 C DN0J7-1-AE		WATER	11/27/00	Bechtel Hanford,		10/13/00 11:35		400	pCi/L	**NA	**NA	JW2
Comments:												
J0J270000-460 B DN0J7-1-AF		WATER	11/27/00	Bechtel Hanford,		10/13/00 11:35		400	pCi/L	**NA	**NA	JW2
Comments:												
J0J270000-460 B DN0J7-1-AG		WATER	11/27/00	Bechtel Hanford,		10/13/00 11:35		400	pCi/L	**NA	**NA	JW2
Comments:												

Total Number of Samples In Batch: 00013

Batch Information: Dry Wt: N Decay Correct: Y Blank Sub: None Call In:

Uncert: Both Sigma: 1.960 ODR: Target List + Other Detected

BLANK CRDL		Tracer Yield	Type	QC Control Limits
Tritium	400		RPD	

** NYS = Not Yet Screened
** NA = Not Applicable
** Other = Other than Gross Alpha or Gross Beta
++ Indicates that Batch Information has changed for this sample. Print worksheet for details.

SEVERN TRENT SERVICES

Bechtel Hanford

Analysis By

Severn Trent Laboratories Richland

2800 G.W. Way, Richland, Wa 99352, (509) 375-3131

Data Package Contains 55 Pages

Report Nbr: 12228

SDG No.	SAF No.	CLIENT ID No.	STL ID No.
W03331	C01-002	B10JX1	9DM34L10
		B10JW9	9DM35G10
		B10JR1	9DM35J10
		B10JT9	9DM35K10
		B10JX5	9DNA8010
		B10JX3	9DNVG810

DEC 2000
RECEIVED

Comments:

SEVERN TRENT SERVICES

CERTIFICATE OF ANALYSIS

STL Richland
2800 George Washington Way
Richland, WA 99352-1613

Tel: 509 375 3131
Fax: 509 375 5590
www.stl-inc.com

Bechtel Hanford, Inc.
3350 George Washington Way
Richland, WA 99352

December 20, 2000

Attention: Joan Kessner

DEC 2000 RECEIVED

SAF Number	:	C01-002
Date SDG Closed	:	October 26, 2000
Number of Samples	:	Six (6)
Sample Type	:	Water
SDG Number	:	W03331
Data Deliverable	:	45-Day / Summary

I. Introduction

On October 12, and October 26, 2000, six water samples were received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Bechtel Hanford, Inc. (BHI) specific IDs:

STLR ID#	BHI ID#	MATRIX	DATE OF RECEIPT
9DNA8010	B10JX5	WATER	10/18/00
9DM34L10	B10JX1	WATER	10/12/00
9DM35G10	B10JW9	WATER	10/12/00
9DM35J10	B10JR1	WATER	10/12/00
9DM35K10	B10JT9	WATER	10/12/00
9DNVG810	B10JX3	WATER	10/26/00

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.

STL Richland is a part of Severn Trent Laboratories, Inc.

The requested analyses were:

Gas Proportional Counting
Gross Alpha by method RICH-RC-5014
Gross Beta by method RICH-RC-5014
Gamma Spectroscopy
Gamma Spec by method RICH-RC-5017
Liquid Scintillation Counting
Tritium by method RICH-RC-5007

III. Quality Control

The analytical results for each analysis performed under SDG W03331 includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

IV. Comments

Gas Proportional Counting
Gross Alpha by method RICH-RC-5014:
The LCS, batch blank, samples and sample duplicate (B10JX1) results are within contractual requirements.

Gross Beta by method RICH-RC-5014:
The LCS, batch blank, samples and sample duplicate (B10JW9) results are within contractual requirements.

Gamma Spectroscopy
Gamma Spec by method RICH-RC-5017:
The LCS, batch blank, samples and sample duplicate (B10JX3) results are within contractual requirements.

Liquid Scintillation Counting
Tritium by method RICH-RC-5007:
The LCS, batch blank, samples, and sample duplicate (B10JX3) results are within contractual requirements.

SEVERN
TRENT
SERVICES

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:

Jackie Waddell
Project Manager

Drinking Water Method Cross References

	DRINKING WATER METHOD CROSS REFERENCES	
Referenced Method	**Isotope(s)**	**STL Richland's SOP number**
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460-70	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D57174-91	Uranium	RICH-RC-5058
Tritium	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/vn), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

SEVERN TRENT SERVICES

SAMPLE RESULTS

LAB NAME:	**STL Richland**		**SDG: /RPT GRP:**	W03331 / 12228
LOT,RPT DB ID:	J0J130123-1	9DM34L10	**MATRIX:**	WATER
CLIENT ID:	B10JX1		**DATE RECEIVED:**	10/12/00 3:50:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
CO-58	-4.39E+00	U	8.2E+00	8.2E+00	1.41E+01	pCi/L		RICHRC5017	DM34L	0341335
CO-60	-5.27E-01	U	5.0E+00	5.0E+00	9.36E+00	pCi/L		RICHRC5017	DM34L	0341335
CS-137	-2.13E+00	U	4.6E+00	4.6E+00	8.02E+00	pCi/L		RICHRC5017	DM34L	0341335
EU-152	-2.33E+00	U	1.2E+01	1.2E+01	2.09E+01	pCi/L		RICHRC5017	DM34L	0341335
EU-154	1.58E+01	U	1.7E+01	1.7E+01	3.44E+01	pCi/L		RICHRC5017	DM34L	0341335
EU-155	-4.40E+00	U	1.0E+01	1.0E+01	1.70E+01	pCi/L		RICHRC5017	DM34L	0341335
FE-59	-3.03E+00	U	2.3E+01	2.3E+01	4.15E+01	pCi/L		RICHRC5017	DM34L	0341335
ALPHA	1.76E+00	U	1.3E+00	1.4E+00	1.92E+00	pCi/L	100.00%	RICHRC5014	DM34L	0306446
BETA	1.47E+01		3.1E+00	3.6E+00	4.00E+00	pCi/L	100.00%	RICHRC5014	DM34L	0306448
H-3	1.92E+03		1.5E+02	3.1E+02	2.76E+02	pCi/L	100.00%	RICHRC5007	DM34L	0306444

Number of Results: 10

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result <

SEVERN TRENT SERVICES

SAMPLE RESULTS

LAB NAME:	STL Richland	**SDG: /RPT GRP:**	W03331 / 12228
LOT,RPT DB ID:	J0J130123-2 9DM35G10	**MATRIX:**	WATER
CLIENT ID:	B10JW9	**DATE RECEIVED:**	10/12/00 3:50:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
CO-58	4.22E-01	U	7.7E+00	7.7E+00	1.47E+01	pCi/L		RICHRC5017	DM35G	0341335
CO-60	2.90E+00	U	4.4E+00	4.4E+00	9.87E+00	pCi/L		RICHRC5017	DM35G	0341335
CS-137	-5.21E-01	U	5.0E+00	5.0E+00	8.96E+00	pCi/L		RICHRC5017	DM35G	0341335
EU-152	-8.30E+00	U	1.2E+01	1.2E+01	1.98E+01	pCi/L		RICHRC5017	DM35G	0341335
EU-154	-4.34E+00	U	1.4E+01	1.4E+01	2.51E+01	pCi/L		RICHRC5017	DM35G	0341335
EU-155	2.03E+00	U	8.3E+00	8.3E+00	1.50E+01	pCi/L		RICHRC5017	DM35G	0341335
FE-59	-1.88E+01	U	2.2E+01	2.2E+01	3.44E+01	pCi/L		RICHRC5017	DM35G	0341335
ALPHA	9.32E-01	U	9.4E-01	9.6E-01	1.54E+00	pCi/L	100.00%	RICHRC5014	DM35G	0306446
BETA	1.82E+01		3.3E+00	4.2E+00	3.95E+00	pCi/L	100.00%	RICHRC5014	DM35G	0306448
H-3	2.18E+03		1.6E+02	3.3E+02	2.75E+02	pCi/L	100.00%	RICHRC5007	DM35G	0306444

Number of Results: 10

Result = IDL When Not Detected
(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result <

SEVERN TRENT SERVICES

SAMPLE RESULTS

LAB NAME:	**STL Richland**		**SDG: /RPT GRP:**	W03331 / 12228
LOT,RPT DB ID:	J0J130123-3	9DM35J10	**MATRIX:**	WATER
CLIENT ID:	B10JR1		**DATE RECEIVED:**	10/12/00 3:50:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
ALPHA	1.31E+00	U	1.1E+00	1.1E+00	1.47E+00	pCi/L	100.00%	RICHRC5014	DM35J1	0306446
BETA	3.30E+00	U	2.0E+00	2.0E+00	3.78E+00	pCi/L	100.00%	RICHRC5014	DM35J1	0306448
H-3	9.85E+03		3.9E+02	7.3E+02	2.75E+02	pCi/L	100.00%	RICHRC5007	DM35J1	0306444

Number of Results: 3

Result = IDL When Not Detected
(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result <

SEVERN TRENT SERVICES

SAMPLE RESULTS

LAB NAME:	**STL Richland**		**SDG: /RPT GRP:**	W03331 / 12228
LOT,RPT DB ID:	J0J130123-4	9DM35K10	**MATRIX:**	WATER
CLIENT ID:	B10JT9		**DATE RECEIVED:**	10/12/00 3:50:00 PM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
ALPHA	7.08E-01	U	8.0E-01	8.1E-01	1.38E+00	pCi/L	100.00%	RICHRC5014	DM35K	0306446
BETA	1.48E+00	U	1.8E+00	1.8E+00	3.89E+00	pCi/L	100.00%	RICHRC5014	DM35K	0306448
H-3	9.31E+03		4.4E+02	8.1E+02	3.21E+02	pCi/L	100.00%	RICHRC5007	DM35K	0306444

Number of Results: 3

Result = IDL When Not Detected
(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result <

SEVERN TRENT SERVICES

SAMPLE RESULTS

LAB NAME:	**STL Richland**		**SDG: /RPT GRP:**	W03331 / 12228
LOT,RPT DB ID:	J0J180150-1	9DNA8010	**MATRIX:**	WATER
CLIENT ID:	B10JX5		**DATE RECEIVED:**	10/18/00 8:45:00 AM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
BE-7	1.57E+01	U	3.7E+01	3.7E+01	6.88E+01	pCi/L		RICHRC5017	DNA80	0306450
CO-58	-2.37E-01	U	3.7E+00	3.7E+00	6.82E+00	pCi/L		RICHRC5017	DNA80	0306450
CO-60	-8.39E-01	U	2.2E+00	2.2E+00	3.90E+00	pCi/L		RICHRC5017	DNA80	0306450
CS-134	-2.16E+00	U	2.4E+00	2.4E+00	3.84E+00	pCi/L		RICHRC5017	DNA80	0306450
CS-137	5.71E-01	U	2.5E+00	2.5E+00	4.67E+00	pCi/L		RICHRC5017	DNA80	0306450
EU-152	-3.43E+00	U	6.1E+00	6.1E+00	1.04E+01	pCi/L		RICHRC5017	DNA80	0306450
EU-154	1.24E-01	U	6.3E+00	6.3E+00	1.22E+01	pCi/L		RICHRC5017	DNA80	0306450
EU-155	1.76E+00	U	5.1E+00	5.1E+00	9.34E+00	pCi/L		RICHRC5017	DNA80	0306450
FE-59	-5.48E+00	U	1.1E+01	1.1E+01	1.86E+01	pCi/L		RICHRC5017	DNA80	0306450
K-40	4.08E+01		5.6E+01	5.6E+01	3.77E+01	pCi/L		RICHRC5017	DNA80	0306450
RU-106	-1.35E+01	U	2.2E+01	2.2E+01	3.61E+01	pCi/L		RICHRC5017	DNA80	0306450
SB-125	-1.36E-01	U	6.1E+00	6.1E+00	1.08E+01	pCi/L		RICHRC5017	DNA80	0306450
ALPHA	2.38E+00	J	1.6E+00	1.6E+00	1.84E+00	pCi/L	100.00%	RICHRC5014	DNA80	0306446
BETA	2.79E+00	U	1.9E+00	2.0E+00	3.80E+00	pCi/L	100.00%	RICHRC5014	DNA80	0306448
H-3	5.12E+03		2.7E+02	5.0E+02	2.75E+02	pCi/L	100.00%	RICHRC5007	DNA80	0306444

Number of Results: 15

Result = IDL When Not Detected
(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result <

SEVERN TRENT SERVICES

SAMPLE RESULTS

LAB NAME:	**STL Richland**	**SDG: /RPT GRP:**	W03331 / 12228
LOT,RPT DB ID:	J0J260277-1 9DNVG810	**MATRIX:**	WATER
CLIENT ID:	B10JX3	**DATE RECEIVED:**	10/26/00 11:08:00 AM

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
CO-58	-4.97E+00	U	6.5E+00	6.5E+00	1.07E+01	pCi/L		RICHRC5017	DNVG8	0341335
CO-60	1.61E+00	U	3.8E+00	3.8E+00	8.12E+00	pCi/L		RICHRC5017	DNVG8	0341335
CS-137	-3.86E+00	U	4.8E+00	4.8E+00	7.91E+00	pCi/L		RICHRC5017	DNVG8	0341335
EU-152	-5.05E+00	U	1.2E+01	1.2E+01	2.09E+01	pCi/L		RICHRC5017	DNVG8	0341335
EU-154	-8.74E+00	U	1.5E+01	1.5E+01	2.62E+01	pCi/L		RICHRC5017	DNVG8	0341335
EU-155	-5.42E+00	U	1.0E+01	1.0E+01	1.68E+01	pCi/L		RICHRC5017	DNVG8	0341335
FE-59	8.43E+00	U	2.0E+01	2.0E+01	3.96E+01	pCi/L		RICHRC5017	DNVG8	0341335
ALPHA	3.87E-01	U	6.3E-01	6.4E-01	1.33E+00	pCi/L	100.00%	RICHRC5014	DNVG8	0306446
BETA	6.30E+00		2.3E+00	2.4E+00	3.87E+00	pCi/L	100.00%	RICHRC5014	DNVG8	0306448
H-3	5.36E+01	U	7.7E+00	1.7E+02	2.76E+02	pCi/L	100.00%	RICHRC5007	DNVG8	0306444

Number of Results: 10

Result = IDL When Not Detected
(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result <

SEVERN TRENT SERVICES

DUPLICATE RESULTS

LAB NAME:	**STL Richland**		**SDG: /RPT GRP:**	**W03331 / 12228**
LOT,RPT DB ID:	**J0J130123-1**	**DM34L1FR**	**MATRIX:**	**WATER**
CLIENT ID:	**B10JX1 DUP**		**DATE RECEIVED:**	**10/12/00 3:50:00 P**
ORIG LAB ID:	**9DM34L10**			

ANALYTE	DUP RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
ALPHA	1.79E+00	U	1.4E+00	1.5E+00	2.07E+00	pCi/L	100.00%	RICHRC5014	1.76E+00	1.95%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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SEVERN TRENT SERVICES

DUPLICATE RESULTS

LAB NAME:	**STL Richland**		**SDG: /RPT GRP:**	W03331 / 12228
LOT,RPT DB ID:	J0J130123-2	DM35G1FR	**MATRIX:**	WATER
CLIENT ID:	B10JW9 DUP		**DATE RECEIVED:**	10/12/00 3:50:00 P
ORIG LAB ID:	9DM35G10			

ANALYTE	DUP RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
BETA	1.96E+01		3.4E+00	4.2E+00	3.90E+00	pCi/L	100.00%	RICHRC5014	1.82E+01	7.88%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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SEVERN TRENT SERVICES

DUPLICATE RESULTS

LAB NAME:	STL Richland		SDG: /RPT GRP:	W03331 / 12228
LOT,RPT DB ID:	J0J180150-1	DNA801FR	MATRIX:	WATER
CLIENT ID:	B10JX5 DUP		DATE RECEIVED:	10/18/00 8:45:00 A
ORIG LAB ID:	9DNA8010			

ANALYTE	DUP RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
BE-7	-1.27E+01	U	3.5E+01	3.5E+01	6.04E+01	pCi/L		RICHRC5017	1.57E+01	1880.67%
CO-58	-8.83E-01	U	3.9E+00	3.9E+00	7.02E+00	pCi/L		RICHRC5017	-2.37E-01	115.26%
CO-60	7.84E-01	U	3.1E+00	3.1E+00	6.17E+00	pCi/L		RICHRC5017	-8.39E-01	5850.54%
CS-134	1.07E+00	U	2.7E+00	2.7E+00	4.67E+00	pCi/L		RICHRC5017	-2.16E+00	594.11%
CS-137	-2.80E-01	U	2.5E+00	2.5E+00	4.54E+00	pCi/L		RICHRC5017	5.71E-01	586.53%
EU-152	-5.26E+00	U	6.5E+00	6.5E+00	1.07E+01	pCi/L		RICHRC5017	-3.43E+00	41.99%
EU-154	-1.47E+00	U	5.9E+00	5.9E+00	1.11E+01	pCi/L		RICHRC5017	1.24E-01	236.95%
EU-155	-3.35E+00	U	4.5E+00	4.5E+00	7.52E+00	pCi/L		RICHRC5017	1.76E+00	644.39%
FE-59	3.10E+00	U	1.1E+01	1.1E+01	2.26E+01	pCi/L		RICHRC5017	-5.48E+00	720.37%
K-40	-2.58E+01	U	4.5E+01	4.5E+01	9.87E+01	pCi/L		RICHRC5017	4.08E+01	890.91%
RU-106	-2.05E+00	U	2.4E+01	2.4E+01	4.31E+01	pCi/L		RICHRC5017	-1.35E+01	147.43%
SB-125	-2.36E+00	U	5.5E+00	5.5E+00	9.39E+00	pCi/L		RICHRC5017	-1.36E-01	178.15%

Number of Results: 12

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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SEVERN TRENT SERVICES

DUPLICATE RESULTS

LAB NAME:	**STL Richland**		**SDG: /RPT GRP:**	W03331 / 12228
LOT,RPT DB ID:	J0J260277-1	DNVG81FR	**MATRIX:**	WATER
CLIENT ID:	B10JX3 DUP		**DATE RECEIVED:**	10/26/00 11:08:00 A
ORIG LAB ID:	9DNVG810			

ANALYTE	DUP RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
H-3	3.14E+01	U	4.6E+00	1.7E+02	2.75E+02	pCi/L	100.00%	RICHRC5007	5.36E+01	52.09%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

Severn Trent Laboratories Richland
rptChemRadDup; v3.41

SEVERN TRENT SERVICES

DUPLICATE RESULTS

LAB NAME:	**STL Richland**		**SDG: /RPT GRP:**	W03331 / 12228
LOT,RPT DB ID:	J0J260277-1	DNVG81GR	**MATRIX:**	WATER
CLIENT ID:	B10JX3 DUP		**DATE RECEIVED:**	10/26/00 11:08:00 A
ORIG LAB ID:	9DNVG810			

ANALYTE	DUP RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	METHOD NUMBER	ORIG RESULT	RPD
CO-58	-2.04E+00	U	7.1E+00	7.1E+00	1.27E+01	pCi/L		RICHRC5017	-4.97E+00	83.61%
CO-60	-1.80E+00	U	5.1E+00	5.1E+00	9.03E+00	pCi/L		RICHRC5017	1.61E+00	3605.93%
CS-137	-4.38E+00	U	4.2E+00	4.2E+00	6.31E+00	pCi/L		RICHRC5017	-3.86E+00	12.74%
EU-152	2.41E+00	U	1.2E+01	1.2E+01	2.18E+01	pCi/L		RICHRC5017	-5.05E+00	564.12%
EU-154	-1.37E-01	U	1.3E+01	1.3E+01	2.54E+01	pCi/L		RICHRC5017	-8.74E+00	193.82%
EU-155	1.60E+00	U	8.2E+00	8.2E+00	1.46E+01	pCi/L		RICHRC5017	-5.42E+00	367.30%
FE-59	1.15E+01	U	1.8E+01	1.8E+01	3.69E+01	pCi/L		RICHRC5017	8.43E+00	30.76%

Number of Results: 7

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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SEVERN TRENT SERVICES

BLANK RESULTS

LAB NAME: STL Richland **SDG /RPT GRP:** W03331 / 12228

LOT,RPT DB ID: J0K010000-450 DN6631AB **MATRIX:** WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
BE-7	1.17E+01	U	1.5E+01	1.5E+01	3.15E+01	pCi/L		RICHRC5017	DN6631	0306450
CO-58	-1.68E+00	U	2.3E+00	2.3E+00	3.76E+00	pCi/L		RICHRC5017	DN6631	0306450
CO-60	3.06E-01	U	1.8E+00	1.8E+00	3.92E+00	pCi/L		RICHRC5017	DN6631	0306450
CS-134	2.69E-01	U	2.0E+00	2.0E+00	3.63E+00	pCi/L		RICHRC5017	DN6631	0306450
CS-137	-2.36E-01	U	2.2E+00	2.2E+00	4.00E+00	pCi/L		RICHRC5017	DN6631	0306450
EU-152	-1.00E+00	U	5.0E+00	5.0E+00	8.81E+00	pCi/L		RICHRC5017	DN6631	0306450
EU-154	2.22E+00	U	6.4E+00	6.4E+00	1.35E+01	pCi/L		RICHRC5017	DN6631	0306450
EU-155	4.20E-01	U	4.4E+00	4.4E+00	8.00E+00	pCi/L		RICHRC5017	DN6631	0306450
FE-59	-1.02E+00	U	4.5E+00	4.5E+00	8.29E+00	pCi/L		RICHRC5017	DN6631	0306450
K-40	-3.26E+01	U	4.6E+01	4.6E+01	1.02E+02	pCi/L		RICHRC5017	DN6631	0306450
RU-106	-8.30E+00	U	1.9E+01	1.9E+01	3.25E+01	pCi/L		RICHRC5017	DN6631	0306450
SB-125	-6.42E+00	U	5.2E+00	5.2E+00	7.93E+00	pCi/L		RICHRC5017	DN6631	0306450

Number of Results: 12

SEVERN TRENT SERVICES

BLANK RESULTS

LAB NAME: STL Richland **SDG /RPT GRP:** W03331 / 12228

LOT,RPT DB ID: J0K010000-444 DN66M1DB **MATRIX:** WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
H-3	3.09E+02	J	3.9E+01	2.0E+02	2.79E+02	pCi/L	100.00%	RICHRC5007	DN66M	0306444

Number of Results: 1

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

SEVERN TRENT SERVICES

BLANK RESULTS

LAB NAME: STL Richland **SDG /RPT GRP:** W03331 / 12228

LOT,RPT DB ID: J0K010000-444 DN66M1FX **MATRIX:** WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
H-3	2.05E+02	U	2.7E+01	1.9E+02	2.81E+02	pCi/L	100.00%	RICHRC5007	DN66M	0306444

Number of Results: 1

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

SEVERN TRENT SERVICES

BLANK RESULTS

LAB NAME: STL Richland **SDG /RPT GRP:** W03331 / 12228

LOT,RPT DB ID: J0K010000-446 DN66V1AB **MATRIX:** WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
ALPHA	3.76E-01	U	5.2E-01	5.3E-01	1.04E+00	pCi/L	100.00%	RICHRC5014	DN66V	0306446

Number of Results: 1

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

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SEVERN TRENT SERVICES

BLANK RESULTS

LAB NAME: STL Richland **SDG /RPT GRP:** W03331 / 12228

LOT,RPT DB ID: J0K010000-448 DN66X1AB **MATRIX:** WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
BETA	2.19E-01	U	1.6E+00	1.6E+00	3.67E+00	pCi/L	100.00%	RICHRC5014	DN66X	0306448

Number of Results: 1

Result = IDL When Not Detected

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL

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SEVERN TRENT SERVICES

BLANK RESULTS

LAB NAME: STL Richland **SDG /RPT GRP:** W03331 / 12228

LOT,RPT DB ID: J0L060000-335 DQXFQ1AB **MATRIX:** WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA/IDL	RPT UNIT	YIELD	METHOD NUMBER	WORK ORDE	BAT-CH
CO-58	-4.92E-01	U	4.9E+00	4.9E+00	8.82E+00	pCi/L		RICHRC5017	DQXFQ	0341335
CO-60	2.68E+00	U	4.6E+00	4.6E+00	1.01E+01	pCi/L		RICHRC5017	DQXFQ	0341335
CS-137	3.48E+00	U	4.3E+00	4.3E+00	8.85E+00	pCi/L		RICHRC5017	DQXFQ	0341335
EU-152	1.47E+00	U	1.0E+01	1.0E+01	1.86E+01	pCi/L		RICHRC5017	DQXFQ	0341335
EU-154	8.20E+00	U	1.3E+01	1.3E+01	2.88E+01	pCi/L		RICHRC5017	DQXFQ	0341335
EU-155	-4.23E+00	U	1.0E+01	1.0E+01	1.84E+01	pCi/L		RICHRC5017	DQXFQ	0341335
FE-59	7.39E+00	U	8.6E+00	8.6E+00	1.90E+01	pCi/L		RICHRC5017	DQXFQ	0341335

Number of Results: 7

SEVERN TRENT SERVICES

LABORATORY CONTROL SAMPLE

LAB NAME: STL Richland **SDG: /RPT GRP:** W03331 / 12228

LAB SAMPLE ID: DN6631CS **MATRIX:** WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
CO-60	3.98E+01		8.2E+00	8.2E+00	4.66E+00	pCi/L		3.85E+01	103.33%
CS-137	2.84E+01		6.1E+00	6.1E+00	4.77E+00	pCi/L		2.49E+01	113.80%
EU-152	6.89E+01		1.6E+01	1.6E+01	1.06E+01	pCi/L		7.69E+01	89.55%

Number of Results: 3

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

SEVERN TRENT SERVICES

LABORATORY CONTROL SAMPLE

LAB NAME:	STL Richland	**SDG: /RPT GRP:**	W03331 / 12228
LAB SAMPLE ID:	DN66M1CS	**MATRIX:**	WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
H-3	2.62E+03		1.8E+02	3.6E+02	2.77E+02	pCi/L	100.00%	2.72E+03	96.25%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

SEVERN TRENT SERVICES

LABORATORY CONTROL SAMPLE

LAB NAME:	STL Richland	**SDG: /RPT GRP:**	W03331 / 12228
LAB SAMPLE ID:	DN66M1EM	**MATRIX:**	WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
H-3	2.39E+03		1.7E+02	3.4E+02	2.76E+02	pCi/L	100.00%	2.72E+03	88.04%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

SEVERN TRENT SERVICES

LABORATORY CONTROL SAMPLE

LAB NAME: STL Richland **SDG: /RPT GRP:** W03331 / 12228

LAB SAMPLE ID: DN66V1CS **MATRIX:** WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
ALPHA	2.04E+01		2.9E+00	5.4E+00	9.26E-01	pCi/L	100.00%	2.29E+01	89.13%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

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SEVERN TRENT SERVICES

LABORATORY CONTROL SAMPLE

LAB NAME:	STL Richland	**SDG: /RPT GRP:**	W03331 / 12228
LAB SAMPLE ID:	DN66X1CS	**MATRIX:**	WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
BETA	2.71E+01		3.7E+00	5.2E+00	3.75E+00	pCi/L	100.00%	2.25E+01	120.33%

Number of Results: 1

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

SEVERN TRENT SERVICES

LABORATORY CONTROL SAMPLE

LAB NAME: STL Richland **SDG: /RPT GRP:** W03331 / 12228

LAB SAMPLE ID: DQXFQ1CS **MATRIX:** WATER

ANALYTE	RESULT	Q	COUNTING ERROR (2 s)	TOTAL ERROR (2 s)	MDA/ IDL	REPORT UNIT	YIELD	EXPECTED	RECOVERY
CO-60	8.72E+01		1.8E+01	1.8E+01	8.87E+00	pCi/L		7.69E+01	113.46%
CS-137	4.77E+01		1.1E+01	1.1E+01	8.54E+00	pCi/L		4.96E+01	96.10%
EU-152	1.39E+02	U	3.4E+01	3.4E+01	4.86E+01	pCi/L		1.54E+02	90.45%

Number of Results: 3

Result = IDL When Not Detecte

(Q)ualifiers: U = Analyte result < MDA/IDL,
J = No U qualifier and result < RDL.

SEVERN TRENT SERVICES

Data Review Checklist
RADIOCHEMISTRY

Lot Number: J0J130123, J0J260277				
Client ID: BHI				
Due Date: 12-11-00				
QC Batch Number: 0341335		SDG Number: WO 3331		
Method Test Parameter: γ				
Matrix: WATER				
Review Item	Yes (√)	No (√)	N/A (√)	2nd Level Review (√)
A. Calibration 1. Is the calibration documentation included where applicable?			✓	✓
B. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓	
2. Were all sample holding times met?			✓	
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			
C. QC Samples 1. Is the blank yield within acceptance criteria?			✓	
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			
3. Does the blank result meet the Contract criteria?	✓			
4. Is the blank result < the Contract Detection Limit?	✓			
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	
6. Is the LCS result within acceptance criteria?	✓			
7. Is the LCS yield within acceptance criteria?			✓	
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			
9. Do the MS/MSD results and yields meet acceptance criteria?			✓	
10. Do the duplicate sample results and yields meet acceptance criteria?	✓			
D. Other 1. Are all Nonconformances included and noted?			✓	
2. Are all required forms filled out?	✓			
3. Was the correct methodology used?	✓			
4. Was transcription checked?	✓			
5. Were all calculations checked at a minimum frequency?	✓			✓
6. Were units checked?	✓			

Comments on any "No" response: _____

First Level Review: [signature] Date: 12-15-00

Second Level Review: Karen Gill Date: 12-19-00

LS-038, Rev. 7, 8/00

SEVERN TRENT SERVICES

Data Review Checklist
RADIOCHEMISTRY

Lot Number: JOJ180150
Client ID: PGW
Due Date: 11-29-00
QC Batch Number: 0306450 SDG Number: 3331
Method Test Parameter: gamma
Matrix: water

12-19-00 KMB

Review Item	Yes (√)	No (√)	N/A (√)	2nd Level Review (√)
A. Calibration 1. Is the calibration documentation included where applicable?			✓	✓
B. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓	
2. Were all sample holding times met?	✓			
3. Is the sample Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			
C. QC Samples 1. Is the blank yield within acceptance criteria?			✓	
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			
3. Does the blank result meet the Contract criteria?	✓			
4. Is the blank result the Contract Detection Limit?	✓			
5. Is the blank result the Contract Detection Limit but the sample result the Contract Detection Limit?			✓	
6. Is the LCS result within acceptance criteria?	✓			
7. Is the LCS yield within acceptance criteria?			✓	
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			
9. Do the MS/MSD results and yields meet acceptance criteria?			✓	
10. Do the duplicate sample results and yields meet acceptance criteria?	✓			
D. Other 1. Are all Nonconformances included and noted?			✓	
2. Are all required forms filled out?	✓			
3. Was the correct methodology used?	✓			
4. Was transcription checked?	✓			
5. Were all calculations checked at a minimum frequency?	✓			
6. Were units checked?	✓			

Comments on any "No" response:

First Level Review: Pam Kenitzer Date: 12-15-00

Second Level Review: Kevin S Gull Date: 12-19-00

LS-038, REV.6, 8/00

SEVERN TRENT SERVICES

Data Review Checklist
RADIOCHEMISTRY

Lot Number: J0J130123 J0J180150 J0J260277	
Client ID: BHI	
Due Date: 11-27-00	
QC Batch Number: 03064416	SDG Number: WP3331
Method Test Parameter: α	
Matrix: Water	

Review Item	Yes (√)	No (√)	N/A (√)	2nd Level Review (√)
A. Calibration				
1. Is the calibration documentation included where applicable?			✓	✓
B. Sample Analysis				
1. Are the sample yields within acceptance criteria?			✓	
2. Were all sample holding times met?			✓	
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			
C. QC Samples				
1. Is the blank yield within acceptance criteria?			✓	
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			
3. Does the blank result meet the Contract criteria?	✓			
4. Is the blank result < the Contract Detection Limit?	✓			
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	
6. Is the LCS result within acceptance criteria?	✓			
7. Is the LCS yield within acceptance criteria?			✓	
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			
9. Do the MS/MSD results and yields meet acceptance criteria?			✓	
10. Do the duplicate sample results and yields meet acceptance criteria?	✓			
D. Other				
1. Are all Nonconformances included and noted?			✓	
2. Are all required forms filled out?	✓			
3. Was the correct methodology used?	✓			
4. Was transcription checked?	✓			
5. Were all calculations checked at a minimum frequency?	✓			
6. Were units checked?	✓			

Comments on any "No" response: _____

First Level Review: [signature] Date: 11-21-00

Second Level Review: Jackie Wardlaw Date: 11/28/00

LS-038, Rev. 7, 8 00

SEVERN TRENT SERVICES

Data Review Checklist
RADIOCHEMISTRY

Lot Number:	J0J130123 J0J180150 J0J260277
Client ID:	BHI
Due Date:	11-27-00
QC Batch Number:	0306448 SDG Number: W03331
Method Test Parameter:	Beta
Matrix:	Water

Review Item	Yes (√)	No (√)	N/A (√)	2nd Level Review (√)
A. Calibration 1. Is the calibration documentation included where applicable?			✓	✓
B. Sample Analysis 1. Are the sample yields within acceptance criteria?				
2. Were all sample holding times met?			✓	
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			
C. QC Samples 1. Is the blank yield within acceptance criteria?			✓	
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			
3. Does the blank result meet the Contract criteria?	✓			
4. Is the blank result < the Contract Detection Limit?	✓			
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	
6. Is the LCS result within acceptance criteria?	✓			
7. Is the LCS yield within acceptance criteria?			✓	
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			
9. Do the MS/MSD results and yields meet acceptance criteria?			✓	
10. Do the duplicate sample results and yields meet acceptance criteria?	✓			
D. Other 1. Are all Nonconformances included and noted?			✓	
2. Are all required forms filled out?	✓			
3. Was the correct methodology used?	✓			
4. Was transcription checked?	✓			
5. Were all calculations checked at a minimum frequency?	✓			
6. Were units checked?	✓			

Comments on any "No" response: _____

First Level Review: [signature] Date: 11-28-00

Second Level Review: Jackie Windell Date: 11/28/00

LS-038, Rev 7, 8 00

SEVERN TRENT SERVICES

Data Review Checklist
RADIOCHEMISTRY

Lot Number: J0J130123, J0J180150, J0J260277				
Client ID: BNI				
Due Date: 11-27-00				
QC Batch Number: 0306444		SDG Number: W03331		
Method Test Parameter: Tritium				
Matrix: Water				
Review Item	Yes (√)	No (√)	N/A (√)	2nd Level Review (√)
A. Calibration 1. Is the calibration documentation included where applicable?			✓	✓
B. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓	↓
2. Were all sample holding times met?	✓			↓
3. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓			↓
C. QC Samples 1. Is the blank yield within acceptance criteria?			✓	↓
2. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓			↓
3. Does the blank result meet the Contract criteria?	✓			↓
4. Is the blank result < the Contract Detection Limit?	✓			↓
5. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓	↓
6. Is the LCS result within acceptance criteria?	✓			↓
7. Is the LCS yield within acceptance criteria?			✓	↓
8. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓			↓
9. Do the MS/MSD results and yields meet acceptance criteria?			✓	↓
10. Do the duplicate sample results and yields meet acceptance criteria?	✓			↓
D. Other 1. Are all Nonconformances included and noted?			✓	↓
2. Are all required forms filled out?	✓			↓
3. Was the correct methodology used?	✓			↓
4. Was transcription checked?	✓			↓
5. Were all calculations checked at a minimum frequency?	✓			↓
6. Were units checked?	✓			↓

Comments on any "No" response: _____

First Level Review: Pam Kenitzer Date: 11-20-00

Second Level Review: Jackie Waddell Date: 11/22/00

LS-038. Rev. 7. 8/00

CHAIN OF CUSTODY

U-21023

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # C01-002-2
		Page 1 of 1

Collector	Contact/Requester	Telephone No. MSIN FAX
SAF No. C01-002	Sampling Origin	Purchase Order/Charge Code
Project Title 100KR4(2) SEEP SAMPLING OCTOBER 2000	Logbook No.	Ice Chest No. Temp.
Shipped To (Lab) Severn Trent Incorporated	Method of Shipment	Bill of Lading/Air Bill No.
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** SDG W03331 JOW130123

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX STL log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10JX1		W			1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2
B10JX1		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool 4C
B10JX1		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B10JX1		W			1x20-mL P	Activity Scan	None
B10JX1		W			1x2500-mL G/P	GAMMA_GS_LL: List-1 (9)	HNO3 to pH <2
B10JX1		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1)	None
B10JX2 (F)		W			1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2

DM34L

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
E. RADFORD			10/12/00	Josh Hughes			10/12/00 15:50
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

4:00pm

Matrix *

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

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

0038

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # C01-002-1

Page 1 of 1

Collector: E. Radford	Contact/Requester	Telephone No. MSIN FAX
SAF No.: C01-002	Sampling Origin	Purchase Order/Charge Code
Project Title: 100KR4(2) SEEP SAMPLING, OCTOBER 2000	Logbook No.	Ice Chest No. Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment	Bill of Lading/Air Bill No.
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10JW9		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10JW9		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10JW9		W			1x20-mL P	Activity Scan	None
B10JW9		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10JW9		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10JW9		W			1x1000-mL G/P	Gamma Spectroscopy(Water)	HNO3 to pH <2
B10JW9		W			1x250-mL P	Tritium - H3	None
B10JX0 (F)		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2

DM356

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
E. RADFORD		E Radford	10/12/00 15:50	Josh Hughes		[illegible]	10/12/00 15:50

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # C01-001-5

Page 1 of 1

Collector E. RADFORD	Contact/Requester JH KESSNER	Telephone No. (509) 375-4688 MSIN FAX
SAF No. C01-001	Sampling Origin HANFORD SITE	Purchase Order/Charge Code
Project Title 100HR3(2) SEEP SAMPLING OCTOBER 2000	Logbook No.	Ice Chest No. Temp.
Shipped To (Lab) Severn Trent Incorporated	Method of Shipment GOVT. VEHICLE	Bill of Lading/Air Bill No.
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX STL log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10JR1		W			1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2
B10JR1		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool 4C
B10JR1		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B10JR1		W			1x20-mL P	Activity Scan DM35J	None
B10JR1		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1)	None
B10JT2 (F)		W			1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
E. RADFORD	E. Radford		10/12/00	Josh Hughes	Josh Hughes		10/12/00 15:50
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION | Disposal Method (e.g., Return to customer, per lab procedure, used in process) | Disposed By | Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # C01-001-6

Page 1 of 1

Collector E. RADFORD	Contact/Requester JH KESSNER	Telephone No. (509) 375-4688 MSIN FAX
SAF No. C01-001	Sampling Origin HANFORD SITE	Purchase Order/Charge Code
Project Title 100HR3(2) SEEP SAMPLING, OCTOBER 2000	Logbook No.	Ice Chest No. Temp.
Shipped To (Lab) TMA/RECRA	Method of Shipment GOVT. VEHICLE	Bill of Lading/Air Bill No.
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10JT9		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10JT9		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10JT9		W			1x20-mL P	Activity Scan	None
B10JT9		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10JT9		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10JT9		W			1x250-mL P	Tritium - H3	None
B10JV0 (F)		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2

DM35K

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
E. RADFORD		E Radford	10/12/00	Josh Hughes		[illegible]	10/12/00 15:50
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

00038

Matrix *

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

FINAL SAMPLE DISPOSITION — Disposal Method (e.g., Return to customer, per lab procedure, used in process) — Disposed By — Date/Time

JH 10-12-00

Figure 1. Sample Check-in List

Date/Time Received: 10-12 1455D SDG#: W03331

Work Order Number: JDJ130123 SAF#: C01-001, 002

Shipping Container ID: na Chain of Custody #: C01-0016,5, C01-0021,2

1. Outermost shipping container damaged? Yes [ ] No [X]

2. Custody Seals on shipping container intact? Yes [X] No [ ]

3. Custody Seals dated and signed? Yes [X] No [ ]

4. Chain-of-Custody record present? Yes [X] No [ ]

5. Chain-of-Custody includes the following information:
   - Client name Yes [X] No [ ]
   - Project name or number Yes [X] No [ ]
   - Sample date/time for each sample Yes [X] No [ ]
   - Container types, sizes and number of containers Yes [X] No [X] 10/13/00
   - Short description of sample, i.e., matrix Yes [X] No [ ]
   - Analyses requested Yes [X] No [ ]
   - Preservation used or "none" or N/A if not applicable Yes [X] No [ ]
   - Date and time of relinquish and receipt Yes [X] No [ ]
   - Signatures of those persons relinquishing and receiving Yes [X] No [ ]

6. Sample numbers on chain of custody match those on sample containers? Yes [X] No [ ]

7. Collection date and date of laboratory receipt are within project specific holding time requirements? Yes [X] No [ ]

8. Cooler temperature: 4°C

9. Vermiculite/packing materials is: Wet [X] Dry [ ]

10. Samples have:	X tape	____ hazard labels	
	X custody seals	____ appropriate sample labels	
11. Samples are:	X in good condition	____ leaking	
	____ broken	____ have air bubbles	

12. Were any anomalies identified in sample receipt? Yes [X] No [ ]

13. Description of anomalies (include sample numbers): No sample dates or times given on COC - used 10-12-00 for login. Heidelberg 10-13-00

Sample Custodian/Laboratory: [signature] Date: 10/12/00 15:50

Telephone/Fax/E:mailed to: _____ On _____ By _____

(B) 10/16/00

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B10D87DM29E		10/13/2000 7:02:00 AM	QUAD22D	10/13/2000 3:32:16 PM	B10D87DM29E	30	5	0.106666667	61	0.755
DM29E	LIQUID		Bkg:	10/13/2000 2:13:34 AM	BKG	600	36	0.06	767	1.27833333

Anl Date: 10/13/00 Tot Sa, Alq: 5.00E-01 , 1.00E+01 Alp; (Dpm/ 3.06E-01 (uCi/ 6.89E-06 (pCi/ 1.38E+01 + 2.4E+01 CAT I 1.8E+00 Lab
Ppt mg: 3.4 Units: L , ml Bet; Alq): 1.36E+00 Sa): 3.07E-05 L|g): 6.14E+01 + 2.2E+01 8.1E-01 Alq L|g

PGW B10DD3DM29M		10/13/2000 7:02:00 AM	QUAD23A	10/13/2000 3:32:21 PM	B10DD3DM29M	30	9	0.195	76	1.61
DM29M	LIQUID		Bkg:	10/13/2000 2:13:42 AM	BKG	600	63	0.105	554	0.92333333

Anl Date: 10/13/00 Tot Sa, Alq: 5.00E+00 , 1.00E+01 Alp; (Dpm/ 5.75E-01 (uCi/ 1.30E-04 (pCi/ 2.59E+01 + 2.3E+01 CAT I 9.6E-01 Lab
Ppt mg: 6.5 Units: L , ml Bet; Alq): 2.97E+00 Sa): 6.69E-04 L|g): 1.34E+02 + 2.5E+01 3.7E-01 Alq L|g

PGW B10JR1DM35J		10/13/2000 7:02:00 AM	QUAD23B	10/13/2000 3:32:21 PM	B10JR1DM35J	30	9	0.21	36	0.28333333
DM35J	LIQUID		Bkg:	10/13/2000 2:13:42 AM	BKG	600	54	0.09	550	0.91666667

Anl Date: 10/13/00 Tot Sa, Alq: 2.00E+00 , 1.00E+01 Alp; (Dpm/ 6.26E-01 (uCi/ 5.64E-05 (pCi/ 2.82E+01 + 2.1E+01 CAT I 8.9E-01 Lab
Ppt mg: 0.5 Units: L , ml Bet; Alq): 4.04E-01 Sa): 3.64E-05 L|g): 1.82E+01 + 1.7E+01 2.7E+00 Alq L|g

PGW B10JT9DM35K		10/13/2000 7:02:00 AM	QUAD23C	10/13/2000 3:32:21 PM	B10JT9DM35K	30	5	0.085	32	0.04333333
DM35K	LIQUID		Bkg:	10/13/2000 2:13:42 AM	BKG	600	49	0.081666667	614	1.02333333

Anl Date: 10/13/00 Tot Sa, Alq: 4.25E+00 , 1.00E+01 Alp; (Dpm/ 2.44E-01 (uCi/ 4.67E-05 (pCi/ 1.10E+01 + 2.0E+01 CAT I 2.3E+00 Lab
Ppt mg: 0.7 Units: L , ml Bet; Alq): 3.15E-02 Sa): 6.04E-06 L|g): 1.42E+00 + 1.7E+01 3.5E+01 Alq L|g

PGW B10JW9DM35G		10/13/2000 7:02:00 AM	QUAD24A	10/13/2000 3:32:18 PM	B10JW9DM35G	30	6	0.111666667	42	0.43166667
DM35G	LIQUID		Bkg:	10/13/2000 2:13:30 AM	BKG	600	53	0.088333333	581	0.96833333

Anl Date: 10/13/00 Tot Sa, Alq: 5.25E+00 , 1.00E+01 Alp; (Dpm/ 3.35E-01 (uCi/ 7.93E-05 (pCi/ 1.51E+01 + 2.2E+01 CAT I 1.7E+00 Lab
Ppt mg: 0.5 Units: L , ml Bet; Alq): 7.73E-01 Sa): 1.83E-04 L|g): 3.48E+01 + 1.9E+01 1.4E+00 Alq L|g

PGW B10JX1DM34L		10/13/2000 7:02:00 AM	QUAD24B	10/13/2000 3:32:18 PM	B10JX1DM34L	30	6	0.118333333	55	0.90166667
DM34L	LIQUID		Bkg:	10/13/2000 2:13:30 AM	BKG	600	49	0.081666667	559	0.93166667

Anl Date: 10/13/00 Tot Sa, Alq: 4.50E+00 , 1.00E+01 Alp; (Dpm/ 3.26E-01 (uCi/ 6.61E-05 (pCi/ 1.47E+01 + 2.0E+01 CAT I 1.7E+00 Lab
Ppt mg: 0.3 Units: L , ml Bet; Alq): 1.68E+00 Sa): 3.41E-04 L|g): 7.58E+01 + 2.2E+01 6.6E-01 Alq L|g

00040

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # C01-002-4
		Page 1 of 1

Collector: Ed Radford	Contact/Requester	Telephone No. MSIN FAX
SAF No. C01-002	Sampling Origin	Purchase Order/Charge Code
Project Title 100KR4(2) SEEP SAMPLING, OCTOBER 2000	Logbook No.	Ice Chest No. TJ-1 Temp.
Shipped To (Lab) Severn Trent Incorporated	Method of Shipment	Bill of Lading/Air Bill No.
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **
SDG
W03331 J0J180150

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX STL log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10JX5		W	10/17/00	14:04	1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2
B10JX5		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool 4C
B10JX5		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B10JX5		W			1x20-mL P	Activity Scan	None
B10JX5		W			1x2500-mL G/P	GAMMA_GS_LL: List-1 (9)	HNO3 to pH <2
B10JX5		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1)	None
B10JX6 (F)		W			1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2

DNA80

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
E. RADFORD		E Radford	10/17/00 14:04	Locked Storage			10/17 14:04
Locked Storage			10/18 0845	E RADFORD		E Radford	10/18 0845
E. RADFORD		E Radford	10/18 0845	K. Ashbaugh			10-18-00 0845

Matrix *

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

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

41

Date/Time Received: 10/18/00 845 SDG#: W03331

Work Order Number: JOJ180150 SAF#: C01-001, C01-002, X01-003

Shipping Container ID: Not Marked Chain of Custody #: C01-001-1, 2, 3, 4 X00-030 C01-002-4, X01-003-3 X01-030-6 X01-030-7

1. Outermost shipping container damaged? Yes [ ] No [✓]

2. Custody Seals on shipping container intact? Yes [✓] No [ ]

3. Custody Seals dated and signed? Yes [✓] No [ ]

4. Chain-of-Custody record present? Yes [✓] No [ ]

5. Chain-of-Custody includes the following information:
   - Client name Yes [✓] No [ ]
   - Project name or number Yes [✓] No [ ]
   - Sample date/time for each sample Yes [✓] No [ ]
   - Container types, sizes and number of containers Yes [✓] No [ ]
   - Short description of sample, i.e., matrix Yes [✓] No [ ]
   - Analyses requested Yes [✓] No [ ]
   - Preservation used or "none" or N/A if not applicable Yes [✓] No [ ]
   - Date and time of relinquish and receipt Yes [✓] No [ ]
   - Signatures of those persons relinquishing and receiving Yes [✓] No [ ]

6. Sample numbers on chain of custody match those on sample containers? Yes [✓] No [ ]

7. Collection date and date of laboratory receipt are within project specific holding time requirements? Yes [✓] No [ ]

8. Cooler temperature: 4°C 44 Bottles

9. Vermiculite/packing materials is: Wet [ ] Dry [✓]

10. Samples have:	✓ tape	____ hazard labels
	✓ custody seals	____ appropriate sample labels
11. Samples are:	✓ in good condition	____ leaking
	____ broken	____ have air bubbles

12. Were any anomalies identified in sample receipt? Yes [✓] No [ ]

13. Description of anomalies (include sample numbers): Anions will be out of hold time when they arrive in St. Louis

Sample Custodian/Laboratory: L. Ackerburg Date: 10-18-00

Telephone/Fax/E:mailed to: _____ On _____ By _____

(B) 10/19/00

CLIENT CODE ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW B10JP7DNA8G		0/19/2000 10:05:00 AM	QUAD22C	10/19/2000 1:39:29 PM	B10JP7DNA8G	30	7	0.166666667	29	0.12
DNA8G	LIQUID		Bkg:	10/19/2000 1:27:08 AM	BKG	600	40	0.066666667	508	0.84666667

Anl Date: 10/19/00	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp;	(Dpm/ 4.97E-01	(uCi/ 4.47E-05	(pCi/ 2.24E+01	± 2.0E+01	CAT	1.1E+00	Lab
Ppt mg: 1.6	Units: L	, ml	Bet;	Alq): 1.20E-01	Sa): 1.08E-05	L|g): 5.39E+00	± 1.5E+01	I	9.3E+00	Alq L|g

PGW B10JP8DNA8K		0/19/2000 10:05:00 AM	QUAD22D	10/19/2000 1:39:29 PM	B10JP8DNA8K	30	4	0.058333333	37	-0.0733333
DNA8K	LIQUID		Bkg:	10/19/2000 1:27:08 AM	BKG	600	45	0.075	784	1.30666667

Anl Date: 10/19/00	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.80E-01	(uCi/ 1.62E-05	(pCi/ 8.12E+00	± 2.4E+01	CAT	3.1E+00	Lab
Ppt mg: 1.6	Units: L	, ml	Bet;	Alq): -1.72E-01	Sa): -1.55E-05	L|g): -7.75E+00	± 1.9E+01	I	2.0E+00	Alq L|g

PGW B10JP9DNA8R		0/19/2000 10:05:00 AM	QUAD23B	10/19/2000 1:39:27 PM	B10JP9DNA8R	30	3	0.043333333	30	0.06333333
DNA8R	LIQUID		Bkg:	10/19/2000 1:27:18 AM	BKG	600	34	0.056666667	562	0.93666667

Anl Date: 10/19/00	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp;	(Dpm/ 1.31E-01	(uCi/ 1.18E-05	(pCi/ 5.89E+00	± 2.0E+01	CAT	4.2E+00	Lab
Ppt mg: 1.4	Units: L	, ml	Bet;	Alq): 9.31E-02	Sa): 8.39E-06	L|g): 4.19E+00	± 1.6E+01	I	1.2E+01	Alq L|g

PGW B10JR0DNA8V		0/19/2000 10:05:00 AM	QUAD23C	10/19/2000 1:39:27 PM	B10JR0DNA8V	30	2	0	28	0.03333333
DNA8V	LIQUID		Bkg:	10/19/2000 1:27:18 AM	BKG	600	40	0.066666667	540	0.9

Anl Date: 10/19/00	Tot Sa, Alq: 2.00E+00	, 1.00E+01	Alp;	(Dpm/ -8.67E-04	(uCi/ -7.81E-08	(pCi/ -3.91E-02	± 1.8E+01	CAT	2.0E+00	Lab
Ppt mg: 1	Units: L	, ml	Bet;	Alq): 6.47E-02	Sa): 5.83E-06	L|g): 2.91E+00	± 1.6E+01	I	1.7E+01	Alq L|g

PGW B10JX5DNA80		0/19/2000 10:05:00 AM	QUAD24A	10/19/2000 1:39:25 PM	B10JX5DNA80	30	9	0.208333333	42	0.365
DNA80	LIQUID		Bkg:	10/19/2000 1:27:06 AM	BKG	600	55	0.091666667	621	1.035

Anl Date: 10/19/00	Tot Sa, Alq: 4.50E+00	, 1.00E+01	Alp;	(Dpm/ 6.56E-01	(uCi/ 1.33E-04	(pCi/ 2.96E+01	± 2.4E+01	CAT	8.5E-01	Lab
Ppt mg: 2.4	Units: L	, ml	Bet;	Alq): 5.92E-01	Sa): 1.20E-04	L|g): 2.67E+01	± 1.9E+01	I	1.9E+00	Alq L|g

W-21020

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # C01-002-3
		Page 1 of 1

Collector Ed Radford	Contact/Requester	Telephone No. MSIN FAX
SAF No. C01-002	Sampling Origin	Purchase Order/Charge Code
Project Title 100KR4(2) SEEP SAMPLING, OCTOBER 2000	Logbook No.	Ice Chest No. TJ-2 Temp.
Shipped To (Lab) Severn Trent Incorporated	Method of Shipment	Bill of Lading/Air Bill No.
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **
SDG
W03331 J00260277

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Submit deliverables & invoices to JH Kessner
FAX STL log-in to JH Kessner (372-9487) & DL Stewart (372-1704)

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10JX3		W	10/25/00	13:00	1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2
B10JX3		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool 4C
B10JX3		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2) ✓	HNO3 to pH <2
B10JX3		W			1x20-mL P	Activity Scan ✓ DNVG-8	None
B10JX3		W			1x2500-mL G/P	GAMMA_GS_LL: List-1 (9) ✓	HNO3 to pH <2
B10JX3		W			1x1000-mL P	TRITIUM_DIST_LSC: H-3 (1) ✓	None
B10JX4 (F)		W			1x500-mL G/P	6010_METALS_ICP: List-1 (19)	HNO3 to pH <2

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
E. RADFORD Ed Radford	10/25/00 1300	locked storage	10/25/00 1530
locked storage	10/26/00	E. RADFORD Ed Radford	10/26/00
E. RADFORD Ed Radford	10/26/00 11:08	Josh Hughes Josh Hughes	10/26/00 11:08

Matrix *

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

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

0004

Figure 1. Sample Check-in List

Date/Time Received: 10/26/00 11:08 SDG#: W03331

Work Order Number: JQJ260277 SAF#: S01-010 C01-002

Shipping Container ID: TJ-2 Chain of Custody #: S01-010-241,242 C01-002-3

1. Outermost shipping container damaged? Yes [ ] No [X]

2. Custody Seals on shipping container intact? Yes [X] No [ ]

3. Custody Seals dated and signed? Yes [X] No [ ]

4. Chain-of-Custody record present? Yes [X] No [ ]

5. Chain-of-Custody includes the following information:
   - Client name Yes [X] No [ ]
   - Project name or number Yes [X] No [ ]
   - Sample date/time for each sample Yes [X] No [ ]
   - Container types, sizes and number of containers Yes [X] No [ ]
   - Short description of sample, i.e., matrix Yes [X] No [ ]
   - Analyses requested Yes [X] No [ ]
   - Preservation used or "none" or N/A if not applicable Yes [X] No [ ]
   - Date and time of relinquish and receipt Yes [X] No [ ]
   - Signatures of those persons relinquishing and receiving Yes [X] No [ ]

6. Sample numbers on chain of custody match those on sample containers? Yes [X] No [ ]

7. Collection date and date of laboratory receipt are within project specific holding time requirements? Yes [X] No [ ]

8. Cooler temperature: N/A

9. Vermiculite/packing materials is: Wet [ ] Dry [X]

10. Samples have: X tape X hazard labels X custody seals X appropriate sample labels

11. Samples are: X in good condition ____ leaking ____ broken ____ have air bubbles

12. Were any anomalies identified in sample receipt? Yes [ ] No [ ]

13. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: [signature] Date: 10/26/00 11:08

Telephone/Fax/E:mailed to: _____ On _____ By _____

(B) 10/30/00

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW	B10F99DNVFM		10/27/00 1:39:00 PM	QUAD24D	10/30/00 10:32:43 AM	B10F99DNVFM	30	24	0.708333333	85	1.395
	DNVFM	LIQUID		Bkg:	10/28/00 1:34:54 AM		600	55	0.091666667	863	1.43833333

Anl Date: 10/30/00 Tot Sa, Alq: 5.00E+00 , 1.00E+01 Alp; (Dpm/ 2.20E+00 (uCi/ 4.94E-04 (pCi/ 9.89E+01 + 3.2E+01 CAT 2.5E-01 Lab
Ppt mg: 3.3 Units: L , ml Bet; Alq): 2.32E+00 Sa): 5.23E-04 L|g): 1.05E+02 + 2.6E+01 I 4.8E-01 Alq L|g

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW	B10FB2DNVF1		10/27/00 1:39:00 PM	QUAD21B	10/30/00 11:11:40 AM	B10FB2DNVF1	30	11	0.248333333	50	0.69833333
	DNVF1	LIQUID		Bkg:	10/28/00 1:34:46 AM		600	71	0.118333333	581	0.96833333

Anl Date: 10/30/00 Tot Sa, Alq: 5.00E+00 , 1.00E+01 Alp; (Dpm/ 7.87E-01 (uCi/ 1.77E-04 (pCi/ 3.54E+01 + 2.5E+01 CAT 7.1E-01 Lab
Ppt mg: 3.4 Units: L , ml Bet; Alq): 1.21E+00 Sa): 2.73E-04 L|g): 5.45E+01 + 2.1E+01 I 9.2E-01 Alq L|g

CLIENT CODE	ID	MATRIX	RECEIVED	DETECTOR	ACQ DATE	SAMPLE	MINUTES	CNTS A	NET CPM A	CNTS B	NET CPM B
PGW	B10JX3DNVG8		10/27/00 1:39:00 PM	QUAD21C	10/30/00 11:11:40 AM	B10JX3DNVG8	30	7	0.168333333	36	0.28333333
	DNVG8	LIQUID		Bkg:	10/28/00 1:34:46 AM		600	39	0.065	550	0.91666667

Anl Date: 10/30/00 Tot Sa, Alq: 5.00E+00 , 1.00E+01 Alp; (Dpm/ 4.91E-01 (uCi/ 1.10E-04 (pCi/ 2.21E+01 + 2.1E+01 CAT 1.1E+00 Lab
Ppt mg: 1.5 Units: L , ml Bet; Alq): 4.60E-01 Sa): 1.04E-04 L|g): 2.07E+01 + 1.8E+01 I 2.4E+00 Alq L|g

RQC053

Parent Batch:
Associated Batches:
:
:
:
:

Severn Trent Laboratories, Inc.
Information Sheet Rad Prep

****
* *
* QC BATCH: 0341335 *
* *
****

Run Date: 12/06/00
Time: 13:00:49

TA: Gamma by HPGE
AW: Gamma PrpRC5017
5I: CLIENT: HANFORD

Analytical Due Date: 11/27/00

Project Manager: JW2

Lot# / Work Order	Client	Matrix	Analyt Due / Aliquot	Client Name / Geometry	Count Time	Mid/Ave Date/Time	Tracer ID / Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Beta	PM Bin
J0J130123-001	DM34L-1-AE	WATER	11/27/00	Bechtel Hanford, .0000	.000	10/12/00		--	pCi/L	1.47E-14	7.58E-14	JW2
Comments:		WATER								110-10/00		
J0J130123-002	DM35G-1-AE	WATER	11/27/00	Bechtel Hanford, .0000	.000	10/12/00		--	pCi/L	1.51E-14	3.48E-14	JW2
Comments:		WATER								110-10/00		
J0J260277-001	DNVG8-1-AE	WATER	12/11/00	Bechtel Hanford, .0000	.000	10/25/00 13:00		--	pCi/L	2.21E-14	2.07E-14	JW2
Comments:		WATER								117-10/00		
J0J260277-001 X	DNVG8-1-AG	WATER	12/11/00	Bechtel Hanford, .0000	.000	10/25/00 13:00		--	pCi/L	2.21E-14	2.07E-14	JW2
Comments:		WATER								117-10/00		
J0L060000-335 B	DQXFQ-1-AA	WATER	12/11/00	Bechtel Hanford,		10/25/00 13:00		--	pCi/L	**NA	**NA	JW2
Comments:												
J0L060000-335 C	DQXFQ-1-AC	WATER	12/11/00	Bechtel Hanford,		10/25/00 13:00		6	pCi/L	**NA	**NA	JW2
Comments:												

```
************************
*                      *
*  QC BATCH: 0341335   *
*                      *
************************
```

Total Number of Samples In Batch: 00006

Batch Information: Dry Wt: N | Decay Correct: Y | Blank Sub: None | Call In:

Uncert: Both | Sigma: 1.960 | ODR: Target List + Other Detected

BLANK CRDL		Tracer Yield	Type	QC Control Limits
Cobalt 58	--		RPD	
Cobalt 60	25		RPD	
Cesium 137	15		RPD	
Europium 152	50		RPD	
Europium 154	50		RPD	
Europium 155	50		RPD	
Iron 59	--		RPD	

** NYS = Not Yet Screened
** NA = Not Applicable
** Other = Other than Gross Alpha or Gross Beta
++ Indicates that Batch Information has changed for this sample. Print worksheet for details.

RQC053

Parent Batch:
Associated Batches:
:
:
:
:

Severn Trent Laboratories, Inc.
Information Sheet Rad Prep

****
* *
* QC BATCH: 0306450 *
* *
****

Run Date: 12/06/00
Time: 12:59:26

TA: Gamma by HPGE
AW: Gamma PrpRC5017
SI: CLIENT: HANFORD

Analytical Due Date: 11/29/00

Project Manager: JW2

Lot# / Work Order	Client Matrix	Analyt Due / Aliquot	Client Name / Geometry	Count Time	Mid/Ave Date/Time	Tracer ID / Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Beta	PM Bin
J0J180150-001 DNA80-1-AE	WATER	11/29/00	Pacific Northwest .0000	.000	10/17/00 14:04		0.00E+00	pCi/L	2.96E-14	2.67E-14	JW2
Comments: WATER									111-10/00		
J0J180150-001 X DNA80-1-AF	WATER	11/29/00	Pacific Northwest .0000	.000	10/17/00 14:04		0.00E+00	pCi/L	2.96E-14	2.67E-14	JW2
Comments: WATER									111-10/00		
J0K010000-450 B DN663-1-AA	WATER	11/29/00	Pacific Northwest		10/17/00 14:04		0.00E+00	pCi/L	**NA	**NA	JW2
Comments:											
J0K010000-450 C DN663-1-AC	WATER	11/29/00	Pacific Northwest		10/17/00 14:04		6	pCi/L	**NA	**NA	JW2
Comments:											

Total Number of Samples In Batch: 00004

Batch Information:

Dry Wt: N
Uncert: Both

Decay Correct: Y
Sigma: 1.960

Blank Sub: None
ODR: Target List + Other Detected

Call In:

BLANK CRDL	
Beryllium 7	0.00E+00
Cobalt 58	--
Cobalt 60	0.00E+00
Cesium 134	0.00E+00
Cesium 137	6.00E+00
Europium 152	50
Europium 154	0.00E+00
Europium 155	0.00E+00
Iron 59	--
Potassium 40	0.00E+00
Ruthenium 106	0.00E+00
Antimony 125	0.00E+00

Tracer Yield	Type	QC Control Limits
	RPD	
	RPD	
	RPD	
	RPD	
	RPD	
	RPD	
	RPD	
	RPD	
	RPD	
	RPD	
	RPD	
	RPD	

** NYS = Not Yet Screened
** NA = Not Applicable
** Other = Other than Gross Alpha or Gross Beta
++ Indicates that Batch Information has changed for this sample. Print worksheet for details.

RQC053

Parent Batch:
Associated Batches:

H3

α, β, γ

Severn Trent Laboratories, Inc.
Information Sheet Rad Prep

****
* QC BATCH: 0306446 *
****

WD3331

S7: Gross Alpha by GPC using Am-241 curve
AZ: Gross Alpha PrpRC5014
5I: CLIENT: HANFORD

Run Date: 11/01/00
Time: 16:02:15

Analytical Due Date: 11/27/00

Project Manager: JW2

Lot# Work Order	Client	Analyt Matrix	Due Aliquot	Client Name Geometry	Count Time	Mid/Ave Date/Time	Tracer ID Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Beta	PM Bin
J0J130123-001 DM34L-1-AA Comments:	WATER WATER	11/27/00		Bechtel Hanford, .0000	.000	10/12/00		3	pCi/L	1.47E-14 110-10/00	7.58E-14	JW2
J0J130123-001 X DM34L-1-AF Comments:	WATER WATER	11/27/00		Bechtel Hanford, .0000	.000	10/12/00		3	pCi/L	1.47E-14 110-10/00	7.58E-14	JW2
J0J130123-002 DM35G-1-AA Comments:	WATER WATER	11/27/00		Bechtel Hanford, .0000	.000	10/12/00		3	pCi/L	1.51E-14 110-10/00	3.48E-14	JW2
J0J130123-003 DM35J-1-AA Comments:	WATER WATER	11/27/00		Bechtel Hanford, .0000	.000	10/12/00		3	pCi/L	2.82E-14 110-10/00	1.82E-14	JW2
J0J130123-004 DM35K-1-AA Comments:	WATER WATER	11/27/00		Bechtel Hanford, .0000	.000	10/12/00		3	pCi/L	1.10E-14 110-10/00	1.42E-15	JW2
J0J180150-001 DNA80-1-AA Comments:	WATER WATER	11/29/00		Bechtel Hanford, .0000	.000	10/17/00 14:04		3.00E+00	pCi/L	2.96E-14 111-10/00	2.67E-14	JW2
J0J260277-001 DNVG8-1-AA Comments:	WATER WATER	12/11/00		Bechtel Hanford, .0000	.000	10/25/00 13:00		3	pCi/L	2.21E-14 117-10/00	2.07E-14	JW2
J0K010000-446 B DN66V-1-AA Comments:	WATER WATER	11/27/00		Bechtel Hanford,		10/12/00		3	pCi/L	**NA	**NA	JW2
J0K010000-446 C DN66V-1-AC Comments:	WATER WATER	11/27/00		Bechtel Hanford,		10/12/00		400	pCi/L	**NA	**NA	JW2

00050

****
* QC BATCH: 0306446 *
****

Total Number of Samples In Batch: 00009

Batch Information: Dry Wt: N | Decay Correct: Y | Blank Sub: None | Call In:

Uncert: Both | Sigma: 1.960 | ODR: Target List + Other Detected

BLANK CRDL		Tracer Yield	Type	QC Control Limits
Alpha	3		RPD	

** NYS = Not Yet Screened
** NA = Not Applicable
** Other = Other than Gross Alpha or Gross Beta
++ Indicates that Batch Information has changed for this sample. Print worksheet for details.

RQC053

Parent Batch:
Associated Batches:

H3

α, β, γ

Severn Trent Laboratories, Inc.
Information Sheet Rad Prep

****
* QC BATCH: 0306448 *
****

W03331

S8: Gross Beta by GPC using Sr/Y-90 curve
BC: Gross Beta PrpRC5014
5I: CLIENT: HANFORD

Run Date: 11/01/00
Time: 16:03:21

Page: 1

Analytical Due Date: 11/27/00

Project Manager: JW2

Lot# / Work Order	Client	Matrix	Analyt Due / Aliquot	Client Name / Geometry	Count Time	Mid/Ave Date/Time	Tracer ID / Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Beta	PM Bin
J0J130123-001 DM34L-1-AC Comments:	WATER WATER		11/27/00 .0000	Bechtel Hanford,	.000	10/12/00		4	pCi/L	1.47E-14 110-10/00	7.58E-14	JW2
J0J130123-002 DM35G-1-AC Comments:	WATER WATER		11/27/00 .0000	Bechtel Hanford,	.000	10/12/00		4	pCi/L	1.51E-14 110-10/00	3.48E-14	JW2
J0J130123-002 X DM35G-1-AF Comments:	WATER WATER		11/27/00 .0000	Bechtel Hanford,	.000	10/12/00		4	pCi/L	1.51E-14 110-10/00	3.48E-14	JW2
J0J130123-003 DM35J-1-AC Comments:	WATER WATER		11/27/00 .0000	Bechtel Hanford,	.000	10/12/00		4	pCi/L	2.82E-14 110-10/00	1.82E-14	JW2
J0J130123-004 DM35K-1-AC Comments:	WATER WATER		11/27/00 .0000	Bechtel Hanford,	.000	10/12/00		4	pCi/L	1.10E-14 110-10/00	1.42E-15	JW2
J0J180150-001 DNA80-1-AC Comments:	WATER WATER		11/29/00 .0000	Bechtel Hanford,	.000	10/17/00 14:04		4.00E+00	pCi/L	2.96E-14 111-10/00	2.67E-14	JW2
J0J260277-001 DNVG8-1-AC Comments:	WATER WATER		12/11/00 .0000	Bechtel Hanford,	.000	10/25/00 13:00		4	pCi/L	2.21E-14 117-10/00	2.07E-14	JW2
J0K010000-448 B DN66X-1-AA Comments:	WATER WATER		11/27/00	Bechtel Hanford,		10/12/00		4	pCi/L	**NA	**NA	JW2
J0K010000-448 C DN66X-1-AC Comments:	WATER WATER		11/27/00	Bechtel Hanford,		10/12/00		400	pCi/L	**NA	**NA	JW2

00052

****
* QC BATCH: 0306448 *
****

Total Number of Samples In Batch: 00009

Batch Information: Dry Wt: N | Decay Correct: Y | Blank Sub: None | Call In:

Uncert: Both | Sigma: 1.960 | ODR: Target List + Other Detected

BLANK CRDL		Tracer Yield	Type	QC Control Limits
Beta	4		RPD	

** NYS = Not Yet Screened
** NA = Not Applicable
** Other = Other than Gross Alpha or Gross Beta
++ Indicates that Batch Information has changed for this sample. Print worksheet for details.

RQC053

Parent Batch:
Associated Batches:

H_3

α, β, γ

Severn Trent Laboratories, Inc.
Information Sheet Rad Prep

****
* QC BATCH: 0306444 *
****

W03331

S6: Tritium by Liquid Scint
AR: H-3 Prp/SepRC5007
5I: CLIENT: HANFORD

Run Date: 11/01/00
Time: 16:00:57

Page: 1

Analytical Due Date: 11/27/00

Project Manager: JW2

Lot# / Work Order	Client Matrix	Analyt Due	Client Aliquot	Name / Geometry	Count Time	Mid/Ave Date/Time	Tracer ID / Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Beta	PM Bin
J0J130123-001 DM34L-1-AD Comments:	WATER WATER	11/27/00	.0000	Bechtel Hanford,	.000	10/12/00		400	pCi/L	1.47E-14 110-10/00	7.58E-14	JW2
J0J130123-002 DM35G-1-AD Comments:	WATER WATER	11/27/00	.0000	Bechtel Hanford,	.000	10/12/00		400	pCi/L	1.51E-14 110-10/00	3.48E-14	JW2
J0J130123-003 DM35J-1-AD Comments:	WATER WATER	11/27/00	.0000	Bechtel Hanford,	.000	10/12/00		400	pCi/L	2.82E-14 110-10/00	1.82E-14	JW2
J0J130123-004 DM35K-1-AD Comments:	WATER WATER	11/27/00	.0000	Bechtel Hanford,	.000	10/12/00		400	pCi/L	1.10E-14 110-10/00	1.42E-15	JW2
J0J180150-001 DNA80-1-AD Comments:	WATER WATER	11/29/00	.0000	Bechtel Hanford,	.000	10/17/00 14:04		4.00E+02	pCi/L	2.96E-14 111-10/00	2.67E-14	JW2
J0J260277-001 DNVG8-1-AD Comments:	WATER WATER	12/11/00	.0000	Bechtel Hanford,	.000	10/25/00 13:00		400	pCi/L	2.21E-14 117-10/00	2.07E-14	JW2
J0J260277-001 X DNVG8-1-AF Comments:	WATER WATER	12/11/00	.0000	Bechtel Hanford,	.000	10/25/00 13:00		400	pCi/L	2.21E-14 117-10/00	2.07E-14	JW2
J0K010000-444 B DN66M-1-AA Comments:	WATER WATER	12/11/00		Bechtel Hanford,		10/25/00 13:00		400	pCi/L	**NA	**NA	JW2
J0K010000-444 C DN66M-1-AC Comments:	WATER WATER	12/11/00		Bechtel Hanford,		10/25/00 13:00		400	pCi/L	**NA	**NA	JW2

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* QC BATCH: 0306444 *
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Lot# / Work Order	Client	Matrix	Analyt Due / Aliquot	Client Name / Geometry	Count Time	Mid/Ave Date/Time	Tracer ID / Spike ID	CRDL	Units	Screen Info - (Ci) Alpha	Beta	PM Bin
J0K010000-444 B DN66M-1-AD		WATER	12/11/00	Bechtel Hanford,		10/25/00 13:00		400	pCi/L	**NA	**NA	JW2
Comments:												
J0K010000-444 C DN66M-1-AE		WATER	12/11/00	Bechtel Hanford,		10/25/00 13:00		400	pCi/L	**NA	**NA	JW2
Comments:												
J0K010000-444 B DN66M-1-AF		WATER	12/11/00	Bechtel Hanford,		10/25/00 13:00		400	pCi/L	**NA	**NA	JW2
Comments:												
J0K010000-444 B DN66M-1-AG		WATER	12/11/00	Bechtel Hanford,		10/25/00 13:00		400	pCi/L	**NA	**NA	JW2
Comments:												

Total Number of Samples In Batch: 00013

Batch Information: Dry Wt: N | Decay Correct: Y | Blank Sub: None | Call In:

Uncert: Both | Sigma: 1.960 | ODR: Target List + Other Detected

BLANK CRDL		Tracer Yield	Type	QC Control Limits
Tritium	400		RPD	

** NYS = Not Yet Screened
** NA = Not Applicable
** Other = Other than Gross Alpha or Gross Beta
++ Indicates that Batch Information has changed for this sample. Print worksheet for details.