



U.S. DEPARTMENT OF  
**ENERGY**

PNNL- SA-62654

Prepared for the U.S. Department of Energy  
under Contract DE-AC05-76RL01830

# Analytical Data Report for Water Samples Collected From the 100- KR-4 OU

Michael Lindberg

September 2008



**Pacific Northwest**  
NATIONAL LABORATORY

09/28/08 08:11

To: Dana Widrig

From: Michael J. Lindberg

A handwritten signature in black ink, appearing to read 'MJL', with a stylized flourish at the end.

Environmental Sciences Laboratory  
Energy and Environment Directorate, Pacific Northwest National Laboratory

Subject: Analytical Data Report for Water Samples Collected From the 100-KR-4 OU, Sample Delivery Group  
ESL080030, SAF Number F08-146

This letter contains the following information for sample delivery group ESL080030

- Cover Sheet
- Narrative
- Analytical Results
- Quality Control
- Chain of Custodies

## **Introduction**

Between September 3, 2008 and September 3, 2008 water samples were received from the 100-KR-4 OU for geochemical studies.

## **Analytical Results/Methodology**

The analyses for this project were performed at the 325 building located in the 300 Area of the Hanford Site. The analyses were performed according to Pacific Northwest National Laboratory (PNNL) approved procedures and/or nationally recognized test procedures. The data sets include the sample identification numbers, analytical results, estimated quantification limits (EQL), and quality control data.

## **Quality Control**

The preparatory and analytical quality control requirements, calibration requirements, acceptance criteria, and failure actions are defined in the on-line QA plan "Conducting Analytical Work in Support of Regulatory Programs" (CAW). This QA plan implements the Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD) for PNNL.

## **Definitions**

Dup	Duplicate
RPD	Relative Percent Difference

## **Sample Receipt**

Samples were received with a chain of custody (COC) and were analyzed according to the sample identification numbers supplied by the client. All Samples were refrigerated upon receipt until prepared for analysis.

All samples were received with custody seals intact unless noted in the Case Narrative.

## **Holding Times**

Holding time is defined as the time from sample preparation to the time of analyses. The prescribed holding times were met for all analytes unless noted in the Case Narrative.

## **Analytical Results**

All reported analytical results meet the requirements of the CAW or client specified SOW unless noted in the case narrative.

## Case Narrative Report

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### SAMPLES INCLUDED IN THIS REPORT

#### K-west characterization C6451

HEIS No.	Laboratory ID	Matrix	Date Collected	Date Received
B1WMR3	0809001-01	WATER	9/3/08 08:01	9/3/08 14:45
B1WMR4	0809001-02	WATER	9/3/08 13:22	9/3/08 14:45

The following analyses were performed on the following samples included in this report:

Anions By Ion Chromatography

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**SAMPLES ANALYZED IN THIS REPORT**

<b>HEIS No.</b>	<b>Laboratory ID</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Date Received</b>
B1WMR3	0809001-01	WATER	9/3/08 08:01	9/3/08 14:45
B1WMR4	0809001-02	WATER	9/3/08 13:22	9/3/08 14:45

## Anions by Ion Chromatography

CAS #	Analyte	Results	Units	EQL	Analyzed	Batch	Method
<b>HEIS No.</b>	<b>B1WMR3</b>	<b>Lab ID:</b>		<b>0809001-01</b>			
16984-48-8	Fluoride	2.50E-1	ug/mL	2.00E-1	9/04/08	8I04003	AGG-IC-001
16887-00-6	Chloride	1.03E1	ug/mL	5.00E-1	9/04/08	8I04003	AGG-IC-001
14797-65-0	Nitrite	<1.00E0	ug/mL	1.00E0	9/04/08	8I04003	AGG-IC-001
24959-67-9	Bromide	<1.00E0	ug/mL	1.00E0	9/04/08	8I04003	AGG-IC-001
14797-55-8	Nitrate	1.77E1	ug/mL	1.00E0	9/04/08	8I04003	AGG-IC-001
14808-79-8	Sulfate	6.99E1	ug/mL	1.50E0	9/04/08	8I04003	AGG-IC-001
14265-44-2	Phosphate	<1.50E0	ug/mL	1.50E0	9/04/08	8I04003	AGG-IC-001
<b>HEIS No.</b>	<b>B1WMR4</b>	<b>Lab ID:</b>		<b>0809001-02</b>			
16984-48-8	Fluoride	2.55E-1	ug/mL	2.00E-1	9/04/08	8I04003	AGG-IC-001
16887-00-6	Chloride	8.17E0	ug/mL	5.00E-1	9/04/08	8I04003	AGG-IC-001
14797-65-0	Nitrite	<1.00E0	ug/mL	1.00E0	9/04/08	8I04003	AGG-IC-001
24959-67-9	Bromide	<1.00E0	ug/mL	1.00E0	9/04/08	8I04003	AGG-IC-001
14797-55-8	Nitrate	1.61E1	ug/mL	1.00E0	9/04/08	8I04003	AGG-IC-001
14808-79-8	Sulfate	4.41E1	ug/mL	1.50E0	9/04/08	8I04003	AGG-IC-001
14265-44-2	Phosphate	<1.50E0	ug/mL	1.50E0	9/04/08	8I04003	AGG-IC-001



## COLLECTOR

Cane

## SAMPLING LOCATION

C6451 I-011

## ICE CHEST NO.

## SHIPPED TO

Environmental Sciences Laboratory

## COMPANY CONTACT

TRENT, SJ

## TELEPHONE NO.

373-5869

## PROJECT COORDINATOR

WIDRIG, DL

## PRICE CODE

7N

DATA  
TURNAROUND

## AIR QUALITY

☐45 Days / 45  
Days

## PROJECT DESIGNATION

K-West Characterization - Groundwater

## FIELD LOGBOOK NO.

ANF-N-585-10

## ACTUAL SAMPLE DEPTH

162.75'

## COA

123630E510

## METHOD OF SHIPMENT

GOVERNMENT VEHICLE

## OFFSITE PROPERTY NO.

## BILL OF LADING/AIR BILL NO.

## MATRIX\*

A=Air  
DL=Drum  
Liquids  
DS=Drum  
Solids  
L=Liquid  
O=Oil  
S=Soil  
SE=Sediment  
T=Tissue  
V=Vegetation  
W=Water  
WI=Wipe  
X=OtherPOSSIBLE SAMPLE HAZARDS/ REMARKS  
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

## PRESERVATION

Cool~4C

## TYPE OF CONTAINER

P

## NO. OF CONTAINER(S)

1

## VOLUME

500mL

## SAMPLE ANALYSIS

SEE ITEM (1) IN  
SPECIAL  
INSTRUCTIONS

## SPECIAL HANDLING AND/OR STORAGE

Radioactive to BLM Pipe 9/3/07

## SAMPLE NO.

## MATRIX\*

## SAMPLE DATE

## SAMPLE TIME

B1WMR4

WATER

9-3-09

1322

-

## CHAIN OF POSSESSION

## SIGN/ PRINT NAMES

## SPECIAL INSTRUCTIONS

(1)IC Anions - 300.0 (Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate)

## RELINQUISHED BY/REMOVED FROM

## DATE/TIME

## RECEIVED BY/STORED IN

## DATE/TIME

## RELINQUISHED BY/REMOVED FROM

## DATE/TIME

## RECEIVED BY/STORED IN

## DATE/TIME

## RELINQUISHED BY/REMOVED FROM

## DATE/TIME

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## DATE/TIME

## RELINQUISHED BY/REMOVED FROM

## DATE/TIME

## RECEIVED BY/STORED IN

## DATE/TIME

## LABORATORY SECTION

## RECEIVED BY

## TITLE

## DATE/TIME

## FINAL SAMPLE DISPOSITION

## DISPOSAL METHOD

## DISPOSED BY

## DATE/TIME