

Verification Monitoring Report for the Riverton, Wyoming, Processing Site

Update for 2010

February 2011



**U.S. DEPARTMENT OF
ENERGY**

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1.0 Introduction

The compliance strategy for the Riverton, Wyoming, Processing Site (Riverton site) is natural flushing in conjunction with institutional controls (ICs) and continued monitoring (DOE 1998a). Monitoring during the natural flushing period is referred to as verification monitoring because the purpose of the monitoring is to verify that the natural flushing strategy is progressing as predicted, and to verify that ICs are in place and functioning as intended. Data collected during verification monitoring are reported annually in a Verification Monitoring Report. These reports have been issued annually since 2001 (DOE 2001 through DOE 2010).

The purpose of this report is to present data collected during 2010, to summarize site conditions, to evaluate monitoring data collected to date, and to provide an annual update on the progress of the natural flushing compliance strategy. Data from 2010 was generated from two routine groundwater and surface water sampling events conducted at the Riverton site during June and November, and one non-routine sampling event in September.

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2.0 Site Conditions

2.1 Hydrogeology

The Riverton site is located on an alluvial terrace between the Wind River and the Little Wind River approximately 2.3 miles southwest of the town of Riverton, Wyoming (Figure 1.). Groundwater occurs in three aquifers beneath the site: (1) surficial unconfined aquifer (surficial aquifer), (2) middle semiconfined aquifer, and (3) deeper confined aquifer (DOE 1998b). The surficial aquifer consists of approximately 20 feet (ft) of unconsolidated alluvial material, and the semiconfined and confined aquifers are composed of shales and sandstones of the upper units of the Eocene Wind River Formation, which is over 500 ft thick in the vicinity of the site. Depth to groundwater in the surficial aquifer is generally less than 10 ft below land surface. For compliance purposes, the surficial aquifer and semiconfined aquifer comprise the uppermost aquifer, which is the aquifer where compliance with groundwater standards is assessed. Groundwater in the uppermost aquifer flows to the southeast.

2.2 Water Quality

Shallow groundwater beneath and down gradient from the site was contaminated as a result of uranium processing activities from 1958 through 1963 (DOE 1998b). Constituents of potential concern (COPCs) in the groundwater beneath the Riverton site are manganese, molybdenum, sulfate, and uranium. COPCs were selected using a screening process that compared constituent concentrations with appropriate maximum concentration limits (MCLs), and evaluated potential human health risks and ecological risks. The COPCs selection process is detailed in the *Environmental Assessment of Ground Water Compliance at the Riverton, Wyoming, Uranium Mill Tailings Site* (DOE 1998c). Molybdenum and uranium were selected as indicator constituents for compliance monitoring in the *Final Ground Water Compliance Action Plan for the Riverton, Wyoming, Title I UMTRA Project Site* (GCAP) (DOE 1998a). These constituents were selected as indicator constituents because they are the most widely distributed and form significant aqueous plumes in the uppermost aquifer in the vicinity of the site. The MCLs for molybdenum and uranium are 0.10 milligram per liter (mg/L), and 30 picocuries per liter (pCi/L), respectively.

Note: In order to provide a consistent comparison with historical data, uranium concentrations continue to be measured in mg/L; therefore, the uranium standard referenced in this report has been converted from 30 pCi/L to 0.044 mg/L (which assumes secular equilibrium of uranium isotopes) to allow direct comparison of uranium data to the standard.

2.3 Surface Remediation Activities

Uranium mill tailings and other contaminated materials were removed from the Riverton site during 1988–1989 and encapsulated at the Gas Hills East disposal site (Figure 1.). About 1.8 million cubic yards of tailings and associated materials were removed from the site for disposal (DOE 1998b).

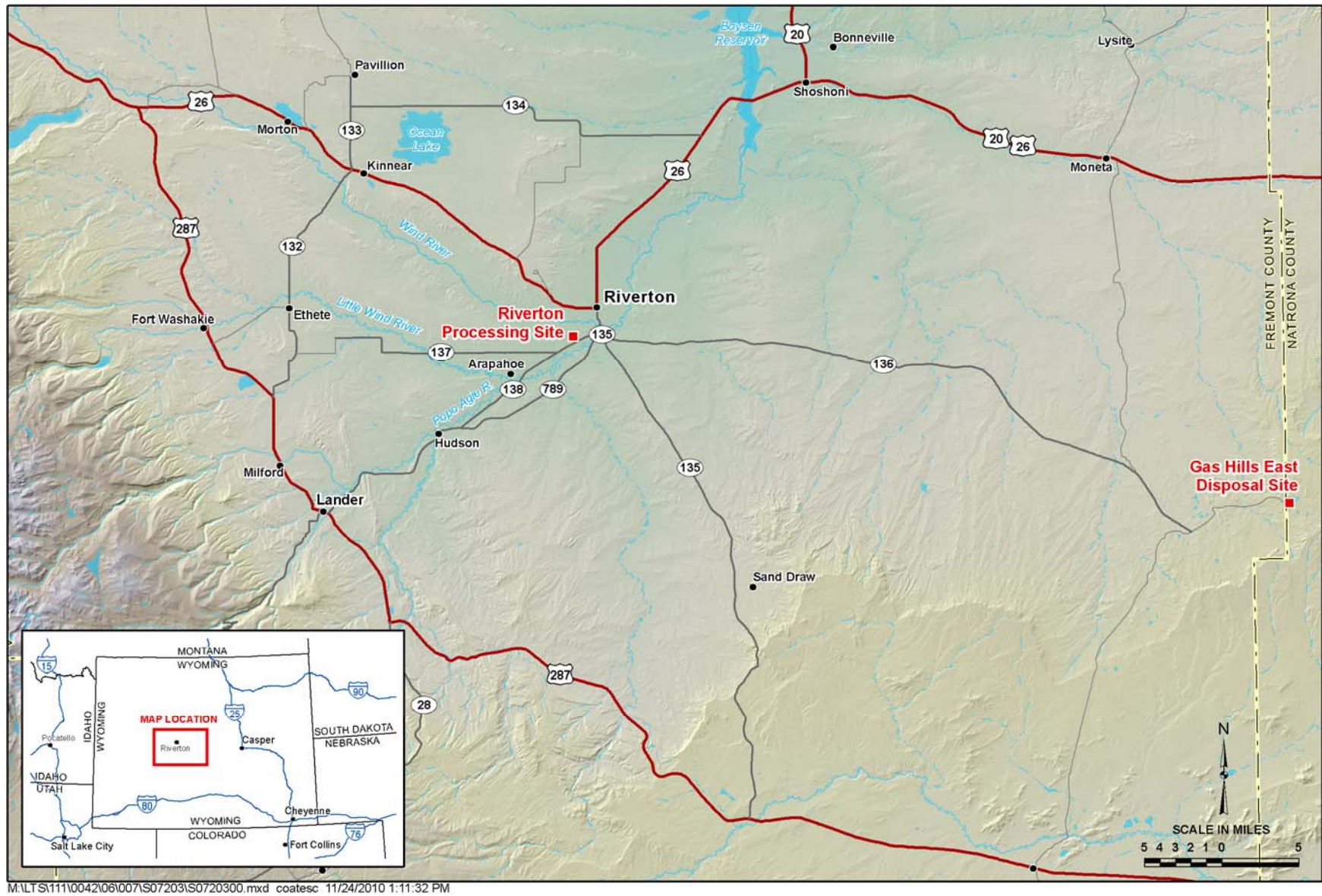


Figure 1. Site Location Map

2.4 Institutional Controls

To be protective of human health and the environment during the natural flushing period, ICs are required to control exposure to contaminated groundwater. An IC boundary has been established at the Riverton site (Figure 2), delineating the area that requires protection. The IC boundary was set to encompass the area of current groundwater contamination and a surrounding buffer zone to account for potential future plume migration.

Cooperative efforts among the U. S. Department of Energy (DOE), the Northern Arapaho and Eastern Shoshone Tribes, and the State of Wyoming continue in order to obtain viable and enforceable ICs at the Riverton site, although all components have not been finalized. ICs in place prior to 2010 include the following components:

- An alternate water supply system, funded by DOE and operated by Northern Arapaho Utility Organization, supplies potable water to residents within the ICs boundary to minimize use of groundwater.
- Warning signs installed around the oxbow lake (Figure 2) explaining that the contaminated water is not safe for human consumption, with instructions not to drink, fish, or swim in the lake.
- A Tribal Ordinance places restrictions on well installation, prohibits surface impoundments, authorizes access to inspect and sample new wells, and provides notification to drilling contractors with Tribal permits of the groundwater contamination within the ICs boundary. Restrictions on well installation include a minimum depth of 150 ft below ground surface (approximately 50 ft below the top of the confined aquifer) and installation of surface casing through the contaminated upper aquifer.
- DOE distributed notification of existing groundwater contamination to area drilling contractors.
- A State of Wyoming Department of Environmental Quality notification of existing groundwater contamination will be provided to persons on privately-owned land applying for a gravel pit permit within the ICs boundary.
- A Bureau of Indian Affairs-provided notification of existing groundwater contamination will be provided to persons on Tribal land applying for a surface impoundment within and adjacent to the ICs boundary.
- The State of Wyoming State Engineer's Office will inform DOE when permit applications are received for wells or surface impoundments within or adjacent to the IC boundary, provide DOE with a copy of the application for comment, and incorporate comments on the permit, if approved.
- An easement and covenant to restrict land use and well drilling on the former millsite property was finalized on June 29, 2009, and the former millsite was purchased by Chemtrade Refinery Services, Inc.

Other ICs that are in progress, but not finalized include:

- A Bureau of Indian Affairs-provided notification of existing groundwater contamination will be provided to all residents on Tribal land within and adjacent to the ICs boundary.
- A notification of existing groundwater contamination will be provided to fee-land property owners within the ICs boundary every 5 years.

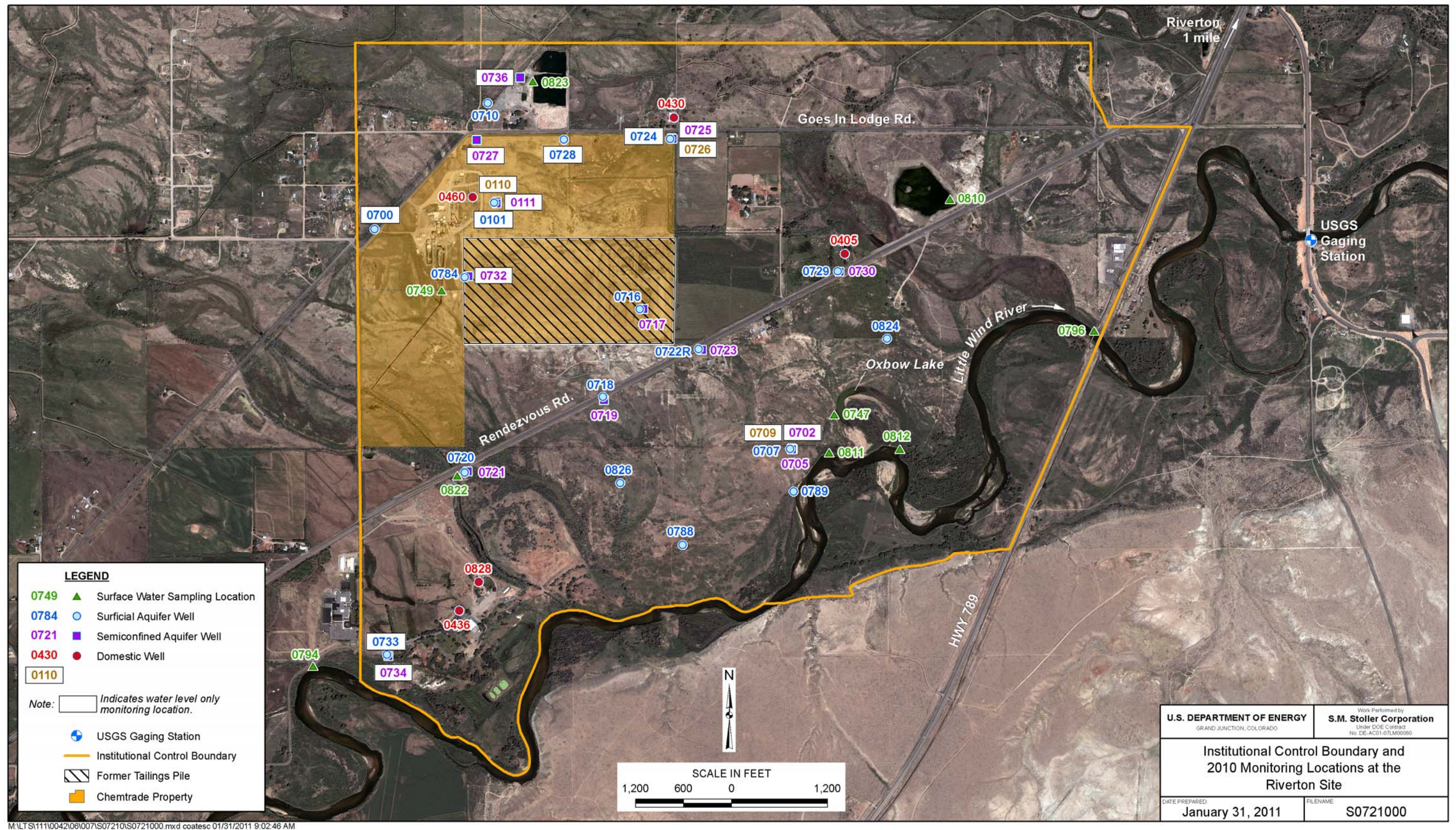


Figure 2. Institutional Control Boundary and 2010 Monitoring Locations at the Riverton Site

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3.0 Monitoring Program

The monitoring program for 2010 consisted of 18 monitoring wells, 5 domestic wells, and 9 surface water locations, which are listed Table 1. and shown on Figure 2. Water levels were measured at 15 additional monitoring wells. Routine sampling events were conducted in June and November, and a limited sampling event of three wells (0707, 0788, and 0789) was conducted in September because of anomalous results from the June event. Samples were analyzed for manganese, molybdenum, sulfate, and uranium, and field measurements of temperature, pH, specific conductance, oxidation-reduction potential, alkalinity, and turbidity were measured at each sampling location.

Table 1. 2010 Sampling Network at the Riverton Site

Location ID	Description	Sampling Event	Rationale
DOE Monitoring Wells			
0705	Semiconfined aquifer	June, November	Monitor semiconfined aquifer
0707	Surficial aquifer	June, November	Monitor centroid of plume
0710	Surficial aquifer	June, November	Background location
0716	Surficial aquifer	June, November	Monitor upgradient portion of plume
0717	Semiconfined aquifer	June, November	Monitor semiconfined aquifer
0718	Surficial aquifer	June, November	Monitor lateral plume movement
0719	Semiconfined aquifer	June, November	Monitor semiconfined aquifer
0720	Surficial aquifer	June, November	Monitor lateral plume movement
0721	Semiconfined aquifer	June, November	Monitor semiconfined aquifer
0722R	Surficial aquifer	June, November	Monitor centroid of plume
0723	Semiconfined aquifer	June, November	Monitor semiconfined aquifer
0729	Surficial aquifer	June, November	Monitor lateral plume movement
0730	Semiconfined aquifer	June, November	Monitor semiconfined aquifer
0784	Surficial aquifer	June, November	Monitor lateral plume movement
0788	Surficial aquifer	June, November	Monitor lateral plume movement
0789	Surficial aquifer	June, November	Monitor centroid of plume
0824	Surficial aquifer	June, November	Monitor lateral plume movement
0826	Surficial aquifer	June, November	Monitor lateral plume movement
Domestic Wells			
0405	Private residence	June, November	Verify low concentrations of COPCs
0430	Private residence	June, November	Verify low concentrations of COPCs
0436	St Stephens Mission	June, November	Verify low concentrations of COPCs
0460	Chemtrade Refinery	June, November	Verify low concentrations of COPCs
0828	St Stephens Mission	June	Verify low concentrations of COPCs
Surface Water			
0747	Oxbow lake	June, November	Impacted by groundwater discharge
0749	Chemtrade discharge ditch	June, November	Effluent from acid plant
0794	Little Wind River	June, November	Upstream of predicted plume discharge
0796	Little Wind River	June, November	Downstream of predicted plume discharge
0810	Pond—former gravel pit	June, November	Potential for impact—within ICs boundary
0811	Little Wind River	June, November	Within area of predicted plume discharge
0812	Little Wind River	June, November	Within area of predicted plume discharge
0822	West side irrigation ditch	June, November	Potential for impact—within ICs boundary
0823	Pond—former gravel pit	June, November	Upgradient of plume; within ICs area

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4.0 Results of 2010 Monitoring

4.1 Groundwater

4.1.1 Groundwater Flow

Water levels were measured at the majority of wells in the monitoring network in June and November in order to verify groundwater flow direction, and to assess vertical gradients throughout the ICs area. Water level data are included in Appendix A.

Assessment of horizontal groundwater flow direction in the surficial aquifer is required to assure the monitoring network is adequate for assessing contaminant plume movement and to assure the ICs boundary provides a sufficient buffer for contaminant plume movement. As shown in Figure 3. and Figure 4, groundwater elevation contours for the surficial aquifer indicate a general flow direction to the southeast, which is consistent with historically measured flow directions and contaminant plume configurations. In addition, groundwater flow direction is consistent between the June and November monitoring events.

Vertical gradients are used to assess the direction that groundwater will flow vertically. Using the methods that have traditionally been applied to assess vertical flow, a negative gradient indicates potential for upward groundwater flow, and a positive gradient indicates potential for downward groundwater flow. Regardless of the direction indicated by gradient, vertical migration of groundwater is expected to be relatively minor because of the low vertical hydraulic conductivities of the confining layers separating aquifers. Vertical gradients calculated from June and November data are shown in Table 2. General observations from Table 2 include:

- Vertical gradients in the confined aquifer are upward at two locations and downward at one location.
- The well cluster adjacent to the sulfuric acid plant (0101, 0111, and 0110) indicates a downward vertical gradient in the confined aquifer, which is likely a reflection of continuous long-term pumping of the confined aquifer from the acid-plant production well.
- Although the well cluster adjacent to the sulfuric acid plant indicates a downward vertical gradient in the confined aquifer, an upward vertical gradient is indicated in the semiconfined aquifer, which confirms that the semiconfined and confined aquifers are hydrologically isolated.
- Vertical gradients in the semiconfined aquifer are variable, but tend to be downward near surface water features, and upward away from surface water features. Surface water is likely recharging the surficial aquifer causing a localized increase in heads in the surficial aquifer, and a resulting downward vertical gradient.

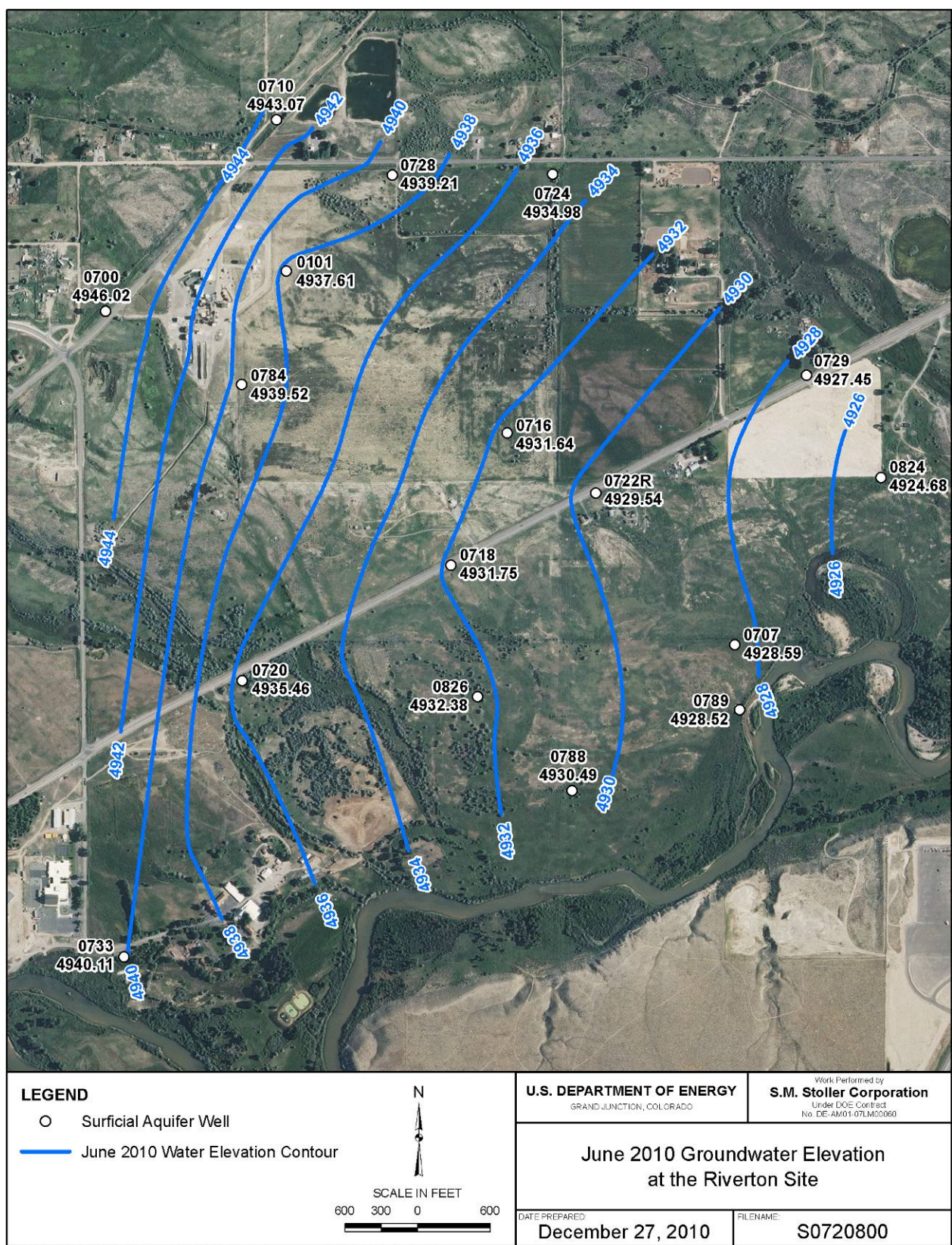


Figure 3. June 2010 Groundwater Elevations in the Surficial Aquifer at the Riverton Site

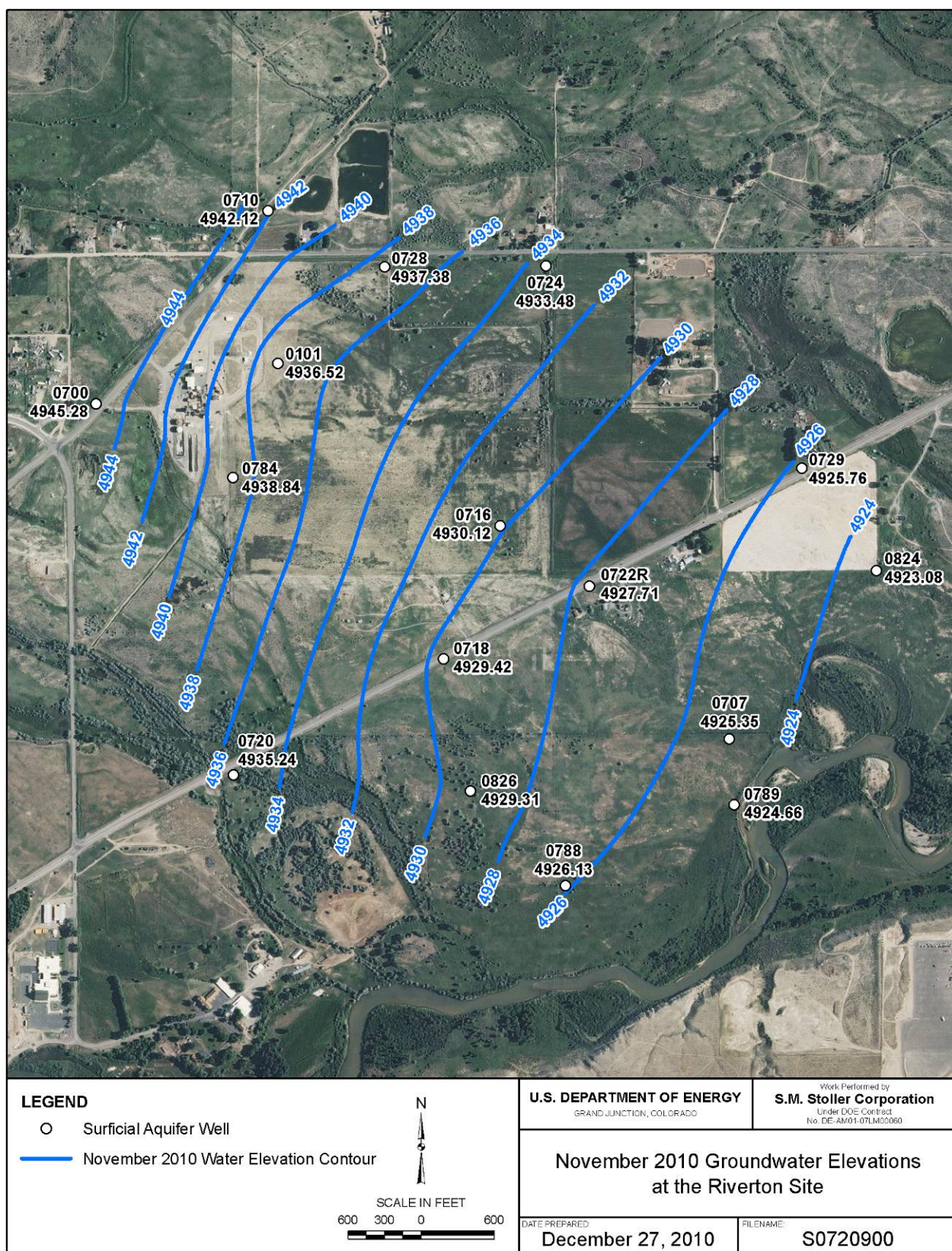


Figure 4. November 2010 Groundwater Elevations in the Surficial Aquifer at the Riverton Site

Table 2. Riverton Vertical Gradients

Well ID	Aquifer	Water Elevation June 2010	Water Elevation Nov 2010	Vertical Gradient ^a June 2010	Vertical Gradient Nov 2010
0724	Surficial	4934.98	4933.48		
0725	Semiconfined	4934.97	4933.47	0.0006	0.0006
0726	Confined	4936.77	4935.19	-0.016	-0.015
0101	Surficial	4937.61	4936.52		
0111	Semiconfined	4938.37	4936.91	-0.028	-0.014
0110	Confined	4935.86	4934.45	0.034	0.040
0784	Surficial	4939.52	4938.84		
0732	Semiconfined	4938.17	4937.14	0.051	0.065
0716	Surficial	4931.64	4930.12		
0717	Semiconfined	4931.58	4930.06	0.002	0.002
0707	Surficial	4928.59	4925.35		
0705	Semiconfined	4927.81	4924.25	0.028	0.039
0709	Confined	4930.09	4928.7	-0.02	-0.044
0718	Surficial	4931.75	4929.42		
0719	Semiconfined	4931.96	4929.8	-0.011	-0.019
0722R	Surficial	4929.54	4927.71		
0723	Semiconfined	4929.65	4927.86	-0.004	-0.005
0720	Surficial	4935.46	4935.24		
0721	Semiconfined	4934.25	4932.56	0.034	0.0744
0729	Surficial	4927.45	4925.76		
0730	Semiconfined	4927.46	4925.52	-0.0004	0.010

^a Vertical gradient from the semiconfined aquifer is between the semiconfined aquifer and the surficial aquifer, and the vertical gradient from the confined aquifer is between the confined aquifer and the surficial aquifer. A negative value indicates an upward vertical gradient.

4.1.2 Groundwater Quality

Surficial aquifer data from the 2010 sampling events are summarized in the following plots and figures. Time-concentration plots for molybdenum in wells located within contaminant plumes and wells bordering the contaminant plumes in the surficial aquifer are shown in Figure 5 and Figure 6, respectively. The distribution of molybdenum in the surficial aquifer from the June and November 2010 sampling events is shown on Figure 7 and Figure 8, respectively. Time-concentration plots for uranium in wells located within contaminant plumes, and wells on the lateral edge of the contaminant plumes in the surficial aquifer are shown in Figure 9 and Figure 10, respectively. The distribution of uranium in the surficial aquifer, based on June and November 2010 sampling results, is shown on Figure 11 and Figure 12, respectively.

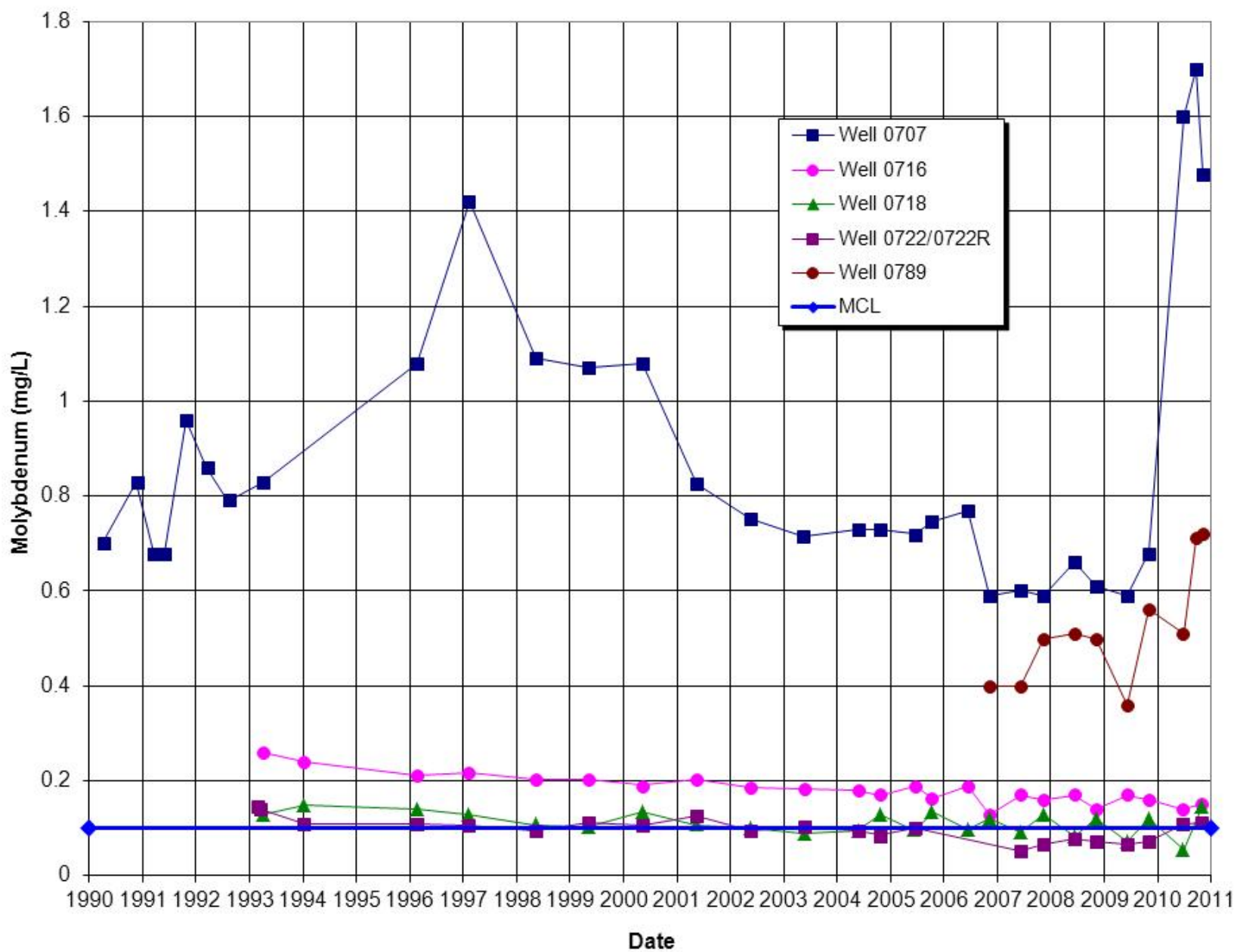
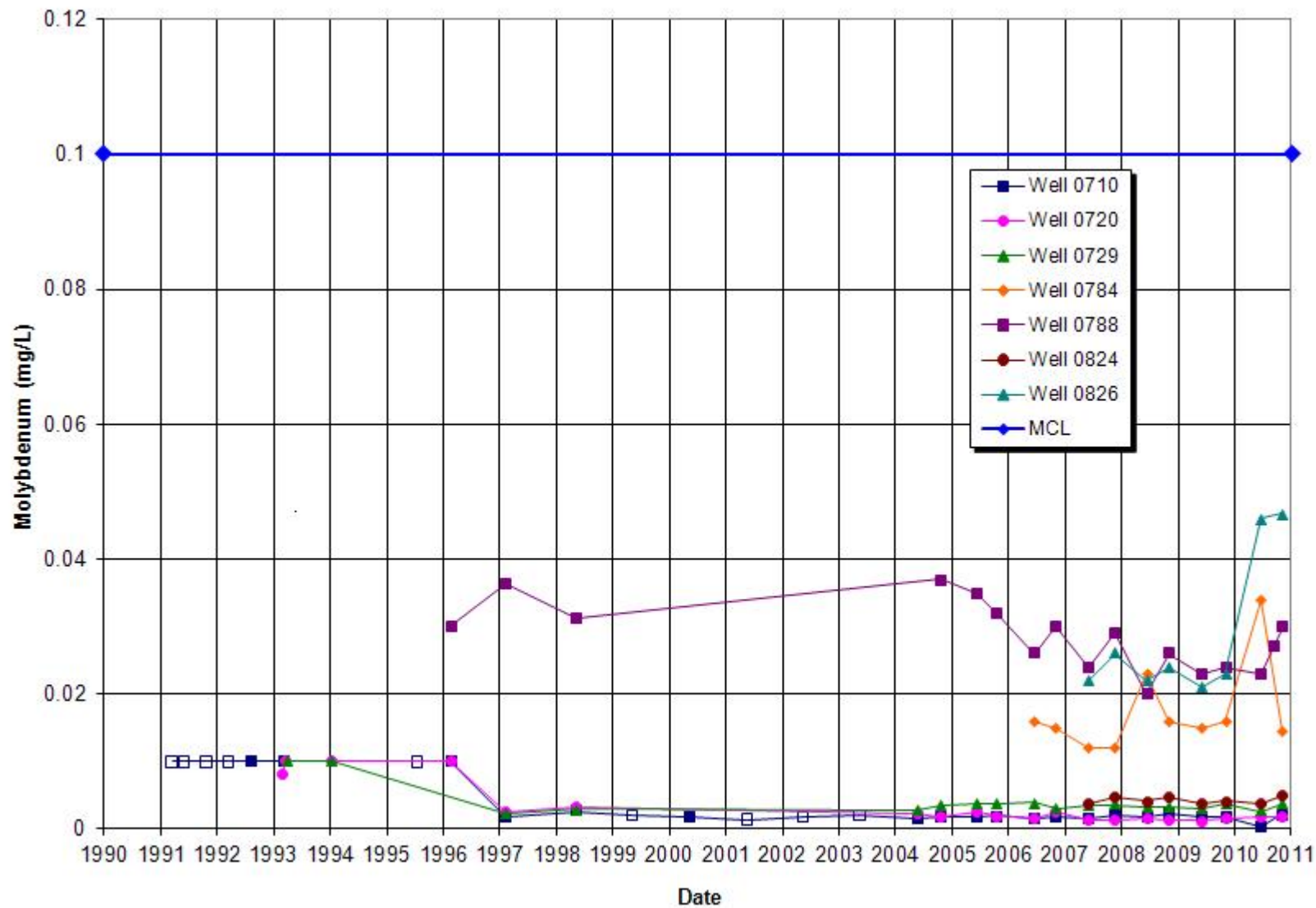


Figure 5. Molybdenum Concentrations in Surficial Aquifer Wells within the Contaminant Plume



Note: A hollow symbol denotes an analytical result below the detection limit.

Figure 6. Molybdenum Concentrations in Surficial Aquifer Wells on the Edge of Contaminant Plume

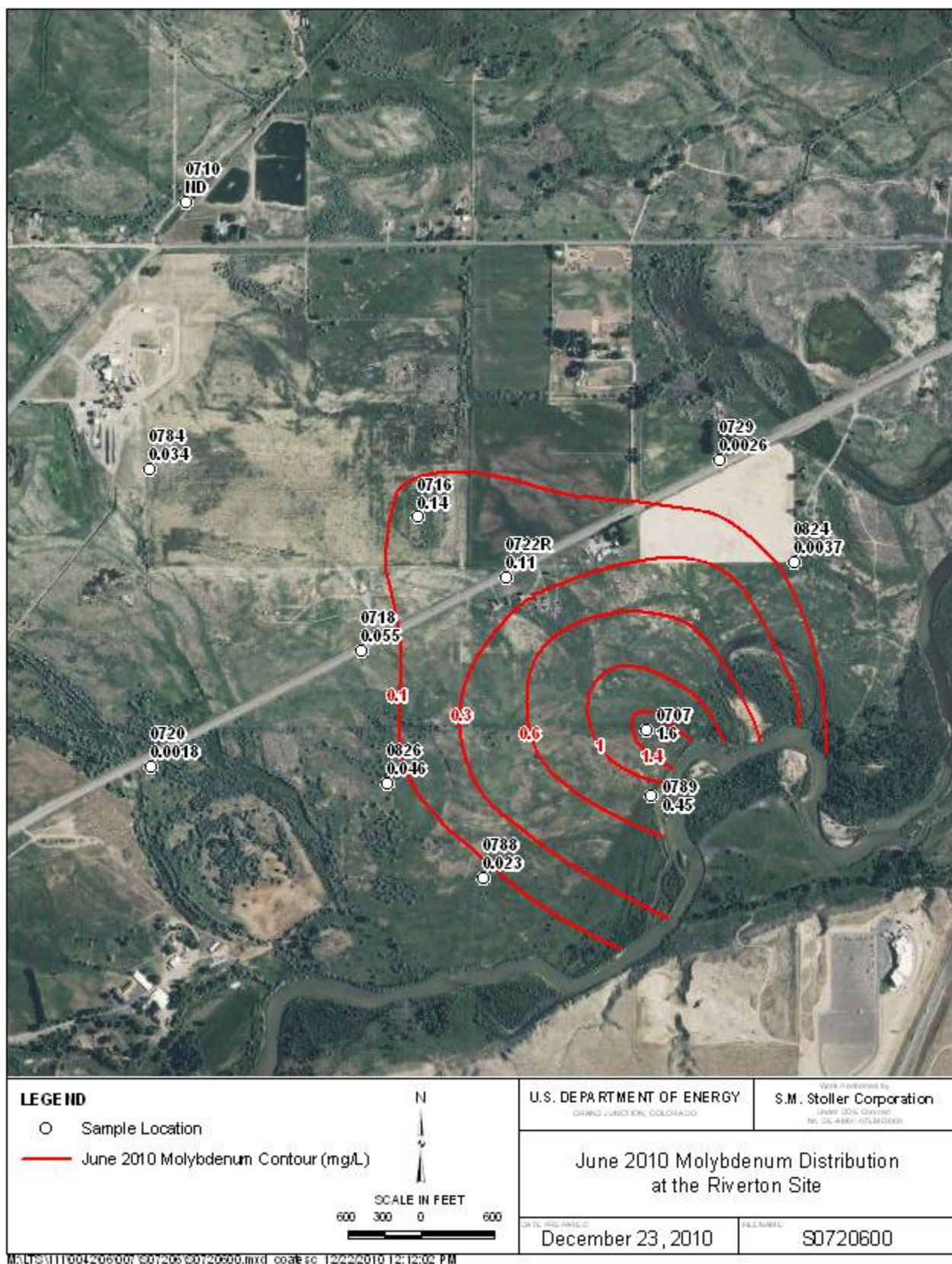


Figure 7. June 2010 Molybdenum Distribution in the Surficial Aquifer at the Riverton Site

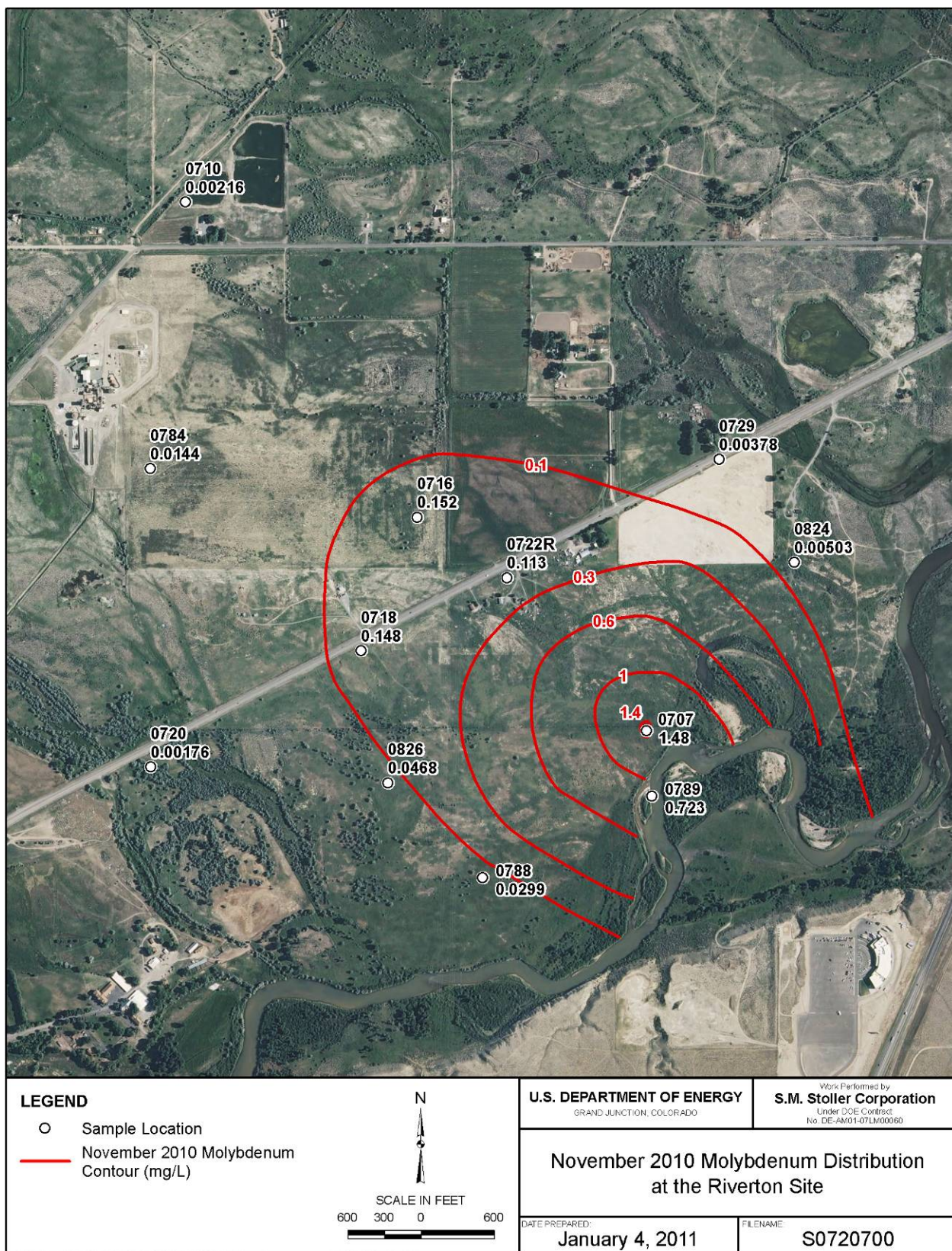


Figure 8. November 2010 Molybdenum Distribution in the Surficial Aquifer at the Riverton Site

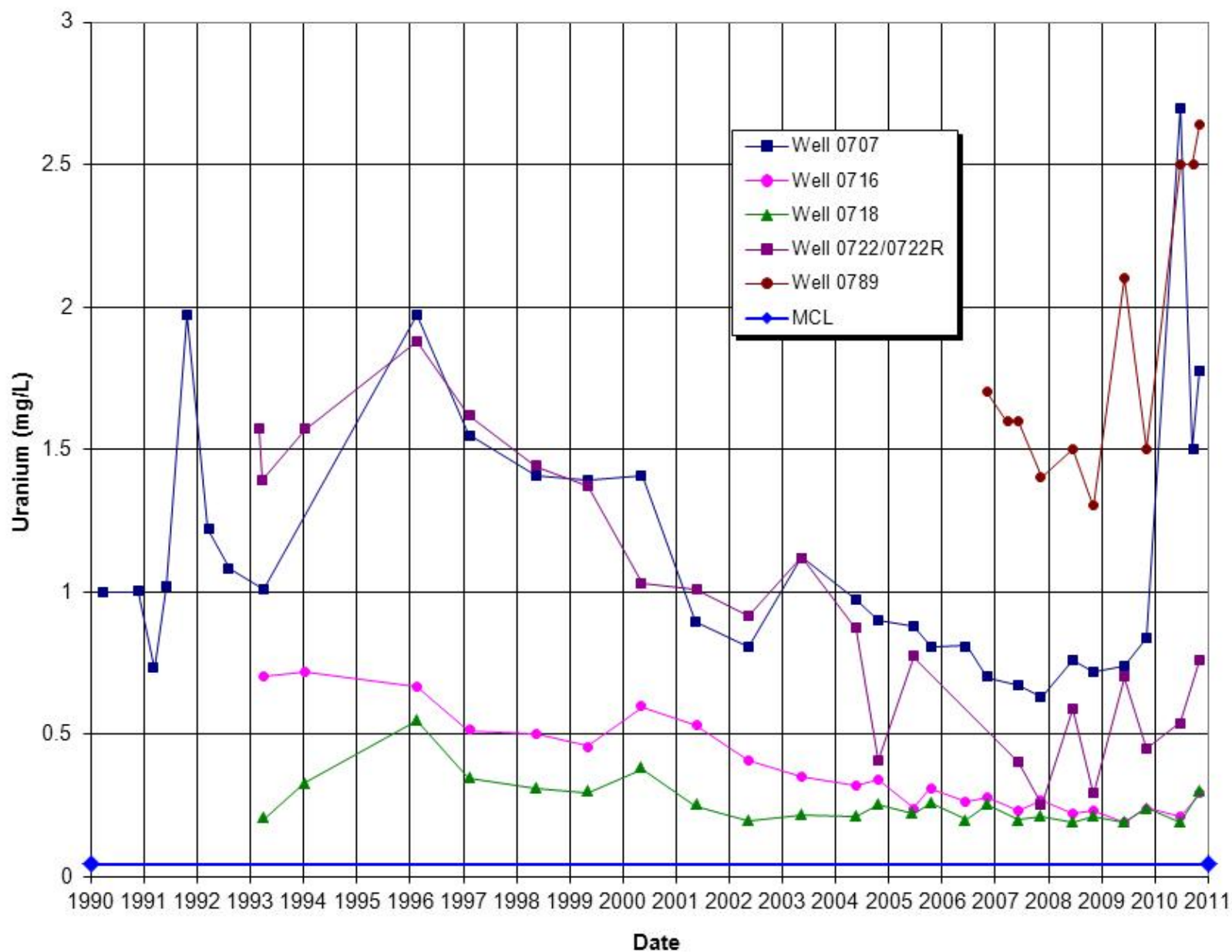
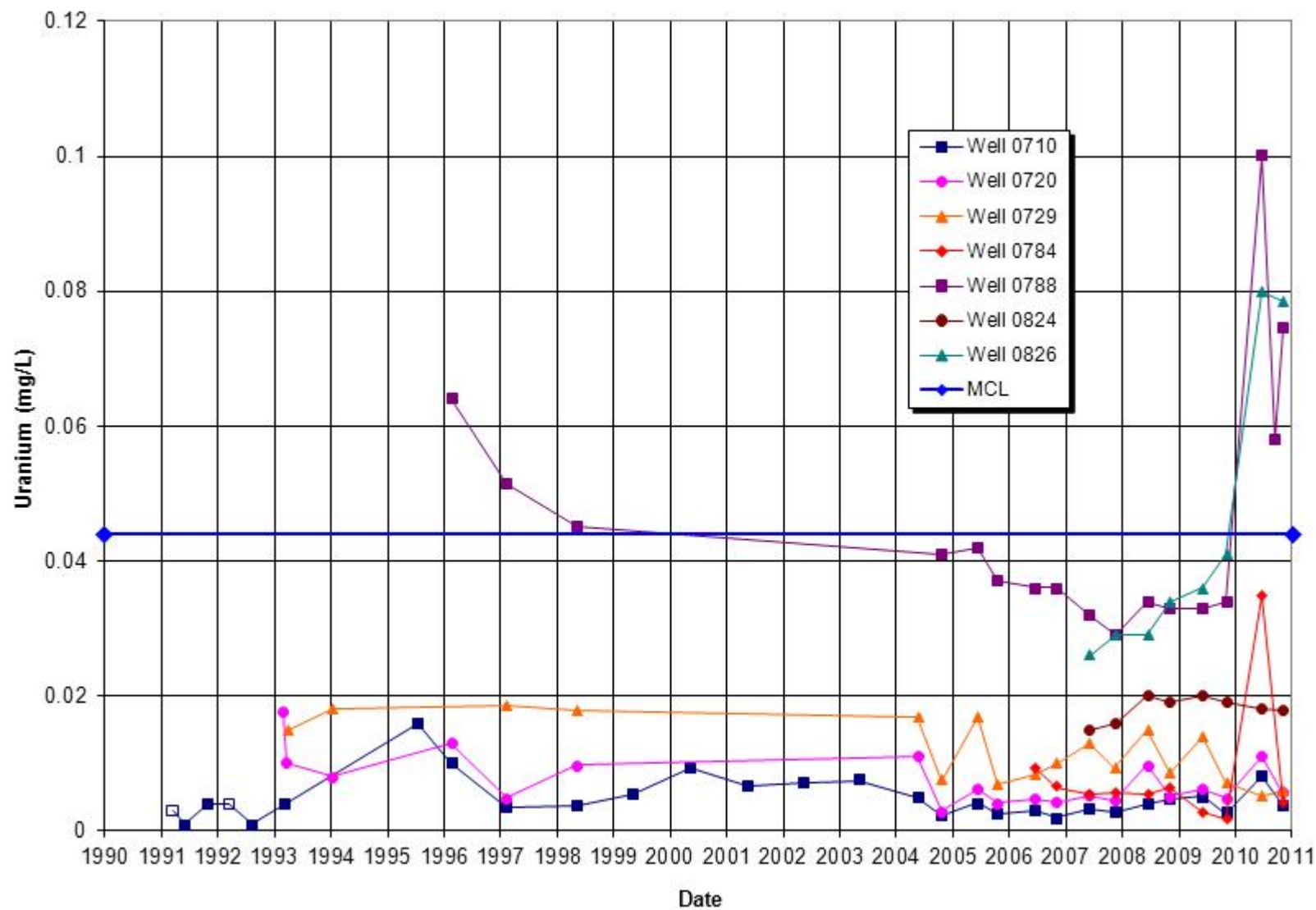


Figure 9. Uranium Concentrations in Surficial Aquifer Wells within the Contaminant Plume



Note: A hollow symbol denotes an analytical result below the detection limit.

Figure 10. Uranium Concentrations in Surficial Aquifer Wells on the Edge of the Contaminant Plume

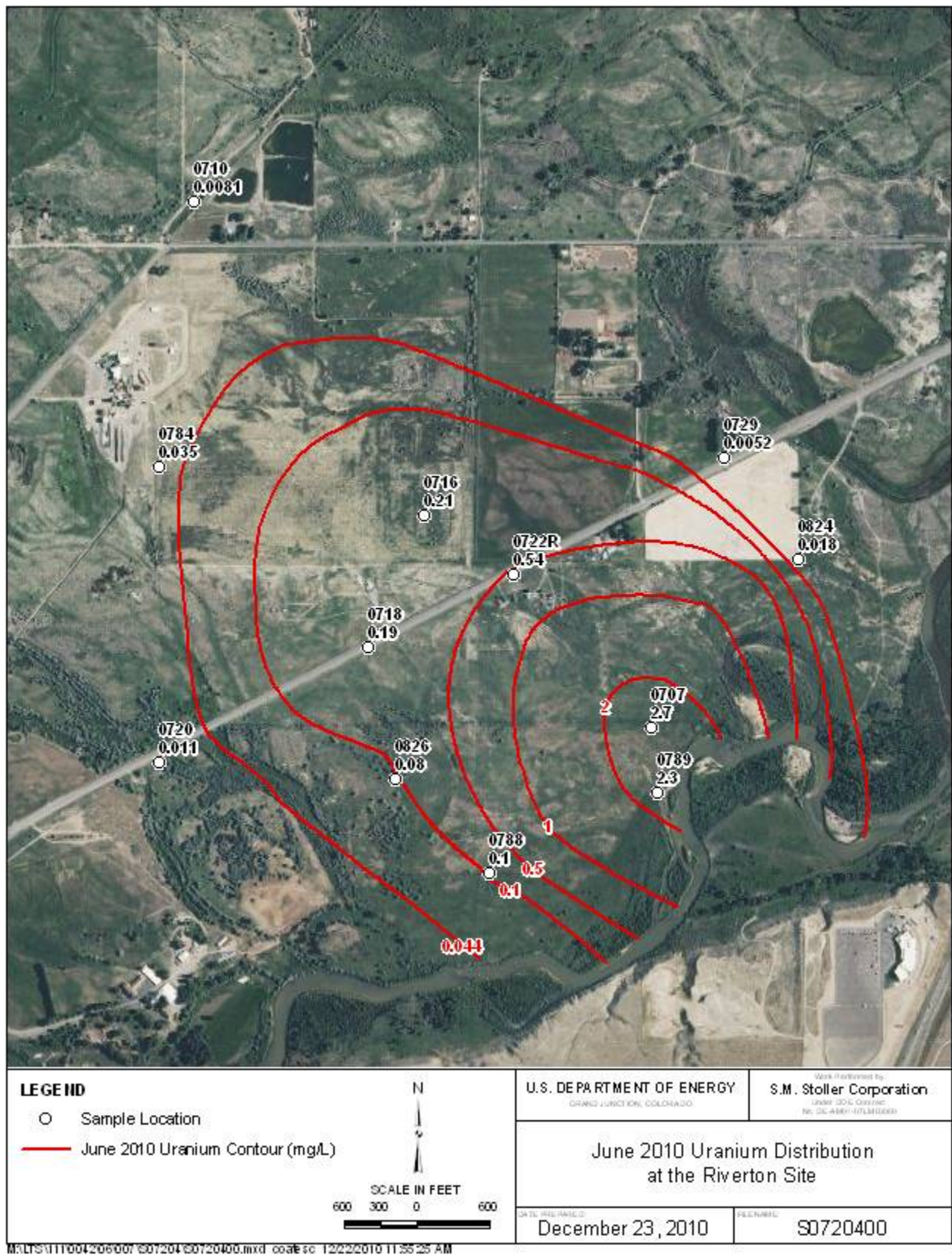


Figure 11. June 2010 Uranium Distribution in the Surficial Aquifer at the Riverton Site

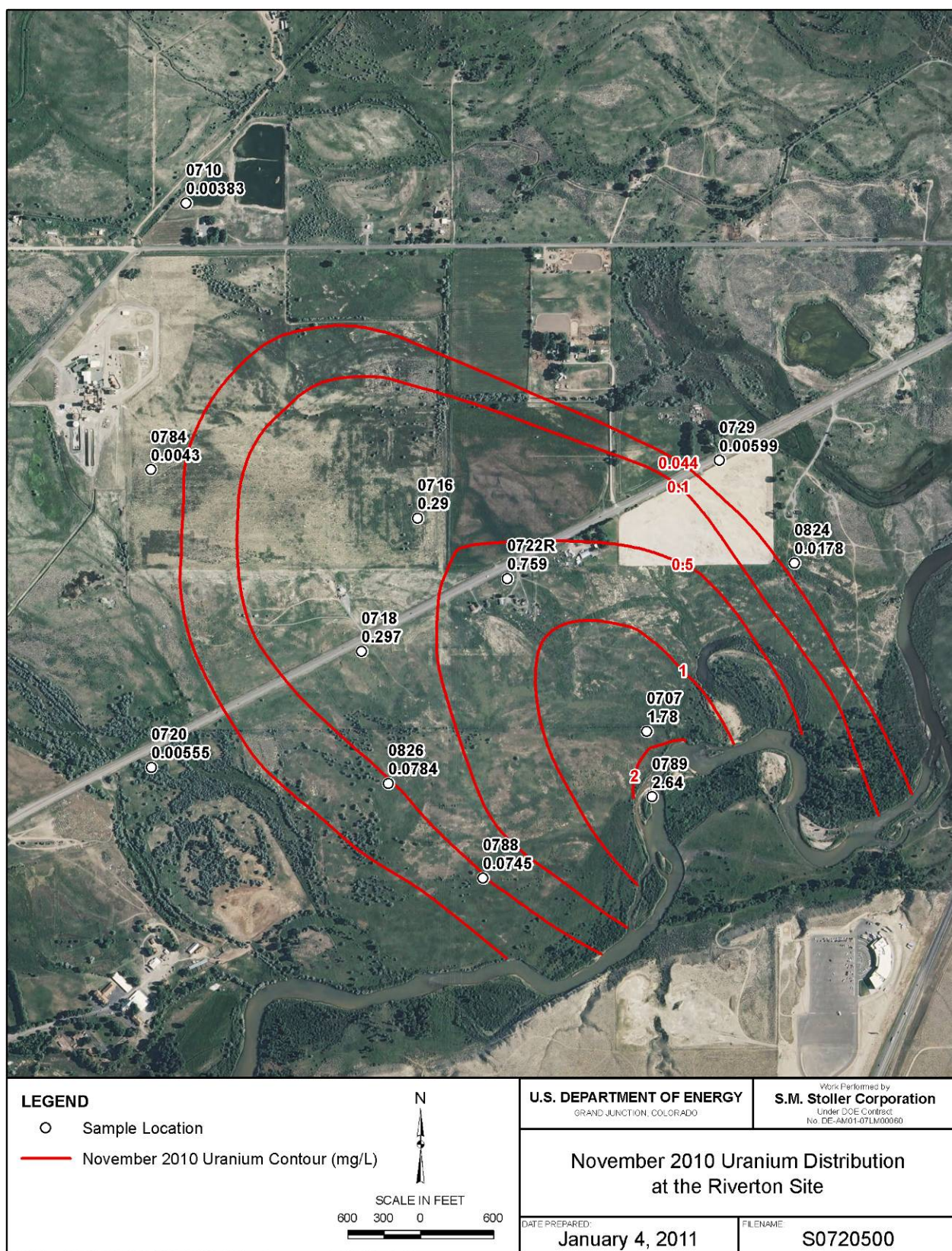


Figure 12. November 2010 Uranium Distribution in the Surficial Aquifer at the Riverton Site

As shown in the plots and figures, concentrations of molybdenum and uranium in groundwater in the surficial aquifer are still above their respective MCLs. In June, a dramatic increase in uranium concentrations was observed in wells 0707, 0788, 0789, and 0826 where flooding of the Little Wind River occurred (Figure 9 and Figure 10). For example, the uranium concentration in the sample collected from monitoring well 0707 was 2.7 mg/L in June 2010 compared to 0.840 mg/L in November 2009. These increases in uranium concentrations included wells on the western edge of the plume (0788 and 0826), where sample concentrations exceeded the uranium standard indicating lateral expansion of the plume. In addition, molybdenum concentrations increased dramatically in well 0707 during the June sampling event (Figure 5). Because of the anomalously high contaminant concentrations, a non-routine sampling event of selected wells (0707, 0788, and 0789) was conducted in September, which confirmed the high concentrations. Contaminant concentrations that spiked during the June event remained high during the November event. Results from wells not impacted by the flood generally had molybdenum and uranium concentrations that were comparable to 2009 levels.

Concentrations of molybdenum and uranium in groundwater in the semiconfined aquifer are still below corresponding MCLs in areas where the overlying surficial aquifer groundwater is contaminated, which indicate no impact from site-related contamination in this unit (Figure 13 and Figure 14).

Groundwater quality data by parameter for locations sampled during 2010 are provided in Appendix B.

4.2 Domestic Wells

All domestic wells sampled in 2010 are completed in the confined aquifer. Results from domestic wells did not indicate any impacts from the Riverton site. Concentrations of molybdenum and uranium in samples collected from domestic wells were two to three orders of magnitude below their respective standards. Data obtained from sampling of domestic wells in 2010 are provided in Appendix C. Time-concentration graphs for molybdenum and uranium are shown in Figure 15 and Figure 16, respectively.

4.3 Surface Water

4.3.1 Surface Water Flow

The highest flow ever recorded (since 1941) in the Little Wind River at the USGS gaging station just downstream of the site (Figure 2) was measured on June 9, 2010 at 11,600 cubic feet per second (cfs) and a river stage of 11.91, which is 3.91 feet above flood stage as shown in Figure 17 (USGS 2010). This flood was significant to the Riverton site because it inundated most of the flood plain south of Rendezvous Road in an area overlying the bulk of the contaminant plumes. Monitoring wells within the flooded area had water levels increase 3 to 4 feet from November 2009 to the post-flood measurements made on June 24, 2010.

Flow in the Little Wind River is statistically the highest in June, which reflects spring run-off from the Wind River Range. Most of the recharge of the alluvial aquifer likely occurs during these higher flows in the river. An assessment of June Little Wind River discharge data indicates that spring run-off/flow in the river has been below normal for most years since 2000 (Table 3). The exceptions have been the last 2 years when June flows were above normal.

Table 3. Discharge Statistics^a from the Little Wind River

Year	Mean June Discharge (cfs)	Deviation from Normal ^b June Discharge (cfs)	Maximum Discharge (cfs)
2000	1,089	-1,251	2,720
2001	233.2	-2,107	2,090
2001	740.6	-1,599	1,930
2003	861.7	-1,478	2,490
2004	1,591	-749	4,120
2005	2,272	-68	4,520
2006	642.4	-1,698	1,710
2007	738.9	-1,601	1,910
2008	2,175	-165	3,730
2009	3,012	672	4,190
2010	5,829	3,489	11,600

^a USGS gaging station statistics

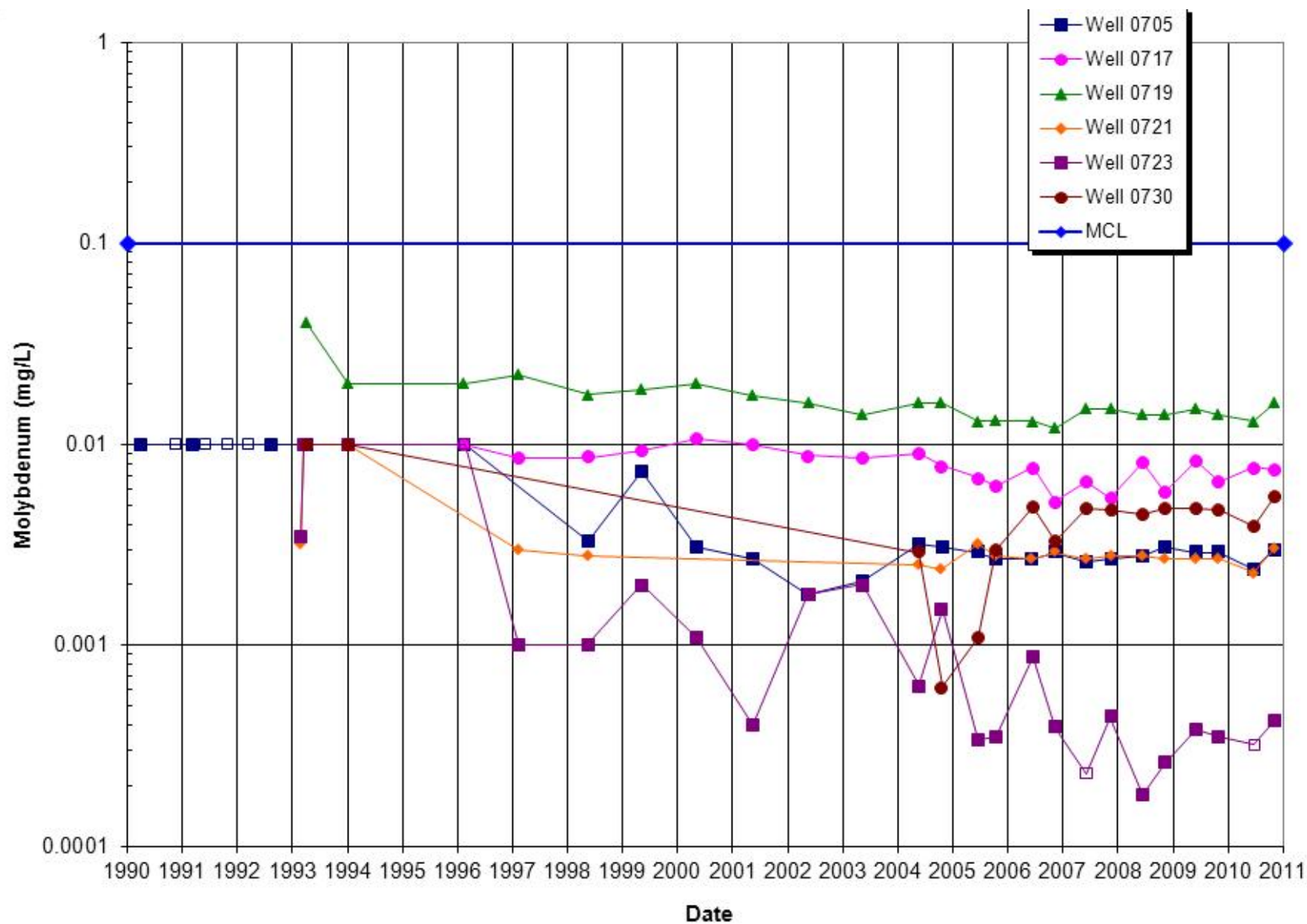
^b Based on a mean June discharge of 2,340 cfs since 1941.

4.3.2 Surface Water Quality

Samples were collected at four locations on the Little Wind River (Figure 2), which flows generally from the southwest to the northeast adjacent to the site. Contaminated groundwater likely discharges to the Little Wind River, but there is no evidence that it impacts surface water quality in the river. Molybdenum and uranium concentrations measured in samples collected from river locations adjacent to and downstream of the groundwater plume (locations 0811, 0812, and 0796), are comparable to concentrations from river samples collected upstream of the groundwater plume (location 0794) as shown in Figure 18.

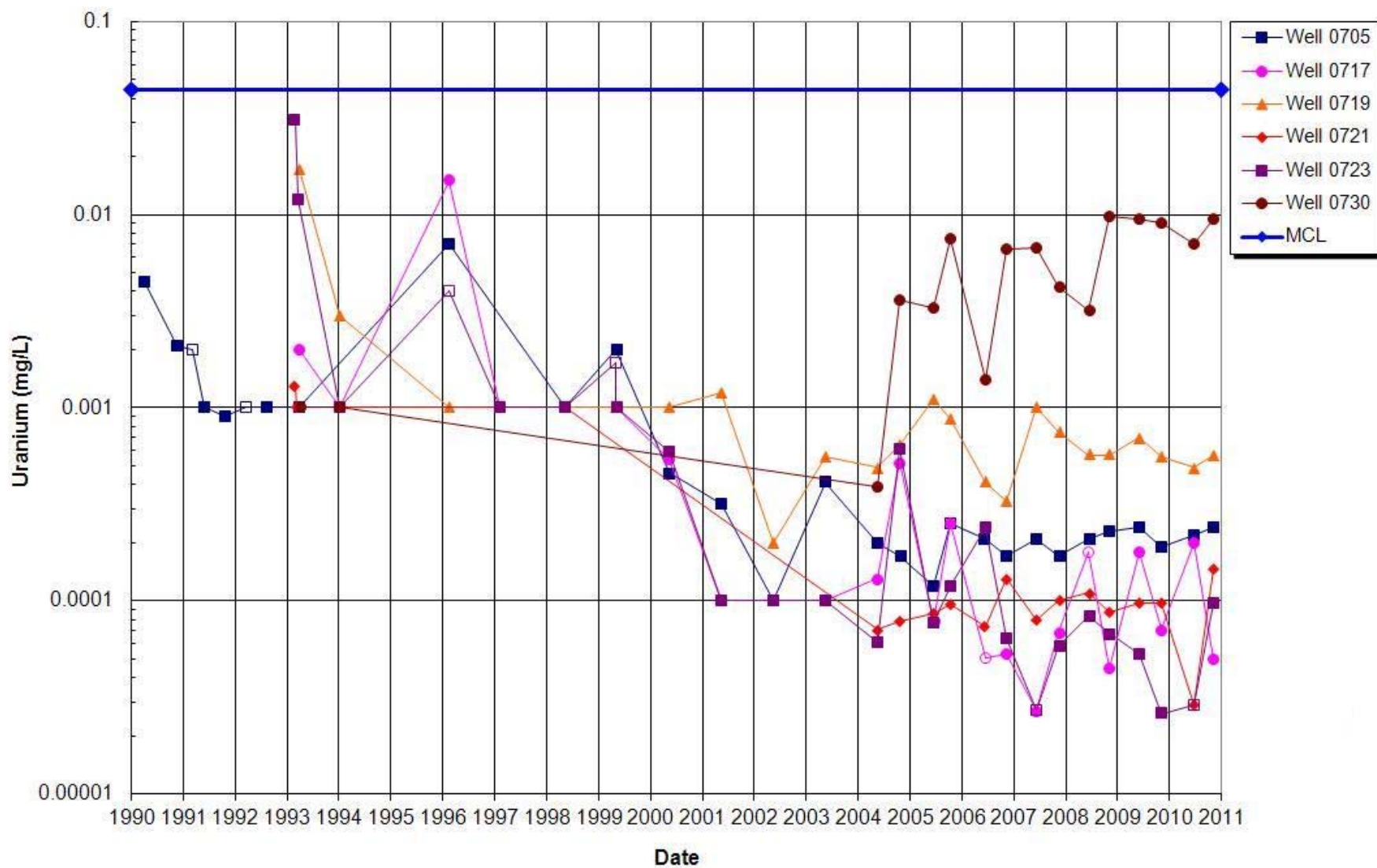
Two ponds formed from groundwater discharge into former gravel pits were sampled as part of the long-term monitoring network. These ponds are primarily used for fishing and swimming. Samples collected from these ponds (locations 0810 and 0823) had concentrations of uranium within the range of background uranium concentrations in groundwater (0.001 to 0.0156 mg/L), which indicates no discernible impacts from the site. Uranium concentrations over time in these pond locations are shown in Figure 18.

The sample collected at the ditch that carries discharge water from the Chemtrade sulfuric acid refinery (location 0749) had elevated concentrations of sulfate in 2010 (2,700 mg/L in June). Sulfate concentrations have been in the 1,800 to 3,000 mg/L range since 2004. The elevated sulfate concentrations in the Chemtrade ditch water have affected sulfate concentrations farther downstream in the west side irrigation ditch (1,400 mg/L at location 0822 in June). Water samples from the west side irrigation ditch also have been analyzed for radium-226 and radium-228 in response to elevated concentrations of these constituents in the sediments within the ditch. Radium concentrations in water samples collected from the ditch were less than 1 pCi/L in 2010, which indicates minimal impacts to water quality in the ditch from the sediments. Historically radium concentrations have been below detection or estimated, indicating no impact to water quality in the ditch. Uranium concentrations in samples collected from the west side irrigation ditch have been within the range of background uranium concentrations and correlate with uranium concentrations in the river (Figure 18), which indicates minimal site impacts to the water quality in the ditch.



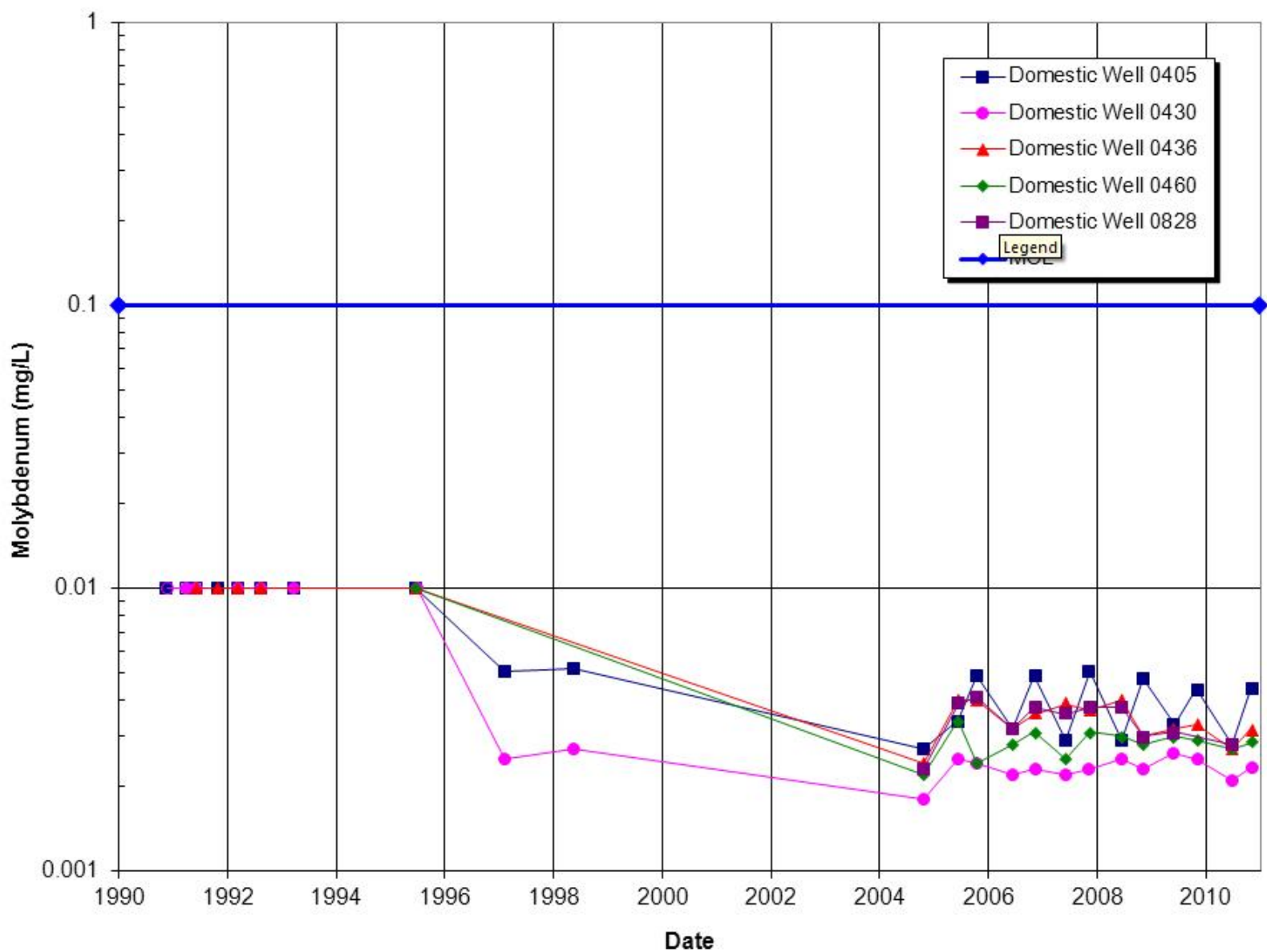
Note: A hollow symbol denotes an analytical result below the detection limit.

Figure 13. Molybdenum Concentrations in Semiconfined Aquifer Wells



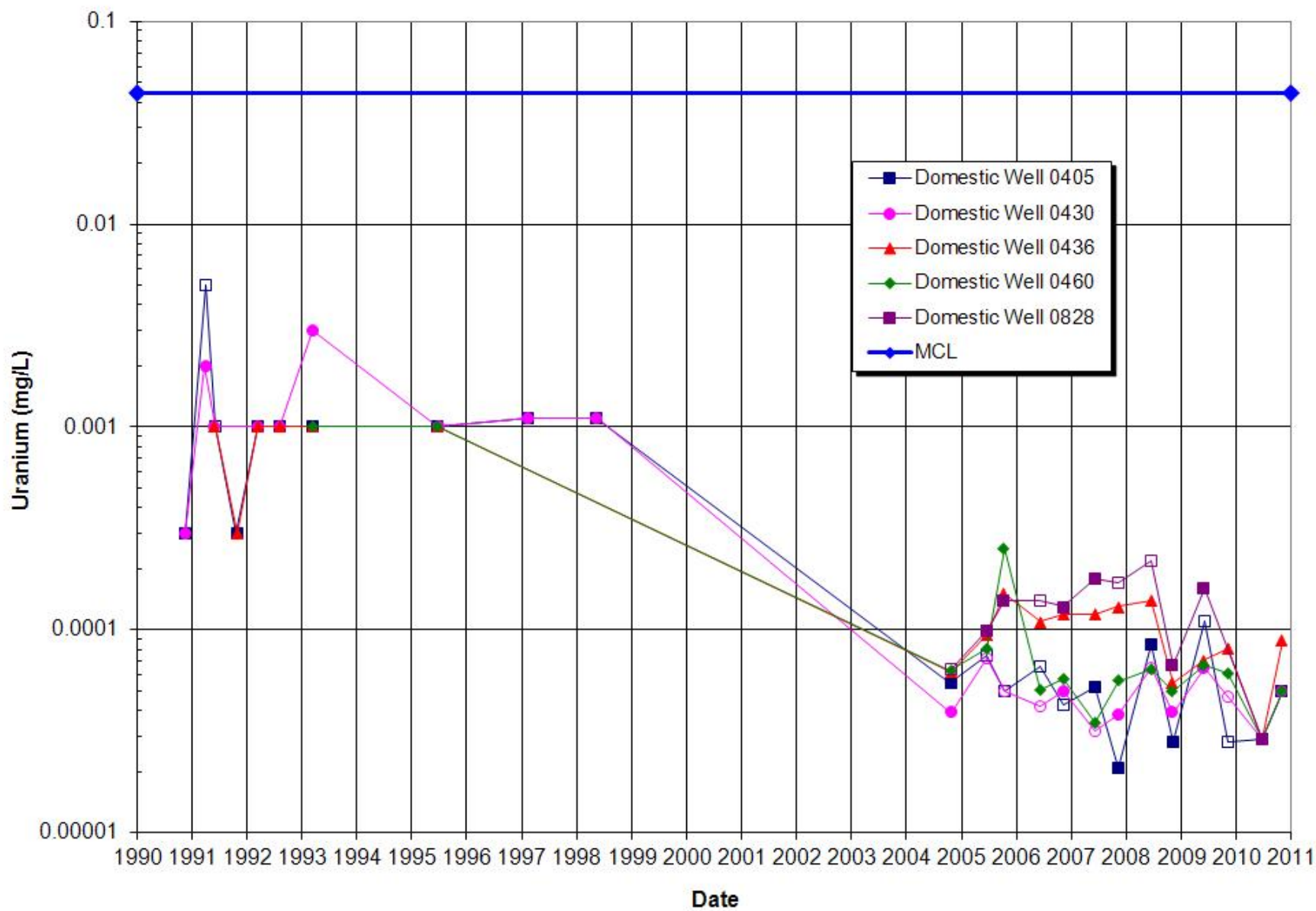
Note: A hollow symbol denotes an analytical result below the detection limit.

Figure 14. Uranium Concentrations in Semiconfined Aquifer Wells



Note: A hollow symbol denotes an analytical result below the detection limit.

Figure 15. Molybdenum Concentrations in Domestic Wells



Note: A hollow symbol denotes an analytical result below the detection limit.

Figure 16. Uranium Concentrations in Domestic Wells

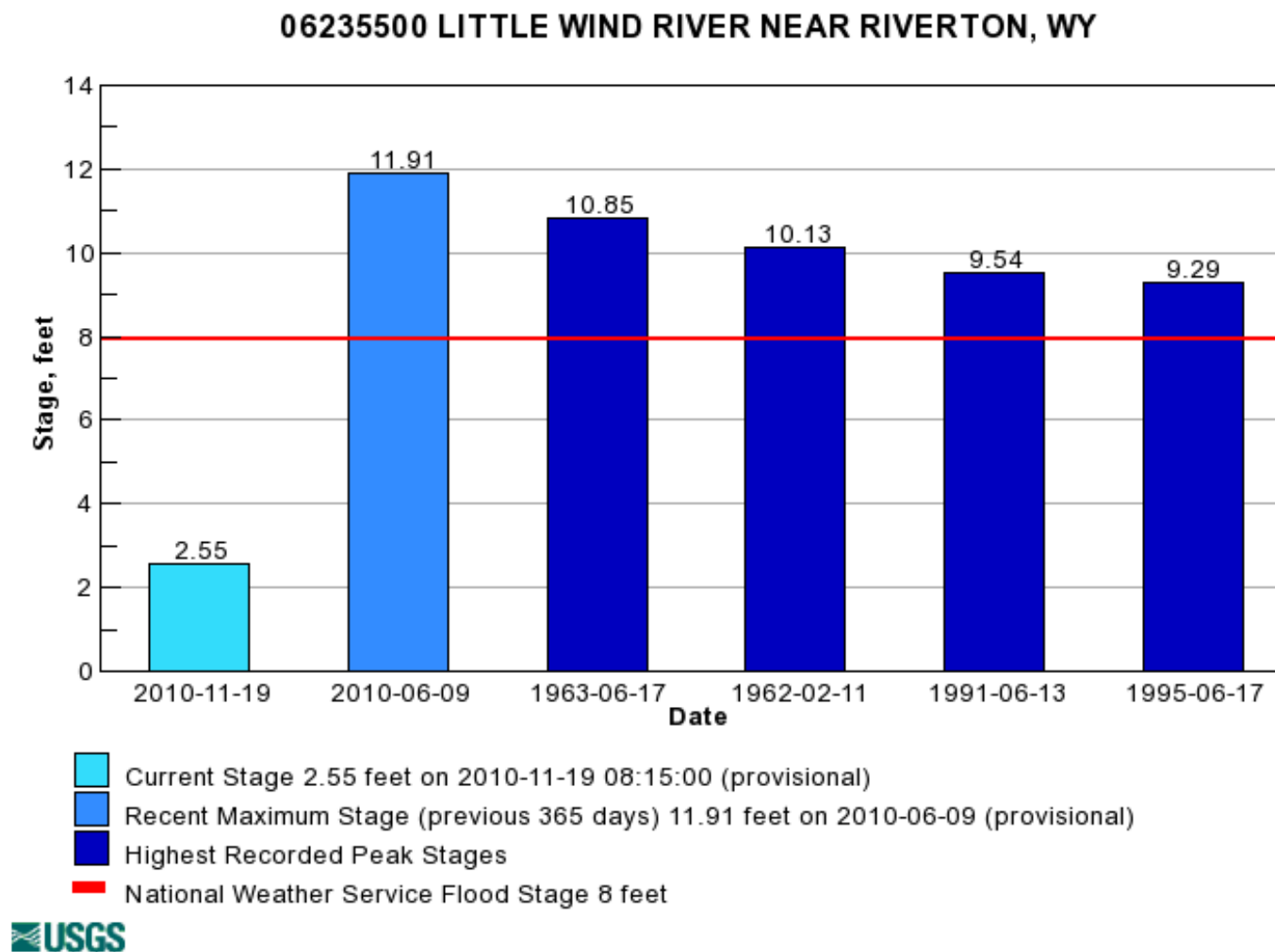
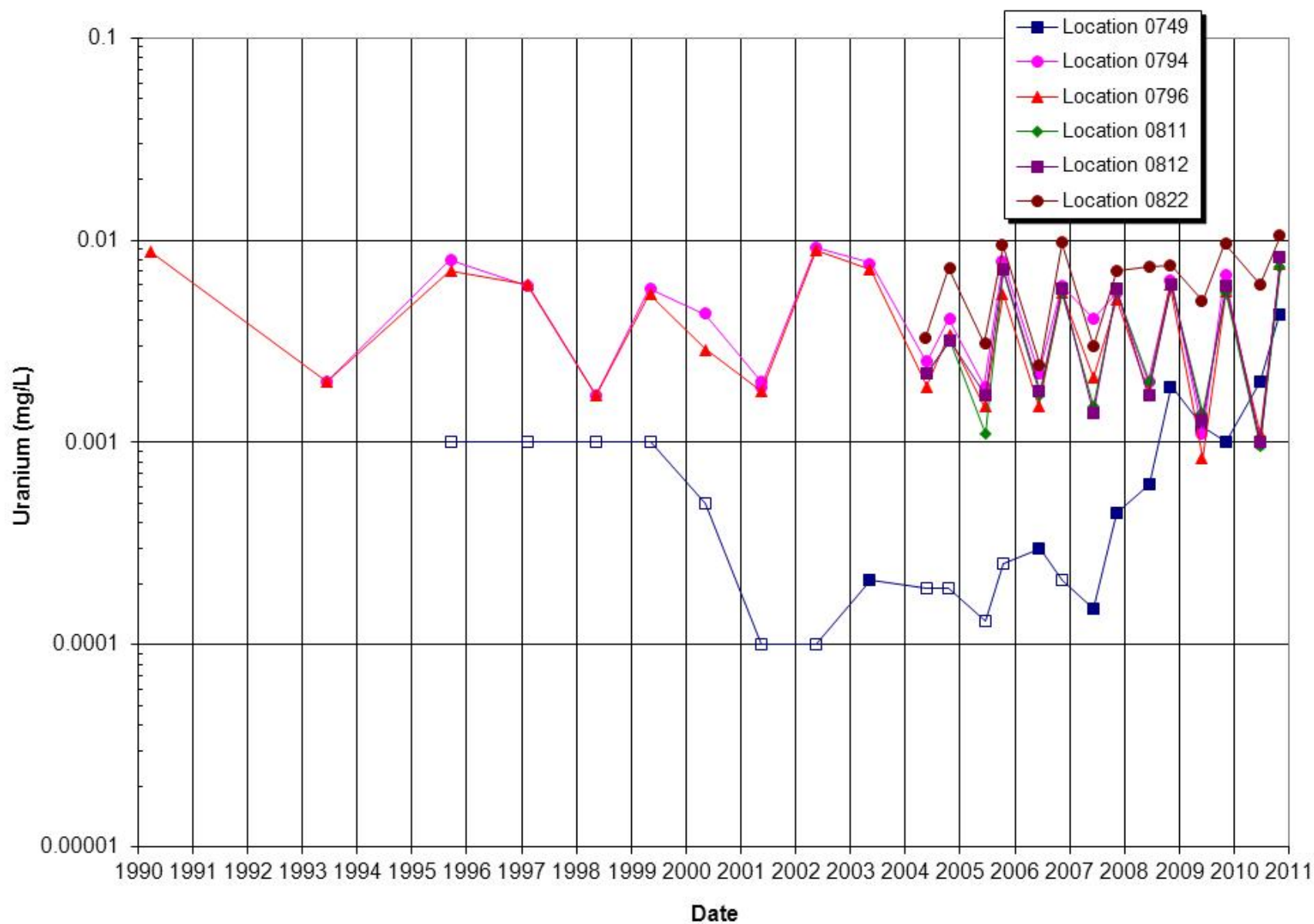


Figure 17. Historic High Flows in the Little Wind River



Note: A hollow symbol denotes an analytical result below the detection limit.

Figure 18. Uranium Concentrations in Creek and River Locations

Concentrations of uranium in the oxbow lake (location 0747) have been variable over time. This variability is attributed to surface inflow (this does not occur every year; it depends on the river stage) to the lake from the Little Wind River during high river stage, which causes a dilution of uranium concentrations. Hydraulic and water quality data indicate that the oxbow lake is fed by the discharge of contaminated groundwater; therefore, elevated concentrations are expected.

Figure 19 splits sampling events into high-flow and low-flow events, with the high-flow events reflecting the potential for river inflow diluting uranium concentrations in the oxbow lake, and the low-flow events reflecting a low potential for river inflow diluting uranium concentrations in the oxbow lake. In the June 2010 sampling event, the Little Wind River was at flood stage and flowing through the oxbow lake; therefore, analyte concentrations in the sample collected from the oxbow lake were low and reflecting river-water chemistry. Flow from the river to the lake did not occur during the November sampling event. As shown in the low-flow graph, uranium concentrations in the oxbow lake spiked in November reflecting the increased concentrations in the surficial aquifer due to the flooding of the Little Wind River. Surface water quality data by parameter for locations sampled during 2010 are provided in Appendix D.

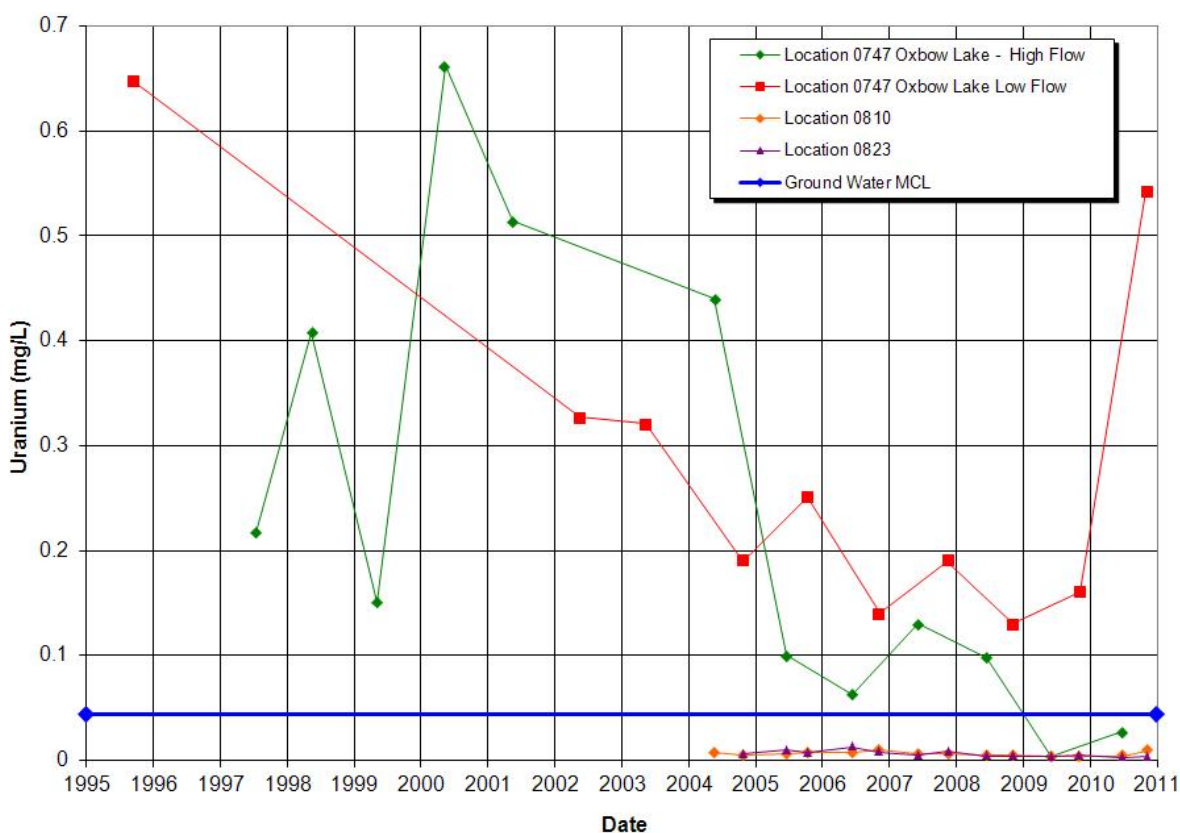


Figure 19. Uranium Concentrations in Pond Locations

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5.0 Natural Flushing Assessment

Groundwater numerical modeling has predicted that the alluvial aquifer will naturally flush contaminants to levels below applicable standards within the 100-year regulatory timeframe. This modeling formed the basis for the natural flushing strategy that was approved in the GCAP in 1998. In previous years, assessment of the progress of natural flushing was conducted using three tools: comparison to hydrogeologic modeling predictions, trend analysis, and curve matching/interpolation techniques applied to temporal plots of concentrations at individual locations. These techniques were based on a site conceptual model of gradually declining contaminant concentrations after surface remediation of source material on the former millsite. Prior to 2010, these techniques indicated that natural flushing of the surficial aquifer, in total, was progressing.

However, based on observations made in 2010 in context with historical data, the site conceptual model and groundwater computer modeling was too simplistic to account for the spikes in contaminant concentrations in the surficial aquifer groundwater. Spikes in contaminant concentrations are attributed to flooding of the Little Wind River, which mobilized contaminants in the unsaturated zone of the surficial aquifer. Cross correlation of flood events in the Little Wind River with monitoring data reveal that uranium concentrations spiked in well 0707 in 1991, 1995, and 2010 when the Little Wind river was above flood stage (Figures 9 and 17). Groundwater numerical modeling did not account for flood events and the subsequent mobilization of contaminants in the unsaturated zone.

A new approach, therefore, is needed to refine the site conceptual model and to better assess natural flushing processes. To accomplish this, DOE is proposing to conduct additional characterization work and reconstruct the groundwater numeric model at the Riverton site.

Additional characterization work will be accomplished using a Geoprobe to sample soils in the unsaturated zone and shallow groundwater. Goals of the additional characterization work are to:

- Obtain data to determine the source-term remaining in the unsaturated zone.
- Provide better definition of contaminant plumes including location of the centroid of the plumes and extent of groundwater contamination.
- Provide a new baseline to track plume movement and plume size over time.
- Improve the ability to site new wells on the lateral edges of the plume.

Reconstruction of the groundwater numeric model will be accomplished using MODFLOW-SURFACT software, which will account for surface factors such as flood events. Goals of the groundwater modeling are to:

- Account for flood events in the Little Wind River.
- Account for source-term remaining in the unsaturated zone.
- Assess the completion time for natural flushing and adherence to the 100-year regulatory timeframe.

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6.0 Conclusions

Uranium and molybdenum are the indicator constituents for compliance monitoring at the Riverton site (DOE 1998a), and concentrations are still above their respective MCLs. Flooding of the Little Wind River caused dramatic increases in contaminant concentrations in surficial aquifer monitoring wells located in flooded areas. The flood resulted in wells on the western edge of the plume to have concentrations above the uranium MCL. Concentrations of molybdenum and uranium in samples collected from semiconfined-aquifer monitoring wells, confined-aquifer domestic wells, and surface water locations (except the oxbow lake) continued to indicate no impact from the former milling operation. Surface water in the oxbow lake adjacent to the Little Wind River continues to be impacted because it is recharged by contaminated groundwater from the surficial aquifer.

Because of significant changes in the concentration and distribution of groundwater contaminants in 2010, DOE is proposing additional characterization and computer modeling work to better assess the extent of contamination and the natural flushing compliance strategy. Verification monitoring of groundwater and surface water from designated locations will continue on a semiannual basis until additional characterization and modeling are complete. If warranted, changes to the long-term monitoring program for the site will be initiated and specified in a revised *Long-Term Maintenance Plan for the Riverton, Wyoming, Processing Site* (DOE 2009b).

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Appendix A

Water Level Data

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STATIC WATER LEVELS (USEE700) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 1:56 pm

LOCATION CODE	FLOW CODE	TOP OF CASING ELEVATION (FT)	MEASUREMENT		DEPTH FROM TOP OF CASING (FT)	WATER ELEVATION (FT)	WATER LEVEL FLAG
			DATE	TIME			
0101	O	4946.58	06/23/2010	10:16	8.97	4937.61	
		4946.58	11/02/2010	14:26	10.06	4936.52	
0110	O	4944.35	06/23/2010	10:17	8.49	4935.86	
		4944.35	11/02/2010	14:28	9.90	4934.45	
0111	O	4946.87	06/23/2010	09:51	8.50	4938.37	
		4946.87	11/02/2010	13:36	9.96	4936.91	
0700	U	4951.38	06/23/2010	11:24	5.36	4946.02	
		4951.38	11/03/2010	13:22	6.10	4945.28	
0702	D	4931.00	06/24/2010	18:02	2.92	4928.08	
		4931.00	11/03/2010	09:16	6.42	4924.58	
0705	D	4930.80	06/24/2010	17:40	2.99	4927.81	
		4930.80	11/03/2010	09:15	6.55	4924.25	
0707	D	4931.00	06/24/2010	18:00	2.41	4928.59	
		4931.00	09/15/2010	09:05	5.89	4925.11	
		4931.00	11/03/2010	09:30	5.65	4925.35	
0709	D	4930.70	06/24/2010	18:01	0.61	4930.09	
		4930.70	11/02/2010	15:51	2.00	4928.70	
0710	U	4947.90	06/23/2010	12:00	4.83	4943.07	
		4947.90	11/02/2010	13:55	5.78	4942.12	
0716	O	4939.12	06/23/2010	09:10	7.48	4931.64	
		4939.12	11/02/2010	16:12	9.00	4930.12	
0717	O	4938.80	06/23/2010	09:35	7.22	4931.58	
		4938.80	11/02/2010	16:00	8.74	4930.06	
0718	D	4937.60	06/24/2010	09:50	5.85	4931.75	
		4937.60	11/02/2010	13:07	8.18	4929.42	
0719	D	4937.55	06/24/2010	09:35	5.59	4931.96	
		4937.55	11/02/2010	13:25	7.75	4929.80	
0720	C	4940.46	06/24/2010	08:55	5.00	4935.46	
		4940.46	11/03/2010	17:51	5.22	4935.24	
0721	C	4940.47	06/24/2010	08:25	6.22	4934.25	
		4940.47	11/03/2010	17:40	7.91	4932.56	
0722R		4937.06	06/24/2010	11:10	7.52	4929.54	
		4937.06	11/02/2010	12:40	9.35	4927.71	
0723	D	4936.01	06/24/2010	10:45	6.36	4929.65	

STATIC WATER LEVELS (USEE700) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 1:56 pm

LOCATION CODE	FLOW CODE	TOP OF CASING ELEVATION (FT)	MEASUREMENT		DEPTH FROM TOP OF CASING (FT)	WATER ELEVATION (FT)	WATER LEVEL FLAG
			DATE	TIME			
0723	D	4936.01	11/02/2010	12:25	8.15	4927.86	
0724	U	4941.36	06/23/2010	10:44	6.38	4934.98	
		4941.36	11/02/2010	15:26	7.88	4933.48	
0725	U	4941.66	06/23/2010	10:43	6.69	4934.97	
		4941.66	11/02/2010	14:33	8.19	4933.47	
0726	U	4942.00	06/23/2010	10:26	5.23	4936.77	
		4942.00	11/02/2010	15:25	6.81	4935.19	
0727	U	4951.69	06/23/2010	10:18	8.82	4942.87	
		4951.69	11/02/2010	15:33	10.29	4941.40	
0728	U	4946.01	06/23/2010	10:22	6.80	4939.21	
		4946.01	11/02/2010	15:26	8.63	4937.38	
0729	D	4932.75	06/23/2010	14:30	5.30	4927.45	
		4932.75	11/03/2010	15:20	6.99	4925.76	
0730	D	4933.08	06/23/2010	14:15	5.62	4927.46	
		4933.08	11/03/2010	15:35	7.56	4925.52	
0732	U	4945.07	06/23/2010	09:48	6.90	4938.17	
		4945.07	11/02/2010	13:35	7.93	4937.14	
0733	U	4946.76	06/23/2010	18:06	6.65	4940.11	
		4946.76	11/03/2010	09:18	-	-	D
0734	U	4946.08	06/23/2010	18:27	6.92	4939.16	
		4946.08	11/03/2010	13:21	8.84	4937.24	
0736	U	4946.00	06/23/2010	11:24	6.08	4939.92	
		4946.00	11/02/2010	15:37	6.75	4939.25	
0784	U	4945.45	06/23/2010	10:05	5.93	4939.52	
		4945.45	11/02/2010	14:30	6.61	4938.84	
0788	C	4935.09	06/24/2010	16:05	4.60	4930.49	
		4935.09	09/15/2010	08:40	9.20	4925.89	
		4935.09	11/03/2010	12:05	8.96	4926.13	
0789	D	4933.66	06/24/2010	17:15	5.14	4928.52	
		4933.66	09/15/2010	09:25	9.09	4924.57	
		4933.66	11/03/2010	10:55	9.00	4924.66	
0824		4928.27	06/24/2010	19:15	3.59	4924.68	
		4928.27	11/03/2010	16:10	5.19	4923.08	
0826		4936.98	06/24/2010	15:20	4.60	4932.38	

STATIC WATER LEVELS (USEE700) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 1:56 pm

LOCATION CODE	FLOW CODE	TOP OF CASING ELEVATION (FT)	MEASUREMENT		DEPTH FROM TOP OF CASING (FT)	WATER ELEVATION (FT)	WATER LEVEL FLAG
			DATE	TIME			
0826		4936.98	11/03/2010	12:45	7.67	4929.31	

RECORDS: SELECTED FROM USEE700 WHERE site_code='RVT01' AND LOG_DATE between #1/1/2010# and #12/31/2010#

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

WATER LEVEL FLAGS:
 D Dry

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Appendix B

Groundwater Quality Data

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CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE: RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:11 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Alkalinity, Total (As CaCO3)	mg/L	0705	WL	11/03/2010	N001	SE	D	51	FQ #	-	-
	mg/L	0707	WL	11/03/2010	N001	SF	D	424	F #	-	-
	mg/L	0710	WL	11/02/2010	N001	SF	U	207	F #	-	-
	mg/L	0716	WL	11/02/2010	N001	SF	O	299	F #	-	-
	mg/L	0717	WL	11/02/2010	N001	SE	O	225	F #	-	-
	mg/L	0718	WL	11/02/2010	N001	SF	D	416	F #	-	-
	mg/L	0719	WL	11/02/2010	N001	SE	D	127	FQ #	-	-
	mg/L	0720	WL	11/03/2010	N001	SF	C	216	F #	-	-
	mg/L	0721	WL	11/03/2010	N001	SE	C	81	F #	-	-
	mg/L	0722R	WL	11/02/2010	N001	SF		280	F #	-	-
	mg/L	0723	WL	11/02/2010	N001	SE	D	377	F #	-	-
	mg/L	0729	WL	11/03/2010	N001	SF	D	263	F #	-	-
	mg/L	0730	WL	11/03/2010	N001	SE	D	336	FQ #	-	-
	mg/L	0784	WL	11/02/2010	N001	SF	U	139	F #	-	-
	mg/L	0788	WL	11/03/2010	N001	SF	C	449	F #	-	-
	mg/L	0789	WL	11/03/2010	N001	SF	D	543	F #	-	-
	mg/L	0824	WL	11/03/2010	N001	SF		342	F #	-	-
	mg/L	0826	WL	11/03/2010	N001	SF		472	F #	-	-
Dissolved Oxygen	mg/L	0705	WL	11/03/2010	N001	SE	D	4.61	FQ #	-	-
	mg/L	0707	WL	11/03/2010	N001	SF	D	2.7	F #	-	-
	mg/L	0710	WL	11/02/2010	N001	SF	U	1.71	F #	-	-
	mg/L	0716	WL	11/02/2010	N001	SF	O	2.23	F #	-	-
	mg/L	0717	WL	11/02/2010	N001	SE	O	2.30	F #	-	-
	mg/L	0718	WL	11/02/2010	N001	SF	D	2.93	F #	-	-
	mg/L	0719	WL	11/02/2010	N001	SE	D	1.65	FQ #	-	-
	mg/L	0720	WL	11/03/2010	N001	SF	C	2.33	F #	-	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:11 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Dissolved Oxygen	mg/L	0721	WL	11/03/2010	N001	SE	C	0.73	F #	-	-
	mg/L	0722R	WL	11/02/2010	N001	SF		3.14	F #	-	-
	mg/L	0723	WL	11/02/2010	N001	SE	D	5.35	F #	-	-
	mg/L	0729	WL	11/03/2010	N001	SF	D	1.22	F #	-	-
	mg/L	0730	WL	11/03/2010	N001	SE	D	0.25	FQ #	-	-
	mg/L	0784	WL	11/02/2010	N001	SF	U	1.74	F #	-	-
	mg/L	0788	WL	11/03/2010	N001	SF	C	0.44	F #	-	-
	mg/L	0789	WL	11/03/2010	N001	SF	D	0.98	F #	-	-
	mg/L	0824	WL	11/03/2010	N001	SF		0.57	F #	-	-
	mg/L	0826	WL	11/03/2010	N001	SF		0.51	F #	-	-
Manganese	mg/L	0705	WL	06/24/2010	N001	SE	D	0.0024	B FQ #	5.4E-05	-
	mg/L	0705	WL	11/03/2010	N001	SE	D	0.0332	FQ #	0.002	-
	mg/L	0705	WL	11/03/2010	N002	SE	D	0.0303	FQ #	0.002	-
	mg/L	0707	WL	06/24/2010	N001	SF	D	2.300	F #	0.00027	-
	mg/L	0707	WL	09/15/2010	N001	SF	D	2.100	F #	0.00025	-
	mg/L	0707	WL	11/03/2010	N001	SF	D	1.950	F #	0.002	-
	mg/L	0710	WL	06/23/2010	N001	SF	U	0.023	F #	5.4E-05	-
	mg/L	0710	WL	11/02/2010	N001	SF	U	0.0182	F #	0.002	-
	mg/L	0716	WL	06/23/2010	N001	SF	O	0.300	F #	5.4E-05	-
	mg/L	0716	WL	11/02/2010	N001	SF	O	0.376	F #	0.002	-
	mg/L	0717	WL	06/23/2010	N001	SE	O	0.310	F #	5.4E-05	-
	mg/L	0717	WL	11/02/2010	N001	SE	O	0.179	F #	0.002	-
	mg/L	0718	WL	06/24/2010	N001	SF	D	0.360	F #	5.4E-05	-
	mg/L	0718	WL	11/02/2010	N001	SF	D	0.991	F #	0.002	-
	mg/L	0719	WL	06/24/2010	N001	SE	D	0.250	FQ #	5.4E-05	-
	mg/L	0719	WL	11/02/2010	N001	SE	D	0.072	FQ #	0.002	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:11 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Manganese	mg/L	0720	WL	06/24/2010	N001	SF	C	0.300	F #	5.4E-05	-
	mg/L	0720	WL	11/03/2010	N001	SF	C	0.017	F #	0.002	-
	mg/L	0721	WL	06/24/2010	N001	SE	C	0.0036	B F #	5.4E-05	-
	mg/L	0721	WL	11/03/2010	N001	SE	C	0.00389	B F #	0.002	-
	mg/L	0722R	WL	06/24/2010	N001	SF		0.0017	B F #	5.4E-05	-
	mg/L	0722R	WL	11/02/2010	N001	SF		0.0208	F #	0.002	-
	mg/L	0723	WL	06/24/2010	N001	SE	D	0.410	F #	5.4E-05	-
	mg/L	0723	WL	11/02/2010	N001	SE	D	0.471	F #	0.002	-
	mg/L	0729	WL	06/23/2010	N001	SF	D	0.0082	F #	5.4E-05	-
	mg/L	0729	WL	11/03/2010	N001	SF	D	0.00423	B F #	0.002	-
	mg/L	0730	WL	06/23/2010	N001	SE	D	0.086	FQ #	5.4E-05	-
	mg/L	0730	WL	11/03/2010	N001	SE	D	0.0504	FQ #	0.002	-
	mg/L	0784	WL	06/23/2010	N001	SF	U	1.000	F #	0.00011	-
	mg/L	0784	WL	11/02/2010	N001	SF	U	0.839	F #	0.002	-
	mg/L	0788	WL	06/24/2010	N001	SF	C	0.024	B F #	0.00027	-
	mg/L	0788	WL	09/15/2010	N001	SF	C	0.092	F #	0.00025	-
	mg/L	0788	WL	09/15/2010	N002	SF	C	0.084	F #	0.00025	-
	mg/L	0788	WL	11/03/2010	N001	SF	C	0.195	F #	0.002	-
	mg/L	0789	WL	06/24/2010	N001	SF	D	1.100	F #	0.00027	-
	mg/L	0789	WL	06/24/2010	N002	SF	D	1.100	F #	0.00027	-
	mg/L	0789	WL	09/15/2010	N001	SF	D	0.370	F #	0.00025	-
	mg/L	0789	WL	11/03/2010	N001	SF	D	0.347	F #	0.002	-
	mg/L	0824	WL	06/24/2010	N001	SF		0.00042	B UF #	5.4E-05	-
	mg/L	0824	WL	11/03/2010	N001	SF		0.00534	B F #	0.002	-
	mg/L	0826	WL	06/24/2010	N001	SF		2.700	F #	5.4E-05	-
	mg/L	0826	WL	11/03/2010	N001	SF		2.470	F #	0.002	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:11 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN- CERTAINTY
Molybdenum	mg/L	0705	WL	06/24/2010	N001	SE	D	0.0024	FQ #	0.00032	-
	mg/L	0705	WL	11/03/2010	N001	SE	D	0.00302	FQ #	0.00017	-
	mg/L	0705	WL	11/03/2010	N002	SE	D	0.00287 B	FQ #	0.00017	-
	mg/L	0707	WL	06/24/2010	N001	SF	D	1.600	F #	0.0064	-
	mg/L	0707	WL	09/15/2010	N001	SF	D	1.700	F #	0.00014	-
	mg/L	0707	WL	11/03/2010	N001	SF	D	1.480	F #	0.00334	-
	mg/L	0710	WL	06/23/2010	N001	SF	U	0.00032 U	F #	0.00032	-
	mg/L	0710	WL	11/02/2010	N001	SF	U	0.00216 B	F #	0.00017	-
	mg/L	0716	WL	06/23/2010	N001	SF	O	0.140	F #	0.00032	-
	mg/L	0716	WL	11/02/2010	N001	SF	O	0.152	F #	0.00017	-
	mg/L	0717	WL	06/23/2010	N001	SE	O	0.0077	F #	0.00032	-
	mg/L	0717	WL	11/02/2010	N001	SE	O	0.00744	F #	0.00017	-
	mg/L	0718	WL	06/24/2010	N001	SF	D	0.055	F #	0.00032	-
	mg/L	0718	WL	11/02/2010	N001	SF	D	0.148	F #	0.00017	-
	mg/L	0719	WL	06/24/2010	N001	SE	D	0.013	FQ #	0.00032	-
	mg/L	0719	WL	11/02/2010	N001	SE	D	0.016	FQ #	0.00017	-
	mg/L	0720	WL	06/24/2010	N001	SF	C	0.0018	F #	0.00032	-
	mg/L	0720	WL	11/03/2010	N001	SF	C	0.00176 B	F #	0.00017	-
	mg/L	0721	WL	06/24/2010	N001	SE	C	0.0023	F #	0.00032	-
	mg/L	0721	WL	11/03/2010	N001	SE	C	0.00303	F #	0.00017	-
	mg/L	0722R	WL	06/24/2010	N001	SF		0.110	F #	0.0032	-
	mg/L	0722R	WL	11/02/2010	N001	SF		0.113	F #	0.00017	-
	mg/L	0723	WL	06/24/2010	N001	SE	D	0.00032 U	F #	0.00032	-
	mg/L	0723	WL	11/02/2010	N001	SE	D	0.00042 B	UF #	0.00017	-
	mg/L	0729	WL	06/23/2010	N001	SF	D	0.0026	F #	0.00032	-
	mg/L	0729	WL	11/03/2010	N001	SF	D	0.00378	F #	0.00017	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:11 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN- CERTAINTY
Molybdenum	mg/L	0730	WL	06/23/2010	N001	SE	D	0.0039	FQ #	0.00032	-
	mg/L	0730	WL	11/03/2010	N001	SE	D	0.00547	FQ #	0.00017	-
	mg/L	0784	WL	06/23/2010	N001	SF	U	0.034	F #	0.00032	-
	mg/L	0784	WL	11/02/2010	N001	SF	U	0.0144	F #	0.00017	-
	mg/L	0788	WL	06/24/2010	N001	SF	C	0.023	F #	0.0032	-
	mg/L	0788	WL	09/15/2010	N001	SF	C	0.027	F #	0.00014	-
	mg/L	0788	WL	09/15/2010	N002	SF	C	0.026	F #	0.00014	-
	mg/L	0788	WL	11/03/2010	N001	SF	C	0.0299	F #	0.00017	-
	mg/L	0789	WL	06/24/2010	N001	SF	D	0.450	F #	0.0064	-
	mg/L	0789	WL	06/24/2010	N002	SF	D	0.510	F #	0.0064	-
	mg/L	0789	WL	09/15/2010	N001	SF	D	0.710	F #	0.00014	-
	mg/L	0789	WL	11/03/2010	N001	SF	D	0.723	F #	0.00017	-
	mg/L	0824	WL	06/24/2010	N001	SF		0.0037	F #	0.00032	-
	mg/L	0824	WL	11/03/2010	N001	SF		0.00503	F #	0.00017	-
	mg/L	0826	WL	06/24/2010	N001	SF		0.046	F #	0.0032	-
	mg/L	0826	WL	11/03/2010	N001	SF		0.0468	F #	0.00017	-
Oxidation Reduction Potential	mV	0705	WL	06/24/2010	N001	SE	D	59.9	FQ #	-	-
	mV	0705	WL	11/03/2010	N001	SE	D	27.8	FQ #	-	-
	mV	0707	WL	06/24/2010	N001	SF	D	86.7	F #	-	-
	mV	0707	WL	09/15/2010	N001	SF	D	47	F #	-	-
	mV	0707	WL	11/03/2010	N001	SF	D	78.4	F #	-	-
	mV	0710	WL	06/23/2010	N001	SF	U	45.2	F #	-	-
	mV	0710	WL	11/02/2010	N001	SF	U	27.9	F #	-	-
	mV	0716	WL	06/23/2010	N001	SF	O	135	F #	-	-
	mV	0716	WL	11/02/2010	N001	SF	O	-12.7	F #	-	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:11 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Oxidation Reduction Potential	mV	0717	WL	06/23/2010	N001	SE	O	-22.1	F #	-	-
	mV	0717	WL	11/02/2010	N001	SE	O	-91.1	F #	-	-
	mV	0718	WL	06/24/2010	N001	SF	D	38	F #	-	-
	mV	0718	WL	11/02/2010	N001	SF	D	109.4	F #	-	-
	mV	0719	WL	06/24/2010	N001	SE	D	-20	FQ #	-	-
	mV	0719	WL	11/02/2010	N001	SE	D	-40.4	FQ #	-	-
	mV	0720	WL	06/24/2010	N001	SF	C	58.1	F #	-	-
	mV	0720	WL	11/03/2010	N001	SF	C	43.0	F #	-	-
	mV	0721	WL	06/24/2010	N001	SE	C	41.7	F #	-	-
	mV	0721	WL	11/03/2010	N001	SE	C	-51.0	F #	-	-
	mV	0722R	WL	06/24/2010	N001	SF		9.9	F #	-	-
	mV	0722R	WL	11/02/2010	N001	SF		67.2	F #	-	-
	mV	0723	WL	06/24/2010	N001	SE	D	-30.2	F #	-	-
	mV	0723	WL	11/02/2010	N001	SE	D	-32.0	F #	-	-
	mV	0729	WL	06/23/2010	N001	SF	D	32	F #	-	-
	mV	0729	WL	11/03/2010	N001	SF	D	143.4	F #	-	-
	mV	0730	WL	06/23/2010	N001	SE	D	1.9	FQ #	-	-
	mV	0730	WL	11/03/2010	N001	SE	D	-35.6	FQ #	-	-
	mV	0784	WL	06/23/2010	N001	SF	U	-37.4	F #	-	-
	mV	0784	WL	11/02/2010	N001	SF	U	-45.5	F #	-	-
	mV	0788	WL	06/24/2010	N001	SF	C	78.9	F #	-	-
	mV	0788	WL	09/15/2010	N001	SF	C	45	F #	-	-
	mV	0788	WL	11/03/2010	N001	SF	C	30.8	F #	-	-
	mV	0789	WL	06/24/2010	N001	SF	D	69.5	F #	-	-
	mV	0789	WL	09/15/2010	N001	SF	D	52	F #	-	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:11 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Oxidation Reduction Potential	mV	0789	WL	11/03/2010	N001	SF	D	44.8	F #	-	-
	mV	0824	WL	06/24/2010	N001	SF		77.1	F #	-	-
	mV	0824	WL	11/03/2010	N001	SF		56.9	F #	-	-
	mV	0826	WL	06/24/2010	N001	SF		16.8	F #	-	-
	mV	0826	WL	11/03/2010	N001	SF		30.3	F #	-	-
pH	s.u.	0705	WL	06/24/2010	N001	SE	D	7.69	FQ #	-	-
	s.u.	0705	WL	11/03/2010	N001	SE	D	8.37	FQ #	-	-
	s.u.	0707	WL	06/24/2010	N001	SF	D	6.73	F #	-	-
	s.u.	0707	WL	09/15/2010	N001	SF	D	6.96	F #	-	-
	s.u.	0707	WL	11/03/2010	N001	SF	D	7.00	F #	-	-
	s.u.	0710	WL	06/23/2010	N001	SF	U	7.37	F #	-	-
	s.u.	0710	WL	11/02/2010	N001	SF	U	7.47	F #	-	-
	s.u.	0716	WL	06/23/2010	N001	SF	O	7.00	F #	-	-
	s.u.	0716	WL	11/02/2010	N001	SF	O	7.16	F #	-	-
	s.u.	0717	WL	06/23/2010	N001	SE	O	7.61	F #	-	-
	s.u.	0717	WL	11/02/2010	N001	SE	O	7.75	F #	-	-
	s.u.	0718	WL	06/24/2010	N001	SF	D	7.09	F #	-	-
	s.u.	0718	WL	11/02/2010	N001	SF	D	7.04	F #	-	-
	s.u.	0719	WL	06/24/2010	N001	SE	D	7.83	FQ #	-	-
	s.u.	0719	WL	11/02/2010	N001	SE	D	7.75	FQ #	-	-
	s.u.	0720	WL	06/24/2010	N001	SF	C	7.29	F #	-	-
	s.u.	0720	WL	11/03/2010	N001	SF	C	7.31	F #	-	-
	s.u.	0721	WL	06/24/2010	N001	SE	C	8.86	F #	-	-
	s.u.	0721	WL	11/03/2010	N001	SE	C	8.86	F #	-	-
	s.u.	0722R	WL	06/24/2010	N001	SF		7.00	F #	-	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:11 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN- CERTAINTY
pH	s.u.	0722R	WL	11/02/2010	N001	SF		6.92	F #	-	-
	s.u.	0723	WL	06/24/2010	N001	SE	D	7.15	F #	-	-
	s.u.	0723	WL	11/02/2010	N001	SE	D	7.14	F #	-	-
	s.u.	0729	WL	06/23/2010	N001	SF	D	7.18	F #	-	-
	s.u.	0729	WL	11/03/2010	N001	SF	D	7.17	F #	-	-
	s.u.	0730	WL	06/23/2010	N001	SE	D	7.36	FQ #	-	-
	s.u.	0730	WL	11/03/2010	N001	SE	D	7.47	FQ #	-	-
	s.u.	0784	WL	06/23/2010	N001	SF	U	7.61	F #	-	-
	s.u.	0784	WL	11/02/2010	N001	SF	U	7.55	F #	-	-
	s.u.	0788	WL	06/24/2010	N001	SF	C	7.02	F #	-	-
	s.u.	0788	WL	09/15/2010	N001	SF	C	7.13	F #	-	-
	s.u.	0788	WL	11/03/2010	N001	SF	C	7.18	F #	-	-
	s.u.	0789	WL	06/24/2010	N001	SF	D	7.06	F #	-	-
	s.u.	0789	WL	09/15/2010	N001	SF	D	7.07	F #	-	-
	s.u.	0789	WL	11/03/2010	N001	SF	D	7.12	F #	-	-
	s.u.	0824	WL	06/24/2010	N001	SF		7.07	F #	-	-
	s.u.	0824	WL	11/03/2010	N001	SF		7.21	F #	-	-
	s.u.	0826	WL	06/24/2010	N001	SF		7.00	F #	-	-
	s.u.	0826	WL	11/03/2010	N001	SF		7.13	F #	-	-
Specific Conductance	umhos/cm	0705	WL	06/24/2010	N001	SE	D	1260	FQ #	-	-
	umhos/cm	0705	WL	11/03/2010	N001	SE	D	1349	FQ #	-	-
	umhos/cm	0707	WL	06/24/2010	N001	SF	D	11640	F #	-	-
	umhos/cm	0707	WL	09/15/2010	N001	SF	D	8630	F #	-	-
	umhos/cm	0707	WL	11/03/2010	N001	SF	D	8448	F #	-	-
	umhos/cm	0710	WL	06/23/2010	N001	SF	U	1304	F #	-	-
	umhos/cm	0710	WL	11/02/2010	N001	SF	U	844	F #	-	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:11 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN- CERTAINTY
Specific Conductance	umhos/cm	0716	WL	06/23/2010	N001	SF	O	1320	F #	-	-
	umhos/cm	0716	WL	11/02/2010	N001	SF	O	1561	F #	-	-
	umhos/cm	0717	WL	06/23/2010	N001	SE	O	2035	F #	-	-
	umhos/cm	0717	WL	11/02/2010	N001	SE	O	2155	F #	-	-
	umhos/cm	0718	WL	06/24/2010	N001	SF	D	4122	F #	-	-
	umhos/cm	0718	WL	11/02/2010	N001	SF	D	6505	F #	-	-
	umhos/cm	0719	WL	06/24/2010	N001	SE	D	1271	FQ #	-	-
	umhos/cm	0719	WL	11/02/2010	N001	SE	D	1343	FQ #	-	-
	umhos/cm	0720	WL	06/24/2010	N001	SF	C	1685	F #	-	-
	umhos/cm	0720	WL	11/03/2010	N001	SF	C	793	F #	-	-
	umhos/cm	0721	WL	06/24/2010	N001	SE	C	929	F #	-	-
	umhos/cm	0721	WL	11/03/2010	N001	SE	C	990	F #	-	-
	umhos/cm	0722R	WL	06/24/2010	N001	SF		2031	F #	-	-
	umhos/cm	0722R	WL	11/02/2010	N001	SF		2627	F #	-	-
	umhos/cm	0723	WL	06/24/2010	N001	SE	D	3882	F #	-	-
	umhos/cm	0723	WL	11/02/2010	N001	SE	D	4201	F #	-	-
	umhos/cm	0729	WL	06/23/2010	N001	SF	D	727	F #	-	-
	umhos/cm	0729	WL	11/03/2010	N001	SF	D	775	F #	-	-
	umhos/cm	0730	WL	06/23/2010	N001	SE	D	1034	FQ #	-	-
	umhos/cm	0730	WL	11/03/2010	N001	SE	D	1063	FQ #	-	-
	umhos/cm	0784	WL	06/23/2010	N001	SF	U	5978	F #	-	-
	umhos/cm	0784	WL	11/02/2010	N001	SF	U	4859	F #	-	-
	umhos/cm	0788	WL	06/24/2010	N001	SF	C	8527	F #	-	-
	umhos/cm	0788	WL	09/15/2010	N001	SF	C	4265	F #	-	-
	umhos/cm	0788	WL	11/03/2010	N001	SF	C	4808	F #	-	-
	umhos/cm	0789	WL	06/24/2010	N001	SF	D	15505	F #	-	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:11 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Specific Conductance	umhos/cm	0789	WL	09/15/2010	N001	SF	D	16600	F #	-	-
	umhos/cm	0789	WL	11/03/2010	N001	SF	D	13744	F #	-	-
	umhos/cm	0824	WL	06/24/2010	N001	SF		981	F #	-	-
	umhos/cm	0824	WL	11/03/2010	N001	SF		1013	F #	-	-
	umhos/cm	0826	WL	06/24/2010	N001	SF		4653	F #	-	-
	umhos/cm	0826	WL	11/03/2010	N001	SF		4519	F #	-	-
Sulfate	mg/L	0705	WL	06/24/2010	N001	SE	D	430	FQ #	2.5	-
	mg/L	0705	WL	11/03/2010	N001	SE	D	411	FQ #	10	-
	mg/L	0705	WL	11/03/2010	N002	SE	D	414	FQ #	10	-
	mg/L	0707	WL	06/24/2010	N001	SF	D	7000	F #	50	-
	mg/L	0707	WL	09/15/2010	N001	SF	D	4900	F #	46	-
	mg/L	0707	WL	11/03/2010	N001	SF	D	4230	F #	50	-
	mg/L	0710	WL	06/23/2010	N001	SF	U	400	F #	2.5	-
	mg/L	0710	WL	11/02/2010	N001	SF	U	146	F #	10	-
	mg/L	0716	WL	06/23/2010	N001	SF	O	370	F #	2.5	-
	mg/L	0716	WL	11/02/2010	N001	SF	O	410	F #	10	-
	mg/L	0717	WL	06/23/2010	N001	SE	O	740	F #	10	-
	mg/L	0717	WL	11/02/2010	N001	SE	O	673	F #	10	-
	mg/L	0718	WL	06/24/2010	N001	SF	D	1800	F #	25	-
	mg/L	0718	WL	11/02/2010	N001	SF	D	3050	F #	10	-
	mg/L	0719	WL	06/24/2010	N001	SE	D	440	FQ #	5	-
	mg/L	0719	WL	11/02/2010	N001	SE	D	426	FQ #	10	-
	mg/L	0720	WL	06/24/2010	N001	SF	C	640	F #	10	-
	mg/L	0720	WL	11/03/2010	N001	SF	C	176	F #	10	-
	mg/L	0721	WL	06/24/2010	N001	SE	C	290	F #	2.5	-
	mg/L	0721	WL	11/03/2010	N001	SE	C	283	F #	10	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:11 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Sulfate	mg/L	0722R	WL	06/24/2010	N001	SF		790	F #	10	-
	mg/L	0722R	WL	11/02/2010	N001	SF		1110	F #	10	-
	mg/L	0723	WL	06/24/2010	N001	SE	D	1700	F #	25	-
	mg/L	0723	WL	11/02/2010	N001	SE	D	1610	FJ #	10	-
	mg/L	0729	WL	06/23/2010	N001	SF	D	73	F #	2.5	-
	mg/L	0729	WL	11/03/2010	N001	SF	D	132	F #	10	-
	mg/L	0730	WL	06/23/2010	N001	SE	D	170	FQ #	2.5	-
	mg/L	0730	WL	11/03/2010	N001	SE	D	174	FQ #	10	-
	mg/L	0784	WL	06/23/2010	N001	SF	U	3200	F #	25	-
	mg/L	0784	WL	11/02/2010	N001	SF	U	2180	F #	10	-
	mg/L	0788	WL	06/24/2010	N001	SF	C	4500	F #	25	-
	mg/L	0788	WL	09/15/2010	N001	SF	C	1800	F #	12	-
	mg/L	0788	WL	09/15/2010	N002	SF	C	1800	F #	12	-
	mg/L	0788	WL	11/03/2010	N001	SF	C	2020	F #	10	-
	mg/L	0789	WL	06/24/2010	N001	SF	D	9400	F #	50	-
	mg/L	0789	WL	06/24/2010	N002	SF	D	9200	F #	50	-
	mg/L	0789	WL	09/15/2010	N001	SF	D	9700	F #	46	-
	mg/L	0789	WL	11/03/2010	N001	SF	D	6890	F #	50	-
	mg/L	0824	WL	06/24/2010	N001	SF		190	F #	2.5	-
	mg/L	0824	WL	11/03/2010	N001	SF		169	F #	10	-
	mg/L	0826	WL	06/24/2010	N001	SF		2400	F #	25	-
	mg/L	0826	WL	11/03/2010	N001	SF		1820	F #	10	-
Temperature	C	0705	WL	06/24/2010	N001	SE	D	10.53	FQ #	-	-
	C	0705	WL	11/03/2010	N001	SE	D	7.96	FQ #	-	-
	C	0707	WL	06/24/2010	N001	SF	D	9.96	F #	-	-
	C	0707	WL	09/15/2010	N001	SF	D	10.7	F #	-	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:11 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN- CERTAINTY
Temperature	C	0707	WL	11/03/2010	N001	SF	D	9.26	F #	-	-
	C	0710	WL	06/23/2010	N001	SF	U	9.87	F #	-	-
	C	0710	WL	11/02/2010	N001	SF	U	13.09	F #	-	-
	C	0716	WL	06/23/2010	N001	SF	O	9.80	F #	-	-
	C	0716	WL	11/02/2010	N001	SF	O	13.39	F #	-	-
	C	0717	WL	06/23/2010	N001	SE	O	10.82	F #	-	-
	C	0717	WL	11/02/2010	N001	SE	O	11.47	F #	-	-
	C	0718	WL	06/24/2010	N001	SF	D	10.59	F #	-	-
	C	0718	WL	11/02/2010	N001	SF	D	14.88	F #	-	-
	C	0719	WL	06/24/2010	N001	SE	D	12.02	FQ #	-	-
	C	0719	WL	11/02/2010	N001	SE	D	13.18	FQ #	-	-
	C	0720	WL	06/24/2010	N001	SF	C	9.59	F #	-	-
	C	0720	WL	11/03/2010	N001	SF	C	11.83	F #	-	-
	C	0721	WL	06/24/2010	N001	SE	C	9.89	F #	-	-
	C	0721	WL	11/03/2010	N001	SE	C	10.48	F #	-	-
	C	0722R	WL	06/24/2010	N001	SF		11.78	F #	-	-
	C	0722R	WL	11/02/2010	N001	SF		14.79	F #	-	-
	C	0723	WL	06/24/2010	N001	SE	D	12.18	F #	-	-
	C	0723	WL	11/02/2010	N001	SE	D	12.34	F #	-	-
	C	0729	WL	06/23/2010	N001	SF	D	13.23	F #	-	-
	C	0729	WL	11/03/2010	N001	SF	D	13.92	F #	-	-
	C	0730	WL	06/23/2010	N001	SE	D	13.25	FQ #	-	-
	C	0730	WL	11/03/2010	N001	SE	D	13.44	FQ #	-	-
	C	0784	WL	06/23/2010	N001	SF	U	12.60	F #	-	-
	C	0784	WL	11/02/2010	N001	SF	U	15.07	F #	-	-
	C	0788	WL	06/24/2010	N001	SF	C	11.77	F #	-	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:11 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Temperature	C	0788	WL	09/15/2010	N001	SF	C	11.2	F #	-	-
	C	0788	WL	11/03/2010	N001	SF	C	11.14	F #	-	-
	C	0789	WL	06/24/2010	N001	SF	D	12.29	F #	-	-
	C	0789	WL	09/15/2010	N001	SF	D	12.2	F #	-	-
	C	0789	WL	11/03/2010	N001	SF	D	11.66	F #	-	-
	C	0824	WL	06/24/2010	N001	SF		8.96	F #	-	-
	C	0824	WL	11/03/2010	N001	SF		12.89	F #	-	-
	C	0826	WL	06/24/2010	N001	SF		11.69	F #	-	-
	C	0826	WL	11/03/2010	N001	SF		11.50	F #	-	-
Turbidity	NTU	0705	WL	06/24/2010	N001	SE	D	2.92	FQ #	-	-
	NTU	0705	WL	11/03/2010	N001	SE	D	4.18	FQ #	-	-
	NTU	0707	WL	06/24/2010	N001	SF	D	1.59	F #	-	-
	NTU	0707	WL	09/15/2010	N001	SF	D	1.65	F #	-	-
	NTU	0707	WL	11/03/2010	N001	SF	D	0.93	F #	-	-
	NTU	0710	WL	06/23/2010	N001	SF	U	1.64	F #	-	-
	NTU	0710	WL	11/02/2010	N001	SF	U	1.51	F #	-	-
	NTU	0716	WL	06/23/2010	N001	SF	O	0.61	F #	-	-
	NTU	0716	WL	11/02/2010	N001	SF	O	1.69	F #	-	-
	NTU	0717	WL	06/23/2010	N001	SE	O	3.79	F #	-	-
	NTU	0717	WL	11/02/2010	N001	SE	O	1.85	F #	-	-
	NTU	0718	WL	06/24/2010	N001	SF	D	4.30	F #	-	-
	NTU	0718	WL	11/02/2010	N001	SF	D	1.49	F #	-	-
	NTU	0719	WL	06/24/2010	N001	SE	D	6.94	FQ #	-	-
	NTU	0719	WL	11/02/2010	N001	SE	D	8.99	FQ #	-	-
	NTU	0720	WL	06/24/2010	N001	SF	C	3.43	F #	-	-
	NTU	0720	WL	11/03/2010	N001	SF	C	1.72	F #	-	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:11 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Turbidity	NTU	0721	WL	06/24/2010	N001	SE	C	2.68	F #	-	-
	NTU	0721	WL	11/03/2010	N001	SE	C	2.65	F #	-	-
	NTU	0722R	WL	06/24/2010	N001	SF		1.06	F #	-	-
	NTU	0722R	WL	11/02/2010	N001	SF		1.31	F #	-	-
	NTU	0723	WL	06/24/2010	N001	SE	D	1.52	F #	-	-
	NTU	0723	WL	11/02/2010	N001	SE	D	1.55	F #	-	-
	NTU	0729	WL	06/23/2010	N001	SF	D	5.64	F #	-	-
	NTU	0729	WL	11/03/2010	N001	SF	D	1.83	F #	-	-
	NTU	0730	WL	06/23/2010	N001	SE	D	6.62	FQ #	-	-
	NTU	0730	WL	11/03/2010	N001	SE	D	1.71	FQ #	-	-
	NTU	0784	WL	06/23/2010	N001	SF	U	2.98	F #	-	-
	NTU	0784	WL	11/02/2010	N001	SF	U	2.18	F #	-	-
	NTU	0788	WL	06/24/2010	N001	SF	C	3.87	F #	-	-
	NTU	0788	WL	09/15/2010	N001	SF	C	2.25	F #	-	-
	NTU	0788	WL	11/03/2010	N001	SF	C	2.76	F #	-	-
	NTU	0789	WL	06/24/2010	N001	SF	D	3.44	F #	-	-
	NTU	0789	WL	09/15/2010	N001	SF	D	1.72	F #	-	-
	NTU	0789	WL	11/03/2010	N001	SF	D	1.05	F #	-	-
	NTU	0824	WL	06/24/2010	N001	SF		1.03	F #	-	-
	NTU	0824	WL	11/03/2010	N001	SF		1.10	F #	-	-
	NTU	0826	WL	06/24/2010	N001	SF		2.28	F #	-	-
	NTU	0826	WL	11/03/2010	N001	SF		1.84	F #	-	-
Uranium	mg/L	0705	WL	06/24/2010	N001	SE	D	0.00022	FQ #	2.9E-05	-
	mg/L	0705	WL	11/03/2010	N001	SE	D	0.00024	FQ #	0.00005	-
	mg/L	0705	WL	11/03/2010	N002	SE	D	0.00016	FQ #	0.00005	-
	mg/L	0707	WL	06/24/2010	N001	SF	D	2.700	F #	0.00058	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:11 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Uranium	mg/L	0707	WL	09/15/2010	N001	SF	D	1.500	F #	0.00002	-
	mg/L	0707	WL	11/03/2010	N001	SF	D	1.780	F #	0.005	-
	mg/L	0710	WL	06/23/2010	N001	SF	U	0.0081	F #	2.9E-05	-
	mg/L	0710	WL	11/02/2010	N001	SF	U	0.00383	F #	0.00005	-
	mg/L	0716	WL	06/23/2010	N001	SF	O	0.210	F #	2.9E-05	-
	mg/L	0716	WL	11/02/2010	N001	SF	O	0.290	F #	0.0005	-
	mg/L	0717	WL	06/23/2010	N001	SE	O	0.0002	F #	2.9E-05	-
	mg/L	0717	WL	11/02/2010	N001	SE	O	0.00005 U	F #	0.00005	-
	mg/L	0718	WL	06/24/2010	N001	SF	D	0.190	F #	2.9E-05	-
	mg/L	0718	WL	11/02/2010	N001	SF	D	0.297	F #	0.0005	-
	mg/L	0719	WL	06/24/2010	N001	SE	D	0.00049	FQ #	2.9E-05	-
	mg/L	0719	WL	11/02/2010	N001	SE	D	0.00056	FQ #	0.00005	-
	mg/L	0720	WL	06/24/2010	N001	SF	C	0.011	F #	2.9E-05	-
	mg/L	0720	WL	11/03/2010	N001	SF	C	0.00555	F #	0.00005	-
	mg/L	0721	WL	06/24/2010	N001	SE	C	0.00002 U	F #	2.9E-05	-
	mg/L	0721	WL	11/03/2010	N001	SE	C	0.00014	F #	0.00005	-
	mg/L	0722R	WL	06/24/2010	N001	SF		0.540	F #	0.00029	-
	mg/L	0722R	WL	11/02/2010	N001	SF		0.759	F #	0.001	-
	mg/L	0723	WL	06/24/2010	N001	SE	D	0.00002 U	F #	2.9E-05	-
	mg/L	0723	WL	11/02/2010	N001	SE	D	0.00009 B	UF #	0.00005	-
	mg/L	0729	WL	06/23/2010	N001	SF	D	0.0052	F #	2.9E-05	-
	mg/L	0729	WL	11/03/2010	N001	SF	D	0.00599	F #	0.00005	-
	mg/L	0730	WL	06/23/2010	N001	SE	D	0.0071	FQ #	2.9E-05	-
	mg/L	0730	WL	11/03/2010	N001	SE	D	0.00942	FQ #	0.00005	-
	mg/L	0784	WL	06/23/2010	N001	SF	U	0.035	F #	2.9E-05	-
	mg/L	0784	WL	11/02/2010	N001	SF	U	0.0043	F #	0.00005	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:11 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN- CERTAINTY
Uranium	mg/L	0788	WL	06/24/2010	N001	SF	C	0.100	F #	0.00029	-
	mg/L	0788	WL	09/15/2010	N001	SF	C	0.058	F #	0.00002	-
	mg/L	0788	WL	09/15/2010	N002	SF	C	0.057	F #	0.00002	-
	mg/L	0788	WL	11/03/2010	N001	SF	C	0.0745	F #	0.00005	-
	mg/L	0789	WL	06/24/2010	N001	SF	D	2.300	F #	0.00058	-
	mg/L	0789	WL	06/24/2010	N002	SF	D	2.500	F #	0.00058	-
	mg/L	0789	WL	09/15/2010	N001	SF	D	2.500	F #	0.00002	-
	mg/L	0789	WL	11/03/2010	N001	SF	D	2.640	F #	0.005	-
	mg/L	0824	WL	06/24/2010	N001	SF		0.018	F #	2.9E-05	-
	mg/L	0824	WL	11/03/2010	N001	SF		0.0178	F #	0.00005	-
	mg/L	0826	WL	06/24/2010	N001	SF		0.080	F #	0.00029	-
	mg/L	0826	WL	11/03/2010	N001	SF		0.0784	F #	0.00005	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:11 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
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RECORDS: SELECTED FROM USEE200 WHERE site_code='RVT01' AND location_code in('0705','0707','0710','0716','0717','0718','0719','0720','0721','0722R','0723','0729','0730','0784','0788','0789','0824','0826') AND (data_validation_qualifiers IS NULL OR data_validation_qualifiers NOT LIKE '%R%' AND data_validation_qualifiers NOT LIKE '%X%') AND DATE_SAMPLED between #1/1/2010# and #12/31/2010#

SAMPLE ID CODES: 000X = Filtered sample. N00X = Unfiltered sample. X = replicate number.

LOCATION TYPES: WL WELL

ZONES OF COMPLETION: a zone of completion with a "-" is cross-screened and, therefore, has two zones of completion (1st zone - 2nd zone).

SE SEMICONFINED SANDSTONE

SF SURFICIAL

FLOW CODES: C CROSS GRADIENT

D DOWN GRADIENT

O ON-SITE

U UPGRADIENT

LAB QUALIFIERS:

- * Replicate analysis not within control limits.
- + Correlation coefficient for MSA < 0.995.
- > Result above upper detection limit.
- A TIC is a suspected aldol-condensation product.
- B Inorganic: Result is between the IDL and CRDL. Organic & Radiochemistry: 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
- M GFAA duplicate injection precision not met.
- 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.
- S Result determined by method of standard addition (MSA).
- U Analytical result below detection limit.
- W Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
- X Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Y Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Z Laboratory defined (USEPA CLP organic) qualifier, see case narrative.

DATA QUALIFIERS:

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

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

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Appendix C

Domestic Well Data

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CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 1:59 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY	
Alkalinity, Total (As CaCO3)	mg/L	0405	WL	11/03/2010	N001	NR	N	48	#	-	-	
	mg/L	0430	WL	11/02/2010	N001	NR	N	161	#	-	-	
	mg/L	0436	WL	11/03/2010	N001	NR	N	155	#	-	-	
	mg/L	0460	WL	11/03/2010	N001	NR	N	157	#	-	-	
Dissolved Oxygen	mg/L	0405	WL	11/03/2010	N001	NR	N	8.35	#	-	-	
	mg/L	0430	WL	11/02/2010	N001	NR	N	2.60	#	-	-	
	mg/L	0436	WL	11/03/2010	N001	NR	N	3.37	#	-	-	
	mg/L	0460	WL	11/03/2010	N001	NR	N	1.45	#	-	-	
Manganese	mg/L	0405	WL	06/23/2010	N001	NR	N	0.0037	BE	#	5.4E-05	-
	mg/L	0405	WL	11/03/2010	N001	NR	N	0.00344	B	#	0.002	-
	mg/L	0430	WL	06/23/2010	N001	NR	N	0.0038	B	#	5.4E-05	-
	mg/L	0430	WL	11/02/2010	N001	NR	N	0.00321	B	#	0.002	-
	mg/L	0436	WL	06/23/2010	N001	NR	N	0.0016	B	#	5.4E-05	-
	mg/L	0436	WL	11/03/2010	N001	NR	N	0.00200	U	#	0.002	-
	mg/L	0460	WL	06/23/2010	N001	NR	N	0.00073	B	#	5.4E-05	-
	mg/L	0460	WL	06/23/2010	N002	NR	N	0.00094	B U	#	5.4E-05	-
	mg/L	0460	WL	11/03/2010	N001	NR	N	0.00200	U	#	0.002	-
	mg/L	0828	WL	06/23/2010	N001		O	0.0019	B	#	5.4E-05	-
Molybdenum	mg/L	0405	WL	06/23/2010	N001	NR	N	0.0028		#	0.00032	-
	mg/L	0405	WL	11/03/2010	N001	NR	N	0.00441		#	0.00017	-
	mg/L	0430	WL	06/23/2010	N001	NR	N	0.0021		#	0.00032	-
	mg/L	0430	WL	11/02/2010	N001	NR	N	0.00233	B	#	0.00017	-
	mg/L	0436	WL	06/23/2010	N001	NR	N	0.0027		#	0.00032	-
	mg/L	0436	WL	11/03/2010	N001	NR	N	0.00317		#	0.00017	-
	mg/L	0460	WL	06/23/2010	N001	NR	N	0.0027		#	0.00032	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:00 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN- CERTAINTY
Molybdenum	mg/L	0460	WL	06/23/2010	N002	NR	N	0.0025	#	0.00032	-
	mg/L	0460	WL	11/03/2010	N001	NR	N	0.00285 B	#	0.00017	-
	mg/L	0828	WL	06/23/2010	N001		O	0.0028	#	0.00032	-
Oxidation Reduction Potential	mV	0405	WL	06/23/2010	N001	NR	N	122	#	-	-
	mV	0405	WL	11/03/2010	N001	NR	N	-24.6	#	-	-
	mV	0430	WL	06/23/2010	N001	NR	N	-11.6	#	-	-
	mV	0430	WL	11/02/2010	N001	NR	N	21.1	#	-	-
	mV	0436	WL	06/23/2010	N001	NR	N	180	#	-	-
	mV	0436	WL	11/03/2010	N001	NR	N	63.9	#	-	-
	mV	0460	WL	06/23/2010	N001	NR	N	175	#	-	-
	mV	0460	WL	11/03/2010	N001	NR	N	99.4	#	-	-
pH	mV	0828	WL	06/23/2010	N001		O	150	#	-	-
	s.u.	0405	WL	06/23/2010	N001	NR	N	8.75	#	-	-
	s.u.	0405	WL	11/03/2010	N001	NR	N	9.11	#	-	-
	s.u.	0430	WL	06/23/2010	N001	NR	N	8.77	#	-	-
	s.u.	0430	WL	11/02/2010	N001	NR	N	8.72	#	-	-
	s.u.	0436	WL	06/23/2010	N001	NR	N	8.83	#	-	-
	s.u.	0436	WL	11/03/2010	N001	NR	N	8.84	#	-	-
	s.u.	0460	WL	06/23/2010	N001	NR	N	7.32	#	-	-
	s.u.	0460	WL	11/03/2010	N001	NR	N	8.90	#	-	-
Specific Conductance	s.u.	0828	WL	06/23/2010	N001		O	8.83	#	-	-
	umhos/cm	0405	WL	06/23/2010	N001	NR	N	1001	#	-	-
	umhos/cm	0405	WL	11/03/2010	N001	NR	N	1094	#	-	-
	umhos/cm	0430	WL	06/23/2010	N001	NR	N	825	#	-	-
	umhos/cm	0430	WL	11/02/2010	N001	NR	N	847	#	-	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:00 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
Specific Conductance	umhos/cm	0436	WL	06/23/2010	N001	NR	N	825	#	-	-
	umhos/cm	0436	WL	11/03/2010	N001	NR	N	868	#	-	-
	umhos/cm	0460	WL	06/23/2010	N001	NR	N	815	#	-	-
	umhos/cm	0460	WL	11/03/2010	N001	NR	N	807	#	-	-
	umhos/cm	0828	WL	06/23/2010	N001		O	815	#	-	-
Sulfate	mg/L	0405	WL	06/23/2010	N001	NR	N	300	#	2.5	-
	mg/L	0405	WL	11/03/2010	N001	NR	N	348	#	10	-
	mg/L	0430	WL	06/23/2010	N001	NR	N	180	#	2.5	-
	mg/L	0430	WL	11/02/2010	N001	NR	N	195	#	10	-
	mg/L	0436	WL	06/23/2010	N001	NR	N	190	#	2.5	-
	mg/L	0436	WL	11/03/2010	N001	NR	N	202	#	10	-
	mg/L	0460	WL	06/23/2010	N001	NR	N	160	#	2.5	-
	mg/L	0460	WL	06/23/2010	N002	NR	N	160	#	2.5	-
	mg/L	0460	WL	11/03/2010	N001	NR	N	181	#	10	-
	mg/L	0828	WL	06/23/2010	N001		O	200	#	2.5	-
Temperature	C	0405	WL	06/23/2010	N001	NR	N	12.9	#	-	-
	C	0405	WL	11/03/2010	N001	NR	N	11.29	#	-	-
	C	0430	WL	06/23/2010	N001	NR	N	12.79	#	-	-
	C	0430	WL	11/02/2010	N001	NR	N	13.33	#	-	-
	C	0436	WL	06/23/2010	N001	NR	N	17.2	#	-	-
	C	0436	WL	11/03/2010	N001	NR	N	16.41	#	-	-
	C	0460	WL	06/23/2010	N001	NR	N	13.8	#	-	-
	C	0460	WL	11/03/2010	N001	NR	N	22.89	#	-	-
	C	0828	WL	06/23/2010	N001		O	15.2	#	-	-
Turbidity	NTU	0405	WL	06/23/2010	N001	NR	N	3.70	#	-	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:00 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE	ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN- CERTAINTY	
Turbidity	NTU	0405	WL	11/03/2010	N001	NR	N	3.19	#	-	-	
	NTU	0430	WL	06/23/2010	N001	NR	N	2.47	#	-	-	
	NTU	0430	WL	11/02/2010	N001	NR	N	2.68	#	-	-	
	NTU	0436	WL	06/23/2010	N001	NR	N	1.94	#	-	-	
	NTU	0436	WL	11/03/2010	N001	NR	N	1.53	#	-	-	
	NTU	0460	WL	06/23/2010	N001	NR	N	1.17	#	-	-	
	NTU	0460	WL	11/03/2010	N001	NR	N	2.71	#	-	-	
	NTU	0828	WL	06/23/2010	N001		O	1.15	#	-	-	
Uranium	mg/L	0405	WL	06/23/2010	N001	NR	N	0.00002	U	#	2.9E-05	-
	mg/L	0405	WL	11/03/2010	N001	NR	N	0.00005	U	#	0.00005	-
	mg/L	0430	WL	06/23/2010	N001	NR	N	0.00002	U	#	2.9E-05	-
	mg/L	0430	WL	11/02/2010	N001	NR	N	0.00005	U	#	0.00005	-
	mg/L	0436	WL	06/23/2010	N001	NR	N	0.00002	U	#	2.9E-05	-
	mg/L	0436	WL	11/03/2010	N001	NR	N	0.00008	B U	#	0.00005	-
	mg/L	0460	WL	06/23/2010	N001	NR	N	0.00002	U	#	2.9E-05	-
	mg/L	0460	WL	06/23/2010	N002	NR	N	0.00002	U	#	2.9E-05	-
	mg/L	0460	WL	11/03/2010	N001	NR	N	0.00005	U	#	0.00005	-
	mg/L	0828	WL	06/23/2010	N001		O	0.00002	U	#	2.9E-05	-

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 2:00 pm

PARAMETER	UNITS	LOCATION CODE	LOCATION TYPE	SAMPLE: DATE ID	ZONE COMPL.	FLOW REL.	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN- CERTAINTY
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RECORDS: SELECTED FROM USEE200 WHERE site_code='RVT01' AND location_code in('0405','0430','0436','0460','0828') AND (data_validation_qualifiers IS NULL OR data_validation_qualifiers NOT LIKE '%R%' AND data_validation_qualifiers NOT LIKE '%X%') AND DATE_SAMPLED between #1/1/2010# and #12/31/2010#

SAMPLE ID CODES: 000X = Filtered sample. N00X = Unfiltered sample. X = replicate number.

LOCATION TYPES: WL WELL

ZONES OF COMPLETION: a zone of completion with a "-" is cross-screened and, therefore, has two zones of completion (1st zone - 2nd zone).

NR NO RECOVERY OF DATA FOR CLASSIFYING

FLOW CODES: N UNKNOWN O ON-SITE

LAB QUALIFIERS:

- * Replicate analysis not within control limits.
- + Correlation coefficient for MSA < 0.995.
- > Result above upper detection limit.
- A TIC is a suspected aldol-condensation product.
- B Inorganic: Result is between the IDL and CRDL. Organic & Radiochemistry: 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
- M GFAA duplicate injection precision not met.
- 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.
- S Result determined by method of standard addition (MSA).
- U Analytical result below detection limit.
- W Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
- X Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Y Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Z Laboratory defined (USEPA CLP organic) 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. | N Presumptive evidence that analyte is present. The analyte is "tentatively identified". | 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.

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Appendix D

Surface Water Quality Data

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SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 1:52 pm

PARAMETER	UNITS	LOCATION CODE	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN- CERTAINTY
Alkalinity, Total (As CaCO3)	mg/L	0747	11/03/2010	0001	377		#	-
	mg/L	0749	11/02/2010	N001	62		#	-
	mg/L	0794	11/03/2010	N001	186		#	-
	mg/L	0796	11/03/2010	N001	190		#	-
	mg/L	0810	11/03/2010	N001	373		#	-
	mg/L	0811	11/03/2010	N001	208		#	-
	mg/L	0812	11/03/2010	N001	188		#	-
	mg/L	0822	11/03/2010	N001	197		#	-
	mg/L	0823	11/02/2010	N001	139		#	-
Dissolved Oxygen	mg/L	0747	11/03/2010	N001	0.83		#	-
	mg/L	0749	11/02/2010	N001	7.35		#	-
	mg/L	0794	11/03/2010	N001	11.65		#	-
	mg/L	0811	11/03/2010	N001	10.17		#	-
Manganese	mg/L	0747	06/24/2010	N001	0.210		#	5.4E-05
	mg/L	0747	11/03/2010	0001	2.450		#	0.002
	mg/L	0749	06/23/2010	N001	0.120		#	5.4E-05
	mg/L	0749	11/02/2010	N001	0.153		#	0.002
	mg/L	0794	06/23/2010	0001	0.010 E		#	5.4E-05
	mg/L	0794	11/03/2010	N001	0.0426		#	0.002
	mg/L	0796	06/24/2010	0001	0.0084		#	5.4E-05
	mg/L	0796	11/03/2010	N001	0.0388		#	0.002
	mg/L	0810	06/23/2010	N001	0.036		#	5.4E-05
	mg/L	0810	11/03/2010	N001	0.0405		#	0.002
	mg/L	0811	06/24/2010	0001	0.0083		#	5.4E-05
	mg/L	0811	11/03/2010	N001	0.0387		#	0.002
	mg/L	0812	06/24/2010	0001	0.0087		#	5.4E-05
	mg/L	0812	11/03/2010	N001	0.0448		#	0.002
	mg/L	0822	06/24/2010	N001	0.089		#	5.4E-05
	mg/L	0822	11/03/2010	N001	0.0351		#	0.002
	mg/L	0822	11/03/2010	N002	0.035		#	0.002
	mg/L	0823	06/23/2010	N001	0.018		#	5.4E-05
	mg/L	0823	11/02/2010	N001	0.053		#	0.002
Molybdenum	mg/L	0747	06/24/2010	N001	0.0018		#	0.00032
	mg/L	0747	11/03/2010	0001	0.0251		#	0.00017
	mg/L	0749	06/23/2010	N001	0.008		#	0.00032
	mg/L	0749	11/02/2010	N001	0.0242		#	0.00017
	mg/L	0794	06/23/2010	0001	0.0003 U		#	0.00032

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 1:52 pm

PARAMETER	UNITS	LOCATION CODE	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN- CERTAINTY
Molybdenum	mg/L	0794	11/03/2010	N001	0.0016	B	# 0.00017	-
	mg/L	0796	06/24/2010	0001	0.0003	U	# 0.00032	-
	mg/L	0796	11/03/2010	N001	0.0016	B	# 0.00017	-
	mg/L	0810	06/23/2010	N001	0.0003	U	# 0.00032	-
	mg/L	0810	11/03/2010	N001	0.0027	B	# 0.00017	-
	mg/L	0811	06/24/2010	0001	0.0003	U	# 0.00032	-
	mg/L	0811	11/03/2010	N001	0.0016	B	# 0.00017	-
	mg/L	0812	06/24/2010	0001	0.0003	U	# 0.00032	-
	mg/L	0812	11/03/2010	N001	0.0019	B	# 0.00017	-
	mg/L	0822	06/24/2010	N001	0.0031		# 0.00032	-
	mg/L	0822	11/03/2010	N001	0.0074		# 0.00017	-
	mg/L	0822	11/03/2010	N002	0.0073		# 0.00017	-
	mg/L	0823	06/23/2010	N001	0.0015		# 0.00032	-
	mg/L	0823	11/02/2010	N001	0.0019	B	# 0.00017	-
Oxidation Reduction Potential	mV	0747	06/24/2010	N001	55.9		#	- -
	mV	0747	11/03/2010	N001	122.4		#	- -
	mV	0749	06/23/2010	N001	90.0		#	- -
	mV	0749	11/02/2010	N001	49.5		#	- -
	mV	0794	06/23/2010	N001	125		#	- -
	mV	0794	11/03/2010	N001	109.0		#	- -
	mV	0796	06/24/2010	N001	152.7		#	- -
	mV	0796	11/03/2010	N001	113.3		#	- -
	mV	0810	06/23/2010	N001	12.5		#	- -
	mV	0810	11/03/2010	N001	88.2		#	- -
	mV	0811	06/24/2010	N001	42.2		#	- -
	mV	0811	11/03/2010	N001	95.5		#	- -
	mV	0812	06/24/2010	N001	76.4		#	- -
	mV	0812	11/03/2010	N001	97.4		#	- -
	mV	0822	06/24/2010	N001	79.0		#	- -
	mV	0822	11/03/2010	N001	68.2		#	- -
	mV	0823	06/23/2010	N001	22.2		#	- -
	mV	0823	11/02/2010	N001	47.9		#	- -
pH	s.u.	0747	06/24/2010	N001	7.41		#	- -
	s.u.	0747	11/03/2010	N001	7.87		#	- -
	s.u.	0749	06/23/2010	N001	8.22		#	- -
	s.u.	0749	11/02/2010	N001	7.76		#	- -
	s.u.	0794	06/23/2010	N001	8.03		#	- -

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 1:52 pm

PARAMETER	UNITS	LOCATION CODE	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN-CERTAINTY
pH	s.u.	0794	11/03/2010	N001	8.41		#	-
	s.u.	0796	06/24/2010	N001	7.51		#	-
	s.u.	0796	11/03/2010	N001	8.53		#	-
	s.u.	0810	06/23/2010	N001	9.40		#	-
	s.u.	0810	11/03/2010	N001	8.82		#	-
	s.u.	0811	06/24/2010	N001	8.01		#	-
	s.u.	0811	11/03/2010	N001	8.41		#	-
	s.u.	0812	06/24/2010	N001	7.72		#	-
	s.u.	0812	11/03/2010	N001	8.43		#	-
	s.u.	0822	06/24/2010	N001	7.82		#	-
	s.u.	0822	11/03/2010	N001	8.10		#	-
	s.u.	0823	06/23/2010	N001	9.11		#	-
	s.u.	0823	11/02/2010	N001	8.66		#	-
Radium-226	pCi/L	0822	06/24/2010	N001	0.221	J	#	0.15 ± 0.15
	pCi/L	0822	11/03/2010	N001	0.889		#	0.213 ± 0.37
	pCi/L	0822	11/03/2010	N002	0.498	J	#	0.326 ± 0.28
Radium-228	pCi/L	0822	06/24/2010	N001	0.48	U	#	0.48 ± 0.28
	pCi/L	0822	11/03/2010	N001	0.517	U	#	0.517 ± 0.35
	pCi/L	0822	11/03/2010	N002	0.762	J	#	0.481 ± 0.42
Specific Conductance	umhos/cm	0747	06/24/2010	N001	761		#	-
	umhos/cm	0747	11/03/2010	N001	4868		#	-
	umhos/cm	0749	06/23/2010	N001	4445		#	-
	umhos/cm	0749	11/02/2010	N001	4834		#	-
	umhos/cm	0794	06/23/2010	N001	249		#	-
	umhos/cm	0794	11/03/2010	N001	1063		#	-
	umhos/cm	0796	06/24/2010	N001	243		#	-
	umhos/cm	0796	11/03/2010	N001	1071		#	-
	umhos/cm	0810	06/23/2010	N001	11.36		#	-
	umhos/cm	0810	11/03/2010	N001	1592		#	-
	umhos/cm	0811	06/24/2010	N001	226		#	-
	umhos/cm	0811	11/03/2010	N001	1139		#	-
	umhos/cm	0812	06/24/2010	N001	282		#	-
	umhos/cm	0812	11/03/2010	N001	1060		#	-
	umhos/cm	0822	06/24/2010	N001	2740		#	-
	umhos/cm	0822	11/03/2010	N001	2594		#	-
	umhos/cm	0823	06/23/2010	N001	1357		#	-
	umhos/cm	0823	11/02/2010	N001	1846		#	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 1:52 pm

PARAMETER	UNITS	LOCATION CODE	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN- CERTAINTY
Sulfate	mg/L	0747	06/24/2010	N001	230		# 2.5	-
	mg/L	0747	11/03/2010	0001	2080		# 10	-
	mg/L	0749	06/23/2010	N001	2700		# 25	-
	mg/L	0749	11/02/2010	N001	2690		# 10	-
	mg/L	0794	06/23/2010	0001	45		# 0.5	-
	mg/L	0794	11/03/2010	N001	309		# 10	-
	mg/L	0796	06/24/2010	0001	50		# 0.5	-
	mg/L	0796	11/03/2010	N001	307		# 10	-
	mg/L	0810	06/23/2010	N001	250		# 2.5	-
	mg/L	0810	11/03/2010	N001	329		# 10	-
	mg/L	0811	06/24/2010	0001	46		# 0.5	-
	mg/L	0811	11/03/2010	N001	311		# 10	-
	mg/L	0812	06/24/2010	0001	46		# 0.5	-
	mg/L	0812	11/03/2010	N001	308		# 10	-
	mg/L	0822	06/24/2010	N001	1400		# 10	-
	mg/L	0822	11/03/2010	N001	1080		# 10	-
	mg/L	0822	11/03/2010	N002	1100		# 10	-
	mg/L	0823	06/23/2010	N001	440		# 5	-
	mg/L	0823	11/02/2010	N001	510		# 10	-
Temperature	C	0747	06/24/2010	N001	24.61		# -	-
	C	0747	11/03/2010	N001	5.64		# -	-
	C	0749	06/23/2010	N001	26.8		# -	-
	C	0749	11/02/2010	N001	21.46		# -	-
	C	0794	06/23/2010	N001	16.55		# -	-
	C	0794	11/03/2010	N001	9.86		# -	-
	C	0796	06/24/2010	N001	13.55		# -	-
	C	0796	11/03/2010	N001	10.83		# -	-
	C	0810	06/23/2010	N001	24.31		# -	-
	C	0810	11/03/2010	N001	8.63		# -	-
	C	0811	06/24/2010	N001	16.32		# -	-
	C	0811	11/03/2010	N001	10.65		# -	-
	C	0812	06/24/2010	N001	18.38		# -	-
	C	0812	11/03/2010	N001	9.09		# -	-
	C	0822	06/24/2010	N001	15.95		# -	-
	C	0822	11/03/2010	N001	10.86		# -	-
	C	0823	06/23/2010	N001	22.48		# -	-
	C	0823	11/02/2010	N001	10.92		# -	-
Turbidity	NTU	0747	06/24/2010	N001	20.0		# -	-

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 1:52 pm

PARAMETER	UNITS	LOCATION CODE	SAMPLE: DATE	ID	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN- CERTAINTY
Turbidity	NTU	0747	11/03/2010	N001	17.48		#	-
	NTU	0749	06/23/2010	N001	8.88		#	-
	NTU	0749	11/02/2010	N001	9.91		#	-
	NTU	0794	06/23/2010	N001	66.7		#	-
	NTU	0794	11/03/2010	N001	9.78		#	-
	NTU	0796	06/24/2010	N001	62.5		#	-
	NTU	0796	11/03/2010	N001	8.0		#	-
	NTU	0810	06/23/2010	N001	2.30		#	-
	NTU	0810	11/03/2010	N001	2.09		#	-
	NTU	0811	06/24/2010	N001	61.6		#	-
	NTU	0811	11/03/2010	N001	9.68		#	-
	NTU	0812	06/24/2010	N001	56.8		#	-
	NTU	0812	11/03/2010	N001	7.96		#	-
	NTU	0822	06/24/2010	N001	5.93		#	-
	NTU	0822	11/03/2010	N001	1.69		#	-
	NTU	0823	06/23/2010	N001	3.86		#	-
	NTU	0823	11/02/2010	N001	4.82		#	-
Uranium	mg/L	0747	06/24/2010	N001	0.027		#	2.9E-05
	mg/L	0747	11/03/2010	0001	0.543		#	0.0005
	mg/L	0749	06/23/2010	N001	0.002		#	2.9E-05
	mg/L	0749	11/02/2010	N001	0.0042		#	0.00005
	mg/L	0794	06/23/2010	0001	0.0009		#	2.9E-05
	mg/L	0794	11/03/2010	N001	0.0083		#	0.00005
	mg/L	0796	06/24/2010	0001	0.0011		#	2.9E-05
	mg/L	0796	11/03/2010	N001	0.0076		#	0.00005
	mg/L	0810	06/23/2010	N001	0.0042		#	2.9E-05
	mg/L	0810	11/03/2010	N001	0.0093		#	0.00005
	mg/L	0811	06/24/2010	0001	0.0009		#	2.9E-05
	mg/L	0811	11/03/2010	N001	0.0074		#	0.00005
	mg/L	0812	06/24/2010	0001	0.001		#	2.9E-05
	mg/L	0812	11/03/2010	N001	0.0082		#	0.00005
	mg/L	0822	06/24/2010	N001	0.006		#	2.9E-05
	mg/L	0822	11/03/2010	N001	0.0103		#	0.00005
	mg/L	0822	11/03/2010	N002	0.0105		#	0.00005
	mg/L	0823	06/23/2010	N001	0.0031		#	2.9E-05
	mg/L	0823	11/02/2010	N001	0.0038		#	0.00005

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE RVT01, Riverton Processing Site
 REPORT DATE: 1/17/2011 1:52 pm

PARAMETER	UNITS	LOCATION CODE	SAMPLE: DATE ID	RESULT	QUALIFIERS: LAB DATA QA	DETECTION LIMIT	UN- CERTAINTY
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RECORDS: SELECTED FROM USEE800 WHERE site_code='RVT01' AND (data_validation_qualifiers IS NULL OR data_validation_qualifiers NOT LIKE '%R%' AND data_validation_qualifiers NOT LIKE '%X%') AND DATE_SAMPLED between #1/1/2010# and #12/31/2010#

SAMPLE ID CODES: 000X = Filtered sample. N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

- * Replicate analysis not within control limits.
- + Correlation coefficient for MSA < 0.995.
- > Result above upper detection limit.
- A TIC is a suspected aldol-condensation product.
- B Inorganic: Result is between the IDL and CRDL. Organic & Radiochemistry: 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
- M GFAA duplicate injection precision not met.
- 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.
- S Result determined by method of standard addition (MSA).
- U Analytical result below detection limit.
- W Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
- X Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Y Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Z Laboratory defined (USEPA CLP organic) qualifier, see case narrative.

DATA QUALIFIERS:

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

QA QUALIFIER: # = validated according to Quality Assurance guidelines.