LMS/RVT/S11203

# 2013 Verification Monitoring Report, Riverton, Wyoming, Processing Site

April 2014

U.S. DEPARTMENT OF ENERGY | Legacy Management

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# Abbreviations

| | |
|---|---|
| AWSS | alternate water supply system |
| bgs | below ground surface |
| cfs | cubic feet per second |
| COC | contaminant of concern |
| DOE | U.S. Department of Energy |
| EPA | U.S. Environmental Protection Agency |
| ft | foot |
| ft/s | feet per second |
| IC | institutional control |
| LM | Office of Legacy Management |
| MCL | maximum concentration limit |
| mg/L | milligrams per liter |
| pCi/L | picocuries per liter |
| UMTRA | Uranium Mill Tailings Remedial Action (Project) |

# Executive Summary

Verification monitoring in 2013 at the Riverton, Wyoming, Processing Site involved routine sampling of groundwater, surface water, and domestic wells and a flushing and monitoring program of the alternate water supply system that was reinstituted in late 2011. Concentrations of uranium and molybdenum at the site remained above their groundwater standards in surficial aquifer wells; however, concentrations in 2013 decreased to near 2009 levels after spiking following the 2010 flood of the Little Wind River. Sampling results from domestic wells continued to indicate no impact from site-related contaminants, and the flushing program for the alternate water supply system was effective in controlling the buildup of radionuclides in the system.

Based on an evaluation of potential seasonal variation in groundwater and surface water, it is recommended that annual sampling of the site take place in September. While contaminant concentrations generally show little seasonal variation, there is a tendency for maximum surface water concentrations to occur in September.

Several types of information, including uranium mobilized by flood events, current plume size and concentration, groundwater modeling results, historical data, and experience at other Uranium Mill Tailings Radiation Control Act sites, indicates natural flushing of the surficial aquifer is occurring at the Riverton site, but the rate at which it is occurring might not meet the 100-year regulatory time frame. Additional information will be needed and additional work conducted to gain a better understanding of the site before a final decision can be made regarding the natural flushing compliance strategy or before a selection of an alternate compliance strategy can be made.

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# 1.0 Introduction

This Riverton, Wyoming, Processing Site verification monitoring report presents data collected during calendar year 2013, provides an update on the natural flushing compliance strategy, and provides an evaluation of seasonal variation in groundwater and surface water data. Data from 2013 were generated from three routine groundwater and surface water sampling events conducted at the Riverton site during March, June, and September and two flushing events of the alternate water supply system (AWSS) conducted in March and September.

The compliance strategy for the Riverton site is natural flushing in conjunction with institutional controls (ICs) (DOE 1998a). Monitoring required during the natural flushing period is referred to as verification monitoring because its purpose 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, and the reports from 2005 to 2012 are available on the U.S. Department of Energy (DOE) Office of Legacy Management (LM) website at http://www.lm.doe.gov/Riverton/Sites.aspx. All water quality data for the Riverton site are archived in LM's environmental database in Grand Junction, Colorado. Water quality data also are available for viewing with dynamic mapping via the Geospatial Environmental Mapping System (GEMS) website at http://gems.lm.doe.gov/#&site=RVT. The monitoring program at the Riverton site is specified in the *Long-Term Management Plan for the Riverton, Wyoming, Processing Site* (DOE 2009).

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# 2.0 Site Conditions

## 2.1 Uranium Mill Tailings Remedial Action (UMTRA) Site and Surface Remediation

A uranium- and vanadium-ore-processing mill operated from1958 to 1963 at the Riverton site. The milling process produced a tailings pile that covered about 72 acres of the 140-acre site. In 1988 and 1989, the tailings pile was excavated down to an average depth of 4 feet (ft) below ground surface (bgs) based on a radium-226 soil standard. Surface remediation activities resulted in removal of about 1.8 million cubic yards of tailings and associated materials from the site, which were encapsulated at the Gas Hills East, Wyoming, Disposal Site (Figure 1) (DOE 1998b). Soils at and below the water table with elevated thorium-230 concentrations were left in place on portions of the former mill site by applying supplemental standards as allowed in Title 40 *Code of Federal Regulations* Part 192 (40 CFR 192). An easement and covenant to restrict land use on the former mill site is in place to prevent exposure to and disturbance of the supplemental-standards areas.

## 2.2 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 is in three aquifers beneath the site: (1) a surficial unconfined aquifer (surficial aquifer), (2) a middle semiconfined aquifer, and (3) a deeper confined aquifer (DOE 1998b). The surficial aquifer consists of approximately 15 to 20 ft of unconsolidated alluvial material; 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 bgs. For compliance purposes, the uppermost aquifer, which is the aquifer in which compliance with groundwater standards is assessed, comprises the surficial aquifer and semiconfined aquifer. Groundwater in the uppermost aquifer flows to the southeast.

Because the Riverton site is located on an alluvial terrace between the Wind River and the Little Wind River, site conditions have been influenced by periodic flooding of these rivers. Influence of river flooding includes the formation of an oxbow lake in 1995, spikes in groundwater contaminant concentrations, high groundwater levels leaving contaminants in the unsaturated zone, and high groundwater levels that leached contaminants from the former tailings pile (White et al. 1984). Significant floods of the Little Wind River that likely affected the site occurred in 1963, 1965, 1967, 1983, 1991, 1995, and 2010 when peak river discharge was greater than 8,000 cubic feet per second (cfs) (USGS 2012a). Significant floods of the Wind River that likely affected the site occurred in 1963, 1967, 1971, 1991, 1997, 1999, and 2011 when peak stream discharge was greater than 8,000 cfs (USGS 2012b). Discharge data and flood data from the Little Wind River are presented in Section 4.2.1.

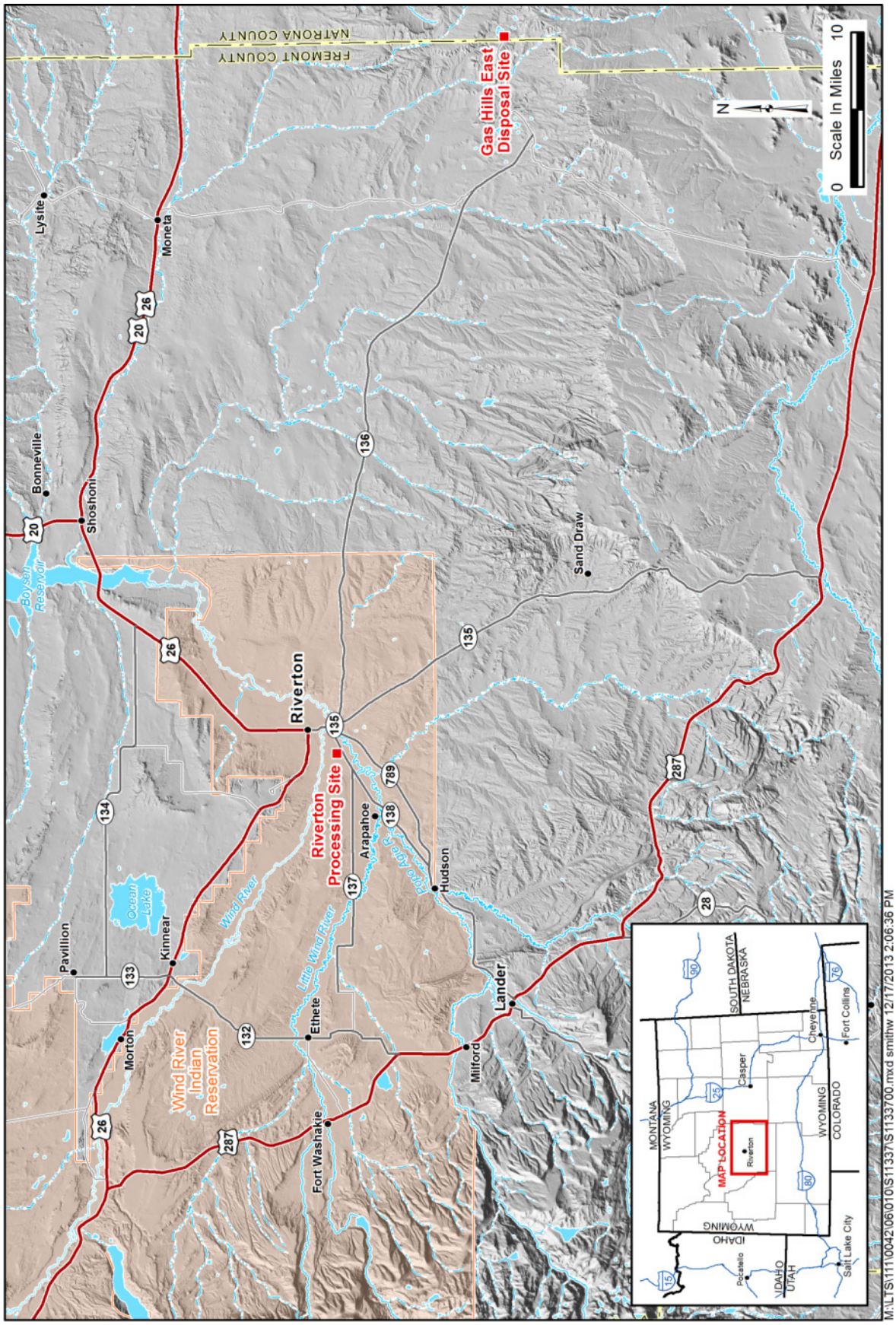


*Figure 1. Site Location Map*

## 2.3 Water Quality

Shallow groundwater beneath and downgradient from the site was contaminated as a result of uranium-processing activities from 1958 through 1963 (DOE 1998b). Contaminants of concern (COCs) in the groundwater beneath the Riverton site are manganese, molybdenum, sulfate, and uranium. COCs were selected using a screening process that compared contaminant concentrations with the maximum concentration limits (MCLs) in 40 CFR 192, as appropriate, and evaluated potential human health risks and ecological risks. (Note: The MCLs discussed in this document are not the same as the maximum contaminant levels that the U.S. Environmental Protection Agency [EPA] sets as drinking water standards.) The COC-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 contaminants for compliance monitoring in the *Final Ground Water Compliance Action Plan for the Riverton, Wyoming, Title I UMTRA Project Site* (DOE 1998a). These contaminants were selected as indicator contaminants because they are the most widely distributed and because they 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.

In order to provide a consistent comparison with historical data, uranium concentrations continue to be measured in milligrams per liter; 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.

## 2.4 Institutional Controls

To protect 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.

### 2.4.1 Site Institutional Controls

Not all IC components have been finalized, but a cooperative effort is ongoing among DOE, the Northern Arapaho and Eastern Shoshone Tribes, and the State of Wyoming to finalize additional viable and enforceable ICs at the Riverton site. ICs currently in place include the following:

- An AWSS, funded by DOE and currently operated by the Great Plains Utility Organization, supplies potable water to residents within the IC boundary to minimize use of groundwater.
- Warning signs installed around the oxbow lake (Figure 3) explain that the contaminated water is not safe for human consumption, with instructions not to drink from, fish in, 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 of the groundwater contamination within the IC boundary. Restrictions on well installation include a minimum depth of 150 ft bgs (approximately 50 ft below the top of the confined aquifer) and installation of surface casing through the contaminated upper aquifer.

- DOE will notify area drilling contractors of the existing groundwater contamination.
- A State of Wyoming Department of Environmental Quality notification of existing groundwater contamination will be provided to persons on privately owned land who apply for a gravel pit permit within the IC boundary.
- A U.S. Bureau of Indian Affairs notification of existing groundwater contamination will be provided to persons on tribal land applying for a surface impoundment within or adjacent to the IC boundary.
- The 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 (so that DOE may comment on it), and incorporate DOE's comments on the permit, if approved.
- An easement and covenant to restrict land use and well drilling on the former mill site property was finalized on June 29, 2009, and the former mill site was purchased by Chemtrade Refinery Services Inc.

ICs that are in progress, but not finalized, include the following:

- The U.S. Bureau of Indian Affairs will provide notification of existing groundwater contamination to all residents on tribal land within or adjacent to the IC boundary.
- A notification of existing groundwater contamination will be provided to fee-land property owners within the IC boundary every 5 years.

### 2.4.2 Institutional Control Monitoring

The Long-Term Management Plan specifies ongoing IC monitoring to verify that ICs are in place and working in order to ensure that potential exposure to contaminated groundwater is minimized during the natural flushing period. IC monitoring consists of two components: (1) sampling and (2) land and water use verification. The sampling component consists of sampling domestic wells and the AWSS. The land and water use verification consists of periodic inspection of lands within the IC boundary to verify and document that no additional land or water uses expose or involve shallow groundwater, such as new wells, gravel pits, and recreational ponds.

All known domestic wells used as a potable water source within the IC boundary were sampled during March, June, and September 2013, and the results are presented in Section 4.1.2 and Appendix C.

The Great Plains Utility Organization is responsible for ensuring that the quality, safety, and quantity of the water in the AWSS are adequate. The Great Plains Utility Organization is also required to maintain compliance with EPA standards that regulate community water systems. To assist in this effort and to maintain the AWSS as a viable IC, DOE has a cooperative agreement with the Northern Arapaho Tribe to ensure cooperative efforts and funding for ongoing maintenance, flushing, sampling, and capital improvements on the AWSS.

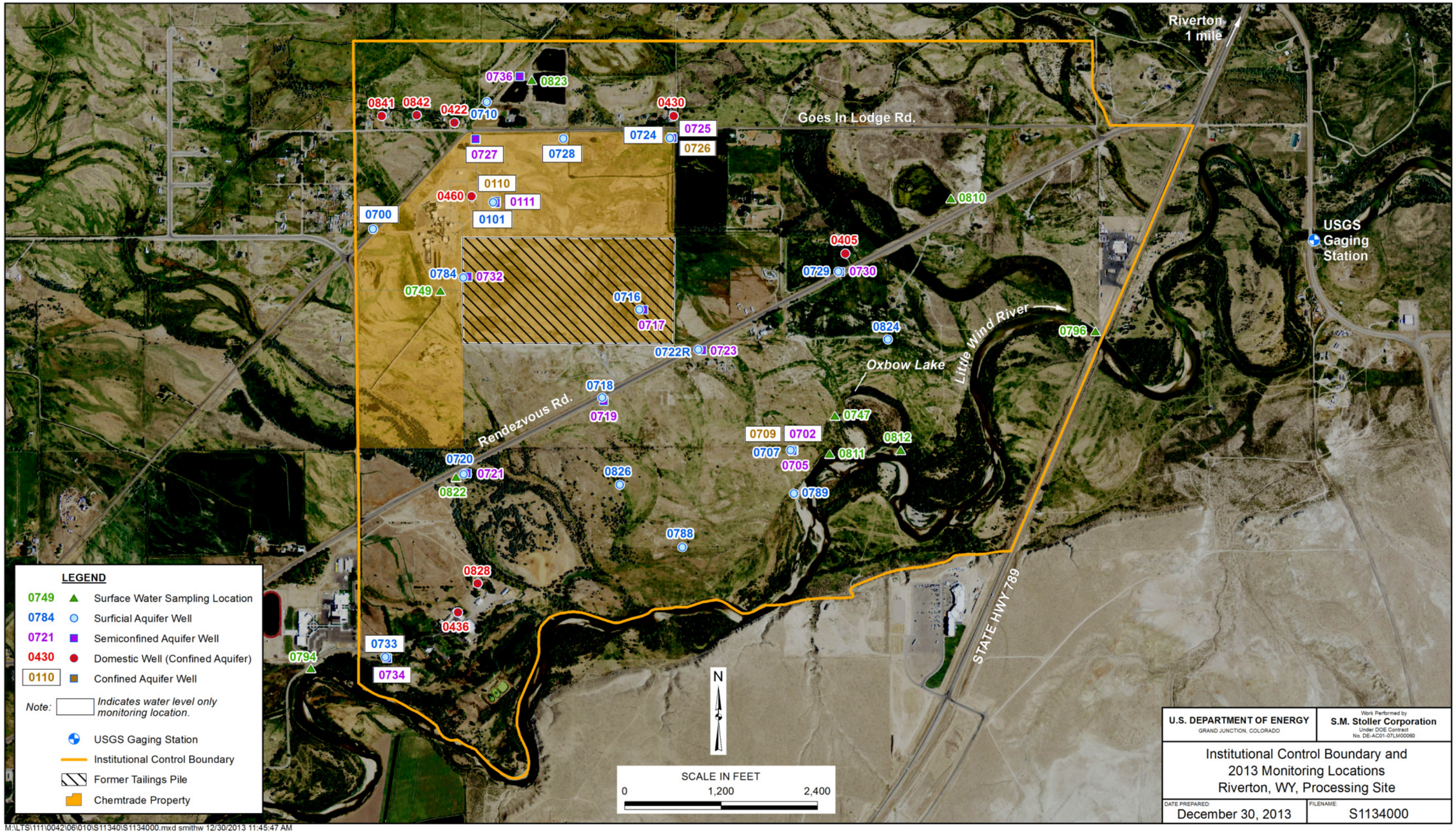


*Figure 2. Institutional Control Boundary and 2013 Monitoring Locations at the Riverton Site*

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*Figure 3. Warning Sign at the Oxbow Lake*

An AWSS hydrant flushing program was restarted in October of 2011 as specified in the cooperative agreement with the Northern Arapaho Tribe. As a result of some erroneous laboratory results from the October 2011 hydrant flushing and sampling event that were disclosed to DOE prior to a public meeting on May 6, 2012, DOE committed to managing the sampling and analysis portion of the hydrant flushing program to ensure that samples were analyzed by an accredited and audited analytical laboratory. In 2013, flushing and sampling events were conducted in March and September. The hydrant flushing events were conducted as a joint effort among the Great Plains Utility Organization, the Tribal Engineer's Office, and DOE. The Wind River Environmental Quality Commission collected samples at selected hydrant and tap monitoring locations; those results confirmed DOE sampling results. DOE results of the 2013 hydrant flushing events are presented in Section 2.3.3 and Appendix E.

Sampling crews inspected areas within the IC boundary during each sampling event and found no evidence of new land or water use that would expose groundwater.

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# 3.0 Monitoring Program

The verification monitoring program for 2013 consisted of 18 monitoring wells, 8 domestic wells, and 9 surface water locations, which are listed in Table 1 and shown in Figure 2. In addition, seven AWSS hydrant locations and four AWSS tap locations were sampled and are listed in Table 1 and discussed in Section 4.3. Two additional monitoring wells screened in the semiconfined aquifer were sampled during the June sampling event to further assess current conditions in that aquifer. Water levels were measured at 13 (June) to 15 (March and September) monitoring wells in addition to the monitoring wells in the sampling network. Sampling events were conducted in March (AWSS, groundwater, surface water, and domestic wells), June (groundwater, surface water, and domestic wells), and September (AWSS, groundwater, surface water, and domestic wells). Samples were analyzed for COCs (manganese, molybdenum, sulfate, and uranium), major cations (calcium, magnesium, potassium, and sodium) and additional major anions (chloride), and field measurements of temperature, pH, specific conductance, oxidation-reduction potential, dissolved oxygen, alkalinity, and turbidity were measured at each sampling location. Additional iron analyses were included for some locations during some sampling events to determine if iron concentrations in the surficial aquifer were sufficient to better assess redox conditions. AWSS samples were analyzed for radium-226, radium-228, and uranium and field measurements of chlorine, temperature, pH, specific conductance, oxidation-reduction potential, dissolved oxygen, alkalinity, and turbidity.

*Table 1. 2012 Sampling Network at the Riverton Site*

| Location ID | Description | Sampling Event | Rationale |
|---|---|---|---|
| **DOE Monitoring Wells** | | | |
| 0705 | Semiconfined aquifer | March, June, September | Monitor semiconfined aquifer |
| 0707 | Surficial aquifer | March, June, September | Monitor centroid of plume |
| 0710 | Surficial aquifer | March, June, September | Background location – surficial aquifer |
| 0716 | Surficial aquifer | March, June, September | Monitor upgradient portion of plume |
| 0717 | Semiconfined aquifer | March, June, September | Monitor semiconfined aquifer |
| 0718 | Surficial aquifer | March, June, September | Monitor lateral plume movement |
| 0719 | Semiconfined aquifer | March, June, September | Monitor semiconfined aquifer |
| 0720 | Surficial aquifer | March, June, September | Monitor lateral plume movement |
| 0721 | Semiconfined aquifer | March, June, September | Monitor semiconfined aquifer |
| 0722R | Surficial aquifer | March, June, September | Monitor centroid of plume |
| 0723 | Semiconfined aquifer | March, June, September | Monitor semiconfined aquifer |
| 0729 | Surficial aquifer | March, June, September | Monitor lateral plume movement |
| 0730 | Semiconfined aquifer | March, June, September | Monitor semiconfined aquifer |
| 0732 | Semiconfined aquifer | June | Monitor semiconfined aquifer |
| 0736 | Semiconfined aquifer | June | Background location – semiconfined aquifer |
| 0784 | Surficial aquifer | March, June, September | Monitor lateral plume movement |
| 0788 | Surficial aquifer | March, June, September | Monitor lateral plume movement |
| 0789 | Surficial aquifer | March, June, September | Monitor centroid of plume |
| 0824 | Surficial aquifer | March, June, September | Monitor lateral plume movement |
| 0826 | Surficial aquifer | March, June, September | Monitor lateral plume movement |

*Table 1 (continued). 2012 Sampling Network at the Riverton Site*

| Location ID | Description | Sampling Event | Rationale |
|---|---|---|---|
| **Domestic Wells[a]** | | | |
| 0405 | Private residence | March, June, September | Potential point of exposure |
| 0422 | Private residence | March, June, September | Potential point of exposure |
| 0430 | Private residence | March, June, September | Potential point of exposure |
| 0436 | St Stephens Mission | March, June, September | Potential point of exposure |
| 0460 | Chemtrade Refinery | March, June, September | Potential point of exposure |
| 0828 | St. Stephens Mission | March, June, September | Potential point of exposure |
| 0841 | Private residence | March, June, September | Potential point of exposure |
| 0842 | Private residence | March, June, September | Potential point of exposure |
| **Surface Water** | | | |
| 0747 | Oxbow lake | March, June, September | Impacted by groundwater discharge |
| 0749 | Chemtrade Refinery discharge ditch | March, June, September | Effluent from sulfuric acid plant |
| 0794 | Little Wind River | March, June, September | Upstream of predicted plume discharge |
| 0796 | Little Wind River | March, June, September | Downstream of predicted plume discharge |
| 0810 | Pond—former gravel pit | March, June, September | Potential for impact—within IC boundary |
| 0811 | Little Wind River | March, June, September | Within area of predicted plume discharge |
| 0812 | Little Wind River | March, June, September | Within area of predicted plume discharge |
| 0822 | West side irrigation ditch | March, June, September | Potential for impact—within IC boundary |
| 0823 | Pond—former gravel pit | March, June, September | Upgradient of plume—within IC area |
| **AWSS Hydrants** | | | |
| 0818 | AWSS flushing hydrant | March, September | Verify effectiveness of flushing program |
| 0819 | AWSS flushing hydrant | March, September | Verify effectiveness of flushing program |
| 0820 | AWSS flushing hydrant | March, September | Verify effectiveness of flushing program |
| 0821 | AWSS flushing hydrant | March, September | Verify effectiveness of flushing program |
| 0829 | AWSS flushing hydrant | March, September | Verify effectiveness of flushing program |
| 0830 | AWSS flushing hydrant | March, September | Verify effectiveness of flushing program |
| 0834 | AWSS flushing hydrant | March, September | Verify effectiveness of flushing program |
| **AWSS Taps** | | | |
| 0813 | AWSS tap at house | March, September | Verify taps unaffected by flushing process |
| 0815 | AWSS tap at house | March, September | Verify taps unaffected by flushing process |
| 0816 | AWSS tap at house | March, September | Verify taps unaffected by flushing process |
| 0837 | AWSS tap at house | March, September | Verify taps unaffected by flushing process |

[a] All domestic wells are completed in the confined aquifer, except for well 0841, which might be completed in the semiconfined aquifer.

# 4.0 Results of 2013 Monitoring

## 4.1 Groundwater

### 4.1.1 Groundwater Flow

Water levels were measured at all wells in the monitoring network in March, June, and September to verify groundwater flow direction and to assess vertical gradients throughout the IC area. Water level data are included in Appendix A.

Assessment of horizontal groundwater flow direction in the surficial aquifer is required to ensure that the monitoring network is adequate for assessing contaminant plume movement and to ensure that the IC boundary provides a sufficient buffer to prevent access to contaminated groundwater. As shown in Figure 4, Figure 5, and Figure 6, groundwater elevation contours for the surficial aquifer indicate a general flow direction to the southeast in March, June, and September. Water levels have been historically consistent as shown in Figure 7, which compares March 2013 and February 1997 water levels. In addition to water levels measured during each sampling event, continuous water-level measurements recorded by pressure transducers installed in wells along the groundwater flow path demonstrate that, based on groundwater elevations, the groundwater flow does not reverse direction throughout the year (Figure 8).

Vertical gradients are used to assess the direction that groundwater will flow vertically. The methods traditionally applied to assess vertical flow use a negative gradient to indicate potential for upward groundwater flow and a positive gradient to indicate potential for downward groundwater flow. Regardless of the direction indicated by gradient, vertical migration of groundwater between the Riverton site aquifers is expected to be relatively minor because of the low vertical hydraulic conductivities of the confining layers separating aquifers. Vertical gradients are calculated from monitoring wells in an upper aquifer (aquifer 1) and lower aquifer (aquifer 2) using the following formula: $(GE_1 - GE_2) \div (SE_1 - SE_2)$, where GE = groundwater elevation and SE = screen elevation at the midpoint of the screen. Table 2 shows vertical gradients calculated from June and December data from grouped monitoring wells. General observations from Table 2 include the following:

- Vertical gradients in the confined aquifer are upward at two locations and mixed at one location.
- In the past, the well cluster adjacent to the sulfuric acid plant (0101, 0111, and 0110) has typically shown a downward vertical gradient between the confined aquifer and surficial aquifer, which is likely a reflection of continuous long-term pumping of the confined aquifer from the acid-plant production well; in 2013, the gradient was slightly upward for all sampling events.
- Although the well cluster adjacent to the sulfuric acid plant typically 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 between the surficial and semiconfined aquifer vary 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 4. March 2013 Groundwater Elevations in the Surficial Aquifer at the Riverton Site*

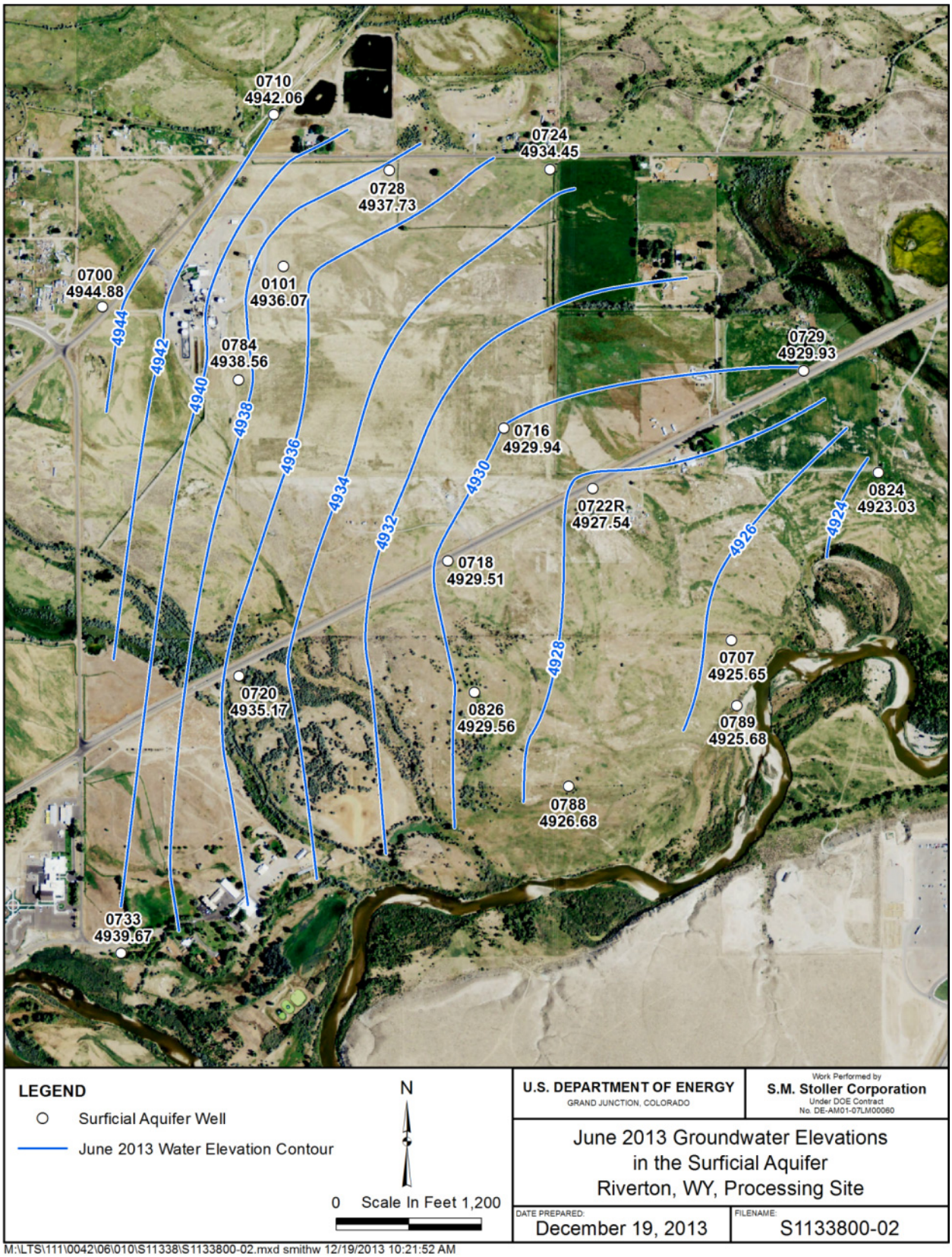



*Figure 5. June 2013 Groundwater Elevations in the Surficial Aquifer at the Riverton Site*

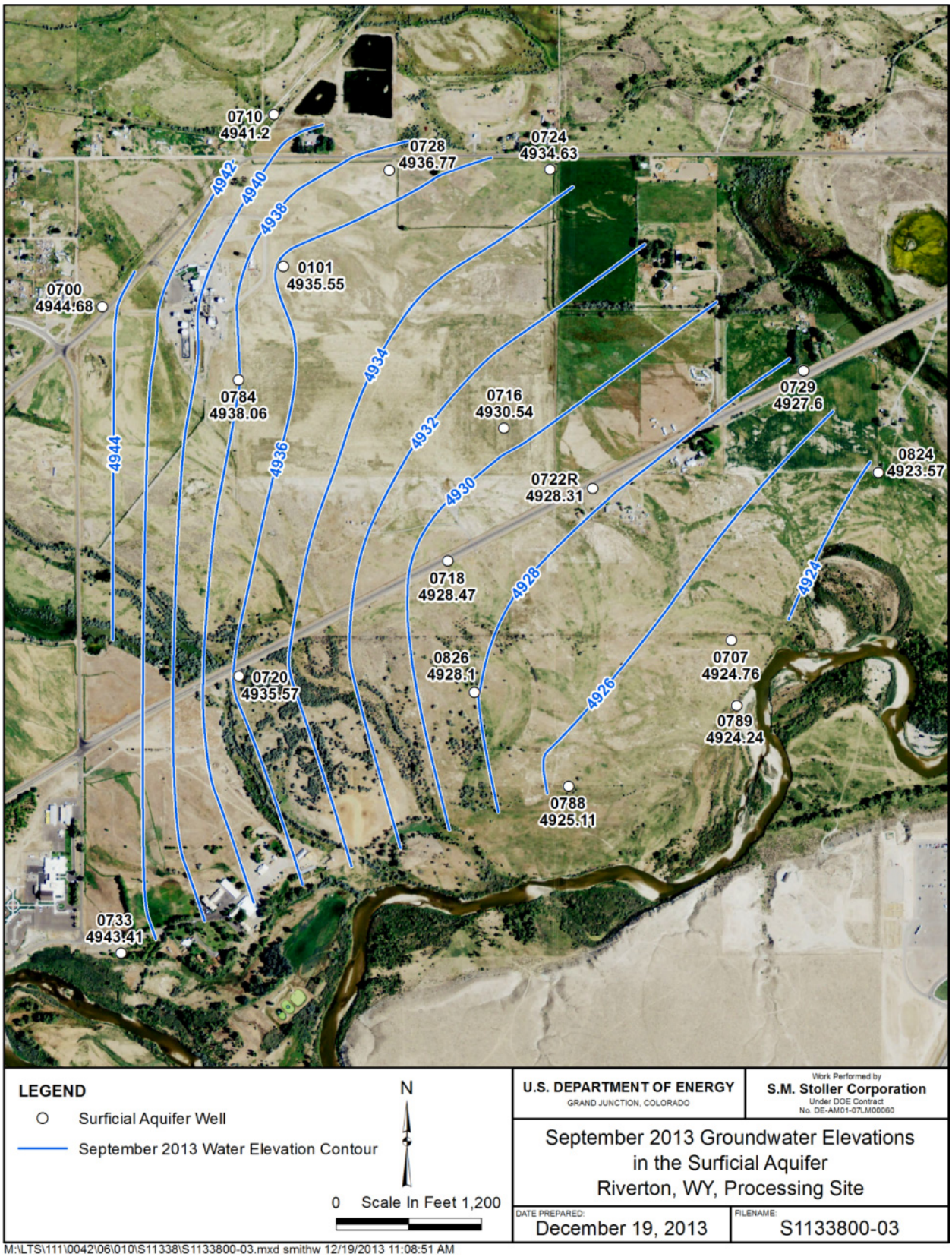



*Figure 6. September 2013 Groundwater Elevations in the Surficial Aquifer at the Riverton Site*

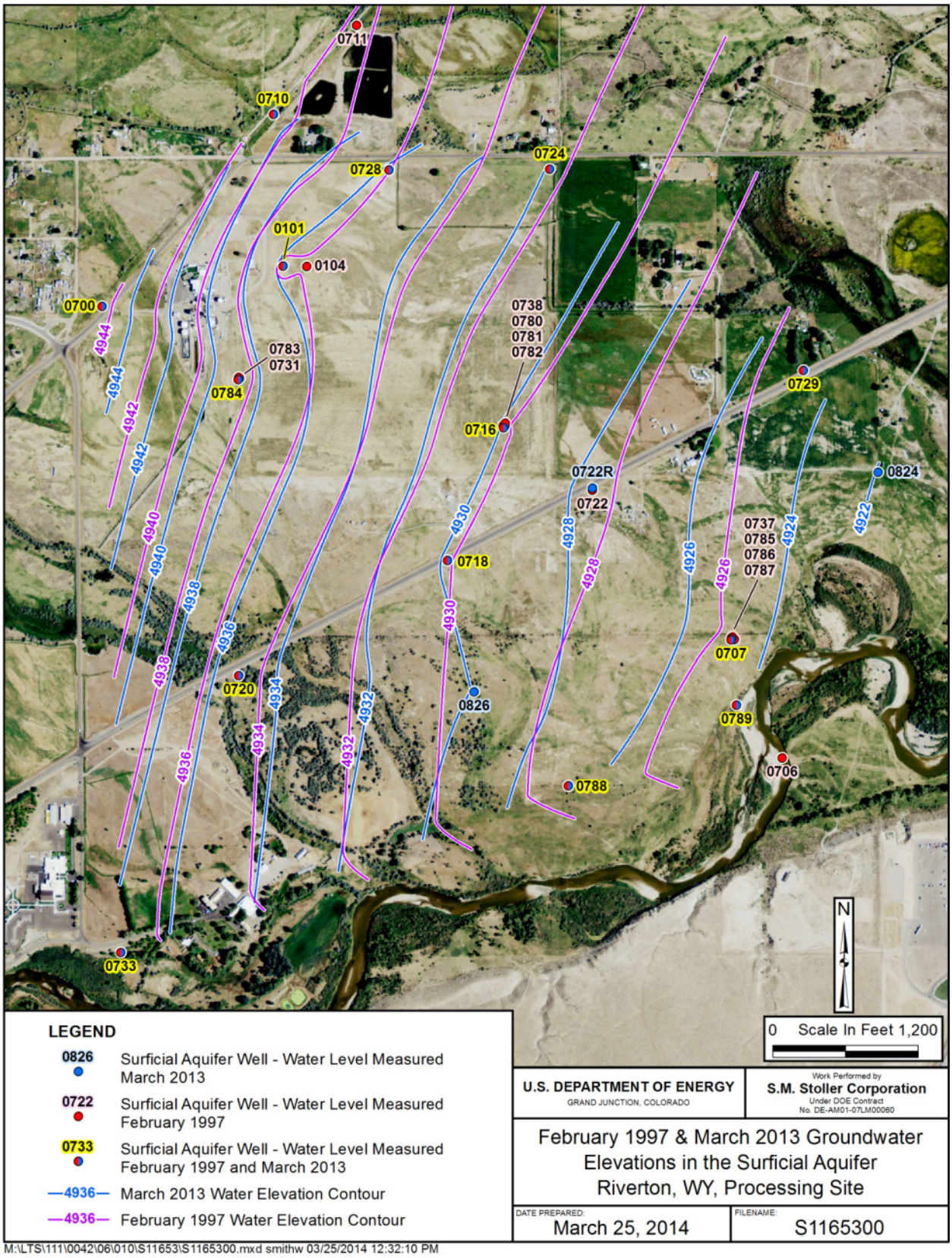



*Figure 7. February 1997 and March 2013 Groundwater Elevations in the Surficial Aquifer at the Riverton Site*

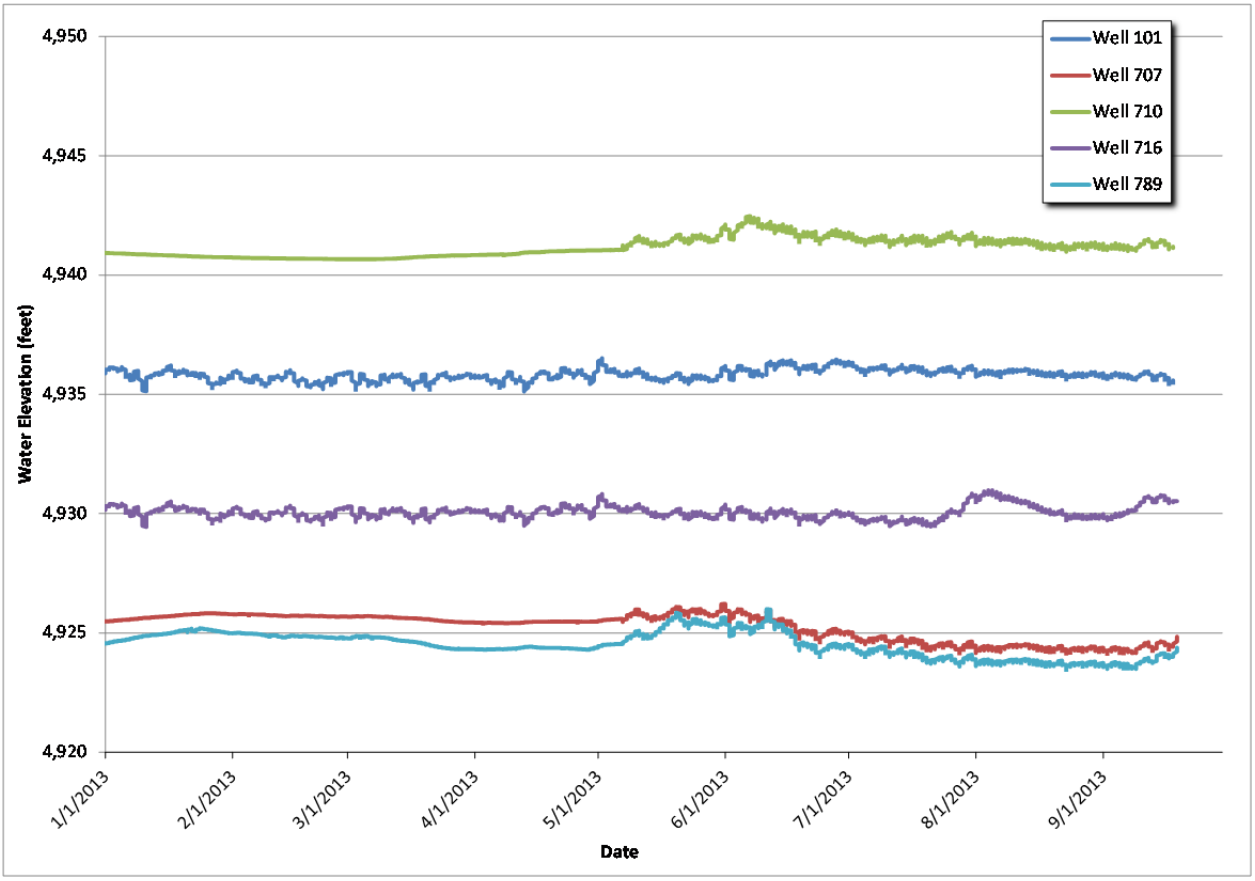



*Figure 8. Continuous Water Elevations in Selected Surficial Aquifer Wells*

*Table 2. Riverton Vertical Gradients*

| Well ID | Aquifer | Water Elevation | | | Vertical Gradient[a] | | |
|---|---|---|---|---|---|---|---|
| | | March 2013 | June 2013 | September 2013 | March 2013 | June 2013 | September 2013 |
| 0724 | Surficial | 4931.89 | 4934.45 | 4934.63 | | | |
| 0725 | Semiconfined | 4931.84 | 4934.55 | 4934.70 | 0.003 | −0.006 | −0.004 |
| 0726 | Confined | 4934.30 | 4935.05 | 4933.53 | −0.021 | −0.005 | 0.010 |
| | | | | | | | |
| 0101 | Surficial | 4935.58 | 4936.07 | 4935.55 | | | |
| 0111 | Semiconfined | 4935.76 | 4936.90 | 4936.21 | −0.007 | −0.031 | −0.025 |
| 0110 | Confined | 4935.76 | 4936.93 | 4936.22 | −0.003 | −0.016 | −0.013 |
| | | | | | | | |
| 0784 | Surficial | 4938.95 | 4938.56 | 4938.06 | | | |
| 0732 | Semiconfined | 4936.92 | 4936.75 | 4936.18 | 0.077 | 0.069 | 0.071 |
| | | | | | | | |
| 0716 | Surficial | 4929.89 | 4929.94 | 4930.54 | | | |
| 0717 | Semiconfined | 4929.80 | 4930.01 | 4931.03 | 0.003 | −0.002 | −0.014 |
| | | | | | | | |
| 0707 | Surficial | 4925.33 | 4925.65 | 4924.76 | | | |
| 0705 | Semiconfined | 4924.10 | 4924.89 | 4923.79 | 0.044 | 0.027 | 0.034 |
| 0709 | Confined | 4925.70 | 4925.68 | – | −0.005 | −0.0004 | ND |
| | | | | | | | |
| 0718 | Surficial | 4929.75 | 4929.51 | 4928.47 | | | |
| 0719 | Semiconfined | 4929.98 | 4929.82 | 4928.93 | −0.012 | −0.016 | −0.023 |
| | | | | | | | |
| 0722R | Surficial | 4927.56 | 4927.54 | 4928.31 | | | |
| 0723 | Semiconfined | 4927.73 | 4927.74 | 4928.51 | −0.006 | −0.007 | −0.007 |
| | | | | | | | |
| 0720 | Surficial | 4934.81 | 4935.17 | 4935.57 | | | |
| 0721 | Semiconfined | 4932.69 | 4932.45 | 4931.72 | 0.059 | 0.076 | 0.107 |
| | | | | | | | |
| 0729 | Surficial | 4924.85 | 4929.93 | 4927.60 | | | |
| 0730 | Semiconfined | 4924.96 | 4928.70 | 4927.30 | −0.005 | 0.053 | 0.013 |
| | | | | | | | |
| 0733 | Surficial | 4937.15 | 4939.67 | 4943.41 | | | |
| 0734 | Semiconfined | 4935.74 | 4937.90 | 4940.34 | 0.062 | 0.077 | 0.134 |

[a] The 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.

ND = Not determined.

### 4.1.2 Groundwater Quality

Figures 9 through 22 summarize surficial aquifer data from the 2013 sampling events. 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 9 and Figure 10, respectively. The distribution of molybdenum in the surficial aquifer from the March, June, and September 2013 sampling events is shown in Figure 11, Figure 12, and Figure 13, 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 14 and Figure 15, respectively. The distribution of uranium in the surficial aquifer, based on March, June, and September 2013 sampling results, is shown in Figure 16, Figure 17, and Figure 18, respectively.

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 2010, uranium concentrations increased dramatically in wells 0707, 0788, 0789, and 0826 following flooding of the Little Wind River. 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 2010 sampling event (Figure 9). In 2012, the concentration of uranium in a sample collected from well 0707 in December was back to a pre-flood (2009) level. Concentrations remained at pre-flood levels during 2013.

Vertical-profile data in selected surficial aquifer monitoring within the contaminant plume were collected in June of 2013. These data were collected as a preliminary step to determine if any vertical stratification of contaminants was occurring in these wells. Specific conductance was used as an analog for contaminant concentrations because historical data indicate a direct correlation between the two data sets. A low-flow purging protocol was used at 2 ft intervals within the screened interval of each well before measurements were made, and the results are shown in Table 3. As shown in the table, specific conductance does not vary significantly in the vertical profiles, which indicates minimal vertical stratification in the surficial aquifer.

Samples were collected for iron analyses from selected monitoring wells in March and from all monitoring wells in September of 2013 to determine if iron is present in sufficient concentrations to conduct future $Fe^{2+}$ and $Fe^{3+}$ analyses to determine redox conditions at the site. Iron results were typically low, with 7 out of 16 results in samples from surficial aquifer wells below the detection limit; the maximum iron concentration in the surficial aquifer was 0.15 mg/L in the sample collected from monitoring well 0716. Low iron concentrations typically indicate oxidizing conditions, but future $Fe^{2+}/Fe^{3+}$ analyses from selected monitoring wells with sufficient iron concentrations would confirm the oxidizing conditions.

*Table 3. Vertical Profile Data in Selected Riverton Wells*

| Well ID | Sump Length (ft) | Screen Length (ft) | Distance from Bottom of Well (ft) | Temperature (°C) | Specific Conductance (µmho/cm) | Dissolved Oxygen (mg/L) | pH (s.u.) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| 0707 | 2 | 5 | 2 | 11.15 | 4888 | 0.95 | 6.58 | 79.6 |
| | | | 4 | 11.63 | 4752 | 0.82 | 6.6 | 82 |
| | | | 6 | 11.96 | 4649 | 0.81 | 6.61 | 86 |
| 0789 | 0.4 | 12 | 2 | 11.06 | 8288 | 0.98 | 6.67 | 63.3 |
| | | | 4 | 11.55 | 8281 | 1.02 | 6.74 | 77.5 |
| | | | 6 | 12.3 | 8304 | 0.88 | 6.77 | 83.2 |
| | | | 8 | 12.71 | 8345 | 0.77 | 6.77 | 85.6 |
| | | | 10 | 12.79 | 8298 | 0.83 | 6.77 | 63.3 |
| 0718 | 0 | 5 | 0.5 | 10.15 | 4565 | 0.6 | 6.63 | 111 |
| | | | 2.5 | 10.23 | 4563 | 0.68 | 6.64 | 112 |
| | | | 4.5 | 10.11 | 4556 | 0.58 | 6.65 | 113 |
| 723 | 2 | 10 | 2 | 13.61 | 3557 | 0.8 | 6.69 | -14 |
| | | | 4 | 13.73 | 3494 | 0.69 | 6.75 | -17 |
| | | | 6 | 14.16 | 3462 | 0.78 | 6.77 | -21 |
| | | | 10 | 15.05 | 3460 | 0.75 | 6.8 | -22 |
| 0722R | 0.3 | 5 | 0.3 | 12.23 | 1855 | - | 6.46 | 1 |
| | | | 2.3 | 12.68 | 1852 | - | 6.51 | 7 |
| | | | 4.3 | 13.33 | 1842 | - | 6.53 | 17 |

µmho/cm = micromhos per centimeter.
s.u. = standard units.
ORP = oxidation-reduction potential; mV = millivolts.

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 indicates no significant impact from site-related contamination in this unit (Figure 19 and Figure 20).

Appendix B provides groundwater quality data by parameter for monitoring wells in the long-term monitoring network sampled during 2013.

### 4.1.3 Domestic Wells

Domestic wells used as a potable water source at residences within the IC boundary were sampled in 2013; most of these wells are completed in the confined aquifer with the exception of well 0841, which is likely completed in the semiconfined aquifer. Results from domestic wells did not indicate any impacts from the Riverton site. Concentrations of molybdenum in samples collected from domestic wells were 2 orders of magnitude below the standard, and concentrations of uranium in samples collected from domestic wells were 1 to 3 orders of magnitude below the standard. Figure 21 and Figure 22 show time-concentration graphs for molybdenum and uranium, respectively. Appendix C provides data obtained from sampling domestic wells in 2013.

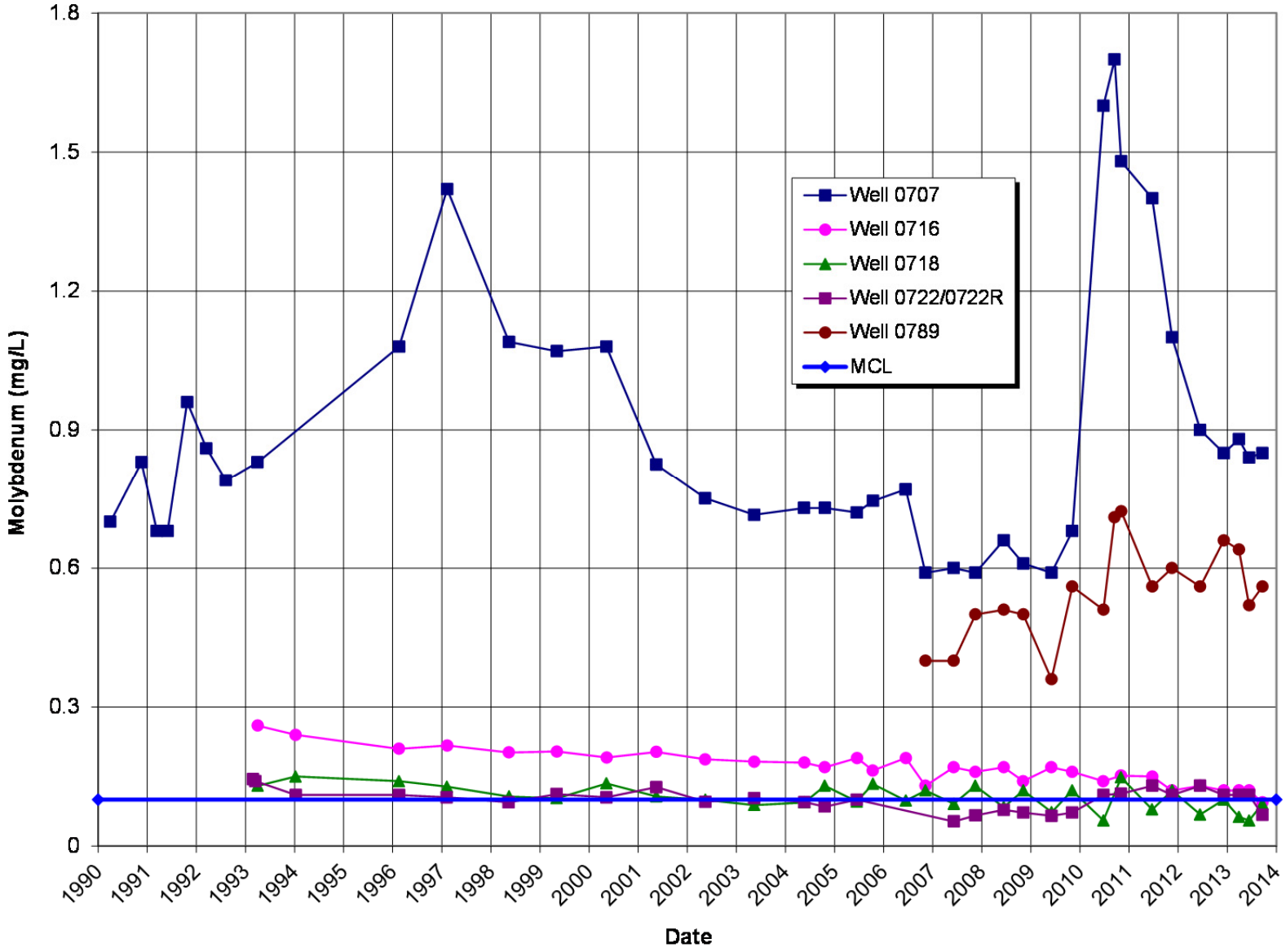
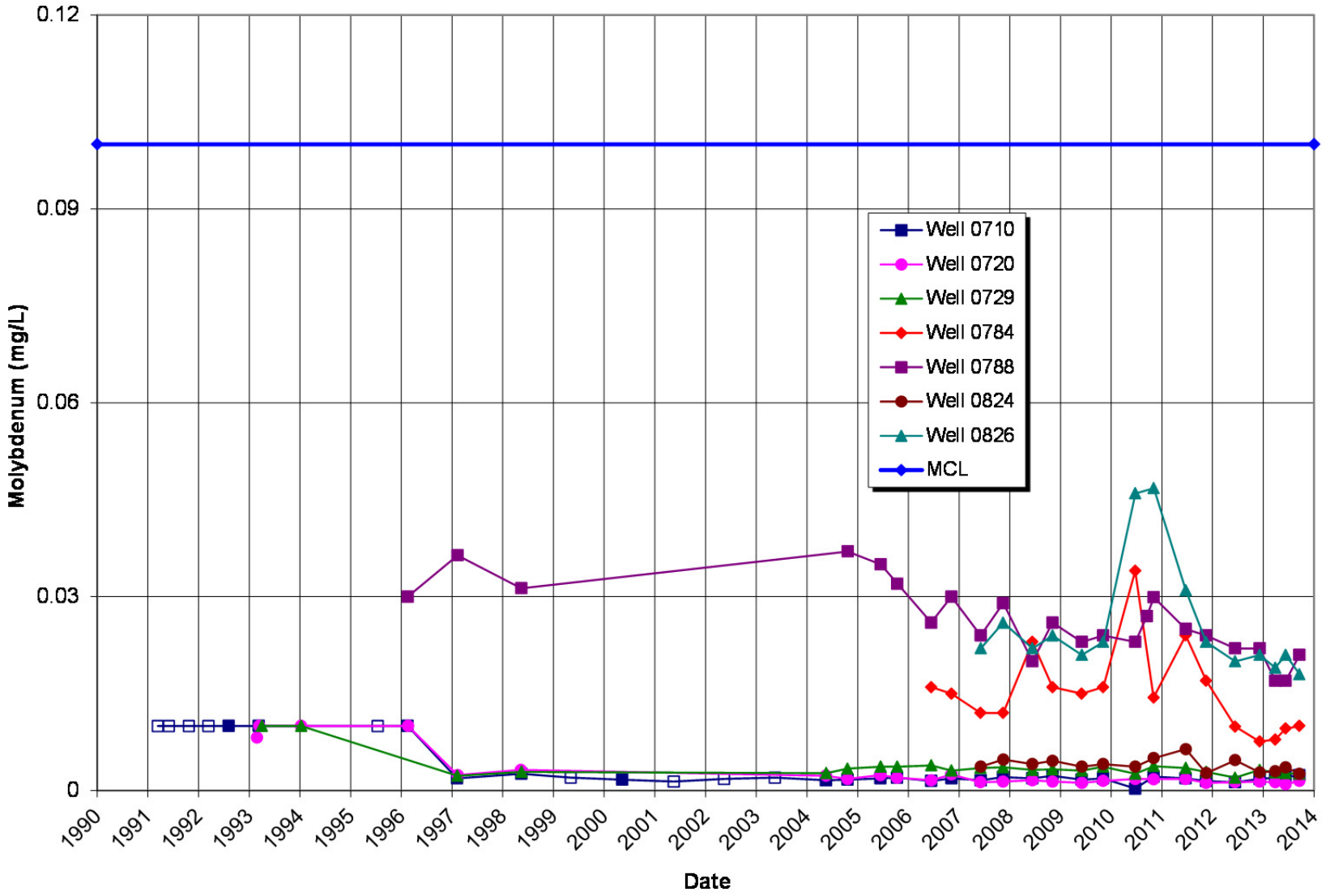



*Figure 9. Molybdenum Concentrations in Surficial Aquifer Wells Within the Contaminant Plume*




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

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

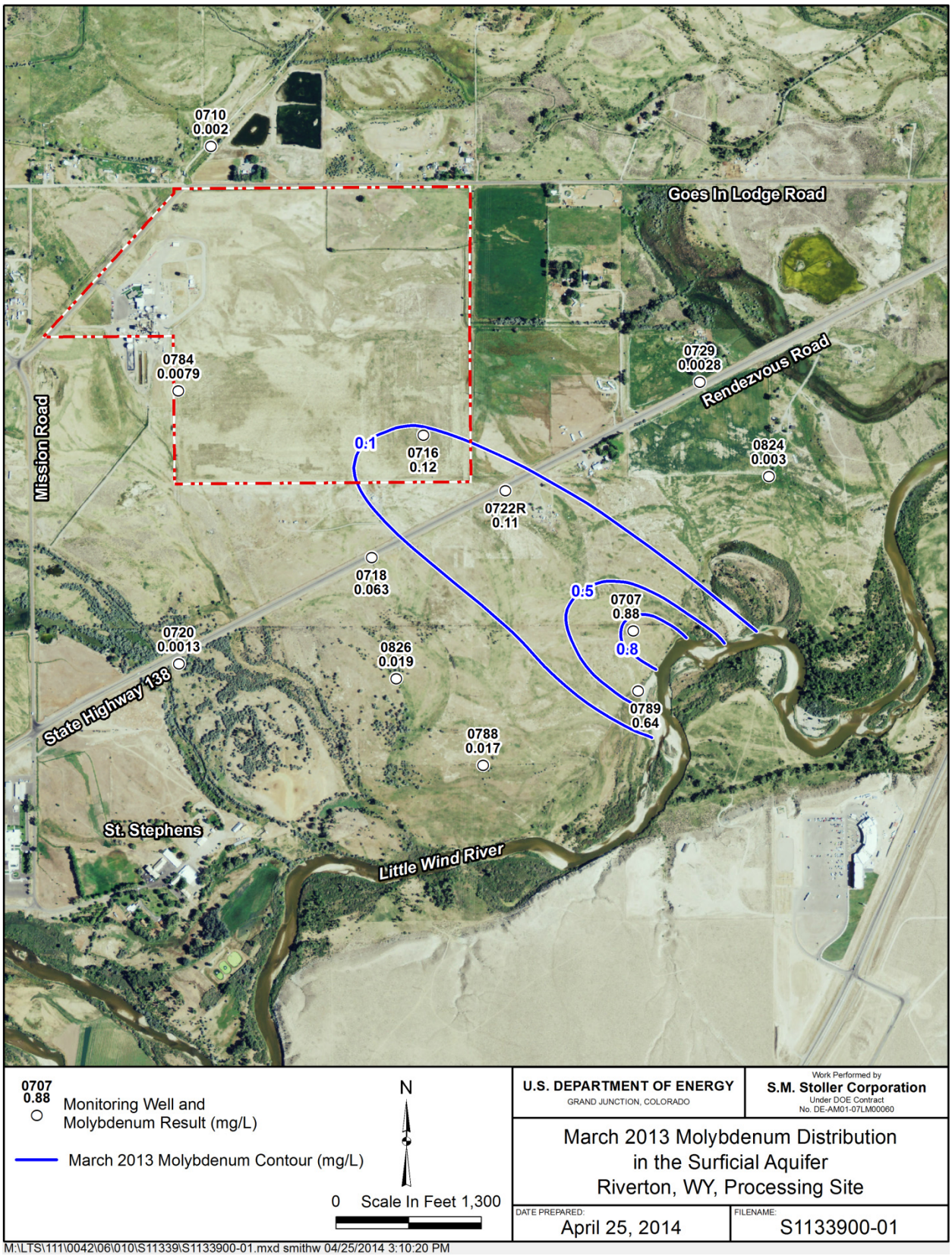



*Figure 11. March 2013 Molybdenum Distribution in the Surficial Aquifer at the Riverton Site*

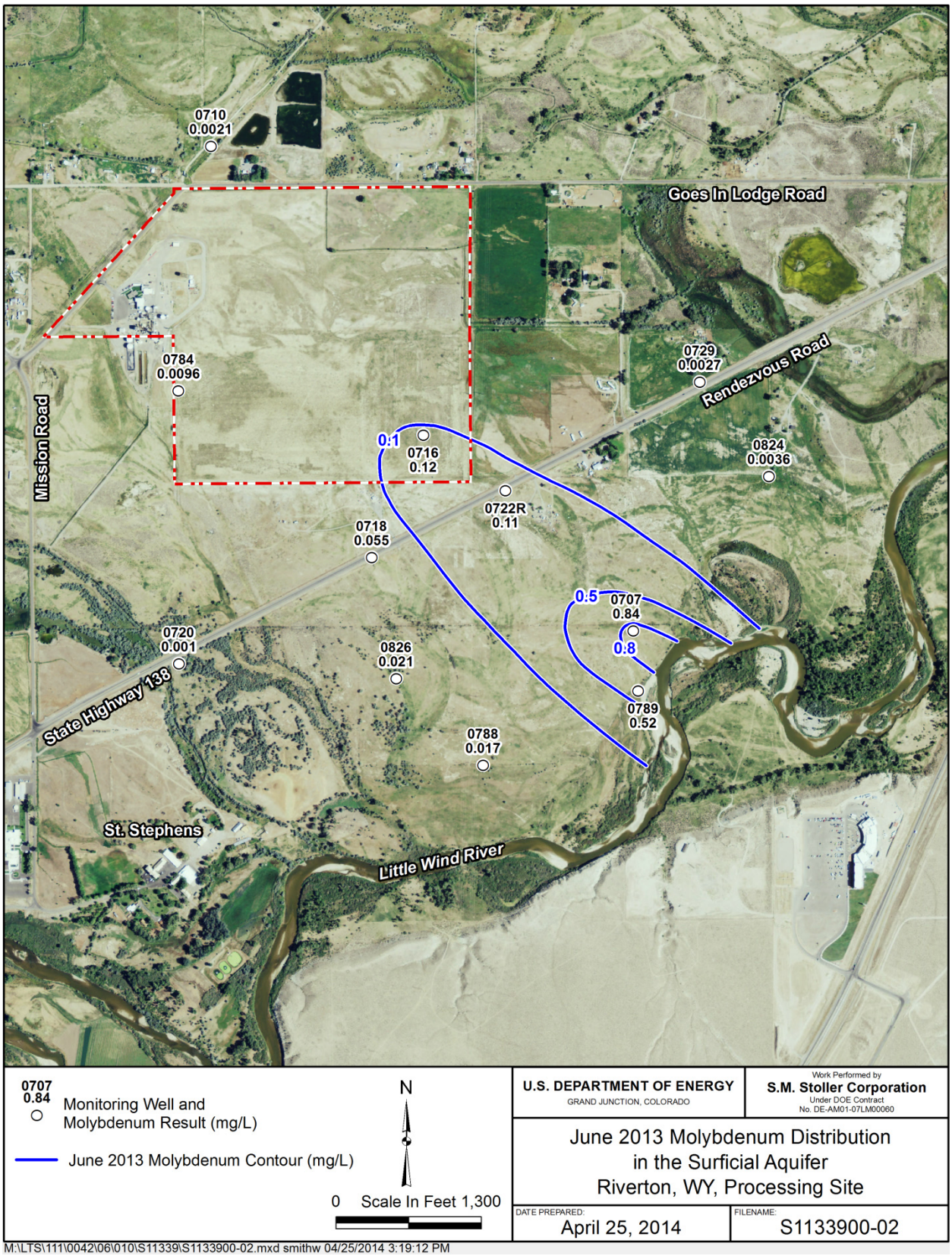



*Figure 12. June 2013 Molybdenum Distribution in the Surficial Aquifer at the Riverton Site*

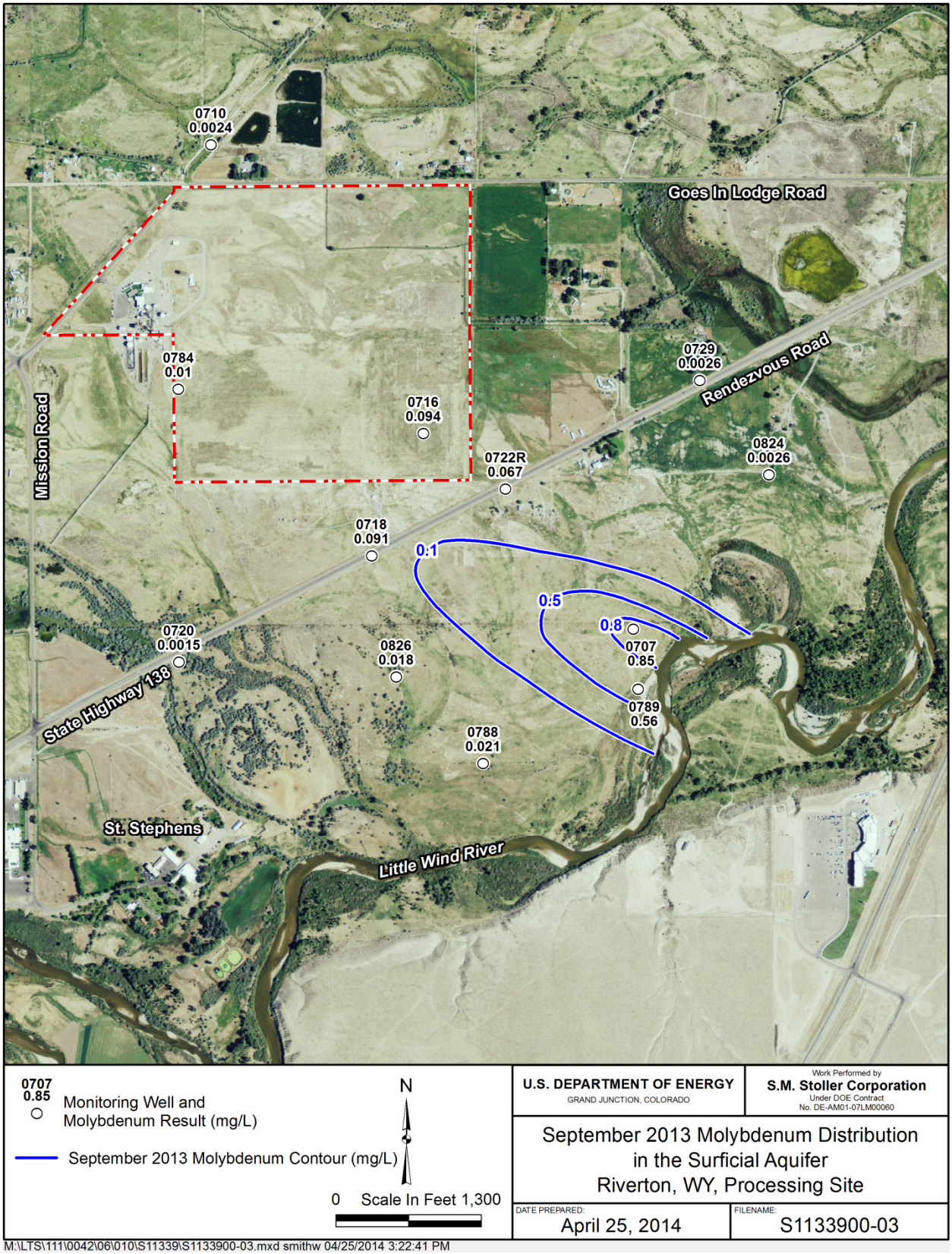



*Figure 13. September 2013 Molybdenum Distribution in the Surficial Aquifer at the Riverton Site*

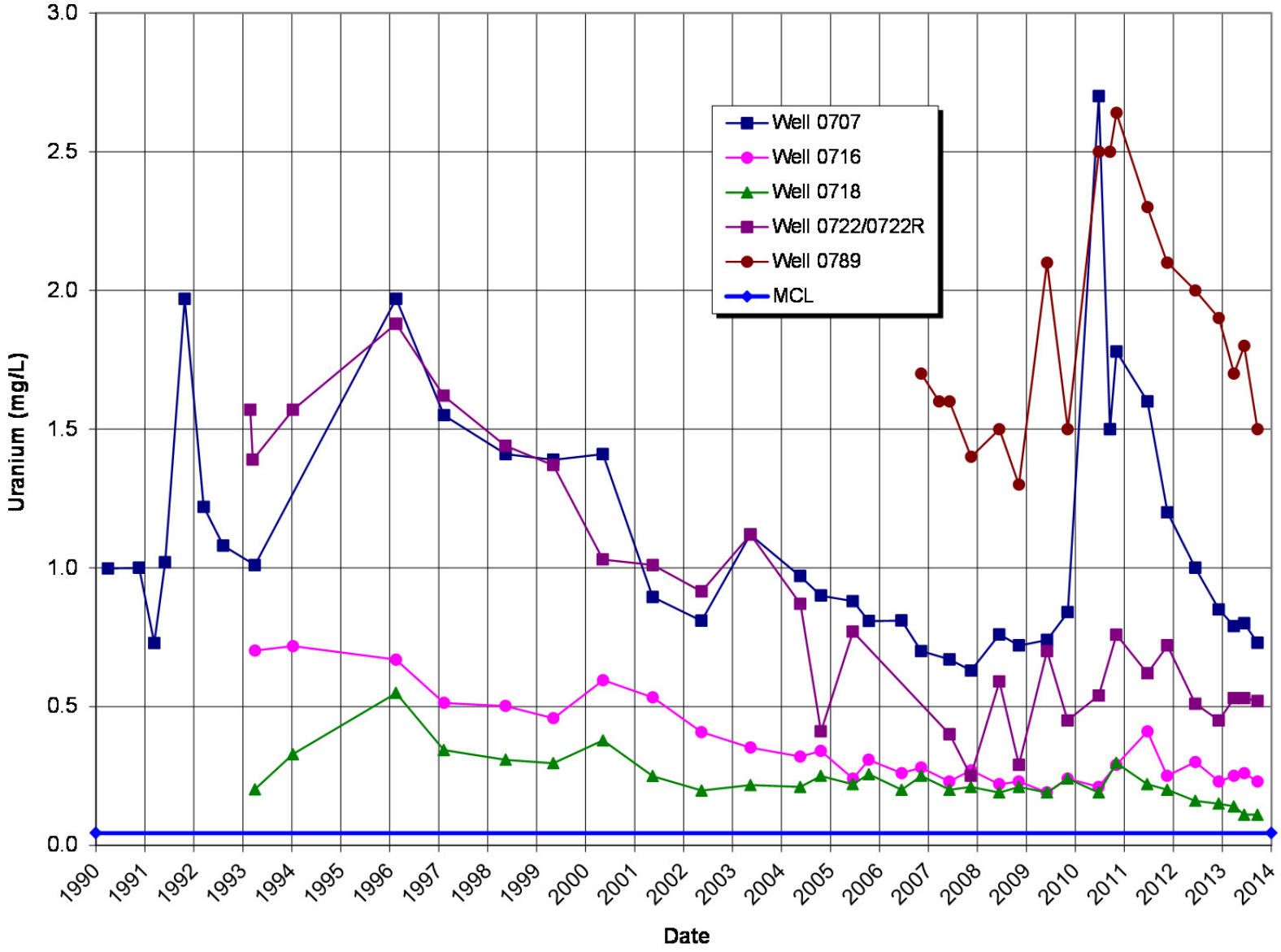
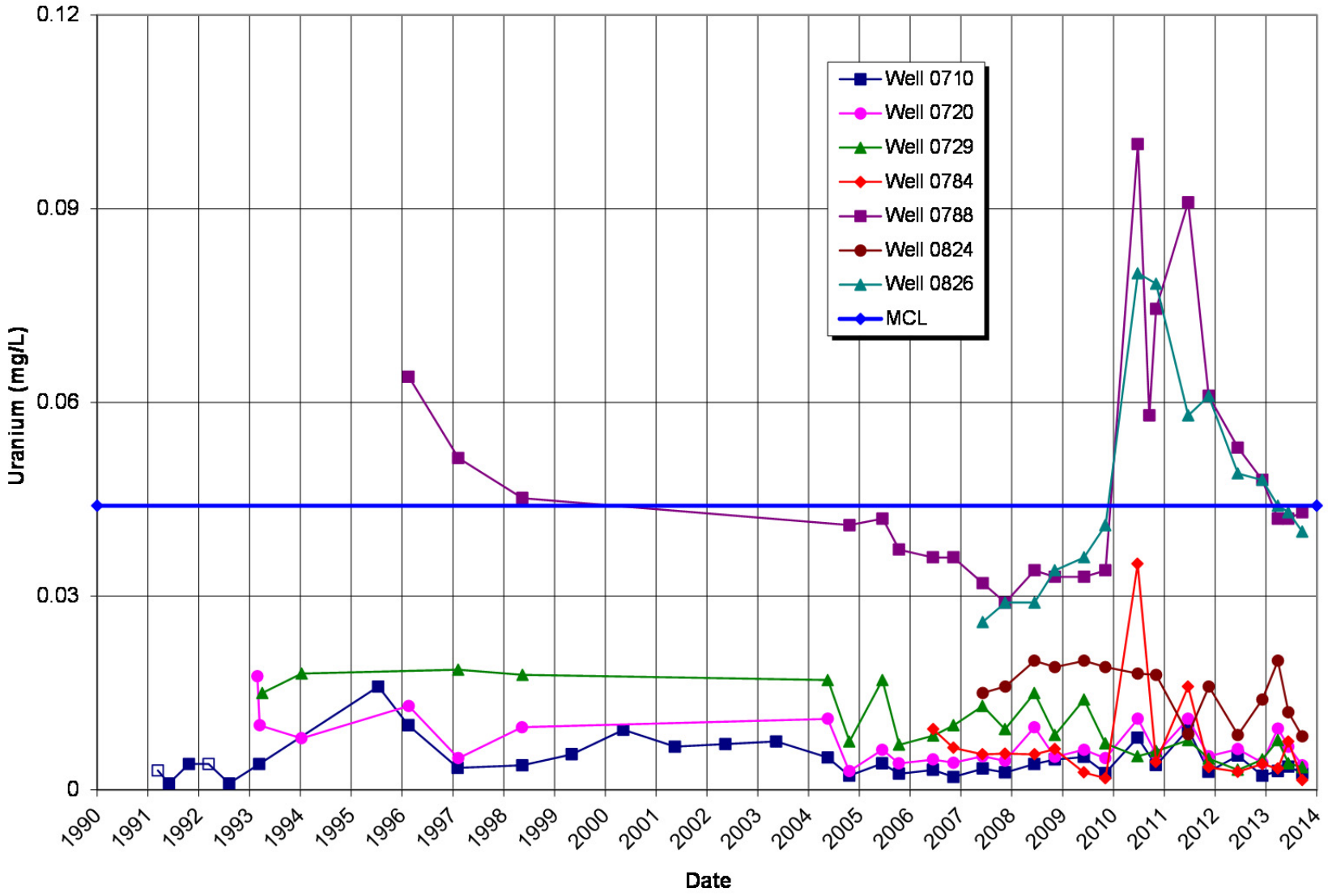



*Figure 14. Uranium Concentrations in Surficial Aquifer Wells within the Contaminant Plume*




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

*Figure 15. Uranium Concentrations in Surficial Aquifer Wells on the Edge of the Contaminant Plume*

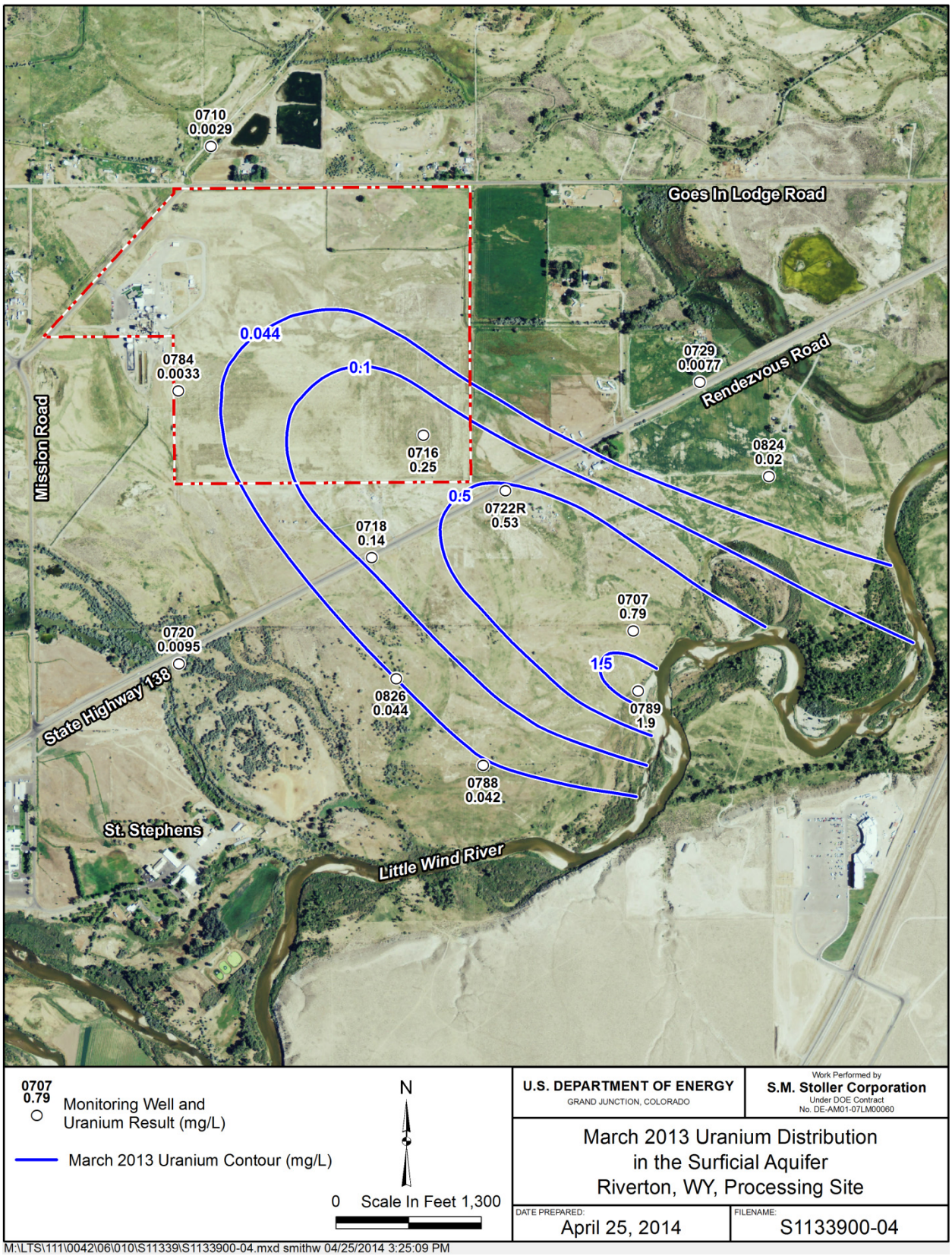



*Figure 16. March 2013 Uranium Distribution in the Surficial Aquifer at the Riverton Site*

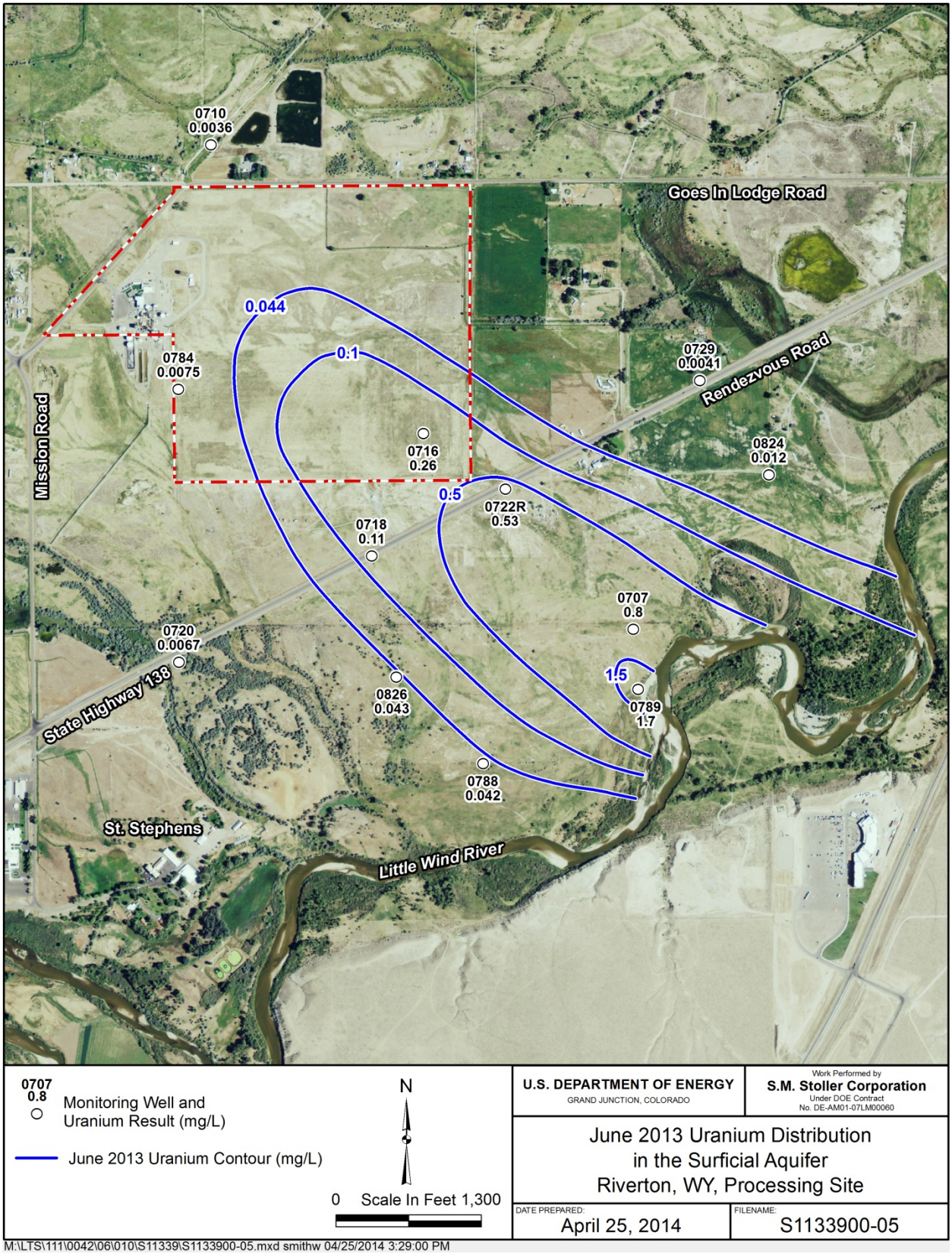



*Figure 17. June 2013 Uranium Distribution in the Surficial Aquifer at the Riverton Site*

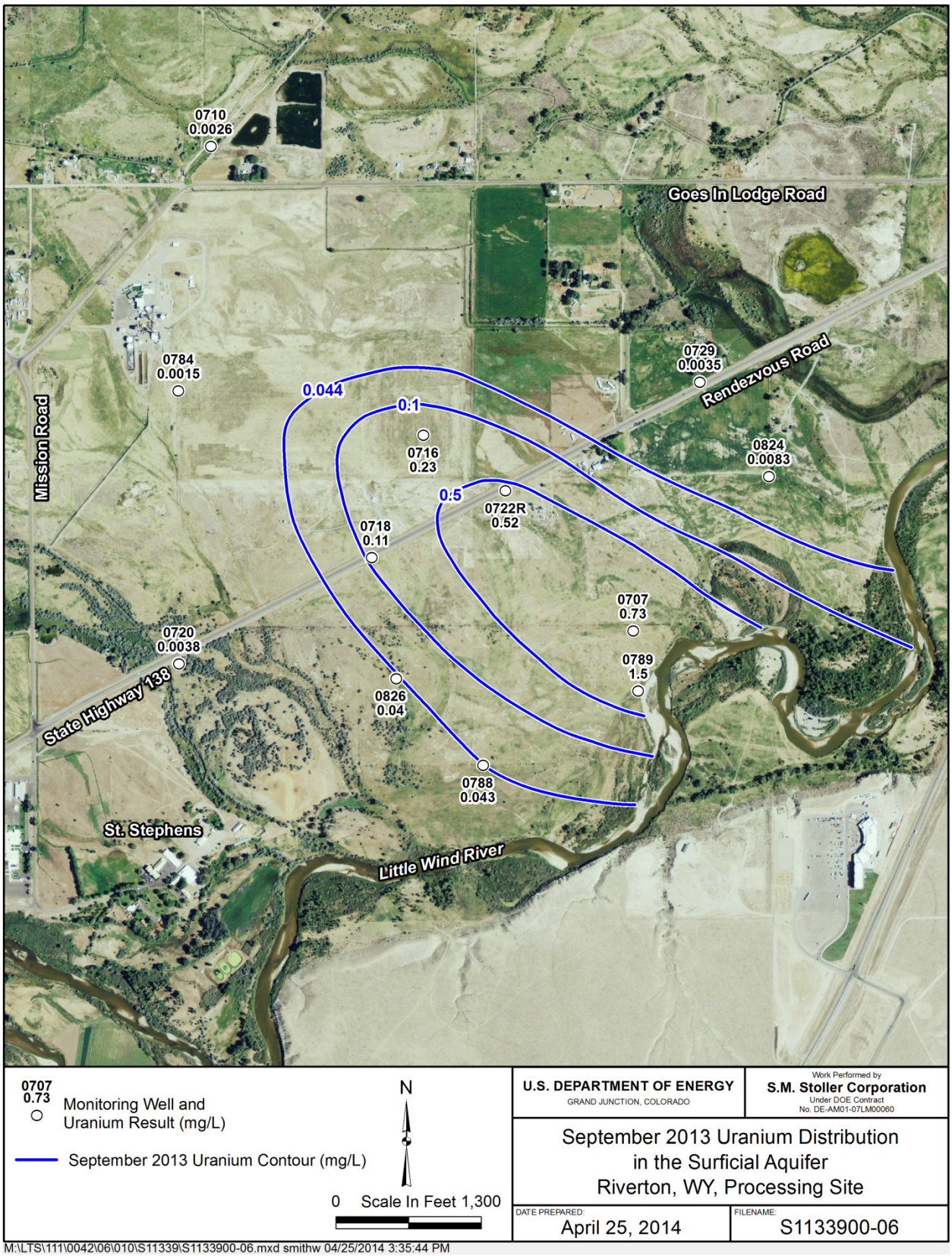
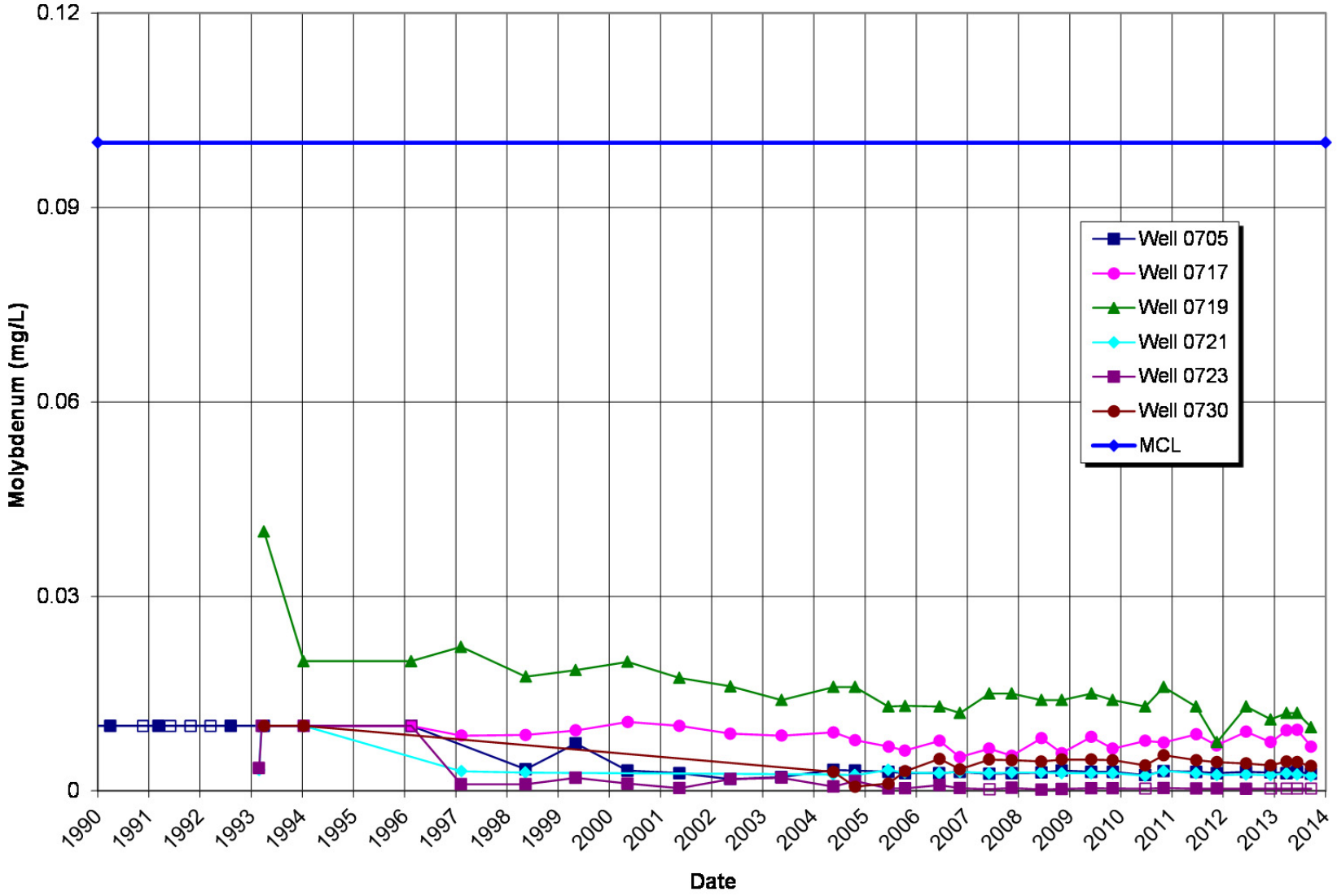
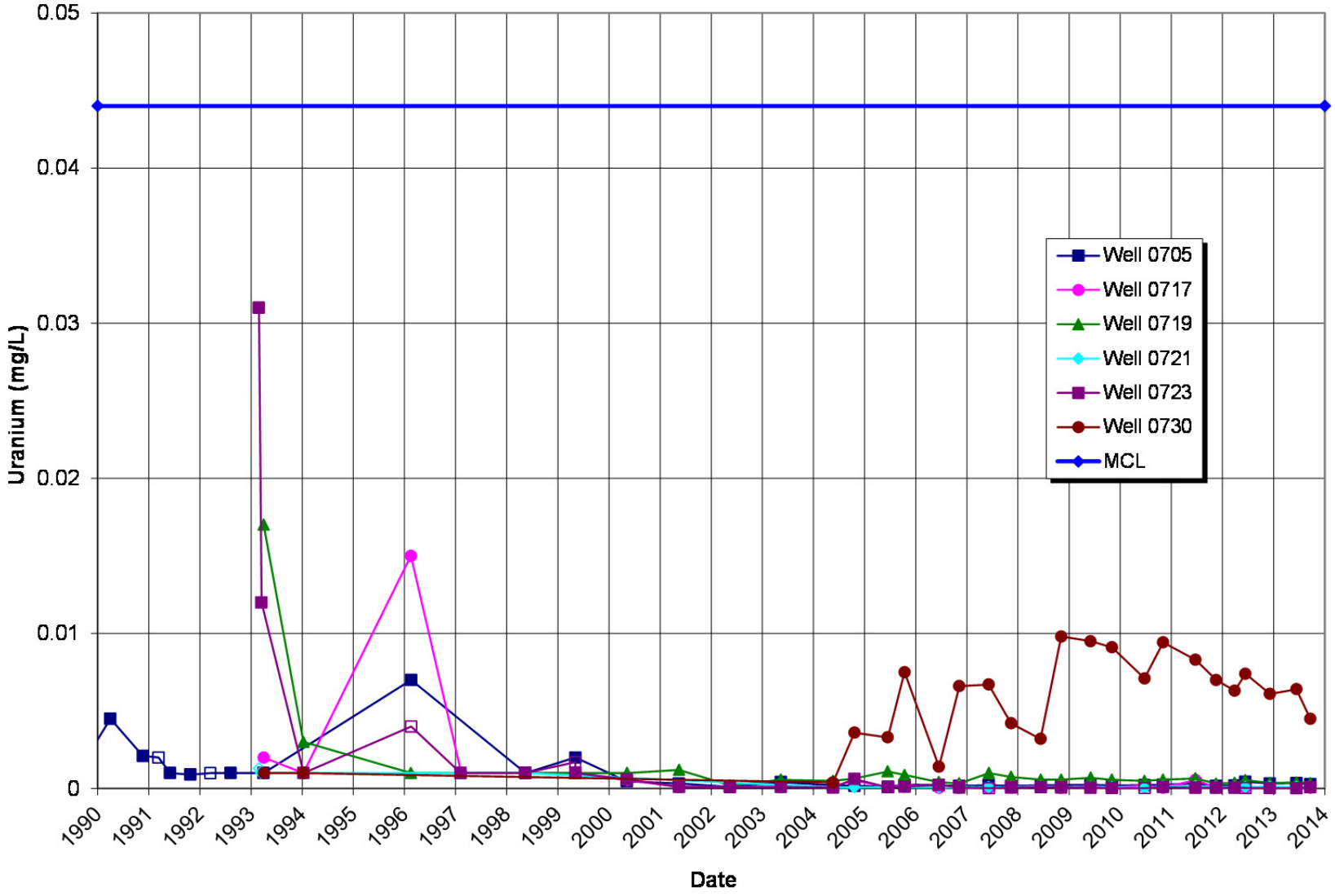



*Figure 18. September 2013 Uranium Distribution in the Surficial Aquifer at the Riverton Site*




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

*Figure 19. Molybdenum Concentrations in Semiconfined Aquifer Wells*




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

*Figure 20. Uranium Concentrations in Semiconfined Aquifer Wells*

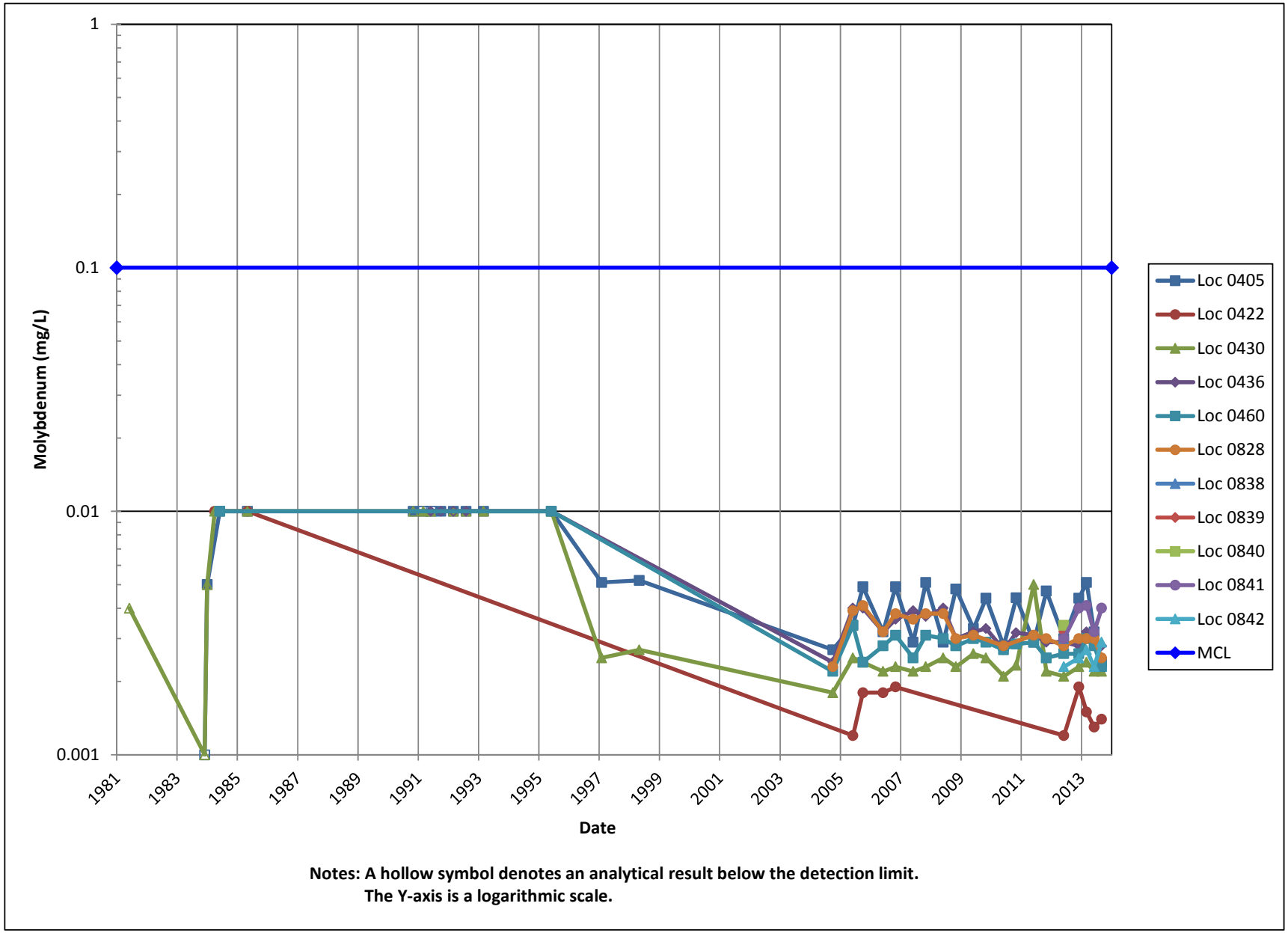



*Figure 21. Molybdenum Concentrations in Domestic Wells*

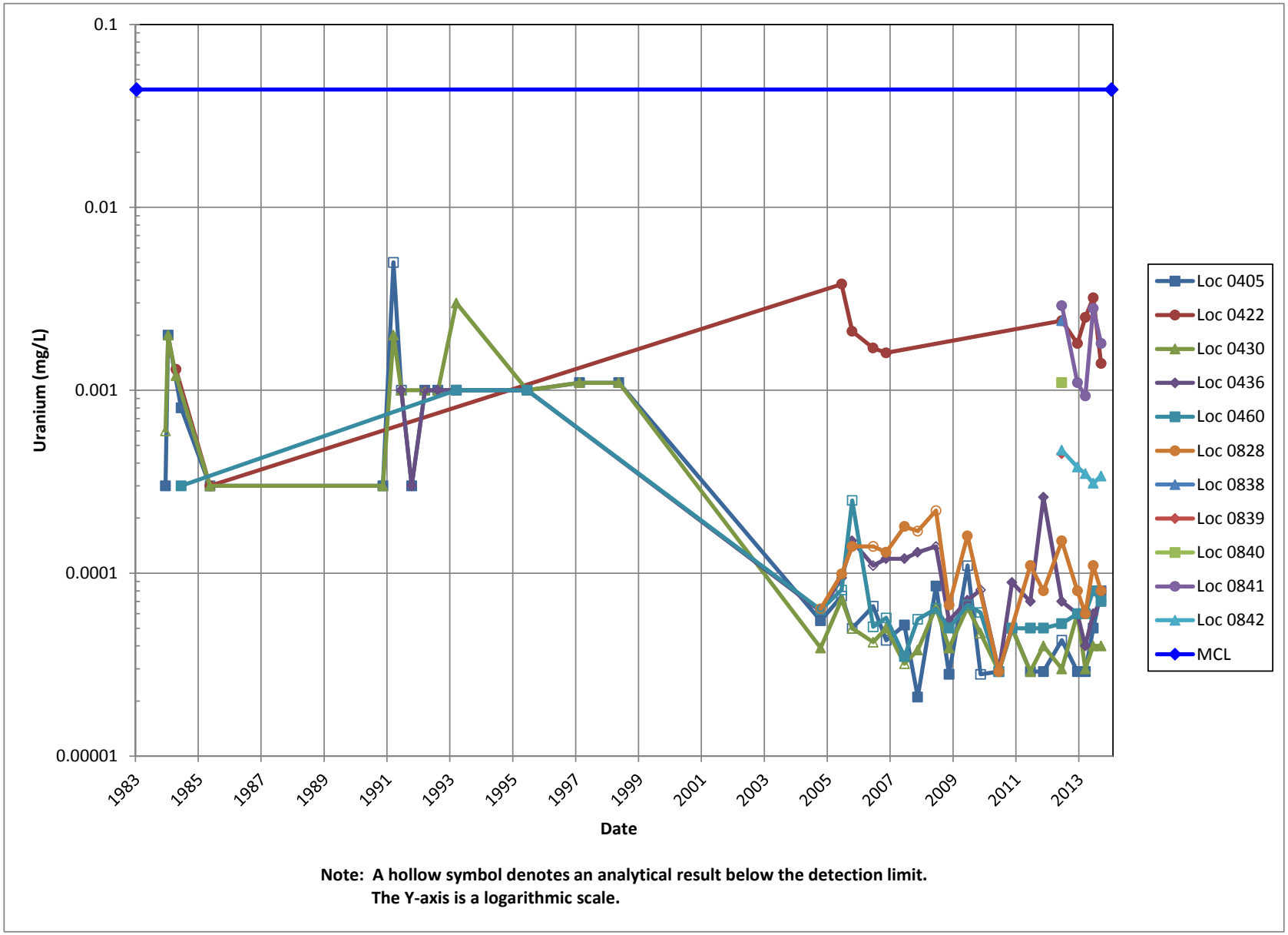



*Figure 22. Uranium Concentrations in Domestic Wells*

## 4.2 Surface Water

### 4.2.1 Surface Water Flow

The 2010 flood of the Little Wind River demonstrated a direct correlation between high discharge in the Little Wind River and increased contaminant concentrations in the surficial aquifer; therefore, it is likely that pre-2010 flooding of the river affected the concentration and configuration of contaminants in the saturated and unsaturated zones of the surficial aquifer. Figure 23 shows the highest peak discharges recorded since the start of milling operations (1958) at the U.S. Geological Survey gaging station (USGS 2012a) located approximately 1.6 miles east of the former mill site (the gaging station location is shown in Figure 2). Discharge in the Little Wind River is statistically the highest in June, which reflects spring runoff from the Wind River Range. Most of the recharge to the alluvial aquifer likely occurs during these higher flows in the river. In 2013, the highest discharge for the year was measured on June 11 at 1,640 cfs. An assessment of June Little Wind River discharge data indicates that spring runoff/flow in the river was below normal in 2013 and comparable to 2012, after being above normal from 2009 through 2011 (Table 4). Prior to 2009, mean spring runoff/flow in the river had been below normal since 2000.

*Table 4. Discharge Statistics from the Little Wind River*

| Year[a] | Mean June Discharge (cfs) | Deviation from Normal[b] June Discharge (cfs) | Maximum Discharge (cfs) |
|---|---|---|---|
| 2000 | 1,089 | −1,231 | 2,720 |
| 2001 | 233.2 | −2,087 | 2,090 |
| 2001 | 740.6 | −1,579 | 1,930 |
| 2003 | 861.7 | −1,458 | 2,490 |
| 2004 | 1,591 | −729 | 4,120 |
| 2005 | 2,272 | −48 | 4,520 |
| 2006 | 642.4 | −1,678 | 1,710 |
| 2007 | 738.9 | −1,581 | 1,910 |
| 2008 | 2,175 | −145 | 3,730 |
| 2009 | 3,012 | 692 | 4,190 |
| 2010 | 5,829 | 3,509 | 13,300 |
| 2011 | 2,861 | 541 | 7,210 |
| 2012 | 594 | −1,726 | 1,610 |
| 2013 | 587 | −1,733 | 1,640 |

[a] U.S. Geological Survey gaging station statistics.
[b] Based on a mean June discharge of 2,320 cfs since 1941.

### 4.2.2 Surface Water Quality

Samples were collected at four locations on the Little Wind River (Figure 2), which flows generally 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 24 and Figure 25, respectively.

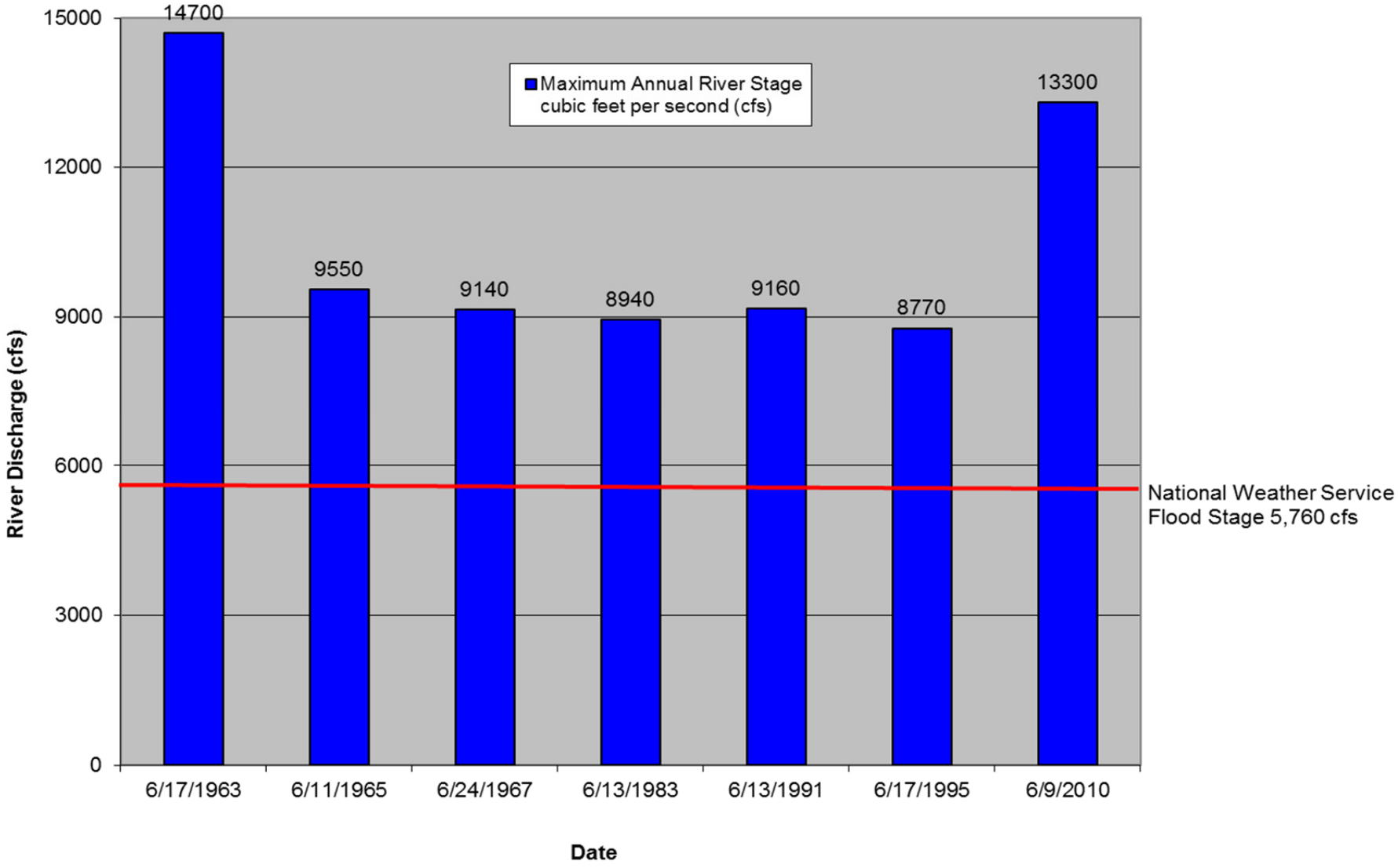
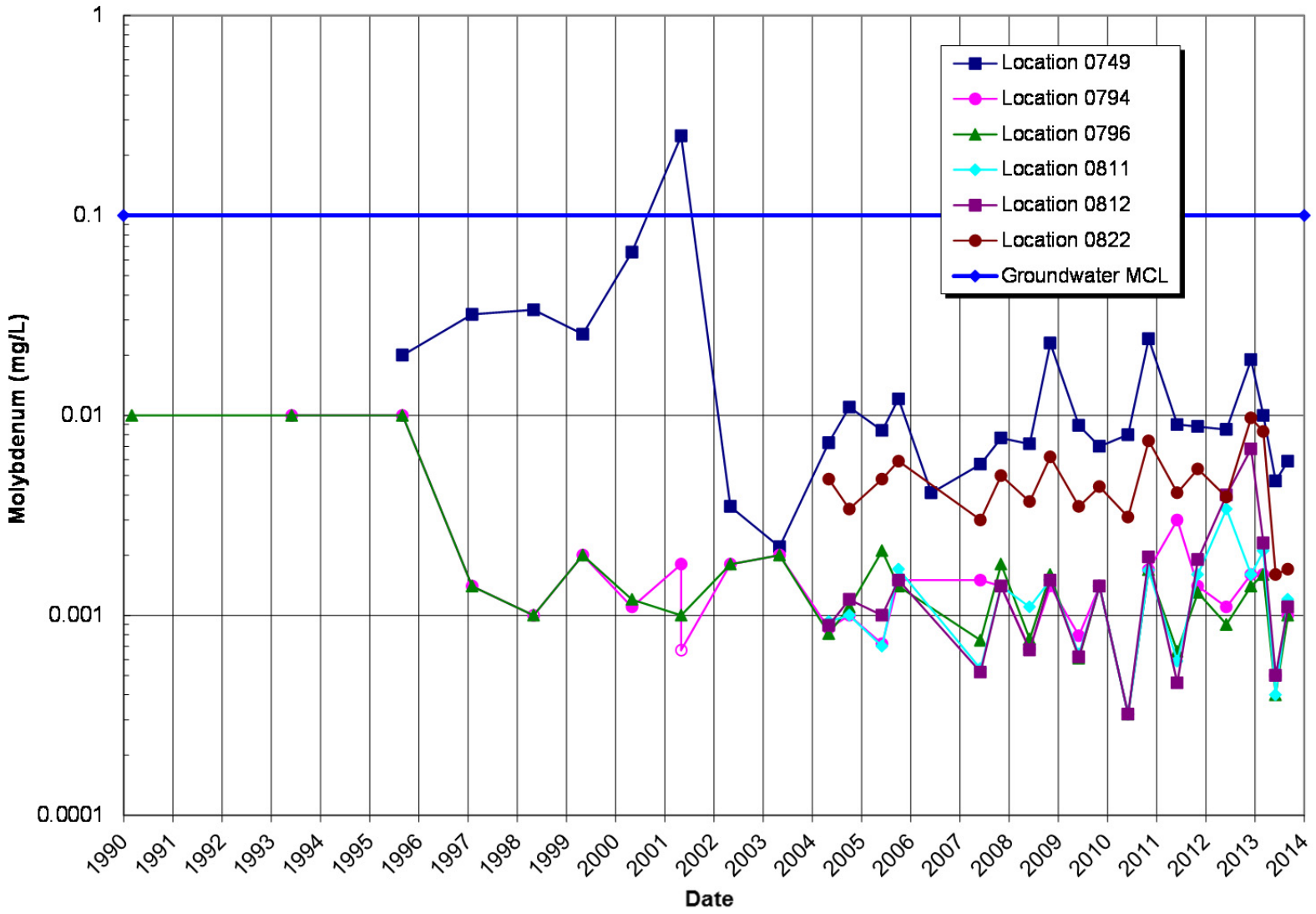
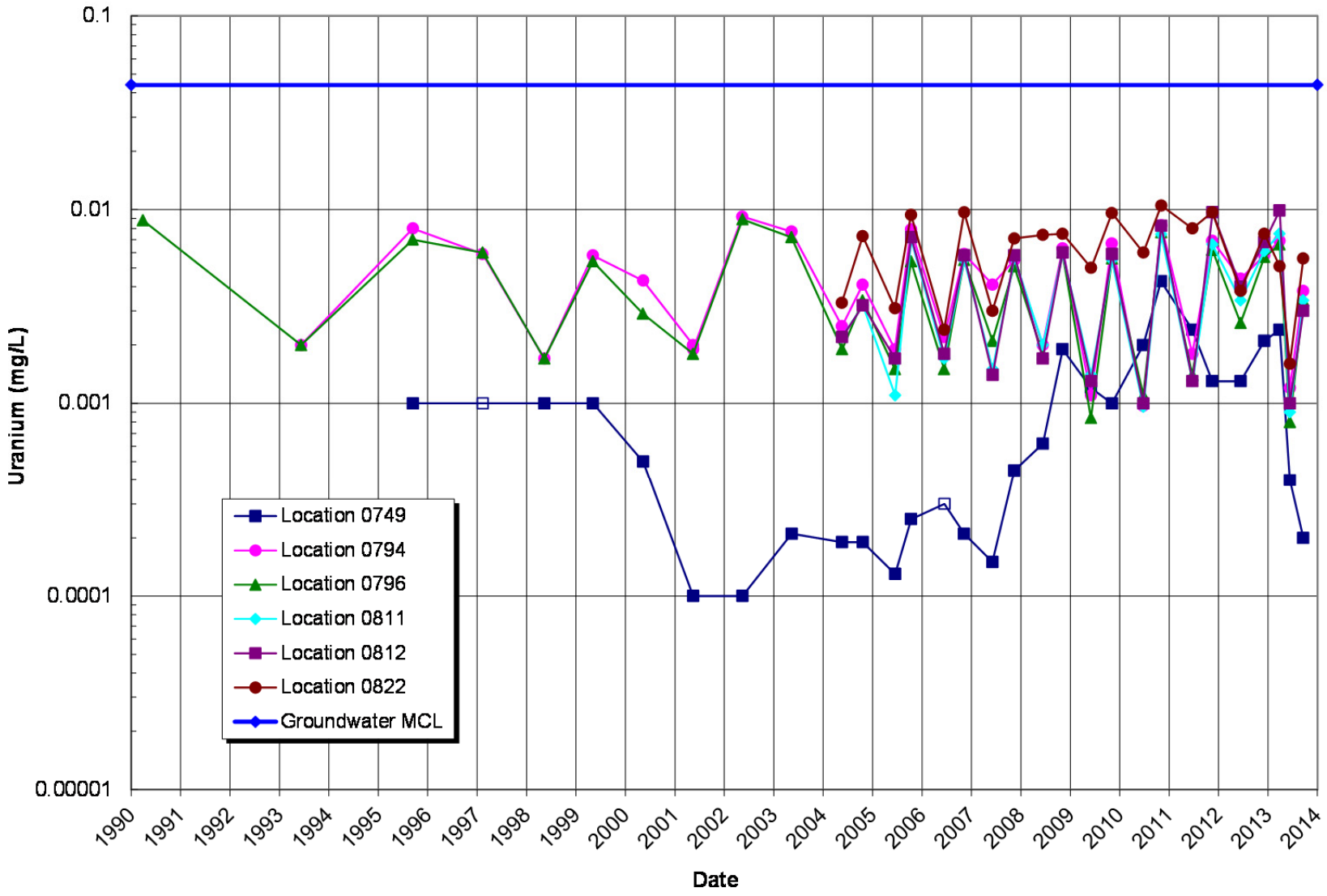



*Figure 23. Historical Maximum Stages of the Little Wind River*




**Note: A hollow symbol denotes an analytical result below the detection limit. The Y-axis is a logarithmic scale.**

*Figure 24. Molybdenum Concentrations in Creek and River Locations*




**Note: A hollow symbol denotes an analytical result below the detection limit.**
**The Y-axis is a logarithmic scale.**

*Figure 25. Uranium Concentrations in Creek and River Locations*

Two ponds (locations 0810 and 0823) 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 the ponds had concentrations of molybdenum and uranium that were below their respective groundwater MCLs and comparable to background, which indicates no discernible impacts from the site. Figure 27 and Figure 28 show concentrations of molybdenum and uranium, respectively, over time in these pond locations.

The sample collected at the ditch that carries discharge water from the Chemtrade sulfuric acid refinery (location 0749) had elevated concentrations of sulfate that have been in the 1,800 to 3,000 mg/L range from 2004 to March of 2013. In June of 2013, however, concentrations were significantly reduced (550 mg/L at location 0749) because of a change in plant processes that reduced sulfate in the water discharge and in the air emissions. Discharge from the ditch is regulated through a National Pollutant Discharge Elimination System permit issued to Chemtrade and administered by EPA.

Water samples from the west side irrigation ditch (0822) also have been analyzed for radium-226 and radium-228 in response to elevated concentrations of these contaminants in the sediments within the ditch. Radium concentrations in water samples collected from the ditch were low (<0.5 pCi/L) and either less than the detection limit (one sample) or near the detection limit (three samples), which indicates minimal impacts to water quality in the ditch from the sediments. Historically, radium concentrations have been below or near the detection limit, 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 25), which indicates minimal site impacts to the water quality in the ditch.

Concentrations of molybdenum and uranium in the oxbow lake (location 0747) have varied 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 a 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.

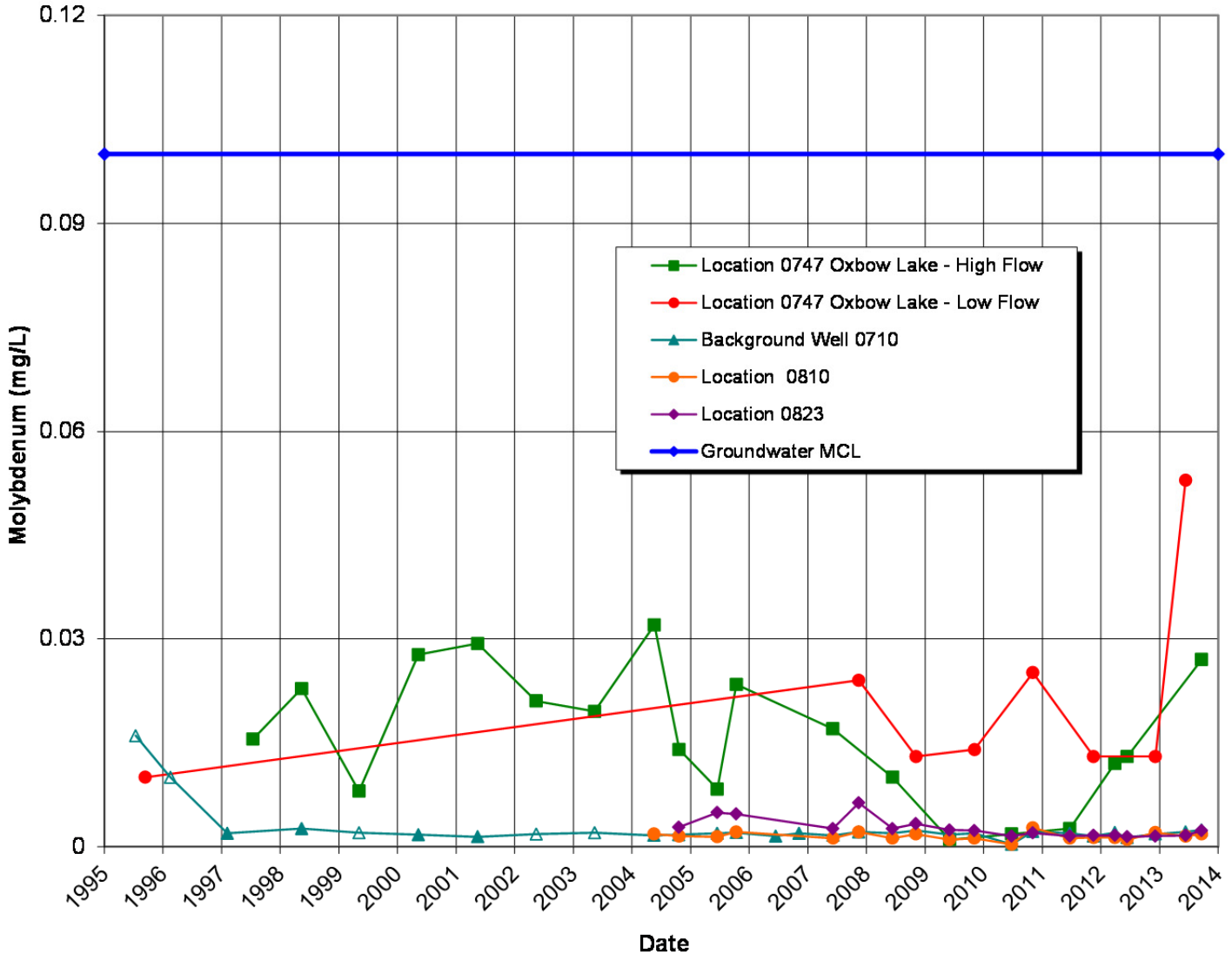
Figure 27 and Figure 28 split oxbow-lake sampling data into high-flow and low-flow events; the high-flow events reflect the potential for river inflow to dilute analyte concentrations in the oxbow lake, and the low-flow events reflect a low potential for river inflow to dilute analyte concentrations in the oxbow lake. In 2013 the Little Wind River was not flowing into the oxbow lake during any sampling event; therefore, the uranium concentrations were elevated throughout the year. Appendix D provides surface water quality data by parameter for locations sampled during 2013.

Field observations since 2002 indicate the oxbow lake is gradually filling in over time with sediment and vegetation, as expected. Evidence of numerous abandoned meanders (oxbows) of the Wind and Little Wind Rivers are evident from aerial photographs. Eventually, the oxbow lake will fill in like the other abandoned channels and not be an expression of surface water at the Riverton site. Figure 26 shows a photo of the oxbow lake in September of 2013, which illustrates the progress of the sedimentation process.


*Figure 26. Oxbow Lake in September 2013.*

## 4.3 AWSS Monitoring

The AWSS was installed in 1998 by the Indian Health Service. DOE provided $800,000 in funding, which included 25 percent of the cost of a new 1-million-gallon storage tank (Figure 29). As a component of ICs for the Riverton site, the AWSS is designed to supply drinking water to residents within the IC boundary in lieu of drinking groundwater that could potentially be impacted by the contaminated surficial aquifer. The AWSS is an addition to a pre-existing water supply system and consists of 8.5 miles of transmission pipeline running from the 1-million-gallon tank (Figure 30).




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

*Figure 27. Molybdenum Concentrations in Ponds*

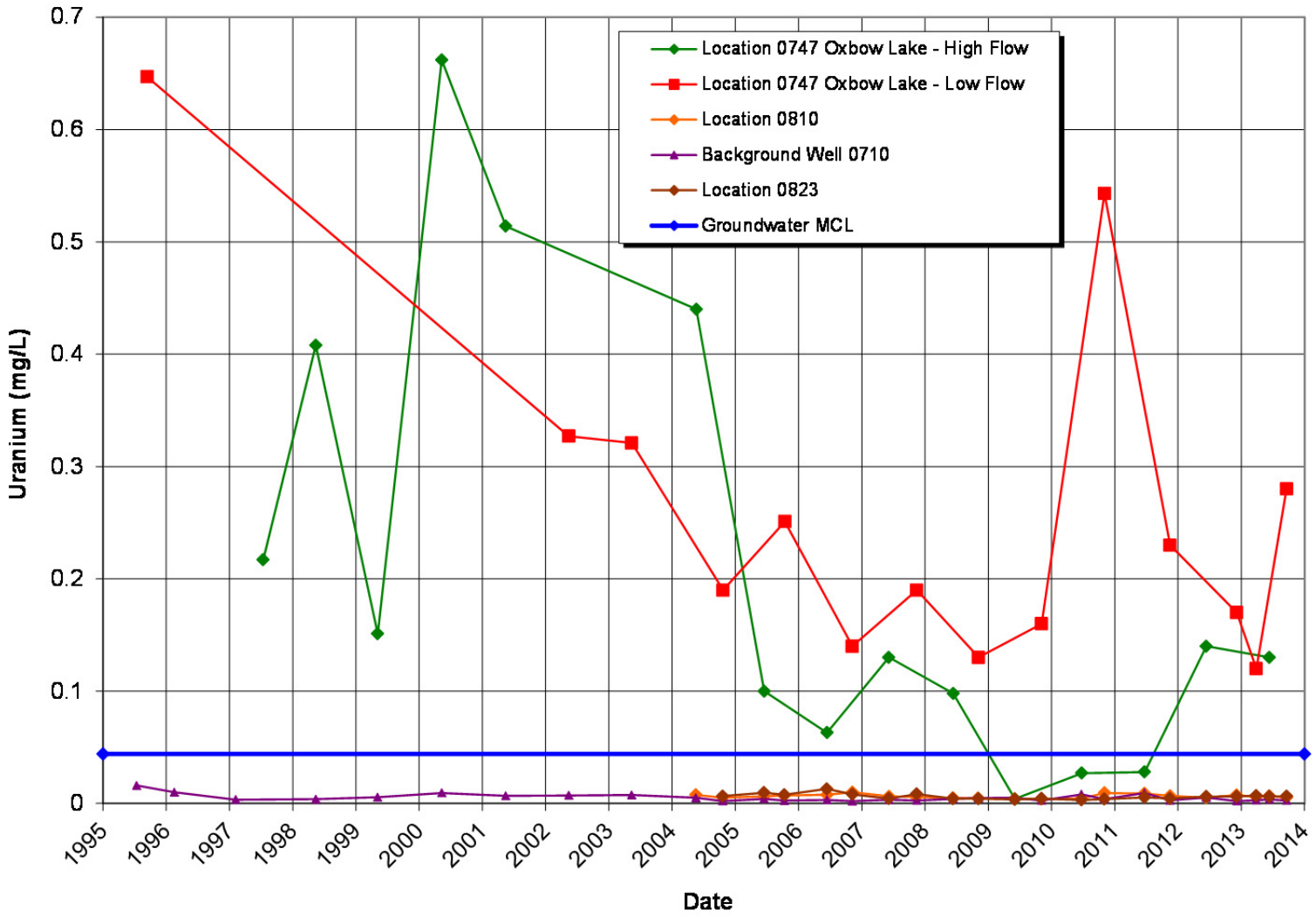



*Figure 28. Uranium Concentrations in Ponds*


*Figure 29. AWSS 1-Million-Gallon Tank*

Babits (2003) identified elevated concentrations of radionuclides in the AWSS in 2002, and DOE confirmed these results in 2004 (DOE 2005). In response to these findings, DOE funded an independent analysis of the AWSS, and the analysis recommended implementation of a flushing program to determine if flushing would reduce the radionuclide concentrations to acceptable levels (ASCG 2005). Based on the recommendation of the independent analysis, DOE implemented a 2-year flushing study to determine if flushing would reduce radionuclide concentrations and control radionuclide buildup in the AWSS (DOE 2006). Results of the study indicated that a unidirectional flushing program should be implemented on a 6-month frequency (DOE 2008).

Flushing of the AWSS in 2013 consisted of two semiannual events in March and September. The Great Plains Utility Organization, the Tribal Engineer's Office, and DOE jointly conducted each event. Sampling was conducted in accordance with the *Alternate Water Supply System Flushing Plan, Riverton, Wyoming* (DOE 2012b). Eight hydrant locations on the AWSS were flushed and sampled, and four tap locations were sampled. Two samples were collected at each of seven hydrant locations—one sample 5 minutes into the flush and one sample at the end of the flush, as specified in the plan. Only end-of-flush samples were collected at hydrant locations 0834 and 0843 because of the short flushing time.

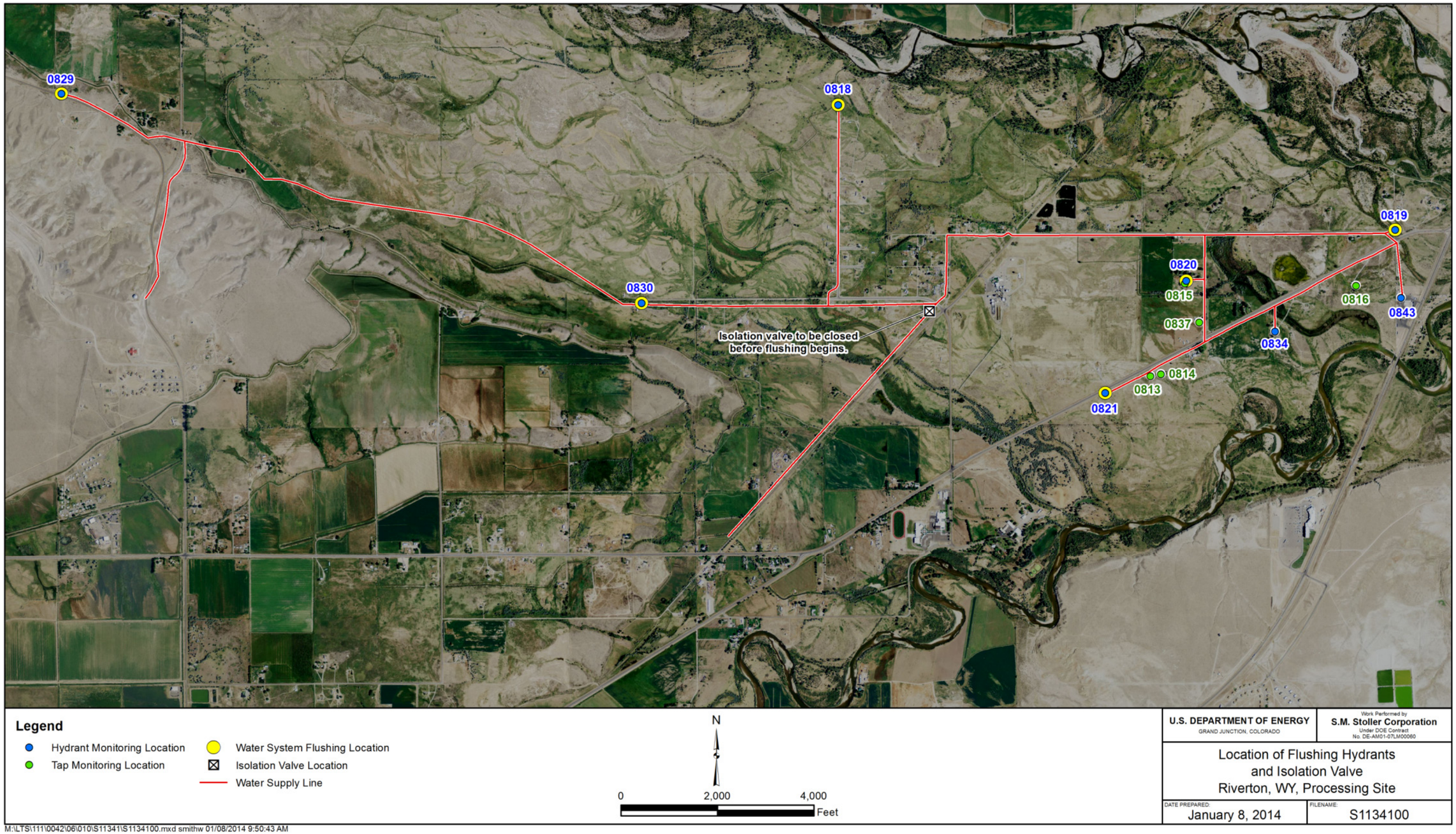



*Figure 30. Location of Flushing Hydrants and Isolation Valve*

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Monitoring of flow during each hydrant flush was necessary to ensure that the calculated water volume of each section of pipe was removed. Flow meters were installed at each hydrant during flushing to measure the volume of water flushed from the pipe. Volume measurements also were used to calculate the velocity of the water moving through the pipe. Velocity data were used to determine if water movement within the pipeline was sufficient to remove sediment and debris and to scour biofilm from the inside of the pipe. According to the independent analysis (ASCG 2005), flushing velocities of 2 to 3 feet per second (ft/s) are needed to remove sediment and loosely attached particles, while flushing velocities of greater than 5 ft/s are required to scour and remove buildup of biofilm and material adhering to the wall of the pipe. Table 5 and Table 6 show water volumes removed and velocities from each section.

*Table 5. March 2013 Hydrant Flushing Summary*

| ID | Calculated Flushing Volume[a] | Section Volume Flushed (gallons) | Section Flush Time (minutes) | Section Average Flow Rate (gallons/minute) | Section Average Velocity (ft/s) |
|---|---|---|---|---|---|
| 0829 | 20,252 | 20,500 | 45 | 451.5 | 2.88 |
| 0830 | 39,554 | 33,800 | 65 | 520.6 | 3.32 |
| 0818 | 20,738 | 20,300 | 45 | 451.9 | 5.13 |
| 0819 | 43,209 | 42,700 | 85 | 503.7 | 3.22 |
| 0843 | 2,644 | 2,645 | 7 | 373.6 | 4.24 |
| 0821 | 13,973 | 16,900 | 31 | 552.3 | 6.27 |
| 0820 | 3,139 | 4,830 | 11 | 443.9 | 5.04 |
| 0834 | 918 | 1,310 | 3 | 471.2 | 5.35 |
| | | **Total 142,985** | **Total 292** | **Average 471** | **Average 4.43** |

[a] Flushing volume calculated as 1.25 × pipe volume.

*Table 6. September 2013 Hydrant Flushing Summary*

| ID | Calculated Flushing Volume[a] | Section Volume Flushed (gallons) | Section Flush Time (minutes) | Section Average Flow Rate (gallons/minute) | Section Average Velocity (ft/s) |
|---|---|---|---|---|---|
| 0829 | 20,252 | 20,590 | 42.3 | 487 | 3.11 |
| 0830 | 39,554 | 33,750 | 64.2 | 526 | 3.36 |
| 0818 | 20,738 | 20,728 | 34.3 | 604 | 6.86 |
| 0819 | 43,209 | 45,851 | 69.4 | 661 | 4.22 |
| 0843 | 2,644 | 2,840 | 7.9 | 359 | 4.07 |
| 0821 | 13,973 | 19,015 | 33 | 576 | 6.54 |
| 0820 | 3,139 | 5,000 | 13.5 | 370 | 4.20 |
| 0834 | 918 | 1,118 | 2.5 | 447 | 5.07 |
| | | **Total 148,892** | **Total 267.1** | **Average 504** | **Average 4.68** |

[a] Flushing volume calculated as 1.25 × pipe volume.

Monitoring of hydrant and tap locations was conducted to determine the effectiveness of the flushing program in reducing radionuclide concentrations and maintaining them at acceptable levels. The flushing program is successful when the combined radium-226 and radium-228 concentrations are below the federal drinking water MCL of 5 pCi/L, and the uranium concentrations are below the federal drinking water MCL of 0.03 mg/L. Results from samples collected from AWSS hydrant and tap locations in March and September are summarized in Table 7 and provided in Appendix E. Only one sample exceeded an MCL—the 5-minute sample from location 0818 had a combined radium concentration of 6.07 pCi/L. The end of flush sample was reduced to less than 1 pCi/L. All other samples were below the radium and uranium MCLs.

*Table 7. Monitoring Results from the 2013 AWSS Flushing Events*

| ID | Sample | Radium-226 +Radium-228 (pCi/L) | | Radium-226 +Radium-228 MCL | Uranium (mg/L) | | Uranium MCL (mg/L) |
|---|---|---|---|---|---|---|---|
| | | March 2013 | Sept. 2013 | | March 2013 | Sept. 2013 | |
| **Hydrant Locations** | | | | | | | |
| 0818 | 5-minute | 1.297 | 6.07 | 5 pCi/L | 0.0001 | 0.0001 | 0.03 mg/L |
| | End of flush | 1.002 | 0.944 | | 0.0001 | 0.0001 | |
| 0819 | 5-minute | 3.09 | 0.967 | | 0.0001 | 0.00011 | |
| | End of flush | 1.22 | 1.069 | | 0.0001 | 0.00013 | |
| 0820 | 5-minute | 0.872 | 0.829 | | 0.00012 | 0.0001 | |
| | End of Flush | 0.95 | 0.872 | | 0.0001 | 0.00012 | |
| 0821 | 5-minute | 2.26 | 1.466 | | 0.00008 | 0.0001 | |
| | End of flush | 1.021 | 0.799 | | 0.00009 | 0.00011 | |
| 0829 | 5-minute | 1.049 | 3.85 | | 0.0001 | 0.00009 | |
| | End of flush | 1.09 | 0.934 | | 0.0001 | 0.00011 | |
| 0830 | 5-minute | 1.519 | 1.008 | | 0.0001 | 0.00011 | |
| | End of flush | 1.777 | 1.248 | | 0.00008 | 0.00009 | |
| 0834 | 5-minute | 1.068 | 0.899 | | 0.0001 | 0.0001 | |
| **Tap Locations** | | | | | | | |
| 0813 | After completion of flushing | 1.068 | 1.097 | 5 pCi/L | 0.00011 | 0.00011 | 0.03 mg/L |
| 0815 | After completion of flushing | 0.921 | 1.108 | | 0.00011 | 0.0001 | |
| 0816 | After completion of flushing | 0.922 | 1.071 | | 0.00008 | 0.0001 | |
| 0837 | After completion of flushing | 0.948 | 1.068 | | 0.00008 | 0.0001 | |

# 5.0 Seasonal Variation of Riverton Data

Assessment of seasonal variation in groundwater and surface water data is an important consideration to optimize a long-term monitoring program. Determination of how concentrations of constituents vary seasonally allows scheduling of sampling events during the season (or seasons) of the year when concentrations are highest. Sampling when concentrations are highest will provide a conservative data set when addressing the completion of the natural flushing compliance strategy.

Routine groundwater and surface water sampling was conducted on a semiannual basis from 2005 to 2011, with one event in June when water levels are typically higher, and one event in the fall when water levels are typically lower. An evaluation of the seasonality of these semiannual events was documented in the *Evaluation of Groundwater Constituents and Seasonal Variation at the Riverton, Wyoming, Processing Site* (DOE 2012a). This report concluded that, in general, concentrations of COCs in groundwater show a slight constituent-dependent seasonal variation between June and fall sampling events, with concentrations typically higher in June. For surface water, the report concluded that all COCs varied seasonally, and contaminant concentrations are higher in the fall because lower water levels and flows in the surface water tend to concentrate contaminants.

In addition, the seasonal variation report concluded that data have been insufficient to determine seasonal variation in all seasons of the year, as limited data have been collected in the winter, early spring, and late summer seasons. To address this gap, quarterly sampling was initiated in December 2012, with subsequent quarterly events in March 2013, June 2013, and September 2013 to determine if constituent concentrations vary seasonally throughout the year. This section summarizes the evaluation of the potential for seasonal variation over these four sampling events.

## 5.1 Statistical Approach

Four statistical methods were used to evaluate constituent concentration seasonal differences for groundwater and surface water collected at the Riverton site over the last four quarters: (1) Wilcoxon Signed-Rank Test; (2) paired Student's t-Test; (3) Equal Means Test; and (4) 2-Way Analysis of Variance. Four constituents (manganese, molybdenum, sulfate, and uranium) were evaluated in groundwater and surface water using these tests. The statistical methods include both nonparametric (no assumed distribution [1]) and parametric tests (assumes normal data distribution [2, 3, and 4]) to compare results using different approaches and assumptions. The data set was not tested for normality because the relatively small data set would not provide an accurate assessment. As noted in EPA (2009), statistical tests on the mean, such as a Student's t-Test or Analysis of Variance, are fairly robust with respect to departures from normality and will often still provide a valid result. The three parametric tests used in this evaluation are tests of the mean.

Procedures for conducting each statistical test are included in Appendix F. The Wilcoxon Signed Rank test was conducted using an Excel spreadsheet. The other tests were performed by routines compiled in the Fortran programming language. All of these tests simply compare data sets to determine if they are statistically similar or statistically different. They are not a test of cause-and-effect (e.g., whether differences are caused by seasonal changes).

(1) The Wilcoxon Signed-Rank Test (Hollander and Wolfe 1973) requires computing and ranking the differences in paired observations. This statistical test is a nonparametric test and, therefore, does not require a specific distribution of the data (e.g., normal distribution). This test requires paired samples (a result for the same constituent, from the same location, but different sampling events).

(2) The paired Student's t-Test (Koch and Link 1970) is a parametric test that requires paired samples (a result for the same constituent, from the same location) for each sampling event and assumes a normal distribution.

(3) The Equal Means Test (Bowker and Liberman 1959) assesses the hypothesis that the means of two normally distributed data sets are equal, assuming that the standard deviations are unknown and not necessarily equal.

(4) The 2-way Analysis of Variance (Bowker and Liberman 1959) is a parametric test that compares variances of the means of all sampling events at all locations.

For groundwater, all 12 surficial aquifer wells in the long-term monitoring network were sampled each quarter and were used in this assessment, which resulted in 12 paired samples for tests 1 and 2, and a data set of 12 for tests 3 and 4. For surface water, all 7 surface water locations (3 pond locations and 4 river locations) were sampled each quarter and were used in this assessment, which resulted in 7 paired samples for tests 1 and 2, and a data set of 7 for tests 3 and 4.

## 5.2 Statistical Test Results

### 5.2.1 Groundwater

*Wilcoxon Signed-Rank Test*

This test is used to determine whether there is a difference between paired samples by considering the magnitude of differences. The most widely used application of this test is to determine whether there is a difference between before and after data. The application here is to determine whether there is a difference between data collected quarterly, that is, whether there is a seasonal difference. The null hypothesis, $H_0$, for this test states that there is no difference in the median between the paired samples. The alternative hypothesis, $H_1$, states that there is a difference between the paired samples.

Table 8 shows the results of the Wilcoxon Signed-Rank Test to determine if there is a difference in the median between the paired samples for groundwater in each of the quarterly sampling event's combinations. The test was done at the 5 percent level of significance. A yes (Y) answer indicates that there is a difference between the quarterly sampling events, and a no (N) answer indicates that there is not a difference between the quarterly sampling events.

*Table 8. Wilcoxon Signed-Rank Test Results*

| Constituent | Is there a difference between paired samples (Y/N)? | | | | | |
|---|---|---|---|---|---|---|
| | Dec-12 vs. Mar-13 | Dec-12 vs. Jun-13 | Dec-12 vs. Sep-13 | Mar-13 vs. Jun-13 | Mar-13 vs. Sep-13 | Jun-13 vs. Sep-13 |
| Manganese | N | N | N | N | N | N |
| Molybdenum | N | Y | Y | N | N | N |
| Sulfate | N | N | Y | N | Y | Y |
| Uranium | N | N | Y | N | Y | Y |

*Paired Student's t-Test Results*

The paired Student's t-Test is used to test the hypothesis that the means of two data sets are equal. Table 9 shows the results for the paired samples in each quarterly sampling event's combination for each constituent. The test was done at a 5 percent level of significance. A yes (Y) answer indicates that there is a difference between the quarterly sampling events. A no (N) answer indicates that there is not a difference between the quarterly sampling events.

*Table 9. Paired Student's t-Test Results*

| Constituent | Is there a difference between paired samples (Y/N)? | | | | | |
|---|---|---|---|---|---|---|
| | Dec-12 vs. Mar-13 | Dec-12 vs. Jun-13 | Dec-12 vs. Sep-13 | Mar-13 vs. Jun-13 | Mar-13 vs. Sep-13 | Jun-13 vs. Sep-13 |
| Manganese | N | N | N | N | N | N |
| Molybdenum | N | N | N | N | N | N |
| Sulfate | N | Y | Y | N | N | N |
| Uranium | N | N | N | N | N | N |

*Equal Means Test Results*

The Equal Means Test tests the hypothesis that the means of two data sets are equal. Table 10 shows the results of each quarterly sampling event's combination for each constituent. The test was done at the 5 percent level of significance. A yes (Y) answer indicates that there is a difference in the means. A no (N) answer indicates that there is not a difference in the means.

*Table 10. Equal Means Test Results*

| Constituent | Is there a difference between means (Y/N)? | | | | | |
|---|---|---|---|---|---|---|
| | Dec-12 vs. Mar-13 | Dec-12 vs. Jun-13 | Dec-12 vs. Sep-13 | Mar-13 vs. Jun-13 | Mar-13 vs. Sep-13 | Jun-13 vs. Sep-13 |
| Manganese | N | N | N | N | N | N |
| Molybdenum | N | N | N | N | N | N |
| Sulfate | N | N | N | N | N | N |
| Uranium | N | N | N | N | N | N |

*Analysis of Variance*

The 2-way Analysis of Variance test looks at the variation in the means of two different factors associated with a data set. In this case, concentration data are evaluated to determine how they vary with both time and location. The null hypothesis, $H_0$, is that the concentration between the sampling events is the same. The alternative hypothesis, $H_1$, is that the concentrations between the events are different. F-values are calculated for each factor for the data set and compared to table value results of the desired significance level. The level of significance is the probability of rejecting the null hypothesis, $H_0$, and accepting the false alternative hypothesis, $H_1$. The null hypothesis, $H_0$, is rejected when calculated F-values exceed table values.

Test results for Riverton data show that there is no significant difference between sampling events for any of the constituents—manganese, molybdenum, sulfate, or uranium. Table 11 shows an example of the Analysis of Variance results for uranium.

*Table 11. Analysis of Variance for Uranium*

| Source of Variation | Sum of Squares | Degrees of Freedom | Mean Square | Calculated F | Table Values |
|---|---|---|---|---|---|
| | | | | | F (0.05,3,33) |
| | | | | | F (0.05,11,33) |
| Between Events | 0.0191 | 3 | 0.00636 | 1.4737 | 2.89 |
| Between Locations | 12.2275 | 11 | 1.11159 | 257.7566 | 2.09 |
| Residual | 0.1423 | 33 | 0.00431 | | |
| Total | 12.3889 | 47 | 0.26359 | | |

Because the calculated F-value is smaller than the table values at the 5 percent level of significance ($\alpha$), the null hypothesis, $H_0$, is accepted and concludes that there is not a difference in concentration between events. The level of significance in this test indicates there is a 95 percent probability that there is no difference in concentration between events.

Although not of interest for this analysis, this 2-way Analysis of Variance test provides information about the concentration between locations. Because the calculated F-value is larger than the table values at the 5 percent level of significance, reject the null hypothesis, $H_0$, and conclude that there is a difference in concentration between locations.

Table 12 shows the Analysis of Variance results for each of the constituents for each source of variation. A yes (Y) answer indicates that there is a difference in the variance of the means. A no (N) answer indicates that there is not a difference in the variance of the means.

*Table 12. Analysis of Variance Results*

| Source of Variation | Manganese | Molybdenum | Sulfate | Uranium |
|---|---|---|---|---|
| Between Events | N | N | N | N |
| Between Locations | Y | Y | Y | Y |

*Maximum Groundwater Concentrations*

Table 13 shows the rank of the average groundwater concentration of each quarterly sampling event with 1 representing the highest and 4 representing the lowest. As shown in the table, the December sampling event had the highest groundwater concentrations. Figure 31 shows bar graphs for these sampling data.

*Table 13. Rank of Average Concentrations for each Sampling Event*

| Constituent | Sampling Event Rank | | | |
|---|---|---|---|---|
| | Dec-2012 | Mar-2013 | Jun-2013 | Sep-2013 |
| Manganese | 1 | 3 | 2 | 4 |
| Molybdenum | 1 | 2 | 4 | 3 |
| Sulfate | 1 | 2 | 3 | 4 |
| Uranium | 1 | 2 | 3 | 4 |

### 5.2.2 Surface Water

*Wilcoxon Signed-Rank Test Results*

Table 14 shows the results of the Wilcoxon Signed-Rank Test to determine if there is a difference in the median between the paired samples for surface water in each of the quarterly sampling event's combinations. The test was done at the 5 percent level of significance. As with the paired groundwater samples, the null hypothesis, $H_0$, here states that there is no difference in the median between paired samples. A yes (Y) answer indicates that there is a difference between the quarterly sampling events. A no (N) answer indicates that there is not a difference between the quarterly sampling events.

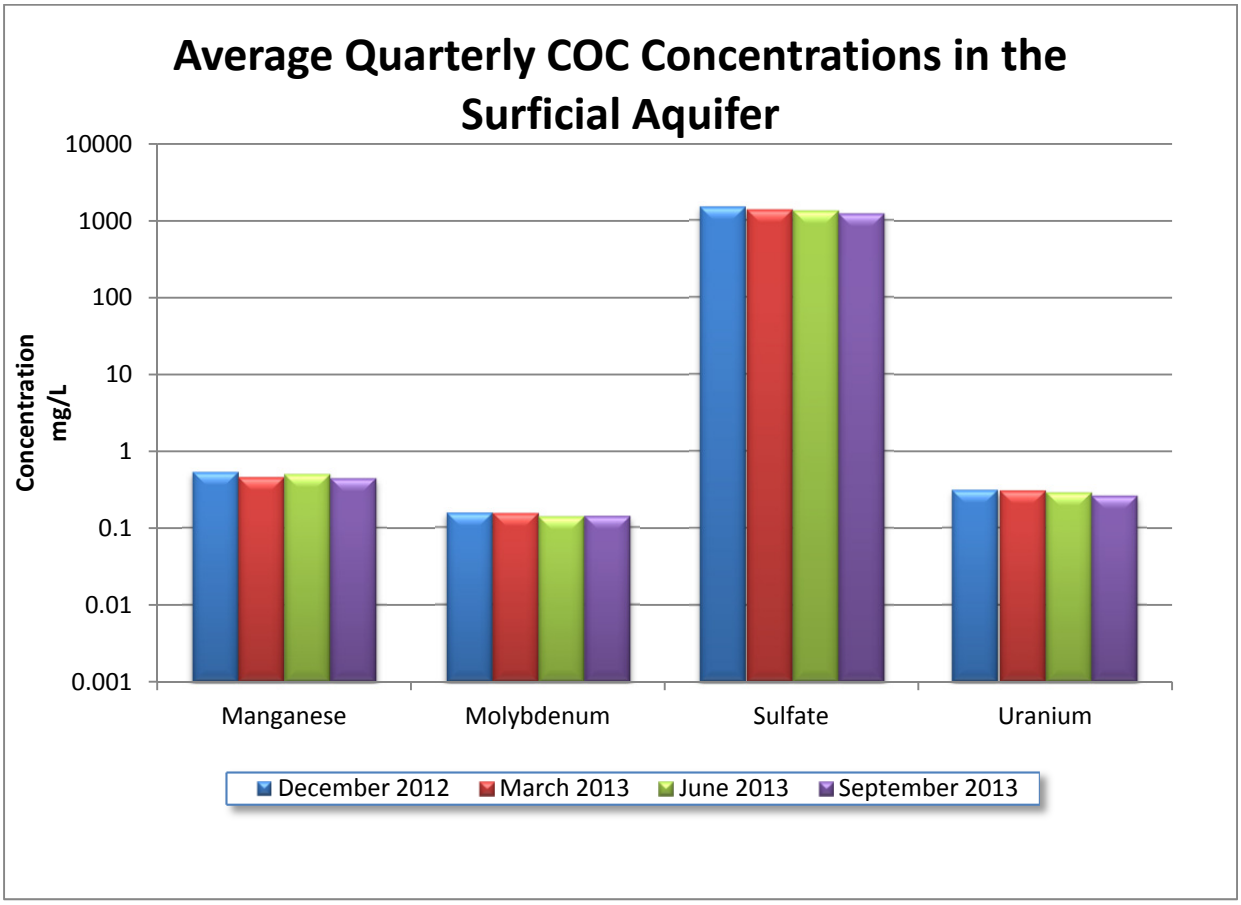


*Figure 31. Average Quarterly COC Concentrations in Surficial Aquifer*

*Table 14. Wilcoxon Signed-Rank Test Results*

| Constituent | Is there a difference between paired samples (Y/N)? | | | | | |
|---|---|---|---|---|---|---|
| | Dec-12 vs. Mar-13 | Dec-12 vs. Jun-13 | Dec-12 vs. Sep-13 | Mar-13 vs. Jun-13 | Mar-13 vs. Sep-13 | Jun-13 vs. Sep-13 |
| Manganese | N | N | N | N | N | N |
| Molybdenum | N | N | N | N | N | Y |
| Sulfate | N | N | N | N | N | Y |
| Uranium | N | Y | N | N | N | Y |

*Paired Student's t-Test*

Table 15 shows the results of the paired Student's t-Test to determine if there is a difference in the mean between the paired samples in each quarterly sampling event's combinations for each constituent. The test was done at a 5 percent level of significance. A yes (Y) answer indicates that there is a difference between the quarterly sampling events. A no (N) answer indicates that there is not a difference between the quarterly sampling events.

*Table 15. Paired Student's t-Test Results*

| Constituent | Is there a difference between paired samples (Y/N)? | | | | | |
|---|---|---|---|---|---|---|
| | Dec-12 vs. Mar-13 | Dec-12 vs. Jun-13 | Dec-12 vs. Sep-13 | Mar-13 vs. Jun-13 | Mar-13 vs. Sep-13 | Jun-13 vs. Sep-13 |
| Manganese | N | N | N | N | N | N |
| Molybdenum | N | N | N | N | N | N |
| Sulfate | N | Y | N | N | N | Y |
| Uranium | N | N | N | N | N | N |

*Equal Means Test*

Table 16 shows the results of the Equal Means Test to determine if the means are equal in each quarterly sampling event's combinations for each constituent. The test was done at the 5 percent level of significance. A yes (Y) answer indicates that there is a difference in the means. A no (N) answer indicates that there is not a difference in the means.

*Table 16. Equal Means Test Results*

| Constituent | Is there a difference between means (Y/N)? | | | | | |
|---|---|---|---|---|---|---|
| | Dec-12 vs. Mar-13 | Dec-12 vs. Jun-13 | Dec-12 vs. Sep-13 | Mar-13 vs. Jun-13 | Mar-13 vs. Sep-13 | Jun-13 vs. Sep-13 |
| Manganese | N | N | N | N | N | N |
| Molybdenum | N | N | N | N | N | N |
| Sulfate | N | N | N | N | N | N |
| Uranium | N | N | N | N | N | N |

*Analysis of Variance*

The 2-way Analysis of Variance test looks at the variation in the means of two different factors associated with a data set. The null hypothesis, $H_0$, is that the concentration between the sampling events is the same. The alternative hypothesis, $H_1$, is that the concentrations between the events are different. Test results show that there is no difference between events for any of the constituents—manganese, molybdenum, sulfate, or uranium. Table 17 shows an example of the Analysis of Variance results for uranium.

*Table 17. Analysis of Variance for Uranium*

| Source of Variation | Sum of Squares | Degrees of Freedom | Mean Square | Calculated F | Table Values |
|---|---|---|---|---|---|
| | | | | | F (0.05,3,18) |
| | | | | | F (0.05,11,18) |
| Between Dates | 0.0019 | 3 | 0.00064 | 0.7528 | 3.16 |
| Between Locations | 0.0948 | 6 | 0.01579 | 18.6720 | 2.66 |
| Residual | 0.0152 | 18 | 0.00085 | | |
| Total | 0.1119 | 27 | 0.00414 | | |

Because the calculated F-value is smaller than the table values at the 5 percent level of significance, accept the null hypothesis, $H_0$, and conclude that there is not a difference in concentration between dates. The level of significance is the probability of rejecting the null hypothesis, $H_0$, and accepting the false alternative hypothesis, $H_1$. The level of significance in this test indicates a 95 percent probability of no difference in concentration between events.

Although not of interest for this analysis, this 2-way Analysis of Variance test provides information about the concentration between locations. The results for manganese are shown in the table above. Because the calculated F-value is larger than the table value at the 5 percent level of significance for all four constituents, reject the null hypothesis, $H_0$, and conclude that there is a difference in concentration between locations.

Table 18 shows the Analysis of Variance results for each of the constituents for each source of variation. A yes (Y) answer indicates that there is a difference in the variance of the means. A no (N) answer indicates that there is not a difference in the variance of the means.

*Table 18. Analysis of Variance Results*

| Source of Variation | Manganese | Molybdenum | Sulfate | Uranium |
|---|---|---|---|---|
| Between Events | N | N | N | N |
| Between Locations | Y | Y | Y | Y |

*Maximum Surface Water Concentrations*

Table 19 shows the rank of the average surface water concentrations of each quarterly sampling event with 1 representing the highest and 4 representing the lowest. As shown in the table, average concentrations for the September sampling event had the collective highest average surface water concentrations. Figure 32 shows bar graphs for these sampling data.

*Table 19. Rank of Average Concentrations for Each Sampling Event*

| Constituent | Sampling Event Rank | | | |
|---|---|---|---|---|
| | Dec-2012 | Mar-2013 | Jun-2013 | Sep-2013 |
| Manganese | 4 | 1 | 3 | 2 |
| Molybdenum | 2 | 3 | 4 | 1 |
| Sulfate | 1 | 3 | 4 | 2 |
| Uranium | 2 | 3 | 4 | 1 |

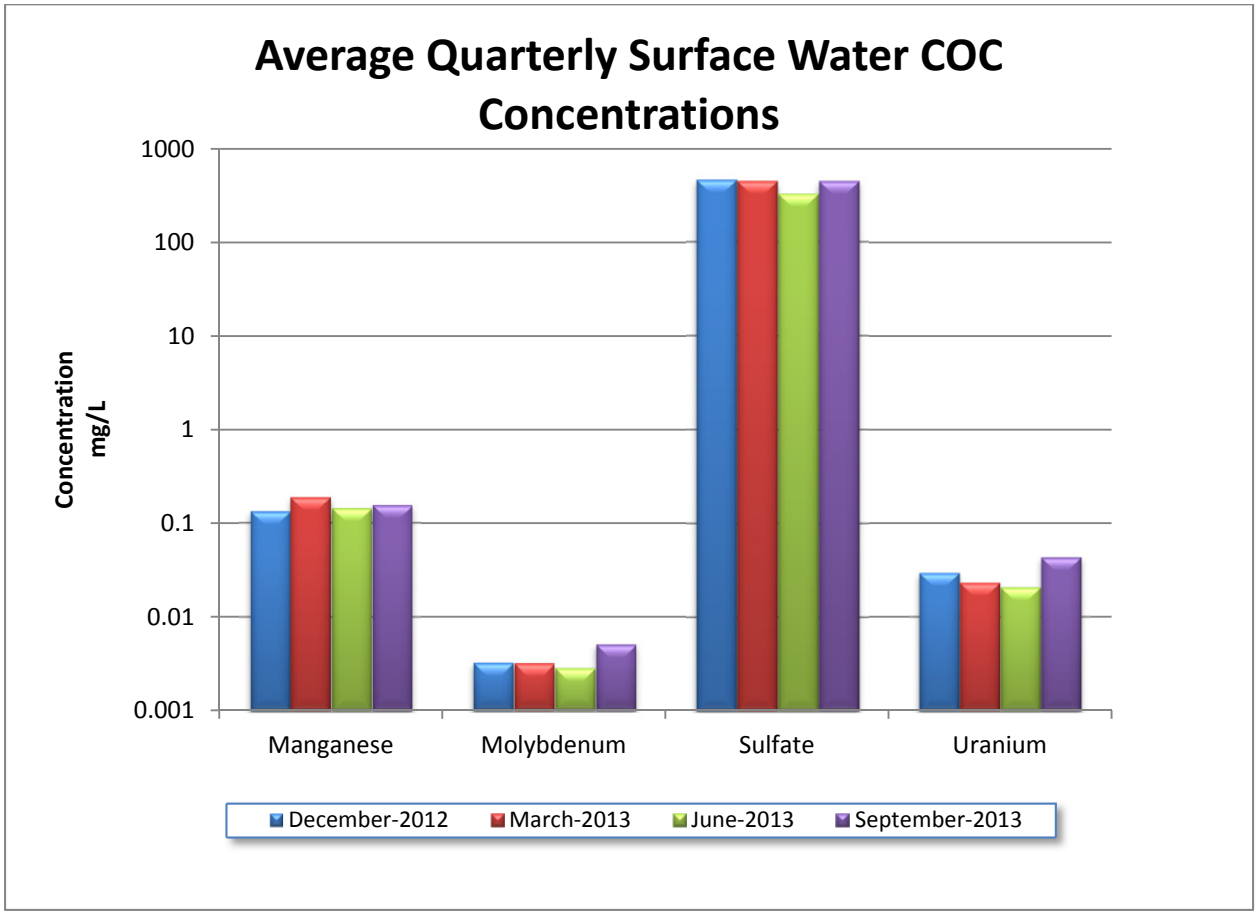


*Figure 32. Average Quarterly COC Concentrations in Surface Water*

## 5.3 Seasonal Variation Summary

Collectively, the statistical analyses indicate that there is minimal seasonal variation in constituent concentrations between quarterly sampling events. Two of the statistical tests (Equal Means and Analysis of Variance) indicated no difference in concentrations between sampling events, and two of the statistical tests (Wilcoxon Signed-Rank Test and paired Student's t-Test) indicated minor differences in concentrations between sampling events.

The Wilcoxon Signed-Rank Test showed there was no difference in 16 out of 24 comparisons between sampling events for groundwater, and there was no difference in 20 out of 24 comparisons between sampling events for surface water. This test indicates that the September sampling event is different from the others for groundwater because of the eight comparisons between events that indicated a difference, seven of them involved the September sampling event. The paired Student's t-Test indicated no difference in 22 out of 24 comparisons between sampling events for groundwater, and no difference in all 24 comparisons between sampling events for surface water.

Maximum average concentrations for all groundwater constituents occurred in December 2012. For three of the constituents (molybdenum, sulfate, and uranium), average concentrations declined each consecutive sampling event—March sampling event had the second highest average concentrations, June had the third highest average concentrations, and September had the lowest average concentrations. These results are likely indicative of declining concentrations in the surficial aquifer following the spike in constituent concentrations after the 2010 flood rather than typical of seasonal high concentrations in December.

The September 2013 sampling event had the overall highest average concentrations for surface water with two of the highest averages and two of the second highest averages. The June 2013 sampling event had the overall lowest average concentrations with three of the four constituents having the lowest values. June sampling events are expected to have the lowest concentrations of constituents because spring runoff in the Little Wind River dilutes concentrations in the river and oxbow lake.

# 6.0 Compliance Strategy Assessment

After surface remediation was completed, groundwater numerical modeling in 1998 predicted that the alluvial aquifer will naturally flush contaminants to levels below applicable standards within the 100-year regulatory time frame. This modeling formed the basis for the natural flushing strategy that was approved in the *Final Ground Water Compliance Action Plan for the Riverton, Wyoming, Title I UMTRA Project Site* (DOE 1998a) in 1998. In previous years, the progress of natural flushing was assessed using three tools: comparison to hydrogeologic modeling predictions, trend analysis, and curve matching/interpolation techniques applied to temporal plots of contaminant 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 mill site. Prior to 2010, these techniques indicated that natural flushing of the surficial aquifer was progressing toward applicable standards.

However, based on observations made in 2010 in context with historical data, the site conceptual model and groundwater computer modeling were 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 in June 2010, which mobilized contaminants into the saturated zone of the surficial aquifer. Cross correlation of flood events in the Little Wind River with monitoring data reveal that uranium concentrations spiked in monitoring well 0707 in 1991, 1995, and 2010, which followed floods of Little Wind River.

Although the 2010 flood of the Little Wind River caused significant spikes in contaminant concentrations in the surficial aquifer, contaminant concentrations continue to decline and are generally approaching pre-flood levels, as shown in Table 20. Figure 32 shows the average uranium concentration in surficial aquifer wells with a long history that have always been above the MCL (0707, 0716, 0718, and 0722/0722R). As shown in this figure, the average uranium concentration in these wells in 2013 was within the range of the most recent pre-flood levels. These data indicate that the effects of 2010 flood are relatively short-lived in context of the 100-year regulatory time frame.

*Table 20. Comparison of Pre-Flood, 2010 Flood, and 2013 Results*

| Well | Molybdenum[a] | | | Uranium[a] | | | Sulfate[a] | | |
|---|---|---|---|---|---|---|---|---|---|
| | Pre-Flood[b] | 2010 Flood[c] | 2013[d] | Pre-Flood | 2010 Flood | 2013 | Pre-Flood | 2010 Flood | 2013 |
| 0707 | 0.68 | 1.6 | 0.85 | 0.84 | 2.7 | 0.73 | 1900 | 7000 | 2600 |
| 0788 | 0.024 | 0.023 | 0.021 | 0.034 | 0.1 | 0.043 | 630 | 4500 | 1500 |
| 0789 | 0.56 | 0.51 | 0.56 | 1.5 | 2.5 | 1.5 | 3900 | 9400 | 4600 |
| 0826 | 0.023 | 0.046 | 0.018 | 0.041 | 0.08 | 0.04 | 580 | 2400 | 1700 |

[a] Units are in mg/L.
[b] Pre-flood results are from the November 2009 sampling event.
[c] 2010 flood results from the June 2010 sampling event.
[d] 2012 results are from the September 2013 sampling event.

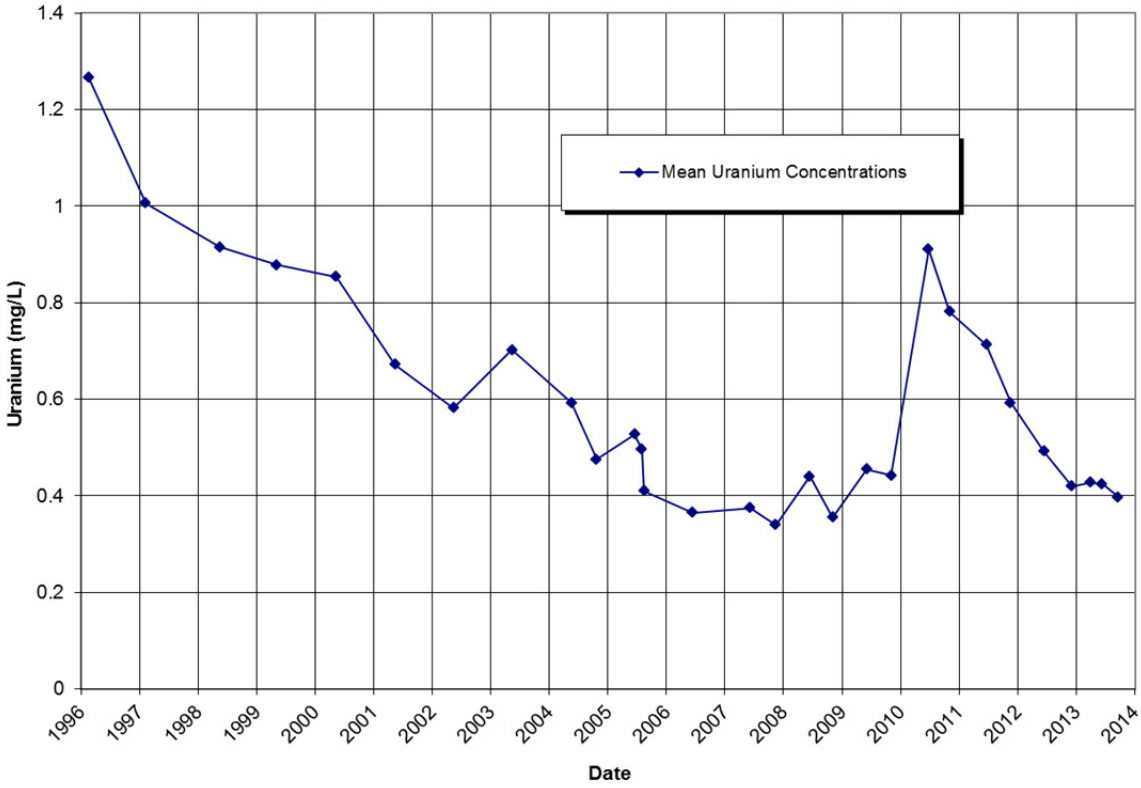


*Figure 33. Mean Uranium Concentrations in Selected Surficial Aquifer Wells*

Overall, natural flushing (contaminant movement and removal via groundwater flow) in the surficial aquifer is occurring; however, the rate of flushing does not currently appear to be fast enough to restore the aquifer within the 100-year regulatory time requirement. Several lines of evidence indicate that the natural flushing compliance strategy may not meet the 2089 target date. These include:

- Current plume configurations and magnitude developed from the 2012 enhanced characterization.
  - Uranium concentrations of 1.1 mg/L still exist on the former mill site, which indicates that contaminant plume movement is retarded by aquifer properties and/or influenced by additional source.
  - Uranium concentrations in the center of the plume adjacent to the Little Wind River are greater than 2 mg/L, which is very high compared to the uranium standard of 0.044 mg/L.
- Recently completed groundwater modeling indicates aquifer restoration will take longer than 100 years from the present.
- At other Uranium Mill Tailings Radiation Control Act sites with similar geology and contaminants, concentrations of groundwater COCs are not attenuating as quickly as predicted by groundwater modeling.

- Graphs of time versus concentration for average concentrations and for individual wells at the Riverton site show that concentrations of contaminants are either declining more slowly than in the past or have leveled out.
- Future flooding of the Little Wind River will likely cause an increase in contaminant concentrations in groundwater, even if the increase is relatively short-lived, which will prolong the time required for natural flushing.
- Additional contaminants in the saturated and/or unsaturated zone may be acting as additional contaminant sources for elevated concentrations in groundwater.

Although the completion of natural flushing within the 100-year regulatory time frame is uncertain, additional information will be required to make a definitive decision on the natural flushing compliance strategy. A better understanding of the Riverton site, including aquifer properties, geochemistry, and potential additional contaminant sources, will be needed to support the natural flushing compliance strategy or to select a new compliance strategy.

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# 7.0 Summary and Recommendations

Verification monitoring results from 2013 verify that mill-related groundwater contamination continues to impact the surficial aquifer and oxbow lake, but institutional controls are in place and functioning as intended to protect human health and the environment from the groundwater contamination. In addition, verification monitoring results continue to verify that mill-related contamination has not impacted any potable domestic wells within the IC boundary, the semiconfined aquifer, the confined aquifer, the Little Wind River, gravel pit ponds, or the AWSS. Results from the AWSS flushing program provide evidence that the flushing program is effective in controlling the buildup of naturally occurring radionuclides found in the source wells for the system.

Collectively, the statistical analyses of seasonal variation indicate that there is minimal seasonal variation in constituent concentrations between quarterly sampling events; therefore, it is recommended that routine long-term groundwater and surface water monitoring be conducted annually in September. Because there is minimal seasonal variation in constituent concentrations, annual sampling will optimize the sampling frequency by extending time between sampling events when significant changes are not expected while keeping sampling costs at a minimum. Sampling in September will allow assessment of conditions when surface water concentrations tend to be the highest and groundwater concentrations tend to be different from other times of year. However, if there is a significant flood event of the Little Wind River, it is recommended that groundwater be sampled as soon as possible after the flood event to assess effects of the flood on groundwater concentrations.

Although still above their respective MCLs, molybdenum and uranium concentrations in the surficial aquifer groundwater have returned to their pre-flood levels after the increases that followed the 2010 flood of the Little Wind River. However, numerous lines of evidence, including updated groundwater modeling, indicate that the rate of natural flushing may not be rapid enough to meet the 100-year regulatory limit.

DOE continues to pursue better understanding of the site conceptual model, contaminant distributions, and properties of the unsaturated zone of the surficial aquifer at the Riverton site. Additional work is needed to further define the conceptual model, to better understand geochemical processes that control contaminant fate and transport, to identify additional sources of uranium that are liberated during flood events, and to understand why uranium concentrations decline relatively quickly after flood events. This additional information will assist in making decisions for a path-forward compliance strategy. Future work will be specified in a comprehensive work plan that will include input from technical experts at DOE's National Laboratories and independent experts in the fields of groundwater modeling, risk assessment, geochemistry, and hydrogeology.

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# Appendix A

# Static Water Level Data

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STATIC WATER LEVELS (USEE700) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/24/2014 1:12 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 | 03/27/2013 | 10:32 | 11.00 | 4935.58 | |
| | | 4946.58 | 06/11/2013 | 13:45 | 10.51 | 4936.07 | |
| | | 4946.58 | 09/18/2013 | 12:48 | 11.03 | 4935.55 | |
| 0110 | O | 4950.19 | 03/27/2013 | 10:33 | 14.43 | 4935.76 | |
| | | 4950.19 | 06/11/2013 | 13:48 | 13.26 | 4936.93 | |
| | | 4950.19 | 09/18/2013 | 12:49 | 13.97 | 4936.22 | |
| 0111 | O | 4946.87 | 03/27/2013 | 10:30 | 11.11 | 4935.76 | |
| | | 4946.87 | 06/11/2013 | 13:38 | 9.97 | 4936.90 | |
| | | 4946.87 | 09/18/2013 | 12:46 | 10.66 | 4936.21 | |
| 0700 | U | 4951.38 | 03/27/2013 | 17:02 | 5.99 | 4945.39 | |
| | | 4951.38 | 06/11/2013 | 13:53 | 6.50 | 4944.88 | |
| | | 4951.38 | 09/18/2013 | 16:10 | 6.70 | 4944.68 | |
| 0702 | D | 4931.00 | 03/27/2013 | 13:30 | 6.47 | 4924.53 | |
| | | 4931.00 | 06/12/2013 | 09:29 | 5.91 | 4925.09 | |
| 0705 | D | 4930.80 | 03/28/2013 | 13:40 | 6.70 | 4924.10 | |
| | | 4930.80 | 06/12/2013 | 10:35 | 5.91 | 4924.89 | |
| | | 4930.80 | 09/19/2013 | 16:25 | 7.01 | 4923.79 | |
| 0707 | D | 4931.00 | 03/28/2013 | 14:00 | 5.67 | 4925.33 | |
| | | 4931.00 | 06/12/2013 | 09:20 | 5.35 | 4925.65 | |
| | | 4931.00 | 09/19/2013 | 16:55 | 6.24 | 4924.76 | |
| 0709 | D | 4930.70 | 03/27/2013 | 13:35 | 5.00 | 4925.70 | |
| | | 4930.70 | 06/11/2013 | 16:18 | 5.02 | 4925.68 | |
| 0710 | U | 4947.90 | 03/27/2013 | 11:40 | 7.10 | 4940.80 | |
| | | 4947.90 | 06/11/2013 | 09:00 | 5.84 | 4942.06 | |
| | | 4947.90 | 09/18/2013 | 12:15 | 6.70 | 4941.20 | |
| 0716 | O | 4939.12 | 03/27/2013 | 09:20 | 9.23 | 4929.89 | |
| | | 4939.12 | 06/11/2013 | 12:25 | 9.18 | 4929.94 | |
| | | 4939.12 | 09/18/2013 | 15:25 | 8.58 | 4930.54 | |
| 0717 | O | 4938.80 | 03/27/2013 | 08:55 | 9.00 | 4929.80 | |
| | | 4938.80 | 06/11/2013 | 12:55 | 8.79 | 4930.01 | |
| | | 4938.80 | 09/18/2013 | 14:50 | 7.77 | 4931.03 | |
| 0718 | D | 4937.60 | 03/27/2013 | 16:50 | 7.85 | 4929.75 | |
| | | 4937.60 | 06/13/2013 | 08:00 | 8.09 | 4929.51 | |
| | | 4937.60 | 09/20/2013 | 08:50 | 9.13 | 4928.47 | |
| 0719 | D | 4937.55 | 03/27/2013 | 16:30 | 7.57 | 4929.98 | |

STATIC WATER LEVELS (USEE700) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/24/2014 1:12 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 | | | |
| 0719 | D | 4937.55 | 06/13/2013 | 07:30 | 7.73 | 4929.82 | |
| | | 4937.55 | 09/20/2013 | 08:20 | 8.62 | 4928.93 | |
| 0720 | C | 4940.46 | 03/27/2013 | 15:45 | 5.65 | 4934.81 | |
| | | 4940.46 | 06/11/2013 | 17:10 | 5.29 | 4935.17 | |
| | | 4940.46 | 09/19/2013 | 11:05 | 4.89 | 4935.57 | |
| 0721 | C | 4940.47 | 03/27/2013 | 15:25 | 7.78 | 4932.69 | |
| | | 4940.47 | 06/11/2013 | 17:30 | 8.02 | 4932.45 | |
| | | 4940.47 | 09/19/2013 | 10:45 | 8.75 | 4931.72 | |
| 0722R | | 4937.06 | 03/28/2013 | 08:40 | 9.50 | 4927.56 | |
| | | 4937.06 | 06/13/2013 | 10:15 | 9.52 | 4927.54 | |
| | | 4937.06 | 09/20/2013 | 09:50 | 8.75 | 4928.31 | |
| 0723 | D | 4936.01 | 03/28/2013 | 09:00 | 8.28 | 4927.73 | |
| | | 4936.01 | 06/13/2013 | 10:35 | 8.27 | 4927.74 | |
| | | 4936.01 | 09/20/2013 | 09:25 | 7.50 | 4928.51 | |
| 0724 | U | 4941.36 | 03/27/2013 | 08:15 | 9.47 | 4931.89 | |
| | | 4941.36 | 06/11/2013 | 11:55 | 6.91 | 4934.45 | |
| | | 4941.36 | 09/18/2013 | 14:17 | 6.73 | 4934.63 | |
| 0725 | U | 4941.66 | 03/27/2013 | 08:19 | 9.82 | 4931.84 | |
| | | 4941.66 | 06/11/2013 | 13:25 | 7.11 | 4934.55 | |
| | | 4941.66 | 09/18/2013 | 14:16 | 6.96 | 4934.70 | |
| 0726 | U | 4942.00 | 03/27/2013 | 08:17 | 7.70 | 4934.30 | |
| | | 4942.00 | 06/11/2013 | 13:27 | 6.95 | 4935.05 | |
| | | 4942.00 | 09/18/2013 | 14:15 | 8.47 | 4933.53 | |
| 0727 | U | 4951.69 | 03/27/2013 | 08:05 | 11.65 | 4940.04 | |
| | | 4951.69 | 06/11/2013 | 13:29 | 9.92 | 4941.77 | |
| | | 4951.69 | 09/18/2013 | 13:56 | 10.88 | 4940.81 | |
| 0728 | U | 4946.01 | 03/27/2013 | 08:12 | 10.25 | 4935.76 | |
| | | 4946.01 | 06/11/2013 | 11:53 | 8.28 | 4937.73 | |
| | | 4946.01 | 09/18/2013 | 13:59 | 9.24 | 4936.77 | |
| 0729 | D | 4932.75 | 03/28/2013 | 09:35 | 7.90 | 4924.85 | |
| | | 4932.75 | 06/12/2013 | 18:15 | 2.82 | 4929.93 | |
| | | 4932.75 | 09/19/2013 | 09:50 | 5.15 | 4927.60 | |
| 0730 | D | 4933.08 | 03/28/2013 | 09:50 | 8.12 | 4924.96 | |
| | | 4933.08 | 06/12/2013 | 17:50 | 4.38 | 4928.70 | |
| | | 4933.08 | 09/19/2013 | 09:30 | 5.78 | 4927.30 | |

STATIC WATER LEVELS (USEE700) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/24/2014 1:12 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 | | | |
| 0732 | U | 4945.07 | 03/27/2013 | 09:35 | 8.15 | 4936.92 | |
| | | 4945.07 | 06/11/2013 | 10:50 | 8.32 | 4936.75 | |
| | | 4945.07 | 09/18/2013 | 13:16 | 8.89 | 4936.18 | |
| 0733 | U | 4946.76 | 03/27/2013 | 14:27 | 9.61 | 4937.15 | |
| | | 4946.76 | 06/11/2013 | 16:17 | 7.09 | 4939.67 | |
| | | 4946.76 | 09/18/2013 | 16:41 | 3.35 | 4943.41 | |
| 0734 | U | 4946.08 | 03/27/2013 | 14:28 | 10.34 | 4935.74 | |
| | | 4946.08 | 06/11/2013 | 15:52 | 8.18 | 4937.90 | |
| | | 4946.08 | 09/18/2013 | 16:42 | 5.74 | 4940.34 | |
| 0736 | U | 4946.00 | 03/27/2013 | 12:51 | 7.93 | 4938.07 | |
| | | 4946.00 | 06/11/2013 | 14:45 | 7.75 | 4938.25 | |
| | | 4946.00 | 09/18/2013 | 09:45 | 8.20 | 4937.80 | |
| 0784 | U | 4945.45 | 03/27/2013 | 09:55 | 6.50 | 4938.95 | |
| | | 4945.45 | 06/11/2013 | 10:20 | 6.89 | 4938.56 | |
| | | 4945.45 | 09/18/2013 | 13:25 | 7.39 | 4938.06 | |
| 0788 | C | 4935.09 | 03/28/2013 | 13:15 | 8.57 | 4926.52 | |
| | | 4935.09 | 06/12/2013 | 14:45 | 8.41 | 4926.68 | |
| | | 4935.09 | 09/19/2013 | 13:50 | 9.98 | 4925.11 | |
| 0789 | D | 4933.66 | 03/28/2013 | 16:10 | 9.28 | 4924.38 | |
| | | 4933.66 | 06/12/2013 | 11:15 | 7.98 | 4925.68 | |
| | | 4933.66 | 09/19/2013 | 14:25 | 9.42 | 4924.24 | |
| 0818 | | - | 03/26/2013 | | | - | |
| 0819 | | - | 03/26/2013 | | | - | |
| 0820 | | - | 03/26/2013 | | | - | |
| 0821 | | - | 03/26/2013 | | | - | |
| 0824 | | 4928.27 | 03/28/2013 | 11:00 | 6.36 | 4921.91 | |
| | | 4928.27 | 06/13/2013 | 12:25 | 5.24 | 4923.03 | |
| | | 4928.27 | 09/20/2013 | 11:20 | 4.70 | 4923.57 | |
| 0826 | | 4936.98 | 03/28/2013 | 12:45 | 7.05 | 4929.93 | |
| | | 4936.98 | 06/12/2013 | 13:25 | 7.42 | 4929.56 | |
| | | 4936.98 | 09/19/2013 | 13:10 | 8.88 | 4928.10 | |
| 0829 | | - | 03/26/2013 | | | - | |
| 0830 | | - | 03/26/2013 | | | - | |

STATIC WATER LEVELS (USEE700) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/24/2014 1:12 pm

| 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 |
|---|---|---|---|---|---|---|---|

RECORDS: SELECTED FROM USEE700 WHERE site_code='RVT01' AND LOG_DATE between #1/1/2013# and #12/30/2013#

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

WATER LEVEL FLAGS:

# Appendix B

# Domestic Well Data

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CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:23 am

| 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 | 03/28/2013 | N001 | NR | N | 47 | | | # | - | - |
| | mg/L | 0405 | WL | 06/12/2013 | N001 | NR | N | 45 | | | # | - | - |
| | mg/L | 0405 | WL | 09/19/2013 | N001 | NR | N | 106 | | | # | - | - |
| | mg/L | 0422 | WL | 03/27/2013 | N001 | NR | N | 174 | | | # | - | - |
| | mg/L | 0422 | WL | 06/12/2013 | N001 | NR | N | 183 | | | # | - | - |
| | mg/L | 0422 | WL | 09/18/2013 | N001 | NR | N | 135 | | | # | - | - |
| | mg/L | 0430 | WL | 03/27/2013 | N001 | NR | N | 186 | | | # | - | - |
| | mg/L | 0430 | WL | 06/11/2013 | N001 | NR | N | 65 | | | # | - | - |
| | mg/L | 0430 | WL | 09/18/2013 | N001 | NR | N | 171 | | | # | - | - |
| | mg/L | 0436 | WL | 03/27/2013 | N001 | NR | N | 216 | | | # | - | - |
| | mg/L | 0436 | WL | 06/11/2013 | N001 | NR | N | 158 | | | # | - | - |
| | mg/L | 0436 | WL | 09/18/2013 | N001 | NR | N | 159 | | | # | - | - |
| | mg/L | 0460 | WL | 03/27/2013 | N001 | NR | N | 160 | | | # | - | - |
| | mg/L | 0460 | WL | 06/11/2013 | N001 | NR | N | 147 | | | # | - | - |
| | mg/L | 0460 | WL | 09/18/2013 | N001 | NR | N | 160 | | | # | - | - |
| | mg/L | 0828 | WL | 03/27/2013 | N001 | | O | 150 | | | # | - | - |
| | mg/L | 0828 | WL | 06/11/2013 | N001 | | O | 158 | | | # | - | - |
| | mg/L | 0828 | WL | 09/18/2013 | N001 | | O | 162 | | | # | - | - |
| | mg/L | 0841 | WL | 03/27/2013 | N001 | | | 214 | | | # | - | - |
| | mg/L | 0841 | WL | 06/12/2013 | N001 | | | 178 | | | # | - | - |
| | mg/L | 0841 | WL | 09/18/2013 | N001 | | | 163 | | | # | - | - |
| | mg/L | 0842 | WL | 03/27/2013 | N001 | | | 176 | | | # | - | - |
| | mg/L | 0842 | WL | 06/12/2013 | N001 | | | 183 | | | # | - | - |
| | mg/L | 0842 | WL | 09/18/2013 | N001 | | | 134 | | | # | - | - |
| Calcium | mg/L | 0405 | WL | 06/12/2013 | N001 | NR | N | 7.100 | E | J | # | 0.012 | - |
| | mg/L | 0405 | WL | 09/19/2013 | N001 | NR | N | 6.200 | | | # | 0.012 | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:23 am

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | mg/L | 0422 | WL | 06/12/2013 | N001 | NR | N | 67.000 | | | # | 0.012 | - |
| | mg/L | 0422 | WL | 09/18/2013 | N001 | NR | N | 40.000 | | | # | 0.012 | - |
| | mg/L | 0430 | WL | 06/11/2013 | N001 | NR | N | 4.300 | | | # | 0.012 | - |
| | mg/L | 0430 | WL | 09/18/2013 | N001 | NR | N | 3.700 | | | # | 0.012 | - |
| | mg/L | 0436 | WL | 06/11/2013 | N001 | NR | N | 3.700 | | | # | 0.012 | - |
| | mg/L | 0436 | WL | 09/18/2013 | N001 | NR | N | 3.300 | | | # | 0.012 | - |
| | mg/L | 0460 | WL | 06/11/2013 | N001 | NR | N | 3.500 | | | # | 0.012 | - |
| | mg/L | 0460 | WL | 09/18/2013 | N001 | NR | N | 3.100 | | | # | 0.012 | - |
| | mg/L | 0828 | WL | 06/11/2013 | N001 | | O | 3.800 | | | # | 0.012 | - |
| | mg/L | 0828 | WL | 09/18/2013 | N001 | | O | 3.600 | | | # | 0.012 | - |
| | mg/L | 0841 | WL | 06/12/2013 | N001 | | | 82.000 | | | # | 0.012 | - |
| | mg/L | 0841 | WL | 09/18/2013 | N001 | | | 63.000 | | | # | 0.012 | - |
| | mg/L | 0842 | WL | 06/12/2013 | N001 | | | 55.000 | | | # | 0.012 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N001 | | | 50.000 | | | # | 0.012 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N002 | | | 47.000 | | | # | 0.012 | - |
| Chloride | mg/L | 0405 | WL | 06/12/2013 | N001 | NR | N | 17 | | | # | 1 | - |
| | mg/L | 0405 | WL | 09/19/2013 | N001 | NR | N | 17 | | | # | 1 | - |
| | mg/L | 0422 | WL | 06/12/2013 | N001 | NR | N | 7.5 | | | # | 0.4 | - |
| | mg/L | 0422 | WL | 09/18/2013 | N001 | NR | N | 4.1 | | | # | 0.2 | - |
| | mg/L | 0430 | WL | 06/11/2013 | N001 | NR | N | 9.6 | | | # | 1 | - |
| | mg/L | 0430 | WL | 09/18/2013 | N001 | NR | N | 9.5 | | | # | 1 | - |
| | mg/L | 0436 | WL | 06/11/2013 | N001 | NR | N | 13 | | | # | 1 | - |
| | mg/L | 0436 | WL | 09/18/2013 | N001 | NR | N | 13 | | | # | 1 | - |
| | mg/L | 0460 | WL | 06/11/2013 | N001 | NR | N | 11 | | | # | 1 | - |
| | mg/L | 0460 | WL | 09/18/2013 | N001 | NR | N | 10 | | | # | 1 | - |
| | mg/L | 0828 | WL | 06/11/2013 | N001 | | O | 13 | | | # | 1 | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:23 am

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | mg/L | 0828 | WL | 09/18/2013 | N001 | | O | 13 | | | # | 1 | - |
| | mg/L | 0841 | WL | 06/12/2013 | N001 | | | 19 | | | # | 1 | - |
| | mg/L | 0841 | WL | 09/18/2013 | N001 | | | 13 | | | # | 1 | - |
| | mg/L | 0842 | WL | 06/12/2013 | N001 | | | 16 | | | # | 1 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N001 | | | 15 | | | # | 0.2 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N002 | | | 15 | | | # | 0.2 | - |
| Dissolved Oxygen | mg/L | 0405 | WL | 03/28/2013 | N001 | NR | N | 4.23 | | | # | - | - |
| | mg/L | 0405 | WL | 06/12/2013 | N001 | NR | N | 3.02 | | | # | - | - |
| | mg/L | 0405 | WL | 09/19/2013 | N001 | NR | N | 4.32 | | | # | - | - |
| | mg/L | 0422 | WL | 03/27/2013 | N001 | NR | N | 2.83 | | | # | - | - |
| | mg/L | 0422 | WL | 06/12/2013 | N001 | NR | N | 3.68 | | | # | - | - |
| | mg/L | 0422 | WL | 09/18/2013 | N001 | NR | N | 3.42 | | | # | - | - |
| | mg/L | 0430 | WL | 03/27/2013 | N001 | NR | N | 3.24 | | | # | - | - |
| | mg/L | 0430 | WL | 06/11/2013 | N001 | NR | N | 1.76 | | | # | - | - |
| | mg/L | 0430 | WL | 09/18/2013 | N001 | NR | N | 6.15 | | | # | - | - |
| | mg/L | 0436 | WL | 03/27/2013 | N001 | NR | N | 3.55 | | | # | - | - |
| | mg/L | 0436 | WL | 06/11/2013 | N001 | NR | N | 3.24 | | | # | - | - |
| | mg/L | 0436 | WL | 09/18/2013 | N001 | NR | N | 2.82 | | | # | - | - |
| | mg/L | 0460 | WL | 03/27/2013 | N001 | NR | N | 3.85 | | | # | - | - |
| | mg/L | 0460 | WL | 06/11/2013 | N001 | NR | N | 3.20 | | | # | - | - |
| | mg/L | 0460 | WL | 09/18/2013 | N001 | NR | N | 4.36 | | | # | - | - |
| | mg/L | 0828 | WL | 03/27/2013 | N001 | | O | 3.91 | | | # | - | - |
| | mg/L | 0828 | WL | 06/11/2013 | N001 | | O | 1.86 | | | # | - | - |
| | mg/L | 0828 | WL | 09/18/2013 | N001 | | O | 2.12 | | | # | - | - |
| | mg/L | 0841 | WL | 03/27/2013 | N001 | | | 2.79 | | | # | - | - |
| | mg/L | 0841 | WL | 06/12/2013 | N001 | | | 1.43 | | | # | - | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:23 am

| 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 | 0841 | WL | 09/18/2013 | N001 | | | 3.51 | | | # | - | - |
| | mg/L | 0842 | WL | 03/27/2013 | N001 | | | 5.81 | | | # | - | - |
| | mg/L | 0842 | WL | 06/12/2013 | N001 | | | 2.29 | | | # | - | - |
| | mg/L | 0842 | WL | 09/18/2013 | N001 | | | 4.07 | | | # | - | - |
| Iron | mg/L | 0405 | WL | 09/19/2013 | N001 | NR | N | 0.130 | | U | # | 0.0049 | - |
| | mg/L | 0422 | WL | 09/18/2013 | N001 | NR | N | 0.020 | B | | # | 0.0049 | - |
| | mg/L | 0430 | WL | 09/18/2013 | N001 | NR | N | 0.160 | | | # | 0.0049 | - |
| | mg/L | 0436 | WL | 09/18/2013 | N001 | NR | N | 0.0049 | U | | # | 0.0049 | - |
| | mg/L | 0460 | WL | 09/18/2013 | N001 | NR | N | 0.018 | B | U | # | 0.0049 | - |
| | mg/L | 0828 | WL | 09/18/2013 | N001 | | O | 0.0069 | B | U | # | 0.0049 | - |
| | mg/L | 0841 | WL | 09/18/2013 | N001 | | | 0.0068 | B | U | # | 0.0049 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N001 | | | 0.060 | B | | # | 0.0049 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N002 | | | 0.070 | B | | # | 0.0049 | - |
| Magnesium | mg/L | 0405 | WL | 06/12/2013 | N001 | NR | N | 0.230 | B | | # | 0.013 | - |
| | mg/L | 0405 | WL | 09/19/2013 | N001 | NR | N | 0.013 | U | | # | 0.013 | - |
| | mg/L | 0422 | WL | 06/12/2013 | N001 | NR | N | 15.000 | | | # | 0.013 | - |
| | mg/L | 0422 | WL | 09/18/2013 | N001 | NR | N | 9.200 | | | # | 0.013 | - |
| | mg/L | 0430 | WL | 06/11/2013 | N001 | NR | N | 0.210 | B | | # | 0.013 | - |
| | mg/L | 0430 | WL | 09/18/2013 | N001 | NR | N | 0.013 | U | | # | 0.013 | - |
| | mg/L | 0436 | WL | 06/11/2013 | N001 | NR | N | 0.220 | B | | # | 0.013 | - |
| | mg/L | 0436 | WL | 09/18/2013 | N001 | NR | N | 0.013 | U | | # | 0.013 | - |
| | mg/L | 0460 | WL | 06/11/2013 | N001 | NR | N | 0.200 | B | | # | 0.013 | - |
| | mg/L | 0460 | WL | 09/18/2013 | N001 | NR | N | 0.013 | U | | # | 0.013 | - |
| | mg/L | 0828 | WL | 06/11/2013 | N001 | | O | 0.240 | B | U | # | 0.013 | - |
| | mg/L | 0828 | WL | 09/18/2013 | N001 | | O | 0.079 | B | | # | 0.013 | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:23 am

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Magnesium | mg/L | 0841 | WL | 06/12/2013 | N001 | | | 14.000 | | | # | 0.013 | - |
| | mg/L | 0841 | WL | 09/18/2013 | N001 | | | 11.000 | | | # | 0.013 | - |
| | mg/L | 0842 | WL | 06/12/2013 | N001 | | | 5.800 | | | # | 0.013 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N001 | | | 5.500 | | | # | 0.013 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N002 | | | 5.100 | | | # | 0.013 | - |
| Manganese | mg/L | 0405 | WL | 03/28/2013 | N001 | NR | N | 0.002 | B | | # | 0.00011 | - |
| | mg/L | 0405 | WL | 06/12/2013 | N001 | NR | N | 0.00073 | B | | # | 0.00011 | - |
| | mg/L | 0405 | WL | 09/19/2013 | N001 | NR | N | 0.0041 | B | | # | 0.00011 | - |
| | mg/L | 0422 | WL | 03/27/2013 | N001 | NR | N | 0.00039 | B | U | # | 0.00011 | - |
| | mg/L | 0422 | WL | 06/12/2013 | N001 | NR | N | 0.00011 | U | J | # | 0.00011 | - |
| | mg/L | 0422 | WL | 09/18/2013 | N001 | NR | N | 0.00011 | U | | # | 0.00011 | - |
| | mg/L | 0430 | WL | 03/27/2013 | N001 | NR | N | 0.0044 | B | | # | 0.00011 | - |
| | mg/L | 0430 | WL | 06/11/2013 | N001 | NR | N | 0.0019 | B | | # | 0.00011 | - |
| | mg/L | 0430 | WL | 09/18/2013 | N001 | NR | N | 0.0062 | | | # | 0.00011 | - |
| | mg/L | 0436 | WL | 03/27/2013 | N001 | NR | N | 0.0018 | B | | # | 0.00011 | - |
| | mg/L | 0436 | WL | 06/11/2013 | N001 | NR | N | 0.00083 | B | | # | 0.00011 | - |
| | mg/L | 0436 | WL | 09/18/2013 | N001 | NR | N | 0.0022 | B | | # | 0.00011 | - |
| | mg/L | 0460 | WL | 03/27/2013 | N001 | NR | N | 0.0022 | B | | # | 0.00011 | - |
| | mg/L | 0460 | WL | 03/27/2013 | N002 | NR | N | 0.00069 | B | | # | 0.00011 | - |
| | mg/L | 0460 | WL | 06/11/2013 | N001 | NR | N | 0.00068 | B | | # | 0.00011 | - |
| | mg/L | 0460 | WL | 09/18/2013 | N001 | NR | N | 0.006 | | | # | 0.00011 | - |
| | mg/L | 0828 | WL | 03/27/2013 | N001 | | O | 0.0089 | | | # | 0.00011 | - |
| | mg/L | 0828 | WL | 06/11/2013 | N001 | | O | 0.0022 | B | | # | 0.00011 | - |
| | mg/L | 0828 | WL | 09/18/2013 | N001 | | O | 0.0047 | B | | # | 0.00011 | - |
| | mg/L | 0841 | WL | 03/27/2013 | N001 | | | 0.094 | | | # | 0.00011 | - |
| | mg/L | 0841 | WL | 06/12/2013 | N001 | | | 0.097 | | | # | 0.00011 | - |

| 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 | 0841 | WL | 09/18/2013 | N001 | | | 0.077 | | | # | 0.00011 | - |
| | mg/L | 0842 | WL | 03/27/2013 | N001 | | | 0.046 | | | # | 0.00011 | - |
| | mg/L | 0842 | WL | 06/12/2013 | N001 | | | 0.048 | | | # | 0.00011 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N001 | | | 0.050 | | | # | 0.00011 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N002 | | | 0.047 | | | # | 0.00011 | - |
| Molybdenum | mg/L | 0405 | WL | 03/28/2013 | N001 | NR | N | 0.0051 | | | # | 0.00032 | - |
| | mg/L | 0405 | WL | 06/12/2013 | N001 | NR | N | 0.0032 | | | # | 0.00032 | - |
| | mg/L | 0405 | WL | 09/19/2013 | N001 | NR | N | 0.0024 | | | # | 0.00032 | - |
| | mg/L | 0422 | WL | 03/27/2013 | N001 | NR | N | 0.0015 | | | # | 0.00032 | - |
| | mg/L | 0422 | WL | 06/12/2013 | N001 | NR | N | 0.0013 | | | # | 0.00032 | - |
| | mg/L | 0422 | WL | 09/18/2013 | N001 | NR | N | 0.0014 | | | # | 0.00032 | - |
| | mg/L | 0430 | WL | 03/27/2013 | N001 | NR | N | 0.0024 | | | # | 0.00032 | - |
| | mg/L | 0430 | WL | 06/11/2013 | N001 | NR | N | 0.0022 | | | # | 0.00032 | - |
| | mg/L | 0430 | WL | 09/18/2013 | N001 | NR | N | 0.0022 | | | # | 0.00032 | - |
| | mg/L | 0436 | WL | 03/27/2013 | N001 | NR | N | 0.0032 | | | # | 0.00032 | - |
| | mg/L | 0436 | WL | 06/11/2013 | N001 | NR | N | 0.0029 | | | # | 0.00032 | - |
| | mg/L | 0436 | WL | 09/18/2013 | N001 | NR | N | 0.0028 | | | # | 0.00032 | - |
| | mg/L | 0460 | WL | 03/27/2013 | N001 | NR | N | 0.0029 | | | # | 0.00032 | - |
| | mg/L | 0460 | WL | 03/27/2013 | N002 | NR | N | 0.003 | | | # | 0.00032 | - |
| | mg/L | 0460 | WL | 06/11/2013 | N001 | NR | N | 0.0028 | | | # | 0.00032 | - |
| | mg/L | 0460 | WL | 09/18/2013 | N001 | NR | N | 0.0023 | | | # | 0.00032 | - |
| | mg/L | 0828 | WL | 03/27/2013 | N001 | | O | 0.003 | | | # | 0.00032 | - |
| | mg/L | 0828 | WL | 06/11/2013 | N001 | | O | 0.003 | | | # | 0.00032 | - |
| | mg/L | 0828 | WL | 09/18/2013 | N001 | | O | 0.0025 | | | # | 0.00032 | - |
| | mg/L | 0841 | WL | 03/27/2013 | N001 | | | 0.0041 | | | # | 0.00032 | - |
| | mg/L | 0841 | WL | 06/12/2013 | N001 | | | 0.0032 | | | # | 0.00032 | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:23 am

| 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 | 0841 | WL | 09/18/2013 | N001 | | | 0.004 | | | # | 0.00032 | - |
| | mg/L | 0842 | WL | 03/27/2013 | N001 | | | 0.0027 | | | # | 0.00032 | - |
| | mg/L | 0842 | WL | 06/12/2013 | N001 | | | 0.0023 | | | # | 0.00032 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N001 | | | 0.0029 | | | # | 0.00032 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N002 | | | 0.0022 | | | # | 0.00032 | - |
| Oxidation Reduction Potential | mV | 0405 | WL | 03/28/2013 | N001 | NR | N | 150 | | | # | - | - |
| | mV | 0405 | WL | 06/12/2013 | N001 | NR | N | 36.2 | | | # | - | - |
| | mV | 0405 | WL | 09/19/2013 | N001 | NR | N | 156.9 | | | # | - | - |
| | mV | 0422 | WL | 03/27/2013 | N001 | NR | N | 265.2 | | | # | - | - |
| | mV | 0422 | WL | 06/12/2013 | N001 | NR | N | 86.9 | | | # | - | - |
| | mV | 0422 | WL | 09/18/2013 | N001 | NR | N | 158.8 | | | # | - | - |
| | mV | 0430 | WL | 03/27/2013 | N001 | NR | N | 59.8 | | | # | - | - |
| | mV | 0430 | WL | 06/11/2013 | N001 | NR | N | 31.6 | | | # | - | - |
| | mV | 0430 | WL | 09/18/2013 | N001 | NR | N | 187.5 | | | # | - | - |
| | mV | 0436 | WL | 03/27/2013 | N001 | NR | N | 258.0 | | | # | - | - |
| | mV | 0436 | WL | 06/11/2013 | N001 | NR | N | 164.9 | | | # | - | - |
| | mV | 0436 | WL | 09/18/2013 | N001 | NR | N | 138.6 | | | # | - | - |
| | mV | 0460 | WL | 03/27/2013 | N001 | NR | N | 175 | | | # | - | - |
| | mV | 0460 | WL | 06/11/2013 | N001 | NR | N | 89.9 | | | # | - | - |
| | mV | 0460 | WL | 09/18/2013 | N001 | NR | N | 151.8 | | | # | - | - |
| | mV | 0828 | WL | 03/27/2013 | N001 | | O | 258.9 | | | # | - | - |
| | mV | 0828 | WL | 06/11/2013 | N001 | | O | 56.1 | | | # | - | - |
| | mV | 0828 | WL | 09/18/2013 | N001 | | O | 128.9 | | | # | - | - |
| | mV | 0841 | WL | 03/27/2013 | N001 | | | 109.3 | | | # | - | - |
| | mV | 0841 | WL | 06/12/2013 | N001 | | | 24.9 | | | # | - | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:23 am

| 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 | 0841 | WL | 09/18/2013 | N001 | | | 168.3 | | | # | - | - |
| | mV | 0842 | WL | 03/27/2013 | N001 | | | 228.6 | | | # | - | - |
| | mV | 0842 | WL | 06/12/2013 | N001 | | | 87.0 | | | # | - | - |
| | mV | 0842 | WL | 09/18/2013 | N001 | | | 183.0 | | | # | - | - |
| pH | s.u. | 0405 | WL | 03/28/2013 | N001 | NR | N | 9.12 | | | # | - | - |
| | s.u. | 0405 | WL | 06/12/2013 | N001 | NR | N | 8.23 | | | # | - | - |
| | s.u. | 0405 | WL | 09/19/2013 | N001 | NR | N | 8.70 | | | # | - | - |
| | s.u. | 0422 | WL | 03/27/2013 | N001 | NR | N | 7.48 | | | # | - | - |
| | s.u. | 0422 | WL | 06/12/2013 | N001 | NR | N | 6.89 | | | # | - | - |
| | s.u. | 0422 | WL | 09/18/2013 | N001 | NR | N | 7.73 | | | # | - | - |
| | s.u. | 0430 | WL | 03/27/2013 | N001 | NR | N | 8.63 | | | # | - | - |
| | s.u. | 0430 | WL | 06/11/2013 | N001 | NR | N | 8.08 | | | # | - | - |
| | s.u. | 0430 | WL | 09/18/2013 | N001 | NR | N | 8.50 | | | # | - | - |
| | s.u. | 0436 | WL | 03/27/2013 | N001 | NR | N | 8.44 | | | # | - | - |
| | s.u. | 0436 | WL | 06/11/2013 | N001 | NR | N | 8.24 | | | # | - | - |
| | s.u. | 0436 | WL | 09/18/2013 | N001 | NR | N | 8.81 | | | # | - | - |
| | s.u. | 0460 | WL | 03/27/2013 | N001 | NR | N | 7.48 | | | # | - | - |
| | s.u. | 0460 | WL | 06/11/2013 | N001 | NR | N | 8.25 | | | # | - | - |
| | s.u. | 0460 | WL | 09/18/2013 | N001 | NR | N | 8.77 | | | # | - | - |
| | s.u. | 0828 | WL | 03/27/2013 | N001 | | O | 6.68 | | | # | - | - |
| | s.u. | 0828 | WL | 06/11/2013 | N001 | | O | 8.24 | | | # | - | - |
| | s.u. | 0828 | WL | 09/18/2013 | N001 | | O | 8.74 | | | # | - | - |
| | s.u. | 0841 | WL | 03/27/2013 | N001 | | | 7.67 | | | # | - | - |
| | s.u. | 0841 | WL | 06/12/2013 | N001 | | | 6.94 | | | # | - | - |
| | s.u. | 0841 | WL | 09/18/2013 | N001 | | | 7.72 | | | # | - | - |

| 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. | 0842 | WL | 03/27/2013 | N001 | | | 7.75 | | | # | - | - |
| | s.u. | 0842 | WL | 06/12/2013 | N001 | | | 7.37 | | | # | - | - |
| | s.u. | 0842 | WL | 09/18/2013 | N001 | | | 7.83 | | | # | - | - |
| Potassium | mg/L | 0405 | WL | 06/12/2013 | N001 | NR | N | 0.690 | B | U | # | 0.11 | - |
| | mg/L | 0405 | WL | 09/19/2013 | N001 | NR | N | 0.630 | B | U | # | 0.11 | - |
| | mg/L | 0422 | WL | 06/12/2013 | N001 | NR | N | 2.500 | | | # | 0.11 | - |
| | mg/L | 0422 | WL | 09/18/2013 | N001 | NR | N | 2.000 | | | # | 0.11 | - |
| | mg/L | 0430 | WL | 06/11/2013 | N001 | NR | N | 0.690 | B | U | # | 0.11 | - |
| | mg/L | 0430 | WL | 09/18/2013 | N001 | NR | N | 0.590 | B | U | # | 0.11 | - |
| | mg/L | 0436 | WL | 06/11/2013 | N001 | NR | N | 0.670 | B | U | # | 0.11 | - |
| | mg/L | 0436 | WL | 09/18/2013 | N001 | NR | N | 0.590 | B | U | # | 0.11 | - |
| | mg/L | 0460 | WL | 06/11/2013 | N001 | NR | N | 0.630 | B | U | # | 0.11 | - |
| | mg/L | 0460 | WL | 09/18/2013 | N001 | NR | N | 0.550 | B | U | # | 0.11 | - |
| | mg/L | 0828 | WL | 06/11/2013 | N001 | | O | 0.720 | B | U | # | 0.11 | - |
| | mg/L | 0828 | WL | 09/18/2013 | N001 | | O | 0.660 | B | U | # | 0.11 | - |
| | mg/L | 0841 | WL | 06/12/2013 | N001 | | | 3.300 | | | # | 0.11 | - |
| | mg/L | 0841 | WL | 09/18/2013 | N001 | | | 2.700 | | | # | 0.11 | - |
| | mg/L | 0842 | WL | 06/12/2013 | N001 | | | 0.850 | B | U | # | 0.11 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N001 | | | 0.910 | B | U | # | 0.11 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N002 | | | 0.770 | B | U | # | 0.11 | - |
| Sodium | mg/L | 0405 | WL | 06/12/2013 | N001 | NR | N | 160.000 | | | # | 0.066 | - |
| | mg/L | 0405 | WL | 09/19/2013 | N001 | NR | N | 200.000 | | | # | 0.066 | - |
| | mg/L | 0422 | WL | 06/12/2013 | N001 | NR | N | 32.000 | | | # | 0.0066 | - |
| | mg/L | 0422 | WL | 09/18/2013 | N001 | NR | N | 23.000 | | | # | 0.0066 | - |
| | mg/L | 0430 | WL | 06/11/2013 | N001 | NR | N | 130.000 | | | # | 0.066 | - |

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sodium | mg/L | 0430 | WL | 09/18/2013 | N001 | NR | N | 150.000 | | | # | 0.0066 | - |
| | mg/L | 0436 | WL | 06/11/2013 | N001 | NR | N | 140.000 | | | # | 0.066 | - |
| | mg/L | 0436 | WL | 09/18/2013 | N001 | NR | N | 170.000 | | | # | 0.066 | - |
| | mg/L | 0460 | WL | 06/11/2013 | N001 | NR | N | 150.000 | | | # | 0.0066 | - |
| | mg/L | 0460 | WL | 09/18/2013 | N001 | NR | N | 140.000 | | | # | 0.0066 | - |
| | mg/L | 0828 | WL | 06/11/2013 | N001 | | O | 140.000 | | | # | 0.066 | - |
| | mg/L | 0828 | WL | 09/18/2013 | N001 | | O | 170.000 | | | # | 0.066 | - |
| | mg/L | 0841 | WL | 06/12/2013 | N001 | | | 70.000 | | | # | 0.0066 | - |
| | mg/L | 0841 | WL | 09/18/2013 | N001 | | | 63.000 | | | # | 0.0066 | - |
| | mg/L | 0842 | WL | 06/12/2013 | N001 | | | 80.000 | | | # | 0.0066 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N001 | | | 79.000 | | | # | 0.0066 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N002 | | | 76.000 | | | # | 0.0066 | - |
| Specific Conductance | umhos/cm | 0405 | WL | 03/28/2013 | N001 | NR | N | 1001 | | | # | - | - |
| | umhos/cm | 0405 | WL | 06/12/2013 | N001 | NR | N | 948 | | | # | - | - |
| | umhos/cm | 0405 | WL | 09/19/2013 | N001 | NR | N | 908 | | | # | - | - |
| | umhos/cm | 0422 | WL | 03/27/2013 | N001 | NR | N | 494 | | | # | - | - |
| | umhos/cm | 0422 | WL | 06/12/2013 | N001 | NR | N | 546 | | | # | - | - |
| | umhos/cm | 0422 | WL | 09/18/2013 | N001 | NR | N | 371 | | | # | - | - |
| | umhos/cm | 0430 | WL | 03/27/2013 | N001 | NR | N | 841 | | | # | - | - |
| | umhos/cm | 0430 | WL | 06/11/2013 | N001 | NR | N | 768 | | | # | - | - |
| | umhos/cm | 0430 | WL | 09/18/2013 | N001 | NR | N | 750 | | | # | - | - |
| | umhos/cm | 0436 | WL | 03/27/2013 | N001 | NR | N | 766 | | | # | - | - |
| | umhos/cm | 0436 | WL | 06/11/2013 | N001 | NR | N | 784 | | | # | - | - |
| | umhos/cm | 0436 | WL | 09/18/2013 | N001 | NR | N | 822 | | | # | - | - |
| | umhos/cm | 0460 | WL | 03/27/2013 | N001 | NR | N | 810 | | | # | - | - |
| | umhos/cm | 0460 | WL | 06/11/2013 | N001 | NR | N | 712 | | | # | - | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:23 am

| 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 | 0460 | WL | 09/18/2013 | N001 | NR | N | 716 | | | # | - | - |
| | umhos/cm | 0828 | WL | 03/27/2013 | N001 | | O | 774 | | | # | - | - |
| | umhos/cm | 0828 | WL | 06/11/2013 | N001 | | O | 773 | | | # | - | - |
| | umhos/cm | 0828 | WL | 09/18/2013 | N001 | | O | 800 | | | # | - | - |
| | umhos/cm | 0841 | WL | 03/27/2013 | N001 | | | 874 | | | # | - | - |
| | umhos/cm | 0841 | WL | 06/12/2013 | N001 | | | 811 | | | # | - | - |
| | umhos/cm | 0841 | WL | 09/18/2013 | N001 | | | 686 | | | # | - | - |
| | umhos/cm | 0842 | WL | 03/27/2013 | N001 | | | 779 | | | # | - | - |
| | umhos/cm | 0842 | WL | 06/12/2013 | N001 | | | 669 | | | # | - | - |
| | umhos/cm | 0842 | WL | 09/18/2013 | N001 | | | 637 | | | # | - | - |
| Sulfate | mg/L | 0405 | WL | 03/28/2013 | N001 | NR | N | 350 | | J | # | 5 | - |
| | mg/L | 0405 | WL | 06/12/2013 | N001 | NR | N | 270 | N | | # | 2.5 | - |
| | mg/L | 0405 | WL | 09/19/2013 | N001 | NR | N | 280 | | | # | 2.5 | - |
| | mg/L | 0422 | WL | 03/27/2013 | N001 | NR | N | 68 | | J | # | 2.5 | - |
| | mg/L | 0422 | WL | 06/12/2013 | N001 | NR | N | 82 | | | # | 1 | - |
| | mg/L | 0422 | WL | 09/18/2013 | N001 | NR | N | 52 | | | # | 0.5 | - |
| | mg/L | 0430 | WL | 03/27/2013 | N001 | NR | N | 180 | | J | # | 2.5 | - |
| | mg/L | 0430 | WL | 06/11/2013 | N001 | NR | N | 180 | | | # | 2.5 | - |
| | mg/L | 0430 | WL | 09/18/2013 | N001 | NR | N | 180 | | | # | 2.5 | - |
| | mg/L | 0436 | WL | 03/27/2013 | N001 | NR | N | 190 | | J | # | 2.5 | - |
| | mg/L | 0436 | WL | 06/11/2013 | N001 | NR | N | 200 | | | # | 2.5 | - |
| | mg/L | 0436 | WL | 09/18/2013 | N001 | NR | N | 200 | | | # | 2.5 | - |
| | mg/L | 0460 | WL | 03/27/2013 | N001 | NR | N | 160 | | J | # | 2.5 | - |
| | mg/L | 0460 | WL | 03/27/2013 | N002 | NR | N | 170 | | | # | 2.5 | - |
| | mg/L | 0460 | WL | 06/11/2013 | N001 | NR | N | 160 | | | # | 2.5 | - |
| | mg/L | 0460 | WL | 09/18/2013 | N001 | NR | N | 170 | | | # | 2.5 | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:23 am

| 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 | 0828 | WL | 03/27/2013 | N001 | | O | 190 | | | # | 2.5 | - |
| | mg/L | 0828 | WL | 06/11/2013 | N001 | | O | 200 | | | # | 2.5 | - |
| | mg/L | 0828 | WL | 09/18/2013 | N001 | | O | 210 | | | # | 2.5 | - |
| | mg/L | 0841 | WL | 03/27/2013 | N001 | | | 240 | | | # | 2.5 | - |
| | mg/L | 0841 | WL | 06/12/2013 | N001 | | | 190 | | | # | 2.5 | - |
| | mg/L | 0841 | WL | 09/18/2013 | N001 | | | 150 | | | # | 2.5 | - |
| | mg/L | 0842 | WL | 03/27/2013 | N001 | | | 160 | | | # | 2.5 | - |
| | mg/L | 0842 | WL | 06/12/2013 | N001 | | | 160 | | | # | 2.5 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N001 | | | 150 | | | # | 2.5 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N002 | | | 150 | | | # | 2.5 | - |
| Temperature | C | 0405 | WL | 03/28/2013 | N001 | NR | N | 10.9 | | | # | - | - |
| | C | 0405 | WL | 06/12/2013 | N001 | NR | N | 15.75 | | | # | - | - |
| | C | 0405 | WL | 09/19/2013 | N001 | NR | N | 12.70 | | | # | - | - |
| | C | 0422 | WL | 03/27/2013 | N001 | NR | N | 13.97 | | | # | - | - |
| | C | 0422 | WL | 06/12/2013 | N001 | NR | N | 11.72 | | | # | - | - |
| | C | 0422 | WL | 09/18/2013 | N001 | NR | N | 16.51 | | | # | - | - |
| | C | 0430 | WL | 03/27/2013 | N001 | NR | N | 5.56 | | | # | - | - |
| | C | 0430 | WL | 06/11/2013 | N001 | NR | N | 12.92 | | | # | - | - |
| | C | 0430 | WL | 09/18/2013 | N001 | NR | N | 14.76 | | | # | - | - |
| | C | 0436 | WL | 03/27/2013 | N001 | NR | N | 11.18 | | | # | - | - |
| | C | 0436 | WL | 06/11/2013 | N001 | NR | N | 19.91 | | | # | - | - |
| | C | 0436 | WL | 09/18/2013 | N001 | NR | N | 21.30 | | | # | - | - |
| | C | 0460 | WL | 03/27/2013 | N001 | NR | N | 11.3 | | | # | - | - |
| | C | 0460 | WL | 06/11/2013 | N001 | NR | N | 14.05 | | | # | - | - |
| | C | 0460 | WL | 09/18/2013 | N001 | NR | N | 18.96 | | | # | - | - |
| | C | 0828 | WL | 03/27/2013 | N001 | | O | 6.52 | | | # | - | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:23 am

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Temperature | C | 0828 | WL | 06/11/2013 | N001 | | O | 15.49 | | | # | - | - |
| | C | 0828 | WL | 09/18/2013 | N001 | | O | 19.26 | | | # | - | - |
| | C | 0841 | WL | 03/27/2013 | N001 | | | 11.90 | | | # | - | - |
| | C | 0841 | WL | 06/12/2013 | N001 | | | 20.91 | | | # | - | - |
| | C | 0841 | WL | 09/18/2013 | N001 | | | 17.45 | | | # | - | - |
| | C | 0842 | WL | 03/27/2013 | N001 | | | 9.19 | | | # | - | - |
| | C | 0842 | WL | 06/12/2013 | N001 | | | 17.16 | | | # | - | - |
| | C | 0842 | WL | 09/18/2013 | N001 | | | 13.65 | | | # | - | - |
| Turbidity | NTU | 0405 | WL | 03/28/2013 | N001 | NR | N | 1.79 | | | # | - | - |
| | NTU | 0405 | WL | 06/12/2013 | N001 | NR | N | 2.12 | | | # | - | - |
| | NTU | 0405 | WL | 09/19/2013 | N001 | NR | N | 6.74 | | | # | - | - |
| | NTU | 0422 | WL | 03/27/2013 | N001 | NR | N | 1.63 | | | # | - | - |
| | NTU | 0422 | WL | 06/12/2013 | N001 | NR | N | 1.28 | | | # | - | - |
| | NTU | 0422 | WL | 09/18/2013 | N001 | NR | N | 1.15 | | | # | - | - |
| | NTU | 0430 | WL | 03/27/2013 | N001 | NR | N | 2.91 | | | # | - | - |
| | NTU | 0430 | WL | 06/11/2013 | N001 | NR | N | 4.30 | | | # | - | - |
| | NTU | 0430 | WL | 09/18/2013 | N001 | NR | N | 3.38 | | | # | - | - |
| | NTU | 0436 | WL | 03/27/2013 | N001 | NR | N | 4.64 | | | # | - | - |
| | NTU | 0436 | WL | 06/11/2013 | N001 | NR | N | 4.00 | | | # | - | - |
| | NTU | 0436 | WL | 09/18/2013 | N001 | NR | N | 1.15 | | | # | - | - |
| | NTU | 0460 | WL | 03/27/2013 | N001 | NR | N | 1.45 | | | # | - | - |
| | NTU | 0460 | WL | 06/11/2013 | N001 | NR | N | 2.50 | | | # | - | - |
| | NTU | 0460 | WL | 09/18/2013 | N001 | NR | N | 1.39 | | | # | - | - |
| | NTU | 0828 | WL | 03/27/2013 | N001 | | O | 0.82 | | | # | - | - |
| | NTU | 0828 | WL | 06/11/2013 | N001 | | O | 2.39 | | | # | - | - |
| | NTU | 0828 | WL | 09/18/2013 | N001 | | O | 0.82 | | | # | - | - |

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Turbidity | NTU | 0841 | WL | 03/27/2013 | N001 | | | 0.52 | | | # | - | - |
| | NTU | 0841 | WL | 06/12/2013 | N001 | | | 4.35 | | | # | - | - |
| | NTU | 0841 | WL | 09/18/2013 | N001 | | | 5.36 | | | # | - | - |
| | NTU | 0842 | WL | 03/27/2013 | N001 | | | 3.68 | | | # | - | - |
| | NTU | 0842 | WL | 06/12/2013 | N001 | | | 4.37 | | | # | - | - |
| | NTU | 0842 | WL | 09/18/2013 | N001 | | | 3.24 | | | # | - | - |
| Uranium | mg/L | 0405 | WL | 03/28/2013 | N001 | NR | N | 0.00002 | U | | # | 2.9E-05 | - |
| | mg/L | 0405 | WL | 06/12/2013 | N001 | NR | N | 0.00005 | B | | # | 2.9E-05 | - |
| | mg/L | 0405 | WL | 09/19/2013 | N001 | NR | N | 0.00008 | B | | # | 2.9E-05 | - |
| | mg/L | 0422 | WL | 03/27/2013 | N001 | NR | N | 0.0025 | | | # | 2.9E-05 | - |
| | mg/L | 0422 | WL | 06/12/2013 | N001 | NR | N | 0.0032 | | | # | 2.9E-05 | - |
| | mg/L | 0422 | WL | 09/18/2013 | N001 | NR | N | 0.0014 | | | # | 2.9E-05 | - |
| | mg/L | 0430 | WL | 03/27/2013 | N001 | NR | N | 0.00003 | B | | # | 2.9E-05 | - |
| | mg/L | 0430 | WL | 06/11/2013 | N001 | NR | N | 0.00004 | B | | # | 2.9E-05 | - |
| | mg/L | 0430 | WL | 09/18/2013 | N001 | NR | N | 0.00004 | B | | # | 2.9E-05 | - |
| | mg/L | 0436 | WL | 03/27/2013 | N001 | NR | N | 0.00004 | B | | # | 2.9E-05 | - |
| | mg/L | 0436 | WL | 06/11/2013 | N001 | NR | N | 0.00006 | B | | # | 2.9E-05 | - |
| | mg/L | 0436 | WL | 09/18/2013 | N001 | NR | N | 0.00007 | B | | # | 2.9E-05 | - |
| | mg/L | 0460 | WL | 03/27/2013 | N001 | NR | N | 0.00005 | B | | # | 2.9E-05 | - |
| | mg/L | 0460 | WL | 03/27/2013 | N002 | NR | N | 0.00006 | B | | # | 2.9E-05 | - |
| | mg/L | 0460 | WL | 06/11/2013 | N001 | NR | N | 0.00008 | B | | # | 2.9E-05 | - |
| | mg/L | 0460 | WL | 09/18/2013 | N001 | NR | N | 0.00007 | B | | # | 2.9E-05 | - |
| | mg/L | 0828 | WL | 03/27/2013 | N001 | | O | 0.00006 | B | | # | 2.9E-05 | - |
| | mg/L | 0828 | WL | 06/11/2013 | N001 | | O | 0.00011 | | | # | 2.9E-05 | - |
| | mg/L | 0828 | WL | 09/18/2013 | N001 | | O | 0.00008 | B | | # | 2.9E-05 | - |
| | mg/L | 0841 | WL | 03/27/2013 | N001 | | | 0.00093 | | | # | 2.9E-05 | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:23 am

| 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 | 0841 | WL | 06/12/2013 | N001 | | | 0.0028 | | | # | 2.9E-05 | - |
| | mg/L | 0841 | WL | 09/18/2013 | N001 | | | 0.0018 | | | # | 2.9E-05 | - |
| | mg/L | 0842 | WL | 03/27/2013 | N001 | | | 0.00035 | | | # | 2.9E-05 | - |
| | mg/L | 0842 | WL | 06/12/2013 | N001 | | | 0.00031 | | | # | 2.9E-05 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N001 | | | 0.00034 | | | # | 2.9E-05 | - |
| | mg/L | 0842 | WL | 09/18/2013 | N002 | | | 0.00027 | | | # | 2.9E-05 | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:23 am

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

RECORDS: SELECTED FROM USEE200 WHERE site_code='RVT01' AND location_code in('0405','0422','0430','0436','0460','0828','0838','0839','0840','0841','0842') AND (data_validation_qualifiers IS NULL OR data_validation_qualifiers NOT LIKE '%R%' AND data_validation_qualifiers NOT LIKE '%X%' ) AND DATE_SAMPLED between #1/1/2013# and #12/31/2013#

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 compund (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.

# Appendix C

# Surface Water Quality Data

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SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/24/2014 12:43 pm

| PARAMETER | UNITS | LOCATION CODE | SAMPLE: DATE | ID | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total (As CaCO3) | mg/L | 0747 | 03/28/2013 | 0001 | 186 | | | | # | - | - |
| | mg/L | 0747 | 06/12/2013 | 0001 | 224 | | | | # | - | - |
| | mg/L | 0747 | 09/19/2013 | 0001 | 261 | | | | # | - | - |
| | mg/L | 0749 | 03/27/2013 | N001 | 79 | | | | # | - | - |
| | mg/L | 0749 | 06/11/2013 | 0001 | 185 | | | | # | - | - |
| | mg/L | 0749 | 09/18/2013 | 0001 | 118 | | | | # | - | - |
| | mg/L | 0794 | 03/27/2013 | 0001 | 170 | | | | # | - | - |
| | mg/L | 0794 | 06/11/2013 | 0001 | 57 | | | | # | - | - |
| | mg/L | 0794 | 09/18/2013 | 0001 | 137 | | | | # | - | - |
| | mg/L | 0796 | 03/26/2013 | 0001 | 270 | | | | # | - | - |
| | mg/L | 0796 | 06/11/2013 | 0001 | 61 | | | | # | - | - |
| | mg/L | 0796 | 09/19/2013 | 0001 | 135 | | | | # | - | - |
| | mg/L | 0810 | 03/26/2013 | N001 | 508 | | | | # | - | - |
| | mg/L | 0810 | 06/11/2013 | 0001 | 268 | | | | # | - | - |
| | mg/L | 0810 | 09/19/2013 | 0001 | 385 | | | | # | - | - |
| | mg/L | 0811 | 03/28/2013 | 0001 | 162 | | | | # | - | - |
| | mg/L | 0811 | 06/12/2013 | N001 | 48 | | | | # | - | - |
| | mg/L | 0811 | 09/19/2013 | 0001 | 164 | | | | # | - | - |
| | mg/L | 0812 | 03/28/2013 | 0001 | 202 | | | | # | - | - |
| | mg/L | 0812 | 06/13/2013 | N001 | 54 | | | | # | - | - |
| | mg/L | 0812 | 09/20/2013 | 0001 | 146 | | | | # | - | - |
| | mg/L | 0822 | 03/27/2013 | N001 | 174 | | | | # | - | - |
| | mg/L | 0822 | 06/11/2013 | N001 | 117 | | | | # | - | - |
| | mg/L | 0822 | 09/19/2013 | N001 | 258 | | | | # | - | - |
| | mg/L | 0823 | 03/27/2013 | N001 | 192 | | | | # | - | - |
| | mg/L | 0823 | 06/11/2013 | N001 | 89 | | | | # | - | - |
| | mg/L | 0823 | 09/18/2013 | 0001 | 136 | | | | # | - | - |
| Calcium | mg/L | 0747 | 06/12/2013 | 0001 | 110.000 | | | | # | 0.012 | - |
| | mg/L | 0747 | 06/12/2013 | 0002 | 110.000 | | | | # | 0.012 | - |
| | mg/L | 0747 | 09/19/2013 | 0001 | 150.000 | | | | # | 0.012 | - |
| | mg/L | 0749 | 06/11/2013 | 0001 | 66.000 | | | | # | 0.012 | - |
| | mg/L | 0749 | 09/18/2013 | 0001 | 58.000 | | | | # | 0.012 | - |
| | mg/L | 0794 | 06/11/2013 | 0001 | 20.000 | | | | # | 0.012 | - |
| | mg/L | 0794 | 09/18/2013 | 0001 | 55.000 | | J | | # | 0.012 | - |
| | mg/L | 0796 | 06/11/2013 | 0001 | 20.000 | | | | # | 0.012 | - |
| | mg/L | 0796 | 09/19/2013 | 0001 | 59.000 | | J | | # | 0.012 | - |
| | mg/L | 0810 | 06/11/2013 | 0001 | 25.000 | | | | # | 0.012 | - |

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/24/2014 12:43 pm

| PARAMETER | UNITS | LOCATION CODE | SAMPLE: DATE | ID | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | mg/L | 0810 | 09/19/2013 | 0001 | 15.000 | | J | # | 0.012 | - |
| | mg/L | 0811 | 06/12/2013 | 0001 | 21.000 | | | # | 0.012 | - |
| | mg/L | 0811 | 09/19/2013 | 0001 | 58.000 | | J | # | 0.012 | - |
| | mg/L | 0812 | 06/13/2013 | 0001 | 22.000 | | | # | 0.012 | - |
| | mg/L | 0812 | 09/20/2013 | 0001 | 53.000 | | J | # | 0.012 | - |
| | mg/L | 0822 | 06/11/2013 | N001 | 40.000 | | | # | 0.012 | - |
| | mg/L | 0822 | 09/19/2013 | N001 | 87.000 | | | # | 0.012 | - |
| | mg/L | 0823 | 06/11/2013 | N001 | 170.000 | | | # | 0.012 | - |
| | mg/L | 0823 | 09/18/2013 | 0001 | 180.000 | | | # | 0.012 | - |
| Chloride | mg/L | 0747 | 06/12/2013 | 0001 | 26 | | | # | 4 | - |
| | mg/L | 0747 | 06/12/2013 | 0002 | 27 | | | # | 4 | - |
| | mg/L | 0747 | 09/19/2013 | 0001 | 23 | | | # | 5 | - |
| | mg/L | 0749 | 06/11/2013 | 0001 | 14 | | | # | 2 | - |
| | mg/L | 0749 | 09/18/2013 | 0001 | 250 | | | # | 5 | - |
| | mg/L | 0794 | 06/11/2013 | 0001 | 1.8 | | | # | 0.2 | - |
| | mg/L | 0794 | 09/18/2013 | 0001 | 5.5 | | | # | 0.2 | - |
| | mg/L | 0796 | 06/11/2013 | 0001 | 1.7 | | | # | 0.2 | - |
| | mg/L | 0796 | 09/19/2013 | 0001 | 5.8 | | | # | 0.2 | - |
| | mg/L | 0810 | 06/11/2013 | 0001 | 38 | | | # | 4 | - |
| | mg/L | 0810 | 09/19/2013 | 0001 | 42 | | | # | 5 | - |
| | mg/L | 0811 | 06/12/2013 | 0001 | 1.7 | | | # | 0.2 | - |
| | mg/L | 0811 | 09/19/2013 | 0001 | 5.5 | | | # | 0.2 | - |
| | mg/L | 0812 | 06/13/2013 | 0001 | 1.8 | | | # | 0.2 | - |
| | mg/L | 0812 | 09/20/2013 | 0001 | 5.1 | | | # | 0.2 | - |
| | mg/L | 0822 | 06/11/2013 | N001 | 3.8 | | | # | 0.2 | - |
| | mg/L | 0822 | 09/19/2013 | N001 | 11 | | | # | 1 | - |
| | mg/L | 0823 | 06/11/2013 | N001 | 220 | | | # | 10 | - |
| | mg/L | 0823 | 09/18/2013 | 0001 | 240 | | | # | 5 | - |
| Dissolved Oxygen | mg/L | 0747 | 03/28/2013 | N001 | 13.05 | | | # | - | - |
| | mg/L | 0747 | 06/12/2013 | N001 | 5.18 | | | # | - | - |
| | mg/L | 0747 | 09/19/2013 | N001 | 11.53 | | | # | - | - |
| | mg/L | 0749 | 03/27/2013 | N001 | 8.24 | | | # | - | - |
| | mg/L | 0749 | 06/11/2013 | N001 | 7.29 | | | # | - | - |
| | mg/L | 0749 | 09/18/2013 | N001 | 8.30 | | | # | - | - |
| | mg/L | 0794 | 03/27/2013 | N001 | 12.36 | | | # | - | - |
| | mg/L | 0794 | 06/11/2013 | N001 | 7.37 | | | # | - | - |
| | mg/L | 0794 | 09/18/2013 | N001 | 10.69 | | | # | - | - |
| | mg/L | 0796 | 03/26/2013 | N001 | 11.46 | | | # | - | - |

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/24/2014 12:43 pm

| PARAMETER | UNITS | LOCATION CODE | SAMPLE: DATE | ID | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dissolved Oxygen | mg/L | 0796 | 06/11/2013 | N001 | 6.67 | | | | # | - | - |
| | mg/L | 0796 | 09/19/2013 | N001 | 8.35 | | | | # | - | - |
| | mg/L | 0810 | 03/26/2013 | N001 | 9.47 | | | | # | - | - |
| | mg/L | 0810 | 06/11/2013 | N001 | 7.65 | | | | # | - | - |
| | mg/L | 0810 | 09/19/2013 | N001 | 8.19 | | | | # | - | - |
| | mg/L | 0811 | 03/28/2013 | N001 | 12.85 | | | | # | - | - |
| | mg/L | 0811 | 06/12/2013 | N001 | 7.23 | | | | # | - | - |
| | mg/L | 0811 | 09/19/2013 | N001 | 9.00 | | | | # | - | - |
| | mg/L | 0812 | 03/28/2013 | N001 | 12.16 | | | | # | - | - |
| | mg/L | 0812 | 06/13/2013 | N001 | 7.71 | | | | # | - | - |
| | mg/L | 0812 | 09/20/2013 | N001 | 8.81 | | | | # | - | - |
| | mg/L | 0822 | 03/27/2013 | N001 | 11.16 | | | | # | - | - |
| | mg/L | 0822 | 06/11/2013 | N001 | 6.88 | | | | # | - | - |
| | mg/L | 0822 | 09/19/2013 | N001 | 9.53 | | | | # | - | - |
| | mg/L | 0823 | 03/27/2013 | N001 | 10.86 | | | | # | - | - |
| | mg/L | 0823 | 06/11/2013 | N001 | 7.59 | | | | # | - | - |
| | mg/L | 0823 | 09/18/2013 | N001 | 7.89 | | | | # | - | - |
| Iron | mg/L | 0747 | 09/19/2013 | 0001 | 0.0049 | U | | | # | 0.0049 | - |
| | mg/L | 0749 | 09/18/2013 | 0001 | 0.170 | | | | # | 0.0049 | - |
| | mg/L | 0794 | 09/18/2013 | 0001 | 0.036 | B | | J | # | 0.0049 | - |
| | mg/L | 0796 | 09/19/2013 | 0001 | 0.0062 | B | | U | # | 0.0049 | - |
| | mg/L | 0810 | 09/19/2013 | 0001 | 0.0066 | B | | U | # | 0.0049 | - |
| | mg/L | 0811 | 09/19/2013 | 0001 | 0.0049 | U | | | # | 0.0049 | - |
| | mg/L | 0812 | 09/20/2013 | 0001 | 0.0049 | U | | | # | 0.0049 | - |
| | mg/L | 0822 | 09/19/2013 | N001 | 0.150 | | | J | # | 0.0049 | - |
| | mg/L | 0823 | 09/18/2013 | 0001 | 0.160 | | | J | # | 0.0049 | - |
| Magnesium | mg/L | 0747 | 06/12/2013 | 0001 | 51.000 | | | | # | 0.013 | - |
| | mg/L | 0747 | 06/12/2013 | 0002 | 50.000 | | | | # | 0.013 | - |
| | mg/L | 0747 | 09/19/2013 | 0001 | 55.000 | | | | # | 0.013 | - |
| | mg/L | 0749 | 06/11/2013 | 0001 | 0.550 | B | | U | # | 0.013 | - |
| | mg/L | 0749 | 09/18/2013 | 0001 | 0.430 | B | | | # | 0.013 | - |
| | mg/L | 0794 | 06/11/2013 | 0001 | 5.600 | | | | # | 0.013 | - |
| | mg/L | 0794 | 09/18/2013 | 0001 | 19.000 | | | J | # | 0.013 | - |
| | mg/L | 0796 | 06/11/2013 | 0001 | 5.400 | | | | # | 0.013 | - |
| | mg/L | 0796 | 09/19/2013 | 0001 | 21.000 | | | J | # | 0.013 | - |
| | mg/L | 0810 | 06/11/2013 | 0001 | 100.000 | | | | # | 0.013 | - |
| | mg/L | 0810 | 09/19/2013 | 0001 | 94.000 | | | J | # | 0.013 | - |
| | mg/L | 0811 | 06/12/2013 | 0001 | 5.400 | | | | # | 0.013 | - |

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/24/2014 12:43 pm

| PARAMETER | UNITS | LOCATION CODE | SAMPLE: DATE | ID | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|
| Magnesium | mg/L | 0811 | 09/19/2013 | 0001 | 21.000 | | J | # | 0.013 | - |
| | mg/L | 0812 | 06/13/2013 | 0001 | 6.100 | | | # | 0.013 | - |
| | mg/L | 0812 | 09/20/2013 | 0001 | 19.000 | | J | # | 0.013 | - |
| | mg/L | 0822 | 06/11/2013 | N001 | 9.000 | | | # | 0.013 | - |
| | mg/L | 0822 | 09/19/2013 | N001 | 23.000 | | J | # | 0.013 | - |
| | mg/L | 0823 | 06/11/2013 | N001 | 91.000 | | | # | 0.013 | - |
| | mg/L | 0823 | 09/18/2013 | 0001 | 92.000 | | | # | 0.013 | - |
| Manganese | mg/L | 0747 | 03/28/2013 | 0001 | 0.160 | | | # | 0.00011 | - |
| | mg/L | 0747 | 06/12/2013 | 0001 | 0.580 | | | # | 0.00011 | - |
| | mg/L | 0747 | 06/12/2013 | 0002 | 0.570 | | | # | 0.00011 | - |
| | mg/L | 0747 | 09/19/2013 | 0001 | 0.400 | | | # | 0.00011 | - |
| | mg/L | 0749 | 03/27/2013 | 0001 | 0.059 | | | # | 0.00011 | - |
| | mg/L | 0749 | 06/11/2013 | 0001 | 0.0091 | | | # | 0.00011 | - |
| | mg/L | 0749 | 09/18/2013 | 0001 | 0.020 | | | # | 0.00011 | - |
| | mg/L | 0794 | 03/27/2013 | 0001 | 0.120 | | | # | 0.00011 | - |
| | mg/L | 0794 | 06/11/2013 | 0001 | 0.010 | | | # | 0.00011 | - |
| | mg/L | 0794 | 09/18/2013 | 0001 | 0.010 | | | # | 0.00011 | - |
| | mg/L | 0796 | 03/26/2013 | 0001 | 0.099 | | | # | 0.00011 | - |
| | mg/L | 0796 | 06/11/2013 | 0001 | 0.0037 | B | J | # | 0.00011 | - |
| | mg/L | 0796 | 09/19/2013 | 0001 | 0.0046 | B | | # | 0.00011 | - |
| | mg/L | 0810 | 03/26/2013 | N001 | 0.490 | | | # | 0.00011 | - |
| | mg/L | 0810 | 06/11/2013 | 0001 | 0.023 | | | # | 0.00011 | - |
| | mg/L | 0810 | 09/19/2013 | 0001 | 0.0053 | | | # | 0.00011 | - |
| | mg/L | 0811 | 03/28/2013 | 0001 | 0.140 | | | # | 0.00011 | - |
| | mg/L | 0811 | 06/12/2013 | 0001 | 0.0092 | | | # | 0.00011 | - |
| | mg/L | 0811 | 09/19/2013 | 0001 | 0.0082 | | | # | 0.00011 | - |
| | mg/L | 0812 | 03/28/2013 | 0001 | 0.160 | | | # | 0.00011 | - |
| | mg/L | 0812 | 06/13/2013 | 0001 | 0.110 | | | # | 0.00011 | - |
| | mg/L | 0812 | 09/20/2013 | 0001 | 0.0095 | | | # | 0.00011 | - |
| | mg/L | 0822 | 03/27/2013 | N001 | 0.076 | | | # | 0.00011 | - |
| | mg/L | 0822 | 06/11/2013 | N001 | 0.009 | | | # | 0.00011 | - |
| | mg/L | 0822 | 09/19/2013 | N001 | 0.015 | E | J | # | 0.00011 | - |
| | mg/L | 0823 | 03/27/2013 | N001 | 0.160 | | | # | 0.00011 | - |
| | mg/L | 0823 | 06/11/2013 | N001 | 0.280 | | | # | 0.00011 | - |
| | mg/L | 0823 | 09/18/2013 | 0001 | 0.660 | | | # | 0.00011 | - |
| Molybdenum | mg/L | 0747 | 03/28/2013 | 0001 | 0.012 | | | # | 0.00032 | - |
| | mg/L | 0747 | 06/12/2013 | 0001 | 0.015 | | J | # | 0.0016 | - |
| | mg/L | 0747 | 06/12/2013 | 0002 | 0.053 | | J | # | 0.0032 | - |

| PARAMETER | UNITS | LOCATION CODE | SAMPLE: DATE | ID | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Molybdenum | mg/L | 0747 | 09/19/2013 | 0001 | 0.027 | | | | # | 0.0016 | - |
| | mg/L | 0749 | 03/27/2013 | 0001 | 0.010 | | | | # | 0.00032 | - |
| | mg/L | 0749 | 06/11/2013 | 0001 | 0.0047 | | | | # | 0.00032 | - |
| | mg/L | 0749 | 09/18/2013 | 0001 | 0.0059 | | | | # | 0.00032 | - |
| | mg/L | 0794 | 03/27/2013 | 0001 | 0.0016 | | | | # | 0.00032 | - |
| | mg/L | 0794 | 06/11/2013 | 0001 | 0.0005 | B | | | # | 0.00032 | - |
| | mg/L | 0794 | 09/18/2013 | 0001 | 0.001 | | | | # | 0.00032 | - |
| | mg/L | 0796 | 03/26/2013 | 0001 | 0.0016 | | | | # | 0.00032 | - |
| | mg/L | 0796 | 06/11/2013 | 0001 | 0.0004 | B | | | # | 0.00032 | - |
| | mg/L | 0796 | 09/19/2013 | 0001 | 0.001 | B | | | # | 0.00032 | - |
| | mg/L | 0810 | 03/26/2013 | N001 | 0.0013 | | | | # | 0.00032 | - |
| | mg/L | 0810 | 06/11/2013 | 0001 | 0.0015 | | | | # | 0.00032 | - |
| | mg/L | 0810 | 09/19/2013 | 0001 | 0.0018 | | | | # | 0.00032 | - |
| | mg/L | 0811 | 03/28/2013 | 0001 | 0.0021 | | | | # | 0.00032 | - |
| | mg/L | 0811 | 06/12/2013 | 0001 | 0.0004 | B | | | # | 0.00032 | - |
| | mg/L | 0811 | 09/19/2013 | 0001 | 0.0012 | | | | # | 0.00032 | - |
| | mg/L | 0812 | 03/28/2013 | 0001 | 0.0023 | | | | # | 0.00032 | - |
| | mg/L | 0812 | 06/13/2013 | 0001 | 0.0005 | B | | | # | 0.00032 | - |
| | mg/L | 0812 | 09/20/2013 | 0001 | 0.0011 | | | | # | 0.00032 | - |
| | mg/L | 0822 | 03/27/2013 | N001 | 0.0083 | | | | # | 0.00032 | - |
| | mg/L | 0822 | 06/11/2013 | N001 | 0.0016 | | | | # | 0.00032 | - |
| | mg/L | 0822 | 09/19/2013 | N001 | 0.0017 | | | | # | 0.00032 | - |
| | mg/L | 0823 | 03/27/2013 | N001 | 0.0016 | | | | # | 0.00032 | - |
| | mg/L | 0823 | 06/11/2013 | N001 | 0.0016 | | | | # | 0.00032 | - |
| | mg/L | 0823 | 09/18/2013 | 0001 | 0.0023 | | | | # | 0.00032 | - |
| Oxidation Reduction Potential | mV | 0747 | 03/28/2013 | N001 | 228.5 | | | | # | - | - |
| | mV | 0747 | 06/12/2013 | N001 | 36.2 | | | | # | - | - |
| | mV | 0747 | 09/19/2013 | N001 | 109.9 | | | | # | - | - |
| | mV | 0749 | 03/27/2013 | N001 | 76.6 | | | | # | - | - |
| | mV | 0749 | 06/11/2013 | N001 | 44.5 | | | | # | - | - |
| | mV | 0749 | 09/18/2013 | N001 | 166.0 | | | | # | - | - |
| | mV | 0794 | 03/27/2013 | N001 | 372.6 | | | | # | - | - |
| | mV | 0794 | 06/11/2013 | N001 | -10.0 | | | | # | - | - |
| | mV | 0794 | 09/18/2013 | N001 | 116.8 | | | | # | - | - |
| | mV | 0796 | 03/26/2013 | N001 | 140 | | | | # | - | - |
| | mV | 0796 | 06/11/2013 | N001 | 156 | | | | # | - | - |
| | mV | 0796 | 09/19/2013 | N001 | 180.8 | | | | # | - | - |

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/24/2014 12:43 pm

| PARAMETER | UNITS | LOCATION CODE | SAMPLE: DATE | ID | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Oxidation Reduction Potential | mV | 0810 | 03/26/2013 | N001 | 133 | | | | # | - | - |
| | mV | 0810 | 06/11/2013 | N001 | 68.7 | | | | # | - | - |
| | mV | 0810 | 09/19/2013 | N001 | 176.8 | | | | # | - | - |
| | mV | 0811 | 03/28/2013 | N001 | 190 | | | | # | - | - |
| | mV | 0811 | 06/12/2013 | N001 | 39.8 | | | | # | - | - |
| | mV | 0811 | 09/19/2013 | N001 | 69.7 | | | | # | - | - |
| | mV | 0812 | 03/28/2013 | N001 | 212.0 | | | | # | - | - |
| | mV | 0812 | 06/13/2013 | N001 | 51.4 | | | | # | - | - |
| | mV | 0812 | 09/20/2013 | N001 | 78.1 | | | | # | - | - |
| | mV | 0822 | 03/27/2013 | N001 | 302.1 | | | | # | - | - |
| | mV | 0822 | 06/11/2013 | N001 | 2.2 | | | | # | - | - |
| | mV | 0822 | 09/19/2013 | N001 | 91.8 | | | | # | - | - |
| | mV | 0823 | 03/27/2013 | N001 | 100.6 | | | | # | - | - |
| | mV | 0823 | 06/11/2013 | N001 | 44.6 | | | | # | - | - |
| | mV | 0823 | 09/18/2013 | N001 | 216.3 | | | | # | - | - |
| pH | s.u. | 0747 | 03/28/2013 | N001 | 7.81 | | | | # | - | - |
| | s.u. | 0747 | 06/12/2013 | N001 | 6.68 | | | | # | - | - |
| | s.u. | 0747 | 09/19/2013 | N001 | 8.13 | | | | # | - | - |
| | s.u. | 0749 | 03/27/2013 | N001 | 7.93 | | | | # | - | - |
| | s.u. | 0749 | 06/11/2013 | N001 | 8.11 | | | | # | - | - |
| | s.u. | 0749 | 09/18/2013 | N001 | 8.18 | | | | # | - | - |
| | s.u. | 0794 | 03/27/2013 | N001 | 6.88 | | | | # | - | - |
| | s.u. | 0794 | 06/11/2013 | N001 | 7.75 | | | | # | - | - |
| | s.u. | 0794 | 09/18/2013 | N001 | 8.19 | | | | # | - | - |
| | s.u. | 0796 | 03/26/2013 | N001 | 7.96 | | | | # | - | - |
| | s.u. | 0796 | 06/11/2013 | N001 | 7.00 | | | | # | - | - |
| | s.u. | 0796 | 09/19/2013 | N001 | 7.62 | | | | # | - | - |
| | s.u. | 0810 | 03/26/2013 | N001 | 7.95 | | | | # | - | - |
| | s.u. | 0810 | 06/11/2013 | N001 | 8.37 | | | | # | - | - |
| | s.u. | 0810 | 09/19/2013 | N001 | 9.08 | | | | # | - | - |
| | s.u. | 0811 | 03/28/2013 | N001 | 8.35 | | | | # | - | - |
| | s.u. | 0811 | 06/12/2013 | N001 | 7.33 | | | | # | - | - |
| | s.u. | 0811 | 09/19/2013 | N001 | 8.36 | | | | # | - | - |
| | s.u. | 0812 | 03/28/2013 | N001 | 8.22 | | | | # | - | - |
| | s.u. | 0812 | 06/13/2013 | N001 | 7.47 | | | | # | - | - |
| | s.u. | 0812 | 09/20/2013 | N001 | 8.23 | | | | # | - | - |
| | s.u. | 0822 | 03/27/2013 | N001 | 8.04 | | | | # | - | - |

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/24/2014 12:43 pm

| PARAMETER | UNITS | LOCATION CODE | SAMPLE: DATE | ID | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| pH | s.u. | 0822 | 06/11/2013 | N001 | 7.81 | | | | # | - | - |
| | s.u. | 0822 | 09/19/2013 | N001 | 8.06 | | | | # | - | - |
| | s.u. | 0823 | 03/27/2013 | N001 | 7.95 | | | | # | - | - |
| | s.u. | 0823 | 06/11/2013 | N001 | 7.85 | | | | # | - | - |
| | s.u. | 0823 | 09/18/2013 | N001 | 7.66 | | | | # | - | - |
| Potassium | mg/L | 0747 | 06/12/2013 | 0001 | 5.900 | E | J | | # | 0.11 | - |
| | mg/L | 0747 | 06/12/2013 | 0002 | 5.700 | | | | # | 0.11 | - |
| | mg/L | 0747 | 09/19/2013 | 0001 | 9.900 | | | | # | 0.11 | - |
| | mg/L | 0749 | 06/11/2013 | 0001 | 3.000 | | | | # | 0.11 | - |
| | mg/L | 0749 | 09/18/2013 | 0001 | 2.800 | | | | # | 0.11 | - |
| | mg/L | 0794 | 06/11/2013 | 0001 | 1.000 | | | | # | 0.11 | - |
| | mg/L | 0794 | 09/18/2013 | 0001 | 2.700 | | | | # | 0.11 | - |
| | mg/L | 0796 | 06/11/2013 | 0001 | 1.000 | | | | # | 0.11 | - |
| | mg/L | 0796 | 09/19/2013 | 0001 | 2.800 | | | | # | 0.11 | - |
| | mg/L | 0810 | 06/11/2013 | 0001 | 20.000 | | | | # | 0.11 | - |
| | mg/L | 0810 | 09/19/2013 | 0001 | 18.000 | | | | # | 0.11 | - |
| | mg/L | 0811 | 06/12/2013 | 0001 | 1.000 | | | | # | 0.11 | - |
| | mg/L | 0811 | 09/19/2013 | 0001 | 2.700 | | | | # | 0.11 | - |
| | mg/L | 0812 | 06/13/2013 | 0001 | 1.100 | | | | # | 0.11 | - |
| | mg/L | 0812 | 09/20/2013 | 0001 | 2.400 | | | | # | 0.11 | - |
| | mg/L | 0822 | 06/11/2013 | N001 | 4.100 | | | | # | 0.11 | - |
| | mg/L | 0822 | 09/19/2013 | N001 | 6.500 | E | J | | # | 0.11 | - |
| | mg/L | 0823 | 06/11/2013 | N001 | 15.000 | | | | # | 0.11 | - |
| | mg/L | 0823 | 09/18/2013 | 0001 | 18.000 | | | | # | 0.11 | - |
| Radium-226 | pCi/L | 0822 | 03/27/2013 | N001 | 0.579 | | | | # | 0.17 | ± 0.27 |
| | pCi/L | 0822 | 06/11/2013 | N001 | 0.35 | U | | | # | 0.35 | ± 0.26 |
| | pCi/L | 0822 | 09/19/2013 | N001 | 0.3 | | J | | # | 0.19 | ± 0.19 |
| Radium-228 | pCi/L | 0822 | 03/27/2013 | N001 | 0.50 | U | | | # | 0.5 | ± 0.33 |
| | pCi/L | 0822 | 06/11/2013 | N001 | 0.32 | U | | | # | 0.32 | ± 0.21 |
| | pCi/L | 0822 | 09/19/2013 | N001 | 0.42 | U | | | # | 0.42 | ± 0.26 |
| Sodium | mg/L | 0747 | 06/12/2013 | 0001 | 160.000 | | | | # | 0.066 | - |
| | mg/L | 0747 | 06/12/2013 | 0002 | 150.000 | | | | # | 0.066 | - |
| | mg/L | 0747 | 09/19/2013 | 0001 | 190.000 | | | | # | 0.066 | - |
| | mg/L | 0749 | 06/11/2013 | 0001 | 210.000 | | | | # | 0.066 | - |
| | mg/L | 0749 | 09/18/2013 | 0001 | 320.000 | | | | # | 0.066 | - |
| | mg/L | 0794 | 06/11/2013 | 0001 | 7.500 | | | | # | 0.0066 | - |
| | mg/L | 0794 | 09/18/2013 | 0001 | 31.000 | | | | # | 0.0066 | - |

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/24/2014 12:43 pm

| PARAMETER | UNITS | LOCATION CODE | SAMPLE: DATE | ID | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|
| Sodium | mg/L | 0796 | 06/11/2013 | 0001 | 6.100 | | | # | 0.0066 | - |
| | mg/L | 0796 | 09/19/2013 | 0001 | 33.000 | | | # | 0.0066 | - |
| | mg/L | 0810 | 06/11/2013 | 0001 | 190.000 | | | # | 0.066 | - |
| | mg/L | 0810 | 09/19/2013 | 0001 | 250.000 | | | # | 0.066 | - |
| | mg/L | 0811 | 06/12/2013 | 0001 | 6.300 | | | # | 0.0066 | - |
| | mg/L | 0811 | 09/19/2013 | 0001 | 31.000 | | | # | 0.0066 | - |
| | mg/L | 0812 | 06/13/2013 | 0001 | 7.500 | | | # | 0.0066 | - |
| | mg/L | 0812 | 09/20/2013 | 0001 | 28.000 | | | # | 0.0066 | - |
| | mg/L | 0822 | 06/11/2013 | N001 | 33.000 | | | # | 0.0066 | - |
| | mg/L | 0822 | 09/19/2013 | N001 | 79.000 | | | # | 0.0066 | - |
| | mg/L | 0823 | 06/11/2013 | N001 | 300.000 | | | # | 0.066 | - |
| | mg/L | 0823 | 09/18/2013 | 0001 | 390.000 | | | # | 0.33 | - |
| Specific Conductance | umhos/cm | 0747 | 03/28/2013 | N001 | 1048 | | | # | - | - |
| | umhos/cm | 0747 | 06/12/2013 | N001 | 1578 | | | # | - | - |
| | umhos/cm | 0747 | 09/19/2013 | N001 | 1822 | | | # | - | - |
| | umhos/cm | 0749 | 03/27/2013 | N001 | 3041 | | | # | - | - |
| | umhos/cm | 0749 | 06/11/2013 | N001 | 1391 | | | # | - | - |
| | umhos/cm | 0749 | 09/18/2013 | N001 | 1783 | | | # | - | - |
| | umhos/cm | 0794 | 03/27/2013 | N001 | 965 | | | # | - | - |
| | umhos/cm | 0794 | 06/11/2013 | N001 | 280 | | | # | - | - |
| | umhos/cm | 0794 | 09/18/2013 | N001 | 564 | | | # | - | - |
| | umhos/cm | 0796 | 03/26/2013 | N001 | 1050 | | | # | - | - |
| | umhos/cm | 0796 | 06/11/2013 | N001 | 248 | | | # | - | - |
| | umhos/cm | 0796 | 09/19/2013 | N001 | 602 | | | # | - | - |
| | umhos/cm | 0810 | 03/26/2013 | N001 | 1601 | | | # | - | - |
| | umhos/cm | 0810 | 06/11/2013 | N001 | 1582 | | | # | - | - |
| | umhos/cm | 0810 | 09/19/2013 | N001 | 1706 | | | # | - | - |
| | umhos/cm | 0811 | 03/28/2013 | N001 | 1010 | | | # | - | - |
| | umhos/cm | 0811 | 06/12/2013 | N001 | 184 | | | # | - | - |
| | umhos/cm | 0811 | 09/19/2013 | N001 | 609 | | | # | - | - |
| | umhos/cm | 0812 | 03/28/2013 | N001 | 1006 | | | # | - | - |
| | umhos/cm | 0812 | 06/13/2013 | N001 | 461 | | | # | - | - |
| | umhos/cm | 0812 | 09/20/2013 | N001 | 547 | | | # | - | - |
| | umhos/cm | 0822 | 03/27/2013 | N001 | 2343 | | | # | - | - |
| | umhos/cm | 0822 | 06/11/2013 | N001 | 401 | | | # | - | - |
| | umhos/cm | 0822 | 09/19/2013 | N001 | 891 | | | # | - | - |
| | umhos/cm | 0823 | 03/27/2013 | N001 | 2712 | | | # | - | - |
| | umhos/cm | 0823 | 06/11/2013 | N001 | 2732 | | | # | - | - |

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/24/2014 12:43 pm

| PARAMETER | UNITS | LOCATION CODE | SAMPLE: DATE | ID | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Specific Conductance | umhos/cm | 0823 | 09/18/2013 | N001 | 2802 | | | | # | - | - |
| Sulfate | mg/L | 0747 | 03/28/2013 | 0001 | 340 | | | | # | 5 | - |
| | mg/L | 0747 | 06/12/2013 | 0001 | 630 | | | | # | 10 | - |
| | mg/L | 0747 | 06/12/2013 | 0002 | 660 | | | | # | 10 | - |
| | mg/L | 0747 | 09/19/2013 | 0001 | 750 | | | | # | 12 | - |
| | mg/L | 0749 | 03/27/2013 | 0001 | 1800 | | | | # | 10 | - |
| | mg/L | 0749 | 06/11/2013 | 0001 | 550 | | | | # | 5 | - |
| | mg/L | 0749 | 09/18/2013 | 0001 | 390 | | | | # | 12 | - |
| | mg/L | 0794 | 03/27/2013 | 0001 | 330 | | | | # | 2.5 | - |
| | mg/L | 0794 | 06/11/2013 | 0001 | 34 | | | | # | 0.5 | - |
| | mg/L | 0794 | 09/18/2013 | 0001 | 170 | | | | # | 2.5 | - |
| | mg/L | 0796 | 03/26/2013 | 0001 | 310 | | | | # | 10 | - |
| | mg/L | 0796 | 06/11/2013 | 0001 | 31 | | | | # | 0.5 | - |
| | mg/L | 0796 | 09/19/2013 | 0001 | 180 | | | | # | 2.5 | - |
| | mg/L | 0810 | 03/26/2013 | N001 | 400 | | | | # | 10 | - |
| | mg/L | 0810 | 06/11/2013 | 0001 | 460 | | | | # | 10 | - |
| | mg/L | 0810 | 09/19/2013 | 0001 | 540 | | | | # | 12 | - |
| | mg/L | 0811 | 03/28/2013 | 0001 | 350 | | | | # | 2.5 | - |
| | mg/L | 0811 | 06/12/2013 | 0001 | 33 | | | | # | 0.5 | - |
| | mg/L | 0811 | 09/19/2013 | 0001 | 180 | | | | # | 2.5 | - |
| | mg/L | 0812 | 03/28/2013 | 0001 | 350 | | | | # | 2.5 | - |
| | mg/L | 0812 | 06/13/2013 | 0001 | 37 | | | | # | 0.5 | - |
| | mg/L | 0812 | 09/20/2013 | 0001 | 160 | | | | # | 2.5 | - |
| | mg/L | 0822 | 03/27/2013 | N001 | 1400 | | | | # | 25 | - |
| | mg/L | 0822 | 06/11/2013 | N001 | 82 | | | | # | 0.5 | - |
| | mg/L | 0822 | 09/19/2013 | N001 | 220 | | | | # | 2.5 | - |
| | mg/L | 0823 | 03/27/2013 | N001 | 1100 | | | J | # | 25 | - |
| | mg/L | 0823 | 06/11/2013 | N001 | 1100 | | | | # | 25 | - |
| | mg/L | 0823 | 09/18/2013 | 0001 | 1200 | | | | # | 12 | - |
| Temperature | C | 0747 | 03/28/2013 | N001 | 16.39 | | | | # | - | - |
| | C | 0747 | 06/12/2013 | N001 | 16.20 | | | | # | - | - |
| | C | 0747 | 09/19/2013 | N001 | 25.17 | | | | # | - | - |
| | C | 0749 | 03/27/2013 | N001 | 17.73 | | | | # | - | - |
| | C | 0749 | 06/11/2013 | N001 | 24.60 | | | | # | - | - |
| | C | 0749 | 09/18/2013 | N001 | 23.06 | | | | # | - | - |
| | C | 0794 | 03/27/2013 | N001 | 9.59 | | | | # | - | - |
| | C | 0794 | 06/11/2013 | N001 | 22.63 | | | | # | - | - |
| | C | 0794 | 09/18/2013 | N001 | 19.97 | | | | # | - | - |

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/24/2014 12:43 pm

| PARAMETER | UNITS | LOCATION CODE | SAMPLE: DATE | ID | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Temperature | C | 0796 | 03/26/2013 | N001 | 2.0 | | | | # | - | - |
| | C | 0796 | 06/11/2013 | N001 | 16.48 | | | | # | - | - |
| | C | 0796 | 09/19/2013 | N001 | 11.93 | | | | # | - | - |
| | C | 0810 | 03/26/2013 | N001 | 2.9 | | | | # | - | - |
| | C | 0810 | 06/11/2013 | N001 | 20.30 | | | | # | - | - |
| | C | 0810 | 09/19/2013 | N001 | 12.64 | | | | # | - | - |
| | C | 0811 | 03/28/2013 | N001 | 14.1 | | | | # | - | - |
| | C | 0811 | 06/12/2013 | N001 | 16.06 | | | | # | - | - |
| | C | 0811 | 09/19/2013 | N001 | 19.65 | | | | # | - | - |
| | C | 0812 | 03/28/2013 | N001 | 8.55 | | | | # | - | - |
| | C | 0812 | 06/13/2013 | N001 | 16.27 | | | | # | - | - |
| | C | 0812 | 09/20/2013 | N001 | 13.40 | | | | # | - | - |
| | C | 0822 | 03/27/2013 | N001 | 16.69 | | | | # | - | - |
| | C | 0822 | 06/11/2013 | N001 | 22.13 | | | | # | - | - |
| | C | 0822 | 09/19/2013 | N001 | 15.08 | | | | # | - | - |
| | C | 0823 | 03/27/2013 | N001 | 8.67 | | | | # | - | - |
| | C | 0823 | 06/11/2013 | N001 | 25 | | | | # | - | - |
| | C | 0823 | 09/18/2013 | N001 | 16.54 | | | | # | - | - |
| Turbidity | NTU | 0747 | 03/28/2013 | N001 | 48.3 | | | | # | - | - |
| | NTU | 0747 | 06/12/2013 | N001 | 171 | | | | # | - | - |
| | NTU | 0747 | 09/19/2013 | N001 | 656 | | | | # | - | - |
| | NTU | 0749 | 03/27/2013 | N001 | 11.0 | | | | # | - | - |
| | NTU | 0749 | 06/11/2013 | N001 | 10.2 | | | | # | - | - |
| | NTU | 0749 | 09/18/2013 | N001 | 11.3 | | | | # | - | - |
| | NTU | 0794 | 03/27/2013 | N001 | 27.3 | | | | # | - | - |
| | NTU | 0794 | 06/11/2013 | N001 | 86 | | | | # | - | - |
| | NTU | 0794 | 09/18/2013 | N001 | 182 | | | | # | - | - |
| | NTU | 0796 | 03/26/2013 | N001 | 15.4 | | | | # | - | - |
| | NTU | 0796 | 06/11/2013 | N001 | 91.9 | | | | # | - | - |
| | NTU | 0796 | 09/19/2013 | N001 | 81.5 | | | | # | - | - |
| | NTU | 0810 | 03/26/2013 | N001 | 7.65 | | | | # | - | - |
| | NTU | 0810 | 06/11/2013 | N001 | 12.6 | | | | # | - | - |
| | NTU | 0810 | 09/19/2013 | N001 | 15.7 | | | | # | - | - |
| | NTU | 0811 | 03/28/2013 | N001 | 18.5 | | | | # | - | - |
| | NTU | 0811 | 06/12/2013 | N001 | 138 | | | | # | - | - |
| | NTU | 0811 | 09/19/2013 | N001 | 153 | | | | # | - | - |
| | NTU | 0812 | 03/28/2013 | N001 | 63.5 | | | | # | - | - |
| | NTU | 0812 | 06/13/2013 | N001 | 298 | | | | # | - | - |

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/24/2014 12:43 pm

| PARAMETER | UNITS | LOCATION CODE | SAMPLE: DATE | ID | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Turbidity | NTU | 0812 | 09/20/2013 | N001 | 81.9 | | | | # | - | - |
| | NTU | 0822 | 03/27/2013 | N001 | 2.32 | | | | # | - | - |
| | NTU | 0822 | 06/11/2013 | N001 | 8.65 | | | | # | - | - |
| | NTU | 0822 | 09/19/2013 | N001 | 5.39 | | | | # | - | - |
| | NTU | 0823 | 03/27/2013 | N001 | 2.61 | | | | # | - | - |
| | NTU | 0823 | 06/11/2013 | N001 | 8.63 | | | | # | - | - |
| | NTU | 0823 | 09/18/2013 | N001 | 35.7 | | | | # | - | - |
| Uranium | mg/L | 0747 | 03/28/2013 | 0001 | 0.120 | | | | # | 2.9E-05 | - |
| | mg/L | 0747 | 06/12/2013 | 0001 | 0.130 | | | | # | 0.00015 | - |
| | mg/L | 0747 | 06/12/2013 | 0002 | 0.130 | | | | # | 0.00029 | - |
| | mg/L | 0747 | 09/19/2013 | 0001 | 0.280 | | | | # | 0.00015 | - |
| | mg/L | 0749 | 03/27/2013 | 0001 | 0.0024 | | | | # | 2.9E-05 | - |
| | mg/L | 0749 | 06/11/2013 | 0001 | 0.0004 | | | | # | 2.9E-05 | - |
| | mg/L | 0749 | 09/18/2013 | 0001 | 0.0002 | | | | # | 2.9E-05 | - |
| | mg/L | 0794 | 03/27/2013 | 0001 | 0.0069 | | | | # | 2.9E-05 | - |
| | mg/L | 0794 | 06/11/2013 | 0001 | 0.0012 | | | | # | 2.9E-05 | - |
| | mg/L | 0794 | 09/18/2013 | 0001 | 0.0038 | | | | # | 2.9E-05 | - |
| | mg/L | 0796 | 03/26/2013 | 0001 | 0.0066 | | | | # | 2.9E-05 | - |
| | mg/L | 0796 | 06/11/2013 | 0001 | 0.0008 | | | | # | 2.9E-05 | - |
| | mg/L | 0796 | 09/19/2013 | 0001 | 0.0034 | | | | # | 2.9E-05 | - |
| | mg/L | 0810 | 03/26/2013 | N001 | 0.0056 | | | | # | 2.9E-05 | - |
| | mg/L | 0810 | 06/11/2013 | 0001 | 0.0066 | | | | # | 2.9E-05 | - |
| | mg/L | 0810 | 09/19/2013 | 0001 | 0.0051 | | | J | # | 2.9E-05 | - |
| | mg/L | 0811 | 03/28/2013 | 0001 | 0.0075 | | | | # | 2.9E-05 | - |
| | mg/L | 0811 | 06/12/2013 | 0001 | 0.0009 | | | | # | 2.9E-05 | - |
| | mg/L | 0811 | 09/19/2013 | 0001 | 0.0034 | | | J | # | 2.9E-05 | - |
| | mg/L | 0812 | 03/28/2013 | 0001 | 0.0099 | | | | # | 2.9E-05 | - |
| | mg/L | 0812 | 06/13/2013 | 0001 | 0.001 | | | | # | 2.9E-05 | - |
| | mg/L | 0812 | 09/20/2013 | 0001 | 0.003 | | | J | # | 2.9E-05 | - |
| | mg/L | 0822 | 03/27/2013 | N001 | 0.0051 | | | | # | 2.9E-05 | - |
| | mg/L | 0822 | 06/11/2013 | N001 | 0.0016 | | | | # | 2.9E-05 | - |
| | mg/L | 0822 | 09/19/2013 | N001 | 0.0056 | E | | J | # | 2.9E-05 | - |
| | mg/L | 0823 | 03/27/2013 | N001 | 0.007 | | | | # | 2.9E-05 | - |
| | mg/L | 0823 | 06/11/2013 | N001 | 0.0062 | | | | # | 2.9E-05 | - |
| | mg/L | 0823 | 09/18/2013 | 0001 | 0.0064 | | | | # | 2.9E-05 | - |

SURFACE WATER QUALITY DATA BY PARAMETER (USEE800) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/24/2014 12:43 pm

| PARAMETER | UNITS | LOCATION CODE | SAMPLE: DATE | ID | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|

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 #1/1/2013# and #12/31/2013#

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 compund (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.

# Appendix D

# Monitoring Well Data

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CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:27 am

| 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 | 03/28/2013 | N001 | SE | D | 60 | | FQ | # | - | - |
| | mg/L | 0705 | WL | 06/12/2013 | N001 | | D | 62 | | FQ | # | - | - |
| | mg/L | 0705 | WL | 09/19/2013 | 0001 | SE | D | 69 | | FQ | # | - | - |
| | mg/L | 0707 | WL | 03/28/2013 | N001 | SF | D | 348 | | F | # | - | - |
| | mg/L | 0707 | WL | 06/12/2013 | N001 | | D | 312 | | F | # | - | - |
| | mg/L | 0707 | WL | 09/19/2013 | N001 | SF | D | 349 | | F | # | - | - |
| | mg/L | 0710 | WL | 03/27/2013 | N001 | SF | U | 176 | | F | # | - | - |
| | mg/L | 0710 | WL | 06/11/2013 | N001 | | U | 186 | | F | # | - | - |
| | mg/L | 0710 | WL | 09/18/2013 | N001 | SF | U | 164 | | F | # | - | - |
| | mg/L | 0716 | WL | 03/27/2013 | N001 | SF | O | 281 | | F | # | - | - |
| | mg/L | 0716 | WL | 06/11/2013 | N001 | | O | 273 | | F | # | - | - |
| | mg/L | 0716 | WL | 09/18/2013 | N001 | SF | O | 290 | | F | # | - | - |
| | mg/L | 0717 | WL | 03/27/2013 | N001 | SE | O | 205 | | F | # | - | - |
| | mg/L | 0717 | WL | 06/11/2013 | N001 | | O | 190 | | F | # | - | - |
| | mg/L | 0717 | WL | 09/18/2013 | N001 | SE | O | 209 | | F | # | - | - |
| | mg/L | 0718 | WL | 03/27/2013 | N001 | SF | D | 318 | | F | # | - | - |
| | mg/L | 0718 | WL | 06/13/2013 | N001 | | D | 269 | | F | # | - | - |
| | mg/L | 0718 | WL | 09/20/2013 | N001 | SF | D | 336 | | F | # | - | - |
| | mg/L | 0719 | WL | 03/27/2013 | N001 | SE | D | 82 | | FQ | # | - | - |
| | mg/L | 0719 | WL | 06/13/2013 | N001 | | D | 95 | | FQ | # | - | - |
| | mg/L | 0719 | WL | 09/20/2013 | N001 | SE | D | 106 | | FQ | # | - | - |
| | mg/L | 0720 | WL | 03/27/2013 | N001 | SF | C | 95 | | F | # | - | - |
| | mg/L | 0720 | WL | 06/11/2013 | N001 | | C | 259 | | F | # | - | - |
| | mg/L | 0720 | WL | 09/19/2013 | N001 | SF | C | 217 | | F | # | - | - |
| | mg/L | 0721 | WL | 03/27/2013 | N001 | SE | C | 93 | | F | # | - | - |
| | mg/L | 0721 | WL | 06/11/2013 | N001 | | C | 92 | | F | # | - | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:27 am

| 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 | 0721 | WL | 09/19/2013 | N001 | SE | C | 97 | | F | # | - | - |
| | mg/L | 0722R | WL | 03/28/2013 | N001 | SF | | 250 | | F | # | - | - |
| | mg/L | 0722R | WL | 06/13/2013 | N001 | | | 252 | | F | # | - | - |
| | mg/L | 0722R | WL | 09/20/2013 | N001 | SF | | 260 | | F | # | - | - |
| | mg/L | 0723 | WL | 03/28/2013 | N001 | SE | D | 386 | | F | # | - | - |
| | mg/L | 0723 | WL | 06/13/2013 | N001 | | D | 275 | | F | # | - | - |
| | mg/L | 0723 | WL | 09/20/2013 | N001 | SE | D | 347 | | F | # | - | - |
| | mg/L | 0729 | WL | 03/28/2013 | N001 | SF | D | 360 | | F | # | - | - |
| | mg/L | 0729 | WL | 06/12/2013 | N001 | | D | 226 | | F | # | - | - |
| | mg/L | 0729 | WL | 09/19/2013 | N001 | SF | D | 275 | | F | # | - | - |
| | mg/L | 0730 | WL | 03/28/2013 | N001 | SE | D | 340 | | FQ | # | - | - |
| | mg/L | 0730 | WL | 06/12/2013 | N001 | | D | 308 | | FQ | # | - | - |
| | mg/L | 0730 | WL | 09/19/2013 | N001 | SE | D | 317 | | FQ | # | - | - |
| | mg/L | 0784 | WL | 03/27/2013 | N001 | SF | U | 149 | | F | # | - | - |
| | mg/L | 0784 | WL | 06/11/2013 | N001 | | U | 175 | | F | # | - | - |
| | mg/L | 0784 | WL | 09/18/2013 | N001 | SF | U | 136 | | F | # | - | - |
| | mg/L | 0788 | WL | 03/28/2013 | N001 | SF | C | 424 | | F | # | - | - |
| | mg/L | 0788 | WL | 06/12/2013 | N001 | | C | 400 | | F | # | - | - |
| | mg/L | 0788 | WL | 09/19/2013 | N001 | SF | C | 445 | | F | # | - | - |
| | mg/L | 0789 | WL | 03/28/2013 | N001 | SF | D | 464 | | F | # | - | - |
| | mg/L | 0789 | WL | 06/12/2013 | N001 | SF | D | 477 | | F | # | - | - |
| | mg/L | 0789 | WL | 09/19/2013 | N001 | SF | D | 473 | | F | # | - | - |
| | mg/L | 0824 | WL | 03/28/2013 | N001 | SF | | 320 | | F | # | - | - |
| | mg/L | 0824 | WL | 06/13/2013 | N001 | | | 253 | | F | # | - | - |
| | mg/L | 0824 | WL | 09/20/2013 | N001 | SF | | 422 | | F | # | - | - |
| | mg/L | 0826 | WL | 03/28/2013 | N001 | SF | | 347 | | F | # | - | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:27 am

| 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 | 0826 | WL | 06/12/2013 | N001 | | | 226 | | F | # | - | - |
| | mg/L | 0826 | WL | 09/19/2013 | N001 | SF | | 344 | | F | # | - | - |
| Calcium | mg/L | 0705 | WL | 06/12/2013 | 0001 | | D | 34.000 | | FQ | # | 0.012 | - |
| | mg/L | 0705 | WL | 09/19/2013 | 0001 | SE | D | 28.000 | | FQ | # | 0.012 | - |
| | mg/L | 0707 | WL | 06/12/2013 | N001 | | D | 450.000 | | F | # | 0.012 | - |
| | mg/L | 0707 | WL | 09/19/2013 | N001 | SF | D | 420.000 | | F | # | 0.012 | - |
| | mg/L | 0710 | WL | 06/11/2013 | N001 | | U | 69.000 | | F | # | 0.012 | - |
| | mg/L | 0710 | WL | 09/18/2013 | N001 | SF | U | 52.000 | | F | # | 0.012 | - |
| | mg/L | 0716 | WL | 06/11/2013 | N001 | | O | 150.000 | | F | # | 0.012 | - |
| | mg/L | 0716 | WL | 09/18/2013 | N001 | SF | O | 140.000 | | F | # | 0.012 | - |
| | mg/L | 0717 | WL | 06/11/2013 | N001 | | O | 96.000 | | F | # | 0.012 | - |
| | mg/L | 0717 | WL | 09/18/2013 | N001 | SE | O | 90.000 | | F | # | 0.012 | - |
| | mg/L | 0718 | WL | 06/13/2013 | N001 | | D | 350.000 | | F | # | 0.012 | - |
| | mg/L | 0718 | WL | 09/20/2013 | N001 | SF | D | 320.000 | | F | # | 0.012 | - |
| | mg/L | 0719 | WL | 06/13/2013 | N001 | | D | 82.000 | | FQ | # | 0.012 | - |
| | mg/L | 0719 | WL | 09/20/2013 | N001 | SE | D | 71.000 | | FQ | # | 0.012 | - |
| | mg/L | 0720 | WL | 06/11/2013 | N001 | | C | 88.000 | | F | # | 0.012 | - |
| | mg/L | 0720 | WL | 09/19/2013 | N001 | SF | C | 69.000 | | F | # | 0.012 | - |
| | mg/L | 0721 | WL | 06/11/2013 | N001 | | C | 8.800 | | F | # | 0.012 | - |
| | mg/L | 0721 | WL | 09/19/2013 | N001 | SE | C | 7.800 | | F | # | 0.012 | - |
| | mg/L | 0722R | WL | 06/13/2013 | N001 | | | 330.000 | | F | # | 0.012 | - |
| | mg/L | 0722R | WL | 09/20/2013 | N001 | SF | | 290.000 | | F | # | 0.012 | - |
| | mg/L | 0723 | WL | 06/13/2013 | N001 | | D | 280.000 | | F | # | 0.012 | - |
| | mg/L | 0723 | WL | 09/20/2013 | N001 | SE | D | 290.000 | | F | # | 0.012 | - |
| | mg/L | 0729 | WL | 06/12/2013 | N001 | | D | 76.000 | | F | # | 0.012 | - |
| | mg/L | 0729 | WL | 09/19/2013 | N001 | SF | D | 85.000 | | F | # | 0.012 | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:27 am

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | mg/L | 0730 | WL | 06/12/2013 | N001 | | D | 94.000 | | FQ | # | 0.012 | - |
| | mg/L | 0730 | WL | 09/19/2013 | N001 | SE | D | 76.000 | | FQ | # | 0.012 | - |
| | mg/L | 0784 | WL | 06/11/2013 | N001 | | U | 360.000 | | F | # | 0.012 | - |
| | mg/L | 0784 | WL | 09/18/2013 | N001 | SF | U | 79.000 | | F | # | 0.012 | - |
| | mg/L | 0788 | WL | 06/12/2013 | N001 | | C | 280.000 | | F | # | 0.012 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N001 | SF | C | 260.000 | | F | # | 0.012 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N002 | SF | C | 260.000 | | F | # | 0.012 | - |
| | mg/L | 0789 | WL | 06/12/2013 | N001 | SF | D | 400.000 | | F | # | 0.012 | - |
| | mg/L | 0789 | WL | 06/12/2013 | N002 | SF | D | 410.000 | | F | # | 0.012 | - |
| | mg/L | 0789 | WL | 09/19/2013 | N001 | SF | D | 360.000 | | F | # | 0.012 | - |
| | mg/L | 0824 | WL | 06/13/2013 | N001 | | | 94.000 | | F | # | 0.012 | - |
| | mg/L | 0824 | WL | 09/20/2013 | N001 | SF | | 100.000 | | F | # | 0.012 | - |
| | mg/L | 0826 | WL | 06/12/2013 | N001 | | | 340.000 | | F | # | 0.012 | - |
| | mg/L | 0826 | WL | 09/19/2013 | N001 | SF | | 300.000 | | F | # | 0.012 | - |
| Chloride | mg/L | 0705 | WL | 06/12/2013 | 0001 | | D | 54 | | FQ | # | 2 | - |
| | mg/L | 0705 | WL | 09/19/2013 | 0001 | SE | D | 54 | | FQ | # | 2 | - |
| | mg/L | 0707 | WL | 06/12/2013 | N001 | | D | 81 | | F | # | 10 | - |
| | mg/L | 0707 | WL | 09/19/2013 | N001 | SF | D | 73 | | F | # | 10 | - |
| | mg/L | 0710 | WL | 06/11/2013 | N001 | | U | 12 | | F | # | 1 | - |
| | mg/L | 0710 | WL | 09/18/2013 | N001 | SF | U | 6.6 | | F | # | 0.2 | - |
| | mg/L | 0716 | WL | 06/11/2013 | N001 | | O | 47 | | F | # | 2 | - |
| | mg/L | 0716 | WL | 09/18/2013 | N001 | SF | O | 37 | | F | # | 4 | - |
| | mg/L | 0717 | WL | 06/11/2013 | N001 | | O | 50 | | F | # | 4 | - |
| | mg/L | 0717 | WL | 09/18/2013 | N001 | SE | O | 46 | | F | # | 5 | - |
| | mg/L | 0718 | WL | 06/13/2013 | N001 | | D | 130 | | F | # | 10 | - |
| | mg/L | 0718 | WL | 09/20/2013 | N001 | SF | D | 120 | | F | # | 10 | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:27 am

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | mg/L | 0719 | WL | 06/13/2013 | N001 | | D | 40 | | FQ | # | 2 | - |
| | mg/L | 0719 | WL | 09/20/2013 | N001 | SE | D | 38 | | FQ | # | 2 | - |
| | mg/L | 0720 | WL | 06/11/2013 | N001 | | C | 6.1 | | F | # | 1 | - |
| | mg/L | 0720 | WL | 09/19/2013 | N001 | SF | C | 4 | | F | # | 0.2 | - |
| | mg/L | 0721 | WL | 06/11/2013 | N001 | | C | 24 | | F | # | 1 | - |
| | mg/L | 0721 | WL | 09/19/2013 | N001 | SE | C | 23 | | F | # | 1 | - |
| | mg/L | 0722R | WL | 06/13/2013 | N001 | | | 33 | | F | # | 4 | - |
| | mg/L | 0722R | WL | 09/20/2013 | N001 | SF | | 17 | | F | # | 4 | - |
| | mg/L | 0723 | WL | 06/13/2013 | N001 | | D | 56 | | F | # | 10 | - |
| | mg/L | 0723 | WL | 09/20/2013 | N001 | SE | D | 54 | | F | # | 10 | - |
| | mg/L | 0729 | WL | 06/12/2013 | N001 | | D | 6.4 | | F | # | 0.4 | - |
| | mg/L | 0729 | WL | 09/19/2013 | N001 | SF | D | 6.9 | | F | # | 0.2 | - |
| | mg/L | 0730 | WL | 06/12/2013 | N001 | | D | 7.6 | | FQ | # | 1 | - |
| | mg/L | 0730 | WL | 09/19/2013 | N001 | SE | D | 6.4 | | FQ | # | 1 | - |
| | mg/L | 0784 | WL | 06/11/2013 | N001 | | U | 19 | | F | # | 2 | - |
| | mg/L | 0784 | WL | 09/18/2013 | N001 | SF | U | 16 | | F | # | 2 | - |
| | mg/L | 0788 | WL | 06/12/2013 | N001 | | C | 53 | | F | # | 10 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N001 | SF | C | 49 | | F | # | 10 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N002 | SF | C | 49 | | F | # | 10 | - |
| | mg/L | 0789 | WL | 06/12/2013 | N001 | SF | D | 250 | | F | # | 20 | - |
| | mg/L | 0789 | WL | 06/12/2013 | N002 | SF | D | 250 | | F | # | 20 | - |
| | mg/L | 0789 | WL | 09/19/2013 | N001 | SF | D | 210 | | F | # | 20 | - |
| | mg/L | 0824 | WL | 06/13/2013 | N001 | | | 9.4 | | F | # | 1 | - |
| | mg/L | 0824 | WL | 09/20/2013 | N001 | SF | | 4.9 | | F | # | 1 | - |
| | mg/L | 0826 | WL | 06/12/2013 | N001 | | | 45 | | F | # | 10 | - |
| | mg/L | 0826 | WL | 09/19/2013 | N001 | SF | | 45 | | F | # | 10 | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:27 am

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | mg/L | 0705 | WL | 06/12/2013 | 0001 | | D | 1.9 | | FQ | # | 1 | - |
| | mg/L | 0707 | WL | 06/12/2013 | N001 | | D | 5.6 | | F | # | 1 | - |
| | mg/L | 0710 | WL | 06/11/2013 | N001 | | U | 1.6 | | F | # | 1 | - |
| | mg/L | 0716 | WL | 06/11/2013 | N001 | | O | 4 | | F | # | 1 | - |
| | mg/L | 0717 | WL | 06/11/2013 | N001 | | O | 3.1 | | F | # | 1 | - |
| | mg/L | 0718 | WL | 06/13/2013 | N001 | | D | 8.9 | | F | # | 1 | - |
| | mg/L | 0719 | WL | 06/13/2013 | N001 | | D | 2.2 | | FQ | # | 1 | - |
| | mg/L | 0720 | WL | 06/11/2013 | N001 | | C | 2 | | F | # | 1 | - |
| | mg/L | 0721 | WL | 06/11/2013 | N001 | | C | 1.2 | | F | # | 1 | - |
| | mg/L | 0722R | WL | 06/13/2013 | N001 | | | 2.4 | | F | # | 1 | - |
| | mg/L | 0723 | WL | 06/13/2013 | N001 | | D | 3.9 | | F | # | 1 | - |
| | mg/L | 0729 | WL | 06/12/2013 | N001 | | D | 4.7 | | F | # | 1 | - |
| | mg/L | 0730 | WL | 06/12/2013 | N001 | | D | 3 | | FQ | # | 1 | - |
| | mg/L | 0784 | WL | 06/11/2013 | N001 | | U | 1.5 | | F | # | 1 | - |
| | mg/L | 0788 | WL | 06/12/2013 | N001 | | C | 11 | | F | # | 1 | - |
| | mg/L | 0789 | WL | 06/12/2013 | N001 | SF | D | 17 | | F | # | 2 | - |
| | mg/L | 0789 | WL | 06/12/2013 | N002 | SF | D | 15 | | F | # | 1 | - |
| | mg/L | 0824 | WL | 06/13/2013 | N001 | | | 4.6 | | F | # | 1 | - |
| | mg/L | 0826 | WL | 06/12/2013 | N001 | | | 8.9 | | F | # | 1 | - |
| Dissolved Oxygen | mg/L | 0705 | WL | 03/28/2013 | N001 | SE | D | 4.13 | | FQ | # | - | - |
| | mg/L | 0705 | WL | 06/12/2013 | N001 | | D | 3.16 | | FQ | # | - | - |
| | mg/L | 0705 | WL | 09/19/2013 | N001 | SE | D | 0.78 | | FQ | # | - | - |
| | mg/L | 0707 | WL | 03/28/2013 | N001 | SF | D | 0.66 | | F | # | - | - |
| | mg/L | 0707 | WL | 06/12/2013 | N001 | | D | 0.99 | | F | # | - | - |
| | mg/L | 0707 | WL | 09/19/2013 | N001 | SF | D | 0.26 | | F | # | - | - |
| | mg/L | 0710 | WL | 03/27/2013 | N001 | SF | U | 1.04 | | F | # | - | - |

| 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 | 0710 | WL | 06/11/2013 | N001 | | U | 0.67 | | F | # | - | - |
| | mg/L | 0710 | WL | 09/18/2013 | N001 | SF | U | 0.82 | | F | # | - | - |
| | mg/L | 0716 | WL | 03/27/2013 | N001 | SF | O | 0.73 | | F | # | - | - |
| | mg/L | 0716 | WL | 06/11/2013 | N001 | | O | 1.78 | | F | # | - | - |
| | mg/L | 0716 | WL | 09/18/2013 | N001 | SF | O | 0.86 | | F | # | - | - |
| | mg/L | 0717 | WL | 03/27/2013 | N001 | SE | O | 0.47 | | F | # | - | - |
| | mg/L | 0717 | WL | 06/11/2013 | N001 | | O | 1.55 | | F | # | - | - |
| | mg/L | 0717 | WL | 09/18/2013 | N001 | SE | O | 0.38 | | F | # | - | - |
| | mg/L | 0718 | WL | 03/27/2013 | N001 | SF | D | 1.77 | | F | # | - | - |
| | mg/L | 0718 | WL | 06/13/2013 | N001 | | D | 0.78 | | F | # | - | - |
| | mg/L | 0718 | WL | 09/20/2013 | N001 | SF | D | 0.33 | | F | # | - | - |
| | mg/L | 0719 | WL | 03/27/2013 | N001 | SE | D | 0.99 | | FQ | # | - | - |
| | mg/L | 0719 | WL | 06/13/2013 | N001 | | D | 0.82 | | FQ | # | - | - |
| | mg/L | 0719 | WL | 09/20/2013 | N001 | SE | D | 0.52 | | FQ | # | - | - |
| | mg/L | 0720 | WL | 03/27/2013 | N001 | SF | C | 0.28 | | F | # | - | - |
| | mg/L | 0720 | WL | 06/11/2013 | N001 | | C | 0.70 | | F | # | - | - |
| | mg/L | 0720 | WL | 09/19/2013 | N001 | SF | C | 2.60 | | F | # | - | - |
| | mg/L | 0721 | WL | 03/27/2013 | N001 | SE | C | 0.57 | | F | # | - | - |
| | mg/L | 0721 | WL | 06/11/2013 | N001 | | C | 0.75 | | F | # | - | - |
| | mg/L | 0721 | WL | 09/19/2013 | N001 | SE | C | 0.15 | | F | # | - | - |
| | mg/L | 0722R | WL | 03/28/2013 | N001 | SF | | 0.53 | | F | # | - | - |
| | mg/L | 0722R | WL | 06/13/2013 | N001 | | | 1.88 | | F | # | - | - |
| | mg/L | 0722R | WL | 09/20/2013 | N001 | SF | | 0.66 | | F | # | - | - |
| | mg/L | 0723 | WL | 03/28/2013 | N001 | SE | D | 0.49 | | F | # | - | - |
| | mg/L | 0723 | WL | 06/13/2013 | N001 | | D | 0.66 | | F | # | - | - |
| | mg/L | 0723 | WL | 09/20/2013 | N001 | SE | D | 0.33 | | F | # | - | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:27 am

| 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 | 0729 | WL | 03/28/2013 | N001 | SF | D | 0.52 | | F | # | - | - |
| | mg/L | 0729 | WL | 06/12/2013 | N001 | | D | 3.80 | | F | # | - | - |
| | mg/L | 0729 | WL | 09/19/2013 | N001 | SF | D | 0.37 | | F | # | - | - |
| | mg/L | 0730 | WL | 03/28/2013 | N001 | SE | D | 0.77 | | FQ | # | - | - |
| | mg/L | 0730 | WL | 06/12/2013 | N001 | | D | 0.80 | | FQ | # | - | - |
| | mg/L | 0730 | WL | 09/19/2013 | N001 | SE | D | 0.42 | | FQ | # | - | - |
| | mg/L | 0784 | WL | 03/27/2013 | N001 | SF | U | 1.86 | | F | # | - | - |
| | mg/L | 0784 | WL | 06/11/2013 | N001 | | U | 1.55 | | F | # | - | - |
| | mg/L | 0784 | WL | 09/18/2013 | N001 | SF | U | 0.55 | | F | # | - | - |
| | mg/L | 0788 | WL | 03/28/2013 | N001 | SF | C | 0.58 | | F | # | - | - |
| | mg/L | 0788 | WL | 06/12/2013 | N001 | | C | 0.62 | | F | # | - | - |
| | mg/L | 0788 | WL | 09/19/2013 | N001 | SF | C | 0.27 | | F | # | - | - |
| | mg/L | 0789 | WL | 03/28/2013 | N001 | SF | D | 0.85 | | F | # | - | - |
| | mg/L | 0789 | WL | 06/12/2013 | N001 | SF | D | 1.60 | | F | # | - | - |
| | mg/L | 0789 | WL | 09/19/2013 | N001 | SF | D | 0.46 | | F | # | - | - |
| | mg/L | 0824 | WL | 03/28/2013 | N001 | SF | | 0.55 | | F | # | - | - |
| | mg/L | 0824 | WL | 06/13/2013 | N001 | | | 3.97 | | F | # | - | - |
| | mg/L | 0824 | WL | 09/20/2013 | N001 | SF | | 0.29 | | F | # | - | - |
| | mg/L | 0826 | WL | 03/28/2013 | N001 | SF | | 0.75 | | F | # | - | - |
| | mg/L | 0826 | WL | 06/12/2013 | N001 | | | 0.60 | | F | # | - | - |
| | mg/L | 0826 | WL | 09/19/2013 | N001 | SF | | 0.29 | | F | # | - | - |
| Iron | mg/L | 0705 | WL | 09/19/2013 | 0001 | SE | D | 0.0049 | U | FQ | # | 0.0049 | - |
| | mg/L | 0707 | WL | 03/28/2013 | 0001 | SF | D | 0.0049 | U | F | # | 0.0049 | - |
| | mg/L | 0707 | WL | 09/19/2013 | N001 | SF | D | 0.0086 | B | UF | # | 0.0049 | - |
| | mg/L | 0710 | WL | 03/27/2013 | 0001 | SF | U | 0.0069 | B | JF | # | 0.0049 | - |
| | mg/L | 0710 | WL | 09/18/2013 | N001 | SF | U | 0.036 | B | UF | # | 0.0049 | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:27 am

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | mg/L | 0716 | WL | 03/27/2013 | 0001 | SF | O | 0.016 | B | JF | # | 0.0049 | - |
| | mg/L | 0716 | WL | 09/18/2013 | N001 | SF | O | 0.150 | | F | # | 0.0049 | - |
| | mg/L | 0717 | WL | 09/18/2013 | N001 | SE | O | 0.160 | | F | # | 0.0049 | - |
| | mg/L | 0718 | WL | 09/20/2013 | N001 | SF | D | 0.045 | B | F | # | 0.0049 | - |
| | mg/L | 0719 | WL | 09/20/2013 | N001 | SE | D | 0.180 | | FQ | # | 0.0049 | - |
| | mg/L | 0720 | WL | 09/19/2013 | N001 | SF | C | 0.0049 | U | F | # | 0.0049 | - |
| | mg/L | 0721 | WL | 09/19/2013 | N001 | SE | C | 0.0049 | U | F | # | 0.0049 | - |
| | mg/L | 0722R | WL | 09/20/2013 | N001 | SF | | 0.0069 | B | UF | # | 0.0049 | - |
| | mg/L | 0723 | WL | 09/20/2013 | N001 | SE | D | 0.450 | | F | # | 0.0049 | - |
| | mg/L | 0729 | WL | 09/19/2013 | N001 | SF | D | 0.0065 | B | UF | # | 0.0049 | - |
| | mg/L | 0730 | WL | 09/19/2013 | N001 | SE | D | 0.099 | B | FQ | # | 0.0049 | - |
| | mg/L | 0784 | WL | 09/18/2013 | N001 | SF | U | 0.010 | B | UF | # | 0.0049 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N001 | SF | C | 0.032 | B | UF | # | 0.0049 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N002 | SF | C | 0.022 | B | UF | # | 0.0049 | - |
| | mg/L | 0789 | WL | 03/28/2013 | 0001 | SF | D | 0.014 | B | JF | # | 0.0049 | - |
| | mg/L | 0789 | WL | 09/19/2013 | N001 | SF | D | 0.098 | B | F | # | 0.0049 | - |
| | mg/L | 0824 | WL | 09/20/2013 | N001 | SF | | 0.100 | | F | # | 0.0049 | - |
| | mg/L | 0826 | WL | 09/19/2013 | N001 | SF | | 0.070 | B | F | # | 0.0049 | - |
| Magnesium | mg/L | 0705 | WL | 06/12/2013 | 0001 | | D | 0.800 | B | FQ | # | 0.013 | - |
| | mg/L | 0705 | WL | 09/19/2013 | 0001 | SE | D | 0.410 | B | FQ | # | 0.013 | - |
| | mg/L | 0707 | WL | 06/12/2013 | N001 | | D | 130.000 | | F | # | 0.013 | - |
| | mg/L | 0707 | WL | 09/19/2013 | N001 | SF | D | 120.000 | | F | # | 0.013 | - |
| | mg/L | 0710 | WL | 06/11/2013 | N001 | | U | 16.000 | | F | # | 0.013 | - |
| | mg/L | 0710 | WL | 09/18/2013 | N001 | SF | U | 12.000 | | F | # | 0.013 | - |
| | mg/L | 0716 | WL | 06/11/2013 | N001 | | O | 33.000 | | F | # | 0.013 | - |
| | mg/L | 0716 | WL | 09/18/2013 | N001 | SF | O | 30.000 | | F | # | 0.013 | - |

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Magnesium | mg/L | 0717 | WL | 06/11/2013 | N001 | | O | 6.500 | | F | # | 0.013 | - |
| | mg/L | 0717 | WL | 09/18/2013 | N001 | SE | O | 5.800 | | F | # | 0.013 | - |
| | mg/L | 0718 | WL | 06/13/2013 | N001 | | D | 88.000 | | F | # | 0.013 | - |
| | mg/L | 0718 | WL | 09/20/2013 | N001 | SF | D | 81.000 | | F | # | 0.013 | - |
| | mg/L | 0719 | WL | 06/13/2013 | N001 | | D | 3.400 | | FQ | # | 0.013 | - |
| | mg/L | 0719 | WL | 09/20/2013 | N001 | SE | D | 2.400 | | FQ | # | 0.013 | - |
| | mg/L | 0720 | WL | 06/11/2013 | N001 | | C | 22.000 | | F | # | 0.013 | - |
| | mg/L | 0720 | WL | 09/19/2013 | N001 | SF | C | 17.000 | | F | # | 0.013 | - |
| | mg/L | 0721 | WL | 06/11/2013 | N001 | | C | 0.250 | B | F | # | 0.013 | - |
| | mg/L | 0721 | WL | 09/19/2013 | N001 | SE | C | 0.013 | U | F | # | 0.013 | - |
| | mg/L | 0722R | WL | 06/13/2013 | N001 | | | 31.000 | | F | # | 0.013 | - |
| | mg/L | 0722R | WL | 09/20/2013 | N001 | SF | | 28.000 | | F | # | 0.013 | - |
| | mg/L | 0723 | WL | 06/13/2013 | N001 | | D | 9.400 | | F | # | 0.013 | - |
| | mg/L | 0723 | WL | 09/20/2013 | N001 | SE | D | 11.000 | | F | # | 0.013 | - |
| | mg/L | 0729 | WL | 06/12/2013 | N001 | | D | 19.000 | | F | # | 0.013 | - |
| | mg/L | 0729 | WL | 09/19/2013 | N001 | SF | D | 21.000 | | F | # | 0.013 | - |
| | mg/L | 0730 | WL | 06/12/2013 | N001 | | D | 16.000 | | FQ | # | 0.013 | - |
| | mg/L | 0730 | WL | 09/19/2013 | N001 | SE | D | 13.000 | | FQ | # | 0.013 | - |
| | mg/L | 0784 | WL | 06/11/2013 | N001 | | U | 13.000 | | F | # | 0.013 | - |
| | mg/L | 0784 | WL | 09/18/2013 | N001 | SF | U | 3.300 | | F | # | 0.013 | - |
| | mg/L | 0788 | WL | 06/12/2013 | N001 | | C | 70.000 | | F | # | 0.013 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N001 | SF | C | 68.000 | | F | # | 0.013 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N002 | SF | C | 68.000 | | F | # | 0.013 | - |
| | mg/L | 0789 | WL | 06/12/2013 | N001 | SF | D | 240.000 | | F | # | 0.013 | - |
| | mg/L | 0789 | WL | 06/12/2013 | N002 | SF | D | 240.000 | | F | # | 0.013 | - |
| | mg/L | 0789 | WL | 09/19/2013 | N001 | SF | D | 220.000 | | F | # | 0.013 | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:27 am

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Magnesium | mg/L | 0824 | WL | 06/13/2013 | N001 | | | 24.000 | | F | # | 0.013 | - |
| | mg/L | 0824 | WL | 09/20/2013 | N001 | SF | | 25.000 | | F | # | 0.013 | - |
| | mg/L | 0826 | WL | 06/12/2013 | N001 | | | 87.000 | | F | # | 0.013 | - |
| | mg/L | 0826 | WL | 09/19/2013 | N001 | SF | | 81.000 | | F | # | 0.013 | - |
| Manganese | mg/L | 0705 | WL | 03/28/2013 | N001 | SE | D | 0.0033 | B | FQ | # | 0.00011 | - |
| | mg/L | 0705 | WL | 06/12/2013 | 0001 | | D | 0.00011 | U | FQJ | # | 0.00011 | - |
| | mg/L | 0705 | WL | 09/19/2013 | 0001 | SE | D | 0.00011 | U | FQ | # | 0.00011 | - |
| | mg/L | 0707 | WL | 03/28/2013 | N001 | SF | D | 1.200 | | F | # | 0.00011 | - |
| | mg/L | 0707 | WL | 03/28/2013 | N002 | SF | D | 1.100 | | F | # | 0.00011 | - |
| | mg/L | 0707 | WL | 06/12/2013 | N001 | | D | 1.100 | | F | # | 0.00011 | - |
| | mg/L | 0707 | WL | 09/19/2013 | N001 | SF | D | 1.000 | | F | # | 0.00011 | - |
| | mg/L | 0710 | WL | 03/27/2013 | N001 | SF | U | 0.085 | | F | # | 0.00011 | - |
| | mg/L | 0710 | WL | 06/11/2013 | N001 | | U | 0.030 | | F | # | 0.00011 | - |
| | mg/L | 0710 | WL | 09/18/2013 | N001 | SF | U | 0.029 | | F | # | 0.00011 | - |
| | mg/L | 0716 | WL | 03/27/2013 | N001 | SF | O | 0.170 | | F | # | 0.00011 | - |
| | mg/L | 0716 | WL | 06/11/2013 | N001 | | O | 0.220 | | F | # | 0.00011 | - |
| | mg/L | 0716 | WL | 09/18/2013 | N001 | SF | O | 0.310 | | F | # | 0.00011 | - |
| | mg/L | 0717 | WL | 03/27/2013 | N001 | SE | O | 0.190 | | F | # | 0.00011 | - |
| | mg/L | 0717 | WL | 06/11/2013 | N001 | | O | 0.120 | | F | # | 0.00011 | - |
| | mg/L | 0717 | WL | 09/18/2013 | N001 | SE | O | 0.160 | | F | # | 0.00011 | - |
| | mg/L | 0718 | WL | 03/27/2013 | N001 | SF | D | 0.390 | | F | # | 0.00011 | - |
| | mg/L | 0718 | WL | 06/13/2013 | N001 | | D | 0.350 | | F | # | 0.00011 | - |
| | mg/L | 0718 | WL | 09/20/2013 | N001 | SF | D | 0.510 | | F | # | 0.00011 | - |
| | mg/L | 0719 | WL | 03/27/2013 | N001 | SE | D | 0.052 | | FQ | # | 0.00011 | - |
| | mg/L | 0719 | WL | 06/13/2013 | N001 | | D | 0.170 | | FQ | # | 0.00011 | - |
| | mg/L | 0719 | WL | 09/20/2013 | N001 | SE | D | 0.095 | | FQ | # | 0.00011 | - |

| 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 | 03/27/2013 | N001 | SF | C | 0.0037 | B | F | # | 0.00011 | - |
| | mg/L | 0720 | WL | 06/11/2013 | N001 | | C | 0.00043 | B | FJ | # | 0.00011 | - |
| | mg/L | 0720 | WL | 09/19/2013 | N001 | SF | C | 0.00011 | U | F | # | 0.00011 | - |
| | mg/L | 0721 | WL | 03/27/2013 | N001 | SE | C | 0.0039 | B | F | # | 0.00011 | - |
| | mg/L | 0721 | WL | 06/11/2013 | N001 | | C | 0.0017 | B | F | # | 0.00011 | - |
| | mg/L | 0721 | WL | 09/19/2013 | N001 | SE | C | 0.0017 | B | F | # | 0.00011 | - |
| | mg/L | 0722R | WL | 03/28/2013 | N001 | SF | | 0.020 | | F | # | 0.00011 | - |
| | mg/L | 0722R | WL | 06/13/2013 | N001 | | | 0.0065 | | F | # | 0.00011 | - |
| | mg/L | 0722R | WL | 09/20/2013 | N001 | SF | | 0.00011 | U | F | # | 0.00011 | - |
| | mg/L | 0723 | WL | 03/28/2013 | N001 | SE | D | 0.590 | | F | # | 0.00011 | - |
| | mg/L | 0723 | WL | 06/13/2013 | N001 | | D | 0.320 | | F | # | 0.00011 | - |
| | mg/L | 0723 | WL | 09/20/2013 | N001 | SE | D | 0.340 | | F | # | 0.00011 | - |
| | mg/L | 0729 | WL | 03/28/2013 | N001 | SF | D | 0.010 | | F | # | 0.00011 | - |
| | mg/L | 0729 | WL | 06/12/2013 | N001 | | D | 0.0025 | B | F | # | 0.00011 | - |
| | mg/L | 0729 | WL | 09/19/2013 | N001 | SF | D | 0.003 | B | F | # | 0.00011 | - |
| | mg/L | 0730 | WL | 03/28/2013 | N001 | SE | D | 0.095 | | FQ | # | 0.00011 | - |
| | mg/L | 0730 | WL | 06/12/2013 | N001 | | D | 0.120 | | FQ | # | 0.00011 | - |
| | mg/L | 0730 | WL | 09/19/2013 | N001 | SE | D | 0.037 | | FQ | # | 0.00011 | - |
| | mg/L | 0784 | WL | 03/27/2013 | N001 | SF | U | 0.430 | | F | # | 0.00011 | - |
| | mg/L | 0784 | WL | 06/11/2013 | N001 | | U | 0.940 | | F | # | 0.00011 | - |
| | mg/L | 0784 | WL | 09/18/2013 | N001 | SF | U | 0.190 | | F | # | 0.00011 | - |
| | mg/L | 0788 | WL | 03/28/2013 | N001 | SF | C | 0.140 | | F | # | 0.00011 | - |
| | mg/L | 0788 | WL | 06/12/2013 | N001 | | C | 0.170 | | F | # | 0.00011 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N001 | SF | C | 0.200 | | F | # | 0.00011 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N002 | SF | C | 0.200 | | F | # | 0.00011 | - |
| | mg/L | 0789 | WL | 03/28/2013 | N001 | SF | D | 0.620 | | F | # | 0.00011 | - |

| 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 | 0789 | WL | 06/12/2013 | N001 | SF | D | 1.000 | | F | # | 0.00011 | - |
| | mg/L | 0789 | WL | 06/12/2013 | N002 | SF | D | 1.000 | | F | # | 0.00011 | - |
| | mg/L | 0789 | WL | 09/19/2013 | N001 | SF | D | 0.840 | | F | # | 0.00011 | - |
| | mg/L | 0824 | WL | 03/28/2013 | N001 | SF | | 0.0048 | B | F | # | 0.00011 | - |
| | mg/L | 0824 | WL | 06/13/2013 | N001 | | | 0.0044 | B | F | # | 0.00011 | - |
| | mg/L | 0824 | WL | 09/20/2013 | N001 | SF | | 0.027 | | F | # | 0.00011 | - |
| | mg/L | 0826 | WL | 03/28/2013 | N001 | SF | | 2.500 | | F | # | 0.00011 | - |
| | mg/L | 0826 | WL | 06/12/2013 | N001 | | | 2.300 | | F | # | 0.00011 | - |
| | mg/L | 0826 | WL | 09/19/2013 | N001 | SF | | 2.300 | | F | # | 0.00011 | - |
| Molybdenum | mg/L | 0705 | WL | 03/28/2013 | N001 | SE | D | 0.0027 | | FQ | # | 0.00032 | - |
| | mg/L | 0705 | WL | 06/12/2013 | 0001 | | D | 0.0029 | | FQ | # | 0.00032 | - |
| | mg/L | 0705 | WL | 09/19/2013 | 0001 | SE | D | 0.0026 | | FQ | # | 0.00032 | - |
| | mg/L | 0707 | WL | 03/28/2013 | N001 | SF | D | 0.880 | | F | # | 0.0016 | - |
| | mg/L | 0707 | WL | 03/28/2013 | N002 | SF | D | 0.920 | | F | # | 0.00032 | - |
| | mg/L | 0707 | WL | 06/12/2013 | N001 | | D | 0.840 | | F | # | 0.0016 | - |
| | mg/L | 0707 | WL | 09/19/2013 | N001 | SF | D | 0.850 | | F | # | 0.0016 | - |
| | mg/L | 0710 | WL | 03/27/2013 | N001 | SF | U | 0.002 | | F | # | 0.00032 | - |
| | mg/L | 0710 | WL | 06/11/2013 | N001 | | U | 0.0021 | | F | # | 0.00032 | - |
| | mg/L | 0710 | WL | 09/18/2013 | N001 | SF | U | 0.0024 | | F | # | 0.00032 | - |
| | mg/L | 0716 | WL | 03/27/2013 | N001 | SF | O | 0.120 | | F | # | 0.00032 | - |
| | mg/L | 0716 | WL | 06/11/2013 | N001 | | O | 0.120 | | F | # | 0.0016 | - |
| | mg/L | 0716 | WL | 09/18/2013 | N001 | SF | O | 0.094 | | F | # | 0.0016 | - |
| | mg/L | 0717 | WL | 03/27/2013 | N001 | SE | O | 0.0093 | | F | # | 0.00032 | - |
| | mg/L | 0717 | WL | 06/11/2013 | N001 | | O | 0.0094 | | F | # | 0.00032 | - |
| | mg/L | 0717 | WL | 09/18/2013 | N001 | SE | O | 0.0068 | | F | # | 0.00032 | - |
| | mg/L | 0718 | WL | 03/27/2013 | N001 | SF | D | 0.063 | | F | # | 0.00032 | - |

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | SAMPLE: ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | QUALIFIERS: DATA | QUALIFIERS: QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Molybdenum | mg/L | 0718 | WL | 06/13/2013 | N001 | | D | 0.055 | | F | # | 0.0016 | - |
| | mg/L | 0718 | WL | 09/20/2013 | N001 | SF | D | 0.091 | | F | # | 0.0016 | - |
| | mg/L | 0719 | WL | 03/27/2013 | N001 | SE | D | 0.012 | | FQ | # | 0.00032 | - |
| | mg/L | 0719 | WL | 06/13/2013 | N001 | | D | 0.012 | | FQ | # | 0.00032 | - |
| | mg/L | 0719 | WL | 09/20/2013 | N001 | SE | D | 0.0098 | | FQ | # | 0.00032 | - |
| | mg/L | 0720 | WL | 03/27/2013 | N001 | SF | C | 0.0013 | | F | # | 0.00032 | - |
| | mg/L | 0720 | WL | 06/11/2013 | N001 | | C | 0.001 | | F | # | 0.00032 | - |
| | mg/L | 0720 | WL | 09/19/2013 | N001 | SF | C | 0.0015 | | F | # | 0.00032 | - |
| | mg/L | 0721 | WL | 03/27/2013 | N001 | SE | C | 0.0027 | | F | # | 0.00032 | - |
| | mg/L | 0721 | WL | 06/11/2013 | N001 | | C | 0.0025 | | F | # | 0.00032 | - |
| | mg/L | 0721 | WL | 09/19/2013 | N001 | SE | C | 0.0023 | | F | # | 0.00032 | - |
| | mg/L | 0722R | WL | 03/28/2013 | N001 | SF | | 0.110 | | F | # | 0.0016 | - |
| | mg/L | 0722R | WL | 06/13/2013 | N001 | | | 0.110 | | F | # | 0.0016 | - |
| | mg/L | 0722R | WL | 09/20/2013 | N001 | SF | | 0.067 | | F | # | 0.0016 | - |
| | mg/L | 0723 | WL | 03/28/2013 | N001 | SE | D | 0.00032 | U | F | # | 0.00032 | - |
| | mg/L | 0723 | WL | 06/13/2013 | N001 | | D | 0.00032 | U | F | # | 0.00032 | - |
| | mg/L | 0723 | WL | 09/20/2013 | N001 | SE | D | 0.00032 | U | F | # | 0.00032 | - |
| | mg/L | 0729 | WL | 03/28/2013 | N001 | SF | D | 0.0028 | | F | # | 0.00032 | - |
| | mg/L | 0729 | WL | 06/12/2013 | N001 | | D | 0.0027 | | F | # | 0.00032 | - |
| | mg/L | 0729 | WL | 09/19/2013 | N001 | SF | D | 0.0026 | | F | # | 0.00032 | - |
| | mg/L | 0730 | WL | 03/28/2013 | N001 | SE | D | 0.0045 | | FQ | # | 0.00032 | - |
| | mg/L | 0730 | WL | 06/12/2013 | N001 | | D | 0.0044 | | FQ | # | 0.00032 | - |
| | mg/L | 0730 | WL | 09/19/2013 | N001 | SE | D | 0.0038 | | FQ | # | 0.00032 | - |
| | mg/L | 0784 | WL | 03/27/2013 | N001 | SF | U | 0.0079 | | F | # | 0.00032 | - |
| | mg/L | 0784 | WL | 06/11/2013 | N001 | | U | 0.0096 | | F | # | 0.00032 | - |
| | mg/L | 0784 | WL | 09/18/2013 | N001 | SF | U | 0.010 | | F | # | 0.00032 | - |

| 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 | 0788 | WL | 03/28/2013 | N001 | SF | C | 0.017 | | F | # | 0.00032 | - |
| | mg/L | 0788 | WL | 06/12/2013 | N001 | | C | 0.017 | | F | # | 0.00032 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N001 | SF | C | 0.021 | | F | # | 0.00032 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N002 | SF | C | 0.021 | | F | # | 0.00032 | - |
| | mg/L | 0789 | WL | 03/28/2013 | N001 | SF | D | 0.640 | | F | # | 0.0016 | - |
| | mg/L | 0789 | WL | 06/12/2013 | N001 | SF | D | 0.520 | | F | # | 0.0032 | - |
| | mg/L | 0789 | WL | 06/12/2013 | N002 | SF | D | 0.560 | | F | # | 0.0064 | - |
| | mg/L | 0789 | WL | 09/19/2013 | N001 | SF | D | 0.560 | | F | # | 0.0032 | - |
| | mg/L | 0824 | WL | 03/28/2013 | N001 | SF | | 0.003 | | F | # | 0.00032 | - |
| | mg/L | 0824 | WL | 06/13/2013 | N001 | | | 0.0036 | | F | # | 0.00032 | - |
| | mg/L | 0824 | WL | 09/20/2013 | N001 | SF | | 0.0026 | | F | # | 0.00032 | - |
| | mg/L | 0826 | WL | 03/28/2013 | N001 | SF | | 0.019 | | F | # | 0.00032 | - |
| | mg/L | 0826 | WL | 06/12/2013 | N001 | | | 0.021 | | F | # | 0.00032 | - |
| | mg/L | 0826 | WL | 09/19/2013 | N001 | SF | | 0.018 | | F | # | 0.00032 | - |
| Oxidation Reduction Potential | mV | 0705 | WL | 03/28/2013 | N001 | SE | D | 206.1 | | FQ | # | - | - |
| | mV | 0705 | WL | 06/12/2013 | N001 | | D | 58 | | FQ | # | - | - |
| | mV | 0705 | WL | 09/19/2013 | N001 | SE | D | 130.6 | | FQ | # | - | - |
| | mV | 0707 | WL | 03/28/2013 | N001 | SF | D | 205.9 | | F | # | - | - |
| | mV | 0707 | WL | 06/12/2013 | N001 | | D | 100.1 | | F | # | - | - |
| | mV | 0707 | WL | 09/19/2013 | N001 | SF | D | 124.7 | | F | # | - | - |
| | mV | 0710 | WL | 03/27/2013 | N001 | SF | U | 68.8 | | F | # | - | - |
| | mV | 0710 | WL | 06/11/2013 | N001 | | U | 50.6 | | F | # | - | - |
| | mV | 0710 | WL | 09/18/2013 | N001 | SF | U | 172.7 | | F | # | - | - |
| | mV | 0716 | WL | 03/27/2013 | N001 | SF | O | 47.1 | | F | # | - | - |
| | mV | 0716 | WL | 06/11/2013 | N001 | | O | 34.6 | | F | # | - | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:27 am

| 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 | 0716 | WL | 09/18/2013 | N001 | SF | O | 24.1 | | F | # | - | - |
| | mV | 0717 | WL | 03/27/2013 | N001 | SE | O | -145.2 | | F | # | - | - |
| | mV | 0717 | WL | 06/11/2013 | N001 | | O | 19.6 | | F | # | - | - |
| | mV | 0717 | WL | 09/18/2013 | N001 | SE | O | -40.1 | | F | # | - | - |
| | mV | 0718 | WL | 03/27/2013 | N001 | SF | D | 254.7 | | F | # | - | - |
| | mV | 0718 | WL | 06/13/2013 | N001 | | D | 103.6 | | F | # | - | - |
| | mV | 0718 | WL | 09/20/2013 | N001 | SF | D | 3.5 | | F | # | - | - |
| | mV | 0719 | WL | 03/27/2013 | N001 | SE | D | 157.8 | | FQ | # | - | - |
| | mV | 0719 | WL | 06/13/2013 | N001 | | D | 58.3 | | FQ | # | - | - |
| | mV | 0719 | WL | 09/20/2013 | N001 | SE | D | -64.5 | | FQ | # | - | - |
| | mV | 0720 | WL | 03/27/2013 | N001 | SF | C | 413.8 | | F | # | - | - |
| | mV | 0720 | WL | 06/11/2013 | N001 | | C | 47.3 | | F | # | - | - |
| | mV | 0720 | WL | 09/19/2013 | N001 | SF | C | 64.5 | | F | # | - | - |
| | mV | 0721 | WL | 03/27/2013 | N001 | SE | C | 252.9 | | F | # | - | - |
| | mV | 0721 | WL | 06/11/2013 | N001 | | C | 12.3 | | F | # | - | - |
| | mV | 0721 | WL | 09/19/2013 | N001 | SE | C | 38.3 | | F | # | - | - |
| | mV | 0722R | WL | 03/28/2013 | N001 | SF | | 260 | | F | # | - | - |
| | mV | 0722R | WL | 06/13/2013 | N001 | | | 49.7 | | F | # | - | - |
| | mV | 0722R | WL | 09/20/2013 | N001 | SF | | 25.4 | | F | # | - | - |
| | mV | 0723 | WL | 03/28/2013 | N001 | SE | D | 50 | | F | # | - | - |
| | mV | 0723 | WL | 06/13/2013 | N001 | | D | -19.0 | | F | # | - | - |
| | mV | 0723 | WL | 09/20/2013 | N001 | SE | D | -30.4 | | F | # | - | - |
| | mV | 0729 | WL | 03/28/2013 | N001 | SF | D | 160 | | F | # | - | - |
| | mV | 0729 | WL | 06/12/2013 | N001 | | D | 39.1 | | F | # | - | - |
| | mV | 0729 | WL | 09/19/2013 | N001 | SF | D | 86.8 | | F | # | - | - |

| 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 | 0730 | WL | 03/28/2013 | N001 | SE | D | 190 | | FQ | # | - | - |
| | mV | 0730 | WL | 06/12/2013 | N001 | | D | 23.2 | | FQ | # | - | - |
| | mV | 0730 | WL | 09/19/2013 | N001 | SE | D | 35.6 | | FQ | # | - | - |
| | mV | 0784 | WL | 03/27/2013 | N001 | SF | U | 72.6 | | F | # | - | - |
| | mV | 0784 | WL | 06/11/2013 | N001 | | U | 25.8 | | F | # | - | - |
| | mV | 0784 | WL | 09/18/2013 | N001 | SF | U | 154.5 | | F | # | - | - |
| | mV | 0788 | WL | 03/28/2013 | N001 | SF | C | 202.4 | | F | # | - | - |
| | mV | 0788 | WL | 06/12/2013 | N001 | | C | 48.3 | | F | # | - | - |
| | mV | 0788 | WL | 09/19/2013 | N001 | SF | C | 106.5 | | F | # | - | - |
| | mV | 0789 | WL | 03/28/2013 | N001 | SF | D | 223.8 | | F | # | - | - |
| | mV | 0789 | WL | 06/12/2013 | N001 | SF | D | 68.1 | | F | # | - | - |
| | mV | 0789 | WL | 09/19/2013 | N001 | SF | D | 131.4 | | F | # | - | - |
| | mV | 0824 | WL | 03/28/2013 | N001 | SF | | 220.0 | | F | # | - | - |
| | mV | 0824 | WL | 06/13/2013 | N001 | | | 36.9 | | F | # | - | - |
| | mV | 0824 | WL | 09/20/2013 | N001 | SF | | 78.8 | | F | # | - | - |
| | mV | 0826 | WL | 03/28/2013 | N001 | SF | | 133.6 | | F | # | - | - |
| | mV | 0826 | WL | 06/12/2013 | N001 | | | 49.5 | | F | # | - | - |
| | mV | 0826 | WL | 09/19/2013 | N001 | SF | | 101.3 | | F | # | - | - |
| pH | s.u. | 0705 | WL | 03/28/2013 | N001 | SE | D | 8.07 | | FQ | # | - | - |
| | s.u. | 0705 | WL | 06/12/2013 | N001 | | D | 7.81 | | FQ | # | - | - |
| | s.u. | 0705 | WL | 09/19/2013 | N001 | SE | D | 8.19 | | FQ | # | - | - |
| | s.u. | 0707 | WL | 03/28/2013 | N001 | SF | D | 6.92 | | F | # | - | - |
| | s.u. | 0707 | WL | 06/12/2013 | N001 | | D | 6.42 | | F | # | - | - |
| | s.u. | 0707 | WL | 09/19/2013 | N001 | SF | D | 6.93 | | F | # | - | - |
| | s.u. | 0710 | WL | 03/27/2013 | N001 | SF | U | 7.41 | | F | # | - | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:27 am

| 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. | 0710 | WL | 06/11/2013 | N001 | | U | 6.83 | | F | # | - | - |
| | s.u. | 0710 | WL | 09/18/2013 | N001 | SF | U | 7.44 | | F | # | - | - |
| | s.u. | 0716 | WL | 03/27/2013 | N001 | SF | O | 7.05 | | F | # | - | - |
| | s.u. | 0716 | WL | 06/11/2013 | N001 | | O | 6.68 | | F | # | - | - |
| | s.u. | 0716 | WL | 09/18/2013 | N001 | SF | O | 7.07 | | F | # | - | - |
| | s.u. | 0717 | WL | 03/27/2013 | N001 | SE | O | 7.67 | | F | # | - | - |
| | s.u. | 0717 | WL | 06/11/2013 | N001 | | O | 7.24 | | F | # | - | - |
| | s.u. | 0717 | WL | 09/18/2013 | N001 | SE | O | 7.68 | | F | # | - | - |
| | s.u. | 0718 | WL | 03/27/2013 | N001 | SF | D | 6.86 | | F | # | - | - |
| | s.u. | 0718 | WL | 06/13/2013 | N001 | | D | 6.54 | | F | # | - | - |
| | s.u. | 0718 | WL | 09/20/2013 | N001 | SF | D | 7.07 | | F | # | - | - |
| | s.u. | 0719 | WL | 03/27/2013 | N001 | SE | D | 6.97 | | FQ | # | - | - |
| | s.u. | 0719 | WL | 06/13/2013 | N001 | | D | 6.83 | | FQ | # | - | - |
| | s.u. | 0719 | WL | 09/20/2013 | N001 | SE | D | 7.72 | | FQ | # | - | - |
| | s.u. | 0720 | WL | 03/27/2013 | N001 | SF | C | 7.00 | | F | # | - | - |
| | s.u. | 0720 | WL | 06/11/2013 | N001 | | C | 6.71 | | F | # | - | - |
| | s.u. | 0720 | WL | 09/19/2013 | N001 | SF | C | 7.25 | | F | # | - | - |
| | s.u. | 0721 | WL | 03/27/2013 | N001 | SE | C | 8.31 | | F | # | - | - |
| | s.u. | 0721 | WL | 06/11/2013 | N001 | | C | 8.23 | | F | # | - | - |
| | s.u. | 0721 | WL | 09/19/2013 | N001 | SE | C | 8.65 | | F | # | - | - |
| | s.u. | 0722R | WL | 03/28/2013 | N001 | SF | | 6.88 | | F | # | - | - |
| | s.u. | 0722R | WL | 06/13/2013 | N001 | | | 6.43 | | F | # | - | - |
| | s.u. | 0722R | WL | 09/20/2013 | N001 | SF | | 6.90 | | F | # | - | - |
| | s.u. | 0723 | WL | 03/28/2013 | N001 | SE | D | 6.97 | | F | # | - | - |
| | s.u. | 0723 | WL | 06/13/2013 | N001 | | D | 6.74 | | F | # | - | - |
| | s.u. | 0723 | WL | 09/20/2013 | N001 | SE | D | 7.13 | | F | # | - | - |

| 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. | 0729 | WL | 03/28/2013 | N001 | SF | D | 7.03 | | F | # | - | - |
| | s.u. | 0729 | WL | 06/12/2013 | N001 | | D | 6.70 | | F | # | - | - |
| | s.u. | 0729 | WL | 09/19/2013 | N001 | SF | D | 7.09 | | F | # | - | - |
| | s.u. | 0730 | WL | 03/28/2013 | N001 | SE | D | 7.37 | | FQ | # | - | - |
| | s.u. | 0730 | WL | 06/12/2013 | N001 | | D | 6.79 | | FQ | # | - | - |
| | s.u. | 0730 | WL | 09/19/2013 | N001 | SE | D | 7.39 | | FQ | # | - | - |
| | s.u. | 0784 | WL | 03/27/2013 | N001 | SF | U | 7.54 | | F | # | - | - |
| | s.u. | 0784 | WL | 06/11/2013 | N001 | | U | 7.16 | | F | # | - | - |
| | s.u. | 0784 | WL | 09/18/2013 | N001 | SF | U | 7.71 | | F | # | - | - |
| | s.u. | 0788 | WL | 03/28/2013 | N001 | SF | C | 7.04 | | F | # | - | - |
| | s.u. | 0788 | WL | 06/12/2013 | N001 | | C | 6.72 | | F | # | - | - |
| | s.u. | 0788 | WL | 09/19/2013 | N001 | SF | C | 7.13 | | F | # | - | - |
| | s.u. | 0789 | WL | 03/28/2013 | N001 | SF | D | 7.08 | | F | # | - | - |
| | s.u. | 0789 | WL | 06/12/2013 | N001 | SF | D | 6.59 | | F | # | - | - |
| | s.u. | 0789 | WL | 09/19/2013 | N001 | SF | D | 7.06 | | F | # | - | - |
| | s.u. | 0824 | WL | 03/28/2013 | N001 | SF | | 7.01 | | F | # | - | - |
| | s.u. | 0824 | WL | 06/13/2013 | N001 | | | 6.70 | | F | # | - | - |
| | s.u. | 0824 | WL | 09/20/2013 | N001 | SF | | 6.93 | | F | # | - | - |
| | s.u. | 0826 | WL | 03/28/2013 | N001 | SF | | 7.05 | | F | # | - | - |
| | s.u. | 0826 | WL | 06/12/2013 | N001 | | | 6.65 | | F | # | - | - |
| | s.u. | 0826 | WL | 09/19/2013 | N001 | SF | | 7.06 | | F | # | - | - |
| Potassium | mg/L | 0705 | WL | 06/12/2013 | 0001 | | D | 1.100 | | FQ | # | 0.11 | - |
| | mg/L | 0705 | WL | 09/19/2013 | 0001 | SE | D | 0.860 | B | UFQ | # | 0.11 | - |
| | mg/L | 0707 | WL | 06/12/2013 | N001 | | D | 21.000 | | F | # | 0.11 | - |
| | mg/L | 0707 | WL | 09/19/2013 | N001 | SF | D | 21.000 | | F | # | 0.11 | - |
| | mg/L | 0710 | WL | 06/11/2013 | N001 | | U | 2.000 | | F | # | 0.11 | - |

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Potassium | mg/L | 0710 | WL | 09/18/2013 | N001 | SF | U | 1.800 | | F | # | 0.11 | - |
| | mg/L | 0716 | WL | 06/11/2013 | N001 | | O | 6.500 | | F | # | 0.11 | - |
| | mg/L | 0716 | WL | 09/18/2013 | N001 | SF | O | 6.300 | | F | # | 0.11 | - |
| | mg/L | 0717 | WL | 06/11/2013 | N001 | | O | 1.700 | | F | # | 0.11 | - |
| | mg/L | 0717 | WL | 09/18/2013 | N001 | SE | O | 1.500 | | F | # | 0.11 | - |
| | mg/L | 0718 | WL | 06/13/2013 | N001 | | D | 20.000 | | F | # | 0.11 | - |
| | mg/L | 0718 | WL | 09/20/2013 | N001 | SF | D | 20.000 | | F | # | 0.11 | - |
| | mg/L | 0719 | WL | 06/13/2013 | N001 | | D | 1.600 | | FQ | # | 0.11 | - |
| | mg/L | 0719 | WL | 09/20/2013 | N001 | SE | D | 1.300 | | FQ | # | 0.11 | - |
| | mg/L | 0720 | WL | 06/11/2013 | N001 | | C | 3.100 | | F | # | 0.11 | - |
| | mg/L | 0720 | WL | 09/19/2013 | N001 | SF | C | 2.700 | | F | # | 0.11 | - |
| | mg/L | 0721 | WL | 06/11/2013 | N001 | | C | 0.560 | B | UF | # | 0.11 | - |
| | mg/L | 0721 | WL | 09/19/2013 | N001 | SE | C | 0.490 | B | UF | # | 0.11 | - |
| | mg/L | 0722R | WL | 06/13/2013 | N001 | | | 9.700 | | F | # | 0.11 | - |
| | mg/L | 0722R | WL | 09/20/2013 | N001 | SF | | 9.500 | | F | # | 0.11 | - |
| | mg/L | 0723 | WL | 06/13/2013 | N001 | | D | 3.000 | | F | # | 0.11 | - |
| | mg/L | 0723 | WL | 09/20/2013 | N001 | SE | D | 2.900 | | F | # | 0.11 | - |
| | mg/L | 0729 | WL | 06/12/2013 | N001 | | D | 7.000 | | F | # | 0.11 | - |
| | mg/L | 0729 | WL | 09/19/2013 | N001 | SF | D | 7.900 | | F | # | 0.11 | - |
| | mg/L | 0730 | WL | 06/12/2013 | N001 | | D | 2.900 | | FQ | # | 0.11 | - |
| | mg/L | 0730 | WL | 09/19/2013 | N001 | SE | D | 2.500 | | FQ | # | 0.11 | - |
| | mg/L | 0784 | WL | 06/11/2013 | N001 | | U | 11.000 | | F | # | 0.11 | - |
| | mg/L | 0784 | WL | 09/18/2013 | N001 | SF | U | 5.400 | | F | # | 0.11 | - |
| | mg/L | 0788 | WL | 06/12/2013 | N001 | | C | 11.000 | | F | # | 0.11 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N001 | SF | C | 11.000 | | F | # | 0.11 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N002 | SF | C | 11.000 | | F | # | 0.11 | - |

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Potassium | mg/L | 0789 | WL | 06/12/2013 | N001 | SF | D | 28.000 | | F | # | 0.11 | - |
| | mg/L | 0789 | WL | 06/12/2013 | N002 | SF | D | 28.000 | | F | # | 0.11 | - |
| | mg/L | 0789 | WL | 09/19/2013 | N001 | SF | D | 28.000 | | F | # | 0.11 | - |
| | mg/L | 0824 | WL | 06/13/2013 | N001 | | | 6.600 | | F | # | 0.11 | - |
| | mg/L | 0824 | WL | 09/20/2013 | N001 | SF | | 7.300 | | F | # | 0.11 | - |
| | mg/L | 0826 | WL | 06/12/2013 | N001 | | | 12.000 | | F | # | 0.11 | - |
| | mg/L | 0826 | WL | 09/19/2013 | N001 | SF | | 12.000 | | F | # | 0.11 | - |
| Sodium | mg/L | 0705 | WL | 06/12/2013 | 0001 | | D | 180.000 | | FQ | # | 0.066 | - |
| | mg/L | 0705 | WL | 09/19/2013 | 0001 | SE | D | 230.000 | | FQ | # | 0.066 | - |
| | mg/L | 0707 | WL | 06/12/2013 | N001 | | D | 550.000 | | F | # | 0.33 | - |
| | mg/L | 0707 | WL | 09/19/2013 | N001 | SF | D | 350.000 | | F | # | 0.33 | - |
| | mg/L | 0710 | WL | 06/11/2013 | N001 | | U | 45.000 | | F | # | 0.0066 | - |
| | mg/L | 0710 | WL | 09/18/2013 | N001 | SF | U | 33.000 | | F | # | 0.0066 | - |
| | mg/L | 0716 | WL | 06/11/2013 | N001 | | O | 150.000 | | F | # | 0.0066 | - |
| | mg/L | 0716 | WL | 09/18/2013 | N001 | SF | O | 150.000 | | F | # | 0.0066 | - |
| | mg/L | 0717 | WL | 06/11/2013 | N001 | | O | 290.000 | | F | # | 0.066 | - |
| | mg/L | 0717 | WL | 09/18/2013 | N001 | SE | O | 330.000 | | F | # | 0.066 | - |
| | mg/L | 0718 | WL | 06/13/2013 | N001 | | D | 620.000 | | F | # | 0.33 | - |
| | mg/L | 0718 | WL | 09/20/2013 | N001 | SF | D | 740.000 | | F | # | 0.33 | - |
| | mg/L | 0719 | WL | 06/13/2013 | N001 | | D | 150.000 | | FQ | # | 0.066 | - |
| | mg/L | 0719 | WL | 09/20/2013 | N001 | SE | D | 190.000 | | FQ | # | 0.066 | - |
| | mg/L | 0720 | WL | 06/11/2013 | N001 | | C | 42.000 | | F | # | 0.0066 | - |
| | mg/L | 0720 | WL | 09/19/2013 | N001 | SF | C | 29.000 | | F | # | 0.0066 | - |
| | mg/L | 0721 | WL | 06/11/2013 | N001 | | C | 150.000 | | F | # | 0.066 | - |
| | mg/L | 0721 | WL | 09/19/2013 | N001 | SE | C | 170.000 | | F | # | 0.066 | - |
| | mg/L | 0722R | WL | 06/13/2013 | N001 | | | 120.000 | | F | # | 0.0066 | - |

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sodium | mg/L | 0722R | WL | 09/20/2013 | N001 | SF | | 100.000 | | F | # | 0.0066 | - |
| | mg/L | 0723 | WL | 06/13/2013 | N001 | | D | 490.000 | | F | # | 0.33 | - |
| | mg/L | 0723 | WL | 09/20/2013 | N001 | SE | D | 630.000 | | F | # | 0.33 | - |
| | mg/L | 0729 | WL | 06/12/2013 | N001 | | D | 24.000 | | F | # | 0.0066 | - |
| | mg/L | 0729 | WL | 09/19/2013 | N001 | SF | D | 23.000 | | F | # | 0.0066 | - |
| | mg/L | 0730 | WL | 06/12/2013 | N001 | | D | 100.000 | | FQ | # | 0.0066 | - |
| | mg/L | 0730 | WL | 09/19/2013 | N001 | SE | D | 94.000 | | FQ | # | 0.0066 | - |
| | mg/L | 0784 | WL | 06/11/2013 | N001 | | U | 470.000 | | F | # | 0.33 | - |
| | mg/L | 0784 | WL | 09/18/2013 | N001 | SF | U | 290.000 | | F | # | 0.066 | - |
| | mg/L | 0788 | WL | 06/12/2013 | N001 | | C | 410.000 | | F | # | 0.33 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N001 | SF | C | 490.000 | | F | # | 0.33 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N002 | SF | C | 500.000 | | F | # | 0.33 | - |
| | mg/L | 0789 | WL | 06/12/2013 | N001 | SF | D | 1400.000 | | F | # | 0.33 | - |
| | mg/L | 0789 | WL | 06/12/2013 | N002 | SF | D | 1300.000 | | F | # | 0.33 | - |
| | mg/L | 0789 | WL | 09/19/2013 | N001 | SF | D | 1500.000 | | F | # | 0.33 | - |
| | mg/L | 0824 | WL | 06/13/2013 | N001 | | | 55.000 | | F | # | 0.0066 | - |
| | mg/L | 0824 | WL | 09/20/2013 | N001 | SF | | 38.000 | | F | # | 0.0066 | - |
| | mg/L | 0826 | WL | 06/12/2013 | N001 | | | 400.000 | | F | # | 0.066 | - |
| | mg/L | 0826 | WL | 09/19/2013 | N001 | SF | | 480.000 | | F | # | 0.33 | - |
| Specific Conductance | umhos/cm | 0705 | WL | 03/28/2013 | N001 | SE | D | 1221 | | FQ | # | - | - |
| | umhos/cm | 0705 | WL | 06/12/2013 | N001 | | D | 1247 | | FQ | # | - | - |
| | umhos/cm | 0705 | WL | 09/19/2013 | N001 | SE | D | 1224 | | FQ | # | - | - |
| | umhos/cm | 0707 | WL | 03/28/2013 | N001 | SF | D | 4925 | | F | # | - | - |
| | umhos/cm | 0707 | WL | 06/12/2013 | N001 | | D | 4789 | | F | # | - | - |
| | umhos/cm | 0707 | WL | 09/19/2013 | N001 | SF | D | 4737 | | F | # | - | - |
| | umhos/cm | 0710 | WL | 03/27/2013 | N001 | SF | U | 519 | | F | # | - | - |

| 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 | 0710 | WL | 06/11/2013 | N001 | | U | 663 | | F | # | - | - |
| | umhos/cm | 0710 | WL | 09/18/2013 | N001 | SF | U | 564 | | F | # | - | - |
| | umhos/cm | 0716 | WL | 03/27/2013 | N001 | SF | O | 1414 | | F | # | - | - |
| | umhos/cm | 0716 | WL | 06/11/2013 | N001 | | O | 1493 | | F | # | - | - |
| | umhos/cm | 0716 | WL | 09/18/2013 | N001 | SF | O | 1485 | | F | # | - | - |
| | umhos/cm | 0717 | WL | 03/27/2013 | N001 | SE | O | 1888 | | F | # | - | - |
| | umhos/cm | 0717 | WL | 06/11/2013 | N001 | | O | 1873 | | F | # | - | - |
| | umhos/cm | 0717 | WL | 09/18/2013 | N001 | SE | O | 1911 | | F | # | - | - |
| | umhos/cm | 0718 | WL | 03/27/2013 | N001 | SF | D | 4657 | | F | # | - | - |
| | umhos/cm | 0718 | WL | 06/13/2013 | N001 | | D | 4538 | | F | # | - | - |
| | umhos/cm | 0718 | WL | 09/20/2013 | N001 | SF | D | 4563 | | F | # | - | - |
| | umhos/cm | 0719 | WL | 03/27/2013 | N001 | SE | D | 1227 | | FQ | # | - | - |
| | umhos/cm | 0719 | WL | 06/13/2013 | N001 | | D | 1205 | | FQ | # | - | - |
| | umhos/cm | 0719 | WL | 09/20/2013 | N001 | SE | D | 1220 | | FQ | # | - | - |
| | umhos/cm | 0720 | WL | 03/27/2013 | N001 | SF | C | 947 | | F | # | - | - |
| | umhos/cm | 0720 | WL | 06/11/2013 | N001 | | C | 723 | | F | # | - | - |
| | umhos/cm | 0720 | WL | 09/19/2013 | N001 | SF | C | 582 | | F | # | - | - |
| | umhos/cm | 0721 | WL | 03/27/2013 | N001 | SE | C | 877 | | F | # | - | - |
| | umhos/cm | 0721 | WL | 06/11/2013 | N001 | | C | 884 | | F | # | - | - |
| | umhos/cm | 0721 | WL | 09/19/2013 | N001 | SE | C | 890 | | F | # | - | - |
| | umhos/cm | 0722R | WL | 03/28/2013 | N001 | SF | | 1865 | | F | # | - | - |
| | umhos/cm | 0722R | WL | 06/13/2013 | N001 | | | 1845 | | F | # | - | - |
| | umhos/cm | 0722R | WL | 09/20/2013 | N001 | SF | | 1781 | | F | # | - | - |
| | umhos/cm | 0723 | WL | 03/28/2013 | N001 | SE | D | 3985 | | F | # | - | - |
| | umhos/cm | 0723 | WL | 06/13/2013 | N001 | | D | 3488 | | F | # | - | - |
| | umhos/cm | 0723 | WL | 09/20/2013 | N001 | SE | D | 3724 | | F | # | - | - |

| 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 | 0729 | WL | 03/28/2013 | N001 | SF | D | 790 | | F | # | - | - |
| | umhos/cm | 0729 | WL | 06/12/2013 | N001 | | D | 574 | | F | # | - | - |
| | umhos/cm | 0729 | WL | 09/19/2013 | N001 | SF | D | 663 | | F | # | - | - |
| | umhos/cm | 0730 | WL | 03/28/2013 | N001 | SE | D | 880 | | FQ | # | - | - |
| | umhos/cm | 0730 | WL | 06/12/2013 | N001 | | D | 911 | | FQ | # | - | - |
| | umhos/cm | 0730 | WL | 09/19/2013 | N001 | SE | D | 861 | | FQ | # | - | - |
| | umhos/cm | 0784 | WL | 03/27/2013 | N001 | SF | U | 3756 | | F | # | - | - |
| | umhos/cm | 0784 | WL | 06/11/2013 | N001 | | U | 3549 | | F | # | - | - |
| | umhos/cm | 0784 | WL | 09/18/2013 | N001 | SF | U | 1652 | | F | # | - | - |
| | umhos/cm | 0788 | WL | 03/28/2013 | N001 | SF | C | 3244 | | F | # | - | - |
| | umhos/cm | 0788 | WL | 06/12/2013 | N001 | | C | 3344 | | F | # | - | - |
| | umhos/cm | 0788 | WL | 09/19/2013 | N001 | SF | C | 3314 | | F | # | - | - |
| | umhos/cm | 0789 | WL | 03/28/2013 | N001 | SF | D | 8809 | | F | # | - | - |
| | umhos/cm | 0789 | WL | 06/12/2013 | N001 | SF | D | 8288 | | F | # | - | - |
| | umhos/cm | 0789 | WL | 09/19/2013 | N001 | SF | D | 8304 | | F | # | - | - |
| | umhos/cm | 0824 | WL | 03/28/2013 | N001 | SF | | 1264 | | F | # | - | - |
| | umhos/cm | 0824 | WL | 06/13/2013 | N001 | | | 822 | | F | # | - | - |
| | umhos/cm | 0824 | WL | 09/20/2013 | N001 | SF | | 797 | | F | # | - | - |
| | umhos/cm | 0826 | WL | 03/28/2013 | N001 | SF | | 3439 | | F | # | - | - |
| | umhos/cm | 0826 | WL | 06/12/2013 | N001 | | | 3305 | | F | # | - | - |
| | umhos/cm | 0826 | WL | 09/19/2013 | N001 | SF | | 3416 | | F | # | - | - |
| Sulfate | mg/L | 0705 | WL | 03/28/2013 | N001 | SE | D | 430 | | FQ | # | 5 | - |
| | mg/L | 0705 | WL | 06/12/2013 | 0001 | | D | 430 | | FQ | # | 5 | - |
| | mg/L | 0705 | WL | 09/19/2013 | 0001 | SE | D | 440 | | FQ | # | 5 | - |
| | mg/L | 0707 | WL | 03/28/2013 | N001 | SF | D | 2600 | | F | # | 25 | - |
| | mg/L | 0707 | WL | 03/28/2013 | N002 | SF | D | 2700 | | F | # | 25 | - |

| 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 | 0707 | WL | 06/12/2013 | N001 | | D | 2600 | | F | # | 25 | - |
| | mg/L | 0707 | WL | 09/19/2013 | N001 | SF | D | 2600 | | F | # | 25 | - |
| | mg/L | 0710 | WL | 03/27/2013 | N001 | SF | U | 84 | | F | # | 2.5 | - |
| | mg/L | 0710 | WL | 06/11/2013 | N001 | | U | 120 | | F | # | 2.5 | - |
| | mg/L | 0710 | WL | 09/18/2013 | N001 | SF | U | 83 | | F | # | 0.5 | - |
| | mg/L | 0716 | WL | 03/27/2013 | N001 | SF | O | 420 | | F | # | 5 | - |
| | mg/L | 0716 | WL | 06/11/2013 | N001 | | O | 470 | | F | # | 5 | - |
| | mg/L | 0716 | WL | 09/18/2013 | N001 | SF | O | 470 | | F | # | 10 | - |
| | mg/L | 0717 | WL | 03/27/2013 | N001 | SE | O | 670 | | F | # | 10 | - |
| | mg/L | 0717 | WL | 06/11/2013 | N001 | | O | 700 | | F | # | 10 | - |
| | mg/L | 0717 | WL | 09/18/2013 | N001 | SE | O | 690 | | F | # | 12 | - |
| | mg/L | 0718 | WL | 03/27/2013 | N001 | SF | D | 2300 | | F | # | 25 | - |
| | mg/L | 0718 | WL | 06/13/2013 | N001 | | D | 2400 | | F | # | 25 | - |
| | mg/L | 0718 | WL | 09/20/2013 | N001 | SF | D | 2300 | | F | # | 25 | - |
| | mg/L | 0719 | WL | 03/27/2013 | N001 | SE | D | 440 | | FQ | # | 5 | - |
| | mg/L | 0719 | WL | 06/13/2013 | N001 | | D | 450 | | FQ | # | 5 | - |
| | mg/L | 0719 | WL | 09/20/2013 | N001 | SE | D | 470 | | FQ | # | 5 | - |
| | mg/L | 0720 | WL | 03/27/2013 | N001 | SF | C | 290 | | F | # | 5 | - |
| | mg/L | 0720 | WL | 06/11/2013 | N001 | | C | 150 | | F | # | 2.5 | - |
| | mg/L | 0720 | WL | 09/19/2013 | N001 | SF | C | 96 | | F | # | 0.5 | - |
| | mg/L | 0721 | WL | 03/27/2013 | N001 | SE | C | 270 | | F | # | 5 | - |
| | mg/L | 0721 | WL | 06/11/2013 | N001 | | C | 260 | | F | # | 2.5 | - |
| | mg/L | 0721 | WL | 09/19/2013 | N001 | SE | C | 270 | | F | # | 2.5 | - |
| | mg/L | 0722R | WL | 03/28/2013 | N001 | SF | | 810 | | F | # | 10 | - |
| | mg/L | 0722R | WL | 06/13/2013 | N001 | | | 760 | | F | # | 10 | - |
| | mg/L | 0722R | WL | 09/20/2013 | N001 | SF | | 780 | | F | # | 10 | - |

| 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 | 0723 | WL | 03/28/2013 | N001 | SE | D | 1900 | | F | # | 25 | - |
| | mg/L | 0723 | WL | 06/13/2013 | N001 | | D | 1600 | | F | # | 25 | - |
| | mg/L | 0723 | WL | 09/20/2013 | N001 | SE | D | 1800 | | F | # | 25 | - |
| | mg/L | 0729 | WL | 03/28/2013 | N001 | SF | D | 100 | | F | # | 5 | - |
| | mg/L | 0729 | WL | 06/12/2013 | N001 | | D | 52 | | F | # | 1 | - |
| | mg/L | 0729 | WL | 09/19/2013 | N001 | SF | D | 73 | | F | # | 0.5 | - |
| | mg/L | 0730 | WL | 03/28/2013 | N001 | SE | D | 140 | | FQ | # | 5 | - |
| | mg/L | 0730 | WL | 06/12/2013 | N001 | | D | 140 | | FQ | # | 2.5 | - |
| | mg/L | 0730 | WL | 09/19/2013 | N001 | SE | D | 120 | | FQ | # | 2.5 | - |
| | mg/L | 0784 | WL | 03/27/2013 | N001 | SF | U | 2000 | | F | # | 25 | - |
| | mg/L | 0784 | WL | 06/11/2013 | N001 | | U | 1900 | | F | # | 25 | - |
| | mg/L | 0784 | WL | 09/18/2013 | N001 | SF | U | 670 | | F | # | 12 | - |
| | mg/L | 0788 | WL | 03/28/2013 | N001 | SF | C | 1400 | | F | # | 10 | - |
| | mg/L | 0788 | WL | 06/12/2013 | N001 | | C | 1500 | | F | # | 25 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N001 | SF | C | 1500 | | F | # | 25 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N002 | SF | C | 1500 | | F | # | 25 | - |
| | mg/L | 0789 | WL | 03/28/2013 | N001 | SF | D | 4800 | | F | # | 50 | - |
| | mg/L | 0789 | WL | 06/12/2013 | N001 | SF | D | 4600 | | F | # | 50 | - |
| | mg/L | 0789 | WL | 06/12/2013 | N002 | SF | D | 4700 | | F | # | 50 | - |
| | mg/L | 0789 | WL | 09/19/2013 | N001 | SF | D | 4600 | | F | # | 50 | - |
| | mg/L | 0824 | WL | 03/28/2013 | N001 | SF | | 330 | | F | # | 5 | - |
| | mg/L | 0824 | WL | 06/13/2013 | N001 | | | 140 | | F | # | 2.5 | - |
| | mg/L | 0824 | WL | 09/20/2013 | N001 | SF | | 63 | | F | # | 2.5 | - |
| | mg/L | 0826 | WL | 03/28/2013 | N001 | SF | | 1700 | | F | # | 25 | - |
| | mg/L | 0826 | WL | 06/12/2013 | N001 | | | 1600 | | F | # | 25 | - |
| | mg/L | 0826 | WL | 09/19/2013 | N001 | SF | | 1700 | | F | # | 25 | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:27 am

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Temperature | C | 0705 | WL | 03/28/2013 | N001 | SE | D | 9.26 | | FQ | # | - | - |
| | C | 0705 | WL | 06/12/2013 | N001 | | D | 9.92 | | FQ | # | - | - |
| | C | 0705 | WL | 09/19/2013 | N001 | SE | D | 11.73 | | FQ | # | - | - |
| | C | 0707 | WL | 03/28/2013 | N001 | SF | D | 8.92 | | F | # | - | - |
| | C | 0707 | WL | 06/12/2013 | N001 | | D | 9.10 | | F | # | - | - |
| | C | 0707 | WL | 09/19/2013 | N001 | SF | D | 13.25 | | F | # | - | - |
| | C | 0710 | WL | 03/27/2013 | N001 | SF | U | 7.41 | | F | # | - | - |
| | C | 0710 | WL | 06/11/2013 | N001 | | U | 8.46 | | F | # | - | - |
| | C | 0710 | WL | 09/18/2013 | N001 | SF | U | 14.26 | | F | # | - | - |
| | C | 0716 | WL | 03/27/2013 | N001 | SF | O | 5.96 | | F | # | - | - |
| | C | 0716 | WL | 06/11/2013 | N001 | | O | 11.10 | | F | # | - | - |
| | C | 0716 | WL | 09/18/2013 | N001 | SF | O | 16.07 | | F | # | - | - |
| | C | 0717 | WL | 03/27/2013 | N001 | SE | O | 8.21 | | F | # | - | - |
| | C | 0717 | WL | 06/11/2013 | N001 | | O | 11.70 | | F | # | - | - |
| | C | 0717 | WL | 09/18/2013 | N001 | SE | O | 14.08 | | F | # | - | - |
| | C | 0718 | WL | 03/27/2013 | N001 | SF | D | 11.51 | | F | # | - | - |
| | C | 0718 | WL | 06/13/2013 | N001 | | D | 10.10 | | F | # | - | - |
| | C | 0718 | WL | 09/20/2013 | N001 | SF | D | 13.49 | | F | # | - | - |
| | C | 0719 | WL | 03/27/2013 | N001 | SE | D | 12.10 | | FQ | # | - | - |
| | C | 0719 | WL | 06/13/2013 | N001 | | D | 11.06 | | FQ | # | - | - |
| | C | 0719 | WL | 09/20/2013 | N001 | SE | D | 11.37 | | FQ | # | - | - |
| | C | 0720 | WL | 03/27/2013 | N001 | SF | C | 6.60 | | F | # | - | - |
| | C | 0720 | WL | 06/11/2013 | N001 | | C | 9.49 | | F | # | - | - |
| | C | 0720 | WL | 09/19/2013 | N001 | SF | C | 14.29 | | F | # | - | - |
| | C | 0721 | WL | 03/27/2013 | N001 | SE | C | 10.19 | | F | # | - | - |
| | C | 0721 | WL | 06/11/2013 | N001 | | C | 11.27 | | F | # | - | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:27 am

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Temperature | C | 0721 | WL | 09/19/2013 | N001 | SE | C | 11.82 | | F | # | - | - |
| | C | 0722R | WL | 03/28/2013 | N001 | SF | | 8.0 | | F | # | - | - |
| | C | 0722R | WL | 06/13/2013 | N001 | | | 11.79 | | F | # | - | - |
| | C | 0722R | WL | 09/20/2013 | N001 | SF | | 15.53 | | F | # | - | - |
| | C | 0723 | WL | 03/28/2013 | N001 | SE | D | 9.6 | | F | # | - | - |
| | C | 0723 | WL | 06/13/2013 | N001 | | D | 12.84 | | F | # | - | - |
| | C | 0723 | WL | 09/20/2013 | N001 | SE | D | 12.95 | | F | # | - | - |
| | C | 0729 | WL | 03/28/2013 | N001 | SF | D | 7.2 | | F | # | - | - |
| | C | 0729 | WL | 06/12/2013 | N001 | | D | 13.66 | | F | # | - | - |
| | C | 0729 | WL | 09/19/2013 | N001 | SF | D | 17.05 | | F | # | - | - |
| | C | 0730 | WL | 03/28/2013 | N001 | SE | D | 9.7 | | FQ | # | - | - |
| | C | 0730 | WL | 06/12/2013 | N001 | | D | 14.30 | | FQ | # | - | - |
| | C | 0730 | WL | 09/19/2013 | N001 | SE | D | 14.33 | | FQ | # | - | - |
| | C | 0784 | WL | 03/27/2013 | N001 | SF | U | 6.21 | | F | # | - | - |
| | C | 0784 | WL | 06/11/2013 | N001 | | U | 12.77 | | F | # | - | - |
| | C | 0784 | WL | 09/18/2013 | N001 | SF | U | 19.05 | | F | # | - | - |
| | C | 0788 | WL | 03/28/2013 | N001 | SF | C | 8.77 | | F | # | - | - |
| | C | 0788 | WL | 06/12/2013 | N001 | | C | 11.48 | | F | # | - | - |
| | C | 0788 | WL | 09/19/2013 | N001 | SF | C | 13.42 | | F | # | - | - |
| | C | 0789 | WL | 03/28/2013 | N001 | SF | D | 8.17 | | F | # | - | - |
| | C | 0789 | WL | 06/12/2013 | N001 | SF | D | 9.29 | | F | # | - | - |
| | C | 0789 | WL | 09/19/2013 | N001 | SF | D | 12.60 | | F | # | - | - |
| | C | 0824 | WL | 03/28/2013 | N001 | SF | | 8.56 | | F | # | - | - |
| | C | 0824 | WL | 06/13/2013 | N001 | | | 13.07 | | F | # | - | - |
| | C | 0824 | WL | 09/20/2013 | N001 | SF | | 17.67 | | F | # | - | - |
| | C | 0826 | WL | 03/28/2013 | N001 | SF | | 6.79 | | F | # | - | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:27 am

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Temperature | C | 0826 | WL | 06/12/2013 | N001 | | | 10.30 | | F | # | - | - |
| | C | 0826 | WL | 09/19/2013 | N001 | SF | | 12.52 | | F | # | - | - |
| Turbidity | NTU | 0705 | WL | 03/28/2013 | N001 | SE | D | 3.36 | | FQ | # | - | - |
| | NTU | 0705 | WL | 06/12/2013 | N001 | | D | 24.4 | | FQ | # | - | - |
| | NTU | 0705 | WL | 09/19/2013 | N001 | SE | D | 240 | | FQ | # | - | - |
| | NTU | 0707 | WL | 03/28/2013 | N001 | SF | D | 1.72 | | F | # | - | - |
| | NTU | 0707 | WL | 06/12/2013 | N001 | | D | 3.18 | | F | # | - | - |
| | NTU | 0707 | WL | 09/19/2013 | N001 | SF | D | 7.22 | | F | # | - | - |
| | NTU | 0710 | WL | 03/27/2013 | N001 | SF | U | 1.73 | | F | # | - | - |
| | NTU | 0710 | WL | 06/11/2013 | N001 | | U | 2.57 | | F | # | - | - |
| | NTU | 0710 | WL | 09/18/2013 | N001 | SF | U | 5.13 | | F | # | - | - |
| | NTU | 0716 | WL | 03/27/2013 | N001 | SF | O | 5.70 | | F | # | - | - |
| | NTU | 0716 | WL | 06/11/2013 | N001 | | O | 2.73 | | F | # | - | - |
| | NTU | 0716 | WL | 09/18/2013 | N001 | SF | O | 1.77 | | F | # | - | - |
| | NTU | 0717 | WL | 03/27/2013 | N001 | SE | O | 1.70 | | F | # | - | - |
| | NTU | 0717 | WL | 06/11/2013 | N001 | | O | 2.77 | | F | # | - | - |
| | NTU | 0717 | WL | 09/18/2013 | N001 | SE | O | 1.24 | | F | # | - | - |
| | NTU | 0718 | WL | 03/27/2013 | N001 | SF | D | 2.02 | | F | # | - | - |
| | NTU | 0718 | WL | 06/13/2013 | N001 | | D | 4.72 | | F | # | - | - |
| | NTU | 0718 | WL | 09/20/2013 | N001 | SF | D | 4.33 | | F | # | - | - |
| | NTU | 0719 | WL | 03/27/2013 | N001 | SE | D | 1.81 | | FQ | # | - | - |
| | NTU | 0719 | WL | 06/13/2013 | N001 | | D | 4.19 | | FQ | # | - | - |
| | NTU | 0719 | WL | 09/20/2013 | N001 | SE | D | 5.87 | | FQ | # | - | - |
| | NTU | 0720 | WL | 03/27/2013 | N001 | SF | C | 0.84 | | F | # | - | - |
| | NTU | 0720 | WL | 06/11/2013 | N001 | | C | 2.16 | | F | # | - | - |
| | NTU | 0720 | WL | 09/19/2013 | N001 | SF | C | 0.39 | | F | # | - | - |

| 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 | 03/27/2013 | N001 | SE | C | 0.86 | | F | # | - | - |
| | NTU | 0721 | WL | 06/11/2013 | N001 | | C | 1.04 | | F | # | - | - |
| | NTU | 0721 | WL | 09/19/2013 | N001 | SE | C | 0.67 | | F | # | - | - |
| | NTU | 0722R | WL | 03/28/2013 | N001 | SF | | 1.06 | | F | # | - | - |
| | NTU | 0722R | WL | 06/13/2013 | N001 | | | 3.28 | | F | # | - | - |
| | NTU | 0722R | WL | 09/20/2013 | N001 | SF | | 1.08 | | F | # | - | - |
| | NTU | 0723 | WL | 03/28/2013 | N001 | SE | D | 0.82 | | F | # | - | - |
| | NTU | 0723 | WL | 06/13/2013 | N001 | | D | 2.14 | | F | # | - | - |
| | NTU | 0723 | WL | 09/20/2013 | N001 | SE | D | 1.62 | | F | # | - | - |
| | NTU | 0729 | WL | 03/28/2013 | N001 | SF | D | 1.09 | | F | # | - | - |
| | NTU | 0729 | WL | 06/12/2013 | N001 | | D | 2.47 | | F | # | - | - |
| | NTU | 0729 | WL | 09/19/2013 | N001 | SF | D | 1.43 | | F | # | - | - |
| | NTU | 0730 | WL | 03/28/2013 | N001 | SE | D | 4.49 | | FQ | # | - | - |
| | NTU | 0730 | WL | 06/12/2013 | N001 | | D | 8.82 | | FQ | # | - | - |
| | NTU | 0730 | WL | 09/19/2013 | N001 | SE | D | 3.93 | | FQ | # | - | - |
| | NTU | 0784 | WL | 03/27/2013 | N001 | SF | U | 2.41 | | F | # | - | - |
| | NTU | 0784 | WL | 06/11/2013 | N001 | | U | 1.32 | | F | # | - | - |
| | NTU | 0784 | WL | 09/18/2013 | N001 | SF | U | 1.16 | | F | # | - | - |
| | NTU | 0788 | WL | 03/28/2013 | N001 | SF | C | 3.56 | | F | # | - | - |
| | NTU | 0788 | WL | 06/12/2013 | N001 | | C | 2.15 | | F | # | - | - |
| | NTU | 0788 | WL | 09/19/2013 | N001 | SF | C | 0.89 | | F | # | - | - |
| | NTU | 0789 | WL | 03/28/2013 | N001 | SF | D | 9.83 | | F | # | - | - |
| | NTU | 0789 | WL | 06/12/2013 | N001 | SF | D | 0.91 | | F | # | - | - |
| | NTU | 0789 | WL | 09/19/2013 | N001 | SF | D | 0.73 | | F | # | - | - |
| | NTU | 0824 | WL | 03/28/2013 | N001 | SF | | 9.05 | | F | # | - | - |
| | NTU | 0824 | WL | 06/13/2013 | N001 | | | 9.75 | | F | # | - | - |

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Turbidity | NTU | 0824 | WL | 09/20/2013 | N001 | SF | | 7.31 | | F | # | - | - |
| | NTU | 0826 | WL | 03/28/2013 | N001 | SF | | 8.61 | | F | # | - | - |
| | NTU | 0826 | WL | 06/12/2013 | N001 | | | 2.50 | | F | # | - | - |
| | NTU | 0826 | WL | 09/19/2013 | N001 | SF | | 0.50 | | F | # | - | - |
| Uranium | mg/L | 0705 | WL | 03/28/2013 | N001 | SE | D | 0.0002 | | FQ | # | 2.9E-05 | - |
| | mg/L | 0705 | WL | 06/12/2013 | 0001 | | D | 0.00035 | | FQ | # | 2.9E-05 | - |
| | mg/L | 0705 | WL | 09/19/2013 | 0001 | SE | D | 0.00029 | | FQ | # | 2.9E-05 | - |
| | mg/L | 0707 | WL | 03/28/2013 | N001 | SF | D | 0.790 | | F | # | 0.00015 | - |
| | mg/L | 0707 | WL | 03/28/2013 | N002 | SF | D | 0.810 | | F | # | 2.9E-05 | - |
| | mg/L | 0707 | WL | 06/12/2013 | N001 | | D | 0.800 | | F | # | 0.00015 | - |
| | mg/L | 0707 | WL | 09/19/2013 | N001 | SF | D | 0.730 | | F | # | 0.00015 | - |
| | mg/L | 0710 | WL | 03/27/2013 | N001 | SF | U | 0.0029 | | F | # | 2.9E-05 | - |
| | mg/L | 0710 | WL | 06/11/2013 | N001 | | U | 0.0036 | | F | # | 2.9E-05 | - |
| | mg/L | 0710 | WL | 09/18/2013 | N001 | SF | U | 0.0026 | | F | # | 2.9E-05 | - |
| | mg/L | 0716 | WL | 03/27/2013 | N001 | SF | O | 0.250 | | F | # | 2.9E-05 | - |
| | mg/L | 0716 | WL | 06/11/2013 | N001 | | O | 0.260 | | F | # | 0.00015 | - |
| | mg/L | 0716 | WL | 09/18/2013 | N001 | SF | O | 0.230 | | F | # | 0.00015 | - |
| | mg/L | 0717 | WL | 03/27/2013 | N001 | SE | O | 0.00006 | B | F | # | 2.9E-05 | - |
| | mg/L | 0717 | WL | 06/11/2013 | N001 | | O | 0.00008 | B | F | # | 2.9E-05 | - |
| | mg/L | 0717 | WL | 09/18/2013 | N001 | SE | O | 0.00005 | B | F | # | 2.9E-05 | - |
| | mg/L | 0718 | WL | 03/27/2013 | N001 | SF | D | 0.140 | | F | # | 2.9E-05 | - |
| | mg/L | 0718 | WL | 06/13/2013 | N001 | | D | 0.110 | | F | # | 0.00015 | - |
| | mg/L | 0718 | WL | 09/20/2013 | N001 | SF | D | 0.110 | | F | # | 0.00015 | - |
| | mg/L | 0719 | WL | 03/27/2013 | N001 | SE | D | 0.00036 | | FQ | # | 2.9E-05 | - |
| | mg/L | 0719 | WL | 06/13/2013 | N001 | | D | 0.00039 | | FQ | # | 2.9E-05 | - |
| | mg/L | 0719 | WL | 09/20/2013 | N001 | SE | D | 0.00034 | | FQ | # | 2.9E-05 | - |

| 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 | 0720 | WL | 03/27/2013 | N001 | SF | C | 0.0095 | | F | # | 2.9E-05 | - |
| | mg/L | 0720 | WL | 06/11/2013 | N001 | | C | 0.0067 | | F | # | 2.9E-05 | - |
| | mg/L | 0720 | WL | 09/19/2013 | N001 | SF | C | 0.0038 | | F | # | 2.9E-05 | - |
| | mg/L | 0721 | WL | 03/27/2013 | N001 | SE | C | 0.0001 | | F | # | 2.9E-05 | - |
| | mg/L | 0721 | WL | 06/11/2013 | N001 | | C | 0.00009 | B | F | # | 2.9E-05 | - |
| | mg/L | 0721 | WL | 09/19/2013 | N001 | SE | C | 0.00009 | B | F | # | 2.9E-05 | - |
| | mg/L | 0722R | WL | 03/28/2013 | N001 | SF | | 0.530 | | F | # | 0.00015 | - |
| | mg/L | 0722R | WL | 06/13/2013 | N001 | | | 0.530 | | F | # | 0.00015 | - |
| | mg/L | 0722R | WL | 09/20/2013 | N001 | SF | | 0.520 | | F | # | 0.00015 | - |
| | mg/L | 0723 | WL | 03/28/2013 | N001 | SE | D | 0.00004 | B | F | # | 2.9E-05 | - |
| | mg/L | 0723 | WL | 06/13/2013 | N001 | | D | 0.00002 | U | F | # | 2.9E-05 | - |
| | mg/L | 0723 | WL | 09/20/2013 | N001 | SE | D | 0.00008 | B | F | # | 2.9E-05 | - |
| | mg/L | 0729 | WL | 03/28/2013 | N001 | SF | D | 0.0077 | | F | # | 2.9E-05 | - |
| | mg/L | 0729 | WL | 06/12/2013 | N001 | | D | 0.0041 | | F | # | 2.9E-05 | - |
| | mg/L | 0729 | WL | 09/19/2013 | N001 | SF | D | 0.0035 | | F | # | 2.9E-05 | - |
| | mg/L | 0730 | WL | 03/28/2013 | N001 | SE | D | 0.0063 | | FQ | # | 2.9E-05 | - |
| | mg/L | 0730 | WL | 06/12/2013 | N001 | | D | 0.0064 | | FQ | # | 2.9E-05 | - |
| | mg/L | 0730 | WL | 09/19/2013 | N001 | SE | D | 0.0045 | | FQ | # | 2.9E-05 | - |
| | mg/L | 0784 | WL | 03/27/2013 | N001 | SF | U | 0.0033 | | F | # | 2.9E-05 | - |
| | mg/L | 0784 | WL | 06/11/2013 | N001 | | U | 0.0075 | | F | # | 2.9E-05 | - |
| | mg/L | 0784 | WL | 09/18/2013 | N001 | SF | U | 0.0015 | | F | # | 2.9E-05 | - |
| | mg/L | 0788 | WL | 03/28/2013 | N001 | SF | C | 0.042 | | F | # | 2.9E-05 | - |
| | mg/L | 0788 | WL | 06/12/2013 | N001 | | C | 0.042 | | F | # | 2.9E-05 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N001 | SF | C | 0.043 | | F | # | 2.9E-05 | - |
| | mg/L | 0788 | WL | 09/19/2013 | N002 | SF | C | 0.041 | | F | # | 2.9E-05 | - |
| | mg/L | 0789 | WL | 03/28/2013 | N001 | SF | D | 1.900 | | F | # | 0.00015 | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:27 am

| 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 | 0789 | WL | 06/12/2013 | N001 | SF | D | 1.700 | | F | # | 0.00029 | - |
| | mg/L | 0789 | WL | 06/12/2013 | N002 | SF | D | 1.800 | | F | # | 0.00058 | - |
| | mg/L | 0789 | WL | 09/19/2013 | N001 | SF | D | 1.500 | | F | # | 0.00029 | - |
| | mg/L | 0824 | WL | 03/28/2013 | N001 | SF | | 0.020 | | F | # | 2.9E-05 | - |
| | mg/L | 0824 | WL | 06/13/2013 | N001 | | | 0.012 | | F | # | 2.9E-05 | - |
| | mg/L | 0824 | WL | 09/20/2013 | N001 | SF | | 0.0083 | | F | # | 2.9E-05 | - |
| | mg/L | 0826 | WL | 03/28/2013 | N001 | SF | | 0.044 | | F | # | 2.9E-05 | - |
| | mg/L | 0826 | WL | 06/12/2013 | N001 | | | 0.043 | | F | # | 2.9E-05 | - |
| | mg/L | 0826 | WL | 09/19/2013 | N001 | SF | | 0.040 | | F | # | 2.9E-05 | - |

CLASSIC GROUNDWATER QUALITY DATA BY PARAMETER WITH ZONE (USEE201) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:27 am

| PARAMETER | UNITS | LOCATION CODE | LOCATION TYPE | SAMPLE: DATE | ID | ZONE COMPL | FLOW REL. | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

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 #1/1/2013# and #12/31/2013#

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 compund (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.

# Appendix E

# AWSS Data

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GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:34 am

| PARAMETER | UNITS | LOCATION CODE | LOC TYPE, SUBTYPE | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total (As CaCO3) | mg/L | 0813 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 180 | | | # | - | - |
| | mg/L | 0813 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 154 | | | # | - | - |
| | mg/L | 0815 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 176 | | | # | - | - |
| | mg/L | 0815 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 145 | | | # | - | - |
| | mg/L | 0816 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 160 | | | # | - | - |
| | mg/L | 0816 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 148 | | | # | - | - |
| | mg/L | 0818 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 195 | | | # | - | - |
| | mg/L | 0818 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 236 | | | # | - | - |
| | mg/L | 0818 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 170 | | | # | - | - |
| | mg/L | 0818 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 168 | | | # | - | - |
| | mg/L | 0819 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 195 | | | # | - | - |
| | mg/L | 0819 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 172 | | | # | - | - |
| | mg/L | 0819 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 162 | | | # | - | - |
| | mg/L | 0819 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 186 | | | # | - | - |
| | mg/L | 0820 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 172 | | | # | - | - |
| | mg/L | 0820 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 162 | | | # | - | - |
| | mg/L | 0820 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 159 | | | # | - | - |
| | mg/L | 0820 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 168 | | | # | - | - |
| | mg/L | 0821 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 184 | | | # | - | - |
| | mg/L | 0821 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 172 | | | # | - | - |
| | mg/L | 0821 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 161 | | | # | - | - |
| | mg/L | 0821 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 154 | | | # | - | - |
| | mg/L | 0829 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 165 | | | # | - | - |
| | mg/L | 0829 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 165 | | | # | - | - |
| | mg/L | 0829 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 148 | | | # | - | - |
| | mg/L | 0829 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 135 | | | # | - | - |

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:34 am

| PARAMETER | UNITS | LOCATION CODE | LOC TYPE, SUBTYPE | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total (As CaCO3) | mg/L | 0830 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 180 | | | # | - | | - |
| | mg/L | 0830 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 210 | | | # | - | | - |
| | mg/L | 0830 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 148 | | | # | - | | - |
| | mg/L | 0830 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 155 | | | # | - | | - |
| | mg/L | 0834 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 192 | | | # | - | | - |
| | mg/L | 0834 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 140 | | | # | - | | - |
| | mg/L | 0837 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 194 | | | # | - | | - |
| | mg/L | 0837 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 158 | | | # | - | | - |
| Chlorine, Total Residual | mg/L | 0813 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.80 | | | # | - | | - |
| | mg/L | 0813 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.33 | | | # | - | | - |
| | mg/L | 0815 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.83 | | | # | - | | - |
| | mg/L | 0815 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.32 | | | # | - | | - |
| | mg/L | 0816 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.76 | | | # | - | | - |
| | mg/L | 0816 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.34 | | | # | - | | - |
| | mg/L | 0818 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.78 | | | # | - | | - |
| | mg/L | 0818 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.72 | | | # | - | | - |
| | mg/L | 0818 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.33 | | | # | - | | - |
| | mg/L | 0818 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.38 | | | # | - | | - |
| | mg/L | 0819 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.77 | | | # | - | | - |
| | mg/L | 0819 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.80 | | | # | - | | - |
| | mg/L | 0819 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.34 | | | # | - | | - |
| | mg/L | 0819 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.37 | | | # | - | | - |
| | mg/L | 0820 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.81 | | | # | - | | - |
| | mg/L | 0820 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.80 | | | # | - | | - |
| | mg/L | 0820 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.35 | | | # | - | | - |
| | mg/L | 0820 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.32 | | | # | - | | - |

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:34 am

| PARAMETER | UNITS | LOCATION CODE | LOC TYPE, SUBTYPE | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chlorine, Total Residual | mg/L | 0821 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.77 | | | # | - | | - |
| | mg/L | 0821 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.78 | | | # | - | | - |
| | mg/L | 0821 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.32 | | | # | - | | - |
| | mg/L | 0821 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.40 | | | # | - | | - |
| | mg/L | 0829 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.16 | | | # | - | | - |
| | mg/L | 0829 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.82 | | | # | - | | - |
| | mg/L | 0829 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.30 | | | # | - | | - |
| | mg/L | 0829 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.28 | | | # | - | | - |
| | mg/L | 0830 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.82 | | | # | - | | - |
| | mg/L | 0830 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.29 | | | # | - | | - |
| | mg/L | 0830 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.33 | | | # | - | | - |
| | mg/L | 0834 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.78 | | | # | - | | - |
| | mg/L | 0834 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.27 | | | # | - | | - |
| | mg/L | 0837 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.81 | | | # | - | | - |
| | mg/L | 0837 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.34 | | | # | - | | - |
| Dissolved Oxygen | mg/L | 0813 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 3.10 | | | # | - | | - |
| | mg/L | 0813 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 6.75 | | | # | - | | - |
| | mg/L | 0815 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 2.40 | | | # | - | | - |
| | mg/L | 0815 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 6.23 | | | # | - | | - |
| | mg/L | 0816 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 5.75 | | | # | - | | - |
| | mg/L | 0816 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 6.20 | | | # | - | | - |
| | mg/L | 0818 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 2.20 | | | # | - | | - |
| | mg/L | 0818 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 2.28 | | | # | - | | - |
| | mg/L | 0818 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 3.04 | | | # | - | | - |
| | mg/L | 0818 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 4.84 | | | # | - | | - |
| | mg/L | 0819 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 2.27 | | | # | - | | - |

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:34 am

| PARAMETER | UNITS | LOCATION CODE | LOC TYPE, SUBTYPE | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dissolved Oxygen | mg/L | 0819 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 2.67 | | | # | - | - |
| | mg/L | 0819 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 3.14 | | | # | - | - |
| | mg/L | 0819 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 2.43 | | | # | - | - |
| | mg/L | 0820 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 1.80 | | | # | - | - |
| | mg/L | 0820 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 1.81 | | | # | - | - |
| | mg/L | 0820 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 5.36 | | | # | - | - |
| | mg/L | 0820 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 3.31 | | | # | - | - |
| | mg/L | 0821 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 2.48 | | | # | - | - |
| | mg/L | 0821 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 2.52 | | | # | - | - |
| | mg/L | 0821 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 3.82 | | | # | - | - |
| | mg/L | 0821 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 2.58 | | | # | - | - |
| | mg/L | 0829 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 3.31 | | | # | - | - |
| | mg/L | 0829 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 7.67 | | | # | - | - |
| | mg/L | 0829 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 2.40 | | | # | - | - |
| | mg/L | 0829 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 3.85 | | | # | - | - |
| | mg/L | 0830 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 2.57 | | | # | - | - |
| | mg/L | 0830 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 2.61 | | | # | - | - |
| | mg/L | 0830 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 2.53 | | | # | - | - |
| | mg/L | 0830 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 3.10 | | | # | - | - |
| | mg/L | 0834 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 2.53 | | | # | - | - |
| | mg/L | 0834 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 4.15 | | | # | - | - |
| | mg/L | 0837 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 8.23 | | | # | - | - |
| | mg/L | 0837 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 2.91 | | | # | - | - |
| Oxidation Reduction Potential | mV | 0813 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 550 | | | # | - | - |
| | mV | 0813 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 438.3 | | | # | - | - |

| PARAMETER | UNITS | LOCATION CODE | LOC TYPE, SUBTYPE | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oxidation Reduction Potential | mV | 0815 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 505 | | | # | - | - |
| | mV | 0815 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 433.4 | | | # | - | - |
| | mV | 0816 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 560 | | | # | - | - |
| | mV | 0816 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 419.9 | | | # | - | - |
| | mV | 0818 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 540 | | | # | - | - |
| | mV | 0818 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 570 | | | # | - | - |
| | mV | 0818 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 378.2 | | | # | - | - |
| | mV | 0818 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 357.2 | | | # | - | - |
| | mV | 0819 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 600 | | | # | - | - |
| | mV | 0819 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 570 | | | # | - | - |
| | mV | 0819 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 387.0 | | | # | - | - |
| | mV | 0819 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 388.9 | | | # | - | - |
| | mV | 0820 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 565 | | | # | - | - |
| | mV | 0820 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 610 | | | # | - | - |
| | mV | 0820 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 423.5 | | | # | - | - |
| | mV | 0820 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 410.6 | | | # | - | - |
| | mV | 0821 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 575 | | | # | - | - |
| | mV | 0821 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 585 | | | # | - | - |
| | mV | 0821 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 412.1 | | | # | - | - |
| | mV | 0821 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 401.1 | | | # | - | - |
| | mV | 0829 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 350 | | | # | - | - |
| | mV | 0829 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 535 | | | # | - | - |
| | mV | 0829 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 283.0 | | | # | - | - |
| | mV | 0829 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 107.1 | | | # | - | - |
| | mV | 0830 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 605 | | | # | - | - |

| PARAMETER | UNITS | LOCATION CODE | LOC TYPE, SUBTYPE | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oxidation Reduction Potential | mV | 0830 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 590 | | | # | - | - |
| | mV | 0830 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 351.3 | | | # | - | - |
| | mV | 0830 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 320.3 | | | # | - | - |
| | mV | 0834 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 565 | | | # | - | - |
| | mV | 0834 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 425.0 | | | # | - | - |
| | mV | 0837 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 480 | | | # | - | - |
| | mV | 0837 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 432.1 | | | # | - | - |
| pH | s.u. | 0813 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 8.65 | | | # | - | - |
| | s.u. | 0813 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 8.86 | | | # | - | - |
| | s.u. | 0815 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 8.68 | | | # | - | - |
| | s.u. | 0815 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 8.86 | | | # | - | - |
| | s.u. | 0816 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 8.72 | | | # | - | - |
| | s.u. | 0816 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 8.97 | | | # | - | - |
| | s.u. | 0818 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 8.73 | | | # | - | - |
| | s.u. | 0818 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 8.80 | | | # | - | - |
| | s.u. | 0818 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 8.81 | | | # | - | - |
| | s.u. | 0818 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 8.86 | | | # | - | - |
| | s.u. | 0819 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 8.77 | | | # | - | - |
| | s.u. | 0819 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 8.76 | | | # | - | - |
| | s.u. | 0819 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 8.99 | | | # | - | - |
| | s.u. | 0819 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 8.88 | | | # | - | - |
| | s.u. | 0820 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 8.57 | | | # | - | - |
| | s.u. | 0820 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 8.62 | | | # | - | - |
| | s.u. | 0820 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 8.81 | | | # | - | - |
| | s.u. | 0820 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 8.97 | | | # | - | - |

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:34 am

| PARAMETER | UNITS | LOCATION CODE | LOC TYPE, SUBTYPE | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| pH | s.u. | 0821 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 8.63 | | | # | - | - |
| | s.u. | 0821 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 8.78 | | | # | - | - |
| | s.u. | 0821 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 8.88 | | | # | - | - |
| | s.u. | 0821 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 8.95 | | | # | - | - |
| | s.u. | 0829 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 8.90 | | | # | - | - |
| | s.u. | 0829 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 8.99 | | | # | - | - |
| | s.u. | 0829 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 8.82 | | | # | - | - |
| | s.u. | 0829 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 8.64 | | | # | - | - |
| | s.u. | 0830 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 8.71 | | | # | - | - |
| | s.u. | 0830 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 8.92 | | | # | - | - |
| | s.u. | 0830 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 8.83 | | | # | - | - |
| | s.u. | 0830 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 8.96 | | | # | - | - |
| | s.u. | 0834 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 8.73 | | | # | - | - |
| | s.u. | 0834 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 8.90 | | | # | - | - |
| | s.u. | 0837 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 8.85 | | | # | - | - |
| | s.u. | 0837 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 8.94 | | | # | - | - |
| Radium-226 | pCi/L | 0813 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.527 | | J | # | 0.18 | ± 0.25 |
| | pCi/L | 0813 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.604 | | | # | 0.17 | ± 0.28 |
| | pCi/L | 0815 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.433 | | | # | 0.14 | ± 0.22 |
| | pCi/L | 0815 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.47 | | J | # | 0.18 | ± 0.24 |
| | pCi/L | 0816 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.466 | | J | # | 0.17 | ± 0.24 |
| | pCi/L | 0816 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.514 | | | # | 0.17 | ± 0.25 |
| | pCi/L | 0818 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.803 | | | # | 0.16 | ± 0.32 |
| | pCi/L | 0818 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.508 | | | # | 0.14 | ± 0.24 |
| | pCi/L | 0818 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.391 | | J | # | 0.19 | ± 0.22 |
| | pCi/L | 0818 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 2.51 | | | # | 0.17 | ± 0.78 |

| PARAMETER | UNITS | LOCATION CODE | LOC TYPE, SUBTYPE | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-226 | pCi/L | 0819 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 1.38 | | | # | 0.14 | ± 0.47 |
| | pCi/L | 0819 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.634 | | | # | 0.14 | ± 0.27 |
| | pCi/L | 0819 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.5 | | J | # | 0.18 | ± 0.25 |
| | pCi/L | 0819 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.382 | | J | # | 0.19 | ± 0.22 |
| | pCi/L | 0820 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.482 | | | # | 0.14 | ± 0.23 |
| | pCi/L | 0820 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.576 | | | # | 0.14 | ± 0.26 |
| | pCi/L | 0820 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.409 | | J | # | 0.19 | ± 0.22 |
| | pCi/L | 0820 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.391 | | J | # | 0.18 | ± 0.22 |
| | pCi/L | 0821 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 1.03 | | | # | 0.18 | ± 0.39 |
| | pCi/L | 0821 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.601 | | | # | 0.14 | ± 0.27 |
| | pCi/L | 0821 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.338 | | J | # | 0.18 | ± 0.20 |
| | pCi/L | 0821 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.769 | | | # | 0.2 | ± 0.33 |
| | pCi/L | 0829 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.559 | | | # | 0.16 | ± 0.26 |
| | pCi/L | 0829 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.58 | | | # | 0.14 | ± 0.26 |
| | pCi/L | 0829 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.556 | | | # | 0.17 | ± 0.26 |
| | pCi/L | 0829 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 1.97 | | | # | 0.19 | ± 0.64 |
| | pCi/L | 0830 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.904 | | | # | 0.16 | ± 0.36 |
| | pCi/L | 0830 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.539 | | | # | 0.15 | ± 0.25 |
| | pCi/L | 0830 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.714 | | | # | 0.18 | ± 0.31 |
| | pCi/L | 0830 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.376 | | J | # | 0.17 | ± 0.21 |
| | pCi/L | 0834 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.595 | | | # | 0.15 | ± 0.27 |
| | pCi/L | 0834 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.361 | | J | # | 0.17 | ± 0.20 |
| | pCi/L | 0837 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.43 | | J | # | 0.15 | ± 0.22 |
| | pCi/L | 0837 | DS, TAP | 03/26/2013 | N002 | 0.00 - 0.00 | 0.48 | | | # | 0.15 | ± 0.23 |
| | pCi/L | 0837 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.577 | | | # | 0.17 | ± 0.27 |
| | pCi/L | 0837 | DS, TAP | 09/17/2013 | N002 | 0.00 - 0.00 | 0.415 | | J | # | 0.17 | ± 0.22 |

| PARAMETER | UNITS | LOCATION CODE | LOC TYPE, SUBTYPE | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | pCi/L | 0813 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.541 | | J | # | 0.34 | ± 0.26 |
| | pCi/L | 0813 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.493 | | J | # | 0.32 | ± 0.25 |
| | pCi/L | 0815 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.488 | | J | # | 0.33 | ± 0.25 |
| | pCi/L | 0815 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.638 | | J | # | 0.33 | ± 0.27 |
| | pCi/L | 0816 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.456 | | J | # | 0.41 | ± 0.29 |
| | pCi/L | 0816 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.557 | | J | # | 0.35 | ± 0.27 |
| | pCi/L | 0818 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.494 | | J | # | 0.37 | ± 0.27 |
| | pCi/L | 0818 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.443 | | J | # | 0.38 | ± 0.27 |
| | pCi/L | 0818 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.553 | | J | # | 0.34 | ± 0.26 |
| | pCi/L | 0818 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 3.56 | | | # | 0.33 | ± 0.89 |
| | pCi/L | 0819 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 1.71 | | | # | 0.39 | ± 0.51 |
| | pCi/L | 0819 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.586 | | J | # | 0.38 | ± 0.29 |
| | pCi/L | 0819 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.569 | | J | # | 0.36 | ± 0.28 |
| | pCi/L | 0819 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.585 | | J | # | 0.35 | ± 0.27 |
| | pCi/L | 0820 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.39 | U | | # | 0.39 | ± 0.26 |
| | pCi/L | 0820 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.374 | | U | # | 0.37 | ± 0.25 |
| | pCi/L | 0820 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.463 | | J | # | 0.35 | ± 0.25 |
| | pCi/L | 0820 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.438 | | J | # | 0.36 | ± 0.26 |
| | pCi/L | 0821 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 1.23 | | | # | 0.38 | ± 0.41 |
| | pCi/L | 0821 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.42 | U | | # | 0.42 | ± 0.26 |
| | pCi/L | 0821 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.461 | | J | # | 0.36 | ± 0.26 |
| | pCi/L | 0821 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.697 | | J | # | 0.35 | ± 0.29 |
| | pCi/L | 0829 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.49 | U | | # | 0.49 | ± 0.32 |
| | pCi/L | 0829 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.51 | U | | # | 0.51 | ± 0.31 |
| | pCi/L | 0829 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.378 | | J | # | 0.33 | ± 0.23 |
| | pCi/L | 0829 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 1.88 | | | # | 0.34 | ± 0.52 |

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:34 am

| PARAMETER | UNITS | LOCATION CODE | LOC TYPE, SUBTYPE | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Radium-228 | pCi/L | 0830 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.615 | | J | # | 0.5 | ± 0.36 |
| | pCi/L | 0830 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.638 | | J | # | 0.34 | ± 0.28 |
| | pCi/L | 0830 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.534 | | J | # | 0.41 | ± 0.30 |
| | pCi/L | 0830 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.632 | | J | # | 0.34 | ± 0.28 |
| | pCi/L | 0834 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.473 | | J | # | 0.37 | ± 0.27 |
| | pCi/L | 0834 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.538 | | J | # | 0.38 | ± 0.28 |
| | pCi/L | 0837 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.518 | | J | # | 0.39 | ± 0.29 |
| | pCi/L | 0837 | DS, TAP | 03/26/2013 | N002 | 0.00 - 0.00 | 0.40 | U | | # | 0.4 | ± 0.27 |
| | pCi/L | 0837 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.491 | | J | # | 0.44 | ± 0.31 |
| | pCi/L | 0837 | DS, TAP | 09/17/2013 | N002 | 0.00 - 0.00 | 0.565 | | J | # | 0.35 | ± 0.27 |
| Specific Conductance | umhos/cm | 0813 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 625 | | | # | - | - |
| | umhos/cm | 0813 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 648 | | | # | - | - |
| | umhos/cm | 0815 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 620 | | | # | - | - |
| | umhos/cm | 0815 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 650 | | | # | - | - |
| | umhos/cm | 0816 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 620 | | | # | - | - |
| | umhos/cm | 0816 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 650 | | | # | - | - |
| | umhos/cm | 0818 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 625 | | | # | - | - |
| | umhos/cm | 0818 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 640 | | | # | - | - |
| | umhos/cm | 0818 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 649 | | | # | - | - |
| | umhos/cm | 0818 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 645 | | | # | - | - |
| | umhos/cm | 0819 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 630 | | | # | - | - |
| | umhos/cm | 0819 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 625 | | | # | - | - |
| | umhos/cm | 0819 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 655 | | | # | - | - |
| | umhos/cm | 0819 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 642 | | | # | - | - |
| | umhos/cm | 0820 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 620 | | | # | - | - |
| | umhos/cm | 0820 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 620 | | | # | - | - |

| PARAMETER | UNITS | LOCATION CODE | LOC TYPE, SUBTYPE | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Specific Conductance | umhos/cm | 0820 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 649 | | | # | - | - |
| | umhos/cm | 0820 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 651 | | | # | - | - |
| | umhos/cm | 0821 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 620 | | | # | - | - |
| | umhos/cm | 0821 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 620 | | | # | - | - |
| | umhos/cm | 0821 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 651 | | | # | - | - |
| | umhos/cm | 0821 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 649 | | | # | - | - |
| | umhos/cm | 0829 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 640 | | | # | - | - |
| | umhos/cm | 0829 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 605 | | | # | - | - |
| | umhos/cm | 0829 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 647 | | | # | - | - |
| | umhos/cm | 0829 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 649 | | | # | - | - |
| | umhos/cm | 0830 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 630 | | | # | - | - |
| | umhos/cm | 0830 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 615 | | | # | - | - |
| | umhos/cm | 0830 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 658 | | | # | - | - |
| | umhos/cm | 0830 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 655 | | | # | - | - |
| | umhos/cm | 0834 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 620 | | | # | - | - |
| | umhos/cm | 0834 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 649 | | | # | - | - |
| | umhos/cm | 0837 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 630 | | | # | - | - |
| | umhos/cm | 0837 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 648 | | | # | - | - |
| Temperature | C | 0813 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 8.0 | | | # | - | - |
| | C | 0813 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 17.05 | | | # | - | - |
| | C | 0815 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 6.7 | | | # | - | - |
| | C | 0815 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 16.75 | | | # | - | - |
| | C | 0816 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 5.4 | | | # | - | - |
| | C | 0816 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 15.99 | | | # | - | - |
| | C | 0818 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 7.4 | | | # | - | - |
| | C | 0818 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 10.7 | | | # | - | - |

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:34 am

| PARAMETER | UNITS | LOCATION CODE | LOC TYPE, SUBTYPE | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Temperature | C | 0818 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 16.50 | | | # | - | - |
| | C | 0818 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 18.85 | | | # | - | - |
| | C | 0819 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 6.30 | | | # | - | - |
| | C | 0819 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 8.1 | | | # | - | - |
| | C | 0819 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 16.81 | | | # | - | - |
| | C | 0819 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 17.27 | | | # | - | - |
| | C | 0820 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 8.5 | | | # | - | - |
| | C | 0820 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 8.3 | | | # | - | - |
| | C | 0820 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 16.68 | | | # | - | - |
| | C | 0820 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 17.05 | | | # | - | - |
| | C | 0821 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 6.7 | | | # | - | - |
| | C | 0821 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 8.2 | | | # | - | - |
| | C | 0821 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 17.02 | | | # | - | - |
| | C | 0821 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 17.41 | | | # | - | - |
| | C | 0829 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 5.9 | | | # | - | - |
| | C | 0829 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 9.7 | | | # | - | - |
| | C | 0829 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 15.07 | | | # | - | - |
| | C | 0829 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 18.05 | | | # | - | - |
| | C | 0830 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 10.8 | | | # | - | - |
| | C | 0830 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 8.9 | | | # | - | - |
| | C | 0830 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 18.07 | | | # | - | - |
| | C | 0830 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 17.71 | | | # | - | - |
| | C | 0834 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 7.8 | | | # | - | - |
| | C | 0834 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 16.61 | | | # | - | - |
| | C | 0837 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 8.0 | | | # | - | - |
| | C | 0837 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 16.73 | | | # | - | - |

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:34 am

| PARAMETER | UNITS | LOCATION CODE | LOC TYPE, SUBTYPE | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Turbidity | NTU | 0813 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.72 | | | # | - | - |
| | NTU | 0813 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.92 | | | # | - | - |
| | NTU | 0815 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.59 | | | # | - | - |
| | NTU | 0815 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.87 | | | # | - | - |
| | NTU | 0816 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.58 | | | # | - | - |
| | NTU | 0816 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.94 | | | # | - | - |
| | NTU | 0818 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 1.20 | | | # | - | - |
| | NTU | 0818 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 1.41 | | | # | - | - |
| | NTU | 0818 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 3.88 | | | # | - | - |
| | NTU | 0818 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 13.5 | | | # | - | - |
| | NTU | 0819 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 2.11 | | | # | - | - |
| | NTU | 0819 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 1.44 | | | # | - | - |
| | NTU | 0819 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 1.37 | | | # | - | - |
| | NTU | 0819 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 1.89 | | | # | - | - |
| | NTU | 0820 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.74 | | | # | - | - |
| | NTU | 0820 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.81 | | | # | - | - |
| | NTU | 0820 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.96 | | | # | - | - |
| | NTU | 0820 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 1.69 | | | # | - | - |
| | NTU | 0821 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 2.32 | | | # | - | - |
| | NTU | 0821 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 1.31 | | | # | - | - |
| | NTU | 0821 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 3.06 | | | # | - | - |
| | NTU | 0821 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 8.38 | | | # | - | - |
| | NTU | 0829 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 2.25 | | | # | - | - |
| | NTU | 0829 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 2.25 | | | # | - | - |
| | NTU | 0829 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 2.61 | | | # | - | - |
| | NTU | 0829 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 4.37 | | | # | - | - |

| PARAMETER | UNITS | LOCATION CODE | LOC TYPE, SUBTYPE | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Turbidity | NTU | 0830 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 1.26 | | | # | - | - |
| | NTU | 0830 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 2.15 | | | # | - | - |
| | NTU | 0830 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 1.04 | | | # | - | - |
| | NTU | 0830 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 1.33 | | | # | - | - |
| | NTU | 0834 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.65 | | | # | - | - |
| | NTU | 0834 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 1.05 | | | # | - | - |
| | NTU | 0837 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.77 | | | # | - | - |
| | NTU | 0837 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.78 | | | # | - | - |
| Uranium | mg/L | 0813 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.00011 | | | # | 2.9E-05 | - |
| | mg/L | 0813 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.00011 | | | # | 2.9E-05 | - |
| | mg/L | 0815 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.00011 | | | # | 2.9E-05 | - |
| | mg/L | 0815 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.0001 | | | # | 2.9E-05 | - |
| | mg/L | 0816 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.00008 | B | | # | 2.9E-05 | - |
| | mg/L | 0816 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.0001 | | | # | 2.9E-05 | - |
| | mg/L | 0818 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.0001 | | | # | 2.9E-05 | - |
| | mg/L | 0818 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.0001 | | | # | 2.9E-05 | - |
| | mg/L | 0818 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.0001 | | | # | 2.9E-05 | - |
| | mg/L | 0818 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.0001 | | | # | 2.9E-05 | - |
| | mg/L | 0819 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.0001 | | | # | 2.9E-05 | - |
| | mg/L | 0819 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.0001 | | | # | 2.9E-05 | - |
| | mg/L | 0819 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.00013 | | | # | 2.9E-05 | - |
| | mg/L | 0819 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.00011 | | | # | 2.9E-05 | - |
| | mg/L | 0820 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.00012 | | | # | 2.9E-05 | - |
| | mg/L | 0820 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.0001 | | | # | 2.9E-05 | - |
| | mg/L | 0820 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.00012 | | | # | 2.9E-05 | - |
| | mg/L | 0820 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.0001 | | | # | 2.9E-05 | - |

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:34 am

| PARAMETER | UNITS | LOCATION CODE | LOC TYPE, SUBTYPE | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Uranium | mg/L | 0821 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.00008 | B | | # | 2.9E-05 | - |
| | mg/L | 0821 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.00009 | B | | # | 2.9E-05 | - |
| | mg/L | 0821 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.00011 | | | # | 2.9E-05 | - |
| | mg/L | 0821 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.0001 | | | # | 2.9E-05 | - |
| | mg/L | 0829 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.0001 | | | # | 2.9E-05 | - |
| | mg/L | 0829 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.0001 | | | # | 2.9E-05 | - |
| | mg/L | 0829 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.00011 | | | # | 2.9E-05 | - |
| | mg/L | 0829 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.00009 | B | | # | 2.9E-05 | - |
| | mg/L | 0830 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.0001 | | | # | 2.9E-05 | - |
| | mg/L | 0830 | DS, HDRT | 03/26/2013 | N002 | 0.00 - 0.00 | 0.00008 | B | | # | 2.9E-05 | - |
| | mg/L | 0830 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.00009 | B | | # | 2.9E-05 | - |
| | mg/L | 0830 | DS, HDRT | 09/17/2013 | N002 | 0.00 - 0.00 | 0.00011 | | | # | 2.9E-05 | - |
| | mg/L | 0834 | DS, HDRT | 03/26/2013 | N001 | 0.00 - 0.00 | 0.0001 | | | # | 2.9E-05 | - |
| | mg/L | 0834 | DS, HDRT | 09/17/2013 | N001 | 0.00 - 0.00 | 0.0001 | | | # | 2.9E-05 | - |
| | mg/L | 0837 | DS, TAP | 03/26/2013 | N001 | 0.00 - 0.00 | 0.00008 | B | | # | 2.9E-05 | - |
| | mg/L | 0837 | DS, TAP | 03/26/2013 | N002 | 0.00 - 0.00 | 0.0001 | | | # | 2.9E-05 | - |
| | mg/L | 0837 | DS, TAP | 09/17/2013 | N001 | 0.00 - 0.00 | 0.0001 | | | # | 2.9E-05 | - |
| | mg/L | 0837 | DS, TAP | 09/17/2013 | N002 | 0.00 - 0.00 | 0.00011 | | | # | 2.9E-05 | - |

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE RVT01, Riverton Processing Site
REPORT DATE: 3/25/2014 7:34 am

| PARAMETER | UNITS | LOCATION CODE | LOC TYPE, SUBTYPE | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

RECORDS: SELECTED FROM USEE200 WHERE site_code='RVT01' AND location_code in('0813','0815','0816','0818','0819','0820','0821','0829','0830','0834','0837') AND (data_validation_qualifiers IS NULL OR data_validation_qualifiers NOT LIKE '%R%' AND data_validation_qualifiers NOT LIKE '%X%' ) AND DATE_SAMPLED between #1/1/2013# and #12/12/2013#

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

LOCATION TYPES: DS DOMESTIC SUPPLY

LOCATION SUBTYPES: HDRT Hydrant TAP Tap in Domestic Supply Syste

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 compund (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.

# Appendix F

# Statistical Test Procedures

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**Wilcoxon Signed-Rank Test Procedure**

Please refer to the attached spreadsheet to follow the procedure for conducting this test.

1. This test requires paired data. The paired data are shown in columns X(i) and Y(i).

2. For each set of pairs the difference is calculated. This is shown in the column X(i)-Y(i).

3. The sign of the difference (positive or negative) is determined. A positive difference is represented as +1. A negative difference is represented as −1. This is shown in the column Sign of X(i)-Y(i).

4. The absolute difference is determined from step 2. These are then sorted from smallest to largest. This is shown in the column Absolute X(i)-Y(i).

5. A rank is assigned to the absolute difference values with the smallest absolute difference having a rank of 1, the next smallest having a rank of 2, etc. This is shown in column Rank of Absolute.

6. The absolute difference rank (column labeled Rank of Absolute) is multiplied by the corresponding sign [+1 or −1 in the column labeled Sign of X(i)-Y(i)] to get the values in the column labeled Signed Rank.

7. The positive Signed Rank values are summed, as are the negative Signed Rank Values. The sums are shown as 45 (Sum of Positives) and 33 (Sum of Negatives).

8. The smaller of these values is referred to as the Test Value. In this example the Sum of Negatives = 33 is the smaller of the two values. This Test Value is compared to a critical value from a table at a specified level of significance. For a sample size of n =12 and a 1-sided test at a significance level (alpha) of 0.025, the critical value is 14.

9. Since the Test Value is greater than or equal to the critical value, the conclusion is that the medians are equal.

| | Wilcoxon Signed Rank Test Example | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| X(i) | Y(i) | Sign of X(i)-Y(i) | X(i)-Y(i) | Absolute X(i)-Y(i) | Rank of Absolute | Signed Rank |
| 0.0029 | 0.0026 | 1 | 0.0003 | 0.0003 | 1 | 1 |
| 0.0048 | 0.0044 | 1 | 0.0004 | 0.0004 | 2 | 2 |
| 0.00011 | 0.0027 | -1 | -0.00259 | 0.00259 | 3 | -3 |
| 0.095 | 0.12 | -1 | -0.025 | 0.025 | 4 | -4 |
| 0.2 | 0.14 | 1 | 0.06 | 0.06 | 5 | 5 |
| 0.31 | 0.18 | 1 | 0.13 | 0.13 | 6 | 6 |
| 0.62 | 1 | -1 | -0.38 | 0.38 | 7 | -7 |
| 0.51 | 0.086 | 1 | 0.424 | 0.424 | 8 | 8 |
| 0.00011 | 0.44 | -1 | -0.43989 | 0.43989 | 9 | -9 |
| 0.32 | 0.84 | -1 | -0.52 | 0.52 | 10 | -10 |
| 1 | 0.012 | 1 | 0.988 | 0.988 | 11 | 11 |
| 0.00029 | 1.1 | -1 | -1.09971 | 1.09971 | 12 | -12 |
| | | | | | | |
| 0.255268 | 0.327308 | <-- Average | | | Sum of Positives | 45 |
| 0.1475 | 0.13 | <-- Median | | | Sum of Negatives | 33 |
| | | | | | | |
| n = | 12 | | | | | |
| Critical Value from table = 14 for 1-sided test at significant level 0.025 | | | | | | |
| Since the test value of 33 > the critical value of 14 conclude that the medians are equal | | | | | | |

**Paired Student's t-Test**

This test requires paired samples. The test procedure is as follows:

1. Calculate the difference [(d(i)] for each set of observations d(i) = x(i) - y(i).

2. Calculate the mean and standard deviation of the two sets of data and for the difference data. For the data shown in the spreadsheet for the Wilcoxon Signed-Rank Test example, the mean, standard deviation, and number of samples for each data set are:

xbar = 0.255267500 $s_x$ = 0.317678883 $n_x$ = 12
ybar = 0.327308333 $s_y$ = 0.415342626 $n_y$ = 12
dbar = −0.072040833 $s_d$ = 0.516319023 $n_d$ = 12

3. The degrees of freedom is $n_d$ -1 = 11

4. Calculate $s_d/sqrt(n_d)$ = 0.149048463

5. The level of significance is 5% ($\alpha$ = .05)

6. Get the t value from table for $t_{a,v}$. For $t_{.05,11}$ = 1.796.

7 Calculate the lower and upper confidence limits.

Lower = dbar – $t_{a,v}$ * ($s_d$/sqrt($n_d$)) = -0.33973187
Upper = dbar – $t_{a,v}$ * ($s_d$/sqrt($n_d$)) = 0.195650208

8. If the confidence interval includes zero (0), the means are equal (=).

If the confidence interval does NOT include zero (0), the means are not equal (≠).

For this example, the confidence interval does include zero (0) so conclude that the means are equal (=).

**Equal Means Test**

This test does not require paired samples. The test procedure is as follows:

1. Calculate the mean and standard deviation of the two sets of data. For the data shown in the spreadsheet for the Wilcoxon Signed-Rank Test example, the mean, standard deviation, and number of samples for each data set are:

xbar = 0.255267500 $s_x$ = 0.317678883 $n_x$ = 12
ybar = 0.327308333 $s_y$ = 0.415342626 $n_y$ = 12

2. Calculate the t' statistic and the associated degrees of freedom.

$$t' = (xbar-ybar)/sqrt\ (s_x^2/n_x + s_y^2/n_y)$$

$$v = \{(s_x^2/n_x + s_y^2/n_y)^2 / [((s_x^2/n_x)^2/(n_x+1)) + ((s_y^2/n_y)^2/(n_y+1))]\} - 2$$

The calculated t' and v values are:
t' = 0.4772509 and v = 22.3320302

3. Compare the t' value with the critical value $t_{\alpha,v}$ from a t Distribution table with v degrees of freedom and significance level α. For a 1-sided test at a significance level (alpha) of 0.05 the critical value for 22 degrees of freedom is 2.508 and for 23 degrees of freedom is 2.500. The calculated degrees of freedom (v = 22.3320302) in this example is between 22 and 23. Since

$t' = 0.4772509 < t_{0.05,22} = 2.508$

and

$t' = 0.4772509 < t_{0.05,23} = 2.500$

conclude that the means are equal.

**Analysis of Variance Test**

The test procedure is as follows.

(1) Calculate the row totals: $R_1$, $R_2$, …, $R_r$.

(2) Calculate the column totals: $C_1$, $C_2$, …, $C_c$.

(3) Calculate the overall total: $T = R_1 + R_2 + \ldots + R_r$.

(4) Calculate crude total sum of squares:

$$\sum_{i=1}^{r}\sum_{j=1}^{c} x_{i,j}^2 = x_{1,1}^2 + x_{1,2}^2 + \cdots x_{r,c}^2$$

(5) Calculate crude sum of squares between rows:

$$\sum_{i=1}^{r} R_i^2/c = (R_1^2 + R_2^2 + \cdots R_r^2)/c$$

(6) Calculate crude sum of squares between columns:

$$\sum_{j=1}^{c} C_j^2/r = (C_1^2 + C_2^2 + \cdots C_c^2)/r$$

(7) Calculate the correction factor due to the mean: $T^2/(r*c)$

From the quantities above, compute:

(8) $$SS_4 = (6) - (7) = \sum_{j=1}^{c} \frac{C_j^2}{r} - \frac{T^2}{(rc)}$$

(9) $$SS_3 = (5) - (7) = \sum_{i=1}^{r} \frac{R_j^2}{c} - \frac{T^2}{(rc)}$$

(10) $$SS = (4) - (7) = \sum_{i=1}^{r}\sum_{j=1}^{c} x_{i,j}^2 - \frac{T^2}{(rc)}$$

(11) $SS_2 = (10) - (9) - (8) = SS - SS_3 - SS_4$

The table below shows where all the calculated values belong in the ANOVA table. The number of rows = r and the number of columns is c.

| Source of Variation | Sum of Squares | Degrees of Freedom | Mean Square | Calculated F Value | Table F Values |
|---|---|---|---|---|---|
| Between Dates | $SS_4$ | c-1 | $SS_4/(c-1)$ | $\{SS_4/(c-1)\}/\{SS_2/(c-1)*(r-1)\}$ | $F\{\alpha,(c-1),(c-1*(r-1)\}$ |
| Between Locations | $SS_3$ | r-1 | $SS_3/(r-1)$ | $\{SS_3/(r-1)\}/\{SS_2/(c-1)*(r-1)\}$ | $F\{\alpha,(r-1),(c-1*(r-1)\}$ |
| Residual | $SS_2$ | (c-1)*(r-1) | $SS_2/(c-1)*(r-1)$ | | |
| Total | SS | (c*r)-1 | $SS/((c*r)-1)$ | | |

As shown in the table above, there are two sources of variation, Between Dates and Between Locations.

If the Calculated F Value is smaller than the Table F Value, there is not a difference in the source of variation.

If the Calculated F Value is larger than the Table F Value, there is a difference in the source of variation.

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