SGW-59501
Revision 1

WMA C July through September 2015 Quarterly Groundwater Monitoring Report

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy
under Contract DE-AC06-08RL14788

P.O. Box 1600
Richland, Washington 99352

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Contents

Appendices

Figures

Terms

AEA	*Atomic Energy Act of 1954*
CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
DWS	drinking water standard
EMM	Elephant Mountain Member
RCRA	*Resource Conservation and Recovery Act of 1976*
TEDF	Treated Effluent Disposal Facility
WMA	Waste Management Area

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1 Purpose

This report provides the July through September 2015 quarterly monitoring results at the 241-C Tank Farm (also referred to as Single-Shell Tank Waste Management Area [WMA] C). This report meets two requirements at WMA C: requirements of 04-TPD-083, "Agreement on Content of Tank Waste Retrieval Work Plans," in which quarterly groundwater monitoring sample results are to be provided to the Washington State Department of Ecology during tank retrievals and, quarterly *Resource Conservation and Recovery Act of 1976* (RCRA) assessment requirements. Based on historical data at WMA C, tank retrieval activities have not affected groundwater. However, WMA C has been determined to have affected groundwater from historical releases and, as a consequence, is in a RCRA groundwater quality assessment program in accordance with WAC 173-303-400, "Dangerous Waste Regulations," "Interim Status Facility Standards," and by reference, 40 CFR 265, "Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," Subpart F, "Ground-Water Monitoring."

Tank retrievals at WMA C began November 18, 1998 (HNF-5267, *Waste Retrieval Sluicing System Campaign Number 3 Solids Volume Transferred Calculation*). The retrievals were required to remove existing liquid supernate and sludge from the 16 underground storage tanks as defined in RPP-22393, *241-C-102, 241-C-104, 241-C-107, 241-C-108, and 241-C-112 Tanks Waste Retrieval Work Plan*. Other work plans, listed in RPP-22393, direct retrieval requirements at the other 11 tanks in WMA C. Currently, retrieval has been completed, or retrieved to the limit of the retrieval technology, at 12 tanks and is ongoing at 3 tanks, with 1 tank complete, but in review, as provided in HNF-EP-0182, *Waste Tank Summary Report for Month Ending September 30, 2015*.

The 04-TPD-083 letter agreed to the quarterly analyses as tank retrieval activities were ongoing, as provided in PNNL-13024, *RCRA Groundwater Monitoring Plan for Single-Shell Tank Waste Management Area C at the Hanford Site*. The agreed-upon analyses include the following RCRA and *Atomic Energy Act of 1954* (AEA) constituents: anions, cyanide, metals, gross beta, technetium-99, total uranium, and low-level gamma scan.

The WMA C monitoring network has grown, and the controlling documents have changed since retrieval began in 1998. Initially, the monitoring network consisted of five monitoring wells, which increased to nine in 2004 per PNNL-13024-ICN-4, *Interim Change Notice for RCRA Groundwater Monitoring Plan for Single-Shell Tank Waste Management Area C at the Hanford Site*. An assessment program was initiated in July 2009 when a critical mean exceedance for specific conductance was verified in downgradient well 299-E27-14 (Figure 1). During the initial assessment, the dangerous waste constituent cyanide was found in the downgradient WMA C monitoring wells but not in upgradient well 299-E27-22. Other dangerous waste constituents potentially associated with WMA C have not been found in the groundwater. Because of the continued presence of cyanide downgradient of WMA C over several years, it was determined that past releases from WMA C had affected and continued to affect the groundwater. As a result, DOE/RL-2009-77, *Groundwater Quality Assessment Plan for the Single-Shell Tank Waste Management Area C*, was created, and it superseded PNNL-13024. DOE/RL-2009-77 required the addition of three monitoring wells (299-E27-24, 299-E27-25, and 299-E27-155) to the WMA C monitoring network. Wells 299-E27-24 and 299-E27-25 were installed in 2010. Well 299-E27-155, a 2008 *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA) well, was added because of the presence of cyanide at this well in December 2009. Because DOE/RL-2009-77 was RCRA focused, AEA constituents were not captured in this document. Thus, in October 2013, TPA-CN-578, *Tri-Party Agreement Change Notice Form: Groundwater Sampling and Analysis Plan for the 200-BP-5 Operable Unit, DOE/RL-2001-49 Rev. 1*, was finalized incorporating the AEA requirements (e.g., gross beta, technetium-99, total uranium, and low-level gamma scan) for all

12 WMA C monitoring wells. Table A-1 (Appendix A) provides the key attributes of the monitoring wells in the WMA C monitoring well network.

Groundwater monitoring objectives for CERCLA, RCRA, and AEA often differ slightly, and the contaminants monitored are not always the same. For RCRA-regulated units, monitoring focuses on nonradioactive dangerous waste constituents. Radionuclides (source, special nuclear, and byproduct materials) may be monitored in some RCRA unit wells to support objectives of monitoring under AEA or CERCLA. Pursuant to RCRA, the source, special nuclear, and byproduct material components of radioactive mixed wastes are not regulated under RCRA and are regulated by the U.S. Department of Energy acting pursuant to its AEA authority. Therefore, while this report may be used to satisfy RCRA reporting requirements, inclusion of information on radionuclides in such context is for information only and may not be used to create conditions or other restrictions set forth in any RCRA permit.

2 Geology

The interpretation of geology beneath WMA C continues to evolve, and the most current interpretations are documented in CP-57037, *Model Package Report: Plateau to River Groundwater Transport Model Version 7.1*. CP-57037 incorporated the solid geologic framework from the recently completed Hanford Site South Geoframework Model (ECF-Hanford-13-0029, *Development of the Hanford South Geologic Framework Model, Hanford Site, Washington*) that includes updated geologic and hydraulic data collected from January 2009 through December 2013. Below is a general discussion of the geology beneath WMA C from basalt upward. The environmental calculation files discussed in this section and CP-57037 can be found in Appendix F of DOE/RL-2009-127, *Remedial Investigation Report for the 200-BP-5 Groundwater Operable Unit* (published July 2015).

The Columbia Plateau is recognized as the Earth's youngest flood-basalt province, formed between 6 and 16.5 million years ago (RHO-BW-SA-318 P, *Paleodrainage of the Columbia River System on the Columbia Plateau of Washington State: A Summary*). Several individual flows occurred over the 10 plus million years, and the uppermost flow in the area of WMA C is the Elephant Mountain Member (EMM) of the Saddle Mountains Basalt units. The EMM has been characterized as consisting of two flows that erupted approximately 10.5 million years ago. In the region near WMA C, the younger EMM flow is not present (RHO-BWI-ST-4, *Geologic Studies of the Columbia Plateau, A Status Report October 1979*; WHC-SD-EN-EV-024, *Site Characterization Report for the Liquid Effluent Retention Facility*); however, the oldest EMM flow (Elephant Mountain I) is continuous throughout the area.

Regionally, Elephant Mountain I has been reported to range in thickness from 12 m (39 ft), where partially eroded, to greater than 35.1 m (115 ft) north of the eastern part of the 200 East Area (WHC-SD-EN-EV-024). Closer to WMA C, well 299-E26-8 extended through Elephant Mountain I with a thickness of 27.4 m (90 ft). The reason Elephant Mountain I was eroded in this area is the meandering nature of the ancestral Columbia River across the Pasco Basin. Beneath WMA C, the basalt dips predominantly to the south-southwest (PNNL-12261, *Revised Hydrogeology for the Suprabasalt Aquifer System, 200-East Area and Vicinity, Hanford Site, Washington*).

PNNL-12261 refined the hydrostratigraphic conceptual model for the 200 East Area Ringold Formation through visual depictions; however, geologic interpretation suggest no remaining Ringold sediments exist beneath WMA C. The Ringold was deposited in the late Miocene (approximately 8.5 million years ago) when the ancestral Columbia River was diverted eastward around the uplifting Umtanum Ridge and into the Pasco Basin (RHO-BW-SA-318 P). The river system flowed through Sentinel Gap to the west side of Gable Mountain and throughout the central Pasco Basin to the Wallula Gap (RHO-BWI-ST-14, *Subsurface Geology of the Cold Creek Syncline*). Approximately 2 to 3.4 million years ago, the Columbia River appeared to change its course in the Columbia River Gorge and began a headward erosion of the Ringold Formation through the Pasco Basin (RHO-BW-SA-318 P), including beneath WMA C. Deposition after erosion is associated with the timing of Cold Creek Unit sediments.

A remnant mound of Cold Creek gravels disconformably overlies the Elephant Mountain I beneath most of WMA C; however, the height of the mound only extends to the bottom screen portion of wells 299-E27-7 and 299-E27-22. The Cold Creek gravels increase in thickness to the south and engulf the screen portion of well 299-E27-24, which is screened across the bottom 6.1 m (20 ft) of the aquifer. Further to the west of the 241-C Tank Farm (beneath wells 299-E27-13, 299-E27-21 and 299-E27-23), the Cold Creek gravels are interpreted to have been scoured away by the more recent glacio-fluvial cataclysmic Ice Age floods.

The Hanford formation is the informal name for the glacio-fluvial deposits from cataclysmic Ice Age floods. Sources for floodwaters included Glacial Lake Missoula, pluvial Lake Bonneville, and ice-margin lakes that formed around the margins of the Columbia Plateau (Baker et al., 1991, "Quaternary Geology of the Columbia Plateau"). The earliest Ice Age floods occurred about 1 to 2 million years ago and

continued floods occurred until 15,000 calendar years ago (Bjornstad, 2006, *On the Trail of the Ice Age Floods: A Geological Field Guide to the Mid-Columbia Basin*). The Hanford formation consists of mostly unconsolidated sediments that cover a wide range in grain size, from pebble- to boulder-size gravel, fine- to coarse-grained sand, silty sand, and silt. The Hanford formation is further subdivided into silt-, sand-, and gravel-dominated facies. The sediment of interest beneath WMA C and within the unconfined aquifer is the gravel-dominated facies, except where Cold Creek gravels are present.
The gravel-dominated facies represents the main, high-energy flood currents deposited in this area (CP-57037, Figure 4-3).

Hydraulic conductivity values assigned to both the paleo-channel Hanford and Cold Creek gravels are 17,000 m/day (CP-57037, Figure 4-2). ECF-Hanford-13-0031, *Fate and Transport Modeling for Baseline Conditions for Remedial Investigation/ Feasibility Studies of the 200-BP-5 and 200-PO-1 Groundwater Operable Units*, assigned an effective porosity of 0.2 for these two sediments. It should be noted that hydraulic conductivities of major hydrogeologic units are variable and with limited groundwater pumping tests due to contaminated groundwater conditions, the variability of hydraulic parameters beneath WMA C is uncertain.

3 Groundwater Flow and Rate

Various assessments of hydraulic parameters derived from past tests and recent evaluations have been applied to estimate the fate and transport of contaminants beneath WMA C. Estimation of groundwater flow rates are required by 40 CFR 265.94(d)(4), "Recordkeeping and Reporting," because of the presence of the dangerous waste constituent cyanide. Hydraulic parameters used to estimate rates of groundwater flow at WMA C include effective porosity (n_e) and hydraulic conductivity values (K). The effective porosity is estimated at 0.2, and the hydraulic conductivity is estimated at 17,000 m/day (55,774 ft/day). The other hydraulic parameter, the hydraulic gradient (G) of the water table, is based on the monthly average water level evaluations measured from a regional 52-well, low-gradient monitoring network across the 200 East Area from October 2014 through September 2015 (Figure 2). The rational for this new network is that it provides a regional approach to the dynamic low-gradient water table, which is needed because the areal extent of the well network at WMA C is not sufficient to obtain interpretations of the groundwater gradient or direction with confidence. A discussion of the methods used to develop the regional water table interpretation is provided in SGW-58828, *Water Table Maps for the Hanford Site 200 East Area, 2013 and 2014*.

In the following subsections, groundwater measurements and associated trend surface results are presented for deriving the inferred groundwater flow rate and direction at WMA C. Section 3.1 discusses the groundwater gradient determination associated with the 52-well, low-gradient regional monitoring network, and Section 3.2 discusses the development of an inferred groundwater flow direction for WMA C.

3.1 Groundwater Gradient Determination

The measurements and gradient calculations associated with the 52-well, low-gradient monitoring network across the 200 East Area from January through December 2014 are provided in SGW-58828. The July to September 2015 WMA C groundwater gradient was calculated from the monthly average 52-well, low-gradient monitoring network from October 2014 through September 2015 (Figure 2). The estimated gradient is approximately 3×10^{-6} m/m and is used to calculate the inferred groundwater flow rate at WMA C for this quarterly report. The flow rate is used to provide the cyanide contaminant migration rate as required in 40 CFR 265.93(d)(7)(i), "Preparation, Evaluation, and Response."

The measurement error associated with the October 2014 through September 2015 water levels was assumed to be relatively small as several measures were taken to minimize potential sources of measurement error, (e.g., adjustments for well casing deviation from vertical and resurveys of well casing elevations). Even with these measures, the 200 East Area water level measurements still had residual errors greater than the local difference in the water table (i.e., a small signal to noise ratio). To minimize measurement error, data for each well were averaged over a yearly period. The data were analyzed by generating digital grids of the water table. The gridding method was inverse distance to a power set to emphasize spatial averaging. The weighting power was set to 4, which is above the normal default value of 2 for the inverse distance method. This resulted in a greater decline in the weighting factors with distance placing more emphasis on measurements near a particular grid node rather than farther away. The smoothing factor was set to 750 m. This parameter is essentially the minimum separation distance of a measurement from a grid node. This prevents any single measurement from having a larger effect on a grid node calculation. Because of the spatial averaging employed, contour lines generated from the grid will not always honor the measured values. However, the contour lines will represent the underlying trend in the data (SGW-58828).

Using the hydraulic parameters discussed in this section, the estimated groundwater flow rate (V) beneath WMA C is 0.26 m/day (0.84 ft/day) or 93 m (305 ft) per year, based on the formula $V = (K*G)/n_e$ (Driscoll, 1986, *Groundwater and Wells*). This derived groundwater flow rate is the same as last quarter's calculated flow rate and is consistent with several time-derived log plot comparisons of technetium-99-to-nitrate ratios for upgradient-downgradient well pairs at WMA C and WMA A-AX. For example, wells 299-E27-23, 299-E27-21, and 299-E24-22 display similar technetium-99-to-nitrate ratios over time, as presented in Figure 3 (Figure 1 shows the location of WMA A-AX wells). The time delay between increases could be attributed to the migration time between wells. These are the only wells to show gradual trends approaching technetium-99-to-nitrate ratios of 100 or higher. The migration rate, approximately 0.2 m/day, is consistent with the above-derived value using a 4 year travel time for the equivalent technetium-99-to-nitrate ratio to migrate from well 299-E27-21 to well 299-E24-22.

Additional contributions associated with the difficulty of deriving a groundwater gradient in the 200 East Area are the variable seasonal gradients linked with the propagation of high Columbia River runoff levels (stages) in the later spring and early summer (SGW-58561, *WMA C Quarterly October through December 2014 Quarterly Groundwater Monitoring Report*). Another temporal effect on the unconfined aquifer is a significant increase in discharges from the Treated Effluent Disposal Facility (TEDF), located southeast of the 200 East Area (Figure 2). Prior to 2014, TEDF discharges were approximately 10^6 L/month. In 2014, discharges of $>10^8$ L/month were observed during 5 of the 12 months (SGW-58561). In 2015, above average discharges of $>10^7$ L/month were observed from March through September, except for August. In DOE/RL-2011-01, *Hanford Site Groundwater Monitoring Report for 2010* (Section 9.0), it was shown that significant discharges ($\sim10^8$ L/month) from TEDF caused groundwater elevations to increase within the 200 East Area. Such increases have been shown to affect the flow direction and gradient within the 200 East Area. It is believed that the significant temporary discharge increase from TEDF in 2014 decreased the gradient magnitude beneath 200 East Area based on comparison with the average gradient measurements between 2013 and 2014 (Figures 4 and 5). It is likely that consecutive 2015 discharges of $>10^7$ L/month are also affecting the flow rate beneath the 200 East Area. The combination of these effects appears to have caused the water levels based on the monthly average 52-well, low-gradient monitoring network from October 2014 through September 2015 to increase 5 mm since last quarter (for comparison see Figure 2 of SGW-59423, *WMA C April through June 2015 Quarterly Groundwater Monitoring Report*). Large volume discharges are periodically planned from TEDF over the next several years, which will likely reduce flow rates compared to flow rates determined from 2011 to early 2014. The slower flow rates also appear to be linked to temporary increases in certain groundwater contaminants such as nitrate, sulfate, and other contaminants linked to early releases within the 241-C Tank Farm.

3.2 Groundwater Flow Determination

The regional 52-well, low-gradient monitoring network is now used for determining a groundwater trend surface direction at WMA C because of the precision measurements and areal extent (Figure 2). Corrected water level measurements from this 52-well, low-gradient monitoring network enables a more complete understanding of the flow direction across the 200 East Area and at WMA C.

The average WMA C groundwater flow direction derived from the 52-well, low-gradient monitoring network from October 2014 through September 2015 along with log plot comparisons of technetium-99-to-nitrate ratios for upgradient-downgradient well pairs at WMA C and WMA A-AX appears to define an estimated flow direction of south-southeast as depicted in Figure 1. This direction is used to provide the cyanide contaminant migration direction as required in 40 CFR 265.93(d)(7)(i).

The flow direction interpretation above appears to agree with several log plot comparisons of technetium-99-to-nitrate ratios for upgradient-downgradient well pairs at WMA C and WMA A-AX. For example, wells 299-E27-23, 299-E27-21, and 299-E24-22 display similar ratios over time as presented in Figure 3. The time delay between increases could be attributed to the time for migration between wells. These are the only wells to show gradual trends approaching technetium-99-to-nitrate ratios of 100 or higher. Another possible well pair with similar technetium-99-to-nitrate ratios inferring a south-southeast migration direction is 299-E27-7 and 299-E25-40. A final possible well pair with similar technetium-99-to-nitrate ratios inferring a south-southeast migration direction is 299-E27-14 and 299-E24-33. However, the recent technetium-99 trends at well pair 299-E27-14 and 299-E24-33 are not similar. A possible explanation for the different ratio at well 299-E24-33 may be another upgradient release source is mixing with the contaminants migrating from near well 299-E27-14, or the contaminants migrating from well 299-E27-14 encounter less transmissive sediments altering the contaminant migration towards well 299-E24-33 and an additional source of vadose zone contamination is present near well 299-E24-33. PNNL-15141, *Investigation of Accelerated Casing Corrosion in Two Well at Waste Management Area A-AX*, discusses perched water discovered at depth during drilling well 299-E24-33.

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4 Quarterly Results Discussion

During September 2015, all 12 WMA C wells were successfully sampled as scheduled. The following subsections discuss the results for constituents analyzed per the 04-TPD-083 letter and DOE/RL-2009-77. Appendix B provides all 830 analytical results derived from the September 2015 sampling event at WMA C.

4.1 Field Parameters

The September pH measurements from WMA C monitoring wells ranged between 7.75 and 8.3. The minimum pH was reported at well 299-E27-155, and the maximum at well 299-E27-12. In general, wells screened across the upper part of the aquifer with short screen intervals (e.g., 299-E27-12, 299-E27-13, and 299-E27-15) had greater pH values, ranging from 8.18 to 8.3. The wells screened across the bottom of the aquifer (e.g., 299-E27-24 and 299-E27-155) had the lowest pH values, ranging from 7.75 to 8.1. The recent pH values of 8.18 and 8.1 at well 299-E27-24 are approximately 0.2 pH units higher than any previous results. The pH in this well appears to be changing and may reflect vertical migration from the upper part of the aquifer where pH levels are generally higher. The wells with long screen intervals (e.g., extending approximately 9 m [30 ft] into the aquifer) (wells 299-E27-4, 299-E27-7, 299-E27-21, 299-E27-22, and 299-E27-23) had intermediate pH levels, ranging from 7.94 to 8.11. The lower pH levels within the deeper part of the aquifer near well 299-E27-155 are more reflective of the background geometric mean as reported in DOE/RL-96-61, *Hanford Site Background: Part 3, Groundwater Background*.

Specific conductance measurements in the 12 WMA C wells ranged between 386 and 1,050 µS/cm. The lowest value was observed at upgradient well 299-E27-12, and the greatest specific conductance was observed at downgradient well 299-E27-14. Elevated specific conductance was found in wells with elevated nitrate and sulfate concentrations. The specific conductance values observed were consistent with the calculated sum of the major anions and cations.

4.2 Nitrate and Sulfate

This section discusses results for nitrate and sulfate from the September 2015 sampling event. In the following subsection, nitrate concentrations are expressed in terms of the nitrate (NO_3^-) ion, as opposed to nitrogen in nitrate. For comparison purposes, the drinking water standard (DWS) of 10 mg/L for nitrogen in nitrate is approximately equal to 45 mg/L (45,000 µg/L) of nitrate as NO_3^-, using a molecular conversion of 4.43 times the nitrogen in nitrate concentration.

4.2.1 Nitrate

Nitrate equaled or exceeded 45,000 µg/L in four WMA C wells this quarter (299-E27-14, 299-E27-24, 299-E27-25, and 299-E27-155) (Figure 6). Two of the four wells above the DWS are south of WMA C (299-E27-14 and 299-E27-24). The source of elevated nitrate at well 299-E27-25 may be related to unplanned releases associated with discharges to the 216-B-2 ditches (DOE/RL-2011-118, *Hanford Site Groundwater Monitoring for 2011*, Section 3.4.1.7). Continued increases since 2014 at well 299-E27-155 have resulted in concentrations exceeding 45,000 µg/L. The increases at well 299-E27-155 may be associated with TEDF discharges causing a change in groundwater flow.

Of the four wells screened at the top of the aquifer (299-E27-12, 299-E27-13, 299-E27-14, and 299-E27-15), 299-E27-14 is the only well with nitrate concentrations exceeding 45,000 µg/L. The nitrate concentrations at well 299-E27-14 have varied between 83,200 to 118,000 µg/L since 2011 (Figure 6). Yearly peak concentrations generally occur in September, when water levels beneath WMA C increase due to lagged effects of the high Columbia River stage that occurs in the spring. Conceptually, the nitrate concentrations increase during this time frame due to a two-step process. First, as a result of less mixing of infiltrating nitrate laden pore water from the vadose zone during low gradient periods (lower groundwater flow rate), nitrate concentrations in the aquifer increase. When the gradient increases, the higher concentrated plume moves into well 299-E27-14. This conceptual model bases the changing nitrate concentration on groundwater flow rates and constant infiltration from the vadose zone. Based on this conceptual model and the degree of spreading downgradient, it appears the zone of infiltration from the vadose zone is near well 299-E27-14. The other three wells screened across the top of the aquifer have historically had the lowest nitrate concentrations at WMA C and ranged from 8,850 to 20,400 µg/L this quarter (Figure 7).

The two deepest wells near WMA C (299-E27-24 and 299-E27-155) are screened at the bottom of the unconfined aquifer. Nitrate levels at well 299-E27-24 have been stable, returning similar concentrations since being completed in December 2010. Over this period, the concentrations have ranged between 65,500 and 73,500 µg/L. In September 2015, the concentration was 70,800 µg/L. The concentration in well 299-E27-155 decreased significantly between September 2012 and December 2013 (51,000 to 24,000 µg/L) but, since then, it has increased. In September, the concentration was 62,000 µg/L, a new high (Figure 6). The increasing concentrations coincide with increased TEDF discharges and may indicate a flow direction change.

The wells northwest, north, and northeast of WMA C (299-E27-4, 299-E27-22, and 299-E27-25, respectively), which have longer screen intervals than those screened near the top of the aquifer, had shown mixed nitrate trends (Figure 8). More recently, it appears nitrate is now trending up at all wells. This may be associated with the increased TEDF discharges.

Nitrate concentrations at wells south and southwest of WMA C (299-E27-21 and 299-E27-23, respectively) have not varied by more than 6,000 µg/L over the past 2 years (Figure 7).

4.2.2 Sulfate

The most significant sulfate concentrations at WMA C continue to be at wells 299-E27-14, 299-E27-24, and 299-E27-25 (Figure 9). Results from these wells continue to exceed the secondary DWS of 250,000 µg/L. Concentrations at the remainder of the wells in September 2015 ranged up to 210,000 µg/L.

The greatest sulfate concentrations downgradient of WMA C are at wells 299-E27-14 and 299-E27-24. The sulfate and nitrate concentration trends at these two wells relative to those observed in upgradient wells continue to suggest a past release of contaminants containing elevated nitrate and sulfate to the groundwater from within WMA C. Well 299-E27-14 is screened across the upper part of the aquifer, and well 299-E27-24 is screened across the bottom of the aquifer. Data from these wells suggest nitrate and sulfate have migrated vertically through the aquifer. Sulfate trend results at well 299-E27-14 decreased from September 2012 to March 2014 but, since then, have been on an increasing trend. At well 299-E27-24, sulfate concentrations have been stable, ranging between 287,000 and 313,000 µg/L since installation of this well. However, in September, the concentration rose to a new high of 320,000 µg/L.

Sulfate concentrations at well 299-E27-25 have been slowly increasing since this well was installed in 2010. The concentrations at well 299-E27-25 rose to a high of 323,000 µg/L in September 2015. The trend at well 299-E27-25 appears to mimic the past trend at well 299-E27-10, located near the 216-B-2 ditches (Figure 10). The comparable sulfate trends between these wells and historical southward groundwater flow direction indicate that these wells are likely being affected by past releases from the 216-B-2 ditches (DOE/RL-2011-01, Section 9.1.10.3).

4.3 Cyanide

The dangerous waste constituent cyanide was detected at six WMA C wells in September 2015. Four of the wells with detectable cyanide were measured at concentrations at or below the previous detection limit for cyanide of 4 µg/L (299-E27-7, 299-E27-21, 299-E27-23, and 299-E27-155). The other two wells (299-E27-14 and 299-E27-24), associated with cyanide levels above 4 µg/L for several years, appear to represent a low-concentration plume associated with the 241-C Tank Farm. The cyanide concentrations have diminished beneath the 241-C Tank Farm and the concentrations are significantly less than the 200 µg/L DWS. The highest cyanide concentration in September 2015 was 12.7 µg/L at well 299-E27-24.

Low concentrations of cyanide within the groundwater beneath the 241-C Tank Farm have been detected consistently since January 1999 (Figure 11). However, it is believed that the existing cyanide contamination is not associated with tank retrieval activities but was caused by unplanned releases from early operations at the 241-C Tank Farm for the following reasons:

- The vadose zone is greater than 76 m (250 ft) thick.
- Vertical vadose zone liquid transport is slow (<50 cm/year).
- Potential tank retrieval activity releases would be a very small fraction of the effective porosity.
- Tank retrieval activities did not start until November 18, 1998.

As required by 40 CFR 265.94(d)(4), a groundwater flow rate was derived using hydraulic parameters for the 200-BP-5 Remedial Investigation baseline risk assessment as well as continued refinement of the groundwater gradient from the 52-well, low-gradient monitoring network in 200 East Area. The estimated values from these evaluations are used to determine the cyanide migration rate. Based on the discussion in Section 3.1, the current cyanide migration rate is estimated at 0.26 m/day (0.84 ft/day) or 93 m (305 ft) per year. The flow direction over the past year has been predominantly south-southeast (Figure 1).

Additionally, 40 CFR 265.94(d)(4) requires a determination of the extent of cyanide contamination. Because concentrations have been near detection limits at wells 299-E27-14 and 299-E27-24, detectable levels of cyanide are not considered to be significantly farther southeast of these wells, as depicted in Figure 12. The contamination near well 299-E27-14 is bounded to the north by the nondetect groundwater results for cyanide at other wells surrounding WMA C. The depiction of cyanide extension southeast of wells 299-E27-14 and 299-E27-24 in Figure 12 reflects an attempt to be consistent with recent cyanide concentrations and groundwater flow interpretations of a progressive shift from southwest to south-southeast near WMA C. A secondary area of elevated cyanide in the lower part of the aquifer southeast of well 299-E27-155 is also inferred in Figure 12. Well 299-E27-155 is screened across the lower 10.7 m (35 ft) of the aquifer, and the aquifer at this well was measured at 16.8 m (55 ft) thick when installed in 2007. The greatest cyanide concentrations at this well were observed in the deepest discrete sample intervals during drilling. The inference at depth of a secondary area of slightly elevated concentrations of cyanide is uncertain but is inferred from previous observations of low levels of cyanide concentrations at well 299-E27-155 and the lack of historically consistent cyanide concentrations in wells between this well and the west/southwest WMA C boundary. Two additional plumes of cyanide have been interpreted around wells 299-E27-7 and 299-E27-23 because of the persistent detections since March 2014. Cyanide was detected infrequently or was not detected in the other wells.

4.4 Technetium-99

AEA samples for technetium-99 were collected and analyzed for all 12 WMA C wells in September 2015. The activity levels exceeded the 900 pCi/L DWS in seven wells (299-E27-4, 299-E27-13, 299-E27-14, 299-E27-21, 299-E27-23, 299-E27-24, and 299-E27-155) (Figure 13). A 2011 groundwater flow direction change affected activity levels at these wells. Technetium-99 activities at wells west of WMA C (299-E27-13, 299-E27-23, and 299-E27-155) have decreased by >60 percent (Figure 13). However, over the past year and a half, technetium-99 has tripled at well 299-E27-13 (2,000 pCi/L in March 2014 to 6,020 pCi/L in September 2015). Concurrently, concentrations at wells south and southeast of WMA C (299-E27-14, 299-E27-21, and 299-E27-24) increased by approximately 200 percent or more. More recently, technetium-99 at well 299-E27-14 has decreased. Activity levels at wells 299-E27-21 and 299-E27-24 have maintained near historical high levels (Figure 13). The activity level at four other WMA C wells (299-E27-12, 299-E27-15, 299-E27-22, and 299-E27-25) has never exceeded the DWS. These wells have been or are considered upgradient wells.

An assessment of the technetium-99 results with other contaminants is provided in SGW-56777, *WMA C October Through December 2013 Quarterly Groundwater Monitoring Report*. The outcome of the assessment indicates that two or more technetium-99-laden sources have affected the groundwater at WMA C. The technetium-99-to-nitrate signature, used in the assessment, indicates that the technetium-99 near well 299-E27-23 has migrated toward well 299-E27-21. In addition, part of the technetium-99-to-nitrate signature recognized at well 299-E27-23 has migrated to well 299-E27-14. The migration of the technetium-99 plume appears to be consistent with the predominant southeast flow direction over the past 3 years.

4.5 Uranium

AEA samples for uranium were collected and analyzed at all 12 WMA C wells in September, and none of the results exceeded the 30 µg/L DWS. Six uranium concentrations exceeded regional background levels of ≤4 µg/L (DOE/RL-96-61) in September 2015 (Figure 14).

Elevated uranium concentrations exist primarily south and west of WMA C. These areas (in the past and currently) have elevated technetium-99 concentrations, with the exception of upgradient well 299-E27-22. Elevated levels of uranium also extend into the deeper part of the aquifer, at wells 299-E27-24 and 299-E27-155.

4.6 Nickel

Filtered nickel results continue to exceed background at nearly all WMA C wells (Figure 15). Nickel concentrations increase and decrease sporadically (see wells 299-E27-4 and 299-E27-13 in Figure 15). Video surveys at WMA C wells have shown minor well screen corrosion. Videos of other wells with more significant encrustation associated with well screen corrosion (299-E33-337 and 299-E33-339) were reviewed for comparison. In addition, solid sample results of the amorphous encrusted material from well 299-E33-337 were reviewed. Based on this review, it appears the most logical explanation for the elevated nickel, at present, is minor stainless steel screen corrosion.

Because of the significant nickel spike at well 299-E27-4, a reanalysis of the sample was completed. The reanalysis was similar to the original value. As a result, a video survey will be completed before and after well screen cleaning. In addition, collection of a sample of the amorphous encrustation will be attempted and, if successful, will be analyzed to verify the constituents associated with the encrustation. The results will be reported in a future quarterly report.

4.7 Low-Level Gamma

Samples for low-level gamma were collected and analyzed for all 12 WMA C wells in September 2015. All results were below detection limits.

5 Conclusion

Because of the continued presence of cyanide, a dangerous waste constituent, above detection levels in wells at WMA C, the RCRA groundwater quality assessment program continues. The greatest measured cyanide concentration was 12.7 µg/L and is much lower than the DWS of 200 µg/L.

As required by 40 CFR 265.94(d)(4), a groundwater flow rate was derived from past hydraulic tests and ongoing groundwater gradient evaluations for determining the rate of migration of cyanide. Based on the discussion in Section 3.1, the current cyanide migration rate is estimated at 0.26 m/day (0.84 ft/day) or 93 m (305 ft) per year. The average flow direction over the past year has been predominantly south-southeast flow direction, as provided in Figure 1.

Additionally, 40 CFR 265.94(d)(4) requires a determination of the extent of cyanide contamination in groundwater. Because concentrations have been near detection limits at wells 299-E27-14 and 299-E27-24, detectable levels of cyanide are not considered to be significantly farther south-southwest of these wells (Figure 12). A northerly extension of the elevated cyanide concentrations from well 299-E27-14 is bounded by a dominant trend of nondetect groundwater results at other wells surrounding WMA C. The depiction of cyanide extension southeast of wells 299-E27-14 and 299-E27-24 in Figure 12 reflects an attempt to be consistent with recent cyanide results and groundwater flow interpretations of a progressive shift from southwest to south-southeast near WMA C. A secondary area of elevated cyanide at depth southeast of well 299-E27-155 also is inferred in Figure 12. Well 299-E27-155 is screened across the lower 10.7 m (35 ft) of the aquifer, and the aquifer at this well was measured at 16.8 m (55 ft) thick when installed in 2007. The greatest cyanide concentrations were observed in the deepest discrete sample intervals during drilling. The inference at depth of a secondary area of slightly elevated cyanide concentrations is uncertain but inferred from previous observations of low levels of cyanide concentrations at well 299-E27-155 and the lack of consistent cyanide concentrations in wells between this well and the west/southwest WMA C boundary. Two additional smaller plumes of cyanide were interpreted around wells 299-E27-7 and 299-E27-23 because of the previous detected levels at these wells.

Observations of elevated concentrations of nitrate, sulfate, and technetium-99 appear to be associated with past releases from WMA C because these constituents are much higher in the downgradient wells compared to upgradient wells, and they exceed their respective groundwater DWSs. In addition, past sampling results at WMA C revealed that elevated contaminant concentrations in the upper part of the aquifer vary more than in the deeper part of the aquifer. These observations suggest that variable groundwater flow rates may be tied to the variability in contaminant concentrations seen in the downgradient upper aquifer wells. Finally, the contamination has extended throughout the aquifer thickness at WMA C. Because of the stable concentrations in the lower aquifer, the contaminant extent may be larger than in the upper part of the aquifer. Alternatively, the lower aquifer sediment may have lower hydraulic conductivity than the upper aquifer and may reduce groundwater movement.

Plans to develop a regional low-gradient monitoring network in order to derive a more reliable gradient flow direction for WMA C have been completed. This monitoring network is discussed in SGW-58828 and is now used to estimate the groundwater gradient magnitude and flow direction for WMA C. The network consists of 52 wells across the 200 East Area (see Figure 2). The change in flow direction between 2013 (see Figure 4) and the current flow direction is attributed to increased discharges to TEDF, as discussed in Section 3.1.

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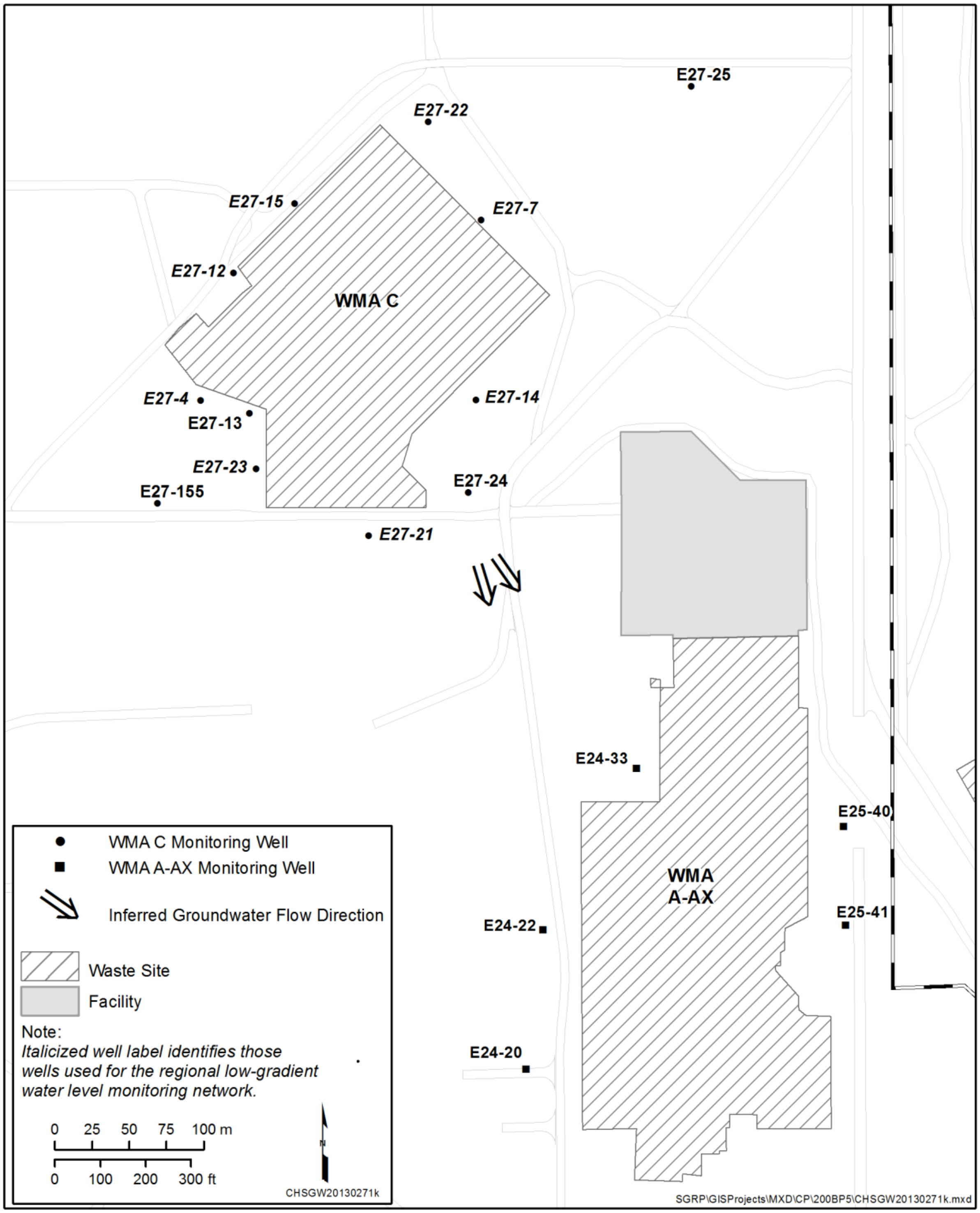
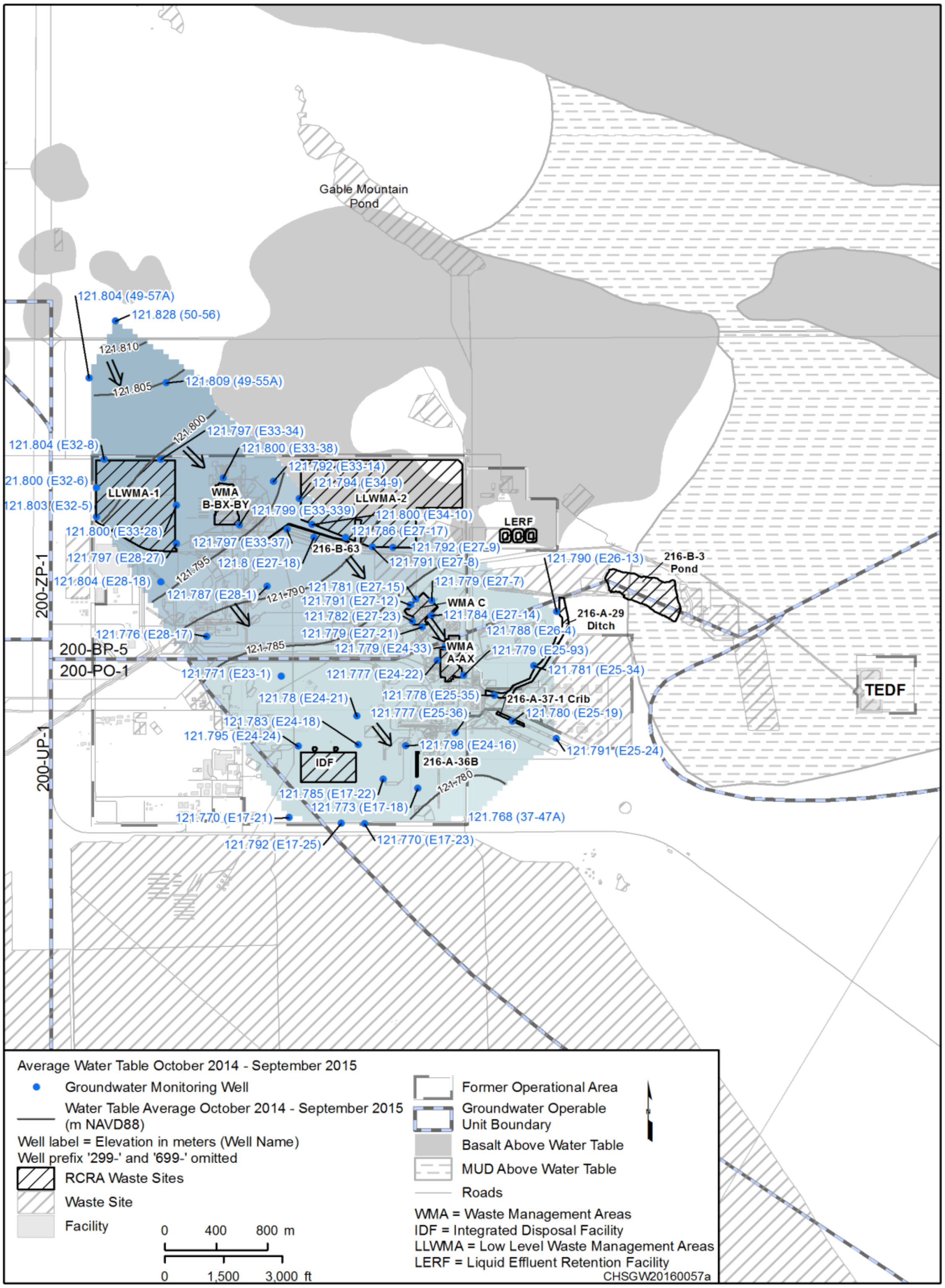


Note: The range in direction of the groundwater flow inferred by the arrows reflects the 200 East Area October 2014 to September 2015 average monthly water level measurements from the 52-well, low-gradient monitoring network (Figure 2) and log plot comparisons of technetium-99-to-nitrate ratios for upgradient-downgradient well pairs at WMA C and WMA A-AX, as applied at WMA C.

Figure 1. WMA C Monitoring Wells



Reference: NAVD88, *North American Vertical Datum of 1988*.

Figure 2. October 2014 through September 2015 Annual Average 200 East Area Regional Water Table Measurements and Associated Isopleths

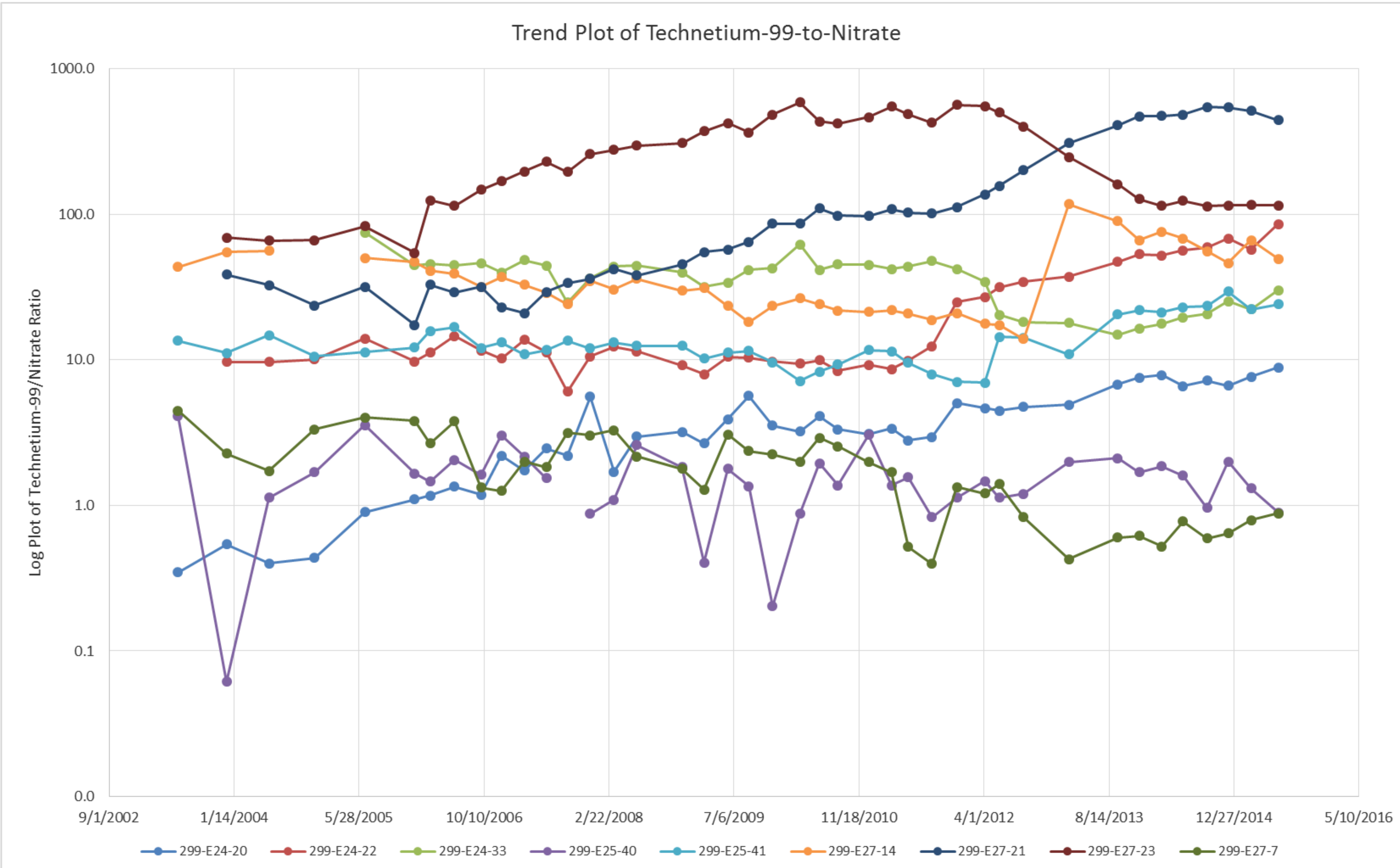


Figure 3. Trend Plot of Technetium-99-to-Nitrate for WMA C and WMA A-AX Wells

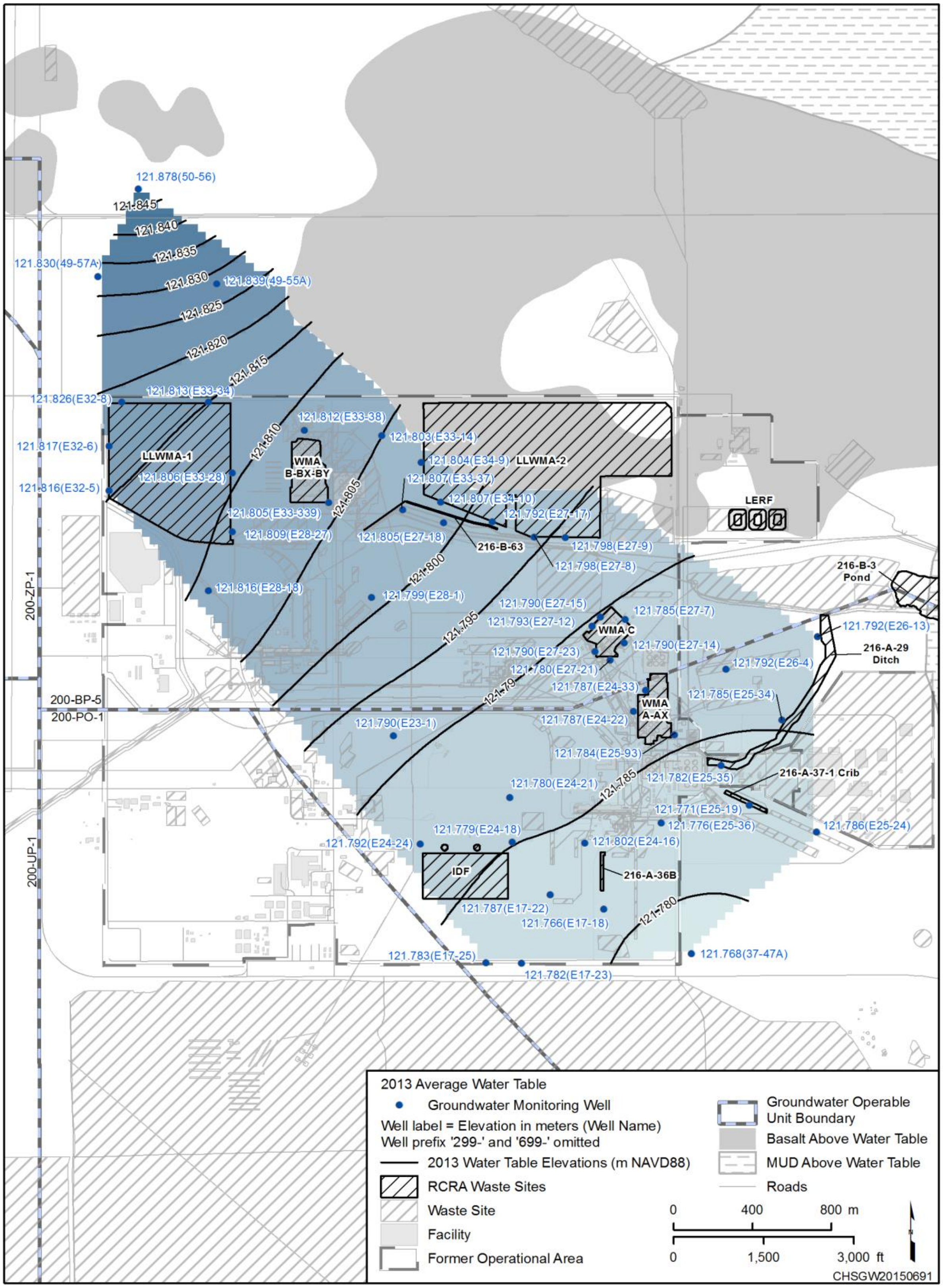


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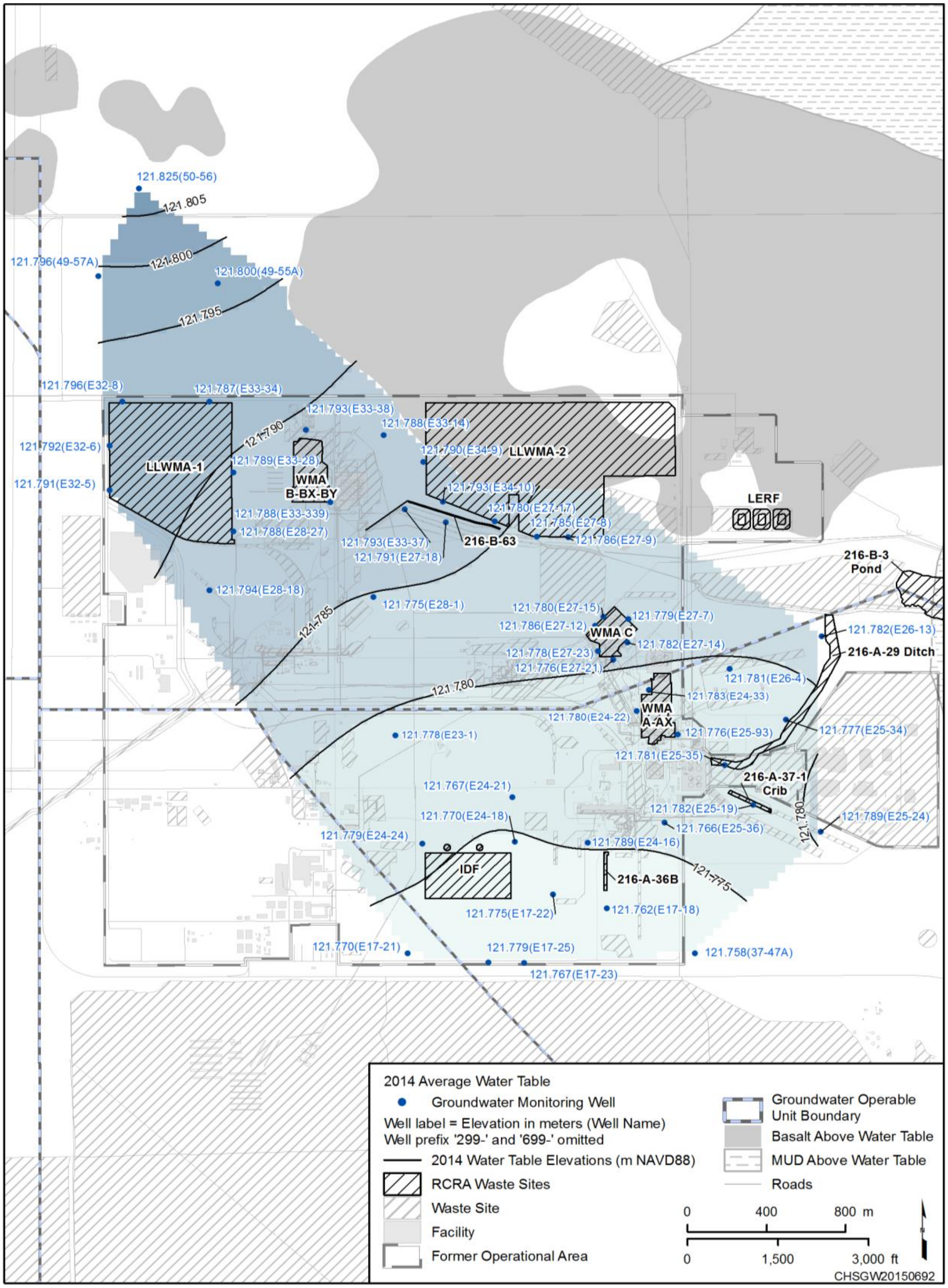
Figure 4. 2013 Annual Average 200 East Area Regional Water Table Measurements and Associated Isopleths



Reference: NAVD88, *North American Vertical Datum of 1988*.

Figure 5. 2014 Annual Average 200 East Area Regional Water Table Measurements and Associated Isopleths

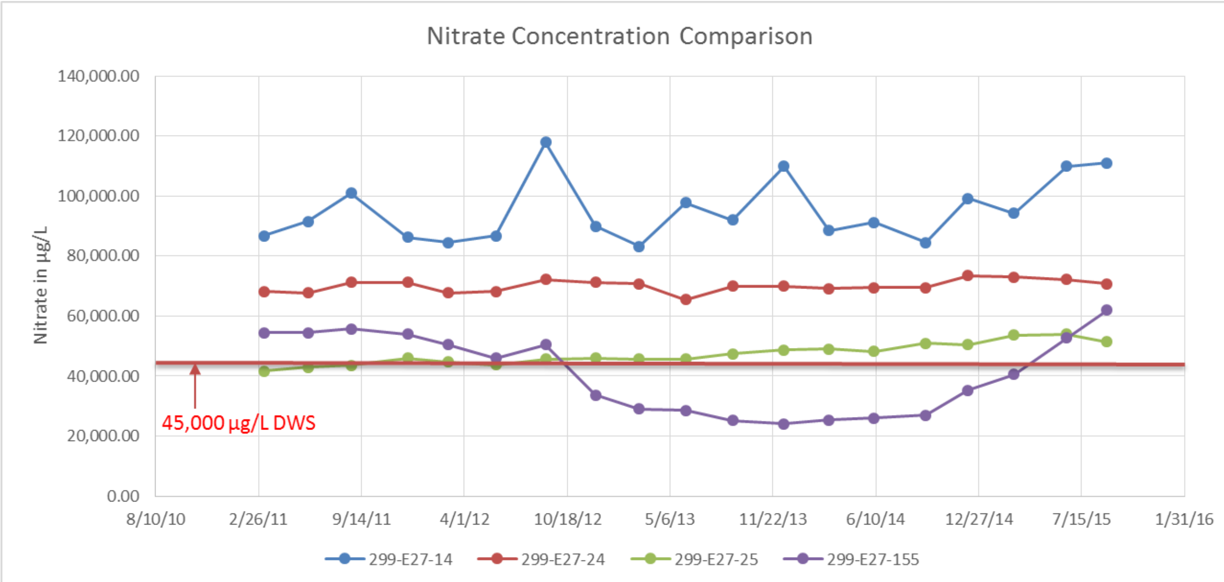


Figure 6. Nitrate Trend at Wells 299-E27-14, 299-E27-24, 299-E27-25, and 299-E27-155 (45,000 µg/L represents the DWS as nitrate)

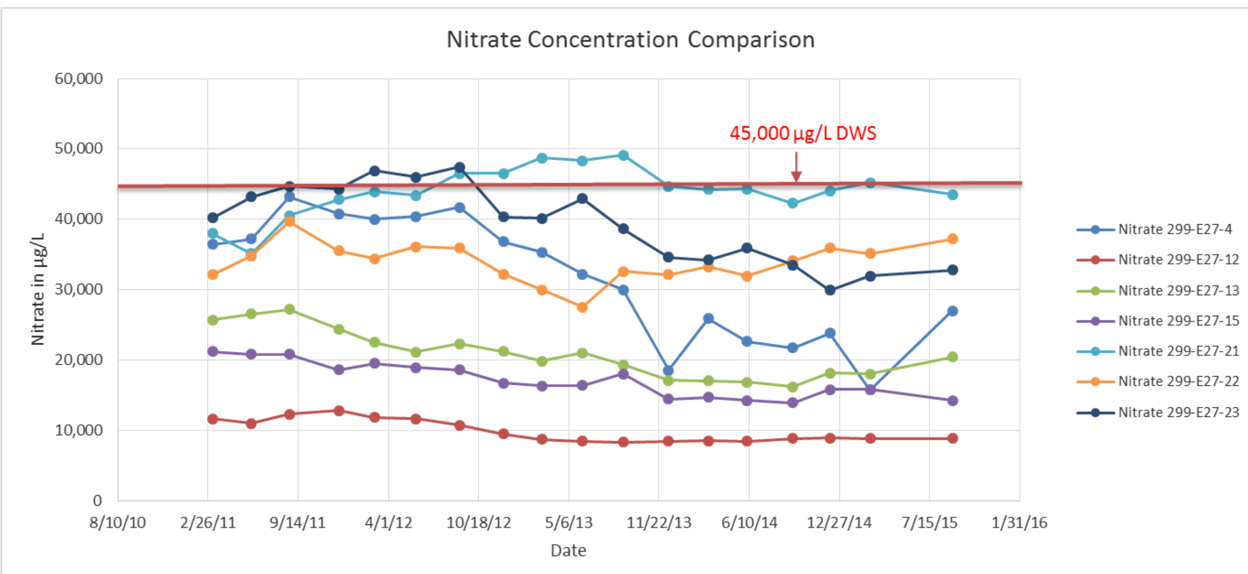


Figure 7. Nitrate Trend at Wells 299-E27-4, 299-E27-12, 299-E27-13, 299-E27-15, 299-E27-21, 299-E27-22, and 299-E27-23 (45,000 µg/L represents the DWS as nitrate)

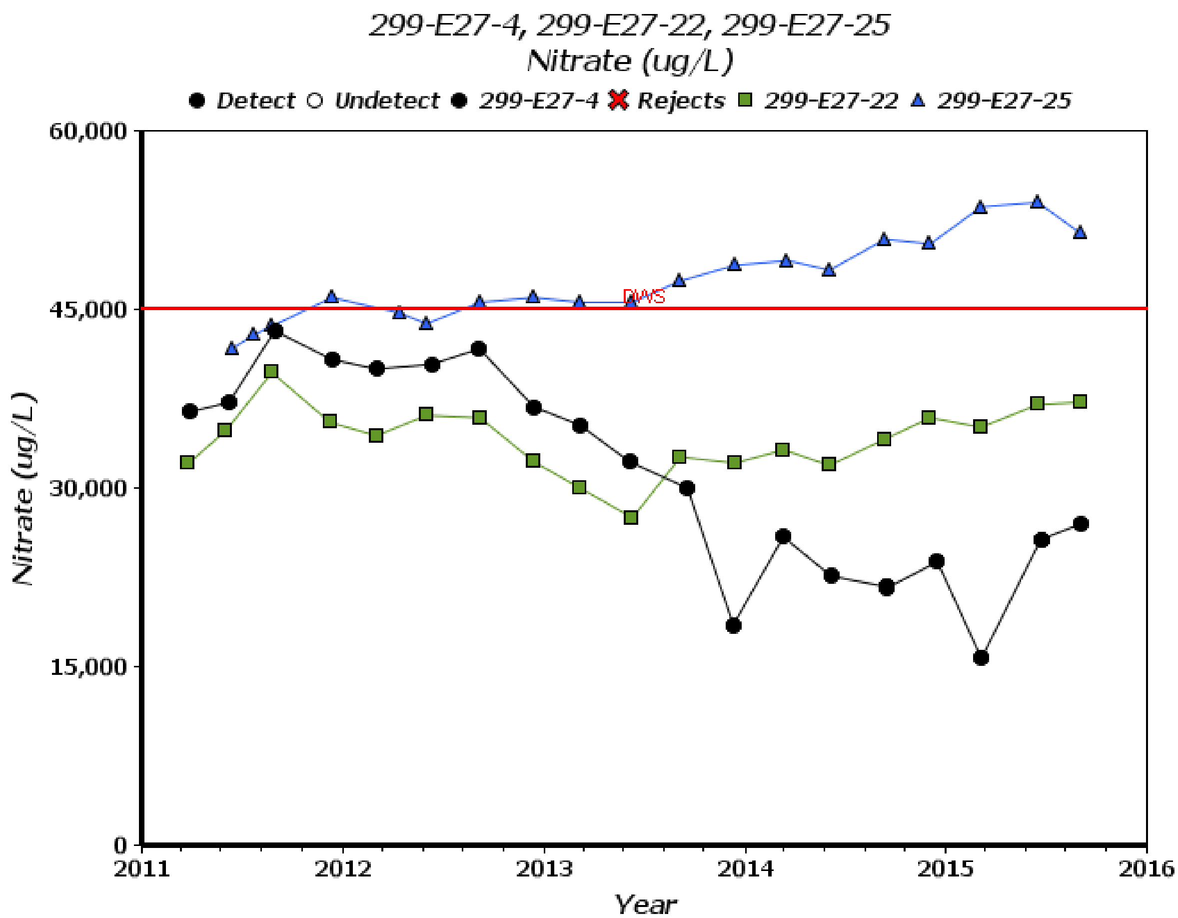


Figure 8. Nitrate Trend at Wells 299-E27-4, 299-E27-22, and 299-E27-25 (45,000 µg/L represents the DWS of nitrate)

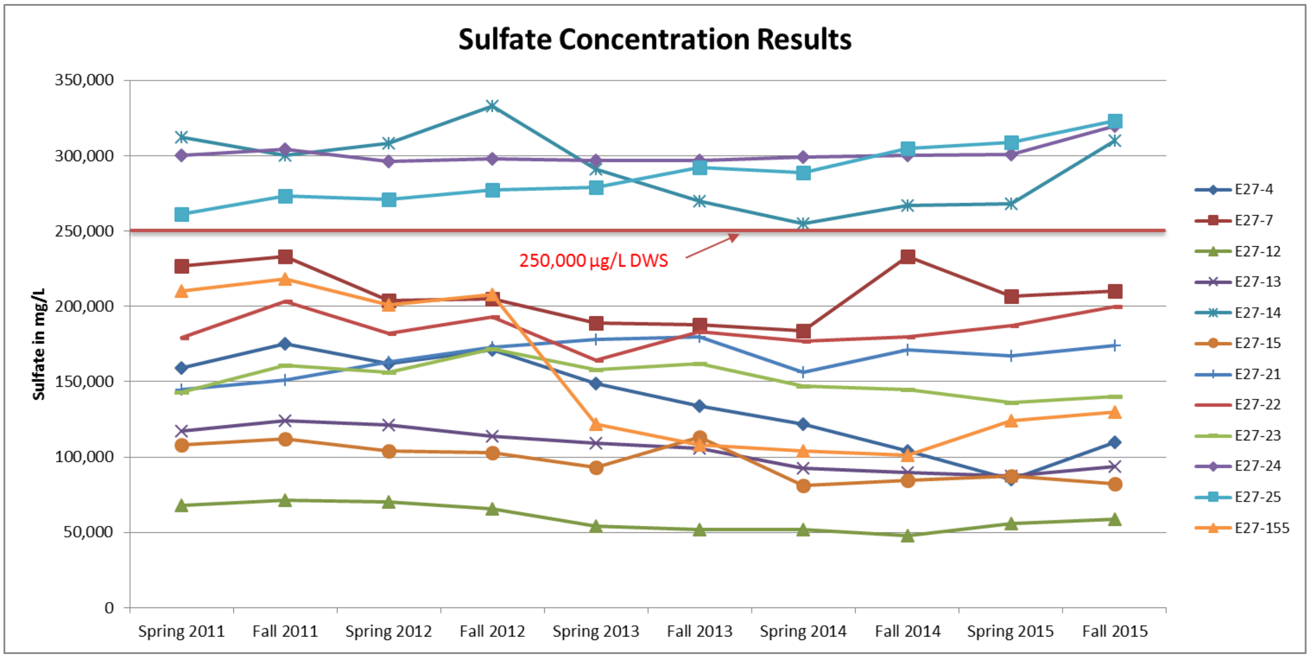


Figure 9. Sulfate Results at WMA C Wells (250,000 µg/L represents the secondary DWS)

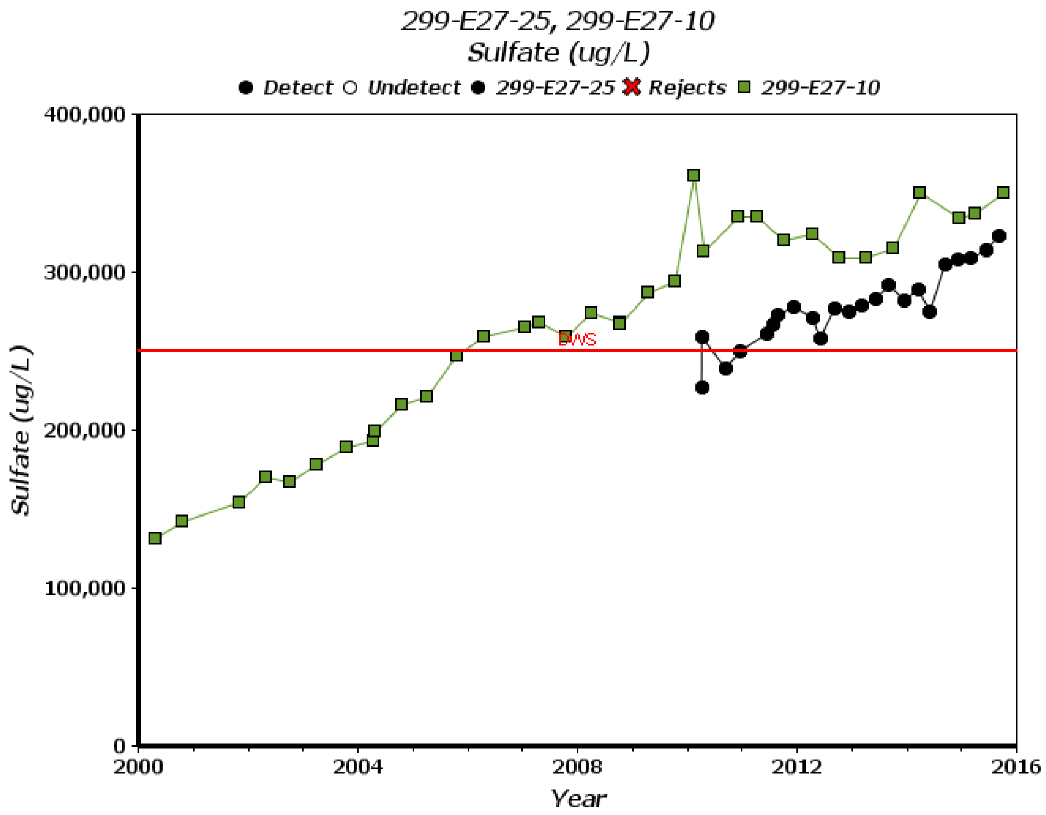


Figure 10. Sulfate Trend Results at Wells 299-E27-10 and 299-E27-25 (250,000 µg/L represents the secondary DWS)

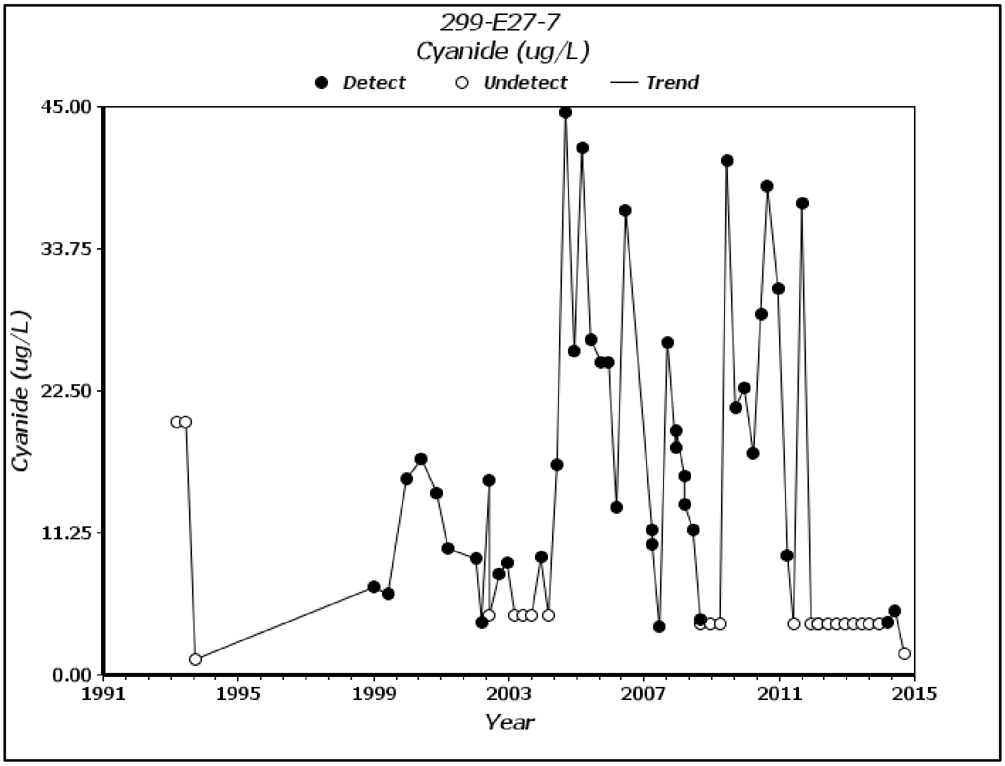


Figure 11. Cyanide Results at Well 299-E27-7

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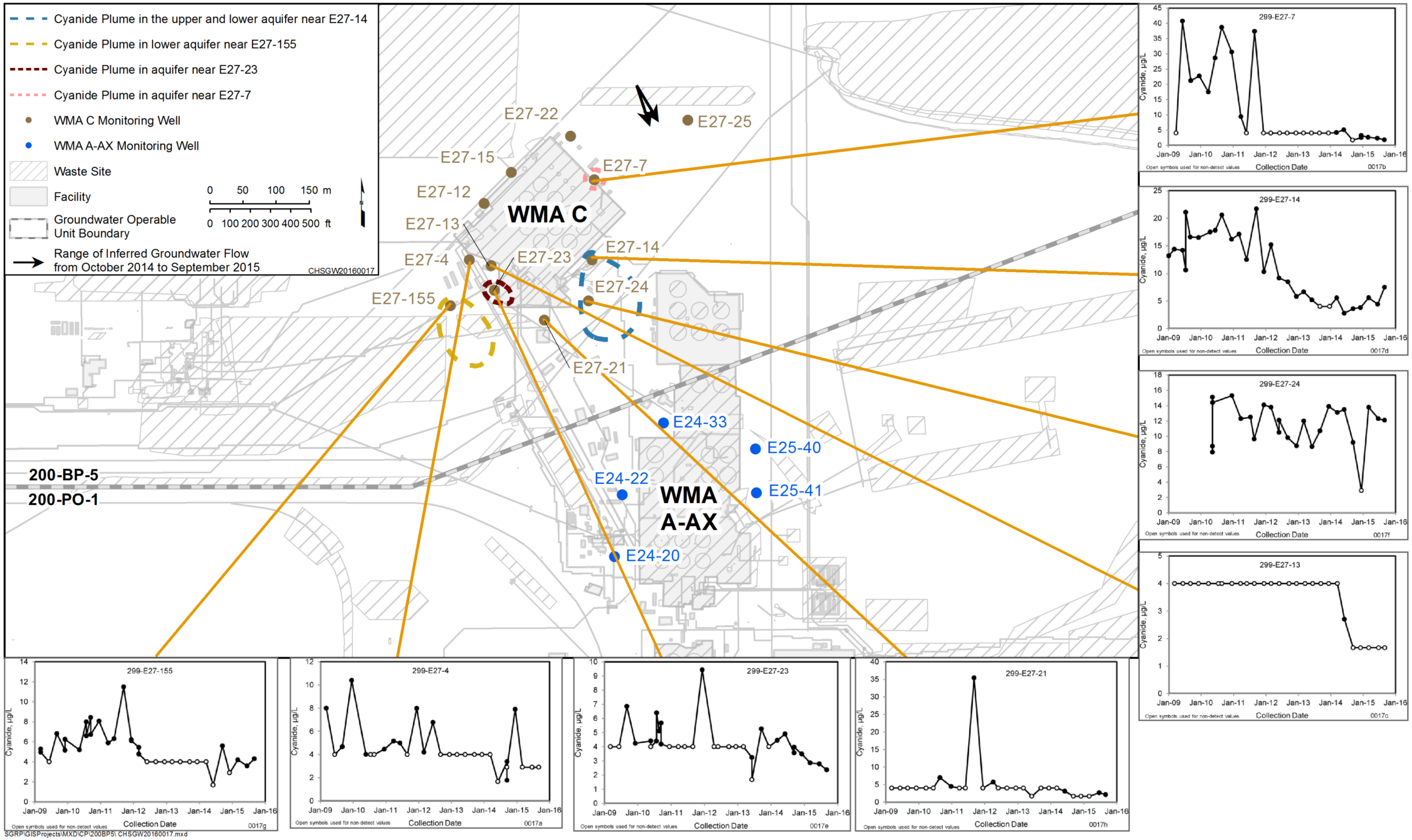

Figure 12. Interpretation of the 2 µg/L Cyanide Isopleth in the Upper 4 m and Lower 4 m of the Aquifer at Waste Management Area C and Cyanide Trend Results at Select WMA C Wells

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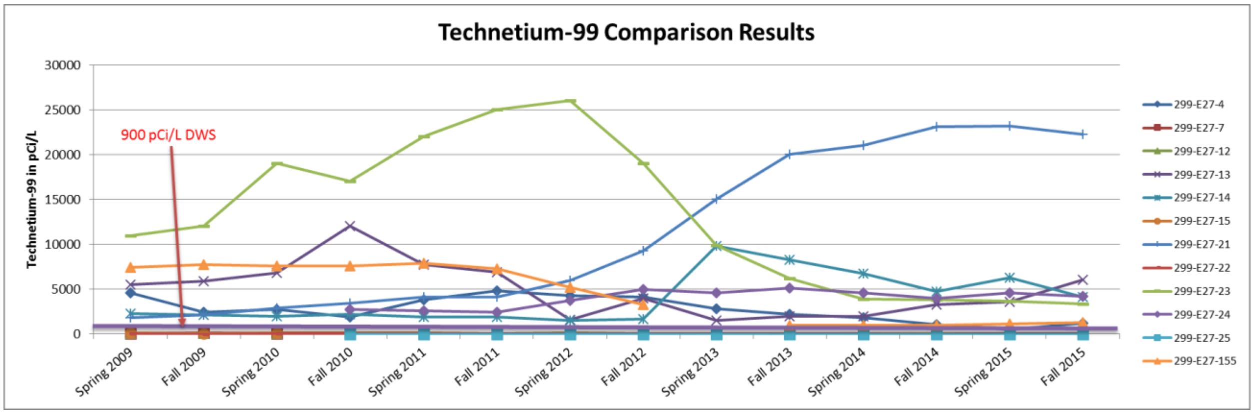

Figure 13. Technetium-99 Results at WMA C Wells

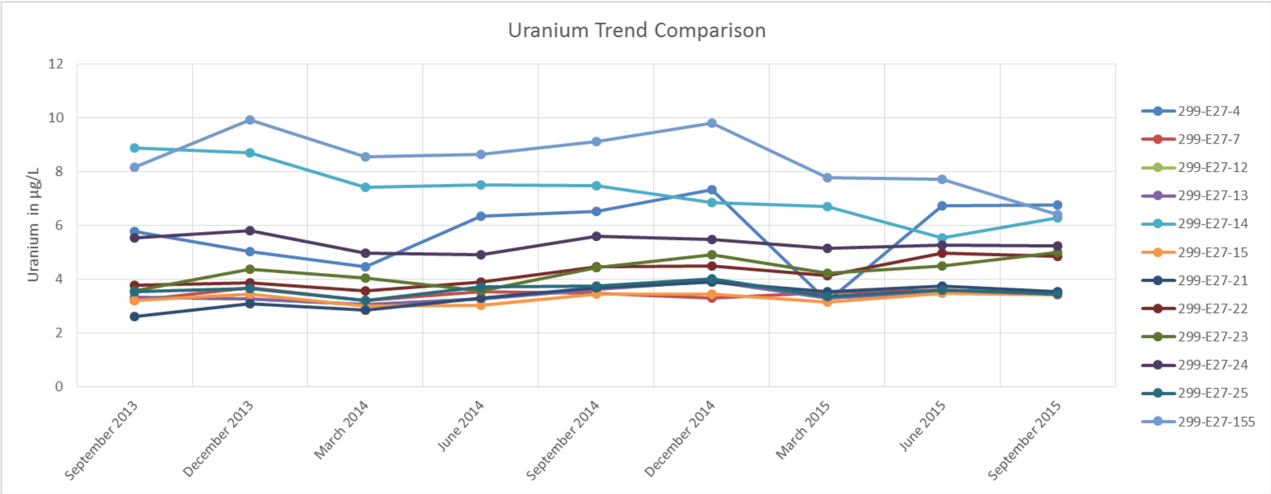

Figure 14. Uranium Results at WMA C Wells

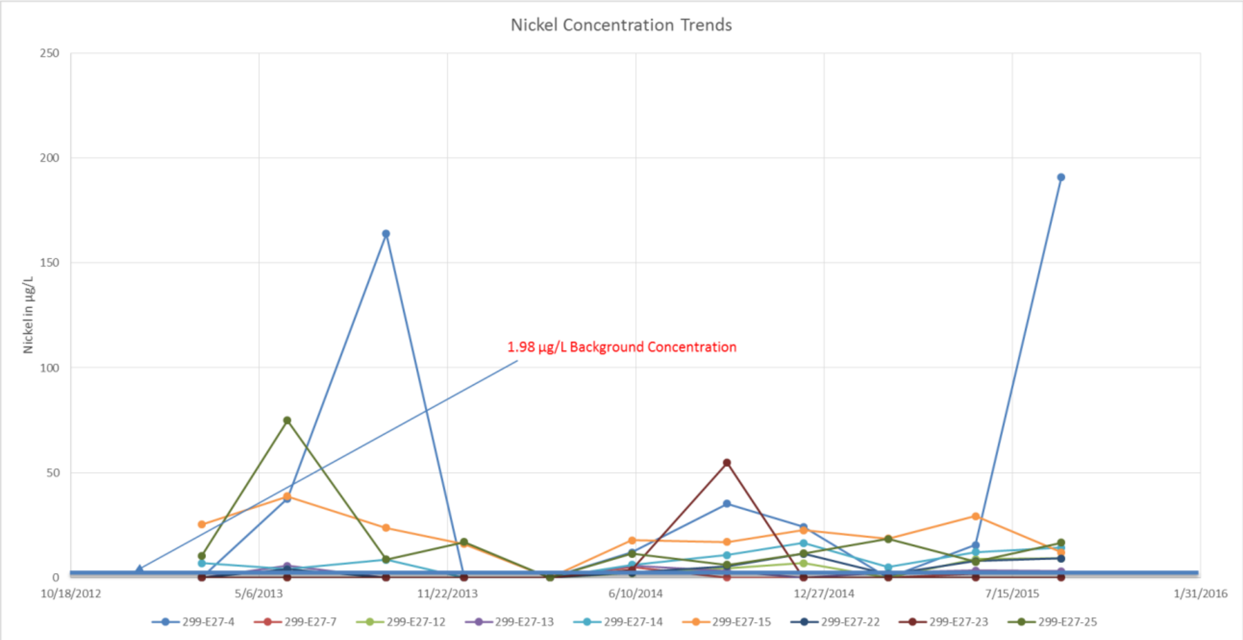

Figure 15. Filtered Nickel Results at WMA C Wells

Appendix A

Waste Management Area C Groundwater Monitoring Well Attributes

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Table A-1. Waste Management Area C Groundwater Monitoring Well Attributes

Well Name	Construction Date	Screen Top (m [ft] bgs)	Screen Bottom (m [ft] bgs)	Water Level Date	Depth to Water (m [ft] bgs)	Screened Water Column (m [ft])	Estimated Depth to Basalt (m [ft] bgs)	Percentage of Screen in Aquifer
299-E27-4[TM]	2003	82.4 (270.3)	93.1 (305.3)	12/4/2013	82.6 (271.1)	9.9 (32.6)	97.8 (321)	68.5
299-E27-7[TM]	1982	73.5 (241)	85.6 (281)	12/4/2013	72.8 (238.7)	13.5 (44.2)	87.5 (287)	88.5
299-E27-12[T]	1989	75.1 (246.5)	81.6 (267.6)	12/4/2013	79.5 (260.7)	2.1 (6.9)	93 (305)	15.8
299-E27-13[T]	1989	77.3 (253.6)	83.7 (274.7)	12/10/2013	82.1 (269.4)	1.6 (5.3)	96.6 (317)	16.4
299-E27-14[T]	1989	74.9 (245.8)	81.3 (266.8)	12/4/2013	78.8 (258.5)	2.6 (8.4)	95.1 (312)	15.7
299-E27-15[T]	1989	72.5 (238)	78.9 (259)	12/4/2013	77.3 (253.5)	1.8 (5.8)	89.6 (294)	14.5
299-E27-155[B]	2007	91.6 (300.46)	102.2 (335.46)	12/10/2013	85.7 (281.2)	10.7 (35)	102.4 (336)*	61.4
299-E27-21[TM]	2003	82.7 (271.4)	93.4 (306.4)	12/4/2013	83 (272.2)	10.4 (34.2)	100.3 (329)	60.2
299-E27-22[TM]	2003	69.5 (228.1)	81.7 (268)	12/4/2013	70.4 (231.1)	11.2 (36.9)	81.7 (268)*	100
299-E27-23[TM]	2003	83.4 (273.5)	94 (308.5)	12/4/2013	83.6 (274.4)	10.4 (34.1)	100 (328)	63.6
299-E27-24[B]	2010	89.8 (294.6)	95.9 (314.6)	12/13/2013	80.9 (265.3)	6.1 (20)	96 (315)*	40.2
299-E27-25[T]	2010	63.7 (209.1)	69.9 (229.2)	12/13/2013	65.1 (213.6)	4.8 (15.6)	75 (246)*	48.2

* Actual depth is based on drilling depth to basalt.

bgs = below ground surface

B = screened across the bottom of the aquifer

T = screened across the top of the aquifer

TM = screened across the top and middle part of the aquifer

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Appendix B

Groundwater Analytical Data for Waste Management Area C, June 2015

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Terms

DF	dilution factor
EQL	estimated quantitation limit
GC	gas chromatograph
GFAA	graphite-furnace atomic absorption
IDL	instrument detection limit
MDA	minimum detectable activity
MDL	method detection limit
MS	mass spectrometer
MSA	method of standard additions
NTU	nephelometric turbidity unit
PCB	polychlorinated biphenyl
PQL	practical quantitation limit
QC	quality control
RDL	required detection limit
TIC	tentatively identified compound

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The following are definitions of review qualifiers and laboratory qualifiers.

Notes:

The “Filtered” column indicates if the samples were (Y) or were not (N) filtered when they were collected in the field.

Review qualifiers:

A Chain of custody problem.

F The result is undergoing further review.

G The result as undergone further review and is considered good.

H The result exceeded hold time. When nitrate is flagged, and no flag is seen for nitrite from the sample number, the initial analysis exceeded the calibration range for nitrate, and the diluted analysis was rerun out of hold time. Generally, the result is acceptable as long as the sample was refrigerated prior to the rerun.

Y The result as undergone further review and is considered suspect.

Lab qualifiers:

* INORGANICS – Duplicate analysis not within control limits.

+ INORGANICS – Correlation coefficient for method of standard additions (MSA) is < 0.995.

> WETCHEM – Result greater than quantifiable range or greater than upper limit of the analysis range.

A ORGANICS – Valid for tentatively identified compounds (TICs) only: the TIC is a suspected aldol-condensation product.

B INORGANICS and WETCHEM – The analyte was detected at a value less than the contract required detection limit (RDL) but greater than or equal to the instrument detection limit/method detection limit (IDL/MDL) (as appropriate).

B flag (INORGANIC and WETCHEM) – [analyte] ≥ MDL

< Estimated quantitation limit (EQL)

= 5 times or 10 times the MDL

ORGANICS – The analyte was detected in both the associated quality control (QC) blank and in the sample.

RADIONUCLIDES – The associated QC sample blank has a result >= 2 times the minimum detectable activity (MDA) and, after corrections, result is >= MDA for this sample.

C INORGANICS/WETCHEM – The analyte was detected in both the sample and the associated QC blank, and the sample concentration was <= 5 times the blank concentration.

ORGANICS (PESTICIDE only) – The identification of a pesticide confirmed by gas chromatograph/mass spectrometer (GC/MS).

D ALL – Analyte was reported at a secondary dilution factor (DF), typically DF > 1 (i.e., the primary preparation required dilution either to bring the analyte within the calibration range or to minimize interference). Required for organics/wetchem if the sample was diluted.

E INORGANICS – Reported value is estimated because of interference.

ORGANICS – Concentration exceeds the calibration range of the GC/MS.

J ORGANICS – Estimated value: (1) constituent detected at a level less than the RDL or practical quantitation limit (PQL) and greater than or equal to the MDL, and (2) estimated concentration for TICs.

M INORGANICS – Duplicate precision criteria not met.

N ALL (except GC/MS based analysis) – Spike and/or spike duplicate sample recovery is outside control limits.

ORGANICS (GC/MS only) – Presumptive evidence of compound based on mass spectral library search.

P ORGANICS (polychlorinated biphenyl [PCB] only) – Aroclor target analyte with greater than 25 percent difference between column analyses.

Q ORGANICS (dioxins and PCB-congeners only) – Estimated maximum concentration. Used if one of the qualitative identification criteria is not met (e.g., chlorine isotopic ratios outside of theoretical range).

S INORGANICS – Reported value determined by MSA.

T ORGANICS (GC/MS only) – Spike and/or spike duplicate sample recovery is outside of control limits.

U ALL – Analyzed for but not detected above limiting criteria. Limiting criteria may be any of the following: value reported < 0, value reported < counting error, value reported < total analytical error, or value_rptd <=contract MDL/IDL/MDA/PQL. Note: When another qualifier accompanies a “U” qualifier, the result is always considered nondetected. The qualifier combinations “UJ” and “UL” indicate that the result was nondetected, but the detection limit (i.e., value reported in the VALUE_RPTD or MIN_DETECTABLE_ACTIVITY [rad analysis only] fields) was estimated.

W INORGANICS – Post-digestion spike recovery for graphite-furnace atomic absorption (GFAA) out of control limit. Sample absorbency < 50 percent of spike absorbency.

X ALL – The result-specific translation of this qualifier code is provided in the hardcopy data report and/or case narrative. Additional result-specific translation information may also be found in the RESULT_COMMENT field for this record.

Y Same as X if more than one flag is required.

Z Same as X and Y if more than two flags are required.

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-12	B327T2	9/4/2015	N	Alkalinity	116,000	µg/L		
299-E27-12	B327T2	9/4/2015	N	Antimony	3.7	µg/L	U	
299-E27-12	B327T3	9/4/2015	Y	Antimony	3.7	µg/L	U	
299-E27-12	B32CJ0	9/4/2015	N	Antimony-125	-0.0669	pCi/L	U	
299-E27-12	B327T2	9/4/2015	N	Arsenic	4.2	µg/L	B	
299-E27-12	B327T3	9/4/2015	Y	Arsenic	4.5	µg/L	B	
299-E27-12	B327T3	9/4/2015	Y	Barium	36.7	µg/L	B	
299-E27-12	B327T2	9/4/2015	N	Barium	36.3	µg/L	B	
299-E27-12	B327T3	9/4/2015	Y	Cadmium	0.34	µg/L	U	
299-E27-12	B327T2	9/4/2015	N	Cadmium	0.34	µg/L	U	
299-E27-12	B327T2	9/4/2015	N	Calcium	49,100	µg/L		
299-E27-12	B327T3	9/4/2015	Y	Calcium	52,000	µg/L		
299-E27-12	B32CJ0	9/4/2015	N	Cesium-134	1.79	pCi/L	U	
299-E27-12	B32CJ0	9/4/2015	N	Cesium-137	0.324	pCi/L	U	
299-E27-12	B327T1	9/4/2015	N	Chloride	12,000	µg/L	D	
299-E27-12	B327T3	9/4/2015	Y	Chromium	5.8	µg/L	B	
299-E27-12	B327T2	9/4/2015	N	Chromium	6.3	µg/L	B	
299-E27-12	B327T3	9/4/2015	Y	Cobalt	2.7	µg/L	U	
299-E27-12	B327T2	9/4/2015	N	Cobalt	2.7	µg/L	U	
299-E27-12	B32CJ0	9/4/2015	N	Cobalt-60	-0.839	pCi/L	U	
299-E27-12	B327T3	9/4/2015	Y	Copper	2.1	µg/L	U	
299-E27-12	B327T2	9/4/2015	N	Copper	2.1	µg/L	U	
299-E27-12	B327T2	9/4/2015	N	Cyanide	2.9	µg/L	U	
299-E27-12	B32CJ0	9/4/2015	N	Europium-152	-1	pCi/L	U	
299-E27-12	B32CJ0	9/4/2015	N	Europium-154	-1.87	pCi/L	U	
299-E27-12	B32CJ0	9/4/2015	N	Europium-155	4.12	pCi/L	U	
299-E27-12	B327T1	9/4/2015	N	Fluoride	240	µg/L	D	
299-E27-12	B32CJ0	9/4/2015	N	Gross beta	10.2	pCi/L		
299-E27-12	B32CJ0	9/4/2015	N	Iodine-129	2.82	pCi/L		
299-E27-12	B327T2	9/4/2015	N	Iron	14	µg/L	B	
299-E27-12	B327T3	9/4/2015	Y	Iron	12.8	µg/L	U	

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-12	B327T2	9/4/2015	N	Magnesium	13,000	µg/L		
299-E27-12	B327T3	9/4/2015	Y	Magnesium	13,700	µg/L		
299-E27-12	B327T2	9/4/2015	N	Manganese	1.3	µg/L	B	
299-E27-12	B327T3	9/4/2015	Y	Manganese	1	µg/L	U	
299-E27-12	B327T3	9/4/2015	Y	Nickel	9.2	µg/L	B	
299-E27-12	B327T2	9/4/2015	N	Nickel	9.3	µg/L	B	
299-E27-12	B327T1	9/4/2015	N	Nitrate	8,850	µg/L	D	
299-E27-12	B327T1	9/4/2015	N	Nitrite	125	µg/L	U	
299-E27-12	B327T3	9/4/2015	Y	Potassium	6,520	µg/L		
299-E27-12	B327T2	9/4/2015	N	Potassium	6,480	µg/L		
299-E27-12	B32CJ0	9/4/2015	N	Potassium-40	-98.7	pCi/L	U	
299-E27-12	B327T3	9/4/2015	Y	Silver	0.99	µg/L	U	
299-E27-12	B327T2	9/4/2015	N	Silver	0.99	µg/L	U	
299-E27-12	B327T2	9/4/2015	N	Sodium	12,400	µg/L		
299-E27-12	B327T3	9/4/2015	Y	Sodium	12,400	µg/L		
299-E27-12	B32F58	9/4/2015	N	Specific Conductance	386	µS/cm		
299-E27-12	B32CH9	9/4/2015	N	Specific Conductance	385	µS/cm		
299-E27-12	B32F59	9/4/2015	N	Specific Conductance	386	µS/cm		
299-E27-12	B32F60	9/4/2015	N	Specific Conductance	386	µS/cm		
299-E27-12	B327T1	9/4/2015	N	Sulfate	59,000	µg/L	D	
299-E27-12	B32CJ0	9/4/2015	N	Technetium-99	3.32	pCi/L	U	
299-E27-12	B32F59	9/4/2015	N	Temperature	18.2	Deg C		
299-E27-12	B32F58	9/4/2015	N	Temperature	18.2	Deg C		
299-E27-12	B32F60	9/4/2015	N	Temperature	18.2	Deg C		
299-E27-12	B32CH9	9/4/2015	N	Temperature	18.2	Deg C		
299-E27-12	B32F58	9/4/2015	N	Turbidity	0.47	NTU		
299-E27-12	B32F60	9/4/2015	N	Turbidity	0.55	NTU		
299-E27-12	B32F59	9/4/2015	N	Turbidity	0.72	NTU		
299-E27-12	B32CH9	9/4/2015	N	Turbidity	0.62	NTU		

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-12	B32CJ0	9/4/2015	N	Uranium	3.35	µg/L		
299-E27-12	B327T3	9/4/2015	Y	Vanadium	20	µg/L	B	
299-E27-12	B327T2	9/4/2015	N	Vanadium	26.5	µg/L	B	
299-E27-12	B327T2	9/4/2015	N	Zinc	8.3	µg/L	U	
299-E27-12	B327T3	9/4/2015	Y	Zinc	8.3	µg/L	U	
299-E27-12	B32CH9	9/4/2015	N	pH Measurement	8.32	unitless		
299-E27-12	B32F58	9/4/2015	N	pH Measurement	8.3	unitless		
299-E27-12	B32F60	9/4/2015	N	pH Measurement	8.29	unitless		
299-E27-12	B32F59	9/4/2015	N	pH Measurement	8.3	unitless		
299-E27-13	B327T4	9/4/2015	N	Alkalinity	106,000	µg/L		
299-E27-13	B327T6	9/4/2015	Y	Antimony	3.5	µg/L	U	
299-E27-13	B327T4	9/4/2015	N	Antimony	3.5	µg/L	U	
299-E27-13	B32CJ2	9/4/2015	N	Antimony-125	-4.26	pCi/L	U	
299-E27-13	B327T4	9/4/2015	N	Arsenic	5.31	µg/L	B	
299-E27-13	B327T6	9/4/2015	Y	Arsenic	6.15	µg/L	B	
299-E27-13	B327T4	9/4/2015	N	Barium	40.4	µg/L		
299-E27-13	B327T6	9/4/2015	Y	Barium	40.1	µg/L		
299-E27-13	B327T6	9/4/2015	Y	Cadmium	1	µg/L	U	
299-E27-13	B327T4	9/4/2015	N	Cadmium	1	µg/L	U	
299-E27-13	B327T6	9/4/2015	Y	Calcium	54,800	µg/L		
299-E27-13	B327T4	9/4/2015	N	Calcium	55,000	µg/L		
299-E27-13	B32CJ2	9/4/2015	N	Cesium-134	-2.8	pCi/L	U	
299-E27-13	B32CJ2	9/4/2015	N	Cesium-137	-0.434	pCi/L	U	
299-E27-13	B327T5	9/4/2015	N	Chloride	18,000	µg/L	D	
299-E27-13	B327T4	9/4/2015	N	Chromium	123	µg/L		
299-E27-13	B327T6	9/4/2015	Y	Chromium	4.04	µg/L	B	
299-E27-13	B327T6	9/4/2015	Y	Cobalt	1	µg/L	U	
299-E27-13	B327T4	9/4/2015	N	Cobalt	1.09	µg/L	B	
299-E27-13	B32CJ2	9/4/2015	N	Cobalt-60	-3.15	pCi/L	U	
299-E27-13	B327T6	9/4/2015	Y	Copper	3	µg/L	U	
299-E27-13	B327T4	9/4/2015	N	Copper	10	µg/L		

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-13	B327T4	9/4/2015	N	Cyanide	1.67	µg/L	U	
299-E27-13	B32CJ2	9/4/2015	N	Europium-152	9.56	pCi/L	U	
299-E27-13	B32CJ2	9/4/2015	N	Europium-154	2.79	pCi/L	U	
299-E27-13	B32CJ2	9/4/2015	N	Europium-155	-3.72	pCi/L	U	
299-E27-13	B327T5	9/4/2015	N	Fluoride	230	µg/L	D	
299-E27-13	B32CJ2	9/4/2015	N	Gross beta	5,230	pCi/L		
299-E27-13	B32CJ2	9/4/2015	N	Iodine-129	6.09	pCi/L		
299-E27-13	B327T4	9/4/2015	N	Iron	515	µg/L		
299-E27-13	B327T6	9/4/2015	Y	Iron	30	µg/L	U	
299-E27-13	B327T6	9/4/2015	Y	Magnesium	16,700	µg/L		
299-E27-13	B327T4	9/4/2015	N	Magnesium	16,800	µg/L		
299-E27-13	B327T4	9/4/2015	N	Manganese	11.5	µg/L		
299-E27-13	B327T6	9/4/2015	Y	Manganese	2	µg/L	U	
299-E27-13	B327T4	9/4/2015	N	Nickel	55.4	µg/L		
299-E27-13	B327T6	9/4/2015	Y	Nickel	3.06	µg/L	B	
299-E27-13	B327T5	9/4/2015	N	Nitrate	20,400	µg/L	D	
299-E27-13	B327T5	9/4/2015	N	Nitrite	125	µg/L	U	
299-E27-13	B327T4	9/4/2015	N	Potassium	7,480	µg/L		
299-E27-13	B327T6	9/4/2015	Y	Potassium	7,430	µg/L		
299-E27-13	B32CJ2	9/4/2015	N	Potassium-40	-64.1	pCi/L	U	
299-E27-13	B327T4	9/4/2015	N	Silver	1	µg/L	U	
299-E27-13	B327T6	9/4/2015	Y	Silver	1	µg/L	U	
299-E27-13	B327T6	9/4/2015	Y	Sodium	13,900	µg/L		
299-E27-13	B327T4	9/4/2015	N	Sodium	14,400	µg/L		
299-E27-13	B32F61	9/4/2015	N	Specific Conductance	484	µS/cm		
299-E27-13	B32CJ1	9/4/2015	N	Specific Conductance	484	µS/cm		
299-E27-13	B32F63	9/4/2015	N	Specific Conductance	485	µS/cm		
299-E27-13	B32F62	9/4/2015	N	Specific Conductance	485	µS/cm		
299-E27-13	B327T5	9/4/2015	N	Sulfate	94,000	µg/L	D	

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-13	B32CJ2	9/4/2015	N	Technetium-99	6,020	pCi/L		
299-E27-13	B32F63	9/4/2015	N	Temperature	18.8	Deg C		
299-E27-13	B32F62	9/4/2015	N	Temperature	18.8	Deg C		
299-E27-13	B32CJ1	9/4/2015	N	Temperature	18.8	Deg C		
299-E27-13	B32F61	9/4/2015	N	Temperature	18.8	Deg C		
299-E27-13	B32F61	9/4/2015	N	Turbidity	0.98	NTU		
299-E27-13	B32CJ1	9/4/2015	N	Turbidity	1.89	NTU		
299-E27-13	B32F63	9/4/2015	N	Turbidity	1.29	NTU		
299-E27-13	B32F62	9/4/2015	N	Turbidity	1.69	NTU		
299-E27-13	B32CJ2	9/4/2015	N	Uranium	3.47	µg/L		
299-E27-13	B327T6	9/4/2015	Y	Vanadium	20.1	µg/L		
299-E27-13	B327T4	9/4/2015	N	Vanadium	21	µg/L		
299-E27-13	B327T4	9/4/2015	N	Zinc	3.3	µg/L	U	
299-E27-13	B327T6	9/4/2015	Y	Zinc	3.3	µg/L	U	
299-E27-13	B32CJ1	9/4/2015	N	pH Measurement	8.19	unitless		
299-E27-13	B32F62	9/4/2015	N	pH Measurement	8.17	unitless		
299-E27-13	B32F63	9/4/2015	N	pH Measurement	8.16	unitless		
299-E27-13	B32F61	9/4/2015	N	pH Measurement	8.18	unitless		
299-E27-14	B327T7	9/2/2015	N	Alkalinity	81,000	µg/L		
299-E27-14	B327T7	9/2/2015	N	Antimony	3.7	µg/L	U	
299-E27-14	B327T8	9/2/2015	Y	Antimony	3.7	µg/L	U	
299-E27-14	B32CJ4	9/2/2015	N	Antimony-125	0.607	pCi/L	U	
299-E27-14	B327T8	9/2/2015	Y	Arsenic	6	µg/L	B	
299-E27-14	B327T7	9/2/2015	N	Arsenic	6.8	µg/L	B	
299-E27-14	B327T8	9/2/2015	Y	Barium	84.8	µg/L		
299-E27-14	B327T7	9/2/2015	N	Barium	83.7	µg/L		
299-E27-14	B327T8	9/2/2015	Y	Cadmium	0.34	µg/L	U	
299-E27-14	B327T7	9/2/2015	N	Cadmium	0.4	µg/L	B	
299-E27-14	B327T8	9/2/2015	Y	Calcium	132,000	µg/L	D	
299-E27-14	B327T7	9/2/2015	N	Calcium	134,000	µg/L	D	
299-E27-14	B32CJ4	9/2/2015	N	Cesium-134	0.0838	pCi/L	U	

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-14	B32CJ4	9/2/2015	N	Cesium-137	-1.09	pCi/L	U	
299-E27-14	B32DW2	9/2/2015	N	Chloride	42,000	µg/L	D	
299-E27-14	B327T8	9/2/2015	Y	Chromium	9.4	µg/L	B	
299-E27-14	B327T7	9/2/2015	N	Chromium	14.7	µg/L		
299-E27-14	B327T7	9/2/2015	N	Cobalt	2.7	µg/L	U	
299-E27-14	B327T8	9/2/2015	Y	Cobalt	2.7	µg/L	U	
299-E27-14	B32CJ4	9/2/2015	N	Cobalt-60	0.399	pCi/L	U	
299-E27-14	B327T7	9/2/2015	N	Copper	2.1	µg/L	U	
299-E27-14	B327T8	9/2/2015	Y	Copper	2.1	µg/L	U	
299-E27-14	B327T7	9/2/2015	N	Cyanide	7.5	µg/L		
299-E27-14	B32CJ4	9/2/2015	N	Europium-152	0.972	pCi/L	U	
299-E27-14	B32CJ4	9/2/2015	N	Europium-154	1.04	pCi/L	U	
299-E27-14	B32CJ4	9/2/2015	N	Europium-155	1.2	pCi/L	U	
299-E27-14	B32DW2	9/2/2015	N	Fluoride	200	µg/L	D	
299-E27-14	B32CJ4	9/2/2015	N	Gross Alpha	3.62	pCi/L	U	
299-E27-14	B32CJ4	9/2/2015	N	Gross Beta	877	pCi/L		
299-E27-14	B32CJ4	9/2/2015	N	Iodine-129	3.77	pCi/L		
299-E27-14	B327T7	9/2/2015	N	Iron	49	µg/L	B	
299-E27-14	B327T8	9/2/2015	Y	Iron	22.6	µg/L	B	
299-E27-14	B327T7	9/2/2015	N	Magnesium	35,900	µg/L		
299-E27-14	B327T8	9/2/2015	Y	Magnesium	36,200	µg/L		
299-E27-14	B327T7	9/2/2015	N	Manganese	2.6	µg/L	B	
299-E27-14	B327T8	9/2/2015	Y	Manganese	1	µg/L	U	
299-E27-14	B327T8	9/2/2015	Y	Nickel	14.3	µg/L	B	
299-E27-14	B327T7	9/2/2015	N	Nickel	16.8	µg/L	B	
299-E27-14	B32DW2	9/2/2015	N	Nitrate	111,000	µg/L	D	
299-E27-14	B32DW2	9/2/2015	N	Nitrite	125	µg/L	U	
299-E27-14	B327T8	9/2/2015	Y	Potassium	10,400	µg/L		
299-E27-14	B327T7	9/2/2015	N	Potassium	10,300	µg/L		

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-14	B32CJ4	9/2/2015	N	Potassium-40	8.65	pCi/L	U	
299-E27-14	B327T7	9/2/2015	N	Silver	0.99	µg/L	U	
299-E27-14	B327T8	9/2/2015	Y	Silver	0.99	µg/L	U	
299-E27-14	B327T7	9/2/2015	N	Sodium	24,400	µg/L		
299-E27-14	B327T8	9/2/2015	Y	Sodium	24,400	µg/L		
299-E27-14	B32F66	9/2/2015	N	Specific Conductance	1,044	µS/cm		
299-E27-14	B32F64	9/2/2015	N	Specific Conductance	1,052	µS/cm		
299-E27-14	B32CJ3	9/2/2015	N	Specific Conductance	1,060	µS/cm		
299-E27-14	B32F65	9/2/2015	N	Specific Conductance	1,044	µS/cm		
299-E27-14	B32DW2	9/2/2015	N	Sulfate	310,000	µg/L	D	
299-E27-14	B32CJ4	9/2/2015	N	Technetium-99	4,120	pCi/L		
299-E27-14	B32F65	9/2/2015	N	Temperature	19.1	Deg C		
299-E27-14	B32F66	9/2/2015	N	Temperature	19.1	Deg C		
299-E27-14	B32CJ3	9/2/2015	N	Temperature	19.1	Deg C		
299-E27-14	B32F64	9/2/2015	N	Temperature	19.1	Deg C		
299-E27-14	B32CJ3	9/2/2015	N	Turbidity	1.84	NTU		
299-E27-14	B32F64	9/2/2015	N	Turbidity	1.48	NTU		
299-E27-14	B32F65	9/2/2015	N	Turbidity	1.21	NTU		
299-E27-14	B32F66	9/2/2015	N	Turbidity	0.89	NTU		
299-E27-14	B32CJ4	9/2/2015	N	Uranium	6.28	µg/L		
299-E27-14	B327T8	9/2/2015	Y	Vanadium	18.3	µg/L	B	
299-E27-14	B327T7	9/2/2015	N	Vanadium	17.6	µg/L	B	
299-E27-14	B327T7	9/2/2015	N	Zinc	8.3	µg/L	U	
299-E27-14	B327T8	9/2/2015	Y	Zinc	8.3	µg/L	U	
299-E27-14	B32F66	9/2/2015	N	pH Measurement	7.97	unitless		
299-E27-14	B32F64	9/2/2015	N	pH Measurement	7.97	unitless		
299-E27-14	B32CJ3	9/2/2015	N	pH Measurement	7.97	unitless		
299-E27-14	B32F65	9/2/2015	N	pH Measurement	7.97	unitless		

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-15	B32CJ6	9/2/2015	N	Alkalinity	101,000	µg/L		
299-E27-15	B32CJ6	9/2/2015	N	Aluminum	15	µg/L	U	
299-E27-15	B32F44	9/2/2015	Y	Aluminum	15	µg/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Antimony	1	µg/L	U	
299-E27-15	B32F44	9/2/2015	Y	Antimony	1	µg/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Antimony-125	-3.56	pCi/L	U	
299-E27-15	B32F44	9/2/2015	Y	Arsenic	7.29	µg/L		
299-E27-15	B32CJ6	9/2/2015	N	Arsenic	7.7	µg/L		
299-E27-15	B32CJ6	9/2/2015	N	Barium	36.2	µg/L		
299-E27-15	B32F44	9/2/2015	Y	Barium	35.8	µg/L		
299-E27-15	B32F44	9/2/2015	Y	Beryllium	0.2	µg/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Beryllium	0.2	µg/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Bicarbonate	101,000	µg/L		
299-E27-15	B32F44	9/2/2015	Y	Boron	15	µg/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Boron	15	µg/L	U	
299-E27-15	B32F44	9/2/2015	Y	Cadmium	0.11	µg/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Cadmium	0.11	µg/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Calcium	50,100	µg/L		
299-E27-15	B32F44	9/2/2015	Y	Calcium	49,300	µg/L		
299-E27-15	B32CJ6	9/2/2015	N	Carbonate Alkalinity	725	µg/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Cesium-134	1.24	pCi/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Cesium-137	5.19	pCi/L	U	
299-E27-15	B32CJ7	9/2/2015	N	Chloride	13,900	µg/L	D	
299-E27-15	B32CJ6	9/2/2015	N	Chromium	36.1	µg/L		
299-E27-15	B32F44	9/2/2015	Y	Chromium	3.45	µg/L	B	
299-E27-15	B32F44	9/2/2015	Y	Cobalt	0.108	µg/L	B	
299-E27-15	B32CJ6	9/2/2015	N	Cobalt	0.395	µg/L	B	
299-E27-15	B32CJ6	9/2/2015	N	Cobalt-60	0.0442	pCi/L	U	
299-E27-15	B32F44	9/2/2015	Y	Copper	0.35	µg/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Copper	3.09	µg/L		
299-E27-15	B327T9	9/2/2015	N	Cyanide	1.67	µg/L	U	

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-15	B32CJ6	9/2/2015	N	Europium-152	4.29	pCi/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Europium-154	2.21	pCi/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Europium-155	-4.03	pCi/L	U	
299-E27-15	B32CJ7	9/2/2015	N	Fluoride	222	µg/L	B	
299-E27-15	B32CJ6	9/2/2015	N	Gross Beta	10.3	pCi/L		
299-E27-15	B32CJ6	9/2/2015	N	Hydroxyl Ion	725	µg/L	U	
299-E27-15	B32F44	9/2/2015	Y	Iron	30	µg/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Iron	151	µg/L		
299-E27-15	B32F44	9/2/2015	Y	Lead	0.5	µg/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Lead	0.5	µg/L	U	
299-E27-15	B32F44	9/2/2015	Y	Magnesium	16,300	µg/L		
299-E27-15	B32CJ6	9/2/2015	N	Magnesium	16,600	µg/L		
299-E27-15	B32CJ6	9/2/2015	N	Manganese	4.74	µg/L	B	
299-E27-15	B32F44	9/2/2015	Y	Manganese	1.56	µg/L	B	
299-E27-15	B32CJ6	9/2/2015	N	Molybdenum	2.94	µg/L		
299-E27-15	B32F44	9/2/2015	Y	Molybdenum	2.49	µg/L		
299-E27-15	B32CJ6	9/2/2015	N	Nickel	27	µg/L		
299-E27-15	B32F44	9/2/2015	Y	Nickel	12.1	µg/L		
299-E27-15	B32CJ7	9/2/2015	N	Nitrate	14,200	µg/L	D	
299-E27-15	B32CJ7	9/2/2015	N	Nitrite	125	µg/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Potassium	7,260	µg/L		
299-E27-15	B32F44	9/2/2015	Y	Potassium	7,110	µg/L		
299-E27-15	B32CJ6	9/2/2015	N	Potassium-40	-6.6	pCi/L	U	
299-E27-15	B32F44	9/2/2015	Y	Selenium	7.35	µg/L		
299-E27-15	B32CJ6	9/2/2015	N	Selenium	7.72	µg/L		
299-E27-15	B32F44	9/2/2015	Y	Silver	0.2	µg/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Silver	0.2	µg/L	U	
299-E27-15	B32F44	9/2/2015	Y	Sodium	13,500	µg/L		
299-E27-15	B32CJ6	9/2/2015	N	Sodium	13,800	µg/L		
299-E27-15	B32F69	9/2/2015	N	Specific Conductance	443	µS/cm		

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-15	B32F67	9/2/2015	N	Specific Conductance	443	µS/cm		
299-E27-15	B32CJ5	9/2/2015	N	Specific Conductance	444	µS/cm		
299-E27-15	B32F68	9/2/2015	N	Specific Conductance	443	µS/cm		
299-E27-15	B32F44	9/2/2015	Y	Strontium	294	µg/L		
299-E27-15	B32CJ6	9/2/2015	N	Strontium	292	µg/L		
299-E27-15	B32CJ7	9/2/2015	N	Sulfate	82,200	µg/L	D	
299-E27-15	B32CJ6	9/2/2015	N	Technetium-99	2.64	pCi/L	U	
299-E27-15	B32CJ5	9/2/2015	N	Temperature	19.3	Deg C		
299-E27-15	B32F69	9/2/2015	N	Temperature	19.4	Deg C		
299-E27-15	B32F67	9/2/2015	N	Temperature	19.3	Deg C		
299-E27-15	B32F68	9/2/2015	N	Temperature	19.4	Deg C		
299-E27-15	B32F44	9/2/2015	Y	Thallium	0.45	µg/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Thallium	0.45	µg/L	U	
299-E27-15	B32F44	9/2/2015	Y	Thorium	0.383	µg/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Thorium	0.383	µg/L	U	
299-E27-15	B32F44	9/2/2015	Y	Tin	1	µg/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Tin	1.23	µg/L	CB	
299-E27-15	B32CJ5	9/2/2015	N	Turbidity	1.38	NTU		
299-E27-15	B32F69	9/2/2015	N	Turbidity	0.97	NTU		
299-E27-15	B32F68	9/2/2015	N	Turbidity	1.75	NTU		
299-E27-15	B32F67	9/2/2015	N	Turbidity	1.58	NTU		
299-E27-15	B32F44	9/2/2015	Y	Uranium	3.41	µg/L		
299-E27-15	B32CJ6	9/2/2015	N	Uranium	3.45	µg/L		
299-E27-15	B32CJ6	9/2/2015	N	Uranium	3.63	µg/L		
299-E27-15	B32CJ6	9/2/2015	N	Vanadium	18.3	µg/L		
299-E27-15	B32F44	9/2/2015	Y	Vanadium	17.7	µg/L		
299-E27-15	B32F44	9/2/2015	Y	Zinc	3.5	µg/L	U	
299-E27-15	B32CJ6	9/2/2015	N	Zinc	3.5	µg/L	U	
299-E27-15	B32CJ5	9/2/2015	N	pH Measurement	8.3	unitless		

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-15	B32F67	9/2/2015	N	pH Measurement	8.28	unitless		
299-E27-15	B32F68	9/2/2015	N	pH Measurement	8.28	unitless		
299-E27-15	B32F69	9/2/2015	N	pH Measurement	8.28	unitless		
299-E27-155	B327V4	9/4/2015	N	Alkalinity	170,000	µg/L		
299-E27-155	B327V6	9/4/2015	Y	Antimony	3.7	µg/L	U	
299-E27-155	B327V4	9/4/2015	N	Antimony	3.7	µg/L	U	
299-E27-155	B32CK0	9/4/2015	N	Antimony-125	0.613	pCi/L	U	
299-E27-155	B327V4	9/4/2015	N	Arsenic	1.9	µg/L	B	
299-E27-155	B327V6	9/4/2015	Y	Arsenic	3.6	µg/L	B	
299-E27-155	B327V4	9/4/2015	N	Barium	61.3	µg/L		
299-E27-155	B327V6	9/4/2015	Y	Barium	59.4	µg/L		
299-E27-155	B327V6	9/4/2015	Y	Cadmium	0.34	µg/L	U	
299-E27-155	B327V4	9/4/2015	N	Cadmium	0.34	µg/L	U	
299-E27-155	B327V6	9/4/2015	Y	Calcium	91,400	µg/L		
299-E27-155	B327V4	9/4/2015	N	Calcium	93,900	µg/L		
299-E27-155	B32CK0	9/4/2015	N	Cesium-134	0.11	pCi/L	U	
299-E27-155	B32CK0	9/4/2015	N	Cesium-137	-0.195	pCi/L	U	
299-E27-155	B327V2	9/4/2015	N	Chloride	22,000	µg/L	D	
299-E27-155	B327V6	9/4/2015	Y	Chromium	7.1	µg/L	B	
299-E27-155	B327V4	9/4/2015	N	Chromium	7.4	µg/L	B	
299-E27-155	B327V4	9/4/2015	N	Cobalt	2.7	µg/L	U	
299-E27-155	B327V6	9/4/2015	Y	Cobalt	2.7	µg/L	U	
299-E27-155	B32CK0	9/4/2015	N	Cobalt-60	0.833	pCi/L	U	
299-E27-155	B327V6	9/4/2015	Y	Copper	2.1	µg/L	U	
299-E27-155	B327V4	9/4/2015	N	Copper	2.1	µg/L	U	
299-E27-155	B327V4	9/4/2015	N	Cyanide	4.3	µg/L	B	
299-E27-155	B32CK0	9/4/2015	N	Europium-152	-2.75	pCi/L	U	
299-E27-155	B32CK0	9/4/2015	N	Europium-154	-1.81	pCi/L	U	
299-E27-155	B32CK0	9/4/2015	N	Europium-155	-4.19	pCi/L	U	
299-E27-155	B327V2	9/4/2015	N	Fluoride	190	µg/L	D	
299-E27-155	B32CK0	9/4/2015	N	Gross Beta	275	pCi/L		

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-155	B327V6	9/4/2015	Y	Iron	12.8	µg/L	U	
299-E27-155	B327V4	9/4/2015	N	Iron	25.3	µg/L	B	
299-E27-155	B327V4	9/4/2015	N	Magnesium	26,700	µg/L		
299-E27-155	B327V6	9/4/2015	Y	Magnesium	26,000	µg/L		
299-E27-155	B327V6	9/4/2015	Y	Manganese	1	µg/L	U	
299-E27-155	B327V4	9/4/2015	N	Manganese	1.9	µg/L	B	
299-E27-155	B327V4	9/4/2015	N	Nickel	8.1	µg/L	B	
299-E27-155	B327V6	9/4/2015	Y	Nickel	7.8	µg/L	B	
299-E27-155	B327V2	9/4/2015	N	Nitrate	62,000	µg/L	D	
299-E27-155	B327V2	9/4/2015	N	Nitrite	125	µg/L	U	
299-E27-155	B327V4	9/4/2015	N	Potassium	9,360	µg/L		
299-E27-155	B327V6	9/4/2015	Y	Potassium	9,100	µg/L		
299-E27-155	B32CK0	9/4/2015	N	Potassium-40	-75	pCi/L	U	
299-E27-155	B327V4	9/4/2015	N	Silver	0.99	µg/L	U	
299-E27-155	B327V6	9/4/2015	Y	Silver	0.99	µg/L	U	
299-E27-155	B327V6	9/4/2015	Y	Sodium	26,300	µg/L		
299-E27-155	B327V4	9/4/2015	N	Sodium	27,400	µg/L		
299-E27-155	B32CJ8	9/4/2015	N	Specific Conductance	731	µS/cm		
299-E27-155	B327V2	9/4/2015	N	Sulfate	130,000	µg/L	D	
299-E27-155	B32CK0	9/4/2015	N	Technetium-99	1,300	pCi/L		
299-E27-155	B32CJ8	9/4/2015	N	Temperature	19.4	Deg C		
299-E27-155	B32CJ8	9/4/2015	N	Turbidity	0.47	NTU		
299-E27-155	B327V4	9/4/2015	N	Uranium	6.4	µg/L		
299-E27-155	B327V4	9/4/2015	N	Vanadium	14.7	µg/L	B	
299-E27-155	B327V6	9/4/2015	Y	Vanadium	19.7	µg/L	B	
299-E27-155	B327V4	9/4/2015	N	Zinc	8.3	µg/L	U	
299-E27-155	B327V6	9/4/2015	Y	Zinc	8.3	µg/L	U	
299-E27-155	B32CJ8	9/4/2015	N	pH Measurement	7.75	unitless		
299-E27-21	B327V7	9/2/2015	N	Alkalinity	94,300	µg/L		
299-E27-21	B327V9	9/2/2015	Y	Antimony	3.5	µg/L	U	
299-E27-21	B327V7	9/2/2015	N	Antimony	3.5	µg/L	U	

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-21	B32CK2	9/2/2015	N	Antimony-125	-1.42	pCi/L	U	
299-E27-21	B327V7	9/2/2015	N	Arsenic	5	µg/L	U	
299-E27-21	B327V9	9/2/2015	Y	Arsenic	6.49	µg/L	B	
299-E27-21	B327V7	9/2/2015	N	Barium	49.1	µg/L		
299-E27-21	B327V9	9/2/2015	Y	Barium	49.6	µg/L		
299-E27-21	B327V7	9/2/2015	N	Bicarbonate	94,300	µg/L		
299-E27-21	B327V9	9/2/2015	Y	Cadmium	1	µg/L	U	
299-E27-21	B327V7	9/2/2015	N	Cadmium	1	µg/L	U	
299-E27-21	B327V9	9/2/2015	Y	Calcium	82,600	µg/L		
299-E27-21	B327V7	9/2/2015	N	Calcium	81,400	µg/L		
299-E27-21	B327V7	9/2/2015	N	Carbonate Alkalinity	725	µg/L	U	
299-E27-21	B32CK2	9/2/2015	N	Cesium-134	-0.325	pCi/L	U	
299-E27-21	B32CK2	9/2/2015	N	Cesium-137	0.235	pCi/L	U	
299-E27-21	B327V8	9/2/2015	N	Chloride	23,500	µg/L	D	
299-E27-21	B327V7	9/2/2015	N	Chromium	7.66	µg/L		
299-E27-21	B327V9	9/2/2015	Y	Chromium	7.69	µg/L		
299-E27-21	B327V9	9/2/2015	Y	Cobalt	1	µg/L	U	
299-E27-21	B327V7	9/2/2015	N	Cobalt	1	µg/L	U	
299-E27-21	B32CK2	9/2/2015	N	Cobalt-60	0.411	pCi/L	U	
299-E27-21	B327V9	9/2/2015	Y	Copper	3	µg/L	U	
299-E27-21	B327V7	9/2/2015	N	Copper	3	µg/L	U	
299-E27-21	B327V7	9/2/2015	N	Cyanide	2.14	µg/L	B	
299-E27-21	B32CK2	9/2/2015	N	Europium-152	2.03	pCi/L	U	
299-E27-21	B32CK2	9/2/2015	N	Europium-154	-4.82	pCi/L	U	
299-E27-21	B32CK2	9/2/2015	N	Europium-155	1.03	pCi/L	U	
299-E27-21	B327V8	9/2/2015	N	Fluoride	205	µg/L	B	
299-E27-21	B32CK2	9/2/2015	N	Gross Beta	15,300	pCi/L		
299-E27-21	B327V7	9/2/2015	N	Hydroxyl Ion	725	µg/L	U	
299-E27-21	B327V9	9/2/2015	Y	Iron	30	µg/L	U	
299-E27-21	B327V7	9/2/2015	N	Iron	30	µg/L	U	
299-E27-21	B327V7	9/2/2015	N	Magnesium	24,200	µg/L		

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-21	B327V9	9/2/2015	Y	Magnesium	24,000	µg/L		
299-E27-21	B327V9	9/2/2015	Y	Manganese	2	µg/L	U	
299-E27-21	B327V7	9/2/2015	N	Manganese	2	µg/L	U	
299-E27-21	B327V9	9/2/2015	Y	Nickel	1.5	µg/L	U	
299-E27-21	B327V7	9/2/2015	N	Nickel	1.5	µg/L	U	
299-E27-21	B327V8	9/2/2015	N	Nitrate	43,500	µg/L	D	
299-E27-21	B327V8	9/2/2015	N	Nitrite	125	µg/L	U	
299-E27-21	B327V7	9/2/2015	N	Potassium	8,410	µg/L		
299-E27-21	B327V9	9/2/2015	Y	Potassium	8,530	µg/L		
299-E27-21	B32CK2	9/2/2015	N	Potassium-40	-2.32	pCi/L	U	
299-E27-21	B327V7	9/2/2015	N	Silver	1	µg/L	U	
299-E27-21	B327V9	9/2/2015	Y	Silver	1	µg/L	U	
299-E27-21	B327V7	9/2/2015	N	Sodium	16,900	µg/L		
299-E27-21	B327V9	9/2/2015	Y	Sodium	17,200	µg/L		
299-E27-21	B32CK1	9/2/2015	N	Specific Conductance	677	µS/cm		
299-E27-21	B327V8	9/2/2015	N	Sulfate	174,000	µg/L	D	
299-E27-21	B32CK2	9/2/2015	N	Technetium-99	22,300	pCi/L		
299-E27-21	B32CK1	9/2/2015	N	Temperature	19.6	Deg C		
299-E27-21	B32CK1	9/2/2015	N	Turbidity	0.2	NTU		
299-E27-21	B32CK2	9/2/2015	N	Uranium	3.53	µg/L		
299-E27-21	B327V7	9/2/2015	N	Vanadium	18.5	µg/L		
299-E27-21	B327V9	9/2/2015	Y	Vanadium	18.6	µg/L		
299-E27-21	B327V7	9/2/2015	N	Zinc	3.3	µg/L	U	
299-E27-21	B327V9	9/2/2015	Y	Zinc	3.3	µg/L	U	
299-E27-21	B32CK1	9/2/2015	N	pH Measurement	8.08	unitless		
299-E27-22	B327W1	9/2/2015	N	Alkalinity	87,000	µg/L		
299-E27-22	B327W2	9/2/2015	Y	Antimony	3.7	µg/L	U	
299-E27-22	B327W1	9/2/2015	N	Antimony	3.7	µg/L	U	
299-E27-22	B32CK4	9/2/2015	N	Antimony-125	0.604	pCi/L	U	
299-E27-22	B327W2	9/2/2015	Y	Arsenic	4.9	µg/L	B	
299-E27-22	B327W1	9/2/2015	N	Arsenic	5.7	µg/L	B	

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-22	B327W2	9/2/2015	Y	Barium	59	µg/L		
299-E27-22	B327W1	9/2/2015	N	Barium	61.2	µg/L		
299-E27-22	B327W1	9/2/2015	N	Cadmium	0.34	µg/L	U	
299-E27-22	B327W2	9/2/2015	Y	Cadmium	0.34	µg/L	U	
299-E27-22	B327W2	9/2/2015	Y	Calcium	96,100	µg/L	D	
299-E27-22	B327W1	9/2/2015	N	Calcium	92,200	µg/L	D	
299-E27-22	B32CK4	9/2/2015	N	Cesium-134	-0.304	pCi/L	U	
299-E27-22	B32CK4	9/2/2015	N	Cesium-137	0.451	pCi/L	U	
299-E27-22	B327W0	9/2/2015	N	Chloride	39,000	µg/L	D	
299-E27-22	B327W2	9/2/2015	Y	Chromium	6.5	µg/L	B	
299-E27-22	B327W1	9/2/2015	N	Chromium	11	µg/L		
299-E27-22	B327W2	9/2/2015	Y	Cobalt	2.7	µg/L	U	
299-E27-22	B327W1	9/2/2015	N	Cobalt	2.7	µg/L	U	
299-E27-22	B32CK4	9/2/2015	N	Cobalt-60	-0.52	pCi/L	U	
299-E27-22	B327W1	9/2/2015	N	Copper	2.1	µg/L	U	
299-E27-22	B327W2	9/2/2015	Y	Copper	2.1	µg/L	U	
299-E27-22	B327W1	9/2/2015	N	Cyanide	2.9	µg/L	U	
299-E27-22	B32CK4	9/2/2015	N	Europium-152	-1.72	pCi/L	U	
299-E27-22	B32CK4	9/2/2015	N	Europium-154	-1.89	pCi/L	U	
299-E27-22	B32CK4	9/2/2015	N	Europium-155	-1.9	pCi/L	U	
299-E27-22	B327W0	9/2/2015	N	Fluoride	200	µg/L	D	
299-E27-22	B32CK4	9/2/2015	N	Gross Beta	14.3	pCi/L		
299-E27-22	B327W2	9/2/2015	Y	Iron	18	µg/L	B	
299-E27-22	B327W1	9/2/2015	N	Iron	30.1	µg/L	B	
299-E27-22	B327W2	9/2/2015	Y	Magnesium	24,200	µg/L		
299-E27-22	B327W1	9/2/2015	N	Magnesium	24,500	µg/L		
299-E27-22	B327W1	9/2/2015	N	Manganese	1	µg/L	U	
299-E27-22	B327W2	9/2/2015	Y	Manganese	1.1	µg/L	B	
299-E27-22	B327W2	9/2/2015	Y	Nickel	9.1	µg/L	B	
299-E27-22	B327W1	9/2/2015	N	Nickel	9.6	µg/L	B	
299-E27-22	B327W0	9/2/2015	N	Nitrate	37,200	µg/L	D	

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-22	B327W0	9/2/2015	N	Nitrite	125	µg/L	U	
299-E27-22	B327W2	9/2/2015	Y	Potassium	8,850	µg/L		
299-E27-22	B327W1	9/2/2015	N	Potassium	9,170	µg/L		
299-E27-22	B32CK4	9/2/2015	N	Potassium-40	16.5	pCi/L	U	
299-E27-22	B327W1	9/2/2015	N	Silver	0.99	µg/L	U	
299-E27-22	B327W2	9/2/2015	Y	Silver	0.99	µg/L	U	
299-E27-22	B327W2	9/2/2015	Y	Sodium	17,400	µg/L		
299-E27-22	B327W1	9/2/2015	N	Sodium	18,100	µg/L		
299-E27-22	B32CK3	9/2/2015	N	Specific Conductance	737	µS/cm		
299-E27-22	B327W0	9/2/2015	N	Sulfate	200,000	µg/L	D	
299-E27-22	B32CK4	9/2/2015	N	Technetium-99	17	pCi/L		
299-E27-22	B32CK3	9/2/2015	N	Temperature	18.8	Deg C		
299-E27-22	B32CK3	9/2/2015	N	Turbidity	0.49	NTU		
299-E27-22	B32CK4	9/2/2015	N	Uranium	4.84	µg/L		
299-E27-22	B327W1	9/2/2015	N	Vanadium	13.5	µg/L	B	
299-E27-22	B327W2	9/2/2015	Y	Vanadium	11.6	µg/L	B	
299-E27-22	B327W1	9/2/2015	N	Zinc	8.3	µg/L	U	
299-E27-22	B327W2	9/2/2015	Y	Zinc	8.3	µg/L	U	
299-E27-22	B32CK3	9/2/2015	N	pH Measurement	8.07	unitless		
299-E27-23	B327W3	9/4/2015	N	Alkalinity	109,000	µg/L		
299-E27-23	B327W5	9/4/2015	Y	Antimony	3.5	µg/L	U	
299-E27-23	B327W3	9/4/2015	N	Antimony	3.5	µg/L	U	
299-E27-23	B32CK6	9/4/2015	N	Antimony-125	-6.44	pCi/L	U	
299-E27-23	B327W5	9/4/2015	Y	Arsenic	5	µg/L	U	
299-E27-23	B327W3	9/4/2015	N	Arsenic	5.2	µg/L	B	
299-E27-23	B327W5	9/4/2015	Y	Barium	48.6	µg/L		
299-E27-23	B327W3	9/4/2015	N	Barium	49.5	µg/L		
299-E27-23	B327W5	9/4/2015	Y	Cadmium	1	µg/L	U	
299-E27-23	B327W3	9/4/2015	N	Cadmium	1	µg/L	U	
299-E27-23	B327W5	9/4/2015	Y	Calcium	73,800	µg/L		
299-E27-23	B327W3	9/4/2015	N	Calcium	72,700	µg/L		

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-23	B32CK6	9/4/2015	N	Cesium-134	-0.14	pCi/L	U	
299-E27-23	B32CK6	9/4/2015	N	Cesium-137	0.23	pCi/L	U	
299-E27-23	B327W4	9/4/2015	N	Chloride	24,000	µg/L	D	
299-E27-23	B327W3	9/4/2015	N	Chromium	3.68	µg/L	B	
299-E27-23	B327W5	9/4/2015	Y	Chromium	3.28	µg/L	B	
299-E27-23	B327W5	9/4/2015	Y	Cobalt	1	µg/L	U	
299-E27-23	B327W3	9/4/2015	N	Cobalt	1	µg/L	U	
299-E27-23	B32CK6	9/4/2015	N	Cobalt-60	0.251	pCi/L	U	
299-E27-23	B327W5	9/4/2015	Y	Copper	3	µg/L	U	
299-E27-23	B327W3	9/4/2015	N	Copper	3	µg/L	U	
299-E27-23	B327W3	9/4/2015	N	Cyanide	2.37	µg/L	B	
299-E27-23	B32CK6	9/4/2015	N	Europium-152	-3.14	pCi/L	U	
299-E27-23	B32CK6	9/4/2015	N	Europium-154	-0.401	pCi/L	U	
299-E27-23	B32CK6	9/4/2015	N	Europium-155	5.4	pCi/L	U	
299-E27-23	B327W4	9/4/2015	N	Fluoride	210	µg/L	D	
299-E27-23	B32CK6	9/4/2015	N	Gross Beta	2,490	pCi/L		
299-E27-23	B327W5	9/4/2015	Y	Iron	30	µg/L	U	
299-E27-23	B327W3	9/4/2015	N	Iron	30	µg/L	U	
299-E27-23	B327W5	9/4/2015	Y	Magnesium	21,800	µg/L		
299-E27-23	B327W3	9/4/2015	N	Magnesium	21,600	µg/L		
299-E27-23	B327W3	9/4/2015	N	Manganese	2	µg/L	U	
299-E27-23	B327W5	9/4/2015	Y	Manganese	2	µg/L	U	
299-E27-23	B327W5	9/4/2015	Y	Nickel	1.5	µg/L	U	
299-E27-23	B327W3	9/4/2015	N	Nickel	1.5	µg/L	U	
299-E27-23	B327W4	9/4/2015	N	Nitrate	32,800	µg/L	D	
299-E27-23	B327W4	9/4/2015	N	Nitrite	125	µg/L	U	
299-E27-23	B327W5	9/4/2015	Y	Potassium	8,330	µg/L		
299-E27-23	B327W3	9/4/2015	N	Potassium	8,220	µg/L		
299-E27-23	B32CK6	9/4/2015	N	Potassium-40	-20.9	pCi/L	U	
299-E27-23	B327W3	9/4/2015	N	Silver	1	µg/L	U	
299-E27-23	B327W5	9/4/2015	Y	Silver	1	µg/L	U	

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-23	B327W3	9/4/2015	N	Sodium	16,800	µg/L		
299-E27-23	B327W5	9/4/2015	Y	Sodium	16,800	µg/L		
299-E27-23	B32CK5	9/4/2015	N	Specific Conductance	612	µS/cm		
299-E27-23	B32F71	9/4/2015	N	Specific Conductance	619	µS/cm		
299-E27-23	B32F70	9/4/2015	N	Specific Conductance	616	µS/cm		
299-E27-23	B32F72	9/4/2015	N	Specific Conductance	617	µS/cm		
299-E27-23	B327W4	9/4/2015	N	Sulfate	140,000	µg/L	D	
299-E27-23	B32CK6	9/4/2015	N	Technetium-99	3370	pCi/L		
299-E27-23	B32F72	9/4/2015	N	Temperature	19.3	Deg C		
299-E27-23	B32F71	9/4/2015	N	Temperature	19.3	Deg C		
299-E27-23	B32CK5	9/4/2015	N	Temperature	19.2	Deg C		
299-E27-23	B32F70	9/4/2015	N	Temperature	19.3	Deg C		
299-E27-23	B32F70	9/4/2015	N	Turbidity	0.35	NTU		
299-E27-23	B32F72	9/4/2015	N	Turbidity	0.51	NTU		
299-E27-23	B32F71	9/4/2015	N	Turbidity	0.23	NTU		
299-E27-23	B32CK5	9/4/2015	N	Turbidity	0.4	NTU		
299-E27-23	B32CK6	9/4/2015	N	Uranium	4.98	µg/L		
299-E27-23	B327W5	9/4/2015	Y	Vanadium	18.9	µg/L		
299-E27-23	B327W3	9/4/2015	N	Vanadium	19.1	µg/L		
299-E27-23	B327W3	9/4/2015	N	Zinc	3.3	µg/L	U	
299-E27-23	B327W5	9/4/2015	Y	Zinc	3.3	µg/L	U	
299-E27-23	B32F72	9/4/2015	N	pH Measurement	7.94	unitless		
299-E27-23	B32CK5	9/4/2015	N	pH Measurement	7.94	unitless		
299-E27-23	B32F70	9/4/2015	N	pH Measurement	7.94	unitless		
299-E27-23	B32F71	9/4/2015	N	pH Measurement	7.94	unitless		
299-E27-24	B327W9	9/2/2015	N	Alkalinity	88,000	µg/L		
299-E27-24	B327W8	9/2/2015	N	Alkalinity	86,000	µg/L		
299-E27-24	B327W9	9/2/2015	N	Antimony	3.7	µg/L	U	
299-E27-24	B327X0	9/2/2015	Y	Antimony	3.7	µg/L	U	

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-24	B327X1	9/2/2015	Y	Antimony	3.7	µg/L	U	
299-E27-24	B327W8	9/2/2015	N	Antimony	3.7	µg/L	U	
299-E27-24	B32CK9	9/2/2015	N	Antimony-125	0.777	pCi/L	U	
299-E27-24	B32F76	9/2/2015	N	Antimony-125	2.21	pCi/L	U	
299-E27-24	B327X0	9/2/2015	Y	Arsenic	4.8	µg/L	B	
299-E27-24	B327W9	9/2/2015	N	Arsenic	4.9	µg/L	B	
299-E27-24	B327W8	9/2/2015	N	Arsenic	5.4	µg/L	B	
299-E27-24	B327X1	9/2/2015	Y	Arsenic	6.3	µg/L	B	
299-E27-24	B327X0	9/2/2015	Y	Barium	77.3	µg/L		
299-E27-24	B327W9	9/2/2015	N	Barium	78.5	µg/L		
299-E27-24	B327X1	9/2/2015	Y	Barium	78.3	µg/L		
299-E27-24	B327W8	9/2/2015	N	Barium	76.8	µg/L		
299-E27-24	B327X1	9/2/2015	Y	Cadmium	0.4	µg/L	B	
299-E27-24	B327X0	9/2/2015	Y	Cadmium	0.34	µg/L	U	
299-E27-24	B327W9	9/2/2015	N	Cadmium	0.34	µg/L	U	
299-E27-24	B327W8	9/2/2015	N	Cadmium	0.34	µg/L	U	
299-E27-24	B327X0	9/2/2015	Y	Calcium	131,000	µg/L	D	
299-E27-24	B327W8	9/2/2015	N	Calcium	130,000	µg/L	D	
299-E27-24	B327W9	9/2/2015	N	Calcium	126,000	µg/L	D	
299-E27-24	B327X1	9/2/2015	Y	Calcium	126,000	µg/L	D	
299-E27-24	B32F76	9/2/2015	N	Cesium-134	0.0661	pCi/L	U	
299-E27-24	B32CK9	9/2/2015	N	Cesium-134	-0.546	pCi/L	U	
299-E27-24	B32CK9	9/2/2015	N	Cesium-137	-0.499	pCi/L	U	
299-E27-24	B32F76	9/2/2015	N	Cesium-137	-0.621	pCi/L	U	
299-E27-24	B327W6	9/2/2015	N	Chloride	42,000	µg/L	D	
299-E27-24	B327W7	9/2/2015	N	Chloride	42,000	µg/L	D	
299-E27-24	B327W9	9/2/2015	N	Chromium	17.2	µg/L		
299-E27-24	B327W8	9/2/2015	N	Chromium	15.4	µg/L		
299-E27-24	B327X1	9/2/2015	Y	Chromium	9.3	µg/L	B	
299-E27-24	B327X0	9/2/2015	Y	Chromium	10.4	µg/L		
299-E27-24	B327X1	9/2/2015	Y	Cobalt	2.7	µg/L	U	

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-24	B327X0	9/2/2015	Y	Cobalt	2.7	µg/L	U	
299-E27-24	B327W8	9/2/2015	N	Cobalt	2.7	µg/L	U	
299-E27-24	B327W9	9/2/2015	N	Cobalt	2.7	µg/L	U	
299-E27-24	B32CK9	9/2/2015	N	Cobalt-60	-0.269	pCi/L	U	
299-E27-24	B32F76	9/2/2015	N	Cobalt-60	0.701	pCi/L	U	
299-E27-24	B327W8	9/2/2015	N	Copper	2.1	µg/L	U	
299-E27-24	B327X0	9/2/2015	Y	Copper	2.1	µg/L	U	
299-E27-24	B327X1	9/2/2015	Y	Copper	2.1	µg/L	U	
299-E27-24	B327W9	9/2/2015	N	Copper	2.1	µg/L	U	
299-E27-24	B327W9	9/2/2015	N	Cyanide	12.1	µg/L	M	
299-E27-24	B327W8	9/2/2015	N	Cyanide	12.7	µg/L		
299-E27-24	B32CK9	9/2/2015	N	Europium-152	0.455	pCi/L	U	
299-E27-24	B32F76	9/2/2015	N	Europium-152	-1.12	pCi/L	U	
299-E27-24	B32F76	9/2/2015	N	Europium-154	-1.41	pCi/L	U	
299-E27-24	B32CK9	9/2/2015	N	Europium-154	0.53	pCi/L	U	
299-E27-24	B32F76	9/2/2015	N	Europium-155	-1.23	pCi/L	U	
299-E27-24	B32CK9	9/2/2015	N	Europium-155	0.116	pCi/L	U	
299-E27-24	B327W7	9/2/2015	N	Fluoride	200	µg/L	D	
299-E27-24	B327W6	9/2/2015	N	Fluoride	200	µg/L	D	
299-E27-24	B32F76	9/2/2015	N	Gross Beta	1,010	pCi/L		
299-E27-24	B32CK9	9/2/2015	N	Gross Beta	874	pCi/L		
299-E27-24	B327X1	9/2/2015	Y	Iron	19.4	µg/L	B	
299-E27-24	B327W9	9/2/2015	N	Iron	61	µg/L	B	
299-E27-24	B327W8	9/2/2015	N	Iron	56.7	µg/L	B	
299-E27-24	B327X0	9/2/2015	Y	Iron	20	µg/L	B	
299-E27-24	B327W9	9/2/2015	N	Magnesium	34,800	µg/L		
299-E27-24	B327X0	9/2/2015	Y	Magnesium	35,200	µg/L		
299-E27-24	B327W8	9/2/2015	N	Magnesium	34,200	µg/L		
299-E27-24	B327X1	9/2/2015	Y	Magnesium	33,400	µg/L		
299-E27-24	B327W8	9/2/2015	N	Manganese	1.4	µg/L	B	
299-E27-24	B327W9	9/2/2015	N	Manganese	2.2	µg/L	B	

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-24	B327X0	9/2/2015	Y	Manganese	1	µg/L	U	
299-E27-24	B327X1	9/2/2015	Y	Manganese	1.1	µg/L	B	
299-E27-24	B327X1	9/2/2015	Y	Nickel	14	µg/L	B	
299-E27-24	B327X0	9/2/2015	Y	Nickel	14.2	µg/L	B	
299-E27-24	B327W9	9/2/2015	N	Nickel	14.8	µg/L	B	
299-E27-24	B327W8	9/2/2015	N	Nickel	14.7	µg/L	B	
299-E27-24	B327W6	9/2/2015	N	Nitrate	70,800	µg/L	D	
299-E27-24	B327W7	9/2/2015	N	Nitrate	70,800	µg/L	D	
299-E27-24	B327W6	9/2/2015	N	Nitrite	125	µg/L	U	
299-E27-24	B327W7	9/2/2015	N	Nitrite	125	µg/L	U	
299-E27-24	B327W8	9/2/2015	N	Potassium	10,600	µg/L		
299-E27-24	B327X1	9/2/2015	Y	Potassium	10,700	µg/L		
299-E27-24	B327W9	9/2/2015	N	Potassium	10,700	µg/L		
299-E27-24	B327X0	9/2/2015	Y	Potassium	10,700	µg/L		
299-E27-24	B32F76	9/2/2015	N	Potassium-40	-52.6	pCi/L	U	
299-E27-24	B32CK9	9/2/2015	N	Potassium-40	6.32	pCi/L	U	
299-E27-24	B327W8	9/2/2015	N	Silver	0.99	µg/L	U	
299-E27-24	B327X0	9/2/2015	Y	Silver	0.99	µg/L	U	
299-E27-24	B327W9	9/2/2015	N	Silver	0.99	µg/L	U	
299-E27-24	B327X1	9/2/2015	Y	Silver	0.99	µg/L	U	
299-E27-24	B327X1	9/2/2015	Y	Sodium	27,700	µg/L		
299-E27-24	B327W8	9/2/2015	N	Sodium	27,200	µg/L		
299-E27-24	B327X0	9/2/2015	Y	Sodium	27,200	µg/L		
299-E27-24	B327W9	9/2/2015	N	Sodium	27,500	µg/L		
299-E27-24	B32CK7	9/2/2015	N	Specific Conductance	986	µS/cm		
299-E27-24	B327W7	9/2/2015	N	Sulfate	310,000	µg/L	D	
299-E27-24	B327W6	9/2/2015	N	Sulfate	320,000	µg/L	D	
299-E27-24	B32CK9	9/2/2015	N	Technetium-99	4,270	pCi/L		
299-E27-24	B32F76	9/2/2015	N	Technetium-99	4,210	pCi/L		
299-E27-24	B32CK7	9/2/2015	N	Temperature	18.9	Deg C		
299-E27-24	B32CK7	9/2/2015	N	Turbidity	1.83	NTU		

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-24	B32CK9	9/2/2015	N	Uranium	4.97	µg/L		
299-E27-24	B32F76	9/2/2015	N	Uranium	5.23	µg/L		
299-E27-24	B327X1	9/2/2015	Y	Vanadium	12.4	µg/L	B	
299-E27-24	B327W9	9/2/2015	N	Vanadium	14.3	µg/L	B	
299-E27-24	B327W8	9/2/2015	N	Vanadium	12.2	µg/L	B	
299-E27-24	B327X0	9/2/2015	Y	Vanadium	11.6	µg/L	B	
299-E27-24	B327X1	9/2/2015	Y	Zinc	11.5	µg/L	B	
299-E27-24	B327W9	9/2/2015	N	Zinc	11.8	µg/L	B	
299-E27-24	B327W8	9/2/2015	N	Zinc	11.6	µg/L	B	
299-E27-24	B327X0	9/2/2015	Y	Zinc	11.5	µg/L	B	
299-E27-24	B32CK7	9/2/2015	N	pH Measurement	8.1	unitless		
299-E27-25	B327X2	9/2/2015	N	Alkalinity	73,200	µg/L		
299-E27-25	B327X4	9/2/2015	Y	Antimony	3.5	µg/L	U	
299-E27-25	B327X2	9/2/2015	N	Antimony	3.5	µg/L	U	
299-E27-25	B32CL1	9/2/2015	N	Antimony-125	4.23	pCi/L	U	
299-E27-25	B327X4	9/2/2015	Y	Arsenic	5	µg/L	U	
299-E27-25	B327X2	9/2/2015	N	Arsenic	5.43	µg/L	B	
299-E27-25	B327X4	9/2/2015	Y	Barium	64.5	µg/L		
299-E27-25	B327X2	9/2/2015	N	Barium	63.6	µg/L		
299-E27-25	B327X2	9/2/2015	N	Bicarbonate	73,200	µg/L		
299-E27-25	B327X2	9/2/2015	N	Cadmium	1	µg/L	U	
299-E27-25	B327X4	9/2/2015	Y	Cadmium	1	µg/L	U	
299-E27-25	B327X4	9/2/2015	Y	Calcium	131,000	µg/L		
299-E27-25	B327X2	9/2/2015	N	Calcium	129,000	µg/L		
299-E27-25	B327X2	9/2/2015	N	Carbonate Alkalinity	725	µg/L	U	
299-E27-25	B32CL1	9/2/2015	N	Cesium-134	-0.689	pCi/L	U	
299-E27-25	B32CL1	9/2/2015	N	Cesium-137	-3.14	pCi/L	U	
299-E27-25	B327X3	9/2/2015	N	Chloride	64,500	µg/L	D	
299-E27-25	B327X4	9/2/2015	Y	Chromium	4.41	µg/L	B	
299-E27-25	B327X2	9/2/2015	N	Chromium	42.3	µg/L		
299-E27-25	B327X2	9/2/2015	N	Cobalt	1	µg/L	U	

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-25	B327X4	9/2/2015	Y	Cobalt	1	µg/L	U	
299-E27-25	B32CL1	9/2/2015	N	Cobalt-60	-1.14	pCi/L	U	
299-E27-25	B327X2	9/2/2015	N	Copper	3	µg/L	U	
299-E27-25	B327X4	9/2/2015	Y	Copper	3	µg/L	U	
299-E27-25	B327X2	9/2/2015	N	Cyanide	1.67	µg/L	U	
299-E27-25	B32CL1	9/2/2015	N	Europium-152	-6.57	pCi/L	U	
299-E27-25	B32CL1	9/2/2015	N	Europium-154	-1.56	pCi/L	U	
299-E27-25	B32CL1	9/2/2015	N	Europium-155	4.17	pCi/L	U	
299-E27-25	B327X3	9/2/2015	N	Fluoride	203	µg/L	B	
299-E27-25	B32CL1	9/2/2015	N	Gross Beta	11.3	pCi/L		
299-E27-25	B327X2	9/2/2015	N	Hydroxyl Ion	725	µg/L	U	
299-E27-25	B327X2	9/2/2015	N	Iron	215	µg/L		
299-E27-25	B327X4	9/2/2015	Y	Iron	30	µg/L	U	
299-E27-25	B327X4	9/2/2015	Y	Magnesium	37,900	µg/L		
299-E27-25	B327X2	9/2/2015	N	Magnesium	37,500	µg/L		
299-E27-25	B327X4	9/2/2015	Y	Manganese	2.4	µg/L	B	
299-E27-25	B327X2	9/2/2015	N	Manganese	4.73	µg/L	B	
299-E27-25	B327X4	9/2/2015	Y	Nickel	16.7	µg/L		
299-E27-25	B327X2	9/2/2015	N	Nickel	24.5	µg/L		
299-E27-25	B327X3	9/2/2015	N	Nitrate	51,400	µg/L	D	
299-E27-25	B327X3	9/2/2015	N	Nitrite	125	µg/L	U	
299-E27-25	B327X2	9/2/2015	N	Potassium	9,970	µg/L		
299-E27-25	B327X4	9/2/2015	Y	Potassium	10,100	µg/L		
299-E27-25	B32CL1	9/2/2015	N	Potassium-40	8.97	pCi/L	U	
299-E27-25	B327X2	9/2/2015	N	Silver	1	µg/L	U	
299-E27-25	B327X4	9/2/2015	Y	Silver	1	µg/L	U	
299-E27-25	B327X4	9/2/2015	Y	Sodium	20,500	µg/L		
299-E27-25	B327X2	9/2/2015	N	Sodium	19,900	µg/L		
299-E27-25	B32CL0	9/2/2015	N	Specific Conductance	1,019	µS/cm		
299-E27-25	B32F73	9/2/2015	N	Specific Conductance	1,017	µS/cm		

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-25	B32F74	9/2/2015	N	Specific Conductance	1,018	µS/cm		
299-E27-25	B32F75	9/2/2015	N	Specific Conductance	1,018	µS/cm		
299-E27-25	B327X3	9/2/2015	N	Sulfate	323,000	µg/L	D	
299-E27-25	B32CL1	9/2/2015	N	Technetium-99	-2.76	pCi/L	U	
299-E27-25	B32F74	9/2/2015	N	Temperature	18.6	Deg C		
299-E27-25	B32F75	9/2/2015	N	Temperature	18.6	Deg C		
299-E27-25	B32CL0	9/2/2015	N	Temperature	18.7	Deg C		
299-E27-25	B32F73	9/2/2015	N	Temperature	18.7	Deg C		
299-E27-25	B32F75	9/2/2015	N	Turbidity	2.63	NTU		
299-E27-25	B32F73	9/2/2015	N	Turbidity	5	NTU		
299-E27-25	B32CL0	9/2/2015	N	Turbidity	4.96	NTU		
299-E27-25	B32F74	9/2/2015	N	Turbidity	3.15	NTU		
299-E27-25	B32CL1	9/2/2015	N	Uranium	3.45	µg/L		
299-E27-25	B327X4	9/2/2015	Y	Vanadium	13.9	µg/L		
299-E27-25	B327X2	9/2/2015	N	Vanadium	15.3	µg/L		
299-E27-25	B327X2	9/2/2015	N	Zinc	10.1	µg/L		
299-E27-25	B327X4	9/2/2015	Y	Zinc	3.3	µg/L	U	
299-E27-25	B32F74	9/2/2015	N	pH Measurement	7.99	unitless		
299-E27-25	B32F73	9/2/2015	N	pH Measurement	7.99	unitless		
299-E27-25	B32CL0	9/2/2015	N	pH Measurement	7.97	unitless		
299-E27-25	B32F75	9/2/2015	N	pH Measurement	8	unitless		
299-E27-4	B327X6	9/4/2015	N	Alkalinity	140,000	µg/L		
299-E27-4	B327X6	9/4/2015	N	Antimony	3.7	µg/L	U	
299-E27-4	B327X7	9/4/2015	Y	Antimony	3.7	µg/L	U	
299-E27-4	B32CL3	9/4/2015	N	Antimony-125	0.465	pCi/L	U	
299-E27-4	B327X6	9/4/2015	N	Arsenic	4.2	µg/L	B	
299-E27-4	B327X7	9/4/2015	Y	Arsenic	3.7	µg/L	B	
299-E27-4	B327X6	9/4/2015	N	Barium	50.3	µg/L		
299-E27-4	B327X7	9/4/2015	Y	Barium	50.3	µg/L		
299-E27-4	B327X7	9/4/2015	Y	Cadmium	0.34	µg/L	U	

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-4	B327X6	9/4/2015	N	Cadmium	0.34	µg/L	U	
299-E27-4	B327X7	9/4/2015	Y	Calcium	80,000	µg/L		
299-E27-4	B327X6	9/4/2015	N	Calcium	81,200	µg/L		
299-E27-4	B32CL3	9/4/2015	N	Cesium-134	-0.279	pCi/L	U	
299-E27-4	B32CL3	9/4/2015	N	Cesium-137	0.247	pCi/L	U	
299-E27-4	B327X5	9/4/2015	N	Chloride	22,000	µg/L	D	
299-E27-4	B327X6	9/4/2015	N	Chromium	32.8	µg/L		
299-E27-4	B327X7	9/4/2015	Y	Chromium	7.9	µg/L	B	
299-E27-4	B327X7	9/4/2015	Y	Cobalt	2.7	µg/L	U	
299-E27-4	B327X6	9/4/2015	N	Cobalt	3.2	µg/L	B	
299-E27-4	B32CL3	9/4/2015	N	Cobalt-60	0.762	pCi/L	U	
299-E27-4	B327X7	9/4/2015	Y	Copper	2.1	µg/L	U	
299-E27-4	B327X6	9/4/2015	N	Copper	5.2	µg/L	BC	
299-E27-4	B327X6	9/4/2015	N	Cyanide	2.9	µg/L	U	
299-E27-4	B32CL3	9/4/2015	N	Europium-152	0.328	pCi/L	U	
299-E27-4	B32CL3	9/4/2015	N	Europium-154	0.629	pCi/L	U	
299-E27-4	B32CL3	9/4/2015	N	Europium-155	-1.14	pCi/L	U	
299-E27-4	B327X5	9/4/2015	N	Fluoride	210	µg/L	D	
299-E27-4	B32CL3	9/4/2015	N	Gross beta	263	pCi/L		
299-E27-4	B327X6	9/4/2015	N	Iron	122	µg/L		
299-E27-4	B327X7	9/4/2015	Y	Iron	32.5	µg/L	B	
299-E27-4	B327X6	9/4/2015	N	Magnesium	21,700	µg/L		
299-E27-4	B327X7	9/4/2015	Y	Magnesium	21,600	µg/L		
299-E27-4	B327X7	9/4/2015	Y	Manganese	28.8	µg/L		F
299-E27-4	B327X6	9/4/2015	N	Manganese	45.8	µg/L		F
299-E27-4	B327X6	9/4/2015	N	Nickel	293	µg/L		F
299-E27-4	B327X7	9/4/2015	Y	Nickel	191	µg/L		F
299-E27-4	B327X5	9/4/2015	N	Nitrate	27,000	µg/L	D	
299-E27-4	B327X5	9/4/2015	N	Nitrite	125	µg/L	U	
299-E27-4	B327X6	9/4/2015	N	Potassium	8,100	µg/L		
299-E27-4	B327X7	9/4/2015	Y	Potassium	8,130	µg/L		

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-4	B32CL3	9/4/2015	N	Potassium-40	8.96	pCi/L	U	
299-E27-4	B327X7	9/4/2015	Y	Silver	0.99	µg/L	U	
299-E27-4	B327X6	9/4/2015	N	Silver	1.2	µg/L	B	
299-E27-4	B327X7	9/4/2015	Y	Sodium	16,300	µg/L		
299-E27-4	B327X6	9/4/2015	N	Sodium	16,200	µg/L		
299-E27-4	B32CL2	9/4/2015	N	Specific Conductance	584	µS/cm		
299-E27-4	B327X5	9/4/2015	N	Sulfate	110,000	µg/L	D	
299-E27-4	B32CL3	9/4/2015	N	Technetium-99	1,220	pCi/L		
299-E27-4	B32CL2	9/4/2015	N	Temperature	19.5	Deg C		
299-E27-4	B32CL2	9/4/2015	N	Turbidity	0.51	NTU		
299-E27-4	B32CL3	9/4/2015	N	Uranium	6.75	µg/L		
299-E27-4	B327X7	9/4/2015	Y	Vanadium	17	µg/L	B	
299-E27-4	B327X6	9/4/2015	N	Vanadium	20.8	µg/L	B	
299-E27-4	B327X6	9/4/2015	N	Zinc	8.3	µg/L	U	
299-E27-4	B327X7	9/4/2015	Y	Zinc	8.3	µg/L	U	
299-E27-4	B32CL2	9/4/2015	N	pH Measurement	8.11	unitless		
299-E27-7	B327X9	9/4/2015	N	Alkalinity	87,800	µg/L		
299-E27-7	B327Y3	9/4/2015	Y	Antimony	3.5	µg/L	U	
299-E27-7	B327X9	9/4/2015	N	Antimony	3.5	µg/L	U	
299-E27-7	B32CL6	9/4/2015	N	Antimony-125	-1.47	pCi/L	U	
299-E27-7	B327Y3	9/4/2015	Y	Arsenic	5	µg/L	U	
299-E27-7	B327X9	9/4/2015	N	Arsenic	5	µg/L	U	
299-E27-7	B327Y3	9/4/2015	Y	Barium	56.4	µg/L		
299-E27-7	B327X9	9/4/2015	N	Barium	57	µg/L		
299-E27-7	B327Y3	9/4/2015	Y	Cadmium	1	µg/L	U	
299-E27-7	B327X9	9/4/2015	N	Cadmium	1	µg/L	U	
299-E27-7	B327Y3	9/4/2015	Y	Calcium	92,600	µg/L		
299-E27-7	B327X9	9/4/2015	N	Calcium	92,200	µg/L		
299-E27-7	B32CL6	9/4/2015	N	Cesium-134	0.0118	pCi/L	U	
299-E27-7	B32CL6	9/4/2015	N	Cesium-137	-2.33	pCi/L	U	
299-E27-7	B327Y1	9/4/2015	N	Chloride	39,000	µg/L	D	

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-7	B327X9	9/4/2015	N	Chromium	8.09	µg/L		
299-E27-7	B327Y3	9/4/2015	Y	Chromium	2.59	µg/L	B	
299-E27-7	B327Y3	9/4/2015	Y	Cobalt	1	µg/L	U	
299-E27-7	B327X9	9/4/2015	N	Cobalt	1	µg/L	U	
299-E27-7	B32CL6	9/4/2015	N	Cobalt-60	1.62	pCi/L	U	
299-E27-7	B327X9	9/4/2015	N	Copper	3	µg/L	U	
299-E27-7	B327Y3	9/4/2015	Y	Copper	3	µg/L	U	
299-E27-7	B327X9	9/4/2015	N	Cyanide	1.83	µg/L	B	
299-E27-7	B32CL6	9/4/2015	N	Europium-152	-0.651	pCi/L	U	
299-E27-7	B32CL6	9/4/2015	N	Europium-154	3.01	pCi/L	U	
299-E27-7	B32CL6	9/4/2015	N	Europium-155	-0.175	pCi/L	U	
299-E27-7	B327Y1	9/4/2015	N	Fluoride	180	µg/L	D	
299-E27-7	B32CL6	9/4/2015	N	Gross beta	26.3	pCi/L		
299-E27-7	B327X9	9/4/2015	N	Iron	342	µg/L		
299-E27-7	B327Y3	9/4/2015	Y	Iron	30	µg/L	U	
299-E27-7	B327X9	9/4/2015	N	Magnesium	27,700	µg/L		
299-E27-7	B327Y3	9/4/2015	Y	Magnesium	27,800	µg/L		
299-E27-7	B327Y3	9/4/2015	Y	Manganese	2	µg/L	U	
299-E27-7	B327X9	9/4/2015	N	Manganese	2	µg/L	U	
299-E27-7	B327Y3	9/4/2015	Y	Nickel	2.27	µg/L	B	
299-E27-7	B327X9	9/4/2015	N	Nickel	4.27	µg/L	B	
299-E27-7	B327Y1	9/4/2015	N	Nitrate	38,500	µg/L	D	
299-E27-7	B327Y1	9/4/2015	N	Nitrite	125	µg/L	U	
299-E27-7	B327X9	9/4/2015	N	Potassium	9,330	µg/L		
299-E27-7	B327Y3	9/4/2015	Y	Potassium	9,260	µg/L		
299-E27-7	B32CL6	9/4/2015	N	Potassium-40	-22.3	pCi/L	U	
299-E27-7	B327X9	9/4/2015	N	Silver	1	µg/L	U	
299-E27-7	B327Y3	9/4/2015	Y	Silver	1	µg/L	U	
299-E27-7	B327X9	9/4/2015	N	Sodium	18,500	µg/L		
299-E27-7	B327Y3	9/4/2015	Y	Sodium	19,000	µg/L		
299-E27-7	B32CL4	9/4/2015	N	Specific Conductance	760	µS/cm		

Table B-1. September 2015 Sample Results

Well Name	Sample Number	Sample Date	Filtered Flag	Standard Constituent Long Name	Standard Value Reported	Standard Analytical Units Reported	Lab Qualifier	Review Qualifier
299-E27-7	B327Y1	9/4/2015	N	Sulfate	210,000	µg/L	D	
299-E27-7	B32CL6	9/4/2015	N	Technetium-99	18.6	pCi/L		
299-E27-7	B32CL4	9/4/2015	N	Temperature	18.8	Deg C		
299-E27-7	B32CL4	9/4/2015	N	Turbidity	3.04	NTU		
299-E27-7	B32CL6	9/4/2015	N	Uranium	3.48	µg/L		
299-E27-7	B327X9	9/4/2015	N	Vanadium	14.6	µg/L		
299-E27-7	B327Y3	9/4/2015	Y	Vanadium	13.9	µg/L		
299-E27-7	B327Y3	9/4/2015	Y	Zinc	3.3	µg/L	U	
299-E27-7	B327X9	9/4/2015	N	Zinc	3.3	µg/L	U	
299-E27-7	B32CL4	9/4/2015	N	pH Measurement	8.1	unitless		