Department of Energy
Office of Legacy Management

S Cohen

FEB 15 2007

Mr. Don Aragon
Wind River Environmental Quality
Shoshone & Northern Arapaho Tribes
P.O. Box 217
Fort Washakie, WY 82514

Subject: Transmittal of the June 2006 Data Validation Package for the Riverton, Wyoming, Site

Dear Mr. Aragon:

Enclosed is your copy of the data validation package presenting results of the validation and evaluation of the data collected during the June 2006 sampling event conducted at the Riverton, Wyoming, Site.

This sampling event consisted of sampling 16 monitor wells, 9 domestic wells, and 9 surface water locations at the Riverton processing site as specified in the *Long-Term Surveillance and Maintenance for the Riverton, Wyoming, Processing Site*.

Although concentrations of molybdenum and uranium in samples collected from surficial aquifer wells continue to exceed their respective Environmental Protection Agency (EPA) ground water standard, concentrations continue to trend downward, indicating natural flushing is progressing. Concentration of molybdenum and uranium in samples collected from semi-confined aquifer monitor wells and confined aquifer domestic wells were below their respective EPA standard.

All data were checked against laboratory analytical quality control criteria and data not meeting the criteria were qualified per the *Standard Practice for Validation of Laboratory Data*. All data in this package are considered validated and available for use.

Please contact me at (970) 248-6073 or Sam Campbell at (970) 248-6654 if you have any questions.

Sincerely,

Tracy Plessinger
Site Manager

Enclosure

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cc w/enclosure:
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Riverton Branch Library
Project File GJO 410.02 (D. Roberts)

cc w/o enclosure:
S. Campbell, Stoller
C. Carpenter, Stoller

Sampling Events-DVP's/DVP Riverton June 2006.doc

DOE–LM/1337–2006

Data Validation Package

June 2006
Riverton, Wyoming
Processing Site

September 2006

U.S. Department of Energy
Office of Legacy Management

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for the U.S. Department of Energy Office of Legacy Management.
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Contents

Sampling Event Summary

Site: Riverton, Wyoming, Processing Site

Sampling Period: June 12-16, 2006

The *Long-Term Management Plan* (LTMP) *for the Riverton, Wyoming, Processing Site* (in progress) requires semiannual monitoring to evaluate contaminant plume movement and assess the progress of the natural flushing compliance strategy. This event involved sampling 16 monitor wells, 9 surface water locations, and 9 domestic wells at the Riverton, Wyoming, Processing Site. Water levels were measured at all sampled monitor wells and 22 additional monitor wells that were not sampled; water level data also was downloaded from data loggers at four monitor wells. Sampling and analysis was conducted as specified in LTMP and the *Sampling and Analysis Plan for the U. S. Department of Energy Office of Legacy Management Sites* (May 2006).

Results from this sampling event do not indicate any unexpected movement of contaminated ground water. Concentrations of molybdenum and uranium in samples collected from semi-confined aquifer monitor wells and confined aquifer domestic wells were below the respective U.S. Environmental Protection Agency (EPA) (40 *Code of Federal Regulations* [CFR] 192) ground water standard. Although concentrations of molybdenum and uranium in the surficial aquifer currently exceed the respective EPA ground water standard, concentrations continue to trend downward as shown in the time versus concentration graphs, which are included in the Data Presentation section. Ground water modeling predicts that natural flushing of the surficial aquifer will reduce concentrations below standards within 100 years. The EPA ground water standards for molybdenum and uranium were exceeded in samples collected from surficial aquifer monitor wells listed in Table 1.

Table 1. Riverton Wells with Samples that Exceeded EPA Groundwater Standards in June 2006

Analyte	Standard[a]	Location	Concentration
Molybdenum	0.1	0707	0.77
		0716	0.19
Uranium	0.044	0707	0.81
		0716	0.26
		0718	0.19

[a] Standards are listed in 40 CFR 192.02 Table 1 to Subpart A; concentrations are in mg/L.

Surface water results were compared to benchmark values for molybdenum (0.01 milligrams per liter [mg/L]) and uranium (0.012 mg/L) derived from historical data at surface water location 0794, which is on the Little Wind River upstream of the site and represents background

conditions (see sample monitoring location map). Molybdenum and uranium concentrations from Little Wind River locations 0796, 0811, and 0812 were below their respective benchmark values, which indicate minimal site-related impact on the water quality of the Little Wind River. In addition, molybdenum and uranium concentrations from surface water locations 0810 (constructed wetlands), 0822 (west side irrigation ditch), and 0823 (gravel pit pond) were below their respective benchmark values, which indicate minimal site-related impact to these surface water features.

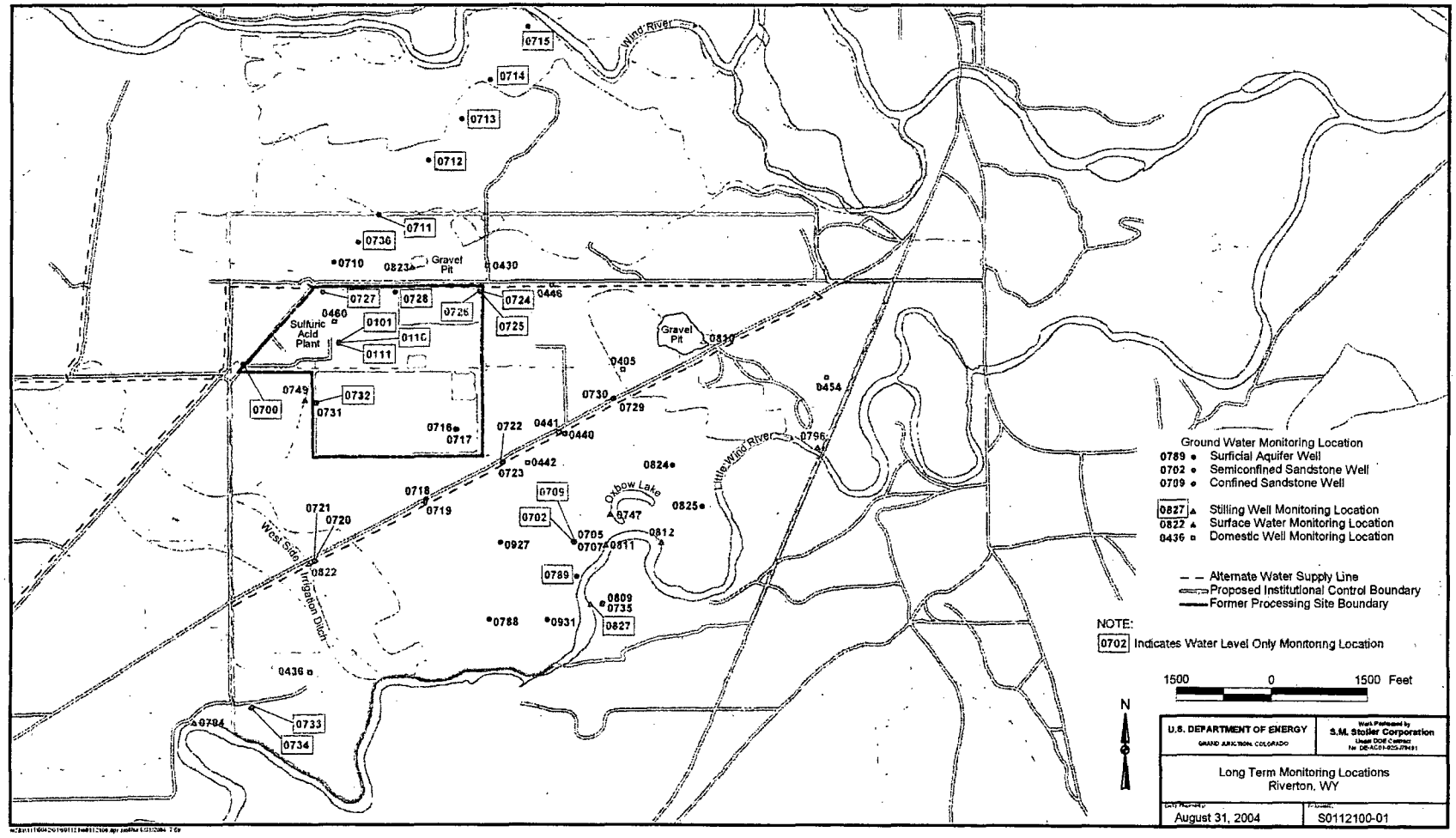
The benchmark values for molybdenum and uranium were exceeded in the samples collected from Oxbow Lake (location 0747). Oxbow Lake receives discharge of contaminated ground water and elevated concentrations are expected. The sample collected at the ditch that discharges from the Peak Sulfur plant (0749) had elevated concentrations of sulfate (2,250 mg/L). The elevated sulfate concentration from the Peak Sulfur ditch has affected the sulfate concentration downstream in the west side irrigation ditch (901 mg/L at location 0822).

Water level data collected from this event show that the ground water in the surficial aquifer at the Riverton site continues to flow to the southeast (refer to the figure in the "Static Water Level Data" section).

Sam Campbell 9-28-06

Sam Campbell
Site Lead, S.M. Stoller

Date



Riverton, Wyoming, Processing Site, Sample Monitoring Locations

Data Assessment Summary

Water Sampling Field Activities Verification Checklist

Project	Riverton, Wyoming	**Date(s) of Water Sampling**	June 12-16, 2006
Date(s) of Verification	September 7, 2006	**Name of Verifier**	Steve Donivan

	Response (Yes, No, NA)	Comments
1. Is the SAP the primary document directing field procedures?	Yes	
List other documents, SOP's, instructions.		Work Order letter dated May 3, 2006
2. Were the sampling locations specified in the planning documents sampled?	Yes	Monitor well 0784 was sampled instead of monitor well 0731. This change was implemented to exchange a Category III well (0731) for an adjacent Category I well (0784). Well 0722 had been destroyed by heavy equipment previous to this sampling event and was inadvertently left on the sampling list. Well 0718 was inadvertently removed from the list and was sampled.
3. Was a pre-trip calibration conducted as specified in the above named documents?	Yes	
4. Was an operational check of the field equipment conducted twice daily?	Yes	
Did the operational checks meet criteria?	Yes	
5. Were the number and types (alkalinity, temperature, Ec, pH, turbidity, DO, ORP) of field measurements taken as specified?	Yes	
6. Was the Category of the well documented?	Yes	
7. Were the following conditions met when purging a Category I well:		
Was one pump/tubing volume purged prior to sampling?	Yes	
Did the water level stabilize prior to sampling?	Yes	
Did pH, specific conductance, and turbidity measurements stabilize prior to sampling?	Yes	
Was the flow rate less than 500 mL/min?	Yes	
If a portable pump was used, was there a 4-hour delay between pump installation and sampling?	NA	

Water Sampling Field Activities Verification Checklist (continued)

	Response (Yes, No, NA)	Comments
8. Were the following conditions met when purging a Category II well:		
Was the flow rate less than 500 mL/min?	Yes	
Was one pump/tubing volume removed prior to sampling?	Yes	
9. Were duplicates taken at a frequency of one per 20 samples?	Yes	
10. Were equipment blanks taken at a frequency of one per 20 samples that were collected with nondedicated equipment?	Yes	
11. Were trip blanks prepared and included with each shipment of VOC samples?	NA	
12. Were QC samples assigned a fictitious site identification number?		
Was the true identity of the samples recorded on the Quality Assurance Sample Log?	Yes	
13. Were samples collected in the containers specified?	Yes	
14. Were samples filtered and preserved as specified?	Yes	
15. Were the number and types of samples collected as specified?	Yes	
16. Were chain of custody records completed and was sample custody maintained?	Yes	
17. Are field data sheets signed and dated by both team members?	Yes	
18. Was all other pertinent information documented on the field data sheets?	Yes	
19. Was the presence or absence of ice in the cooler documented at every sample location?	Yes	
20. Were water levels measured at the locations specified in the planning documents?	Yes	

Laboratory Performance Assessment

General Information

Report Number (RIN):	06050390
Sample Event:	June 13-15, 2006
Site(s):	Riverton, Wyoming
Laboratory:	Paragon Analytics
Work Order No.:	0606166
Analysis:	Metals and Radiochemistry
Validator:	Steve Donivan
Review Date:	August 9, 2006

This validation was performed according to the *Environmental Procedures Catalog* (STO 6), "Standard Practice for Validation of Laboratory Data," GT-9(P) (2004). See attached Data Validation Worksheets for supporting documentation on the data review and validation. All analyses were successfully completed. The samples were prepared and analyzed using accepted procedures based on methods specified by line item code, which are listed in Table 2.

Table 2. Analytes and Methods

Analyte	Line Item Code	Prep Method	Analytical Method
Manganese, Mn	GJO-17	SW-846 3005A	SW-846 6010B
Molybdenum, Mo	GJO-15	SW-846 3005A	SW-846 6020A
Radium-226	ASP-A-016	PA SOP 783R6	PA SOP 783R6
Radium-228	GPC-A-020	SW-846 9320 Mod	PA SOP 724R8
Sulfate, SO_4	MIS-A-044	SW-846 9056	SW-846 9056
Uranium, U	GJO-01	SW-846 3005A	SW-846 6020A

Data Qualifier Summary

Analytical results were qualified as listed in Table 3. Refer to the sections below for an explanation of the data qualifiers applied.

Table 3. Data Qualifier Summary

Sample Number	Location	Analyte(s)	Flag	Reason
0606166-1	0405	U	U	Less than 5 times the calibration blank
0606166-3	0430	U	U	Less than 5 times the calibration blank
0606166-5	0454	U	U	Less than 5 times the calibration blank
0606166-6	0460	U	U	Less than 5 times the calibration blank
0606166-7	0705	U	U	Less than 5 times the calibration blank
0606166-11	0717	U	U	Less than 5 times the calibration blank
0606166-14	0721	U	U	Less than 5 times the calibration blank
0606166-16	0723	Mo	U	Less than 5 times the calibration blank

Sample Number	Location	Analyte(s)	Flag	Reason
0606166-29	0813	Ra-228	J	Less than 3 times the MDC
0606166-29	0813	U	U	Less than 5 times the calibration blank
0606166-31	0815	Ra-228	J	Less than 3 times the MDC
0606166-31	0815	U	U	Less than 5 times the calibration blank
0606166-32	0816	Ra-228	J	Less than 3 times the MDC
0606166-32	0816	U	U	Less than 5 times the calibration blank
0606166-33	0818	Ra-228	J	Less than 3 times the MDC
0606166-33	0818	U	U	Less than 5 times the calibration blank
0606166-34	0818	Ra-228	J	Less than 3 times the MDC
0606166-34	0818	U	U	Less than 5 times the calibration blank
0606166-35	0819	U	U	Less than 5 times the calibration blank
0606166-36	0819	Ra-226	J	Less than 3 times the MDC
0606166-36	0819	Ra-228	J	Less than 3 times the MDC
0606166-37	0820	Ra-228	J	Less than 3 times the MDC
0606166-37	0820	U	U	Less than 5 times the calibration blank
0606166-38	0820	Ra-228	J	Less than 3 times the MDC
0606166-38	0820	U	U	Less than 5 times the calibration blank
0606166-39	0821	Ra-228	J	Less than 3 times the MDC
0606166-40	0821	Ra-228	J	Less than 3 times the MDC
0606166-44	0829	Ra-228	J	Less than 3 times the MDC
0606166-47	0830	Ra-228	J	Less than 3 times the MDC
0606166-47	0830	U	U	Less than 5 times the calibration blank
0606166-48	0951	U	U	Less than 5 times the calibration blank
0606166-50	2351 (Equip Blank)	Mn	U	Less than 5 times the calibration blank
0606166-50	2351 (Equip Blank)	Mo	U	Less than 5 times the calibration blank
0606166-50	2351 (Equip Blank)	U	U	Less than 5 times the calibration blank
0606166-51	2352 (0749 Dup)	U	U	Less than 5 times the calibration blank
0606166-52	2353 (Equip Blank)	U	U	Less than 5 times the calibration blank
0606166-54	0834	U	U	Less than 5 times the calibration blank

Sample Shipping/Receiving

General Engineering Laboratories in Charleston, South Carolina, received 54 water samples on June 20, 2006, accompanied by a Chain of Custody (COC) form. The COC form was checked to confirm that all of the samples were listed on the form with sample collection dates and times, and that signatures and dates were present indicating sample relinquishment and receipt. The sample submittal documents including the COC form and the Sample Submittal form, had the following errors or omissions:

- Sample locations 0820 and 0834 did not have sample times listed on the COC.
- The sample filtration status was not marked on the COC for any of the samples. The missing information was taken from the sample tickets.
- Pages two through eight of the COC did not have a relinquishment signature.

Preservation and Holding Times

The sample shipment was received cool and intact with the temperature within the iced cooler of 0.8 °C, which complies with requirements. All samples were received in the correct container types and were preserved correctly for the requested analyses and all samples were analyzed within the applicable holding times.

Laboratory Instrument Calibration

Compliance requirements for satisfactory instrument calibration are established to ensure that the instrument is capable of producing acceptable qualitative and quantitative data for all analytes. Initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run and of producing a linear curve. Compliance requirements for continuing calibration checks are established to ensure that the instrument continues to be capable of producing acceptable qualitative and quantitative data. All laboratory instrument calibrations were performed correctly in accordance with the cited methods.

Method SW-846 6010, Manganese
Calibration for manganese was performed on June 30, 2006. The initial calibration was performed using five calibration standards resulting in a calibration curve with a correlation coefficient (r^2) value greater than 0.995. The absolute value of the calibration curve intercept was less than three times the method detection limit (MDL). Calibration and laboratory spike standards were prepared from independent sources. Initial and continuing calibration verification checks (CCVs) were made at the required frequency resulting in 11 CCVs. All initial and CCV results were within the acceptance range. Reporting limit verification checks were made at the required frequency to verify the linearity of the calibration curves near the practical quantitation limit with the check results within the acceptance range.

Method SW-846 6020, Molybdenum and Uranium
Calibrations for molybdenum and uranium were performed on June 27, 2006, and June 29, 2006. The initial calibrations were performed using six calibration standards resulting in calibration curves with r^2 values greater than 0.995. The absolute values of the calibration curve intercepts were less than three times the MDL. Calibration and laboratory spike standards were prepared from independent sources. Initial and CCV checks were made at the required frequency resulting in 17 CCVs. All initial and CCV results were within the acceptance range with the exception of CCV1 for molybdenum and CCV7 for uranium on June 27, 2006, and CCV1 for molybdenum on June 29, 2006. There were no samples associated with these CCVs. Reporting limit verification checks were made at the required frequency to verify the linearity of the calibration curves near the practical quantitation limit with the check results within the acceptance range. The mass calibration and resolution was checked at the beginning of each analytical run in accordance with the procedure. Internal standard recoveries were stable and within acceptance ranges.

Method SW-846 9056, Sulfate
Initial calibrations were performed for sulfate using six calibration standards on June 15, 2006. The calibration curve r^2 values were greater than 0.995 and intercepts less than 3 times the MDL.

Initial calibration and calibration check standards were prepared from independent sources. Initial and CCV checks were made at the required frequency resulting in seven CCVs. All calibration checks met the acceptance criteria.

Radiochemical Analysis

Radiochemical results are qualified with a "J" flag (estimated) when the result is greater than the minimum detectable concentration (MDC), but less than 3 times the MDC. Radiochemical results are qualified with a "U" flag (not detected) when the result is greater than the MDC, but less than the two sigma total propagated uncertainty (TPU).

Radium-226
Emanation cell efficiency calibrations were performed on May 25, 2006. Daily efficiency calibration and background checks were performed on July 19, 2006. All calibration data met the acceptance criteria. All chemical tracer recoveries were within the acceptance criteria.

Radium-228
Detector efficiency calibrations were performed on November 4, 2005. Daily efficiency calibration and background checks were performed on June 30, 2006, and July 3, 2006. All calibration data met the acceptance criteria. All chemical tracer recoveries were within the acceptance criteria.

Method and Calibration Blanks

All method blanks, initial, and continuing calibration blank (CCB) results were below the practical quantitation limits for manganese, molybdenum, sulfate, and uranium with the exception of CCB1 for molybdenum and CCB7 for uranium on June 27, 2006, and CCB1 for molybdenum on June 29, 2006. There were no samples associated with these CCBs. In cases where blank concentration exceeded the instrument detection limit, the associated sample results are qualified with a "U" flag (not detected) when the sample result is greater than the MDL but less than 5 times the blank concentration.

The radium-226 and radium-228 method blank results were below the MDC.

Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Analysis

ICP interference check samples ICSA and ICSAB were analyzed at the required frequency to verify the instrumental interelement and background correction factors. All check sample results met the acceptance criteria.

Matrix Spike Analysis

Matrix spike and matrix spike duplicate samples (MS/MSD) were analyzed for manganese, molybdenum, sulfate, and uranium as a measure of method performance in the sample matrix. The MS/MSD analyses resulted in acceptable recovery and precision for all analytes.

Laboratory Replicate Analysis

The laboratory replicate sample results demonstrate acceptable laboratory precision. The relative percent difference (RPD) values for the laboratory replicate samples and matrix spike duplicate sample results for non-radiochemical analytes were less than 20 percent. The radiochemical relative error ratio for all laboratory replicate samples was less than three.

Laboratory Control Sample

Laboratory control samples (LCS) were analyzed at the correct frequency to provide information on the accuracy of the analytical method and the overall laboratory performance, including sample preparation. The LCS results were acceptable for all analysis categories.

Metals Serial Dilution

Serial dilutions were prepared and analyzed for manganese, molybdenum, and uranium to monitor chemical or physical interferences in the sample matrix. The serial dilution results were not evaluated because the concentration of the undiluted sample was less than 100 times the MDL.

Detection Limits/Dilutions

Samples were diluted in a consistent and acceptable manner when required. A dilution factor was entered incorrectly for sulfate, location 0720. This error was identified from the "Minimums and Maximums Report" and corrected on September 15, 2006. The samples were diluted prior to analysis of uranium to reduce interferences. The required detection limits were met for all analytes with the following exception: the required detection limit was not achieved for eight radium-226 measurements because of insufficient sample volume availability.

Completeness

Results were reported in the correct units for all analytes requested using contract-required laboratory qualifiers.

Chromatography Peak Integration

The integration of analyte peaks was reviewed for all ion chromatography data. There were no manual integrations performed and all peak integrations were satisfactory.

Electronic Data Deliverable (EDD) File

The EDD file arrived on July 28, 2006, and the data loaded into SEEPro on August 18, 2006. The Sample Management System EDD validation module was used to verify that the EDD file was complete and in compliance with requirements. The module compares the contents of the

file to the requested analyses to ensure all and only the requested data are delivered. The contents of the EDD were manually examined to verify that the sample results accurately reflect the data contained in the sample data package.

SAMPLE MANAGEMENT SYSTEM

General Data Validation Worksheet

RIN: 6050390 Lab Code: PAR Validator: 54 Validation Date: 8/9/2006

Site: RIVERTON Analysis Type: ☑ Metals ☑ General Chem ☑ Rad ☐ Oraganics

# of Samples: 54 Matrix:. WATER Requested Analysis Completed: Yes

Chain of Custody
Present: OK Signed: OK Dated: OK

Sample
Integrity: OK Preservation: OK Temperature: OK

Exceptions

Method	Analyte	Location	Ticket	Collection Date	Preparation Date	Analysis Date	Dilution Factor	Holding Time Met	Detection Limit Met
SOP783R6	Ra-226	830	NFJ 854	6/13/2006	7/6/2006	7/18/2006	1	Yes	No
SOP783R6	Ra-226	821	NFJ 862	6/14/2006	7/6/2006	7/18/2006	1	Yes	No
SOP783R6	Ra-226	822	NFJ 690	6/14/2006	7/6/2006	7/18/2006	1	Yes	No
SOP783R6	Ra-226	815	NFJ 868	6/14/2006	7/6/2006	7/17/2006	1	Yes	No
SOP783R6	Ra-226	818	NFJ 855	6/13/2006	7/6/2006	7/17/2006	1	Yes	No
SOP783R6	Ra-226	819	NFJ 858	6/13/2006	7/6/2006	7/17/2006	1	Yes	No
SOP783R6	Ra-226	820	NFJ 865	6/14/2006	7/6/2006	7/18/2006	1	Yes	No
SOP783R6	Ra-226	813	NFJ 870	6/14/2006	7/6/2006	7/17/2006	1	Yes	No

Comments:

All samples were analyzed within the applicable holding times.

SAMPLE MANAGEMENT SYSTEM

Metals Data Validation Worksheet

RIN: 06050390 **Lab Code:** PAR **Date Due:** 7/18/2006

Matrix: Water **Site Code:** RVT **Date Completed:** 8/1/2006

Analyte	Date Analyzed	CALIBRATION						Method Blank	LCS %R	MS %R	MSD %R	Dup. RPD	ICSAB %R	Serial Dil. %R	CRI %R
		Int.	R^2	ICV	CCV	ICB	CCB								
Manganese	06/30/2006	0.0000	1.0000	OK	OK	OK	OK	OK	101.0	98.0	98.0	0.0	91.0		105.0
Manganese	06/30/2006									104.0	108.0	4.0			105.0
Manganese	06/30/2006			OK	OK	OK	OK	OK	101.0	98.0	98.0	0.0	91.0		
Molybdenum	06/27/2006	0.0000	1.0000	OK	OK	OK	OK	OK	93.0	103.0	104.0	1.0	113.0		128.0
Molybdenum	06/29/2006	0.0000	1.0000	OK	OK	OK	OK	OK	97.0	101.0	103.0	2.0	106.0		130.0
Molybdenum	06/29/2006									102.0	102.0	0.0			
Uranium	06/27/2006	0.0000	0.9990	OK	OK	OK	OK	OK	102.0	103.0	106.0	2.0	109.0		90.0
Uranium	06/29/2006	0.0000	1.0000	OK	OK	OK	OK	OK	102.0	104.0	103.0	1.0	107.0		97.1
Uranium	06/29/2006									106.0	109.0	3.0			

Comments: _____

SAMPLE MANAGEMENT SYSTEM

Inorganics Data Validation Worksheet

RIN: 06050390 **Lab Code:** PAR **Date Due:** 7/18/2006

Matrix: Water **Site Code:** RVT **Date Completed:** 8/1/2006

Analyte	Date Analyzed	CALIBRATION						Method Blank	LCS %R	MS %R	MSD %R	DUP RPD	Serial Dil. %R
		Int.	R^2	ICV	CCV	ICB	CCB						
Sulfate	06/27/2006	0	0.9999	OK	OK	OK	OK	OK	102.0	106.0	105.0	1.00	
Sulfate	06/27/2006							OK	102.0	101.0	101.0	0	

Comments: _____

SAMPLE MANAGEMENT SYSTEM
Radiochemistry Data Validation Worksheet

RIN: 06050390 **Lab Code:** PAR **Date Due:** 7/18/2006

Matrix: Water **Site Code:** RVT **Date Completed:** 8/1/2006

Sample	Analyte	Date Analyzed	Result	Flag	Tracer %R	LCS %R	MS %R	Duplicate
0813	Radium-228	06/30/2006			55.8			
0813	Radium-226	07/19/2006			97.7			
0814	Radium-228	06/30/2006			65.7			
0814	Radium-226	07/19/2006			100.0			
0815	Radium-228	06/30/2006			61.9			
0815	Radium-226	07/19/2006			101.0			
0816	Radium-228	06/30/2006			67.0			
0816	Radium-226	07/19/2006			95.0			
0818	Radium-228	06/30/2006			66.0			
0818	Radium-228	06/30/2006			62.0			
0818	Radium-226	07/19/2006			97.8			
0818	Radium-226	07/19/2006			97.3			
0819	Radium-228	06/30/2006			60.7			
0819	Radium-226	07/19/2006			97.7			
0819	Radium-226	07/19/2006			100.0			
0820	Radium-228	06/30/2006			63.2			
0820	Radium-228	06/30/2006			62.4			
0820	Radium-228	06/30/2006			61.4			
0820	Radium-226	07/19/2006			100.0			
0820	Radium-226	07/19/2006			99.0			
0821	Radium-228	07/03/2006			57.6			
0821	Radium-228	07/03/2006			62.7			
0821	Radium-226	07/19/2006			99.1			
0821	Radium-226	07/19/2006			99.0			
0822	Radium-228	07/03/2006			57.3			
0822	Radium-226	07/19/2006			94.6			
0829	Radium-228	07/03/2006			59.4			
0829	Radium-228	07/03/2006			62.5			
0829	Radium-226	07/19/2006			98.6			
0829	Radium-226	07/19/2006			97.7			
0830	Radium-228	07/03/2006			54.1			
0830	Radium-228	07/03/2006			59.9			

Comments: _____

SAMPLE MANAGEMENT SYSTEM
Radiochemistry Data Validation Worksheet

RIN: 06050390 **Lab Code:** PAR **Date Due:** 7/18/2006

Matrix: Water **Site Code:** RVT **Date Completed:** 8/1/2006

Sample	Analyte	Date Analyzed	Result	Flag	Tracer %R	LCS %R	MS %R	Duplicate
0830	Radium-226	07/19/2006			95.1			
0830	Radium-226	07/19/2006			98.2			
0834	Radium-228	07/03/2006			58.4			
0834	Radium-226	07/19/2006			95.5			
LCS	Radium-228	06/30/2006			60.9	98.6		
LCS	Radium-228	07/03/2006			54.6	123.0		
LCS	Radium-226	07/19/2006			98.6	109.0		
LCSD	Radium-228	06/30/2006			61.5	112.0		0.58
LCSD	Radium-228	07/03/2006			50.5	122.0		0.02
LCSD	Radium-226	07/19/2006			98.7	89.8		1.11
Method Blank	Radium-228	06/30/2006	0.6220	U	61.3			
Method Blank	Radium-228	07/03/2006	0.7160	U	56.5			
Method Blank	Radium-226	07/19/2006	0.5830	U	101.0			

Comments: _____

Sampling Quality Control Assessment

The following information summarizes and assesses quality control for this sampling event.

Sampling Protocol

Results from all monitor wells were qualified with an "F" flag in the database indicating that the wells were purged and sampled using the low-flow method.

The drawdown specification in the low-flow procedure was not obtained at wells 0705, 0719, and 0730 because of the low yield of these wells. Therefore, results from these wells were qualified with a "Q" flag in the database indicating that the data is qualitative because of the sampling technique.

Equipment Blank Assessment

Two equipment blanks were collected for the locations sampled using non-dedicated equipment. The equipment blanks were analyzed for the same constituents as the Riverton environmental samples. Analyte concentrations in the equipment blanks were below their respective detection limits (or required detection limit for one molybdenum result) and are acceptable.

Field Duplicate Assessment

Field duplicate samples are collected and analyzed as an indication of overall precision of the measurement process. The precision observed includes both field and laboratory precision and has more variability than laboratory duplicates which measure only laboratory performance. Duplicate samples were collected from wells 0718 and 0749. The duplicate results from both locations met the U.S. Environmental Protection Agency (EPA) recommended laboratory duplicate criteria of having a relative percent difference (RPD) of less than 20 percent for results that are greater than five times the practical quantitation limit indicating acceptable precision.

Certification

All laboratory analytical quality control criteria were met except as qualified in this report. The data qualifiers listed on the SEEPro database reports are defined on the last page of each report. All data in this package are considered validated and available for use.

Laboratory Coordinator: Steve Donivan — Date: 9-28-2006

Data Validation Lead: Steve Donivan — Date: 9-28-2006

Attachment 1
Assessment of Anomalous Data

Minimums and Maximums Report

Minimums and Maximums Report

The Minimums and Maximums Report is generated by a data validation application used to query the SEEPro database. The application compares the new data set with historical data and lists all new data that fall outside the historical data range. Data listed in the report require further review if:

(1) Identified low concentrations are not the result of improved detection limits.
(2) The concentration detected is not within 50 percent of historical minimum or maximum values.
(3) There were five or more historical sample results for comparison.

Results that required further review are listed on the Anomalous Data Review Checksheet. The sulfate result for location 0720 was listed as anomalously high. Review of the data indicated that a possible data entry error occurred at the laboratory. A data review and correction was requested of the laboratory on September 7, 2006. The corrected data were received on September 15, 2006.

Data Validation Minimums and Maximums Report - No Field Parameters
Laboratory: PARAGON (Fort Collins, CO)
RIN: 06050390
Comparison: History Begin Date: 1/6/1996
Report Date: 9/7/2006

				Current			Historical Maximum			Historical Minimum			Count	
					Qualifiers			Qualifiers			Qualifiers			
Site Code	Location Code	Sample Date	Analyte	Result	Lab	Data	Result	Lab	Data	Result	Lab	Data	N	N.Below Detect
RVT01	0405	06/13/2006	Manganese	0.0023	B		0.0053	B	G	0.0033	B	U	5	2
RVT01	0430	06/13/2006	Manganese	0.0021	B		0.0081			0.0032	B	U	5	2
RVT01	0707	06/14/2006	Manganese	1.3		F	4.05			1.49		F	13	0
RVT01	0716	06/15/2006	Sulfate	400		F	850			420		F	14	0
RVT01	0718	06/15/2006	Uranium	0.19		F	0.549			0.197		F	12	0
RVT01	0719	06/15/2006	Manganese	0.2		FQ	0.19		FQ	0.0115		L	12	0
RVT01	0720	06/14/2006	Molybdenum	0.0016		F	0.01	U		0.0018		UF	7	2
RVT01	0720	06/14/2006	Sulfate	1400		F	600		F	100		F	7	0
RVT01	0729	06/15/2006	Manganese	0.033		F	0.005	U	F	0.00029	B	UF	7	4
RVT01	0729	06/15/2006	Molybdenum	0.0039		F	0.0037		F	0.0023	B		7	0
RVT01	0747	06/14/2006	Sulfate	160			1920			230			15	0
RVT01	0747	06/14/2006	Uranium	0.063			0.662			0.1			15	0
RVT01	0788	06/14/2006	Manganese	0.025		F	1.3	N	F	0.047		F	7	0
RVT01	0788	06/14/2006	Molybdenum	0.026		F	0.037		F	0.03			7	0
RVT01	0788	06/14/2006	Sulfate	740		F	1890	I		761		F	7	0
RVT01	0788	06/14/2006	Uranium	0.036		F	0.064			0.0372		F	7	0
RVT01	0794	06/13/2006	Sulfate	77			468			78.1	N	J	12	0
RVT01	0796	06/13/2006	Sulfate	68			421			80			12	0

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:
* Replicate analysis not within control limits.

>	Result above upper detection limit.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
C	Pesticide result confirmed by GC-MS.
D	Analyte determined in diluted sample.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
J	*Estimated*
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
P	> 25% difference in detected pesticide or Aroclor concentrations between 2 columns.
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X,Y,Z	Laboratory defined qualifier, see case narrative.

DATA QUALIFIERS:

F	Low flow sampling method used.	G	Possible grout contamination, pH > 9.	J	Estimated value.
L	Less than 3 bore volumes purged prior to sampling.	Q	Qualitative result due to sampling technique.	R	Unusable result.
U	Parameter analyzed for but was not detected.	X	Location is undefined.		

Anomalous Data Review Checksheet

Anomalous Data Review Checksheet

Site: Riverton Processing Site **Sampling Data:** Ground water and surface water

Reviewer: Steve Donivan (Name (print)) Steve Donivan (Signature) 9-28-2006 (Date)

Site Hydrologist: Sam Campbell (Name (print)) Sam Campbell (Signature) 9-28-06 (Date)

Date of Review: September 7, 2006

Loc. No.	Analyte	Type of Anomaly	Disposition
0720	Sulfate	High	Request correction from lab
0729	Manganese	High	Compare to future results

Attachment 2
Data Presentation

Ground Water Quality Data

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0405 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/13/2006	0001	-	117			#		
Manganese	mg/L	06/13/2006	N001	-	0.0023	B		#	.00023	
Molybdenum	mg/L	06/13/2006	N001	-	0.0032			#	.00021	
Oxidation Reduction Potential	mV	06/13/2006	N001	-	62.8			#		
pH	s.u.	06/13/2006	N001	-	8.86			#		
Specific Conductance	umhos /cm	06/13/2006	N001	-	940			#		
Sulfate	mg/L	06/13/2006	N001	-	290			#	5	
Temperature	C	06/13/2006	N001	-	11.59			#		
Turbidity	NTU	06/13/2006	N001	-	3.14			#		
Uranium	mg/L	06/13/2006	N001	-	0.000066	B	U	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0422 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/13/2006	0001	-	203			#		
Manganese	mg/L	06/13/2006	N001	-	0.00085		B	#	.00023	
Molybdenum	mg/L	06/13/2006	N001	-	0.0018			#	.00021	
Oxidation Reduction Potential	mV	06/13/2006	N001	-	65.3			#		
pH	s.u.	06/13/2006	N001	-	7.72			#		
Specific Conductance	umhos /cm	06/13/2006	N001	-	405			#		
Sulfate	mg/L	06/13/2006	N001	-	47			#	2.5	
Temperature	C	06/13/2006	N001	-	14.19			#		
Turbidity	NTU	06/13/2006	N001	-	0.93			#		
Uranium	mg/L	06/13/2006	N001	-	0.0017			#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0430 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/13/2006	0001	-	166			#		
Manganese	mg/L	06/13/2006	N001	-	0.0021	B		#	.00023	
Molybdenum	mg/L	06/13/2006	N001	-	0.0022			#	.00021	
Oxidation Reduction Potential	mV	06/13/2006	N001	-	81.7			#		
pH	s.u.	06/13/2006	N001	-	8.81			#		
Specific Conductance	umhos /cm	06/13/2006	N001	-	788			#		
Sulfate	mg/L	06/13/2006	N001	-	190			#	2.5	
Temperature	C	06/13/2006	N001	-	13.95			#		
Turbidity	NTU	06/13/2006	N001	-	0.68			#		
Uranium	mg/L	06/13/2006	N001	-	0.000042	B	U	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0436 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/13/2006	0001	-	174			#		
Manganese	mg/L	06/13/2006	N001	-	0.005		B	#	.00023	
Molybdenum	mg/L	06/13/2006	N001	-	0.0032			#	.00021	
Oxidation Reduction Potential	mV	06/13/2006	N001	-	152.2			#		
pH	s.u.	06/13/2006	N001	-	8.76			#		
Specific Conductance	umhos /cm	06/13/2006	N001	-	912			#		
Sulfate	mg/L	06/13/2006	N001	-	230			#	2.5	
Temperature	C	06/13/2006	N001	-	23.54			#		
Turbidity	NTU	06/13/2006	N001	-	0.76			#		
Uranium	mg/L	06/13/2006	N001	-	0.00011			#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0454 WELL 2 Businesses @this location - 789 Truck Stop, P.O. Box 827, Riverton, WY 82501; 789 Bingo and Casino, P.O.Box 1989, Riverton, WY 82501

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/13/2006	0001	-	174			#		
Manganese	mg/L	06/13/2006	N001	-	0.0074			#	.00023	
Molybdenum	mg/L	06/13/2006	N001	-	0.0017			#	.00021	
Oxidation Reduction Potential	mV	06/13/2006	N001	-	89.9			#		
pH	s.u.	06/13/2006	N001	-	8.62			#		
Specific Conductance	umhos /cm	06/13/2006	N001	-	1307			#		
Sulfate	mg/L	06/13/2006	N001	-	450			#	5	
Temperature	C	06/13/2006	N001	-	13.69			#		
Turbidity	NTU	06/13/2006	N001	-	1.95			#		
Uranium	mg/L	06/13/2006	N001	-	0.000041	B	U	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0460 WELL Koch Sulfuric Acid Plant

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/13/2006	0001	-	174			#		
Manganese	mg/L	06/13/2006	N001	-	0.00088	B		#	.00023	
Molybdenum	mg/L	06/13/2006	N001	-	0.0028			#	.00021	
Oxidation Reduction Potential	mV	06/13/2006	N001	-	59			#		
pH	s.u.	06/13/2006	N001	-	8.79			#		
Specific Conductance	umhos /cm	06/13/2006	N001	-	726			#		
Sulfate	mg/L	06/13/2006	N001	-	160			#	2.5	
Temperature	C	06/13/2006	N001	-	24.62			#		
Turbidity	NTU	06/13/2006	N001	-	1.01			#		
Uranium	mg/L	06/13/2006	N001	-	0.000051	B	U	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0705 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/14/2006	0001	37.3	-	61.8	65		FQ	#		
Manganese	mg/L	06/14/2006	0001	37.3	-	61.8	0.00023	U	FQ	#	.00023	
Molybdenum	mg/L	06/14/2006	0001	37.3	-	61.8	0.0027		FQ	#	.00021	
Oxidation Reduction Potential	mV	06/14/2006	N001	37.3	-	61.8	48.6		FQ	#		
pH	s.u.	06/14/2006	N001	37.3	-	61.8	8.48		FQ	#		
Specific Conductance	umhos /cm	06/14/2006	N001	37.3	-	61.8	1303		FQ	#		
Sulfate	mg/L	06/14/2006	0001	37.3	-	61.8	440		FQ	#	5	
Temperature	C	06/14/2006	N001	37.3	-	61.8	12.53		FQ	#		
Turbidity	NTU	06/14/2006	N001	37.3	-	61.8	1.37		FQ	#		
Uranium	mg/L	06/14/2006	0001	37.3	-	61.8	0.00021	E	UFQ	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0707 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/14/2006	0001	9.1	-	23.3	368		F	#		
Manganese	mg/L	06/14/2006	0001	9.1	-	23.3	1.3		F	#	.00046	
Molybdenum	mg/L	06/14/2006	0001	9.1	-	23.3	0.77		F	#	.0042	
Oxidation Reduction Potential	mV	06/14/2006	N001	9.1	-	23.3	70.3		F	#		
pH	s.u.	06/14/2006	N001	9.1	-	23.3	7.09		F	#		
Specific Conductance	umhos /cm	06/14/2006	N001	9.1	-	23.3	4235		F	#		
Sulfate	mg/L	06/14/2006	0001	9.1	-	23.3	2200		F	#	25	
Temperature	C	06/14/2006	N001	9.1	-	23.3	10.87		F	#		
Turbidity	NTU	06/14/2006	N001	9.1	-	23.3	7.9		F	#		
Uranium	mg/L	06/14/2006	0001	9.1	-	23.3	0.81		F	#	.000068	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0710 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/14/2006	N001	9.8	-	26.8	304	F		#		
Manganese	mg/L	06/14/2006	0001	9.8	-	26.8	0.03	F		#	.00023	
Molybdenum	mg/L	06/14/2006	0001	9.8	-	26.8	0.0015	F		#	.00021	
Oxidation Reduction Potential	mV	06/14/2006	N001	9.8	-	26.8	142	F		#		
pH	s.u.	06/14/2006	N001	9.8	-	26.8	7.48	F		#		
Specific Conductance	umhos /cm	06/14/2006	N001	9.8	-	26.8	557	F		#		
Sulfate	mg/L	06/14/2006	0001	9.8	-	26.8	93	F		#	2.5	
Temperature	C	06/14/2006	N001	9.8	-	26.8	9.5	F		#		
Turbidity	NTU	06/14/2006	N001	9.8	-	26.8	9.81	F		#		
Uranium	mg/L	06/14/2006	0001	9.8	-	26.8	0.0031	F		#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0716 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/15/2006	N001	9.78	-	14.78	534		F	#		
Manganese	mg/L	06/15/2006	0001	9.78	-	14.78	0.42		F	#	.00023	
Molybdenum	mg/L	06/15/2006	0001	9.78	-	14.78	0.19		F	#	.0021	
Oxidation Reduction Potential	mV	06/15/2006	N001	9.78	-	14.78	-5		F	#		
pH	s.u.	06/15/2006	N001	9.78	-	14.78	7.18		F	#		
Specific Conductance	umhos /cm	06/15/2006	N001	9.78	-	14.78	1349		F	#		
Sulfate	mg/L	06/15/2006	0001	9.78	-	14.78	400		F	#	10	
Temperature	C	06/15/2006	N001	9.78	-	14.78	13.09		F	#		
Turbidity	NTU	06/15/2006	N001	9.78	-	14.78	5.19		F	#		
Uranium	mg/L	06/15/2006	0001	9.78	-	14.78	0.26		F	#	.000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0717 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/15/2006	N001	45.1	-	55.1	215		F	#		
Manganese	mg/L	06/15/2006	0001	45.1	-	55.1	0.16		F	#	.00023	
Molybdenum	mg/L	06/15/2006	0001	45.1	-	55.1	0.0077		F	#	.00021	
Oxidation Reduction Potential	mV	06/15/2006	N001	45.1	-	55.1	-162		F	#		
pH	s.u.	06/15/2006	N001	45.1	-	55.1	7.72		F	#		
Specific Conductance	umhos /cm	06/15/2006	N001	45.1	-	55.1	1867		F	#		
Sulfate	mg/L	06/15/2006	0001	45.1	-	55.1	700		F	#	10	
Temperature	C	06/15/2006	N001	45.1	-	55.1	12.06		F	#		
Turbidity	NTU	06/15/2006	N001	45.1	-	55.1	7.02		F	#		
Uranium	mg/L	06/15/2006	0001	45.1	-	55.1	0.000051	B	UF	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0718 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/15/2006	0001	18.24	-	23.24	399	F		#		
Manganese	mg/L	06/15/2006	0001	18.24	-	23.24	2.2	F		#	.00046	
Manganese	mg/L	06/15/2006	0002	18.24	-	23.24	2.3	F		#	.00046	
Molybdenum	mg/L	06/15/2006	0001	18.24	-	23.24	0.094	F		#	.001	
Molybdenum	mg/L	06/15/2006	0002	18.24	-	23.24	0.098	F		#	.001	
Oxidation Reduction Potential	mV	06/15/2006	N001	18.24	-	23.24	135.6	F		#		
pH	s.u.	06/15/2006	N001	18.24	-	23.24	7.3	F		#		
Specific Conductance	umhos /cm	06/15/2006	N001	18.24	-	23.24	4218	F		#		
Sulfate	mg/L	06/15/2006	0001	18.24	-	23.24	1800	F		#	25	
Sulfate	mg/L	06/15/2006	0002	18.24	-	23.24	1900	F		#	25	
Temperature	C	06/15/2006	N001	18.24	-	23.24	11.2	F		#		
Turbidity	NTU	06/15/2006	N001	18.24	-	23.24	5.65	F		#		
Uranium	mg/L	06/15/2006	0001	18.24	-	23.24	0.19	F		#	.000017	
Uranium	mg/L	06/15/2006	0002	18.24	-	23.24	0.2	F		#	.000017	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0719 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/15/2006	0001	38.47	-	48.47	106		FQ	#		
Manganese	mg/L	06/15/2006	0001	38.47	-	48.47	0.2		FQ	#	.00023	
Molybdenum	mg/L	06/15/2006	0001	38.47	-	48.47	0.013		FQ	#	.00021	
Oxidation Reduction Potential	mV	06/15/2006	N001	38.47	-	48.47	-75.2		FQ	#		
pH	s.u.	06/15/2006	N001	38.47	-	48.47	7.97		FQ	#		
Specific Conductance	umhos /cm	06/15/2006	N001	38.47	-	48.47	1170		FQ	#		
Sulfate	mg/L	06/15/2006	0001	38.47	-	48.47	400		FQ	#	5	
Temperature	C	06/15/2006	N001	38.47	-	48.47	13.51		FQ	#		
Turbidity	NTU	06/15/2006	N001	38.47	-	48.47	2.56		FQ	#		
Uranium	mg/L	06/15/2006	0001	38.47	-	48.47	0.00041		FQ	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0720 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/14/2006	N001	7.94	-	12.94	242		F	#		
Manganese	mg/L	06/14/2006	0001	7.94	-	12.94	0.016		F	#	.00023	
Molybdenum	mg/L	06/14/2006	0001	7.94	-	12.94	0.0016		F	#	.00021	
Oxidation Reduction Potential	mV	06/14/2006	N001	7.94	-	12.94	111		F	#		
pH	s.u.	06/14/2006	N001	7.94	-	12.94	7.28		F	#		
Specific Conductance	umhos /cm	06/14/2006	N001	7.94	-	12.94	671		F	#		
Sulfate	mg/L	06/14/2006	0001	7.94	-	12.94	130		F	#	2.5	
Temperature	C	06/14/2006	N001	7.94	-	12.94	10.18		F	#		
Turbidity	NTU	06/14/2006	N001	7.94	-	12.94	5.41		F	#		
Uranium	mg/L	06/14/2006	0001	7.94	-	12.94	0.0047		F	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0721 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/14/2006	N001	44.43	-	54.43	105		F	#		
Manganese	mg/L	06/14/2006	0001	44.43	-	54.43	0.0052		F	#	.00023	
Molybdenum	mg/L	06/14/2006	0001	44.43	-	54.43	0.0027		F	#	.00021	
Oxidation Reduction Potential	mV	06/14/2006	N001	44.43	-	54.43	-156		F	#		
pH	s.u.	06/14/2006	N001	44.43	-	54.43	8.83		F	#		
Specific Conductance	umhos /cm	06/14/2006	N001	44.43	-	54.43	880		F	#		
Sulfate	mg/L	06/14/2006	0001	44.43	-	54.43	280		F	#	5	
Temperature	C	06/14/2006	N001	44.43	-	54.43	11.81		F	#		
Turbidity	NTU	06/14/2006	N001	44.43	-	54.43	9.73		F	#		
Uranium	mg/L	06/14/2006	0001	44.43	-	54.43	0.000074	B	UF	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0723 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/15/2006	0001	45.99	-	55.99	460		F	#		
Manganese	mg/L	06/15/2006	0001	45.99	-	55.99	0.71		F	#	.00046	
Molybdenum	mg/L	06/15/2006	0001	45.99	-	55.99	0.00087	B	UF	#	.00021	
Oxidation Reduction Potential	mV	06/15/2006	N001	45.99	-	55.99	-29.3		F	#		
pH	s.u.	06/15/2006	N001	45.99	-	55.99	7.16		F	#		
Specific Conductance	umhos /cm	06/15/2006	N001	45.99	-	55.99	4256		F	#		
Sulfate	mg/L	06/15/2006	0001	45.99	-	55.99	2000		F	#	25	
Temperature	C	06/15/2006	N001	45.99	-	55.99	13.01		F	#		
Turbidity	NTU	06/15/2006	N001	45.99	-	55.99	0.89		F	#		
Uranium	mg/L	06/15/2006	0001	45.99	-	55.99	0.00024		F	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0729 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/15/2006	0001	14.71 - 19.71	274		F	#		
Manganese	mg/L	06/15/2006	0001	14.71 - 19.71	0.033		F	#	.00023	
Molybdenum	mg/L	06/15/2006	0001	14.71 - 19.71	0.0039		F	#	.00021	
Oxidation Reduction Potential	mV	06/15/2006	N001	14.71 - 19.71	140.5		F	#		
pH	s.u.	06/15/2006	N001	14.71 - 19.71	7.38		F	#		
Specific Conductance	umhos /cm	06/15/2006	N001	14.71 - 19.71	734		F	#		
Sulfate	mg/L	06/15/2006	0001	14.71 - 19.71	79		F	#	2.5	
Temperature	C	06/15/2006	N001	14.71 - 19.71	12.37		F	#		
Turbidity	NTU	06/15/2006	N001	14.71 - 19.71	9.27		F	#		
Uranium	mg/L	06/15/2006	0001	14.71 - 19.71	0.0084		F	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0730 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/15/2006	0001	38.62	-	48.62	211		FQ	#		
Manganese	mg/L	06/15/2006	0001	38.62	-	48.62	0.077		FQ	#	.00023	
Molybdenum	mg/L	06/15/2006	0001	38.62	-	48.62	0.0049		FQ	#	.00021	
Oxidation Reduction Potential	mV	06/15/2006	N001	38.62	-	48.62	-69.4		FQ	#		
pH	s.u.	06/15/2006	N001	38.62	-	48.62	7.87		FQ	#		
Specific Conductance	umhos /cm	06/15/2006	N001	38.62	-	48.62	1089		FQ	#		
Sulfate	mg/L	06/15/2006	0001	38.62	-	48.62	310		FQ	#	5	
Temperature	C	06/15/2006	N001	38.62	-	48.62	12.86		FQ	#		
Turbidity	NTU	06/15/2006	N001	38.62	-	48.62	13.4		FQ	#		
Uranium	mg/L	06/15/2006	0001	38.62	-	48.62	0.0014		FQ	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0735 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/13/2006	0001	-4906.66	-	-4891.66	142		F	#		
Manganese	mg/L	06/13/2006	0001	-4906.66	-	-4891.66	0.075		F	#	.00023	
Molybdenum	mg/L	06/13/2006	0001	-4906.66	-	-4891.66	0.0025		F	#	.00021	
Oxidation Reduction Potential	mV	06/13/2006	N001	-4906.66	-	-4891.66	94.1		F	#		
pH	s.u.	06/13/2006	N001	-4906.66	-	-4891.66	7.71		F	#		
Specific Conductance	umhos /cm	06/13/2006	N001	-4906.66	-	-4891.66	1557		F	#		
Sulfate	mg/L	06/13/2006	0001	-4906.66	-	-4891.66	600		F	#	10	
Temperature	C	06/13/2006	N001	-4906.66	-	-4891.66	11.93		F	#		
Turbidity	NTU	06/13/2006	N001	-4906.66	-	-4891.66	5.15		F	#		
Uranium	mg/L	06/13/2006	0001	-4906.66	-	-4891.66	0.00048		F	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0784 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/15/2006	N001	1.65	-	6.65	453		F	#		
Manganese	mg/L	06/15/2006	0001	1.65	-	6.65	0.31		F	#	.00046	
Molybdenum	mg/L	06/15/2006	0001	1.65	-	6.65	0.016		F	#	.00021	
Oxidation Reduction Potential	mV	06/15/2006	N001	1.65	-	6.65	67		F	#		
pH	s.u.	06/15/2006	N001	1.65	-	6.65	7.83		F	#		
Specific Conductance	umhos /cm	06/15/2006	N001	1.65	-	6.65	4863		F	#		
Sulfate	mg/L	06/15/2006	0001	1.65	-	6.65	2100		F	#	25	
Temperature	C	06/15/2006	N001	1.65	-	6.65	13.88		F	#		
Turbidity	NTU	06/15/2006	N001	1.65	-	6.65	8.84		F	#		
Uranium	mg/L	06/15/2006	0001	1.65	-	6.65	0.0094		F	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0788 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)			Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/14/2006	0001	1.41	-	13.41	385		F	#		
Manganese	mg/L	06/14/2006	0001	1.41	-	13.41	0.025		F	#	.00023	
Molybdenum	mg/L	06/14/2006	0001	1.41	-	13.41	0.026		F	#	.00021	
Oxidation Reduction Potential	mV	06/14/2006	N001	1.41	-	13.41	-10.7		F	#		
pH	s.u.	06/14/2006	N001	1.41	-	13.41	7.5		F	#		
Specific Conductance	umhos /cm	06/14/2006	N001	1.41	-	13.41	2142		F	#		
Sulfate	mg/L	06/14/2006	0001	1.41	-	13.41	740		F	#	10	
Temperature	C	06/14/2006	N001	1.41	-	13.41	10.26		F	#		
Turbidity	NTU	06/14/2006	N001	1.41	-	13.41	6.96		F	#		
Uranium	mg/L	06/14/2006	0001	1.41	-	13.41	0.036		F	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0809 WELL

Parameter	Units	Sample Date	ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/13/2006	0001	10.5 - 19.4	158		F	#		
Manganese	mg/L	06/13/2006	0001	10.5 - 19.4	0.11		F	#	.00023	
Molybdenum	mg/L	06/13/2006	0001	10.5 - 19.4	0.0023		F	#	.00021	
Oxidation Reduction Potential	mV	06/13/2006	N001	10.5 - 19.4	123.9		F	#		
pH	s.u.	06/13/2006	N001	10.5 - 19.4	7.66		F	#		
Specific Conductance	umhos /cm	06/13/2006	N001	10.5 - 19.4	363		F	#		
Sulfate	mg/L	06/13/2006	0001	10.5 - 19.4	61		F	#	2.5	
Temperature	C	06/13/2006	N001	10.5 - 19.4	12.62		F	#		
Turbidity	NTU	06/13/2006	N001	10.5 - 19.4	2.3		F	#		
Uranium	mg/L	06/13/2006	0001	10.5 - 19.4	0.0015		F	#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0828 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/13/2006	0001	-	178			#		
Manganese	mg/L	06/13/2006	N001	-	0.0046		B	#	.00023	
Molybdenum	mg/L	06/13/2006	N001	-	0.0032			#	.00021	
Oxidation Reduction Potential	mV	06/13/2006	N001	-	107.2			#		
pH	s.u.	06/13/2006	N001	-	8.82			#		
Specific Conductance	umhos /cm	06/13/2006	N001	-	874			#		
Sulfate	mg/L	06/13/2006	N001	-	220			#	5	
Temperature	C	06/13/2006	N001	-	14.01			#		
Turbidity	NTU	06/13/2006	N001	-	0.42			#		
Uranium	mg/L	06/13/2006	N001	-	0.00014			#	.0000034	

Ground Water Quality Data by Location (USEE100) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0951 WELL

Parameter	Units	Sample Date	Sample ID	Depth Range (Ft BLS)	Result	Qualifiers Lab	Qualifiers Data	QA*	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/13/2006	N001	-	130			#		
Dissolved Oxygen	mg/L	06/13/2006	N001	-	3.98			#		
Manganese	mg/L	06/13/2006	N001	-	0.0036	B		#	.00023	
Molybdenum	mg/L	06/13/2006	N001	-	0.0027			#	.00021	
Oxidation Reduction Potential	mV	06/13/2006	N001	-	84			#		
pH	s.u.	06/13/2006	N001	-	8.28			#		
Specific Conductance	umhos /cm	06/13/2006	N001	-	865			#		
Sulfate	mg/L	06/13/2006	N001	-	270			#	5	
Temperature	C	06/13/2006	N001	-	14.3			#		
Turbidity	NTU	06/13/2006	N001	-	1.84			#		
Uranium	mg/L	06/13/2006	N001	-	0.000064	B	U	#	.0000034	

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
>	Result above upper detection limit.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
C	Pesticide result confirmed by GC-MS.
D	Analyte determined in diluted sample.
E	*Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.*
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
J	Estimated
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
P	> 25% difference in detected pesticide or Aroclor concentrations between 2 columns.
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X,Y,Z	Laboratory defined qualifier, see case narrative.

DATA QUALIFIERS:

F	Low flow sampling method used.	G	Possible grout contamination, pH > 9.	J	Estimated value.
L	Less than 3 bore volumes purged prior to sampling.	Q	Qualitative result due to sampling technique.	R	Unusable result.
U	Parameter analyzed for but was not detected.	X	Location is undefined.		

QA QUALIFIER:

#	Validated according to quality assurance guidelines.

Surface Water Quality Data

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0747 SURFACE LOCATION 8/26/97 State plane east changed from 594497.14 to an estimation close to river

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/14/2006	0001	147			#		
Oxidation Reduction Potential	mV	06/14/2006	N001	109.1			#		
pH	s.u.	06/14/2006	N001	8.22			#		
Specific Conductance	umhos/cm	06/14/2006	N001	614			#		
Sulfate	mg/L	06/14/2006	0001	160			#	2.5	
Temperature	C	06/14/2006	N001	22.6			#		
Turbidity	NTU	06/14/2006	N001	176			#		
Uranium	mg/L	06/14/2006	0001	0.063			#	.0000034	

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0749 SURFACE LOCATION 8/26/97 State plane east changed from 589532.71 to an estimation close to river

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Dissolved Oxygen	mg/L	06/15/2006	N001	9.39			#		
Manganese	mg/L	06/15/2006	0002	0.031			#	.00046	
Molybdenum	mg/L	06/15/2006	0002	0.0041			#	.00021	
Oxidation Reduction Potential	mV	06/15/2006	N001	333			#		
pH	s.u.	06/15/2006	N001	4.19			#		
Specific Conductance	umhos/cm	06/15/2006	N001	4407			#		
Sulfate	mg/L	06/15/2006	0001	2200			#	25	
Sulfate	mg/L	06/15/2006	0002	2200			#	25	
Temperature	C	06/15/2006	N001	21.6			#		
Turbidity	NTU	06/15/2006	N001	11.8			#		
Uranium	mg/L	06/15/2006	0001	0.0003			#	.0000034	
Uranium	mg/L	06/15/2006	0002	0.00019			#	.0000034	

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0794 SURFACE LOCATION 8/26/97 State plane north changed from 844178.27 to an estimation close to river

Parameter	Units	Sample Date	ID	Result	Qualifiers Lab	Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/13/2006	0001	84			#		
Oxidation Reduction Potential	mV	06/13/2006	N001	113			#		
pH	s.u.	06/13/2006	N001	8.43			#		
Specific Conductance	umhos/cm	06/13/2006	N001	333			#		
Sulfate	mg/L	06/13/2006	0001	77			#	2.5	
Temperature	C	06/13/2006	N001	22.87			#		
Turbidity	NTU	06/13/2006	N001	22.7			#		
Uranium	mg/L	06/13/2006	0001	0.0022			#	.0000034	

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0796 SURFACE LOCATION Was possibly historically sampled ~900 ft E from current location

Parameter	Units	Sample Date	ID	Result	Qualifiers Lab	Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/13/2006	0001	107			#		
Dissolved Oxygen	mg/L	06/13/2006	N001	0.07			#		
Oxidation Reduction Potential	mV	06/13/2006	N001	168.8			#		
pH	s.u.	06/13/2006	N001	7.77			#		
Specific Conductance	umhos/cm	06/13/2006	N001	296			#		
Sulfate	mg/L	06/13/2006	0001	68			#	1	
Temperature	C	06/13/2006	N001	18.16			#		
Turbidity	NTU	06/13/2006	N001	37.6			#		
Uranium	mg/L	06/13/2006	0001	0.0015			#	.0000034	

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0810 SURFACE LOCATION Gravel Pit Pond

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/14/2006	0001	402			#		
Oxidation Reduction Potential	mV	06/14/2006	N001	27.7			#		
pH	s.u.	06/14/2006	N001	9.39			#		
Specific Conductance	umhos/cm	06/14/2006	N001	1464			#		
Sulfate	mg/L	06/14/2006	0001	370			#	5	
Temperature	C	06/14/2006	N001	20.99			#		
Turbidity	NTU	06/14/2006	N001	8.25			#		
Uranium	mg/L	06/14/2006	0001	0.0078			#	.0000034	

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0811 SURFACE LOCATION

Parameter	Units	Sample Date	ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/14/2006	0001	93			#		
Oxidation Reduction Potential	mV	06/14/2006	N001	156.2			#		
pH	s.u.	06/14/2006	N001	8.33			#		
Specific Conductance	umhos/cm	06/14/2006	N001	333			#		
Sulfate	mg/L	06/14/2006	0001	78			#	2.5	
Temperature	C	06/14/2006	N001	20.8			#		
Turbidity	NTU	06/14/2006	N001	24			#		
Uranium	mg/L	06/14/2006	0001	0.0017			#	.0000034	

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0812 SURFACE LOCATION

Parameter	Units	Sample Date	ID	Result	Qualifiers Lab	Data	QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/14/2006	0001	83			#		
Oxidation Reduction Potential	mV	06/14/2006	N001	131.9			#		
pH	s.u.	06/14/2006	N001	8.29			#		
Specific Conductance	umhos/cm	06/14/2006	N001	320			#		
Sulfate	mg/L	06/14/2006	0001	75			#	2.5	
Temperature	C	06/14/2006	N001	17.87			#		
Turbidity	NTU	06/14/2006	N001	52.9			#		
Uranium	mg/L	06/14/2006	0001	0.0018			#	.0000034	

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0822 SURFACE LOCATION west-side irrigation ditch

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/14/2006	0001	178			#		
Oxidation Reduction Potential	mV	06/14/2006	N001	57.3			#		
pH	s.u.	06/14/2006	N001	8.08			#		
Radium-226	pCi/L	06/14/2006	0001	-.108	U		#	1.41	.752
Radium-228	pCi/L	06/14/2006	0001	0.382	U		#	.695	.36
Specific Conductance	umhos/cm	06/14/2006	N001	2744			#		
Sulfate	mg/L	06/14/2006	0001	1000			#	25	
Temperature	C	06/14/2006	N001	19.19			#		
Turbidity	NTU	06/14/2006	N001	3.71			#		
Uranium	mg/L	06/14/2006	0001	0.0024			#	.0000034	

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0823 SURFACE LOCATION

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Alkalinity, Total (As CaCO3)	mg/L	06/13/2006	0001	126			#		
Oxidation Reduction Potential	mV	06/13/2006	N001	72			#		
pH	s.u.	06/13/2006	N001	9.2			#		
Specific Conductance	umhos/cm	06/13/2006	N001	1046			#		
Sulfate	mg/L	06/13/2006	0001	350			#	5	
Temperature	C	06/13/2006	N001	23.62			#		
Turbidity	NTU	06/13/2006	N001	2.43			#		
Uranium	mg/L	06/13/2006	0001	0.013			#	.0000034	

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
>	Result above upper detection limit.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
C	Pesticide result confirmed by GC-MS.
D	Analyte determined in diluted sample.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
J	Estimated
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
P	> 25% difference in detected pesticide or Aroclor concentrations between 2 columns.
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X,Y,Z	Laboratory defined qualifier, see case narrative.

DATA QUALIFIERS:

F	Low flow sampling method used.	G	Possible grout contamination, pH > 9.	J	Estimated value.
L	Less than 3 bore volumes purged prior to sampling.	Q	Qualitative result due to sampling technique.	R	Unusable result.
U	Parameter analyzed for but was not detected.	X	Location is undefined.		

QA QUALIFIER:

#	Validated according to quality assurance guidelines.

Water Supply System Data

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0813 DOMESTIC SUPPLY

Parameter	Units	Sample Date	ID	Result	Qualifiers Lab	Data	QA	Detection Limit	Uncertainty
Dissolved Oxygen	mg/L	06/14/2006	N001	4.52			#		
Oxidation Reduction Potential	mV	06/14/2006	N001	223			#		
pH	s.u.	06/14/2006	N001	8.99			#		
Radium-226	pCi/L	06/14/2006	N001	-.117	U		#	1.63	.878
Radium-228	pCi/L	06/14/2006	N001	0.783		J	#	.746	.448
Specific Conductance	umhos/cm	06/14/2006	N001	609			#		
Temperature	C	06/14/2006	N001	22.5			#		
Turbidity	NTU	06/14/2006	N001	1.43			#		
Uranium	mg/L	06/14/2006	N001	0.000091	B	U	#	.0000034	

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0814 DOMESTIC SUPPLY

Parameter	Units	Sample Date	ID	Result	Qualifiers Lab	Data	QA	Detection Limit	Uncertainty
Chlorine, Total Residual	mg/L	06/14/2006	N001	0.19			#		
Dissolved Oxygen	mg/L	06/14/2006	N001	2.61			#		
Oxidation Reduction Potential	mV	06/14/2006	N001	171			#		
pH	s.u.	06/14/2006	N001	9.02			#		
Radium-226	pCi/L	06/14/2006	N001	0.24	U		#	.719	.422
Radium-228	pCi/L	06/14/2006	N001	0.449	U		#	.624	.339
Specific Conductance	umhos/cm	06/14/2006	N001	617			#		
Temperature	C	06/14/2006	N001	19.7			#		
Turbidity	NTU	06/14/2006	N001	1.4			#		
Uranium	mg/L	06/14/2006	N001	0.00012			#	.0000034	

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0815 DOMESTIC SUPPLY

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Dissolved Oxygen	mg/L	06/14/2006	N001	8.7			#		
Oxidation Reduction Potential	mV	06/14/2006	N001	271			#		
pH	s.u.	06/14/2006	N001	8.98			#		
Radium-226	pCi/L	06/14/2006	N001	-.36	U		#	1.81	.964
Radium-228	pCi/L	06/14/2006	N001	0.766		J	#	.649	.408
Specific Conductance	umhos/cm	06/14/2006	N001	623			#		
Temperature	C	06/14/2006	N001	12.72			#		
Turbidity	NTU	06/14/2006	N001	1.57			#		
Uranium	mg/L	06/14/2006	N001	0.000096	B	U	#	.0000034	

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0816 DOMESTIC SUPPLY

Parameter	Units	Sample Date	ID	Result	Qualifiers Lab	Data	QA	Detection Limit	Uncertainty
Dissolved Oxygen	mg/L	06/14/2006	N001	7.3			#		
Oxidation Reduction Potential	mV	06/14/2006	N001	274			#		
pH	s.u.	06/14/2006	N001	8.87			#		
Radium-226	pCi/L	06/14/2006	N001	0.482	U		#	.803	.527
Radium-228	pCi/L	06/14/2006	N001	0.728		J	#	.626	.39
Specific Conductance	umhos/cm	06/14/2006	N001	747			#		
Temperature	C	06/14/2006	N001	15.7			#		
Turbidity	NTU	06/14/2006	N001	1.49			#		
Uranium	mg/L	06/14/2006	N001	0.0001	B	U	#	.0000034	

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0818 DOMESTIC SUPPLY

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Chlorine, Total Residual	mg/L	06/13/2006	N001	0.19			#		
Chlorine, Total Residual	mg/L	06/13/2006	N002	0.24			#		
Dissolved Oxygen	mg/L	06/13/2006	N001	5.18			#		
Dissolved Oxygen	mg/L	06/13/2006	N002	5.96			#		
Oxidation Reduction Potential	mV	06/13/2006	N001	217			#		
Oxidation Reduction Potential	mV	06/13/2006	N002	273			#		
pH	s.u.	06/13/2006	N001	8.98			#		
pH	s.u.	06/13/2006	N002	8.43			#		
Radium-226	pCi/L	06/13/2006	N001	0.443	U		#	.591	.42
Radium-226	pCi/L	06/13/2006	N002	0.396	U		#	1.44	.845
Radium-228	pCi/L	06/13/2006	N001	1.15		J	#	.675	.502
Radium-228	pCi/L	06/13/2006	N002	1.04		J	#	.617	.455
Specific Conductance	umhos/cm	06/13/2006	N001	612			#		
Specific Conductance	umhos/cm	06/13/2006	N002	611			#		
Temperature	C	06/13/2006	N001	15.53			#		
Temperature	C	06/13/2006	N002	13.15			#		
Turbidity	NTU	06/13/2006	N001	0.84			#		
Turbidity	NTU	06/13/2006	N002	0.85			#		
Uranium	mg/L	06/13/2006	N001	0.00009	B	U	#	.0000034	
Uranium	mg/L	06/13/2006	N002	0.000099	B	U	#	.0000034	

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0819 DOMESTIC SUPPLY

Parameter	Units	Sample Date	ID	Result	Qualifiers Lab	Data	QA	Detection Limit	Uncertainty
Chlorine, Total Residual	mg/L	06/13/2006	N001	0.27			#		
Chlorine, Total Residual	mg/L	06/13/2006	N002	0.25			#		
Dissolved Oxygen	mg/L	06/13/2006	N001	5.88			#		
Dissolved Oxygen	mg/L	06/13/2006	N002	5.84			#		
Oxidation Reduction Potential	mV	06/13/2006	N001	245			#		
Oxidation Reduction Potential	mV	06/13/2006	N002	214			#		
pH	s.u.	06/13/2006	N001	8.91			#		
pH	s.u.	06/13/2006	N002	8.48			#		
Radium-226	pCi/L	06/13/2006	N001	0.0764	U		#	1.98	1.09
Radium-226	pCi/L	06/13/2006	N002	0.988		J	#	.824	.667
Radium-228	pCi/L	06/13/2006	N001	0.56	U		#	.676	.379
Radium-228	pCi/L	06/13/2006	N002	1.21		J	#	.697	.521
Specific Conductance	umhos/cm	06/13/2006	N001	615			#		
Specific Conductance	umhos/cm	06/13/2006	N002	619			#		
Temperature	C	06/13/2006	N001	15.07			#		
Temperature	C	06/13/2006	N002	12.7			#		
Turbidity	NTU	06/13/2006	N001	1.06			#		
Turbidity	NTU	06/13/2006	N002	1.04			#		
Uranium	mg/L	06/13/2006	N001	0.00009	B	U	#	.0000034	
Uranium	mg/L	06/13/2006	N002	0.00014			#	.0000034	

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0820 DOMESTIC SUPPLY

Parameter	Units	Sample Date	ID	Result	Qualifiers Lab	Qualifiers Data	QA	Detection Limit	Uncertainty
Chlorine, Total Residual	mg/L	06/14/2006	N001	0.25			#		
Chlorine, Total Residual	mg/L	06/14/2006	N002	0.14			#		
Dissolved Oxygen	mg/L	06/14/2006	N001	5.94			#		
Dissolved Oxygen	mg/L	06/14/2006	N002	4.31			#		
Oxidation Reduction Potential	mV	06/14/2006	N001	306			#		
Oxidation Reduction Potential	mV	06/14/2006	N002	220			#		
pH	s.u.	06/14/2006	N001	8.99			#		
pH	s.u.	06/14/2006	N002	8.99			#		
Radium-226	pCi/L	06/14/2006	N001	0.369	U		#	1.15	.684
Radium-226	pCi/L	06/14/2006	N002	0.325	U		#	.814	.491
Radium-228	pCi/L	06/14/2006	N001	0.744		J	#	.668	.41
Radium-228	pCi/L	06/14/2006	N002	0.908		J	#	.678	.447
Specific Conductance	umhos/cm	06/14/2006	N001	611			#		
Specific Conductance	umhos/cm	06/14/2006	N002	621			#		
Temperature	C	06/14/2006	N001	13.48			#		
Temperature	C	06/14/2006	N002	13.9			#		
Turbidity	NTU	06/14/2006	N001	1.18			#		
Turbidity	NTU	06/14/2006	N002	1.05			#		
Uranium	mg/L	06/14/2006	N001	0.000087	B	U	#	.0000034	
Uranium	mg/L	06/14/2006	N002	0.000095	B	U	#	.0000034	

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0821 DOMESTIC SUPPLY

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Chlorine, Total Residual	mg/L	06/14/2006	N001	0.27			#		
Chlorine, Total Residual	mg/L	06/14/2006	N002	0.35			#		
Dissolved Oxygen	mg/L	06/14/2006	N001	5.16			#		
Dissolved Oxygen	mg/L	06/14/2006	N002	6.3			#		
Oxidation Reduction Potential	mV	06/14/2006	N001	156			#		
Oxidation Reduction Potential	mV	06/14/2006	N002	45			#		
pH	s.u.	06/14/2006	N001	9.08			#		
pH	s.u.	06/14/2006	N002	9.03			#		
Radium-226	pCi/L	06/14/2006	N001	0.135	U		#	.633	.349
Radium-226	pCi/L	06/14/2006	N002	0.215	U		#	1.32	.745
Radium-228	pCi/L	06/14/2006	N001	0.698		J	#	.628	.385
Radium-228	pCi/L	06/14/2006	N002	0.994		J	#	.692	.471
Specific Conductance	umhos/cm	06/14/2006	N001	612			#		
Specific Conductance	umhos/cm	06/14/2006	N002	613			#		
Temperature	C	06/14/2006	N001	13.17			#		
Temperature	C	06/14/2006	N002	12.48			#		
Turbidity	NTU	06/14/2006	N001	1.42			#		
Turbidity	NTU	06/14/2006	N002	3.85			#		
Uranium	mg/L	06/14/2006	N001	0.000099	B		#	.0000034	
Uranium	mg/L	06/14/2006	N002	0.00011			#	.0000034	

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0829 DOMESTIC SUPPLY

Parameter	Units	Sample Date	ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Chlorine, Total Residual	mg/L	06/13/2006	N001	0.25			#		
Chlorine, Total Residual	mg/L	06/13/2006	N002	0.29			#		
Dissolved Oxygen	mg/L	06/13/2006	N001	5.96			#		
Dissolved Oxygen	mg/L	06/13/2006	N002	5.97			#		
Oxidation Reduction Potential	mV	06/13/2006	N001	323			#		
Oxidation Reduction Potential	mV	06/13/2006	N002	281			#		
pH	s.u.	06/13/2006	N001	8.43			#		
pH	s.u.	06/13/2006	N002	8.25			#		
Radium-226	pCi/L	06/13/2006	N001	0.781	U		#	1.11	.739
Radium-226	pCi/L	06/13/2006	N002	0.483	U		#	.766	.507
Radium-228	pCi/L	06/13/2006	N001	0.589	U		#	.668	.381
Radium-228	pCi/L	06/13/2006	N002	0.755		J	#	.681	.417
Specific Conductance	umhos/cm	06/13/2006	N001	612			#		
Specific Conductance	umhos/cm	06/13/2006	N002	663			#		
Temperature	C	06/13/2006	N001	16.43			#		
Temperature	C	06/13/2006	N002	14.19			#		
Turbidity	NTU	06/13/2006	N001	1.21			#		
Turbidity	NTU	06/13/2006	N002	2.23			#		
Uranium	mg/L	06/13/2006	N001	0.00011			#	.0000034	
Uranium	mg/L	06/13/2006	N002	0.0001			#	.0000034	

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0830 DOMESTIC SUPPLY

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Chlorine, Total Residual	mg/L	06/13/2006	N001	0.23			#		
Chlorine, Total Residual	mg/L	06/13/2006	N002	0.24			#		
Dissolved Oxygen	mg/L	06/13/2006	N001	7.19			#		
Dissolved Oxygen	mg/L	06/13/2006	N002	8.36			#		
Oxidation Reduction Potential	mV	06/13/2006	N001	200			#		
Oxidation Reduction Potential	mV	06/13/2006	N002	258			#		
pH	s.u.	06/13/2006	N001	8.88			#		
pH	s.u.	06/13/2006	N002	8.85			#		
Radium-226	pCi/L	06/13/2006	N001	1.2	U		#	2.01	1.3
Radium-226	pCi/L	06/13/2006	N002	0.199	U		#	.521	.312
Radium-228	pCi/L	06/13/2006	N001	0.709		J	#	.67	.404
Radium-228	pCi/L	06/13/2006	N002	0.737	U		#	.763	.446
Specific Conductance	umhos/cm	06/13/2006	N001	619			#		
Specific Conductance	umhos/cm	06/13/2006	N002	617			#		
Temperature	C	06/13/2006	N001	16.3			#		
Temperature	C	06/13/2006	N002	14.67			#		
Turbidity	NTU	06/13/2006	N001	0.67			#		
Turbidity	NTU	06/13/2006	N002	0.6			#		
Uranium	mg/L	06/13/2006	N001	0.000073	B	U	#	.0000034	
Uranium	mg/L	06/13/2006	N002	0.00012			#	.0000034	

Ground Water Quality Data by Location (USEE102) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006
Location: 0834 DOMESTIC SUPPLY

Parameter	Units	Sample Date	Sample ID	Result	Qualifiers Lab	Qualifiers Data	Qualifiers QA	Detection Limit	Uncertainty
Chlorine, Total Residual	mg/L	06/14/2006	N001	0.27			#		
Dissolved Oxygen	mg/L	06/14/2006	N001	6.72			#		
Oxidation Reduction Potential	mV	06/14/2006	N001	317			#		
pH	s.u.	06/14/2006	N001	9.05			#		
Radium-226	pCi/L	06/14/2006	N001	0.52	U		#	.78	.525
Radium-228	pCi/L	06/14/2006	N001	0.621	U		#	.705	.402
Specific Conductance	umhos/cm	06/14/2006	N001	610			#		
Temperature	C	06/14/2006	N001	13.18			#		
Turbidity	NTU	06/14/2006	N001	1.15			#		
Uranium	mg/L	06/14/2006	N001	0.000085	B	U	#	.0000034	

Equipment Blank Data

BLANKS REPORT
LAB: PARAGON (Fort Collins, CO)
RIN: 06050390
Report Date: 9/7/2006

Parameter	Site Code	Location ID	Sample Date	Sample ID	Units	Result	Qualifiers Lab	Qualifiers Data	Detection Limit	Uncertainty	Sample Type
Manganese	RVT01	0999	06/15/2006	N001	mg/L	.00085	B	U	.00023		E
Manganese	RVT01	0999	06/15/2006	N002	mg/L	.00023	U		.00023		E
Molybdenum	RVT01	0999	06/15/2006	N001	mg/L	.00028	B	U	.00021		E
Molybdenum	RVT01	0999	06/15/2006	N002	mg/L	.00021	U		.00021		E
Sulfate	RVT01	0999	06/15/2006	N001	mg/L	.5	U		.5		E
Sulfate	RVT01	0999	06/15/2006	N002	mg/L	.5	U		.5		E
Uranium	RVT01	0999	06/15/2006	N001	mg/L	.000074	B	U	.0000034		E
Uranium	RVT01	0999	06/15/2006	N002	mg/L	.000036	B	U	.0000034		E
Uranium	RVT01	0999	06/15/2006	N002	mg/L	.000036	B	U	.0000034		E

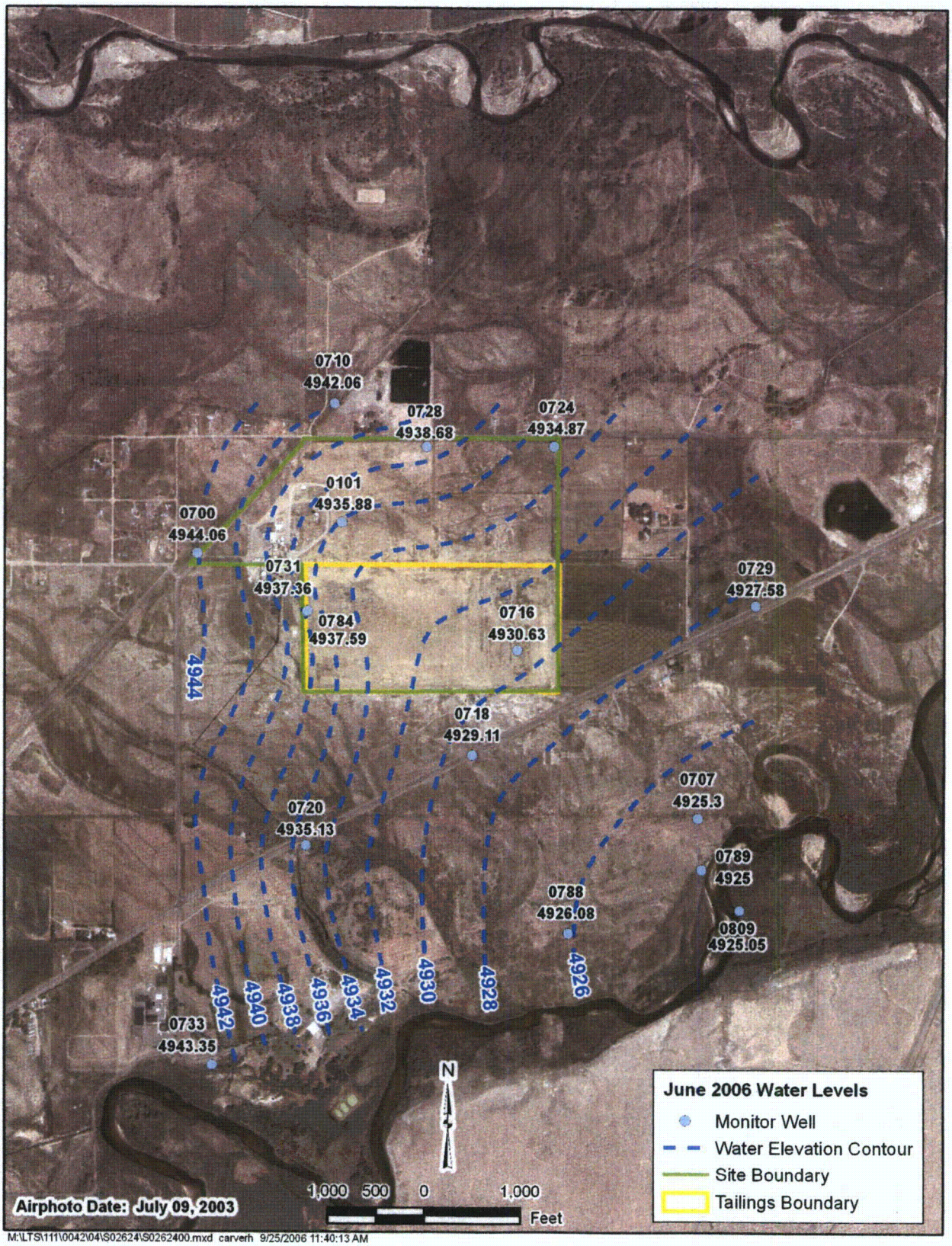
SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:
- * Replicate analysis not within control limits.
- > Result above upper detection limit.
- A TIC is a suspected aldol-condensation product.
- B Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
- C Pesticide result confirmed by GC-MS.
- D Analyte determined in diluted sample.
- E Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
- H Holding time expired, value suspect.
- I Increased detection limit due to required dilution.
- J Estimated
- N Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
- P > 25% difference in detected pesticide or Aroclor concentrations between 2 columns.
- U Analytical result below detection limit.
- W Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
- X,Y,Z Laboratory defined qualifier, see case narrative.

DATA QUALIFIERS:
- F Low flow sampling method used.
- L Less than 3 bore volumes purged prior to sampling.
- U Parameter analyzed for but was not detected.
- G Possible grout contamination, pH > 9.
- Q Qualitative result due to sampling technique.
- X Location is undefined.
- J Estimated value.
- R Unusable result.

SAMPLE TYPES:
- E Equipment Blank.

Static Water Level Data



June 2006 Water Levels

STATIC WATER LEVELS (USEE700) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006

Location Code	Flow Code	Top of Casing Elevation (Ft)	Measurement Date	Measurement Time	Depth From Top of Casing (Ft)	Water Elevation (Ft)	Water Level Flag
0101	O	4946.58	15-JUN-06		10.7	4935.88	
0110	O	4946.44	15-JUN-06		11.65	4934.79	
0111	O	4946.87	15-JUN-06		9.66	4937.21	
0700	U	4951.38	15-JUN-06		7.32	4944.06	
0702	D	4931	14-JUN-06		6.31	4924.69	
0705	D	4930.8	14-JUN-06	12:05:00	6.19	4924.61	
0705	D	4930.8	14-JUN-06		6.32	4924.48	
0707	D	4931	14-JUN-06	11:15:00	5.7	4925.3	
0707	D	4931	14-JUN-06		5.66	4925.34	
0709	D	4930.7	14-JUN-06		3.1	4927.6	
0710	U	4947.9	14-JUN-06	17:23:00	5.84	4942.06	
0716	O	4939.12	15-JUN-06	11:34:00	8.49	4930.63	
0717	O	4938.8	15-JUN-06	11:01:00	8.68	4930.12	
0718	D	4937.6	15-JUN-06	14:58:00	8.49	4929.11	
0718	D	4937.6	15-JUN-06		8.49	4929.11	
0719	D	4937.55	15-JUN-06	15:48:00	7.69	4929.86	
0719	D	4937.55	15-JUN-06		7.69	4929.86	
0720	C	4940.46	14-JUN-06	08:36:00	5.33	4935.13	
0721	C	4940.47	14-JUN-06	08:58:00	8.23	4932.24	
0723	D	4936.01	15-JUN-06	12:19:00	6.08	4929.93	
0723	D	4936.01	15-JUN-06		6.08	4929.93	
0724	U	4941.36	15-JUN-06		6.49	4934.87	
0725	U	4941.66	15-JUN-06		6.55	4935.11	
0726	U	4942	15-JUN-06		6.28	4935.72	
0727	U	4951.69	15-JUN-06		8.83	4942.86	
0728	U	4946.01	15-JUN-06		7.33	4938.68	
0729	D	4932.75	15-JUN-06	09:06:00	5.17	4927.58	
0729	D	4932.75	15-JUN-06		5.17	4927.58	
0730	D	4933.08	15-JUN-06	10:30:00	6.06	4927.02	
0730	D	4933.08	15-JUN-06		6.06	4927.02	

STATIC WATER LEVELS (USEE700) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 9/7/2006

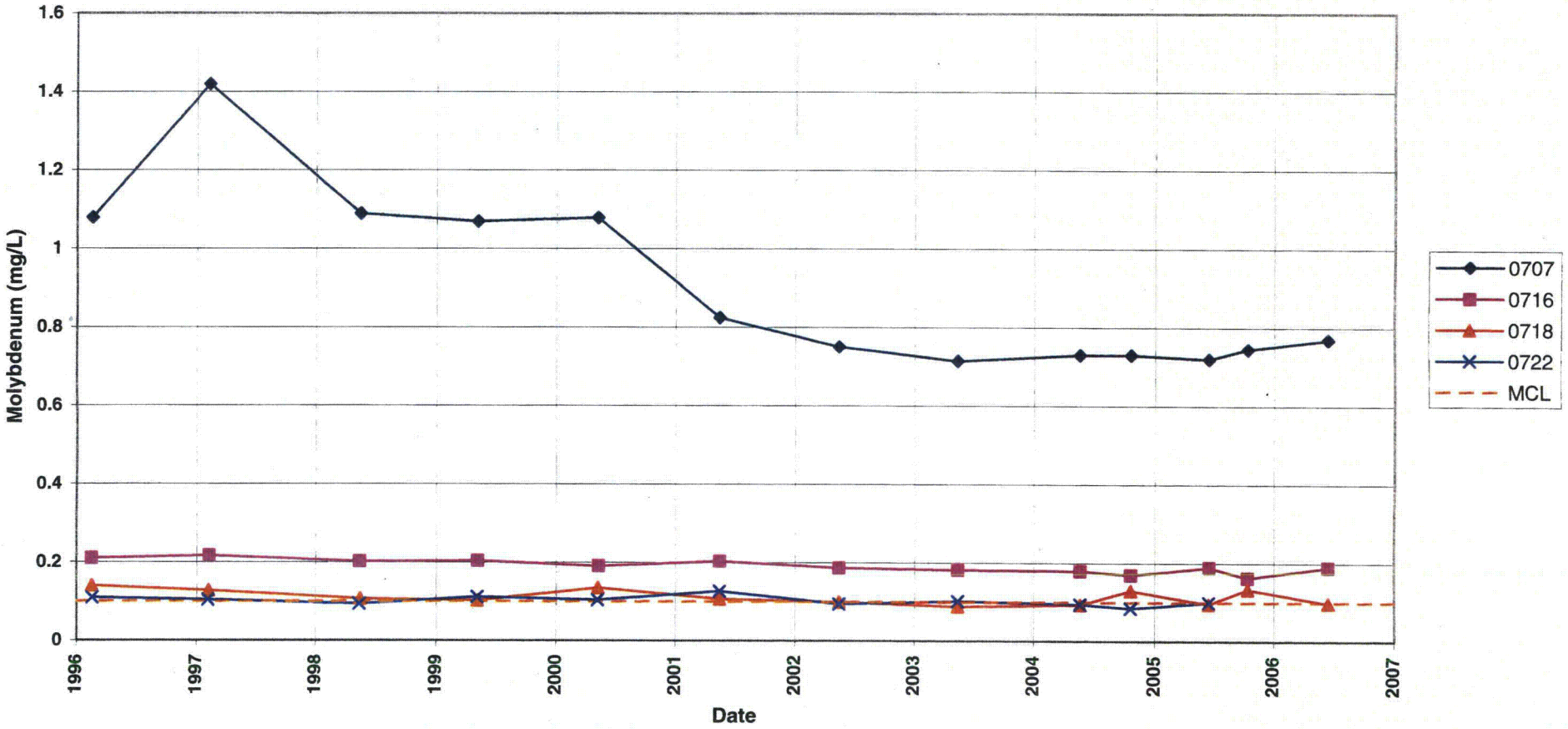
Location Code	Flow Code	Top of Casing Elevation (Ft)	Measurement Date	Measurement Time	Depth From Top of Casing (Ft)	Water Elevation (Ft)	Water Level Flag
0731	U	4945.48	15-JUN-06		8.12	4937.36	
0732	U	4945.07	15-JUN-06		8.93	4936.14	
0733	U	4946.76	15-JUN-06		3.41	4943.35	
0734	U	4946.08	15-JUN-06		5.96	4940.12	
0735	D	4934.16	13-JUN-06	09:00:00	9.54	4924.62	
0736	U	4946	15-JUN-06		7.65	4938.35	
0784	U	4945.45	15-JUN-06	09:12:00	7.86	4937.59	
0788	C	4935.09	14-JUN-06	17:07:00	9.01	4926.08	
0788	C	4935.09	14-JUN-06		6.03	4929.06	
0789	D	4933.66	14-JUN-06		8.66	4925	
0809		4932.09	13-JUN-06	09:16:00	7.04	4925.05	
0809		4932.09	13-JUN-06	09:16:00	7.04	4925.05	

FLOW CODES: B BACKGROUND C CROSS GRADIENT D DOWN GRADIENT O ON SITE
U UPGRADIENT

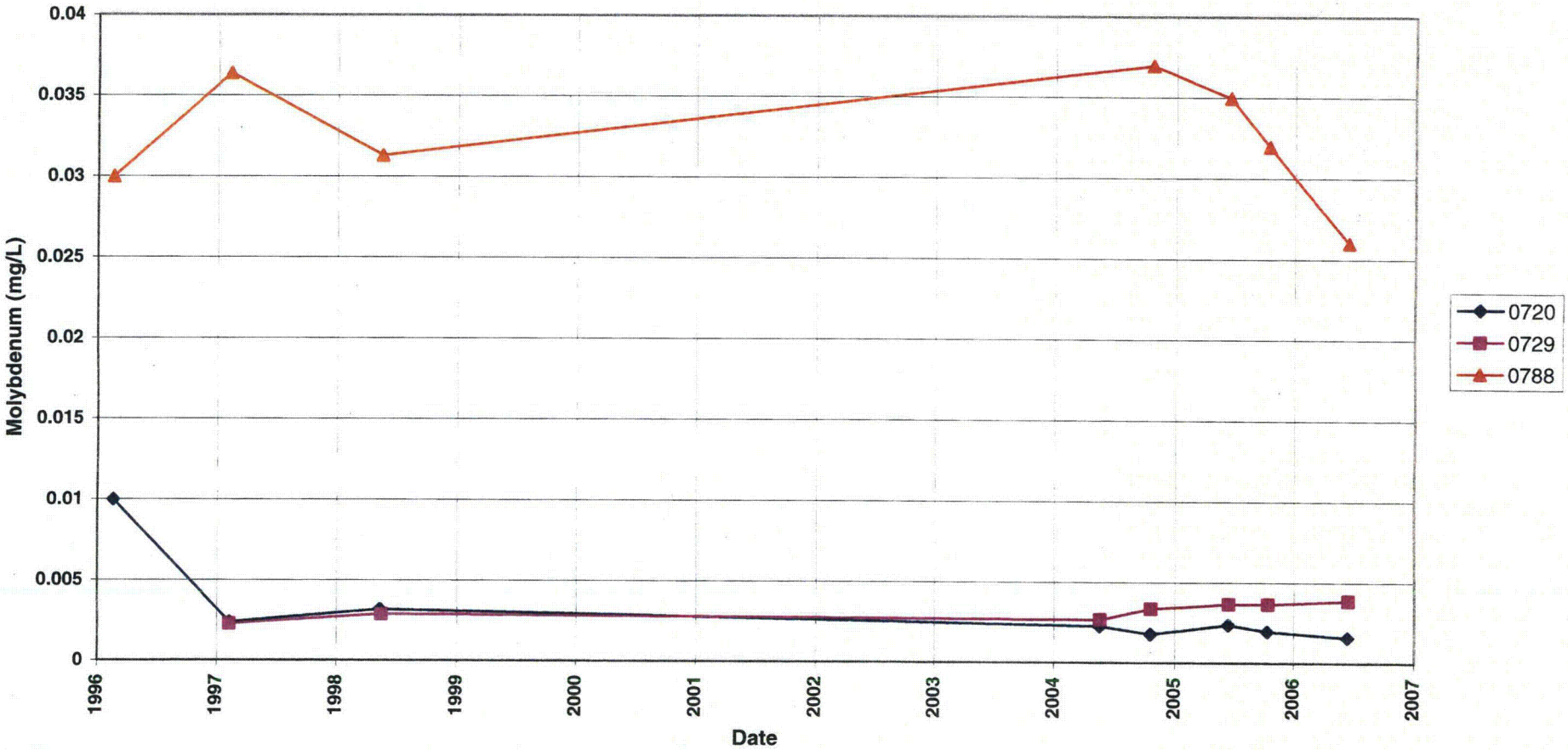
WATER LEVEL FLAGS: D Dry

Time Versus Concentration Graphs

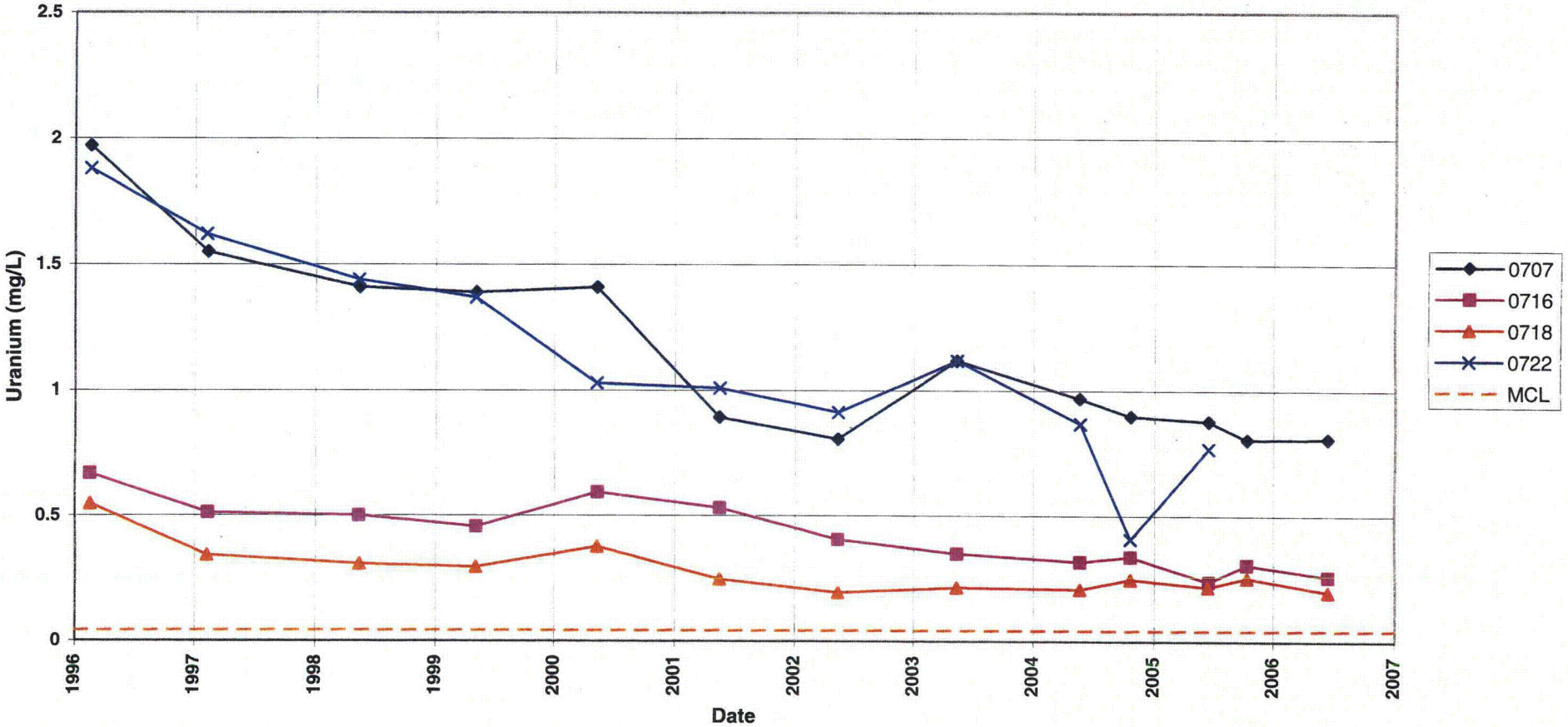
Riverton Processing Site
Plume Wells
Molybdenum Concentration
Maximum Contaminant Level = 0.1 mg/L



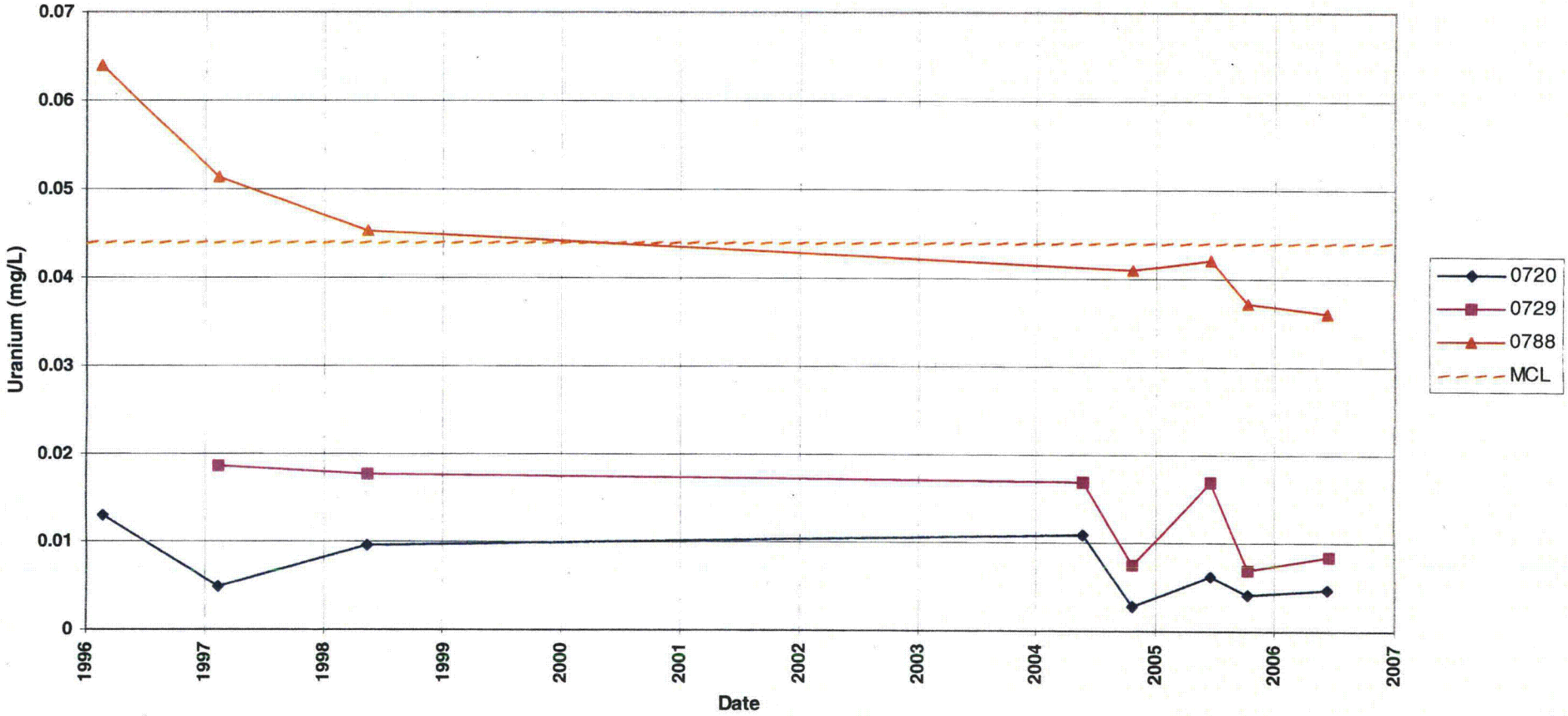
Riverton Processing Site
Edge of Plume Wells
Molybdenum Concentration
Maximum Contaminant Level = 0.1 mg/L



Riverton Processing Site
Plume Wells
Uranium Concentration
Maximum Contaminant Level = 0.044 mg/L



Riverton Processing Site
Edge of Plume Wells
Uranium Concentration
Maximum Contaminant Level = 0.044 mg/L



Attachment 3
Sampling and Analysis Work Order

Stoller

established 1959

Task Order ST06-102
Control Number 1000-T06-1140

May 3, 2006

Ms. Tracy Plessinger
Site Manager, LM-50
U.S. Department of Energy
Office of Legacy Management
2597 B ¾ Road
Grand Junction, CO 81503

SUBJECT: Contract No. DE-AC01-02GJ79491, Stoller
June 2006 Environmental Sampling at Riverton, Wyoming

Reference: FY 2006 LM Task Order No. ST06-102-24

Dear Ms. Plessinger:

The purpose of this letter is to inform you of the upcoming sampling event at Riverton, Wyoming. Enclosed are the map and tables specifying sample locations and analytes for ground water and surface water monitoring. Water quality data will be collected from monitor wells, domestic wells, the water supply system, and surface locations at this site as part of the routine environmental sampling currently scheduled to begin the week of June 12, 2006.

The following lists show the monitor wells (with zone of completion), surface locations, water supply system hydrants/taps, and domestic wells scheduled to be sampled during this event.

Monitor Wells (filtered)*

705 Se	716 Sf	720 Sf	723 Se	731 Sf	788 Sf	824
707 Sf	717 Se	721 Se	729 Sf	735 Se	809 Sf	825
710 Sf	719 Se	722 Sf	730 Se			

*NOTE: Se = Semi-confined sandstone; Sf = surficial

Surface Locations (filtered)

747	794	810	811	812	822	823
749	796					

Domestic Wells

405	430	440	446	460	828	951
422	436	441	454			

Water Supply System

Hydrants

818	819	820	821	829	830

Taps

813	814	815	816

QA/QC samples will be collected as directed in the *Sampling and Analysis Plan for GJO Projects*. Access agreements are being reviewed and are expected to be complete by the beginning of fieldwork.

If you have any questions, please call me at extension 6588 or Sam Campbell at extension 6654.

Sincerely,

Signature on original

Clay Carpenter
Project Manager

CC/lcg/mat
Enclosures (3)

cc: C. I. Bahrke, Stoller
S. E. Campbell, Stoller (e)
S. E. Donivan, Stoller (e)
L. C. Goodknight, Stoller (e)
K. E. Miller, Stoller
D. G. Traub, Stoller (e)

cc w/o enclosures:
Correspondence Control File (Thru V. Creagar)

Constituent Sampling Breakdown For Individual Sites

Site	Riverton		
Analyte	**Ground Water**	**Surface Water**	**Water System**
Approx. No. Samples/yr	58	18	30
Field Measurements			
Alkalinity	X	X	
Dissolved Oxygen			X
Redox Potential	X	X	X
Residual Chlorine			X
pH	X	X	X
Specific Conductance	X	X	X
Turbidity	X	X	
Temperature	X	X	X
Laboratory Measurements			
Aluminum			
Ammonia as N (NH3-N)			
Antimony			
Arsenic			
Barium			
Bromide			
Cadmium			
Calcium			
Chloride			
Chromium			
Cobalt			
Copper			
Fluoride			
Gamma Spec			
Gross Alpha			
Gross Beta			
Iron			
Lead			
Lead-210			
Magnesium			
Manganese	X		
Molybdenum	X		
Nickel			
Nickel-63			
Nitrate + Nitrite as N (NO3+NO2)-N			
Nitrite			
PCBs			
Phosphate			
Polonium-210			
Potassium			
Radium-226		0822 only	X

Analyte	Ground Water	Surface Water	Water System
Radium-228		0822 only	X
Selenium			
Silica			
Sodium			
Strontium			
Sulfate	X	X	
Sulfide			
Thallium			
Thorium-230			
Tin			
Total Organic Carbon			
Total Suspended Solids			
Uranium	X	X	X
Uranium-234, -238			
Vanadium			
Zinc			
Total Analytes	4	6	3

Attachment 4
Trip Report

Stoller

Grand Junction Office

established 1959

Memorandum

Control Number N/A

DATE: June 28, 2006

TO: Distribution

FROM: Sam E. Campbell

SUBJECT: Trip Report

Site: Riverton, Wyoming, Processing Site

Dates of Sampling Event: June 12 to June 16, 2006.

Team Members: Sam Campbell, Bill Frazier, Steve Hall, Jeff Price, Dan Sellers, and Joe Trevino.

Number of Locations Sampled: 16 monitor wells, 9 surface water locations, 8 domestic wells, 7 hydrant locations, 4 tap locations, and 3 soil sample locations.

Locations Not Sampled/Reason: Monitor well 0784 was sampled instead of monitor well 0731. This change was implemented to exchange a Category III well (0731) for an adjacent Category I well (0784).

Well 0722 had been destroyed by heavy equipment previous to this sampling event and was inadvertently left on the sampling list. Well 0718 was inadvertently removed from the list and was sampled.

Location Specific Information: An additional hydrant location was sampled during this event. The hydrant was given a location identification of 0834. One sample was collected from this location after flushing.

Monitor wells 0705, 0719, and 0730 were purged and sampled using Category II criteria; all other monitor wells were purged and sampled using Category I criteria.

A GPS unit was used to collect horizontal survey coordinates for all hydrant locations.

Wells 0723, 0729, 0730, and 0788 were re-developed prior to sampling. Well 0788 had approximately 2 feet of sand in the bottom.

Soil Sampling: Following are the results of soil testing for pH. Tests were performed with a Morgan soil pH test kit.

Location	Depth (ft)	pH	Comments
0831	0	8.2	None
	2	8.6	None
	3.5	8.6	Auger refusal @ 3 feet, shovel to 3.5 feet
0832	0	8.2	None
	2	8.4	Auger refusal @ 9 inches, shovel to 2 feet
0833	0	8.0	None
	2	9.2	None
	4	8.7	None

Hydrant Flushing: Following is a summary of the hydrant flushing. Residual chlorine was determined using a Hach chlorine test kit.

Hydrant Location	Flushing Time (min)	Average Flow Rate (gpm)	Total Volume (gal)	Average Velocity (ft/sec)	Residual Chlorine	
					Start of Purge	End of Purge
0829	34	595.9	20,260	3.81	0.29	0.25
0830	63	630.2	39,700	2.92	0.24	0.23
0818	38	548.4	20,840	5.16	0.24	0.19
0819	104	460.0	43,200	2.94	0.25	0.27
0821	28	499.0	13,970	5.66	0.35	0.27
0820	6	496.0	3,150	5.63	0.14	0.25
0834	4	435	1,740	4.94		0.27

Field Variance: pH testing of soil at the 4-foot depth at two locations was not completed because of rocks in the subsurface soils.

Quality Control Sample Cross Reference: Following are the false identifications assigned to the quality control samples:

False ID	True ID	Sample Type	Ticket Number
2350	0718	Duplicate	NFJ-651
2351	NA	Equipment Blank	NFJ-652
2352	0749	Duplicate	NFJ-874
2353	NA	Equipment Blank	NDV-485

Requisition Numbers Assigned: All samples were assigned to report identification number (RIN) 06050390.

Water Level Measurements: Water levels were measured at all sampled monitor wells and 23 additional monitor wells. Data loggers were downloaded at 6 locations. Only a partial download was completed at well 0789.

Well Inspection Summary: All wells in the sampling network were redeveloped. All wells were in good condition.

Equipment: Data logger in well 0709 was not functioning and was removed from service.

Regulatory: The Wind River Environmental Quality Commission (WREQC) split samples at several locations.

Institutional Controls

Fences, Gates, Locks: No issues identified.

Signs: Warning signs installed around the Oxbow Lake were on the ground; signs were reattached to the existing barbed wire fence.

Trespassing/Site Disturbances: None.

Site Issues: The pH measured in the effluent from the sulfuric acid plant was low (4.19). WREQC will follow-up on the low reading.

Disposal Cell/Drainage Structure Integrity: Not applicable.

Vegetation/Noxious Weed Concerns: Not applicable.

Maintenance Requirements: None.

Access Issues: None.

Corrective Action Required/Taken: The sampling and analysis work order needs to be amended by deleting monitor well 0731 and adding monitor well 0784 and hydrant location 0834. Well 0722 needs to be removed from the sampling work order (destroyed) and well 0718 needs to be added back on the list.

The database needs to be updated with GPS coordinates from the hydrant locations and 0834 needs to be established as a new location. The Alternate Water Supply System Flushing Work Plan needs to be updated with location 0834.

(SEC/lcg)

cc: T. B. Plessinger, DOE (e)
C. I. Bahrke, Stoller (e)
S. E. Campbell, Stoller (e)
S. E. Donivan, Stoller (e)
K. E. Miller, Stoller (e)