



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

W06-008

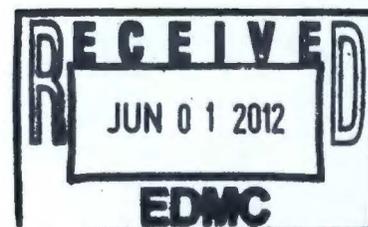
Lot #: F7B010236
SDG #: SL648A

Dot Stewart

Pacific Northwest National Lab
3110 Port of Benton Blvd.
Sigma 5 MS K694
Richland, WA 99352

SEVERN TRENT LABORATORIES, INC.

Brian O'Donnell
Project Manager



April 17, 2007

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CASE NARRATIVE

Pacific Northwest National Laboratories
P.O. Box 1970
Richland, Washington 99352

April 17, 2007

Attention: Dot Stewart

SDG	:	SL648A
Number of Samples	:	1
Sample Matrix	:	Water
Data Deliverable	:	RDR- R3667
Date SDG Closed	:	January 23, 2007

II. Introduction

On January 23, 2007 data reanalysis orders were received at STL-St. Louis.

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: see attached copy of RDR

Deviation from Request: No Deviation from requested methods.

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

V. Comments

General: The reanalysis request consists of RDR# '070123STLSL-R3667. A copy of the request is included in this package for reference.



Pacific Northwest National Laboratories
February 14, 2007
SDG: SL645A
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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.

Anion Results:

The reanalysis results for anions chloride, sulfate and fluoride (40.4, 196 and 0.68 mg/L respectively) are comparable to the original results (35.7, 174 and 0.58 mg/L).

The reanalysis results for nitrate and nitrite (39.4 mg/L and 0.20 mg/L) are higher than those in the original report (16.4 mg/L and ND). No cause for the variance was noted.

Analysis Comments:

The anion matrix spike solution contains all routine anions. Spiking technique, sample preparation and method compliance is demonstrated by the remaining acceptable MS recoveries. Poor matrix spike recovery for Nitrite in batch 7036228, Chloride in batch 7036225, Fluoride in batch 7036226, Sulfate in batch 7036227, and Nitrate in batch 7036229 is attributed to matrix interference.

The sample duplicate %RPD for Nitrite in batch 7036228 is outside the established QC limits. A matrix interference is physically evident in the sample. Method performance is demonstrated by acceptable LCS recovery. No further action is required.

The reanalysis was performed beyond the method required holding time.

Affected Samples:

F7B010236 (1): B1K251

I certify that this Summary Package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

Brian O'Donnell

St. Louis Project Manager

METHODS SUMMARY

SL648A

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Chloride	MCAWW 300.0A	MCAWW 300.0A
Fluoride	MCAWW 300.0A	MCAWW 300.0A
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.

SAMPLE SUMMARY

SL648A : F7B010236

WO #	SAMPLE#	CLIENT	SAMPLE ID	SAMPLED DATE	SAMP TIME
JNQX3	001	B1K251		11/07/06	13:06

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.

WET CHEMISTRY

Pacific Northwest National Laboratory

Client Sample ID: B1K251

General Chemistry

Lot-Sample #...: F7B010236-001
Date Sampled...: 11/07/06

Work Order #...: JNQX3
Date Received...: 02/01/07

Matrix.....: WATER

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride	40.4 C, DN	2.0	mg/L	MCAWW 300.0A	02/02/07	7036225
	Dilution Factor: 10			MDL.....: 0.23		
Fluoride	0.68 N	0.10	mg/L	MCAWW 300.0A	02/02/07	7036226
	Dilution Factor: 1			MDL.....: 0.020		
Nitrite	3.8 DN	0.20	mg/L	MCAWW 300.0A	02/02/07	7036228
	Dilution Factor: 10			MDL.....: 0.040		
Nitrogen, Nitrate	39.4 DN	2.0	mg/L	MCAWW 300.0A	02/02/07	7036229
	Dilution Factor: 100			MDL.....: 0.40		
Sulfate	196 DN	10.0	mg/L	MCAWW 300.0A	02/02/07	7036227
	Dilution Factor: 20			MDL.....: 1.0		

NOTE(S) :

- RI. Reporting Limit
- C Analyte detected in method blank above the MDL/IDL.
- DN Result obtained from dilution; spike sample recovery outside control limits.
- N Spiked analyte recovery is outside stated control limits.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: SL648A

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride	0.045 B	0.20	mg/L	MCAWW 300.0A	F7B050000-225 02/02/07	7036225
		Work Order #: JN2191AA MB Lot-Sample #: F7B050000-225				
		Dilution Factor: 1				
Fluoride	ND	0.10	mg/L	MCAWW 300.0A	F7B050000-226 02/02/07	7036226
		Work Order #: JN22C1AA MB Lot-Sample #: F7B050000-226				
		Dilution Factor: 1				
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	F7B050000-228 02/02/07	7036228
		Work Order #: JN22M1AA MB Lot-Sample #: F7B050000-228				
		Dilution Factor: 1				
Nitrogen, Nitrate	ND	0.020	mg/L	MCAWW 300.0A	F7B050000-229 02/02/07	7036229
		Work Order #: JN22P1AA MB Lot-Sample #: F7B050000-229				
		Dilution Factor: 1				
Sulfate	ND	0.50	mg/L	MCAWW 300.0A	F7B050000-227 02/02/07	7036227
		Work Order #: JN22G1AA MB Lot-Sample #: F7B050000-227				
		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

General Chemistry

Lot-Sample #...: SL648A

Matrix.....: WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride				WO#:JN2191AC-LCS/JN2191AD-LCSD LCS Lot-Sample#: F7B050000-225				
	2.00	1.91	mg/L	96		MCAWW 300.0A	02/02/07	7036225
	2.00	1.97	mg/L	99	3.1	MCAWW 300.0A	02/02/07	7036225
	Dilution Factor: 1							
Fluoride				WO#:JN22C1AC-LCS/JN22C1AD-LCSD LCS Lot-Sample#: F7B050000-226				
	1.00	0.909	mg/L	91		MCAWW 300.0A	02/02/07	7036226
	1.00	0.908	mg/L	91	0.15	MCAWW 300.0A	02/02/07	7036226
	Dilution Factor: 1							
Nitrite				WO#:JN22M1AC-LCS/JN22M1AD-LCSD LCS Lot-Sample#: F7B050000-228				
	0.160	0.167	mg/L	105		MCAWW 300.0A	02/02/07	7036228
	0.160	0.169	mg/L	106	1.1	MCAWW 300.0A	02/02/07	7036228
	Dilution Factor: 1							
Nitrogen, Nitrate				WO#:JN22P1AC-LCS/JN22P1AD-LCSD LCS Lot-Sample#: F7B050000-229				
	0.400	0.402	mg/L	101		MCAWW 300.0A	02/02/07	7036229
	0.400	0.369	mg/L	92	8.6	MCAWW 300.0A	02/02/07	7036229
	Dilution Factor: 1							
Sulfate				WO#:JN22G1AC-LCS/JN22G1AD-LCSD LCS Lot-Sample#: F7B050000-227				
	8.00	7.87	mg/L	98		MCAWW 300.0A	02/02/07	7036227
	8.00	7.98	mg/L	100	1.3	MCAWW 300.0A	02/02/07	7036227
	Dilution Factor: 1							

NOTE(S) :

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

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: SL648A
Date Sampled...: 01/31/07

Date Received...: 02/02/07

Matrix.....: WATER

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED		PERCENT RECOVERY	METHOD	PREPARATION-		PREP BATCH #
			AMOUNT	UNITS			ANALYSIS DATE		
Chloride	21.0	40.0	68.0 N,D	mg/L	117	MCAWW 300.0A	02/02/07	7036225	
			Work Order #...: JNTQF1AH			MS Lot-Sample #: F7B020177-004			
			Dilution Factor: 20						
Fluoride	0.28	2.00	2.50 N	mg/L	111	MCAWW 300.0A	02/02/07	7036226	
			Work Order #...: JNTQF1AJ			MS Lot-Sample #: F7B020177-004			
			Dilution Factor: 1						
Nitrate	9.2	8.00	19.0 N,D	mg/L	122	MCAWW 300.0A	02/02/07	7036229	
			Work Order #...: JNTQF1AM			MS Lot-Sample #: F7B020177-004			
			Dilution Factor: 20						
Nitrite	0.30	0.100	0.738 N	mg/L	436	MCAWW 300.0A	02/02/07	7036228	
			Work Order #...: JNTQF1AL			MS Lot-Sample #: F7B020177-004			
			Dilution Factor: 1						
Sulfate	64.1	80.0	156 N,D	mg/L	114	MCAWW 300.0A	02/02/07	7036227	
			Work Order #...: JNTQF1AK			MS Lot-Sample #: F7B020177-004			
			Dilution Factor: 20						

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.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F7B010236

Work Order #...: JNTQF-SMP
JNTQF-DUP

Matrix.....: WATER

Date Sampled...: 01/31/07

Date Received...: 02/02/07

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride	21.0 C,DN	20.8 DCN	mg/L	0.99	(0-20)	SD Lot-Sample #: F7B020177-004 MCAWW 300.0A	02/02/07	7036225
						Dilution Factor: 20		
Fluoride	0.28 N	0.26 N	mg/L	5.1	(0-20)	SD Lot-Sample #: F7B020177-004 MCAWW 300.0A	02/02/07	7036226
						Dilution Factor: 1		
Sulfate	64.1 DN	65.4 DN	mg/L	2.0	(0-20)	SD Lot-Sample #: F7B020177-004 MCAWW 300.0A	02/02/07	7036227
						Dilution Factor: 20		
Nitrite	0.30 N	ND	mg/L	200	(0-20)	SD Lot-Sample #: F7B020177-004 MCAWW 300.0A	02/02/07	7036228
						Dilution Factor: 1		
Nitrate	9.2 DN	9.3 DN	mg/L	0.87	(0-20)	SD Lot-Sample #: F7B020177-004 MCAWW 300.0A	02/02/07	7036229
						Dilution Factor: 20		

NOTE (S) :

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

DCN Result from dilution; analyte detected in blank; spike recovery outside limits.

C Analyte detected in method blank above the MDL/IDL.

DN Result obtained from dilution; spike sample recovery outside control limits.

N Spiked analyte recovery is outside stated control limits.

01/23/2007
RECHECK, RECOUNT, OR REANALYSIS ORDER
CONTRACT NO MW6-SBB-A19981

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

Battelle PNNL Order Number: 070123STLSL-R3667

Sample Delivery Group: SL648

Special Instructions None

Samples(s)

Lab Sample ID	PNNL Sample	Action	TAT	METHOD_NAME:
F6K080202003	B1K251	Reanalysis	15/15	300.0_ANIONS_IC

Deliver Report Results to: Dorothy L. Stewart, K6-96
c/o Secretary
3110 Port of Benton Blvd.
Richland, WA 99352

The report results must reference the Battelle PNNL-order number, SDG number, and the Battelle PNNL sample identification number shown above.

WET CHEMISTRY

Is data submitted to Document Control

Group	Method/Test	Lot ID	R/R	Batch	Data In	Date Received
WET						
	Chloride (300.0A, Ion Chromatography)	F7B010236	R	7036225	<input checked="" type="checkbox"/>	2/8/2007
	Fluoride (300.0A, Ion Chromatography)	F7B010236	R	7036226	<input checked="" type="checkbox"/>	2/8/2007
	Nitrate as N (300.0A, Ion Chromatography)	F7B010236	R	7036229	<input checked="" type="checkbox"/>	2/8/2007
	Nitrite as N (300.0A, Ion Chromatography)	F7B010236	R	7036228	<input checked="" type="checkbox"/>	2/8/2007
	Sulfate (300.0A, Ion Chromatography)	F7B010236	R	7036227	<input checked="" type="checkbox"/>	2/8/2007

SL 648A
-file
-print wet chem

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PROJECT MANAGEMENT / DATA REPORTING FORM

DATE: 4-17-07
CLIENT: Hanford/PNNL
LOT #: SL648^{HN 417-07} F7B010236
SDG #: SL648A
PM: Brian O'Donnell
DUE: _____

ORIGINAL COC WITH REPORT: YES NO
ORIGINAL LETTER HEAD WITH REPORT: YES NO

TYPE: REPORT FULL DATA PACKAGE FORMS

EDD: PM SEND VIA EMAIL REPORTING SEND ON CD

NOTES: Assigned to Matt

SHIPPING:

FEDEX GROUND MAIL
 2ND DAY INTERNAL POST
 STD OVERNIGHT 3PM PM EMAIL - DATE SENT: 4-17-07
 PRIORITY OVERNIGHT 10:30AM
 1ST OVERNIGHT 8:30AM

SEND TO CLIENT:

HARDCOPY ONLY
 CD ONLY
 HARDCOPY AND CD
 NUMBER OF COPIES

NOTES FOR PROJECT MANAGEMENT :

NOTES FOR DATA REPORTING:

R02 to Dot
Needs Section Dividers

