

2020 Annual Groundwater Monitoring and Corrective Action Summary Report

Intermountain Generating Facility
Delta, Utah



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Sign-off Sheet and Signatures of Environmental Professionals

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1.0 EXECUTIVE SUMMARY

1.1 PURPOSE OF REPORT

On behalf of Intermountain Power Service Corporation (“IPSC”), Stantec Consulting Services Inc. (“Stantec”) has prepared this report to summarize IPSC’s 2020 groundwater monitoring and recovery program pursuant to the United States Environmental Protection Agency’s (“US EPA”) Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals (CCR) from Electric Utilities, 40 CFR 257 Subpart D (the “Federal CCR Rule”)(and the corresponding Utah CCR Rule at Utah Admin. Code R315-319 (the “State CCR Rule”)(collectively, the “CCR Rules”)) at IPSC’s Intermountain Generating Facility (“IGF”) located approximately ten miles north of Delta, Millard County, Utah. IPSC’s compliance program addresses elements prescribed by CCR Rule Parts §257.90 (R315-319-90) Applicability; §257.91 (R315-319-91) Groundwater Monitoring Systems; §257.93 (R315-319-93) Groundwater Sampling and Analysis Requirements; §257.95 (R315-319-95) Assessment Monitoring Program; and §257.96 (R315-319-96) Assessment of Corrective Measures.

IPSC historical reports presented IPSC’s approach for addressing requirements specified by the CCR Rules as well as the facility’s Utah Department of Environmental Quality (“UDEQ”), Division of Water Quality (“DWQ”) Groundwater Discharge Permit No. UGW270004, effective May 24, 2016. The DWQ has regulatory oversight for IPSC’s compliance with its Groundwater Discharge Permit, and the DWQ permit will be renewed again in 2021.

The UDEQ Division of Waste Management and Radiation Control (“DWMRC”) also has regulatory oversight pursuant to the State CCR Rule, under which DWMRC issued a separate permit on November 23, 2020 for the CCR Units, Permit No. 1601. The CCR Rules apply to each of IPSC’s three (3) CCR units (reference Figures 1 and 2 for regional and site-specific, location maps):

- Combustion By-Products Landfill (“CB Landfill”),
- Bottom Ash Basin [surface impoundment underlain by 80-mil High Density Polyethylene (HDPE) liner], and
- Waste Water Basin (surface impoundment underlain by 80-mil HDPE liner).

This annual summary report is formatted in general accordance with reporting requisites prescribed within §257.90(e) (R315-319-90(e)). The report provides an overview of groundwater monitoring and recovery activities conducted at the site during 2020 and ongoing activities designed to further assess and design corrective measures specified by IPSC’s Groundwater Discharge Permit and the CCR Rules, as proposed and/or outlined in detail within the following IPSC 2020 reports:

- January 2020 Annual Groundwater Monitoring and Corrective Action Summary Report (for 2019 reporting timeframe);
- June 2020 Semi-Annual Progress Report;



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- November 2020 Demonstration of Requirements for Alternative Closure Deadline under 40 C.F.R. §257.103(f)(2) report;
- November 2020 Amended Assessment of Corrective Measures report; and
- December 2020 Semi-Annual Progress Report.

1.2 BACKGROUND

As reported in IPSC's historical reports, groundwater monitoring associated with IPSC's Groundwater Discharge Permit indicated there was a plume of Total Dissolved Solids- (TDS) impacted groundwater located down-gradient (southwest) of the Bottom Ash Basin in excess of IPSC's DWQ permit action level of 1,100 milligrams per liter (mg/L; i.e. parts per million-ppm). DWQ permit monitoring indicated that the TDS plume was located well within IGF property boundaries and posed no on- or off-site risk to human health.

The DWQ and IPSC agreed that IPSC would implement a phased groundwater investigation and recovery program that focused initially on removal of TDS-impacted groundwater from areas located in relatively close proximity to the Bottom Ash Basin, utilizing recovery wells WR-101, WR-102, and WR-103 (reference Figure 3 for well locations). Sequential installation of additional groundwater monitoring wells, including sampling and pump-testing of wells that were associated with CCR Rule compliance, would be used to help delineate more precisely the location and orientation of the down-gradient leading edge of the TDS plume. Supplemental groundwater recovery wells would be installed for recovery of TDS-impacted groundwater located near the down-gradient leading edge of the TDS plume.

Stantec developed a groundwater fate and transport model to help locate supplemental recovery and monitoring wells for more precise TDS plume characterization and delineation, as well as help design an expanded groundwater recovery approach that would intercept TDS-impacted groundwater near the down-gradient leading edge of the TDS plume located southwest of the Bottom Ash Basin. Subsequent CCR Rule Assessment Monitoring identified TDS plumes located southwest and west of the Waste Water Basin in addition to the TDS plume located southwest of the Bottom Ash Basin. Water quality data to date indicate that CCR constituent concentrations, including TDS, in monitoring wells associated with the CB Landfill are representative of natural Background concentrations.

Sequentially, IPSC and Stantec installed additional monitoring wells in pursuit of more precise delineation of TDS plumes located down-gradient of the two surface impoundments. An additional 25 wells were installed during May 2020 as part of the most recent delineation effort. All 25 wells were constructed such that each well can also be used for groundwater recovery, if needed.

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DWQ Groundwater Discharge Permit and CCR Rule groundwater quality data to date indicate that TDS has migrated farther down-gradient of the two surface impoundments than other CCR constituents, including Appendix IV metals. As discussed in detail in this report, Stantec's historical and most recent statistical analyses of groundwater quality data indicate that only three Appendix IV metal constituents exceed corollary Groundwater Protection Standards (GWPSs) in monitoring wells located at localized boundaries of the two impoundments. No monitoring wells located down-gradient of the boundaries of the two impoundments detected any such Appendix IV GWPS exceedances. The TDS plumes and other CCR constituents in groundwater pose no risk to on- or off-site human health based on our current assessment.

Since TDS has migrated farther down-gradient from the surface impoundments than other CCR constituents, TDS is being used as the leading indicator parameter of impacted groundwater quality for evaluating a suitable groundwater remediation approach. IPSC and Stantec anticipate that the recovery of TDS-impacted groundwater at select recovery wells will also intercept any metals that might be present, as TDS is expected to continue to migrate at a faster rate than dissolved metals in the clay-rich aquifer that underlies the property.

1.3 SUMMARY OF 2020 ACTIVITIES

As of IPSC's preparation of its June 2020 Semi-Annual Progress Report, IPSC purged and sampled CCR compliance wells identified on Figure 3 herein. Figure 3 depicts a groundwater potentiometric map based on water level data collected during March 2020 and TDS concentrations quantified as of the April-May 2020 sampling program.

Following initiation of the Spring 2020 semi-annual sampling program, IPSC also began drilling and installing 25 supplemental groundwater monitoring wells during May 2020. Reference Figure 4 for the locations of all CCR Rule monitoring wells, including the 25 new wells. IPSC implemented a sequential, groundwater quality investigative program to refine IPSC's current Conceptual Site Model and understanding of hydraulic conditions characterizing localized portions of the uppermost aquifer beneath the site. The sequenced, investigative approach included installation of 25 new wells to help delineate more definitively the physical characteristics and footprints of the down-gradient leading edges of TDS groundwater plumes located down-gradient of the Bottom Ash and Waste Water Basins. All 25 wells were constructed as 6-inch diameter wells, such that each well might be used as a groundwater recovery well, if needed.

The 25 new wells were installed, developed, and surveyed during May and June 2020. All of the wells were pump-tested by the drilling firm for at least two to three hours following development to estimate generalized well yields. Several wells were subsequently pump-tested during June and July of 2020 by Stantec for timeframes between a few hours to 24 hours per well to help investigate more accurately localized hydraulic characteristics including well yields, specific capacities, and radial cones of influence/capture zones. All CCR compliance wells, including the 25 newly-installed wells, were purged and sampled during October 2020, as discussed in detail within IPSC's December 2020 Semi-Annual Progress Report.

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Summary 2020 activities included:

- 1) During March through May 2020, IPSC monitored water levels and then purged and sampled all CCR compliance wells except the 25 newly-installed wells which were being installed during May. Results of the May sampling event were detailed within IPSC's June 2020 Semi-Annual Progress Report.
- 2) IPSC expanded the network of wells intended to investigate the downgradient (predominantly southwest) leading edge of the TDS plume associated with historical releases from the Bottom Ash Basin through installation of 21 supplemental monitoring (and remediation, if needed) wells BAC-18 through BAC-38. The wells were installed during May 2020, wellheads were completed during May and June 2020, and wellheads were surveyed during June 2020. Several wells were pump-tested by Stantec during June and July 2020. All CCR compliance wells, including the 25 newly-installed wells, were purged and sampled during October 2020. Reference Figure 4 for the locations of all CCR compliance wells including the 25 new wells.
- 3) IPSC expanded the network of wells intended to investigate the downgradient leading edge of the TDS plume associated with historical releases from the Waste Water Basin through installation of four supplemental monitoring (and remediation, if needed) wells WWC-14 through WWC-17 (reference Figure 4). The wells were installed during May 2020 and the wellheads were completed during May and June 2020 and then surveyed during June 2020. Several wells were pump-tested by Stantec during June and July 2020. All CCR compliance wells, including the 25 newly-installed wells, were purged and sampled during October 2020.
- 4) The drilling, installation, development, surveying, purging, and sampling activities associated with the 25 wells were discussed in detail within IPSC's December 2020 Semi-Annual Progress Report. Table 1 herein presents a summary of all CCR compliance monitoring well construction details including the 25 new wells. Attachment A herein includes copies of all CCR compliance well drilling logs and well construction schematic diagrams.

Reference Figure 3 for a Spring 2020 groundwater flow and TDS concentration map and Figure 4 for a Fall 2020 groundwater flow and TDS concentration map. Figure 5 presents Stantec's generalized estimation of the locations of 1,100 mg/L TDS iso-concentration lines, the action level for TDS prescribed by IPSC's Groundwater Discharge Permit. Historical monitoring and analytical results are tabulated in Attachment B herein, including the most recent October 2020 analytical results.

- 5) IPSC received the analytical laboratory reports associated with the October 2020 sampling event during the first week of December 2020. In light of time constraints, Stantec did not have time to perform and report the results of Appendix IV constituent statistical analysis of the October 2020 results within IPSC's December 2020 Semi-Annual Progress Report. This January 2021 summary report presents the results of Stantec's statistical analyses, including

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potential Statistically Significant Levels (SSLs) in CCR constituent concentrations in groundwater located at localized boundaries of the impoundments.

1.4 ONGOING AND SHORT-TERM FUTURE INVESTIGATIVE ACTIVITIES

Currently, Stantec is using recent pump-test results, semi-annual analytical results, and statistical analytical results to update Stantec's groundwater fate and transport model and help refine IPSC's understanding of site-specific hydraulic conditions and Stantec's Conceptual Site Model. The results of the updated model will be used to help refine IPSC's current analysis of alternative corrective measure options, including ongoing groundwater recovery from wells WR-101, WR-102, and WR-103 (identified on Figure 4) as well as use of additional groundwater recovery wells located near the down-gradient leading edges of the CCR constituent plumes associated with the two surface impoundments.

Currently, Stantec is designing well-specific submersible pumps, water level and electrical controls, pump-houses, water conveyance piping, appurtenances, and supervisory control and data acquisition [SCADA] instrumentations associated with anticipated expansion of the existing network of groundwater recovery wells. Design of the enhanced groundwater recovery network will be finalized following update and review of Stantec's groundwater fate and transport model. Final design will be documented within a forthcoming Selection of Remedy Report that will be prepared in accordance with CCR Rule §257.97.

Although the TDS plumes pose no risk to human health or the environment at the present and foreseeable time, IPSC anticipates that the expanded groundwater recovery network will be designed and then installed as soon as practicable to help reduce total mass of CCR constituents in groundwater and control the down-gradient migration of such constituents. It is anticipated that analytical results associated with future groundwater sampling events will influence what, if any, additional monitoring wells and/or recovery wells might be warranted in pursuit of CCR constituent plume delineation and control.

Given the vast real property acreage (4,614-acres) that is owned by the IGF owner Intermountain Power Agency (IPA), as well as the relatively significant distances to off-site potential receptors who might use groundwater for potable and/or non-potable uses (approximately 2.5-miles away, as detailed in IPSC's November 2020 Amended Assessment of Corrective Measures report), IPSC anticipates that it can implement supplemental plume control measures in a prompt and timely manner that continues to provide for appropriate protection of human health and the environment.

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2.0 SPRING AND SUMMER 2020 GROUNDWATER MONITORING PROGRAM

2.1 MARCH THROUGH MAY 2020 GROUNDWATER LEVEL MONITORING AND SAMPLING

As detailed within IPSC's June 2020 Semi-Annual Progress Report, IPSC measured water levels in CCR compliance monitoring wells during March 2020 and then purged and sampled the wells during April-May 2020. Water samples were submitted to American West Analytical Laboratories, Inc. (AWAL), a Utah-certified, analytical laboratory for analysis of all CCR Appendix III and IV constituents. Figure 3 depicts a groundwater potentiometric and TDS concentration map associated with the Spring 2020 monitoring program.

All well purging and sampling activities were performed in accordance with measures outlined within IPSC's November 2015 Ground Water Sampling and Analysis Plan. Historical water level measurement and quantitative analytical results, including those associated with the Spring 2020 semi-annual sampling event, are presented in Attachment B herein.

2.2 MAY THROUGH JULY 2020 SUPPLEMENTAL MONITORING WELL INSTALLATION, DEVELOPMENT, SURVEYING, AND PUMP-TESTING OF 25 NEW WELLS

Historical water quality data indicated that the down-gradient leading edges of the TDS plumes located southwest of the two surface impoundments were not delineated sufficiently by means of the existing array of monitoring wells present at the site, as of May 2020. Therefore, IPSC contracted Stantec to oversee the drilling and installation of 25 supplemental groundwater monitoring wells during May 2020, including 21 additional wells southwest of the Bottom Ash Basin and four (4) new wells southwest of the Waste Water Basin.

Twenty-five new wells were drilled, installed, and developed during the Spring of 2020 by Cascade Drilling, LP of Salt Lake City, Utah, a Utah-certified, water well drilling firm. Wells BAC-18 through BAC-38 were installed to investigate the down-gradient leading edge of the TDS plume located southwest of the Bottom Ash Basin. Wells WWC-14 through WWC-17 were installed to investigate the down-gradient leading edge of the TDS plume located southwest of the Waste Water Basin. Reference Figure 4 for the locations of the 25 new wells. The groundwater flow and CCR constituent analytical results are discussed in more detail in following report section *3.0 Fall 2020 Groundwater Monitoring Program*.

Each 6-inch diameter, 76- to 88-feet deep well was drilled, installed, and developed by the sonic drilling method in similar fashion as previous, historical wells at the site. Each well includes 20- to 25-feet of well screen, so that each well might be used for groundwater recovery, if needed. Soil samples were collected continuously within 10-foot long, sampling sleeves for easy visual inspection and review of lithologic characteristics such as soil type and moisture. Stantec hydrogeologists observed Cascade field activities and prepared well-specific drilling logs and well construction schematic drawings, copies of which are presented in Attachment A herein.



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Subsurface soil data were used to help determine respective groundwater monitoring well construction details. Typically, once each boring was advanced approximately 20 to 25 feet into the uppermost saturated soils, a monitoring well was constructed within each respective borehole. Each groundwater monitoring well was comprised of 6-inch diameter, flush-threaded, Schedule 40 polyvinyl chloride (PVC) pipe with a solid, PVC end-cap. The bottom 25 feet of each well was comprised of 6-inch diameter, flush-threaded, 0.02-slotted, Schedule 40 PVC well screen.

Following installation of each well, 16/30 washed, silica sand was emplaced around the well screen from the bottom of the borehole to an approximate height of several feet above the top of the well screen interval. An approximate five to seven feet thick, bentonite pellet seal was added on top of the sand pack material. Then, a cement-bentonite (typically, 10:1 ratio) grout was tremie-slurried from the top of the bentonite pellet seal to an approximate height of two feet below grade. A 5-ft. long, 6-inch diameter, steel, protective casing/monument was emplaced in concrete around each wellhead, with an approximate 2.5-ft. stick-up above natural grade. Each PVC well was furnished with a locking, expandable well cap and lock.

Following well installations, each well was developed by a dedicated, well development drill rig. Typically, the rig removed water from each well by means of bailing followed by air-lift. Well water was removed from each well, until return water was relatively clear and free of fine-grained, formational materials. The ground surface and the top of each wellhead were surveyed in relation to one another and the same on-site, mean sea level benchmark used for surveying the tops of other historical monitoring wells.

Following well development, each well was pump-tested by the drilling firm for at least two to three hours to estimate generalized well yields. Several wells were subsequently pump-tested during June and July 2020 by Stantec for timeframes between a few hours to 24 hours per well to help investigate more accurately localized hydraulic characteristics including well yields, specific capacities, and radial cones of influence/capture zones. Stantec's pump-tests were conducted using dedicated, submersible pumps, portable power generators, and electronic down-hole pressure transducers for continuous measurement and recording of water levels in pumping and nearby-surrounding monitoring wells.

All well drilling, installation, and development activities were performed in accordance with measures outlined within IPSC's November 2015 Ground Water Sampling and Analysis Plan and November 2015 CCR Units Ground Water Monitoring Well Design and Installation Summary Report. Copies of drilling logs and schematic well construction diagrams for each of the 25 new wells and all other CCR Rule monitoring wells are presented in Attachment A herein. Table 1 presents well construction details pertaining to CCR Rule groundwater monitoring and recovery wells.

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3.0 FALL 2020 GROUNDWATER MONITORING PROGRAM

3.1 GROUNDWATER QUALITY ANALYTICAL RESULTS

As detailed within IPSC's December 2020 Semi-Annual Progress Report, IPSC measured water levels in CCR compliance monitoring wells and then purged and sampled the wells during September-October 2020, including the 25 wells that were installed during Spring 2020. All water samples were submitted to AWAL for analysis of CCR Appendix III and IV constituents.

All well purging and sampling activities were performed in accordance with measures outlined within IPSC's November 2015 Ground Water Sampling and Analysis Plan. Historical water level measurement and quantitative analytical results, including those associated with the Fall 2020 semi-annual sampling event, are presented in Attachment B herein.

Figure 4 depicts a groundwater potentiometric and TDS concentration map associated with the Fall 2020 monitoring program. Figure 5 presents Stantec's generalized estimation of the locations of 1,100 mg/L TDS iso-concentration lines, the action level for TDS prescribed by IPSC's Groundwater Discharge Permit. Attachment A presents a summary of water level measurement and analytical laboratory results to date, including the October 2020 results.

The TDS results associated with monitoring of the two surface impoundments are relatively similar to those observed during past monitoring events including the previous sampling event of May 2020. However, there was an increase in TDS concentration (1,890 mg/L) at well WWC-9 located down-gradient of the Waste Water Basin, when compared to the May 2020 TDS result of 652 mg/L. Historically since initial sampling in April 2019, TDS concentrations in well WWC-9 were below the Groundwater Discharge Permit action level of 1,100 mg/L.

Of the 25 newly-installed wells, the only wells to exhibit TDS concentrations in excess of the 1,100 mg/L Groundwater Discharge Permit action level were as follows:

- WWC-14 (3,350 mg/L), located down-gradient of the Waste Water Basin and
- BAC-29 (1,550 mg/L) and BAC-30 (1,300 mg/L), located down-gradient of the Bottom Ash Basin.

Future water quality monitoring will be used to gauge whether these specific wells exhibit elevated TDS concentrations or not. There have been anomalous instances in the past, when a TDS concentration in one or more wells was quantified to exceed the 1,100 mg/L action level and then quantified to be below the action level during numerous subsequent sampling events.

Upon review of the forthcoming updated groundwater fate and transport flow model, IPSC will evaluate if additional groundwater monitoring and/or recovery wells might be warranted for more definitive CCR constituent plume delineation and/or containment. Future IPSC reporting will document IPSC's findings and conclusions.

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3.2 ASSESSMENT MONITORING - STATISTICAL ANALYSIS OF GROUND WATER QUALITY DATA

3.2.1 Introduction

Groundwater quality data collected as part of the detection and assessment monitoring program were utilized by Stantec to establish GWPSs and identify statistically significant levels (SSLs) above the GWPS in downgradient wells for each Appendix IV constituent/well pair at each regulated CCR unit. All analyses were conducted in accordance with CCR Rule §257.95(d)(2) and §257.95(h) (R315-319-95(d)(2) and R315-319-95(h)). Groundwater quality data collected during 2015 through 2020 was analyzed statistically, utilizing the following documents as general guidance sources:

- US EPA "Unified Guidance" document (*Statistical Analysis of Ground Water Monitoring Data at RCRA Facilities, Unified Guidance*, March 2009, EPA 530/R-09-007);
- the Interstate Technology and Regulatory Council's (ITRC) 2013, *Groundwater Statistics for Monitoring and Compliance, Statistical Tools for the Project Lifecycle*, Online Guidance; and
- Ofungwu, J. (2014) *Statistical Applications for Environmental Analysis and Risk Assessment*. Hoboken, New Jersey: John Wiley and Sons, Inc.

The following software was used to conduct the statistical analyses:

- United States Environmental Protection Agency (US EPA). ProUCL: Statistical Support Software for Site Investigation and Evaluation. ProUCL version 5.1.002;
- Sanitas Technologies. Sanitas Statistical Software. Sanitas version 9.6; and
- StataCorp LLC. Stata Statistics/Data Analysis Software. Stata version 15.1.

3.2.2 Statistical Methods

3.2.2.1 Exploratory Data Analysis

The initial step of quantitative analysis is exploratory data analysis (EDA). The process of EDA utilizes simple summary statistics (e.g. mean, median, standard deviation and percentiles) and graphical representations to identify four important characteristics of an analytical data set:

- Location – Where is the "center" of the data? Represented by mean or median.
- Variation – How variable are the data? What is the spread of the data? Represented by the standard deviation.
- Distribution – What is the shape of the data? Are the data normally distributed ("bell curve") or fit another distribution better, such as a logarithmic or gamma distribution?
- Randomness – Are the data random or are patterns present in the data, such as spatial trends or temporal (i.e. seasonality)?

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Along with these four data characteristics, patterns, anomalous data/outliers, and trends become apparent using a graphics-based EDA. The raw data sets were plotted using box plots and time-series graphs. Summary statistics for each constituent/well pair are presented in Table C-1 in Attachment C. Box plots and time-series plots are presented in Figures C-1a, C-1b, and C-1c in Attachment C.

3.2.2.2 Outliers

Outliers are data point(s) that are abnormally high or low as compared to the rest of the samples and may represent anomalous data and/or data errors. Outliers may also represent natural variation of constituent concentrations in environmental systems. Outliers are identified graphically using side by side box plots and time-series graphs. The presence of outliers can also be evaluated using statistical tests (Dixon, Rosner and Tukey's Extreme tests). If outliers are suspected and verified using graphical and statistical testing, they warrant further investigation. A thorough data quality review should be conducted including the evaluation of field forms, lab dilution factors, and field and/or lab transcriptional errors.

If outliers cannot be excluded as errors, then the result should be flagged as a potential outlier in the data set. Statistical analyses should be conducted with and without the outlier included in the data set. Using the methods outlined above one (1) outlier was identified as extreme: Molybdenum in well CL-W-7 (sample date 2/29/2016 - 0.146 mg/L).

3.2.2.3 Anomalous Data

Data that represents current site conditions is critical to a meaningful statistical evaluation of ground water quality results. Environmental data often exhibits trends or seasonal patterns in constituent concentrations over time. In addition, field procedures, sampling procedures, and laboratory procedures or methods may vary slightly which might lead to data that are not representative of current site conditions. Time-series graphs were used to identify trends or anomalous data over time. If historical data are not representative of current site conditions then it may be excluded from the data set, as long as the remaining truncated data set contains a sufficient number of samples (8 or more sampling events) to make meaningful and reliable statistical conclusions.

Two instances of anomalous data were identified. Historical lithium concentrations were elevated and more variable when compared to recent laboratory analytical results. Specifically, the data collected during the first four rounds of sampling (December 2015 through August 2016) were highly variable and elevated, regardless of well or CCR unit. Lithium data from the first four rounds of sampling were excluded from the data set and subsequent statistical analyses, as not being representative of current site conditions.

Historically, cobalt was only detected above the laboratory reporting limit four times in any well at the Waste Water Basin and has not been detected above its reporting limit since June 2016. Cobalt data collected from wells associated with the Waste Water Basin prior to and including

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the June 2016 sample event were excluded from the data set and subsequent statistical analyses, as not being representative of current site conditions.

3.2.2.4 Assessment Monitoring - Establishing the Groundwater Protection Standard (GWPS)

The Unified Guidance recommends the use of Upper Tolerance Limits (UTLs) for Assessment Monitoring. Tolerance limits consist of two values expected to contain a pre-specified proportion of the underlying data population with a specified level of confidence. For example, a 95% tolerance interval with a 95% confidence level, there is 95% confidence that, on average, 95% of the data population is contained within the interval. The upper, one-sided UTL is used commonly in environmental monitoring and is constructed using background data (Ofungwu 2014).

In the context of the CCR Rule, data from all background wells were used to estimate a 95% UTL with 95% coverage for each Appendix IV constituent at each CCR-regulated unit. This represents a 95% upper confidence limit on the 95th percentile. In Assessment Monitoring, the UTL may be used to represent the GWPS if: 1) the constituent does not have an established Maximum Contaminant Level (MCL) or 2) the background UTL exceeds the established MCL.

Four Appendix IV constituents do not have established MCLs: Cobalt, Lead, Lithium, and Molybdenum. However, the US EPA amended the original CCR rule in July 2018 and established the following alternate, regulatory standards for these compounds: Cobalt (0.006 milligrams per liter, mg/L), Lead (0.15 mg/L), Lithium (0.04 mg/L), and Molybdenum (0.1 mg/L).

As specified by CCR Rule §257.95(d)(2) and §257.95(h) (R315-319-95(d)(2) and R315-319-95(h)), each constituent-specific GWPS shall be either the MCL for that constituent (or above-referenced, CCR Rule-established, alternate, regulatory limits for Cobalt, lead, Lithium, and Molybdenum) or the UTL in instances where the UTL exceeds the established MCL. During Assessment Monitoring, a UTL for each Appendix IV constituent at each CCR unit is calculated using pooled background data for that unit. Table C-2 in Attachment C presents a tabulation of each UTL and GWPS for every individual Appendix IV constituent for each CCR unit.

Parametric UTLs assume that the background data set is normally distributed or has been normalized via transformation. A background sample size of at least eight observations is required to generate an adequate tolerance limit.

The calculation of the UTL is straightforward:

$$UTL = \bar{x} + ts$$

Where:

\bar{x} = mean constituent concentration in background data set.

s = standard deviation of constituent in background data set.

t = multiplier based size of data set, confidence (95%) and desired coverage (95%).

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The values for \bar{x} are available in Appendix D tables in the Unified Guidance. If the site-specific value for \bar{x} is not available in the tables, the value can be estimated by linear interpolation.

When the background data were not normal or could not be normalized (ladder of powers), non-parametric UTLs were used. The non-parametric UTL is an order statistic, typically the maximum or the second largest observed concentration in the background data set. Unlike parametric methods, the desired coverage and confidence interval cannot be pre-specified for non-parametric tolerance limits. For a specified coverage, non-parametric UTLs require a larger number of background samples as compared to parametric UTLs.

3.2.3 Comparison to GWPS

Down-gradient groundwater quality results for each constituent/well pair were compared to the established GWPSs using a two-step approach. Initially, the maximum detected concentrations for each Appendix IV constituent/well pair were compared to their respective GWPS. If any detected concentration exceeded the GWPS, then that constituent/well pair was assessed using the statistical methods outlined in step two. It should be noted that individual sample results of Appendix IV constituents above the GWPS during assessment monitoring are not necessarily a demonstration of statistically significant exceedances of the GWPS.

Step two involves the computation of a lower confidence limit (LCL) or a lower confidence band (LCB) of the mean constituent/well pair concentrations for comparison to their respective GWPSs. During Assessment Monitoring, the site is assumed to be free of impacts, unless proven otherwise through statistical testing. The statistical null hypothesis (H_0) represents the hypothesis that the mean down-gradient concentration is less than or equal to the GWPS, while the alternate hypothesis (H_a) represents the hypothesis that the mean down-gradient concentration is greater than the GWPS (ITRC, 2013).

To test this hypothesis, the LCL or LCB around the mean down-gradient Appendix IV concentrations are estimated using data collected as part of the detection monitoring and assessment monitoring programs. The LCL or LCB for each constituent/well pair are then compared to their respective GWPS. If the LCL exceeds the GWPS, then the constituent/well pair concentration is at a statistically significant level (SSL) above the GWPS. Similarly, if the LCB at the last sampling event exceeds the GWPS, then there is statistical evidence that the constituent/well pair concentration represent an SSL above the GWPS.

Prior to the calculation of the LCL/LCB, the data is assessed for normality (Shapiro Wilk Test) and for trend (Linear regression or non-parametric Thiel-Sen). If the data are normally distributed or can be transformed to normal, then parametric methods are used to estimate LCLs or LCBs; otherwise non-parametric methods are employed. In the presence of trend, a 95% confidence band is calculated around the trend line. If there is not a significant trend, then either parametric or non-parametric LCLs are calculated and compared to the GWPS.

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In summary, and as presented on the stoplight plot in Figure C-2 in Attachment C, the quantitative analytical results associated with monitoring under the CCR Rule indicated the following Appendix IV constituent/well pairs that represent SSLs above their respective GWPSs:

SSLs above GWPS (2015 – 2020)			
CCR Unit	Constituent/Well Pair	LCL/LCB	GWPS
CB Landfill	No SSLs above GWPS		
Bottom Ash Basin	Arsenic/BAC-2	0.059 mg/L	0.0362 mg/L
	Lithium/BAC-3	0.930 mg/L	0.4564 mg/L
	Molybdenum/BAC-2	0.156 mg/L	0.1 mg/L
Waste Water Basin	Arsenic/WWC-1	0.0216 mg/L	0.01338 mg/L
	Arsenic/WWC-2	0.0148 mg/L	
	Arsenic/WWC-3	0.0225 mg/L	
	Arsenic/WWC-4	0.0141 mg/L	
	Arsenic/WWC-5	0.0146 mg/L	
	Lithium/WWC-1	0.867 mg/L	0.587 mg/L

As a result of phased, sequential investigation of groundwater quality located down-gradient of the two surface impoundments, numerous monitoring wells located down-gradient of the impoundments have only been sampled once or a few times. Thus, in these instances there is insufficient water quality data (e.g. fewer than eight independent samples) to calculate meaningful LCLs/LCBs for comparison to GWPSs. Once eight independent samples have been collected for each Appendix IV constituent/well pair, then the new wells will be incorporated into future statistical analyses.

In summary, direct comparison of Appendix IV concentrations with corollary GWPSs indicates that some of the recently-installed wells exceed the GWPS for Arsenic but no other Appendix IV constituents. It should be stressed that an individual exceedance of the GWPS is not evidence of an SSL above the GWPS. This can only be evaluated when there is sufficient data to calculate meaningful and reliable LCLs/LCBs.

Although it is documented throughout Utah and in proximity to the site that Arsenic and Lithium can be present naturally in soil and groundwater at elevated concentrations, IPSC will continue monitoring these and other CCR Rule metal constituents in groundwater as part of its routine groundwater monitoring program. It is documented that basin-fill aquifers in Utah (including Lake Bonneville sediments similar to those underlying the IGF) and throughout the western United States can contain elevated concentrations of naturally-occurring Arsenic and Lithium attributable to volcanic rock source material and lacustrine and hot spring deposits. Moreover, naturally-occurring concentrations of both metals can vary considerably across short, lateral

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distances within topsoil, subsurface soil, and aquifers, as a result of localized hydrogeologic, geochemical, and mineralogic characteristics.

As additional groundwater quality data is generated, CCR constituent concentrations will be evaluated through statistical analysis, in accordance with CCR Rule requisites. Ongoing/future water quality data will be evaluated in terms of whether additional monitoring and/or recovery wells might be warranted.

As tabulated above, current data indicate that only three metals exceed corollary GWPSs within monitoring and/or recovery wells located at the boundaries of the two impoundments. If the three metals are attributable to localized release of CCR constituents from the CCR impoundments (i.e., anthropogenic presence), it is anticipated that the migration of the metals in the subsurface will be hindered and attenuated as a direct result of the clay-rich nature of the uppermost aquifer beneath the site. Natural attenuation processes, such as adsorption, cationic exchange, dispersion, and biological degradation, tend to slow the rate of movement of metals in clay-rich soils.

Groundwater quality data to date indicate that TDS has migrated farther down-gradient of the two surface impoundments than the metal constituents located near the impoundment boundaries. TDS is being used as the leading indicator parameter of impacted groundwater quality for fashioning a suitable groundwater remediation approach. TDS is expected to continue to migrate at a faster rate than dissolved metals in the clay-rich aquifer that underlies the property and the recovery of TDS-impacted groundwater at select recovery wells will also intercept any metal constituent that might be present.

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ONGOING CORRECTIVE ACTIONS AND PROGRESS TOWARD IMPLEMENTING ADDITIONAL GROUNDWATER CORRECTIVE ACTION REMEDY

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4.0 ONGOING CORRECTIVE ACTIONS AND PROGRESS TOWARD IMPLEMENTING ADDITIONAL GROUNDWATER CORRECTIVE ACTION REMEDY

4.1 ONGOING GROUNDWATER RECOVERY AT EXISTING RECOVERY WELLS WR-101, WR-102, AND WR-103

IPSC intends to continue operating existing groundwater recovery wells WR-101, WR-102, and WR-103 identified on Figure 3. The three wells are recovering groundwater that contains elevated concentrations of TDS, located in relatively close proximity to the apparent historical TDS release areas associated with the Bottom Ash Basin. Wells WR-102 and WR-103 are located generally along the apparent TDS plume centerline, as explained in detail in IPSC's 2016 *Updated Corrective Action Plan*. Continued removal of TDS-enriched groundwater from each of these three wells is helping reduce the total mass of TDS within the uppermost aquifer beneath the site in a generalized downgradient/southwesterly direction in relation to the Bottom Ash Basin.

4.2 ASSESSMENT AND DESIGN OF EXPANDED GROUNDWATER REMEDY

Currently, Stantec is using recent pump-test results, semi-annual analytical results, and statistical analytical results to update Stantec's groundwater fate and transport model and help refine IPSC's understanding of site-specific hydraulic conditions and Stantec's Conceptual Site Model. The results of the updated model will be used to help refine IPSC's current analysis of alternative corrective measure options, including design of an expanded groundwater recovery well network.

As detailed in IPSC's November 2020 Amended Corrective Measures Assessment report, groundwater recovery appears to be the most practical and timely remedial option for controlling and remediating plumes of CCR constituents in groundwater and continuing appropriate protection of human health and the environment. The groundwater recovery program will focus on two aspects of plume control, namely: recovery of groundwater from the downgradient leading edges of each TDS plume, as well as recovery of groundwater from the generalized center of TDS mass of each of the plumes.

The updated groundwater fate and transport model will be used to help design an appropriate groundwater recovery program, including identification of which specific wells should be used for groundwater recovery, optimal pumping rates of individual wells, and the most appropriate timeframe(s) for initiation of such groundwater recovery. Final design of the groundwater recovery program will be documented within a forthcoming Selection of Remedy Report that will be prepared in accordance with CCR Rule §257.97.

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ONGOING CORRECTIVE ACTIONS AND PROGRESS TOWARD IMPLEMENTING ADDITIONAL GROUNDWATER CORRECTIVE ACTION REMEDY

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Upon completion of installation and start-up of the enhanced groundwater recovery network, IPSC will evaluate the degree to which groundwater recovery and natural attenuation processes control CCR constituent-impacted groundwater. Future groundwater quality monitoring data will also be used to gauge success and adequacy of the groundwater recovery program and protection of human health and the environment. IPSC will continue to conduct and report to the UDEQ its routine, semi-annual, groundwater monitoring and remediation program in formal summary Progress Reports.

Currently, Stantec is designing components of the remedial program in anticipation that numerous existing groundwater wells will be used as part of the final remedy. Final update and analysis of Stantec's groundwater model will influence what, if any, additional monitoring and/or recovery wells might also be considered for the remedial program. Stantec has identified the following wells for *anticipated* groundwater recovery, based on data generated to date and current projections of TDS plume orientation and migration:

- Bottom Ash Basin Plume Recovery Wells: RW-9, BAC-11, BAC-13, BAC-14, and BAC-20 through BAC-38.
- Waste Water Basin Plume Recovery Wells: RW-4, WWC-1, WWC-2, WWC-4, WWC-5, WWC-6, WWC-8, WWC-9, and WWC-12 through WWC-17.

Stantec is designing well-specific submersible pumps, water level and electrical controls, pump-houses, water conveyance piping, appurtenances, and SCADA instrumentations for anticipated/possible use in each of the afore-listed wells. Although each of the above-listed wells will be equipped with appropriate groundwater recovery and conveyance equipment and appurtenances, it is possible that some of the wells might not be 'brought-on-line' for use as recovery wells at the same time. The groundwater model is being used to investigate optimal timeframes when groundwater recovery might be initiated at specific wells, as well as timeframes for CCR constituent plume control, containment, and cleanup of the aquifer beneath the IGF to GWPSs, depending on what array of recovery wells might be employed.

As may be noted by review of Figure 5, many of the BAC monitoring wells located near the projected, down-gradient leading edge of the TDS plume southwest of the Bottom Ash Basin, as well as some of the WWC wells located down-gradient of the Waste Water Basin, do not contain elevated concentrations of TDS and CCR constituents currently. However, considering the proximity of some of the wells in relation to the projected, down-gradient leading edge of the TDS plumes (represented by the hypothetical 1,100 mg/L iso-concentration line estimated on Figure 5) and apparent southwesterly groundwater flow direction, it is possible that some of the wells might be impacted by such constituent concentrations, sometime during the next couple to few years. Thus, it is anticipated that some wells may be used for groundwater recovery sooner than other wells, depending on the findings of Stantec's updated groundwater model.

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ONGOING CORRECTIVE ACTIONS AND PROGRESS TOWARD IMPLEMENTING ADDITIONAL GROUNDWATER
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Details regarding Stantec's groundwater fate and transport model, model results, and final design of the proposed expanded groundwater recovery network will be presented within IPSC's forthcoming Selection of Remedy Report that will be prepared in accordance with CCR Rule §257.97. Presently, Stantec anticipates completing update of its groundwater fate and transport model, sometime during the first quarter of 2021. Subsequently, final design and Request for Bid packages will be prepared and shared with Construction Contractors for bidding purposes.

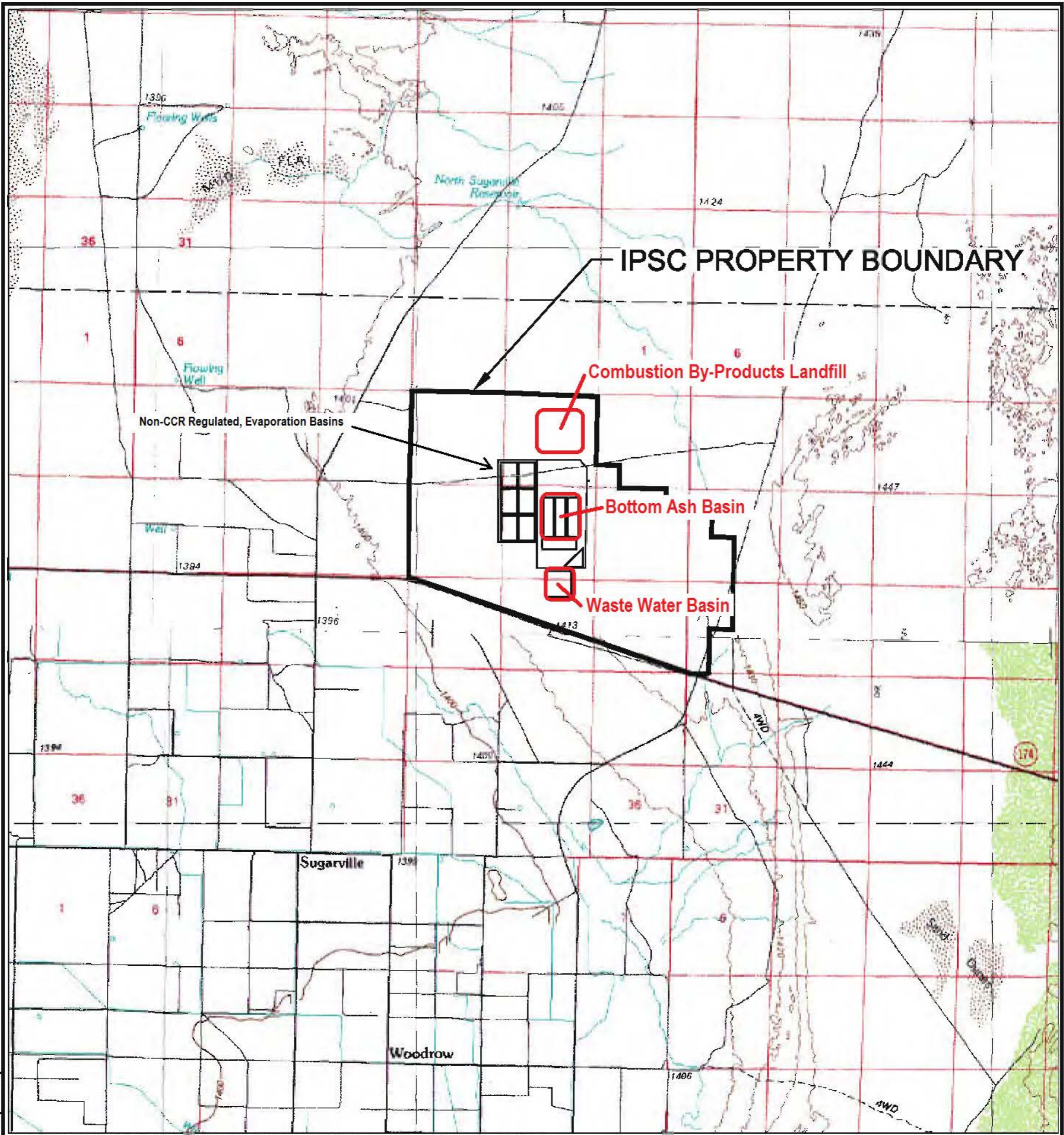
Once Contractor bid approaches and schedules for implementation of the selected remedy are reviewed by IPSC, then IPSC's Selection of Remedy Report will be finalized and posted on its Public website as required by §257.105(h)(12) and in accordance with scheduling that satisfies CCR Rule 40 Part §257.98(a), which stipulates that within 90 days of selecting a remedy under §257.97, the owner or operator must initiate remedial activities.

2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION SUMMARY REPORT

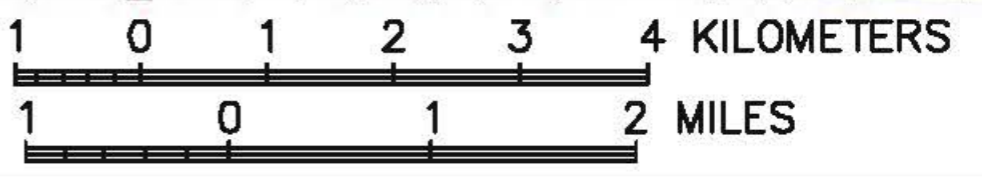
January 21, 2021

Figure 1 General Site Location Map

drawings\ipsc-04\Fig2 Site Topographic Map.dwg



BASE FROM USGS 1:100,000 SCALE METRIC TOPOGRAPHIC MAPS: LYNN DAL, UTAH, 1979 AND DELTA, UTAH, 1989.



CCR-Regulated Units DELTA, UTAH			
FIGURE 1 SITE TOPOGRAPHIC MAP			
			DATE DRAWN 1-26-17
DESIGN BY JR	DRAWN BY CP	CH'D BY	SCALE 1"=1000'
			REVISION

2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION SUMMARY REPORT

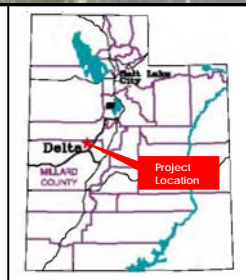
January 21, 2021

Figure 2. CCR Units Location Map



Legend

CCR Unit



INTERMOUNTAIN GENERATING FACILITY

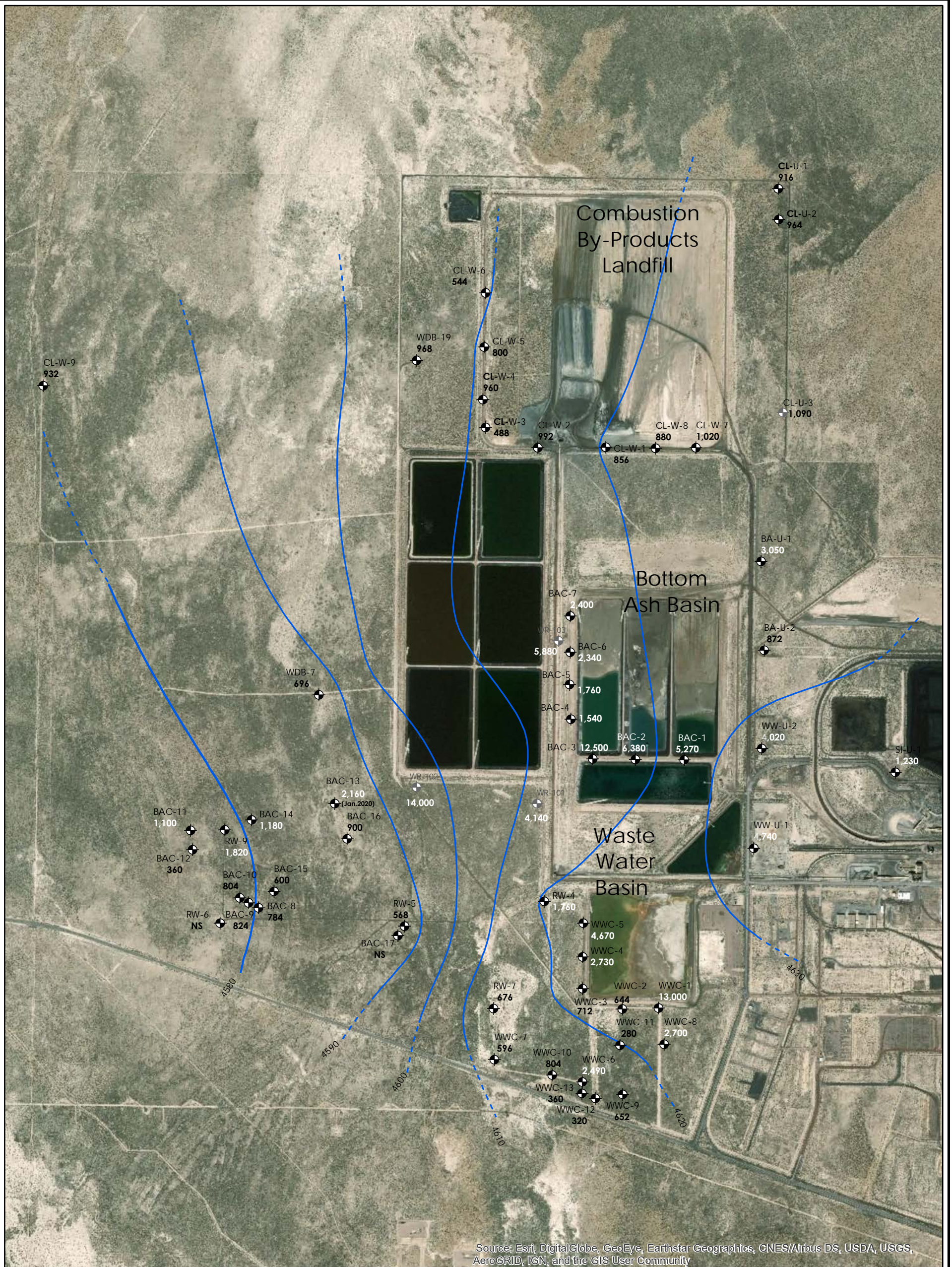
FIGURE 2
Site-Specific Location Map

DRAWN BY	JR	DATE DRAWN	9/30/2016
SCALE	1 in. approx. 1700 ft.		
PROJECT	203709098.409		

**2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION SUMMARY
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Figure 3 March 2020 Groundwater Flow and TDS Concentration Map



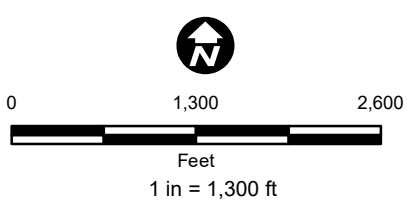
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

LEGEND:

- MONITORING WELL (GREYED WHEN NOT USED FOR CONTOURING)
- 568 Total Dissolved Solids (TDS) MILLIGRAMS PER LITER (mg/L) NS: NOT SAMPLED
- GROUNDWATER CONTOUR

NOTE:

1) ALL ELEVATIONS ARE FEET ABOVE MEAN SEA LEVEL



FOR:
INTERMOUNTAIN POWER SERVICE CORP.
INTERMOUNTAIN GENERATION FACILITY
DELTA, UTAH

**MAY 2020
TDS CONCENTRATIONS**
SUPERIMPOSED ON MARCH 2020
POTENTIOMETRIC MAP

FIGURE:

3

JOB NUMBER:
203709098

DRAWN BY:
CK

CHECKED BY:
ALL

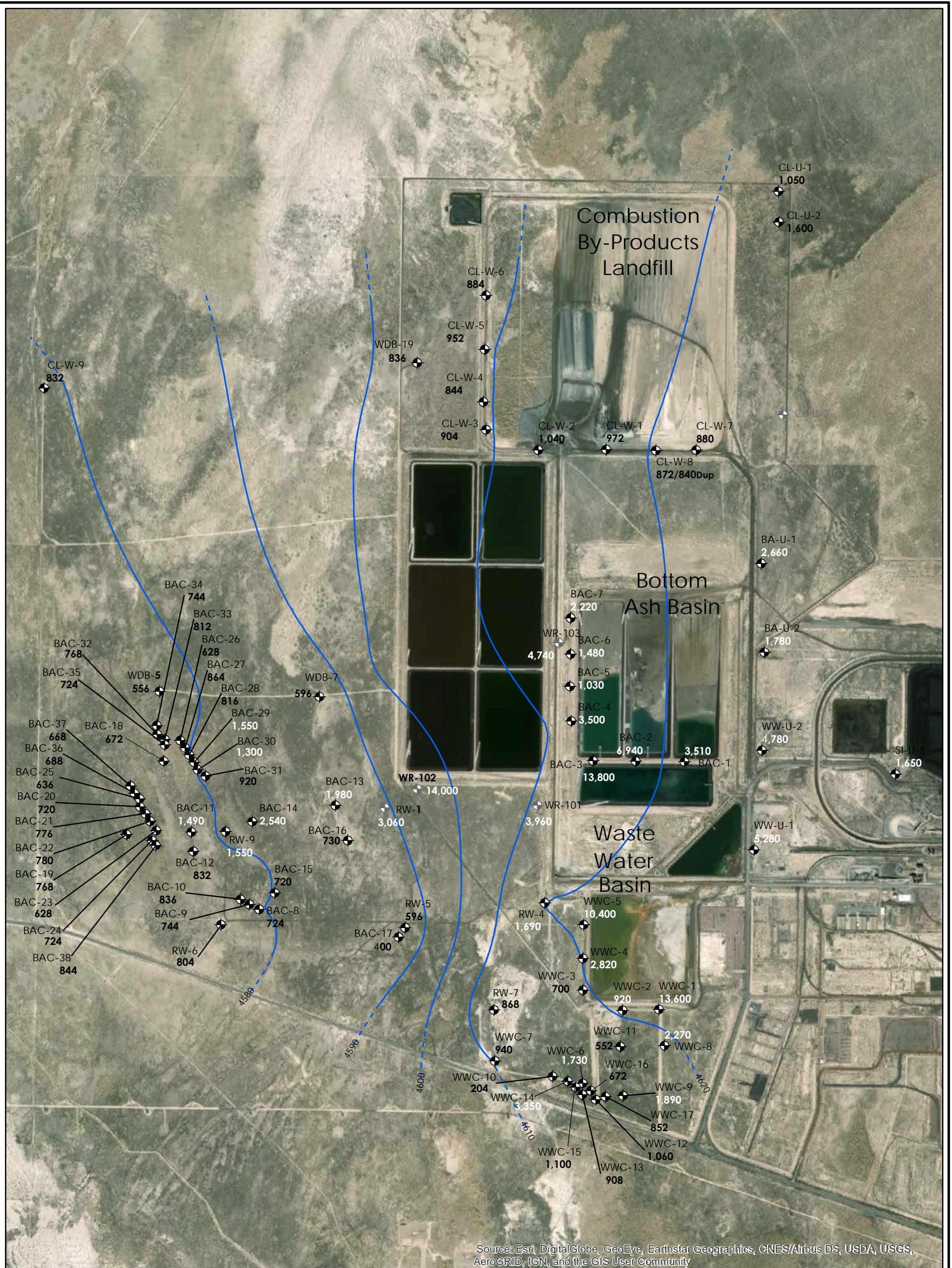
APPROVED BY:
JR

DATE:
05/04/20



**2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION SUMMARY
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Figure 4 October 2020 Groundwater Flow and TDS Concentration Map

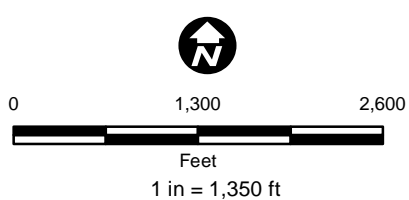


LEGEND:

-  MONITORING WELL (GREYED WHEN NOT USED FOR CONTOURING)
- 568 Total Dissolved Solids (TDS) MILLIGRAMS PER LITER (mg/L) NS - Not Sampled
-  GROUNDWATER CONTOUR

NOTE:

- 1) DATA COLLECTED OCTOBER 2020
- 2) ALL ELEVATIONS ARE FEET ABOVE MEAN SEA LEVEL
- 3) NS = NOT SAMPLED



FOR:
INTERMOUNTAIN POWER SERVICE CORP.
INTERMOUNTAIN GENERATION FACILITY
DELTA, UTAH

TDS CONCENTRATIONS
OCTOBER 2020
SUPERIMPOSED ATOP OCTOBER 2020
POTENTIOMETRIC MAP AND GROUNDWATER
FLOW MAP

FIGURE:

4

JOB NUMBER:
203709098

DRAWN BY:
CK

CHECKED BY:
JR

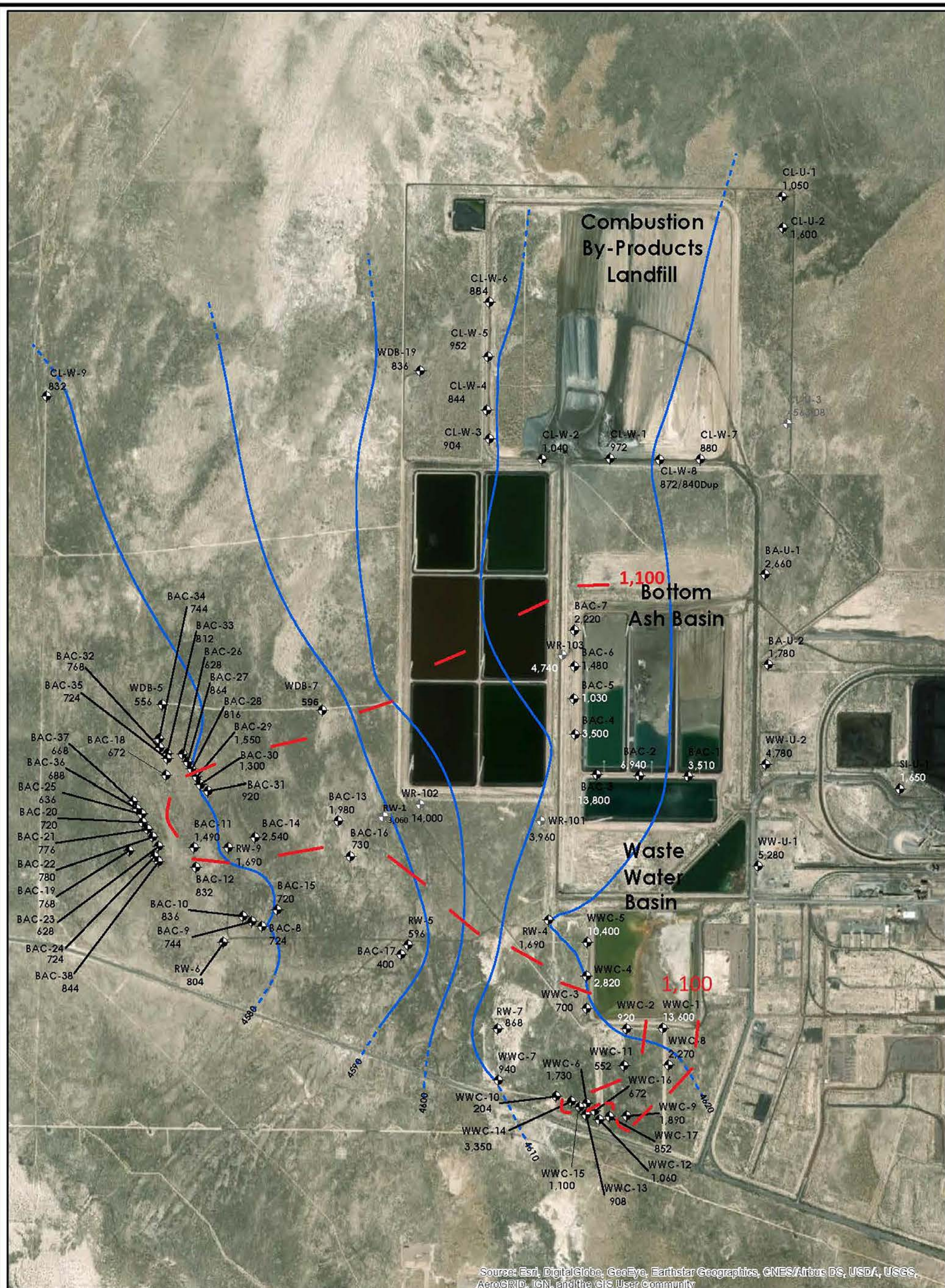
APPROVED BY:
JR

DATE:
11/18/20

**2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION SUMMARY
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Figure 5 October 2020 TDS Iso-Concentration Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

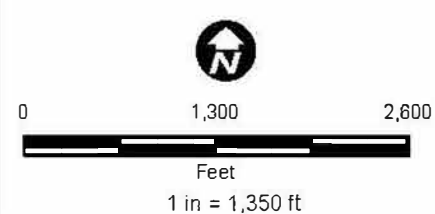
LEGEND:

- MONITORING WELL (GREYED WHEN NOT USED FOR CONTOURING)
- 568 Total Dissolved Solids (TDS) MILLIGRAMS PER LITER (mg/L) NS - Not Sampled
- GROUNDWATER CONTOUR

NOTE:

- 1) DATA COLLECTED OCTOBER 2020
- 2) ALL ELEVATIONS ARE FEET ABOVE MEAN SEA LEVEL
- 3) NS = NOT SAMPLED

Estimated 1,100 mg/L TDS Iso-Concentration Line



FOR:
INTERMOUNTAIN POWER SERVICE CORP.
INTERMOUNTAIN GENERATION FACILITY
DELTA, UTAH

TDS ISO-CONCENTRATION MAP
OCTOBER 20, 2020
SUPERIMPOSED ATOP POTENTIOMETRIC MAP AND
GROUNDWATER FLOW MAP

FIGURE:

5

JOB NUMBER:
203709098

DRAWN BY:
CK

CHECKED BY:
JR

APPROVED BY:
JR

DATE:
11/18/20

2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION SUMMARY REPORT

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TABLE 1 GROUNDWATER MONITORING WELL CONSTRUCTION DETAILS

Table 1
WELL CONSTRUCTION SUMMARY
Intermountain Generating Facility
Delta, Utah

MONITOR WELL I.D.	DATE COMPLETED	WELL DIAMETER / MATERIAL	TOTAL DEPTH (feet BGS)	WELL SCREENING INTERVAL (feet BGS)	TOP OF PVC CASING ELEVATION (feet MSL)
Combustion By-Products Landfill Wells					
CLW-1	5/12/2015	4-inch PVC	65	55-65	4653.46
CLW-2	5/14/2015	4-inch PVC	80	70-80	4648.17
CLW-3	5/13/2015	4-inch PVC	80	70-80	4644.03
CLW-4	5/26/2015	4-inch PVC	82	72-82	4642.88
CLW-5	7/27/2015	4-inch PVC	82	72-82	4640.99
CLW-6	7/26/2015	4-inch PVC	88	78-88	4639.63
CLW-7	7/24/2015	4-inch PVC	72	52-72	4659.34
CLW-8	7/24/2015	4-inch PVC	72	62-72	4655.63
CLW-9	3/25/2018	4-inch PVC	97	87-97	4615.615
CL-U-1	7/23/2015	4-inch PVC	80	68-78	4657.48
CL-U-2	7/22/2015	4-inch PVC	80	70-80	4663.48
CL-U-3	3/27/2018	4-inch PVC	77	67-77	4665.367
Bottom Ash Basin Wells					
BAC-1	7/31/2015	4-inch PVC	70	60-70	4668.70
BAC-2	7/29/2015	4-inch PVC	65	55-65	4668.72
BAC-3	7/28/2015	4-inch PVC	72	52-72	4668.84
BAC-4	8/10/2015	4-inch PVC	75	55-75	4649.45
BAC-5	8/9/2015	4-inch PVC	68	58-68	4649.67
BAC-6	8/8/2015	4-inch PVC	65	55-65	4648.15
BAC-7	8/7/2015	4-inch PVC	67	57-68	4650.09
BAC-8	4/29/2019	6-inch PVC	77	52-77	4626.42
BAC-9	5/1/2019	6-inch PVC	77	52-77	4626.27
BAC-10	5/3/2019	6-inch PVC	87	62-87	4626.27
BAC-11	12/7/2019	6-inch PVC	75	50-75	4624.96

Table 1
WELL CONSTRUCTION SUMMARY
Intermountain Generating Facility
Delta, Utah

MONITOR WELL I.D.	DATE COMPLETED	WELL DIAMETER / MATERIAL	TOTAL DEPTH (feet BGS)	WELL SCREENING INTERVAL (feet BGS)	TOP OF PVC CASING ELEVATION (feet MSL)
BAC-12	12/6/2019	6-inch PVC	78	53-78	4625.055
BAC-13	11/18/2019	6-inch PVC	90	65-90	4629.834
BAC-14	12/4/2019	6-inch PVC	78	53-78	4627.506
BAC-15	12/9/2019	6-inch PVC	75	50-75	4626.494
BAC-16	11/21/2019	6-inch PVC	89	64-89	4630.426
BAC-17	12/10/2019	6-inch PVC	81	56-81	4629.648
BAC-18	5/8/2020	6-inch PVC	78	53-78	4621.504
BAC-19	5/9/2020	6-inch PVC	78	58-78	4615.62
BAC-20	5/9/202	6-inch PVC	78	53-78	4617.848
BAC-21	5/10/2020	6-inch PVC	88	61-88	4619.625
BAC-22	5/10/2020	6-inch PVC	78	53-78	4619.905
BAC-23	5/11/2020	6-inch PVC	78	53-78	4619.582
BAC-24	5/12/2020	6-inch PVC	76	51-76	4619.207
BAC-25	5/12/2020	6-inch PVC	78	53-78	4619.327
BAC-26	5/13/2020	6-inch PVC	78	53-78	4627.704
BAC-27	5/13/2020	6-inch PVC	78	53-78	4627.355
BAC-28	5/14/2020	6-inch PVC	78	53-78	4625.411
BAC-29	5/15/2020	6-inch PVC	78	53-78	4625.29
BAC-30	5/142020	6-inch PVC	78	53-78	4624.88
BAC-31	5/15/2020	6-inch PVC	78	53-78	4625.024
BAC-32	5/192020	6-inch PVC	78	53-78	4626.583
BAC-33	5/18/2020	6-inch PVC	78	53-78	4626.629
BAC-34	5/21/2020	6-inch PVC	78	53-78	4624.702
BAC-35	5/282020	6-inch PVC	78	53-78	4624.805

Table 1
WELL CONSTRUCTION SUMMARY
Intermountain Generating Facility
Delta, Utah

MONITOR WELL I.D.	DATE COMPLETED	WELL DIAMETER / MATERIAL	TOTAL DEPTH (feet BGS)	WELL SCREENING INTERVAL (feet BGS)	TOP OF PVC CASING ELEVATION (feet MSL)
BAC-36	5/30/2020	6-inch PVC	78	53-78	4619.231
BAC-37	5/29/2020	6-inch PVC	78	53-78	4618.397
BAC-38	5/31/2020	6-inch PVC	78	53-78	4619.593
BA-U-1	7/24/2015	4-inch PVC	55	45-55	4665.73
BA-U-2	7/25/2015	4-inch PVC	70	60-70	4661.33

Table 1
WELL CONSTRUCTION SUMMARY
Intermountain Generating Facility
Delta, Utah

MONITOR WELL I.D.	DATE COMPLETED	WELL DIAMETER / MATERIAL	TOTAL DEPTH (feet BGS)	WELL SCREENING INTERVAL (feet BGS)	TOP OF PVC CASING ELEVATION (feet MSL)
Wastewater Basin Wells					
WWC-1	7/26/2015	4-inch PVC	60	48-58	4644.72
WWC-2	7/27/2015	4-inch PVC	70	60-70	4645.11
WWC-3	7/30/2015	4-inch PVC	65	55-65	4638.90
WWC-4	7/29/2015	4-inch PVC	75	65-75	4640.58
WWC-5	7/28/2015	4-inch PVC	74	64-74	4641.75
WWC-6	3/24/2018	4-inch PVC	87	67-77	4635.945
WWC-7	3/22/2018	4-inch PVC	87	77-87	4630.487
WWC-8	4/25/2019	6-inch PVC	96	71-96	4647.799
WWC-9	4/28/2019	6-inch PVC	87	62-87	4642.58
WWC-10	4/26/2019	6-inch PVC	87	62-87	4633.72
WWC-11	11/16/2019	6-inch PVC	90	65-90	4641.919
WWC-12	11/12/2019	6-inch PVC	90	65-90	4636.661
WWC-13	11/15/2019	6-inch PVC	90	65-90	4635.128
WWC-14	5/6/2020	6-inch PVC	85	60-85	4635.927
WWC-15	5/6/2020	6-inch PVC	88	63-88	4636.864
WWC-16	5/7/2020	6-inch PVC	88	63-88	4635.921
WWC-17	5/8/2020	6-inch PVC	88	63-88	4641.487
SI-U-1	8/12/2015	4-inch PVC	79	69-79	4664.59
WW-U-1	8/11/2015	4-inch PVC	70	60-70	4665.03
WW-U-2	8/11/2015	4-inch PVC	75	65-75	4665.46
Groundwater Discharge Permit Groundwater Recovery Wells					
WR-101	2/11/2007	6-inch PVC	66	46-66	4646.28
WR-102	3/3/2009	6-inch PVC	57	37-57	4637.62

Table 1
WELL CONSTRUCTION SUMMARY
Intermountain Generating Facility
Delta, Utah

MONITOR WELL I.D.	DATE COMPLETED	WELL DIAMETER / MATERIAL	TOTAL DEPTH (feet BGS)	WELL SCREENING INTERVAL (feet BGS)	TOP OF PVC CASING ELEVATION (feet MSL)
WR-103	3/31/2009	6-inch PVC	55	35-55	4649.82
Historical, Pre-CCR Rule Monitoring Wells					
RW-1	12/14/2007	4-inch PVC	50	40-50	Not Surveyed
RW-4	12/14/2007	4-inch PVC	36	26-36	4641.08
RW-5	12/12/2007	6-inch PVC	76	56-76	4630.67
RW-6	12/13/2007	4-inch PVC	56	46-56	4621.62
RW-7	12/14/2007	4-inch PVC	46	36-46	4632.26
RW-9	9/30/2008	4-inch PVC	50	35-50	4622.23
WDB-5	4/1/1980	3-inch PVC	83	58-83	4623.6
WDB-7	4/2/1980	3-inch PVC	71	51-71	4626.34
WDB-19	4/4/1980	3-inch PVC	98	83-98	4632.43

BGS = Below Ground Surface

MSL = Mean Sea Level

**2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION SUMMARY
REPORT**

ATTACHMENT A. DRILLING LOGS AND WELL SCHEMATIC DIAGRAMS
January 21, 2021

**ATTACHMENT A. DRILLING LOGS AND WELL SCHEMATIC
DIAGRAMS**

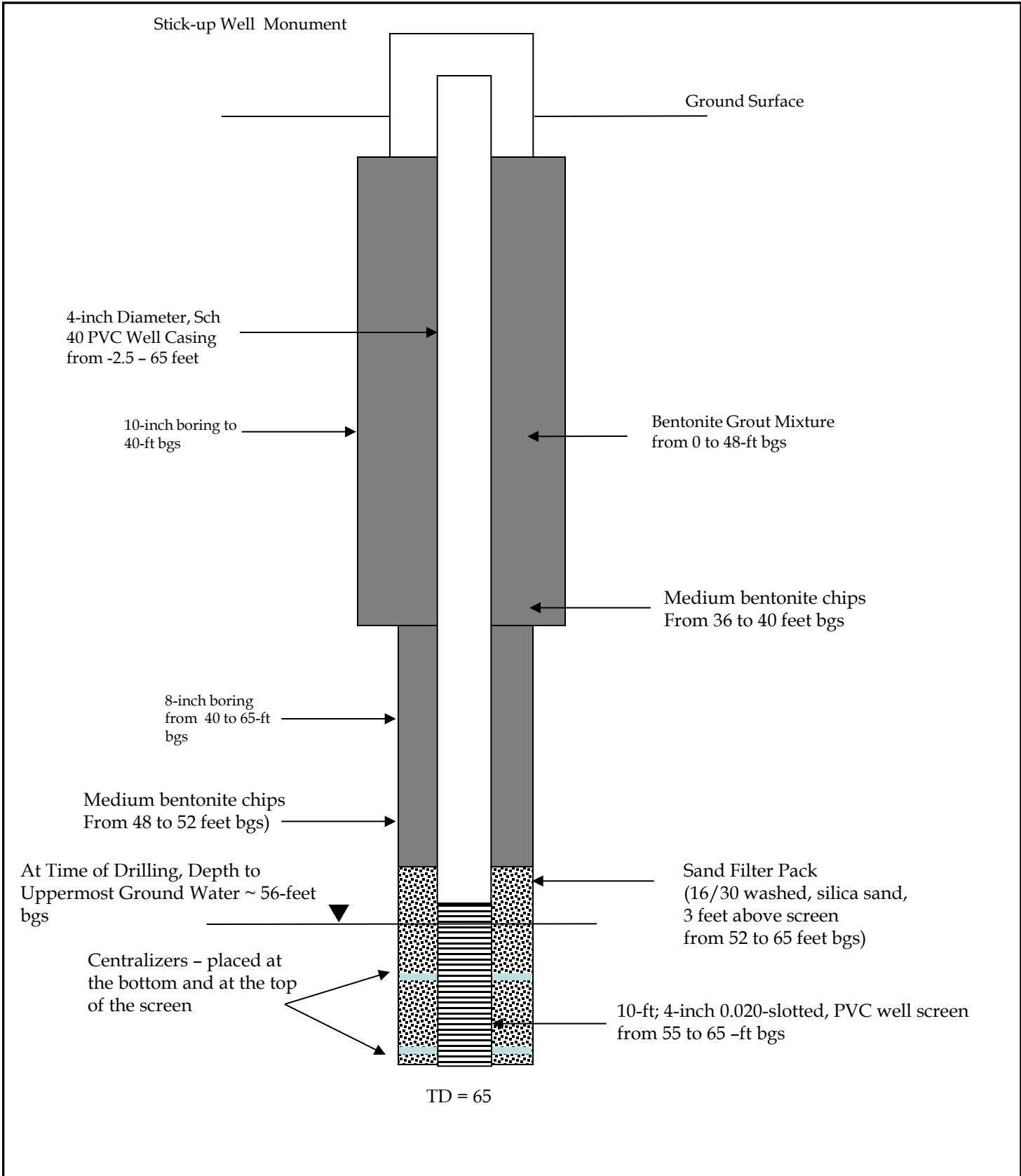
Boring Logs
 IPSC
 Delta, Utah

CLW-1

Interval (feet)	Drilling Method	Sample Description
		5/11/2015
0-3	10" Sonic	Brown fine grained Sand with gravel, dry
3-6	10" Sonic	Light to Dark Brown fine to medium grained Sand, no gravel present, dry
6-8	10" Sonic	Light Brown fine grained Sand
8-11.5	10" Sonic	Grayish white fine grained Sand, gravels present, rounded, dry
11.5-13.5	10" Sonic	Tan SILT with clay matrix, slightly moist
13.5-17	10" Sonic	Grayish Tan CLAY with small amount of silt present, slightly moist
17-23	10" Sonic	Grayish Tan SILT with fine grain sand present, trace amounts of clay, slightly moist
23-27	10" Sonic	Tannish Gray CLAY, denser, dry
27-32	10" Sonic	Tan CLAY, slightly moist
32-35	10" Sonic	Tan CLAY, denser material, slightly moist
		5/12/2015
35-48	10" Sonic to 40 feet	Tannish gray CLAY, moist
48-51	8" Sonic	Tannish gray CLAY, moist, softer
51-52	8" Sonic	Orangish, Brown, black fine grained Sand, moist
52-54	8" Sonic	Orangish, Brown, Red CLAY, slightly moist
54-56	8" Sonic	Orangish Brown CLAY with a fine grained sand matrix, slightly moist
56-62	8" Sonic	Light Brown fine grained Sand, saturated
62-63	8" Sonic	Light Brown CLAY, slightly moist
63-63.5	8" Sonic	Fine to medium grained Sand, slightly moist
63.5-64	8" Sonic	Light Brown CLAY, dry to slightly moist
64-65	8" Sonic	Light Brown fine grained Sand with clay matrix, moist

TD = 65; PVC 4-inch screen from 55 to 65; PVC 4-inch riser from -2.5 to 55

Drilling Company - Cascade Drilling
 Driller - Rick Mallett
 Geologist - Thomas Hedrick



Stantec

ISPC- CB LANDFILL AREA
DELTA, UTAH

Figure 1 - CLW-1 Schematic

Design by			Date Drawn
Drawn by			Last Revision Date
Scale			

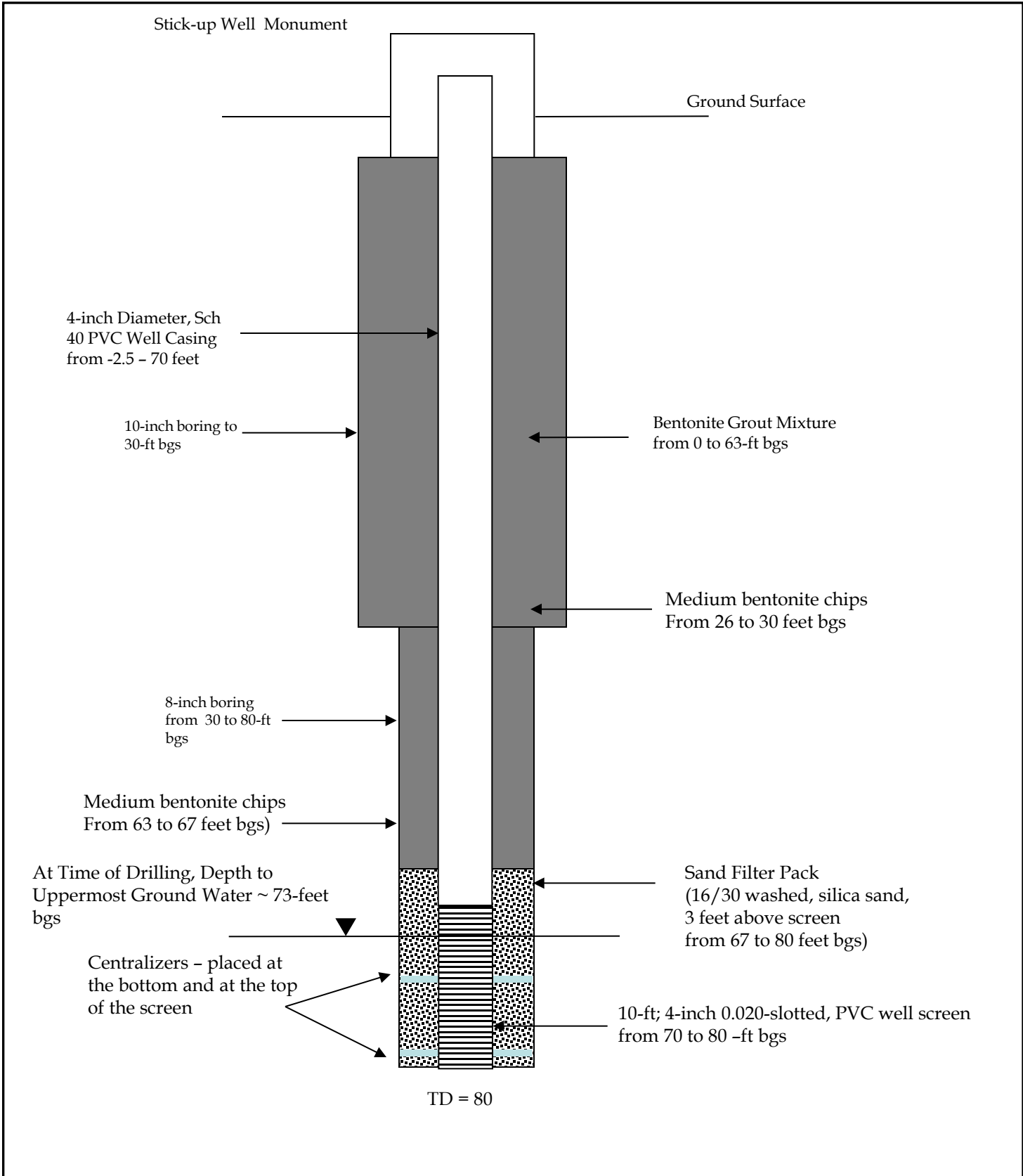
Boring Logs
 IPSC
 Delta, Utah

CLW-2

Interval (feet)	Drilling Method	Sample Description
		5/14/2015
0-8	10" Sonic	Brown fine grained Sand, clay present with gravel, dry
8-10	10" Sonic	Light to Dark Brown medium to course grained SAND, gravel present, dry
10-17	10" Sonic	Light Brown to Brown clayey SILT, slightly moist
17-25	10" Sonic	Light Brown Silty CLAY, moist
25-46	10" Sonic to 30 feet	Brown CLAY, slightly moist, from 40 to 45 feet transitioned to a Tan to Light Gray color
46-46.5	8" Sonic	Very moist to saturated zone, very soft clay , very sticky
46.5-50	8" Sonic	Light Gray CLAY, moist
50-51	8" Sonic	Tan to Light Gray with Orange zones, CLAY, slightly moist
51-51.5	8" Sonic	Very moist zone, CLAY
62	8" Sonic	Transitioning to a Orangish Red CLAY, Slightly moist
66-66.5	8" Sonic	Moist zone, transitioning from an Orangish Red to a Brown CLAY
66.5-73	8" Sonic	Reddish brown fine grained Sand with a clay matrix, very moist
73-80	8" Sonic	Brown fine gained Sand, trace amounts of clay, saturated.

TD = 80; PVC 4-inch screen from 70 to 80; PVC 4-inch riser from -2.5 to 70

Drilling Company - Cascade Drilling
 Driller - Rick Mallett
 Geologist - Thomas Hedrick



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ISPC- CB LANDFILL AREA
DELTA, UTAH

Figure 1 - CLW-2 Schematic

Design by

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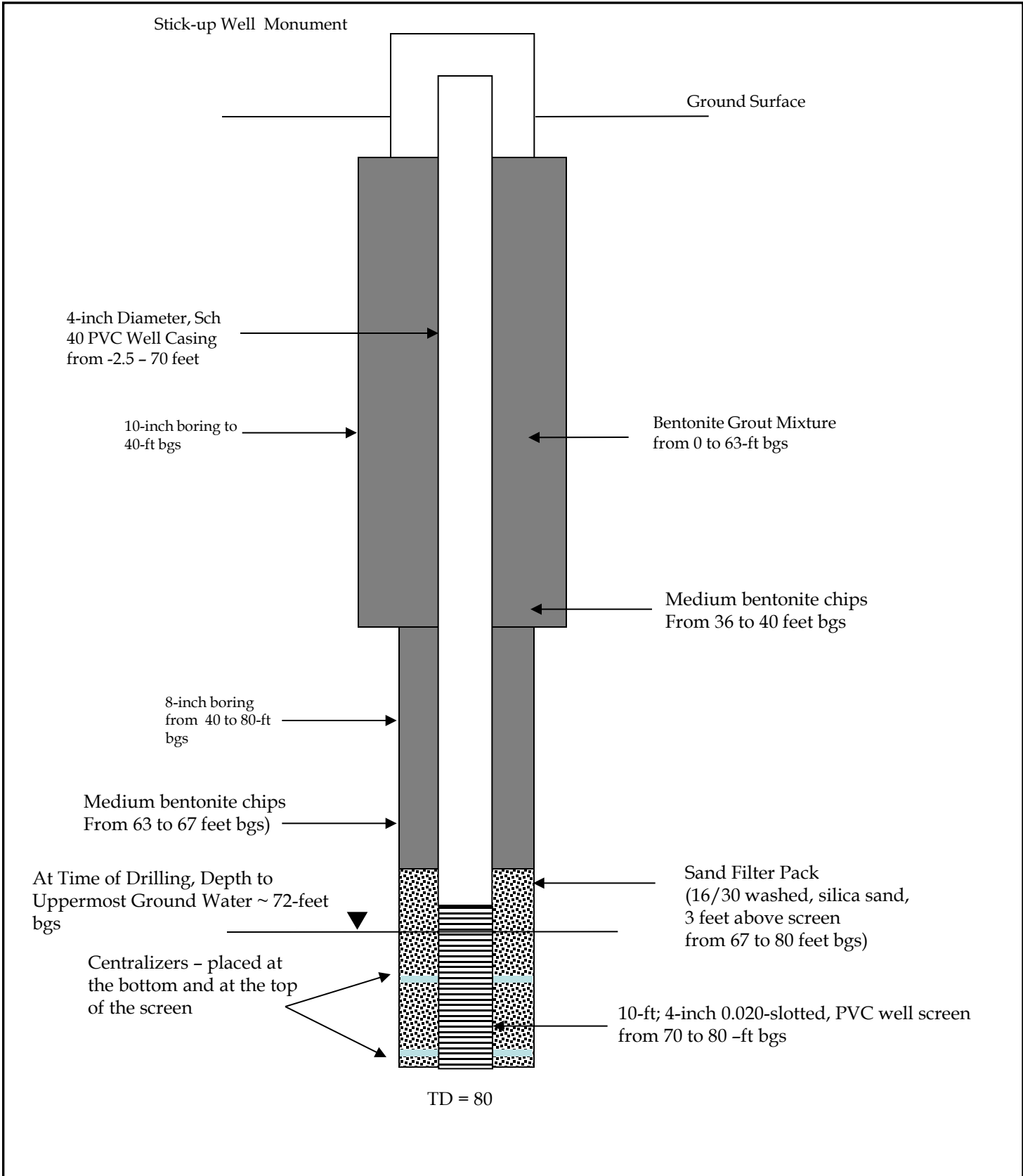
Boring Logs
 IPSC
 Delta, Utah

CLW-3

Interval (feet)	Drilling Method	Drill Time	Sample Description
			5/13/2015
0-3	10" Sonic		Brown fine grained Sand , clay present with gravel, dry
3-6	10" Sonic		Light to Dark Brown fine to medium grained Sand, no gravel present, dry
6-11	10" Sonic		Grayish White fine grained Sand, gravels present, rounded, dry
11-13	10" Sonic		Brownish Orange SILT, with fine grained sand present, soft
13-16	10" Sonic		Tannish Gray SILT with a clay present, very moist, sticky
16-21	10" Sonic		Tannish Gray SILT with a clay matrix, very moist, sticky
21-24	10" Sonic		Light Gray CLAY, with silt present, very moist
24-33	10" Sonic		Light Gray to Orange CLAY, with silt present, slightly moist
32-40	10" Sonic to 40 feet		Tan CLAY, denser material, slightly moist
40-66	8" Sonic		Tan to Light Brown CLAY, slightly moist to Dry
63	8" Sonic		Transiting into a Darker Gray CLAY, Moist
66-72	8" Sonic		Very moist to saturated, clay very plastic, firm and sticky
72-73	8" Sonic		Dark Gray fine to medium grained Sand, saturated
73-74	8" Sonic		Dark Gray CLAY, sticky firm, very moist
74-80	8" Sonic		Dark Gray fine to medium grained Sand, saturated

TD = 80; PVC 4-inch screen from 70 to 80; PVC 4-inch riser from -2.5 to 70

Drilling Company - Cascade Drilling
 Driller - Rick Mallett
 Geologist - Thomas Hedrick



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ISPC- CB LANDFILL AREA
DELTA, UTAH

Figure 1 - CLW-3 Schematic

Design by

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Last Revision
Date

Boring Logs
 IPSC
 Delta, Utah

CLW-4

Interval (feet)	Drilling Method	Sample Description
		7/24/2015
0-2	10" Sonic	Light Brown fine grained Sands with silts and gravel, dry
2-5	10" Sonic	Light Brown fine grained Sands, dry
5-11	10" Sonic	Light Brown to gray fine grained SAND, dry to slightly moist
11-13	10" Sonic	Light Brown silty CLAY, slightly moist, good plasticity
13-14	10" Sonic	Light Brown fine grained SAND, with clays present, poor plasticity, dry
14-16	10" Sonic	Light Brown clayey SILT, dry
16-18	10" Sonic	Light Brown to Brown silty CLAY, slightly moist, good plasticity
18-21	10" Sonic	Light Brown to Gray silty CLAY, slightly moist to moist, good plasticity
21-24	10" Sonic	Brownish Gray CLAY, moist, high plasticity
34-32	10" Sonic	Brownish Gray CLAY, moist to very moist, high plasticity
32-53	10" Sonic to 39 feet	Brownish Gray CLAY, denser, slightly moist,
		44 - thin layer of brownish orange fine grained sand
		47 - transitioning into a gray clay
		49 - thin layer of brownish orange fine grained sand
53-55	8" Sonic	Brownish Gray CLAY, dense, very plastic, slightly moist
55-73	8" Sonic	Brown CLAY, very plastic, slightly moist
73-82	8" Sonic	Brown fine grained SAND with a clay matrix, saturated

TD = 82; PVC 4-inch screen from 72 to 82; PVC 4-inch riser from -2.5 to 72

Drilling Company - Cascade Drilling
 Driller - Rick Mallett
 Geologist - Thomas Hedrick

Above-grade, 5-feet long, 6-in. dia., steel Wellhead Protective Monument
~ 2.5-feet. stick-up

Ground Surface

4-inch Diameter, Sch 40 PVC Well Casing from -2.0 - 82 feet

10-inch dia. boring to 39-feet bgs

Cement-Bentonite (~ 10:1) Grout, Tremie-Pipe Slurry from 0 to 63-feet below ground surface (bgs)

Medium bentonite chips From 35 to 39 feet bgs

8-inch boring from 39 to 82-feet bgs

Medium bentonite chips From 63 to 69 feet bgs)

Sand Filter Pack (16/30 washed, silica sand, 3 feet above screen from 69 to 82 feet bgs)

At Time of Drilling, Depth to Uppermost Ground Water ~ 73-feet bgs

Centralizers - placed at the bottom and at the top of the screen

10-feet; 4-inch 0.020-slotted, PVC well screen from 72 to 82 -feet bgs

Total Depth (TD) = 82 feet bgs



ISPC- CB LANDFILL AREA
DELTA, UTAH

CLW-4 Schematic

Date Drawn
9/1/15

Design by

Drawn by TH

Scale

Last Revision
Date

Boring Logs
 IPSC
 Delta, Utah

CLW-5

Interval (feet)	Drilling Method	Sample Description
		7/26/2015
0-3	10" Sonic	Light Brown fine grained Sands with silts and gravel, dry
3-4	10" Sonic	Gravels with medium to fine grand sands, moist
4-7.5	10" Sonic	Light Brown sitly CLAY, slightly moist, good plasticity
7.5-10	10" Sonic	Light Brown fine to medium grained SAND, dry
10-12	10" Sonic	Light Brown to Gray fine to medium grained SAND, gravels present, slightly moist
12-13	10" Sonic	Light Brown clayey SILT, slightly moist,
13-15	10" Sonic	Brown fine to medium grained SAND, wht clays and silts, slightly moist
		7/27/2015
15-22	10" Sonic	Brown silty CLAY, slightly moist, good plasticity
22-32	10" Sonic	Light Brown CLAY, moistgood plasticity
32-38	10" Sonic	Brown CLAY, slightly moist, high plasticity
38-40	10" Sonic to 39 feet	Light Gray CLAY, slightly moist, hight plasticity
40-44	8" Sonic	Light Brown to Brown CLAY, slightly moist, high plasticity
44-52	8" Sonic	Light Gray CLAY, hight plasticity, slighly moist
52-53	8" Sonic	Brown CLAY, high plasticity, slightly moist
53-55	8" Sonic	Gray CLAY, high plasticity, slightly moist
55-72	8" Sonic	Gray CLAY, high plasticity, moist
72-74	8" Sonic	Gray fine grained SAND, with clay matrix, moist to saturated
74-75	8" Sonic	Gray CLAY with fine grained sandy matrix, poor plasticity, moist
75-78	8" Sonic	Gray fine grained SAND wht a clayey matrix, poor plasticity, saturated
78-80	8" Sonic	Gray CLAY with fine grained sandy matrix, poor plasticity, moist
80-82	8" Sonic	Gray fine grained SAND wht a clayey matrix, poor plasticity, saturated

TD = 82; PVC 4-inch screen from 72 to 82; PVC 4-inch riser from -2.5 to 72

Drilling Company - Cascade Drilling
 Driller - Rick Mallett
 Geologist - Thomas Hedrick

Above-grade, 5-feet long, 6-in. dia., steel Wellhead Protective Monument
~ 2.5-feet stick-up

Ground Surface

4-inch Diameter, Sch 40 PVC Well Casing from -2.0 - 82 feet

10-inch dia. boring to 39-feet bgs

Cement-Bentonite (~ 10:1) Grout, Tremie-Pipe Slurry from 0 to 65-feet below ground surface (bgs)

Medium bentonite chips From 35 to 39 feet bgs

8-inch boring from 39 to 82-feet bgs

Medium bentonite chips From 65 to 69 feet bgs)

Sand Filter Pack (16/30 washed, silica sand, 3 feet above screen from 69 to 82 feet bgs)

At Time of Drilling, Depth to Uppermost Ground Water ~ 72-feet bgs

Centralizers - placed at the bottom and at the top of the screen

10-feet; 4-inch 0.020-slotted, PVC well screen from 72 to 82 -feet bgs

Total Depth (TD) = 82 feet bgs



ISPC- CB LANDFILL AREA
DELTA, UTAH

CLW-5 Schematic

Date Drawn
9/1/15

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TH

Scale

Last Revision
Date

Boring Logs
 IPSC
 Delta, Utah

CLW-6

Interval (feet)	Drilling Method	Sample Description
		7/26/2015
0-3	10" Sonic	Light Brown fine grained Sands with silts and gravel, dry
3-5	10" Sonic	Light Brown silty fine grained SAND, dry
5-7	10" Sonic	Light Brown fine grained sandy SILT, dry
7-12	10" Sonic	Light Brown fine to medium grained SAND, dry
12-15	10" Sonic	Light Brown fine grained sand, with a clay matrix, dry
15-21	10" Sonic	Light Brown to Brown clayey SILT, slightly moist, poor plasticity
21-22	10" Sonic	Light Brown fine grained sand, with a clay matrix, dry
21-23		Light Brown to Brown clayey SILT, slightly moist, poor plasticity
23-32	10" Sonic	Light Brown CLAY, moist, sticky, high plasticity
32-38	10" Sonic	Light Brown to Gray CLAY, moist, high plasticity
38-47	10" Sonic	Light Gray to Gray CLAY, slightly moist, high plasticity
47-55	10" Sonic to 39 feet	Transitioned to a Brownish gray CLAY, high plasticity, slight moist
55-72	8" Sonic	Brown CLAY, high plasticity, slightly moist
		58 - 58.5 very moist to saturated, 59 - slightly moist
72-78	8" Sonic	Gray CLAY, very moist, high plasticity
78-82	8" Sonic	Gray fine grained SAND with a clay matrix, poor plasticity, saturated
82-84	8" Sonic	Gray CLAY, high plasticity, very moist
84-85	8" Sonic	Gray fine grained SAND with a clay matrix, poor plasticity, saturated
85-88	8" Sonic	Gray CLAY, high plasticity, very moist

TD = 88; PVC 4-inch screen from 78 to 88; PVC 4-inch riser from -2.5 to 78

Drilling Company - Cascade Drilling
 Driller - Rick Mallett
 Geologist - Thomas Hedrick

Above-grade, 5-feet long, 6-in. dia., steel Wellhead Protective Monument
~ 2.5-feet stick-up

Ground Surface

4-inch Diameter, Sch 40 PVC Well Casing from -2.0 - 82 feet

10-inch dia. boring to 39-feet bgs

Cement-Bentonite (~ 10:1) Grout, Tremie-Pipe Slurry from 0 to 70-feet below ground surface (bgs)

Medium bentonite chips From 35 to 39 feet bgs

8-inch boring from 39 to 88-feet bgs

Medium bentonite chips From 70 to 74 feet bgs)

Sand Filter Pack (16/30 washed, silica sand, 4 feet above screen from 74 to 88 feet bgs)

At Time of Drilling, Depth to Uppermost Ground Water ~ 78-feet bgs

Centralizers - placed at the bottom and at the top of the screen

10-feet; 4-inch 0.020-slotted, PVC well screen from 78 to 88 -feet bgs

Total Depth (TD) = 88 feet bgs



ISPC- CB LANDFILL AREA
DELTA, UTAH

CLW-6 Schematic

Date Drawn
9/1/15

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Drawn by TH

Scale

Last Revision
Date

Boring Logs
 IPSC
 Delta, Utah

CLW-7

Interval (feet)	Drilling Method	Sample Description
		7/24/2015
0-8	10" Sonic	Light Brown fine grained Sands with silts and gravel, angular, Dry
8-12	10" Sonic	Light Brown fine grained Sands with silts and clay, No gravel, Dry
12-15	10" Sonic	Tan SILT with a clay matrix, Dry
15-17	10" Sonic	Light Brown to Gray CLAY, medium plasticity, silty present, Dry
17-22	10" Sonic	Light Brown Clayey SILT, slightly moist
22-24	10" Sonic	Light Brown to Grayish silty CLAY, Dry
24-32	10" Sonic	Light Brown to Grayish CLAY, Brown silts and fine grained sands present, , Dry
32-40	10" Sonic to 39 feet	Light Brown CLAY, slightly moist, became denser at 35 feet
40-43	8" Sonic	Light Brown to Grayish CLAY, very dense, slightly moist
43-48	8" Sonic	Gray CLAY, slightly moist, some layers of a brown fine grained sand present every 3 to 4 inches along the core
48-50	8" Sonic	Gray CLAY, slightly moist, some Iron Oxide present
50-51.5	8" Sonic	Brown fine to medium grained SANDS, saturated
51.5-58	8" Sonic	Brown CLAY, moist to slightly moist
58-58.5	8" Sonic	Brown fine grained SANDS, with a clay matrix, saturated
58.5-61	8" Sonic	Brown CLAY, moist to slightly moist
61-68	8" Sonic	Brown fine to medium grained SANDS, saturated
68-70	8" Sonic	Brown CLAY, moist to slightly moist
70-72	8" Sonic	Brown fine to medium grained SANDS, saturated

TD = 72; PVC 4-inch screen from 52 to 72; PVC 4-inch riser from -2.5 to 52

Drilling Company - Cascade Drilling
 Driller - Rick Mallett
 Geologist - Thomas Hedrick

Above-grade, 5-feet long, 6-in. dia., steel Wellhead Protective Monument
~ 2.5-feet stick-up

Ground Surface

4-inch Diameter, Sch 40 PVC Well Casing from -2.0 - 70 feet

10-inch dia. boring to 39-feet bgs

Cement-Bentonite (~ 10:1) Grout, Tremie-Pipe Slurry from 0 to 45-feet below ground surface (bgs)

Medium bentonite chips From 35 to 39 feet bgs

8-inch boring from 39 to 72-feet bgs

Medium bentonite chips From 45 to 49 feet bgs)

Sand Filter Pack (16/30 washed, silica sand, 3 feet above screen from 49 to 72 feet bgs)

At Time of Drilling, Depth to Uppermost Ground Water ~ 52-feet bgs

Centralizers - placed at the bottom and at the top of the screen

10-feet; 4-inch 0.020-slotted, PVC well screen from 52 to 72 -feet bgs

Total Depth (TD) = 72 feet bgs



ISPC- CB LANDFILL AREA
DELTA, UTAH

CLW-7 Schematic

Date Drawn
9/1/15

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Scale

Last Revision
Date

Boring Logs
 IPSC
 Delta, Utah

CLW-8

Interval (feet)	Drilling Method	Sample Description
		7/24/2015
0-3	10" Sonic	Light Brown fine grained Sands with silts and gravel, dry
3-5	10" Sonic	Light Brown fine grained Sands, slightly moist
5-7	10" Sonic	Tannish white fine grained Sand, with smooth, rounded pebbles, slightly moist
7-10	10" Sonic	Tannish white silty, fine grained Sand, slightly moist
10-13	10" Sonic	Tan SILT with a clay matrix, slightly most, slightly plastic
13-15	10" Sonic	Tan Clayey SILT, dry, plastic
15-18	10" Sonic	Light Brown to tan silty CLAY, slightly moist, good plasticity
18-24	10" Sonic	Light Brown CLAY with silts present, slightly moist, good plasticity
24-32	10" Sonic	Brown silty CLAY, slightly moist, good plasticity
32-37	10" Sonic	Brown CLAY, dence, dry to slighthly moist, very plastic
37-52	10" Sonic to 39 feet	Transitioned fomrthe Brown CLAY to a Gray CLAY, with interbeds of brown fine gran sand layers, highly plastic, slihgltly moist
52-62	8" Sonic	Brown fine grained SAND with a clay matrix, saturated

TD = 62; PVC 4-inch screen from 52 to 62; PVC 4-inch riser from -2.5 to 52

Drilling Company - Cascade Drilling
 Driller - Rick Mallett
 Geologist - Thomas Hedrick

Above-grade, 5-ft. long, 6-in. dia., steel Wellhead Protective Monument
~ 2.5-ft. stick-up

Ground Surface

4-inch Diameter, Sch 40 PVC Well Casing from -2.0 - 62 feet

10-inch dia. boring to 39-ft bgs

Cement-Bentonite (~ 10:1) Grout, Tremie-Pipe Slurry from 0 to 45-ft below ground surface (bgs)

Medium bentonite chips From 35 to 39 feet bgs

8-inch boring from 39 to 72-ft bgs

Medium bentonite chips From 45 to 49 feet bgs)

Sand Filter Pack (16/30 washed, silica sand, 3 feet above screen from 49 to 62 feet bgs)

At Time of Drilling, Depth to Uppermost Ground Water ~ 52-ft bgs

Centralizers - placed at the bottom and at the top of the screen

10-ft; 4-inch 0.020-slotted, PVC well screen from 52 to 62 -ft bgs

Total Depth (TD) = 62 feet bgs



ISPC- CB LANDFILL AREA
DELTA, UTAH

CLW-8 Schematic

Date Drawn
9/1/15

Design by

Drawn by TH

Scale

Last Revision
Date

CL-U-1

Interval (feet)	Drilling Method	USCS	Sample Description
7/22/2015			
0-0.5	8" Sonic	TOPSOIL	Surface - Sand, Gravel, roots, coal ash.
0.5-2	8" Sonic	SP/SM	SAND with silt:
2-2.5	8" Sonic	SM/ML	Silty SAND/Sandy Silt:
2.5-5	8" Sonic	SM	Silty SAND:
5-6	8" Sonic	CL	CLAY:
6-7.5	8" Sonic	SM/ML	Silty SAND/Sandy SILT with clay:
7.5-10	8" Sonic	CH	CLAY:
10-11	8" Sonic		CLAY:
11-12.5	8" Sonic		CLAY:
12.5-13.5	8" Sonic		CLAY:
13.5-15	8" Sonic	ML	Sandy SILT:
15-16.5	8" Sonic	SP/SM	SAND with silt:
16.5-17.5	8" Sonic	SM	Silty SAND:
17.5-20	8" Sonic	SP	SAND:
20-21	8" Sonic		SAND:
21-22	8" Sonic	ML	Sandy SILT:
22-23	8" Sonic	SP	SAND:
23-24	8" Sonic	ML	Sandy SILT:
24-25	8" Sonic	SP	SAND:
25-26	8" Sonic	ML	Sandy SILT:
26-28	8" Sonic		Sandy SILT:
28-30	8" Sonic		SILT with clay:
30-32	8" Sonic		Sandy SILT:
32-34	8" Sonic	SP	SAND:
34-35	8" Sonic	ML	Sandy SILT with clay:
35-40	8" Sonic	CL	CLAY:
40-42	8" Sonic	ML	SILT with clay:
42-45	8" Sonic	CH	CLAY:
45-55	8" Sonic		CLAY:
55-65	8" Sonic		CLAY:
7/23/2015			
65-66.5	8" Sonic	CH	Sandy CLAY:
66.5-67.5	8" Sonic	SP/SM	SAND with silt:
67.5-72.5	8" Sonic		SAND with silt:
72.5-73.5	8" Sonic	SP	SAND:
73.5-75	8" Sonic	SC	Clayey SAND:
75-76.5	8" Sonic	SW	SAND:
76.5-79	8" Sonic	SP	SAND:
79-80	8" Sonic	CH	CLAY:

TD = 80'; PVC 4-inch screen from 68 to 78; PVC 4-inch riser from -2.5 to 68

Drilling Method: Guspech GS24-300RS 8" Rotasonic

Drilling Company - Cascade Drilling

Driller - Daniel Dodge

Geologist - Michael Sauerwein

Above-grade, 5-feet. long, 8-in. dia., steel Wellhead Protective Monument set in a 2X2 Concrete Pad ~ 2.5-feet. stick-up

Ground Surface

8-inch diameter, from 0 to 80-feet bgs

4-inch diameter, Sch. 40 PVC, from ~ 2.0 feet above ground surface (ags) to 68 feet below ground surface (bgs)

Cement-Bentonite gel (~ 10:1) Grout, Tremie-Pipe Slurry, from 0 to 61.5-feet bgs

At Time of Drilling, Depth to main Groundwater: ~ 66.5-feet bgs

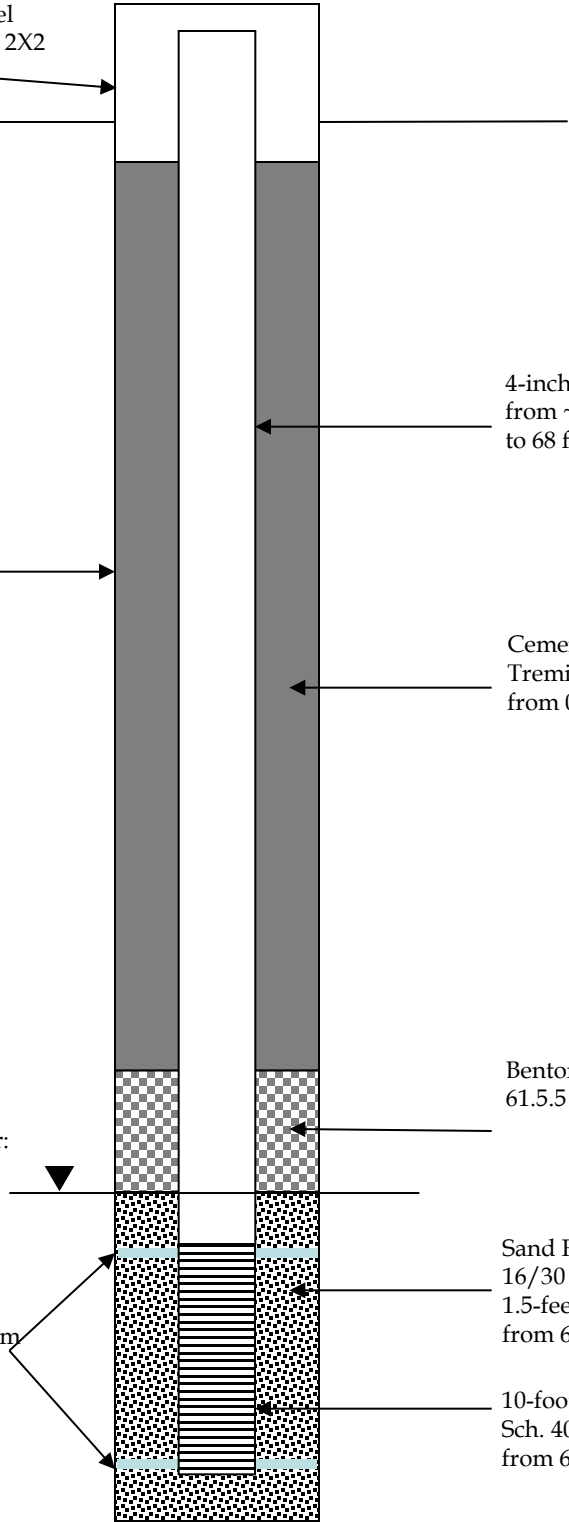
Bentonite medium chips, from 61.5 to 66.5 feet bgs

Centralizers - placed at the bottom and the top of the well screen.

Sand Filter Pack: 16/30 washed silica sand, 1.5-feet above screen from 66.5 to 80 feet bgs

10-foot length; 4-inch diameter Sch. 40 PVC, 0.020"-slotted, from 68 to 78 feet bgs

Total Depth (TD) = 80 feet bgs



IPSC – COMBUSTION BYPRODUCT LANDFILL AREA
DELTA, UTAH

Well CL-U-1 Schematic

Date Drawn
7/23/15

Design by

Drawn by

MS

Scale

Last Revision
Date

Boring Logs
 IPSC
 Delta, Utah

CLU-2

Interval (feet)	Drilling Method	Sample Description
		7/22/2015
0-6	8" Sonic	Light Brown fine grained SAND with silt, dry
6-7.5	8" Sonic	Light Brown to Tan CLAY with silt, slightly moist
7.5-13	8" Sonic	Light Brown fine grained SAND with silt, dry
13-16	8" Sonic	Brown fine grained SAND with clayey matrix, slightly moist, some plasticity
16-24	8" Sonic	Light Brown fine grained SAND, dry
24-35	8" Sonic	Light Brown clayey SILT, dry
35-44	8" Sonic	Light Brown Silty CLAY, dry, good plasticity
44-48	8" Sonic	Gray Clayey SILT, dry, slightly plastic
48-49	8" Sonic	Brownish Orange CLAY, with a silty matrix, dry, good plasticity
49-60	8" Sonic	Brownish Orange CLAY, slightly moist
	8" Sonic	53-55 soil becomes slightly moist and Iron Oxide present
	8" Sonic	57-61 soil is dry
61-67	8" Sonic	Brownish Gray CLAY, at 61 feet very moist, very plastic
67-70	8" Sonic	Gray CLAY, moist, very plastic
70-75	8" Sonic	Gray fine to medium grained SAND, saturated, nonplastic
75-77	8" Sonic	Greenish Gray to Brown Clay fine grained SAND with a CLAY matrix, saturated
77-80	8" Sonic	Brownish Gray, fine to medium grained SAND, saturated

TD = 80; PVC 4-inch screen from 70 to 80; PVC 4-inch riser from -2.5 to 70

Drilling Company - Cascade Drilling
 Driller - Rick Mallett
 Geologist - Thomas Hedrick

Above-grade, 5-feet long, 8-in. dia., steel Wellhead Protective Monument ~ 2.5-feet stick-up

Ground Surface

4-inch Diameter, Sch. 40 PVC Well Casing from ~ 2.0 - 80 feet bgs

Cement-Bentonite (~ 10:1) Grout, Tremie-Pipe Slurry from 0 to 63-feet below ground surface (bgs)

8-inch boring from 0 to 80-feet bgs

Medium bentonite chips From 63 to 67 feet bgs)

Sand Filter Pack (16/30 washed, silica sand, 3 feet above screen from 67 to 80 feet bgs)

At Time of Drilling, Depth to Uppermost Ground Water ~ 70-fbgs

Centralizers placed ~ the bottom and the top of the well screen

10-feet; 4-inch 0.020-slotted, PVC well screen from 70 to 80-feet bgs

Total Depth (TD) = 80 feet bgs



IPSC- CB LANDFILL AREA
DELTA, UTAH

Well CLU-2 Schematic

Date Drawn
9/1/15

Design by

Drawn by

TH

Scale

Last Revision
Date

Boring Logs
 ISPC
 Delta, Utah

CL-U-3

Interval (feet)	Drilling Method	USCS	Sample Description
3/26/2018			
0-2	8" Sonic	SW	Sand, silt and clay
2-14	8" Sonic	SP	Sand, poorly graded, dry
14-17	8" Sonic	MH	Silt, dry
17-18	8" Sonic	MH	Silt with trace clay, dry
18-27.5	8" Sonic	MH	Silt, dry
27.5-37	8" Sonic	CH	Clay, silt stringers every 3-10", red mottling, moist
37-48	8" Sonic	CH	Clay, distance between silt stringers increasing to 10-18"
48-57	8" Sonic	CH	Clay, massively bedded
57-64	8" Sonic	CH	Clay, massively bedded
64-65	8" Sonic	SP	Sand, medium-grain, saturated
65-66	8" Sonic	MH	Silt, saturated
66-67	8" Sonic	SP	Sand, saturated
67-74	8" Sonic	SP	Sand, saturated
74-75	8" Sonic	CH	Clay
75-77	8" Sonic	SP	Sand, saturated

TD = 77; screen 67-77; sand 62-7; plug 57-62; grout to surface; centralizers 66.5 and 76.5

Drilling Method: Sonic

Drilling Company - Cascade Drilling

Driller - David Donnely

Geologist - Tom Fendler

Flush-mount, Wellhead Protective Vault, 8-inch diameter, steel lid

Ground Surface

Concrete Apron

Borehole:
8-inch diameter,
from 0 to 77-feet bgs

4-inch diameter, Sch. 40 PVC,
from ~ 0.25 - 67 feet bgs

Cement-Bentonite (~ 10:1) Grout,
Tremie-Pipe Slurry,
from 0 to 57-feet bgs

Bentonite medium chips, from 57
to 62 feet bgs

At Time of Drilling, Depth to
Uppermost Ground Water ~ 65 to 70-
feet bgs

Sand Filter Pack:
(16/30 washed silica sand,
2-feet above screen
from 62 to 77 feet bgs)

Centralizers placed ~ the bottom
and the top of the well screen.

10-foot length; 4-inch diameter
Sch. 40 PVC, 0.020" -slotted,
from 67 to 77 feet bgs

Total Depth (TD) = 77 feet bgs



IPSC – BOTTOM ASH SURFACE IMPOUNDMENT AREA
DELTA, UTAH

Well CL-U-3 Schematic

Date Drawn	10/24/1
Last Revision	8
Date	

Design by

Drawn by

JR

Scale

BAC-1

Interval (feet)	Drilling Method	USCS	Sample Description
7/31/2015			
0-0.75	8" Sonic	Concrete	Surface - concrete soil mixture
0.75-2.5	8" Sonic	SM	Silty SAND:
2.5-3.25	8" Sonic		Silty SAND:
3.25-5	8" Sonic	SP/SM	SAND with silt:
5-12.5	8" Sonic		SAND with silt:
12.5-13.5	8" Sonic		SAND with silt:
13.5-14.5	8" Sonic	ML	Sandy SILT:
14.5-15	8" Sonic		Sandy SILT:
15-17.5	8" Sonic	SP	SAND:
17.5-19	8" Sonic	SP/SW	SAND:
19-20	8" Sonic	SP/SM	SAND with silt:
20-21.5	8" Sonic	SP	SAND:
21.5-22.5	8" Sonic	ML	Sandy SILT:
22.5-24	8" Sonic		Sandy SILT:
24-25	8" Sonic	SP	SAND:
25-26.75	8" Sonic	SM	Silty SAND:
26.75-27.5	8" Sonic	SP	SAND:
27.5-28.5	8" Sonic		SAND:
28.5-30	8" Sonic	SM	Silty SAND:
30-31.5	8" Sonic	SP	SAND:
31.5-32.25	8" Sonic	SM	Silty SAND:
32.25-33.75	8" Sonic	SP/SM	SAND with silt:
33.75-35	8" Sonic	SM	Silty SAND:
35-36	8" Sonic	SP/SM	SAND with silt:
36-37.5	8" Sonic	SM	Silty SAND:
37.5-38	8" Sonic	SP/SM	SAND with silt:
38-38.5	8" Sonic	SM	Silty SAND:
38.5-40	8" Sonic	ML	Sandy SILT:
40-42.5	8" Sonic	SC	Clayey SAND:
42.5-43.5	8" Sonic	CL	Sandy CLAY:
43.5-44.5	8" Sonic		Sandy CLAY:
44.5-45	8" Sonic		Sandy CLAY:
45-46	8" Sonic		Sandy CLAY:
46-47	8" Sonic		Sandy CLAY:
47-47.75	8" Sonic	SW	SAND:
47.75-48.5	8" Sonic	CH	Sandy CLAY:
48.5-50	8" Sonic		Sandy CLAY:
50-51.5	8" Sonic		CLAY:
51.5-53.5	8" Sonic		Sandy CLAY:
53.5-56	8" Sonic		CLAY:
56-57.5	8" Sonic		Sandy CLAY:
57.5-58	8" Sonic	SC	Clayey SAND:
58-59.5	8" Sonic	CH	CLAY:
59.5-60	8" Sonic	SC	Clayey SAND:
60-64.5	8" Sonic	SM	Silty SAND with clay:
64.5-65.5	8" Sonic	SC	Clayey SAND:
65.5-67.5	8" Sonic	SP	SAND:
67.5-70	8" Sonic	SW	SAND:

TD = 70'; PVC 4-inch screen from 60 to 70'; PVC 4-inch riser from 0 to 60
Drilling Method: Guspech GS24-300RS, 8" Rotasonic

Drilling Company - Cascade Drilling
Driller - Daniel Dodge
Geologist - Michael Sauerwein

Flush-mount, Wellhead Protective Vault, 8-inch diameter, steel lid

Ground Surface

Concrete Apron

Borehole:
8-inch diameter,
from 0 to 70-feet bgs

4-inch diameter, Sch. 40 PVC,
from ~ 0.25 - 60 feet bgs

Cement-Bentonite (~ 10:1) Grout,
Tremie-Pipe Slurry,
from 0 to 53-feet bgs

Bentonite medium chips, from 53
to 58 feet bgs

At Time of Drilling, Depth to
Uppermost Ground Water ~ 60-feet
bgs

Centralizers placed ~ the bottom
and the top of the well screen.

Sand Filter Pack:
(16/30 washed silica sand,
2-feet above screen
from 58 to 70 feet bgs)

10-foot length; 4-inch diameter
Sch. 40 PVC, 0.020"-slotted,
from 60 to 70 feet bgs

Total Depth (TD) = 70 feet bgs



IPSC – BOTTOM ASH SURFACE IMPOUNDMENT AREA
DELTA, UTAH

Well BAC-1 Schematic

Date Drawn
7/31/15

Design by

Drawn by

MS

Scale

Last Revision
Date

Boring Logs
 IPSC
 Delta, Utah

BAC-2

Interval (feet)	Drilling Method	Sample Description
		7/29/2015
0-6	8" Sonic	Light Brown fine grained Sand, gravels, dry
6-12	8" Sonic	Light Brown fine grained SAND, moist
12-18	8" Sonic	Light Brown fine to medium grained sand, dry
18-23	8" Sonic	Light Brown fine to medium grained sand, with a clay matrix, dry
23-24	8" Sonic	Light Brown fine to medium grained sand, very moist, trace amount of clay
24-26	8" Sonic	Brown fine to medium grained sand, slightly moist
26-30	8" Sonic	Brown fine to medium grained sand, with gravels present, slightly moist
30-33	8" Sonic	Light Brown fine grained sand, slightly moist
33-34	8" Sonic	Light Brown CLAY, very moist, high plasticity
34-36	8" Sonic	Light Brown fine grained sand, with a clay matrix, moist
36-38	8" Sonic	Light Brown Silty CLAY, moderately plastic, slightly moist
38-40	8" Sonic	Brownish Red silty CLAY, good plasticity, slightly moist
40-41	8" Sonic	Brown fine grained SAND, saturated
41-42	8" Sonic	Brown SILT with a clay matrix, slightly moist
42-52	8" Sonic	Reddish brown CLAY, high plasticity, dry to slightly moist
52-55	8" Sonic	Reddish brown CLAY, high plasticity, dry to slightly moist, very dense
55-56	8" Sonic	Brown fine grained SAND with a clay matrix very moist to saturated
56-57	8" Sonic	Reddish brown CLAY, high plasticity, slightly moist to moist
57-65	8" Sonic	Brown fine grained SAND with a clay matrix, saturated

TD = 65; PVC 4-inch screen from 55 to 65; PVC 4-inch riser from -2.5 to 55

Drilling Company - Cascade Drilling
 Driller - Rick Mallett
 Geologist - Thomas Hedrick

Above-grade, 5-feet long, 6-in. dia., steel Wellhead Protective Monument
~ 2.5-feet stick-up

Ground Surface

4-inch Diameter, Sch 40 PVC Well Casing from -2.0 - 65 feet

Cement-Bentonite (~ 10:1) Grout, Tremie-Pipe Slurry from 0 to 48-feet below ground surface (bgs)

8-inch boring from 0 to 65-feet bgs

Medium bentonite chips From 48 to 52 feet bgs

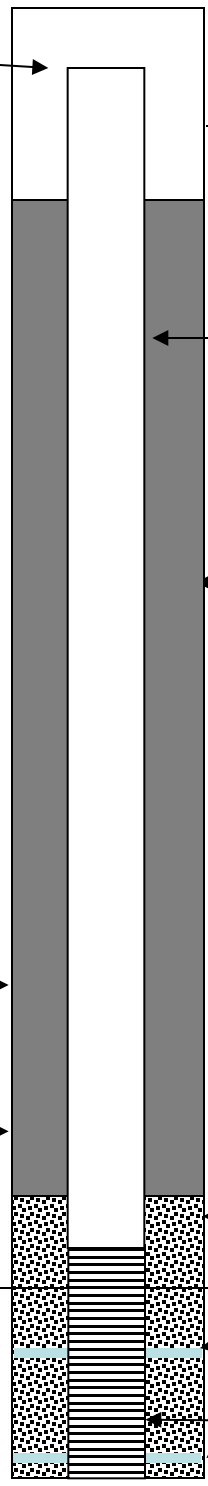
Sand Filter Pack (16/30 washed, silica sand, 3 feet above screen from 52 to 65 feet bgs)

At Time of Drilling, Depth to Uppermost Ground Water ~ 56-feet bgs

Centralizers - placed at the bottom and at the top of the screen

10-feet; 4-inch 0.020-slotted, PVC well screen from 55 to 65 -feet bgs

Total Depth (TD) = 65 feet bgs



IPSC – BOTTOM ASH SURFACE IMPOUNDMENT
DELTA, UTAH

BAC-2 Schematic

Date Drawn
9/1/15

Design by

Drawn by TH

Scale

Last Revision
Date

Boring Logs
 IPSC
 Delta, Utah

BAC-3

Interval (feet)	Drilling Method	Sample Description
		7/28/2015
0-8.5	8" Sonic	Light Brown fine grained Sand, dry
8.5-11	8" Sonic	Light Brown fine to medium grained SAND, moist
11-14	8" Sonic	Light Brown fine grained sand, with a clay matrix, dry
14-17	8" Sonic	Gravels with fine to medium grained SAND, slightly moist
17-20	8" Sonic	Brown fine grained sand, slightly moist
20-22	8" Sonic	Brown fine to medium grained sand, with a clay matrix, slightly moist
22-26	8" Sonic	Brown fine to medium grained sand, with a clay matrix, moist
26-30	8" Sonic	Brown fine grained sand, moist
30-43	8" Sonic	Light Brown CLAY, slightly moist to moist, high plasticity
		30-33 Silty CLAY, poor plasticity
		33-35 Silty CLAY, moderately plastic
		35-43 very little silt present, high plasticity
43-45	8" Sonic	Transitioned to a Reddish Brown CLAY, dry, high plasticity
45-50	8" Sonic	Transitioned to a Brown CLAY, dry, high plasticity
50-55	8" Sonic	Light Brown CLAY, moist, high plasticity
55-58	8" Sonic	Light Brown fine grained SAND, with a clay matrix, slightly moist to moist
58-72	8" Sonic	Light Brown CLAY, with a sandy matrix medium to poor plasticity, moist

TD = 72; PVC 4-inch screen from 52 to 72; PVC 4-inch riser from -2.5 to 52

Drilling Company - Cascade Drilling
 Driller - Rick Mallett
 Geologist - Thomas Hedrick

Above-grade, 5-feet long, 6-in. dia., steel Wellhead Protective Monument
~ 2.5-feet stick-up

Ground Surface

4-inch Diameter, Sch 40 PVC Well Casing from -2.0 - 72 feet

Cement-Bentonite (~ 10:1) Grout, Tremie-Pipe Slurry from 0 to 45-feet below ground surface (bgs)

8-inch boring from 0 to 72-feet bgs

Medium bentonite chips From 45 to 49 feet bgs

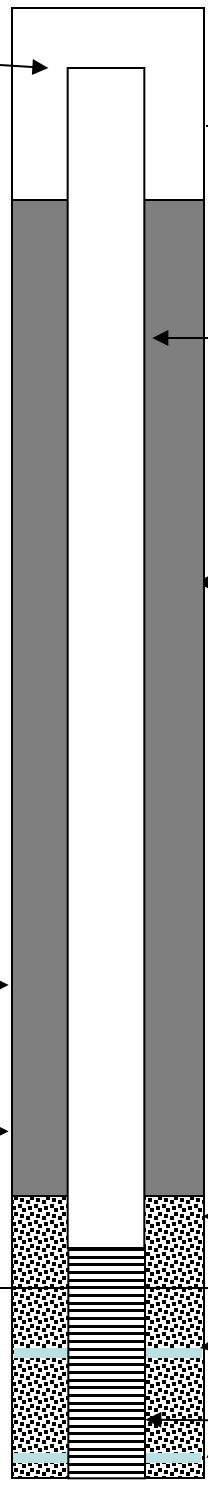
Sand Filter Pack (16/30 washed, silica sand, 3 feet above screen from 49 to 72 feet bgs)

At Time of Drilling, Depth to Uppermost Ground Water ~ 55-feet bgs

Centralizers - placed at the bottom and at the top of the screen

10-feet; 4-inch 0.020-slotted, PVC well screen from 52 to 72 -feet bgs

Total Depth (TD) = 72 feet bgs



ISPC- BOTTOM ASH SURFACE IMPOUNDMENT
DELTA, UTAH

BAC-3 Schematic

Date Drawn
9/1/15

Design by

Drawn by TH

Scale

Last Revision
Date

BAC-4

Interval (feet)	Drilling Method	USCS	Sample Description
8/10/2015			
0-0.5	8' Sonic	TOPSOIL	Surface - Sand, Gravel, roots, coal ash.
0.5-2.5	8' Sonic	SP/SM	SAND with silt:
2.5-5	8' Sonic	SP	SAND:
5-9	8' Sonic		SAND:
9-10	8' Sonic	SP/SM	SAND with silt:
10-15	8' Sonic	SP	SAND:
15-17.5	8' Sonic	SP/SM	SAND with silt:
17.5-19	8' Sonic		SAND with silt:
19-2	8' Sonic	SC	Clayey SAND:
20-21	8' Sonic		Clayey SAND:
21-22	8' Sonic	CL	Sandy CLAY:
22-22.5	8' Sonic	ML	Sandy SILT:
22.5-25	8' Sonic	CL	Sandy CLAY:
25-32.5	8' Sonic	CH	CLAY:
32.5-33.75	8' Sonic	SP	SAND:
33.75-35	8' Sonic	SM	Silty SAND:
35-36.5	8' Sonic	SP/SM	SAND with silt:
36.5-37.5	8' Sonic		SAND with silt:
37.5-38	8' Sonic	SM	Silty SAND:
38-38.75	8' Sonic	CH	Sandy CLAY:
38.75-39	8' Sonic	SP/SM	SAND with silt:
39-40	8' Sonic	CH	Sandy CLAY:
40-42.5	8' Sonic	ML	Sandy SILT with clay:
42.5-43.5	8' Sonic	SM	Silty SAND and clay:
43.5-45	8' Sonic	CH	CLAY:
45-47.5	8' Sonic		CLAY:
47.5-48.5	8' Sonic		CLAY:
48.5-50	8' Sonic	ML	Clayey SILT with sand:
50-51.25	8' Sonic		Clayey SILT:
51.25-52.5	8' Sonic	CH	CLAY:
52.5-55	8' Sonic	SC	Clayey SAND:
55-56.5	8' Sonic	SM	Silty SAND:
56.5-57	8' Sonic	ML	Clayey SILT with sand:
57-57.5	8' Sonic	CH	CLAY:
57.5-58.5	8' Sonic		CLAY:
58.5-59.5	8' Sonic	ML	Clayey SILT with sand:
59.5-61	8' Sonic		Clayey SILT with sand:
61-64	8' Sonic		Clayey SILT with sand:
64-65	8' Sonic		Clayey SILT with sand:
65-65.5	8' Sonic	SM	Silty SAND:
65.5-67	8' Sonic	CL	Silty CLAY:
67-67.5	8' Sonic	ML	Clayey SILT:
67.5-69	8' Sonic	CH	CLAY:
69-69.5	8' Sonic		CLAY:
69.5-70	8' Sonic		CLAY:
70-72.5	8' Sonic	ML	Sandy SILT with clay:
72.5-74	8' Sonic	CH	Silty CLAY:
74-75	8' Sonic	SM	Silty SAND:

TD = 75'; PVC 4-inch screen from 55 to 75; PVC 4-inch riser from -2.5 to 55

Drilling Method: Prosonic T600, 8" Rotasonic

Drilling Company - Cascade Drilling

Driller - Rick Mallett

Geologist - Michael Sauerwein

Above-grade, 5-feet long, 8-in. dia., steel Wellhead Protective Monument set in a 2X2 Concrete Pad ~ 2.5-feet. stick-up

Ground Surface

8-inch diameter, from 0 to 75-feet bgs

Blank Well Casing Riser: 4-inch diameter, Sch. 40 PVC, from ~ 2.0 feet above ground surface (ags) to 55 feet below ground surface (bgs)

Cement-Bentonite gel (~ 10:1) Grout, Tremie-Pipe Slurry, from 0 to 48-feet below ground surface (bgs)

Bentonite medium chips, from 48 to 53 feet bgs

At Time of Drilling, Depth to Uppermost Ground Water ~ 55-feet bgs

Sand Filter Pack: (16/30 washed silica sand, 2-feet above screen from 53 to 75 feet bgs)

Centralizers placed ~ the bottom and the top of the well screen.

20-foot length; 4-inch diameter Sch. 40 PVC, 0.020"-slotted, from 55 to 75 feet bgs

Total Depth (TD) = 75 feet bgs



IPSC – BOTTOM ASH SURFACE IMPOUNDMENT
DELTA, UTAH

Well BAC-4 Schematic

Date Drawn
8/10/15

Design by

Drawn by

MS

Scale

Last Revision
Date

BAC-5

Interval (feet)	Drilling Method	USCS	Sample Description
8/9/2015			
0-0.5	8" Sonic	TOPSOIL	Surface - Sand, Gravel, roots, coal ash.
0.5-2.5	8" Sonic	SP/SM	Gravelly SAND with silt:
2.5-3	8" Sonic	SP	SAND:
3-6.5	8" Sonic		SAND:
6.5-10	8" Sonic		SAND:
10-12.5	8" Sonic		SAND:
12.5-15	8" Sonic	SP/SM	SAND with silt:
15-19	8" Sonic	SM	Silty SAND:
19-19.5	8" Sonic	SC	Clayey SAND:
19.5-20	8" Sonic	SP/SM	SAND with silt:
20-22.5	8" Sonic	CL	Sandy CLAY:
22.5-23.75	8" Sonic		Sandy CLAY:
23.75-25	8" Sonic		Sandy CLAY:
25-27.5	8" Sonic		Sandy CLAY:
27.5-30	8" Sonic		CLAY:
30-32.5	8" Sonic	CL/CH	CLAY:
32.5-33.5	8" Sonic	SP	SAND:
33.5-35	8" Sonic		SAND:
35-36	8" Sonic	SC	Clayey SAND:
36-37.5	8" Sonic	ML	Sandy SILT:
37.5-38.5	8" Sonic		Sandy SILT:
38.5-40	8" Sonic	SM	Silty SAND with clay:
40-42.5	8" Sonic		Silty SAND:
42.5-44.25	8" Sonic		Silty SAND with clay:
44.25-45	8" Sonic	CH	CLAY:
45-46.5	8" Sonic		CLAY:
46.5-47.5	8" Sonic		CLAY:
47.5-49	8" Sonic		CLAY:
49-50.75	8" Sonic	SM	Silty SAND:
50.75-52.5	8" Sonic	CH	CLAY:
52.5-53.5	8" Sonic		CLAY:
53.5-55.5	8" Sonic	SP	SAND:
55.5-57.5	8" Sonic	CH	CLAY:
57.5-59	8" Sonic		CLAY:
59-60	8" Sonic	SM	Silty SAND with clay:
60-62.5	8" Sonic	SP	SAND:
62.5-63	8" Sonic	SC	Clayey SAND:
63-65	8" Sonic	SP	SAND:
65-65.75	8" Sonic	SC	Clayey SAND:
65.75-66.5	8" Sonic	CH	CLAY:
66.5-67.5	8" Sonic	SC	Clayey SAND:
67.5-69	8" Sonic	CH	CLAY:
69-70	8" Sonic		CLAY:

TD = 70; PVC 4-inch screen from 58 to 68; PVC 4-inch riser from -2.5 to 58

Drilling Method: Prosonic T600, 8" Rotasonic

Drilling Company - Cascade Drilling

Driller - Rick Mallett

Geologist - Michael Sauerwein

Above-grade, 5-feet long, 8-in. dia., steel Wellhead Protective Monument set in a 2X2 Concrete Pad ~ 2.5-feet stick-up

Ground Surface

8-inch diameter, from 0 to 70-feet bgs

4-inch diameter, Sch. 40 PVC, from ~ 2.0 feet above ground surface (ags) to 58 feet below ground surface (bgs)

Cement-Bentonite gel (~ 10:1) Grout, Tremie-Pipe Slurry, from 1 to 51-feet bgs

Bentonite medium chips, from 51 to 56 feet bgs

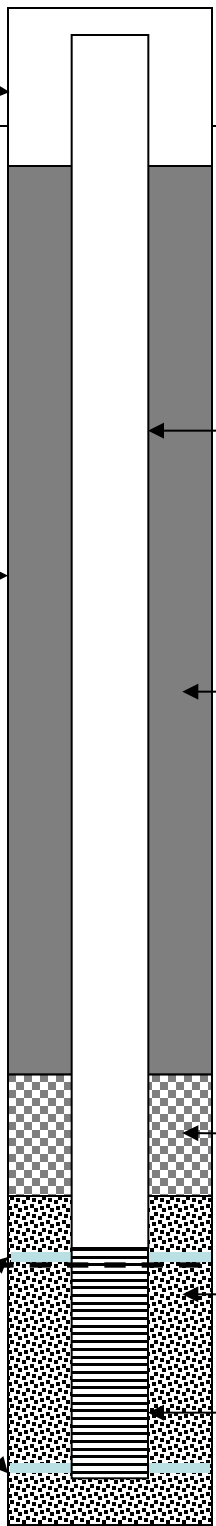
At Time of Drilling, Depth to Uppermost Ground Water ~ 59-feet bgs

Sand Filter Pack (16/30 washed silica sand, 2-feet above screen from 56 to 70 feet bgs)

Centralizers placed ~ the bottom and the top of the well screen.

Well Screen: 10-foot length; 4-inch diameter Sch. 40 PVC, 0.020"-slotted, from 58 to 68 feet bgs

Total Depth (TD) = 70 feet bgs



IPSC – BOTTOM ASH SURFACE IMPOUNDMENT
DELTA, UTAH

Well BAC-5 Schematic

Date Drawn
8/09/15

Design by

Drawn by

MS

Scale

Last Revision
Date

BAC-6

Interval (feet)	Drilling Method	USCS	Sample Description
8/8/2015			
0-0.5	8" Sonic	TOPSOIL	Surface - Sand, Gravel, roots, coal ash.
0.5-2.5	8" Sonic	SP/SM	Gravelly SAND with silt:
2.5-5	8" Sonic	SP	SAND:
5-6.5	8" Sonic	SP/SM	SAND with silt:
6.5-7.5	8" Sonic	SP	SAND:
7.5-10	8" Sonic		SAND:
10-13.5	8" Sonic		SAND:
13.5-15	8" Sonic	SM	Silty SAND:
15-16	8" Sonic	SP	SAND:
16-17.5	8" Sonic	SM	Silty SAND:
17.5-18.25	8" Sonic	SP/SM	SAND with silt:
18.25-18.75	8" Sonic	CL	Sandy CLAY:
18.75-20	8" Sonic	SC	Clayey SAND:
20-21.5	8" Sonic	CH	Sandy CLAY:
21.5-23	8" Sonic	SM	Silty SAND:
23-25	8" Sonic	CL	CLAY:
25-27.5	8" Sonic	CH	CLAY:
27.5-30	8" Sonic		CLAY:
30-32.5	8" Sonic		CLAY:
32.5-33.5	8" Sonic		CLAY:
33.5-35	8" Sonic	SW	SAND:
35-36	8" Sonic	SM	Silty SAND:
36-37.5	8" Sonic	SP/SM	SAND with silt:
37.5-38.5	8" Sonic	CH	CLAY:
38.5-40	8" Sonic	SM	Silty SAND with clay:
40-42.5	8" Sonic		Silty SAND:
42.5-43.5	8" Sonic	CH	Sandy CLAY:
43.5-45	8" Sonic		CLAY:
45-45.5	8" Sonic	SC	Clayey SAND:
45.5-47.5	8" Sonic	CH	CLAY:
47.5-48	8" Sonic	SP	SAND:
48-49.5	8" Sonic	SM	Silty SAND with clay:
49.5-50	8" Sonic	CH	Sandy CLAY:
50-52.5	8" Sonic		CLAY:
52.5-55	8" Sonic		CLAY:
55-56	8" Sonic	SM	Silty SAND:
56-60	8" Sonic	SW	SAND:
60-61	8" Sonic		SAND:
61-62.5	8" Sonic	CH	Sandy CLAY:
62.5-63.5	8" Sonic		CLAY:
63.5-65	8" Sonic	SC	Clayey SAND:

TD = 65; PVC 4-inch screen from 55 to 65; PVC 4-inch riser from -2.5 to 55
Drilling Method: Guspech GS24-300RS, 8" Rotasonic

Drilling Company - Cascade Drilling
Driller - Daniel Dodge
Geologist - Michael Sauerwein

Above-grade, 5-feet long, 8-in. dia., steel Wellhead Protective Monument set in a 2X2 Concrete Pad ~ 2.5-feet stick-up

Ground Surface

8-inch diameter, from 0 to 65-feet bgs

4-inch diameter, Sch. 40 PVC, from ~ 2.0 feet above ground surface (ags) to 55 feet below ground surface (bgs)

Cement-Bentonite gel (~ 10:1) Grout, Tremie-Pipe Slurry, from 1 to 48-feet bgs

At Time of Drilling, Depth to Uppermost Ground Water ~ 55-feet bgs

Bentonite medium chips, hydrated 5-foot length; from 48 to 53 feet bgs

Centralizers placed ~ the bottom and the top of the well screen.

Sand Filter Pack: 16/30 washed silica sand, 2-feet above screen from 53 to 65 feet bgs

10-foot; 4-inch 0.0200 Slotted, PVC well screen from 55 to 65 feet bgs

Total Depth (TD) = 65 feet bgs



IPSC – BOTTOM ASH SURFACE IMPOUNDMENT
DELTA, UTAH

Well BAC-6 Schematic

Date Drawn
8/08/15

Design by

Drawn by

MS

Scale

Last Revision
Date

BAC-7

Interval (feet)	Drilling Method	USCS	Sample Description
8/7/2015			
0-0.5	8" Sonic	TOPSOIL	Surface - Sand, Gravel, roots, coal ash.
0.5-2	8" Sonic	SP/SM	Gravelly SAND:
2-2.5	8" Sonic	SP	Gravelly SAND:
2.5-5	8" Sonic		SAND:
5-7	8" Sonic		SAND:
7-8.5	8" Sonic		SAND:
8.5-9	8" Sonic	SP/SM	SAND with silt:
9-9.5	8" Sonic	SP	SAND:
9.5-11	8" Sonic	SP/SM	SAND with silt:
11-13	8" Sonic		SAND with silt:
13-17	8" Sonic	SM	Silty SAND:
17-18.5	8" Sonic		Silty SAND:
18.5-19	8" Sonic	ML	Sandy SILT:
19-20.25	8" Sonic	SP/SM	SAND with silt:
20.25-22	8" Sonic	CL	Sandy CLAY:
22-24	8" Sonic		Sandy CLAY:
24-25	8" Sonic	SC	Clayey SAND:
25-27.5	8" Sonic	CH	CLAY:
27.5-36.5	8" Sonic		CLAY:
36.5-40	8" Sonic	SP	SAND:
40-41.25	8" Sonic		SAND:
41.25-43.75	8" Sonic	SP/SM	SAND with silt:
43.75-45	8" Sonic	CH	CLAY:
45-47.5	8" Sonic		CLAY:
47.5-49	8" Sonic		CLAY:
49-50	8" Sonic	SM	Silty SAND:
50-57.5	8" Sonic	CH	CLAY:
57.5-60	8" Sonic	SW	SAND:
60-62.5	8" Sonic		SAND:
62.5-64	8" Sonic	SP	SAND:
64-65	8" Sonic	CH	CLAY:
65-66.25	8" Sonic		Sandy CLAY:
66.25-67.5	8" Sonic		CLAY:
67.5-70	8" Sonic		CLAY:

TD = 70'; PVC 4-inch screen from 57 to 67; PVC 4-inch riser from -2.5 to 57
Drilling Method: Guspech GS24-300RS, 8" Rotasonic

Drilling Company - Cascade Drilling
Driller - Daniel Dodge
Geologist - Michael Sauerwein

Above-grade, 5-feet. long, 8-in. dia., steel Wellhead Protective Monument set in a 2X2 Concrete Pad ~ 2.5-feet. stick-up

Ground Surface

8-inch diameter, from 0 to 70-feet bgs

4-inch diameter, Sch. 40 PVC, from ~ 2.0 feet above ground surface (ags) to 57 feet below ground surface (bgs)

Cement-Bentonite gel (~ 10:1) Grout, Tremie-Pipe Slurry, from 0 to 50-feet bgs

Bentonite medium chips, from 50 to 55 feet bgs

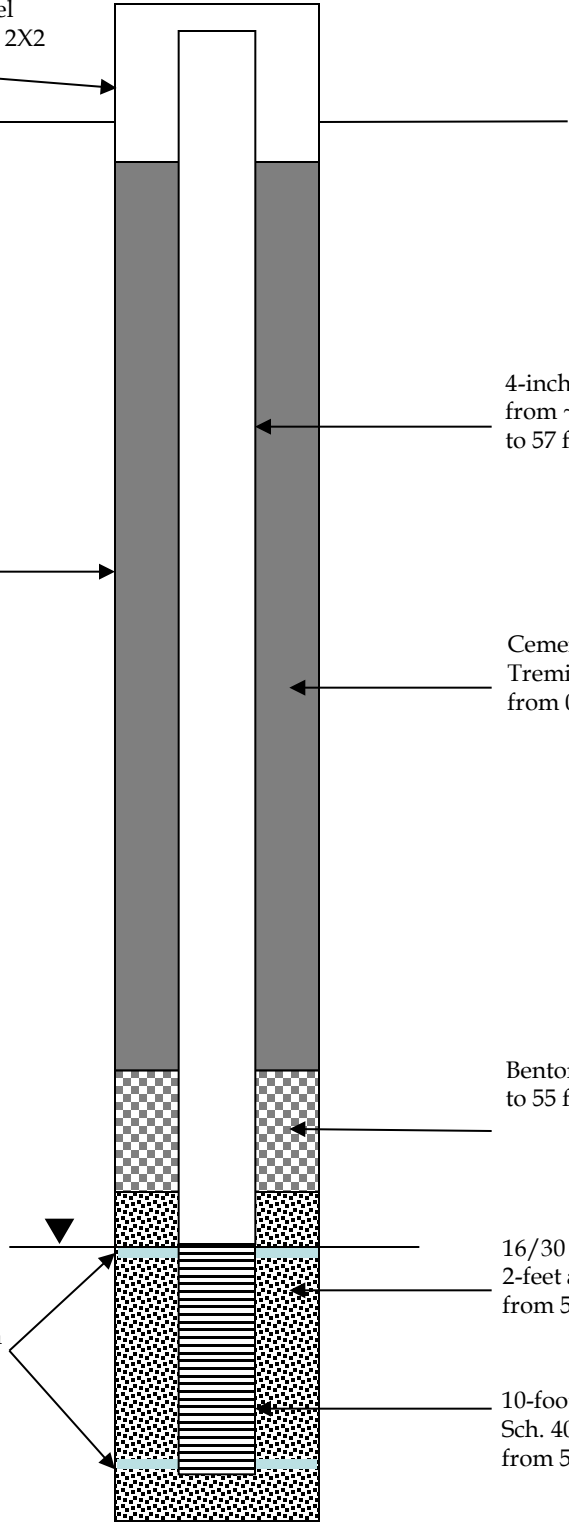
At Time of Drilling, Depth to Uppermost Ground Water ~ 57.5-feet bgs

16/30 washed silica sand, 2-feet above screen from 55 to 70 feet bgs

Centralizers placed ~ the bottom and the top of the well screen.

10-foot length; 4-inch diameter Sch. 40 PVC, 0.020"-slotted, from 57 to 67 feet bgs

Total Depth (TD) = 70 feet bgs



IPSC – BOTTOM ASH SURFACE IMPOUNDMENT
DELTA, UTAH

Well BAC-7 Schematic

Date Drawn
8/07/15

Design by

Drawn by

MS

Scale

Last Revision
Date



Project Name: Intermountain Power Service Corporation

Project No.: 203709098

Completion Date: 2019-04-29

Boring Monitor Well: BAC-8

Drilling Firm: Cascade

Driller: Ryan Miller

Boring Method: Sonic

Logged by: Rich Pratt

Boring Diameter: 10 inches

Depth to Water at Drilling: 67 feet

Depth to Water at Drilling (static at 24 hours): 45.59 feet

BAC-8

Interval (feet)	Description
0 - 1	Light brown fine-grained sand with clay, dry
1 - 13	Light brown clay with silt, dry
13 - 17	Light brown fine-grained sand with clay, dry
17 - 18	Light brown clay with sand, moist
18 - 19	Medium brown sand, saturated
19 - 21	Light brown clay with sand, moist
21 - 27	Light brown clay with sand, dry
27 - 28	Brown with red clay, moist
28 - 31	Brown clay, moist
31 - 34	Gray clay, moist
34 - 43	Brown clay, moist
43 - 56	Medium brown medium-grained sand, moist
56 - 56.5	Medium brown medium-grained sand with pebbles, moist
56.5 - 57	Medium brown medium-grained sand, moist
57 - 63	Brown clay, moist
63 - 65	Medium brown fine-grained sand, moist
65 - 66.5	Brown clay, moist
66.5 - 67	Medium brown fine-grained sand, moist
67 - 68	Medium brown fine-grained sand, saturated
68 - 69.5	Medium brown fine-grained sand
69.5 - 77	Red and brown clay

Well Completion materials and Depth Intervals (feet) Below Ground Surface

Surface Completion: Stick-up

Top of 6 in. PVC Casing Elevation (Relative Datum Survey): NA

Casing, solid (6-inch PVC): 0-52.62 feet

Top of Manhole Cover (Relative Datum Survey): NA

Screen (6 inch, 0.02 slotted, PVC): 52.62-77.62 feet

Sand Pack: 16/30 sand, 47.62-77.62 feet

Bentonite Seal: Hydrolyzed bentonite pellet seal
40.62-47.62 feet

Top of PVC casing above ground surface ~ 2.38 feet. stick-up

Above-grade, 5-feet. long, 8-in. square, steel Wellhead Protective Monument ~ 3.25 feet. stick-up

Ground Surface

6-inch Diameter, Sch 40 PVC Well Casing from below top of casing - 80 feet

Cement-Bentonite (~ 10:1) Grout, Tremie-Pipe Slurry from 0 to 40.62 feet below ground surface (bgs)

10-inch boring from 0 to 77.62-feet bgs

Medium bentonite chips From 40.62 to 47.62 feet bgs

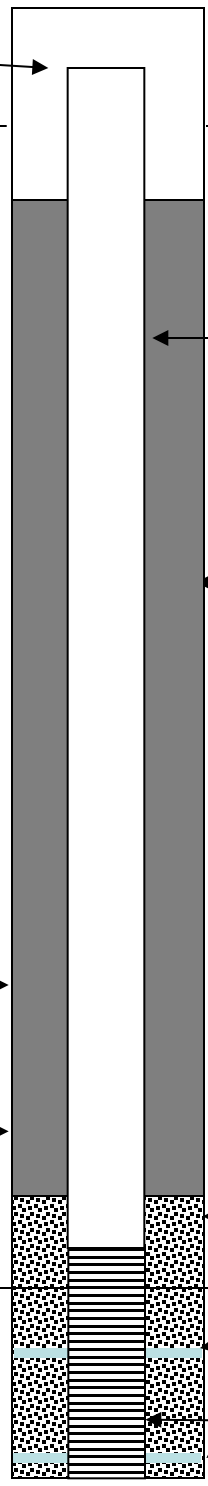
Sand Filter Pack (16/30 washed, silica sand, 5 feet above screen from 47.62 to 77.62 feet bgs)

At Time of Drilling, Depth to Uppermost Ground Water ~ 67 feet bgs

Centralizers - placed at the bottom and at 25-30 foot intervals

25-feet; 6-inch 0.020-slotted, PVC well screen from 52.62 to 77.62 feet bgs

Total Depth (TD) = 77.62 feet bgs



ISPC BOTTOM ASH SURFACE IMPOUNDMENT
DELTA, UTAH

BAC-8 Schematic

Date Drawn
6-4-19

Design by

Drawn by

RP

Scale

Last Revision
Date



Project Name: Intermountain Power Service Corporation

Boring Monitor Well: BAC-9

Drilling Firm: Cascade

Boring Method: Sonic

Boring Diameter: 10 inches

Project No.: 203709098

Completion Date: 2019-05-1

Driller: Ryan Miller

Logged by: John Russell

Depth to Water at Drilling: 60 feet

Depth to Water at Drilling (static at 24 hours):
44.82 feet

BAC-9

Interval (feet)	Description
0 - 10	Light gray to brown silt with clay to clay with silt, dry
10 - 20	Light gray to brown silt, dry
20 - 30	Light brown silt, dry
30 - 44	Light brown silt, dry
44 - 50	Medium brown clay, dry
50 - 54	Light brown silt to clay with silt, moist
54 - 54.5	Medium brown silt with clay, moist
54.5 - 60	Light brown clay with silt, moist
60 - 77	Medium brown silt with clay and silt stringers, saturated

Well Completion materials and Depth Intervals (feet) Below Ground Surface

Surface Completion: Stick-up

Casing, solid (6-inch PVC): 0-53.11 feet

Screen (6 inch, 0.02 slotted, PVC): 53.11-78.11 feet

Sand Pack: 16/30 sand, 48.11-78.11 feet

Bentonite Seal: Hydrolyzed bentonite pellet seal
41.11-48.11 feet

Top of 6 in. PVC Casing Elevation (Relative Datum Survey): NA

Top of Manhole Cover (Relative Datum Survey):
NA

Top of PVC casing above ground surface ~ 1.98 feet. stick-up

Above-grade, 5-feet. long, 8-in. square, steel Wellhead Protective Monument ~ 2.57 feet. stick-up

Ground Surface

6-inch Diameter, Sch 40 PVC Well Casing from below top of casing - 78.11 feet

Cement-Bentonite (~ 10:1) Grout, Tremie-Pipe Slurry from 0 to 41.11 feet below ground surface (bgs)

10-inch boring from 0 to 78.11-feet bgs

Medium bentonite chips From 41.11 to 48.11 feet bgs

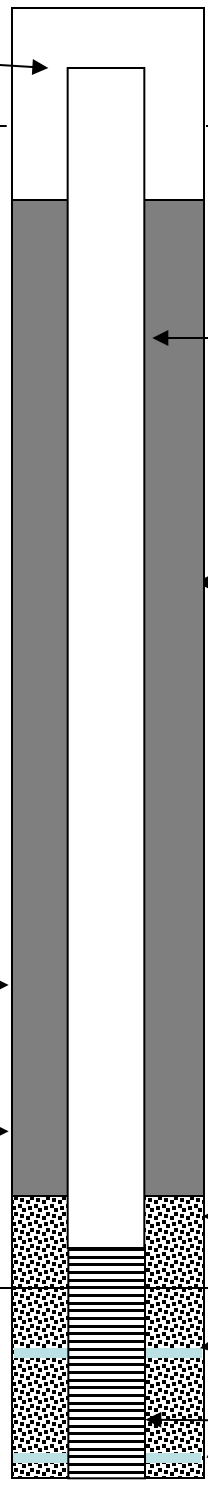
Sand Filter Pack (16/30 washed, silica sand, 5 feet above screen from 48.11 to 78.11 feet bgs)

At Time of Drilling, Depth to Uppermost Ground Water ~ 60 feet bgs

Centralizers - placed at the bottom and at 25-30 foot intervals

25-feet; 6-inch 0.020-slotted, PVC well screen from 53.11 to 78.11 feet bgs

Total Depth (TD) = 78.11 feet bgs



IPSC – BOTTOM ASH SURFACE IMPOUNDMENT
DELTA, UTAH

BAC-9 Schematic

Date Drawn
6-4-19

Design by

Drawn by

RP

Scale

Last Revision
Date



Project Name: Intermountain Power Service Corporation

Boring Monitor Well: BAC-10

Project No.: 203709098

Completion Date: 2019-05-3

Drilling Firm: Cascade

Boring Method: Sonic

Boring Diameter: 10 inches

Driller: Ryan Miller

Logged by: Rich Pratt

Depth to Water at Drilling: 69 feet

Depth to Water at Drilling (static at 24 hours): 63.1 feet

BAC-10

Interval (feet)	Description
0 - 1	Light brown silt, dry
1 - 3	Light brown silt with clay, dry
3 - 14	Light brown clay with silt, dry
14 - 17	Light brown fine-grained sand, dry
17 - 19	Light brown fine-grained sand with clay, moist
19 - 21	Light brown fine-grained sand with clay, moist
21 - 23	Light brown fine-grained sand, moist
23 - 25	Light brown fine-grained sand with clay, moist
25 - 26	Light brown fine-grained sand, moist
26 - 27	Light brown fine-grained sand with clay, moist
27 - 28	Light brown fine-grained sand, moist to moist
27 - 34	Light brown fine-grained sand, moist
34 - 34.5	Light brown silt with clay, dry
34.5 - 40.5	Red brown clay, dry
40.5 - 41	Medium brown medium grained sand, moist to moist
41 - 45	Medium brown clay, moist
45 - 46	Medium brown sand, moist to moist
46 - 48	Medium brown clay, moist
48 - 56.5	Red brown clay, moist
56.5 - 57	Gray clay, moist
57 - 62	Light brown clay, moist to moist
62 - 63	Medium brown medium grained sand, moist
63 - 64	Medium brown medium grained sand with clay, moist
64 - 69	Red, brown, and gray clay, moist
69 - 69.5	Medium brown sand, saturated
69.5 - 77	Red, brown, and gray clay
77 - 79	Medium brown clay with sand
79 - 81	Medium brown clay
81 - 85	Medium brown clay with sand

85 - 87	Medium brown clay, moist
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Well Completion materials and Depth Intervals (feet) Below Ground Surface

Surface Completion: Stick-up

Casing, solid (6-inch PVC): 0-62.95 feet

Screen (6 inch, 0.02 slotted, PVC): 62.95-87.95 feet

Sand Pack: 16/30 sand, 57.95-87.95 feet

Bentonite Seal: Hydrolyzed bentonite pellet seal
50.95-57.95 feet

Top of 6 in. PVC Casing Elevation (Relative Datum Survey): NA

Top of Manhole Cover (Relative Datum Survey):
NA

Top of PVC casing above ground surface ~ 2.15 feet. stick-up

Above-grade, 5-feet. long, 8-in. square, steel Wellhead Protective Monument ~ 3.0 feet. stick-up

Ground Surface

6-inch Diameter, Sch 40 PVC Well Casing from below top of casing - 90.10 feet

Cement-Bentonite (~ 10:1) Grout, Tremie-Pipe Slurry from 0 to 50.95 feet below ground surface (bgs)

10-inch boring from 0 to 87.95-feet bgs

Medium bentonite chips From 50.95 to 57.95 feet bgs

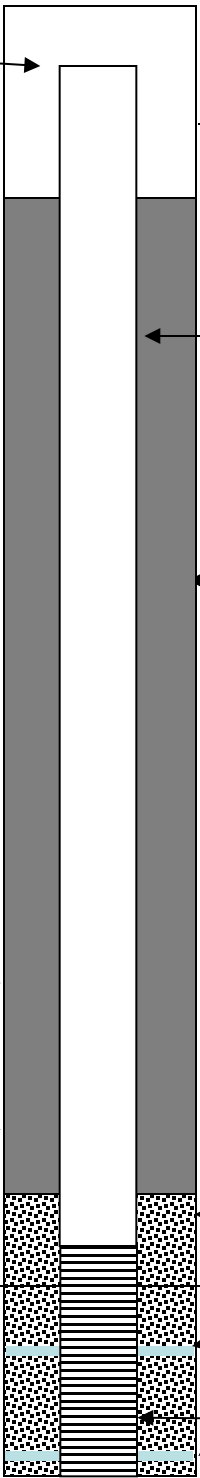
Sand Filter Pack (16/30 washed, silica sand, 5 feet above screen from 57.95 to 87.95 feet bgs)

At Time of Drilling, Depth to Uppermost Ground Water ~ 69 feet bgs

Centralizers - placed at the bottom and at 25-30 foot intervals

25-feet; 6-inch 0.020-slotted, PVC well screen from 62.95 to 87.95 feet bgs

Total Depth (TD) = 87.95 feet bgs



IPSC – BOTTOM ASH SURFACE IMPOUNDMENT
DELTA, UTAH

BAC-10 Schematic

Date Drawn
6-4-19

Design by

Drawn by RP

Scale

Last Revision
Date



MONITORING WELL ID: **BAC-11**

CLIENT: Intermountain Power Service Corporation

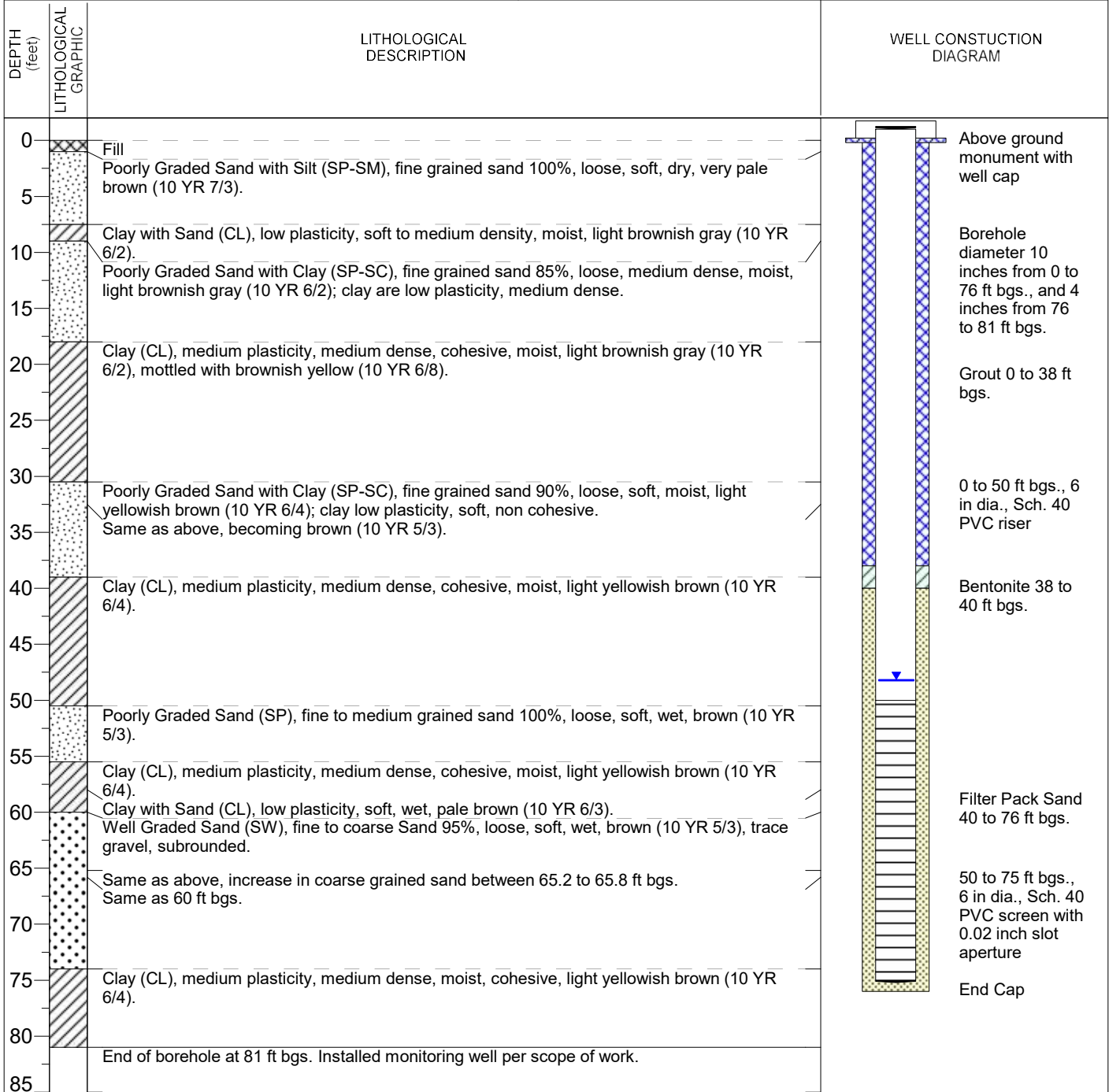
PROJECT: Monitoring Well Installation

SITE LOCATION: Southwest of Bottom Ash Basin Surface Impoundment



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600 11-77287
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 91 ft bgs.,
 10 inch sonic core barrel 0 to 91 ft bgs.

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.): 81 GROUNDWATER LEVEL (ft. btoc.): 48.21
 DATE STARTED: 12/6/2019 DATE FINISHED: 12/7/2019
 LOGGED BY: Michael Ward



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



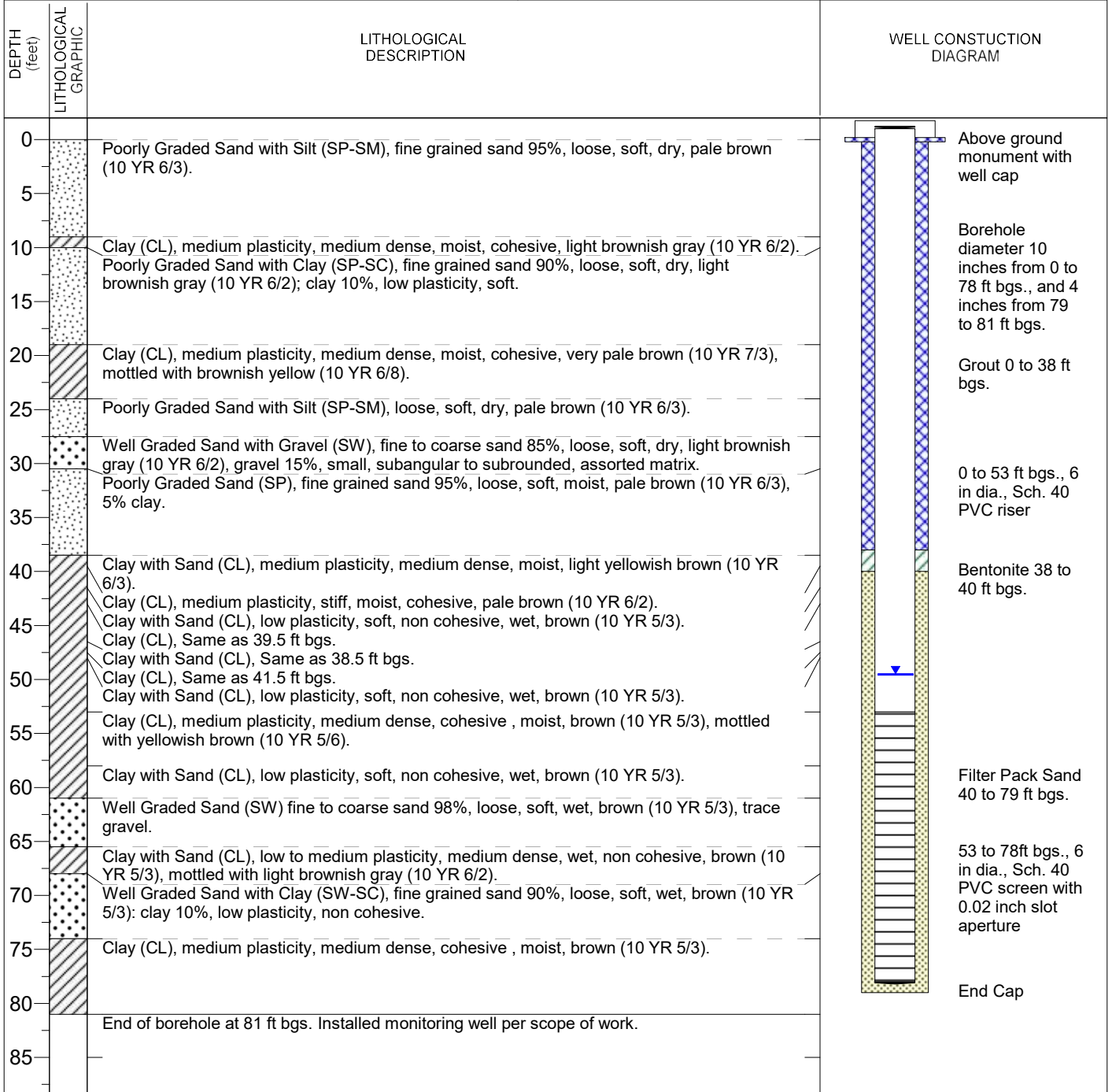
MONITORING WELL ID: BAC-12

CLIENT: Intermountain Power Service Corporation
 PROJECT: Monitoring Well Installation
 SITE LOCATION: Southwest of Bottom Ash Basin Surface Impoundment



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600 11-77287
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 91 ft bgs.,
 10 inch sonic core barrel 0 to 91 ft bgs.

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.): 81 GROUNDWATER LEVEL (ft. btoc.): 49.55
 DATE STARTED: 12/4/2019 DATE FINISHED: 12/6/2019
 LOGGED BY: Michael Ward



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORNG WELL ID: **BAC-13**

CLIENT Intermountain Power Service Corporation

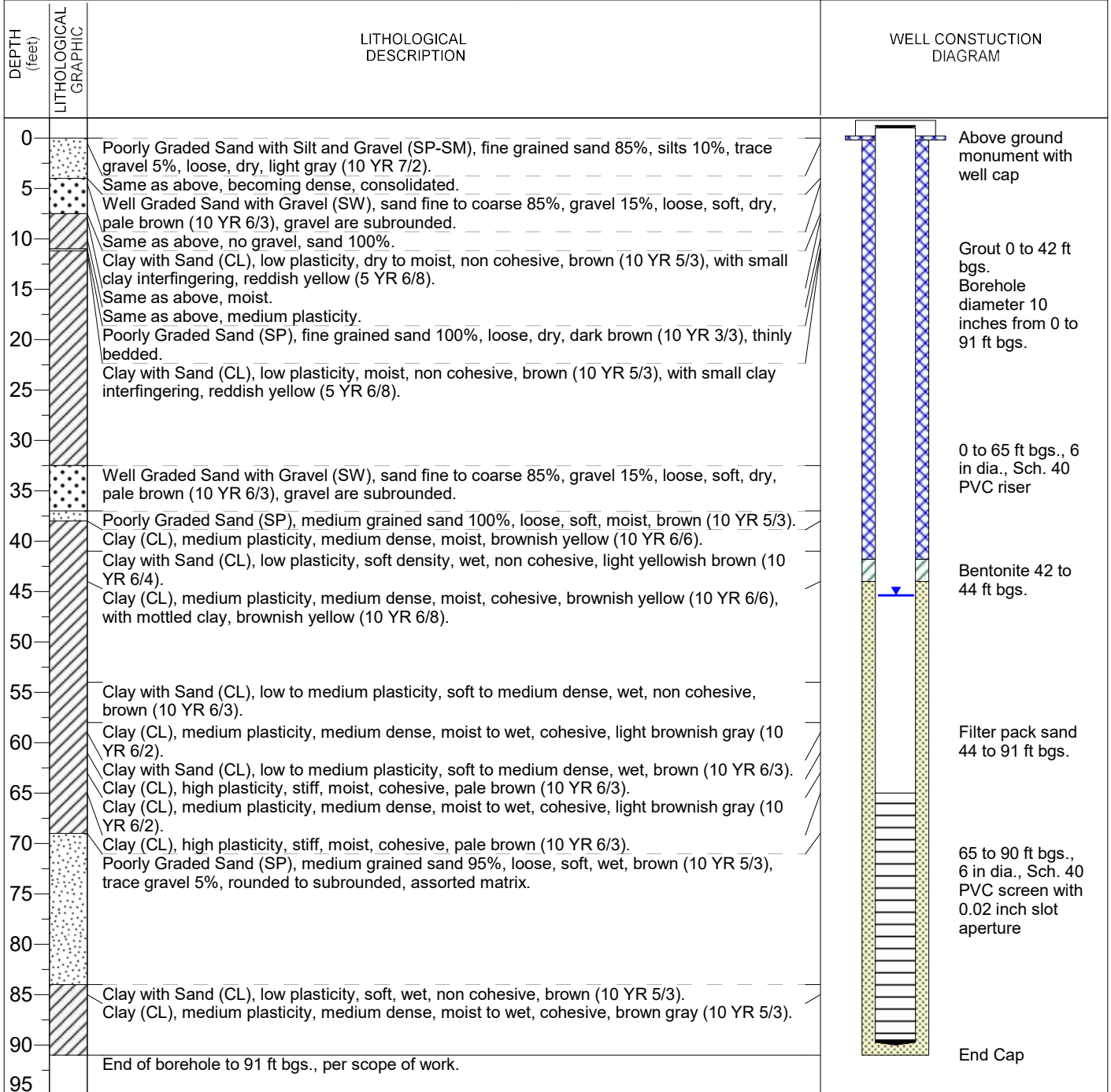
PROJECT Monitoring Well Installation



SITE LOCATION Southwest of Bottom Ash Basin Surface Impoundment

DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600 11-77287
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 91 ft bgs.,
 10 inch sonic core barrel 0 to 91 ft bgs.

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.) 91 GROUNDWATER LEVEL (ft. btoc.): 45.38
 DATE STARTED: 11/16/2019 DATE FINISHED: 11/18/2019
 LOGGED BY: Michael Ward



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORNG WELL ID: **BAC-14**

CLIENT Intermountain Power Service Corporation

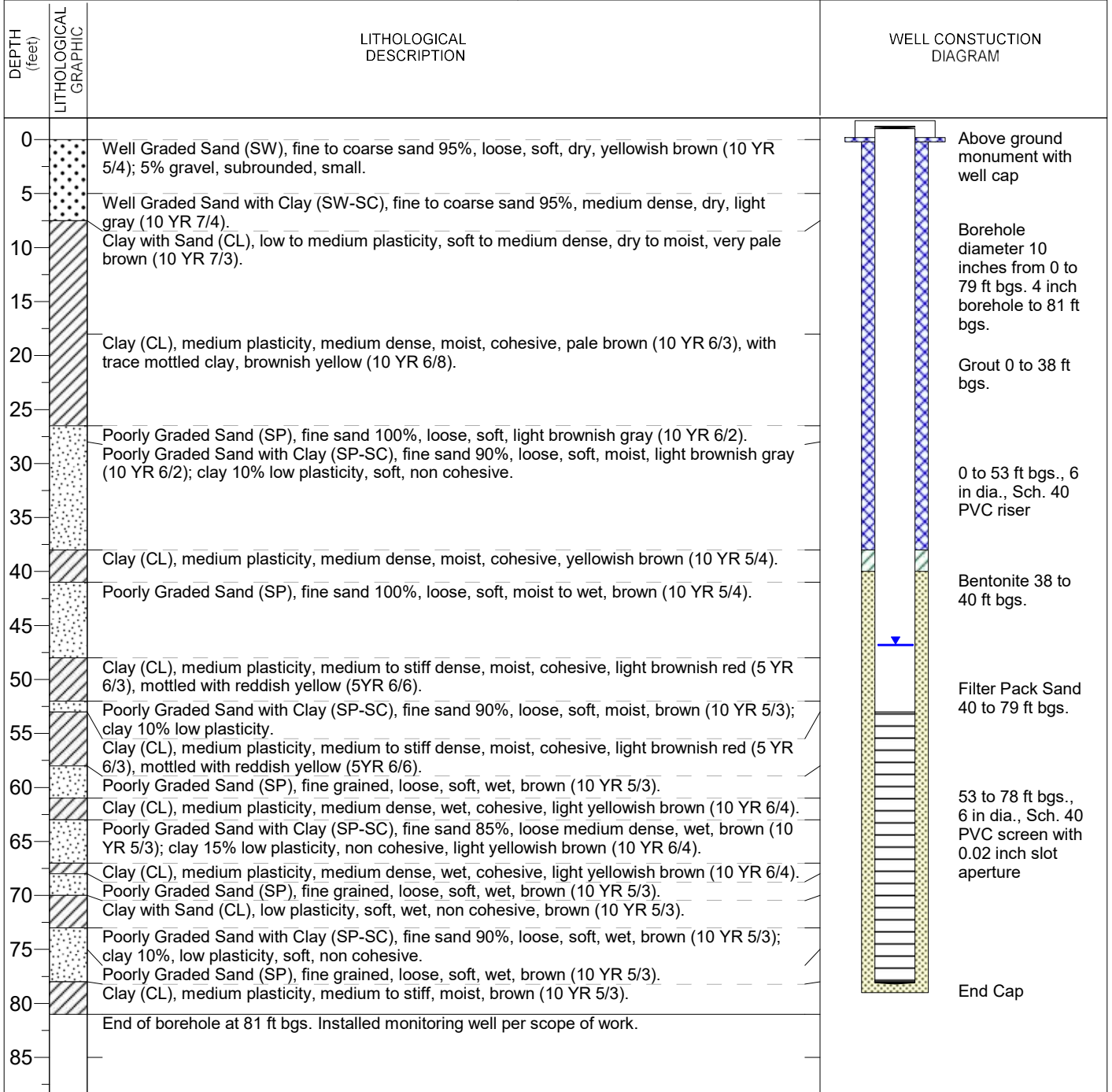
PROJECT Monitoring Well Installation

SITE LOCATION Southwest of Bottom Ash Basin Surface Impoundment



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600 11-77287
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 81 ft bgs.,
 10 inch sonic core barrel 0 to 78 ft bgs.

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.) 81 GROUNDWATER LEVEL (ft. btoc.): 46.81
 DATE STARTED: 11/21/2019 DATE FINISHED: 12/4/2019
 LOGGED BY: Michael Ward



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORING WELL ID: **BAC-15**

CLIENT: Intermountain Power Service Corporation

PROJECT: Monitoring Well Installation

SITE LOCATION: Southwest of Bottom Ash Basin Surface Impoundment



DRILLING CONTRACTOR: Cascade Drilling

DRILLING METHOD: Sonic

DRILLING EQUIPMENT: Pro Sonic 600 11-77287

SAMPLING METHOD: 4 inch sonic core barrel 0 to 91 ft bgs.,
10 inch sonic core barrel 0 to 91 ft bgs.

COORDINATE SYSTEM:

EASTING:

NORTHING:

ELEVATION:

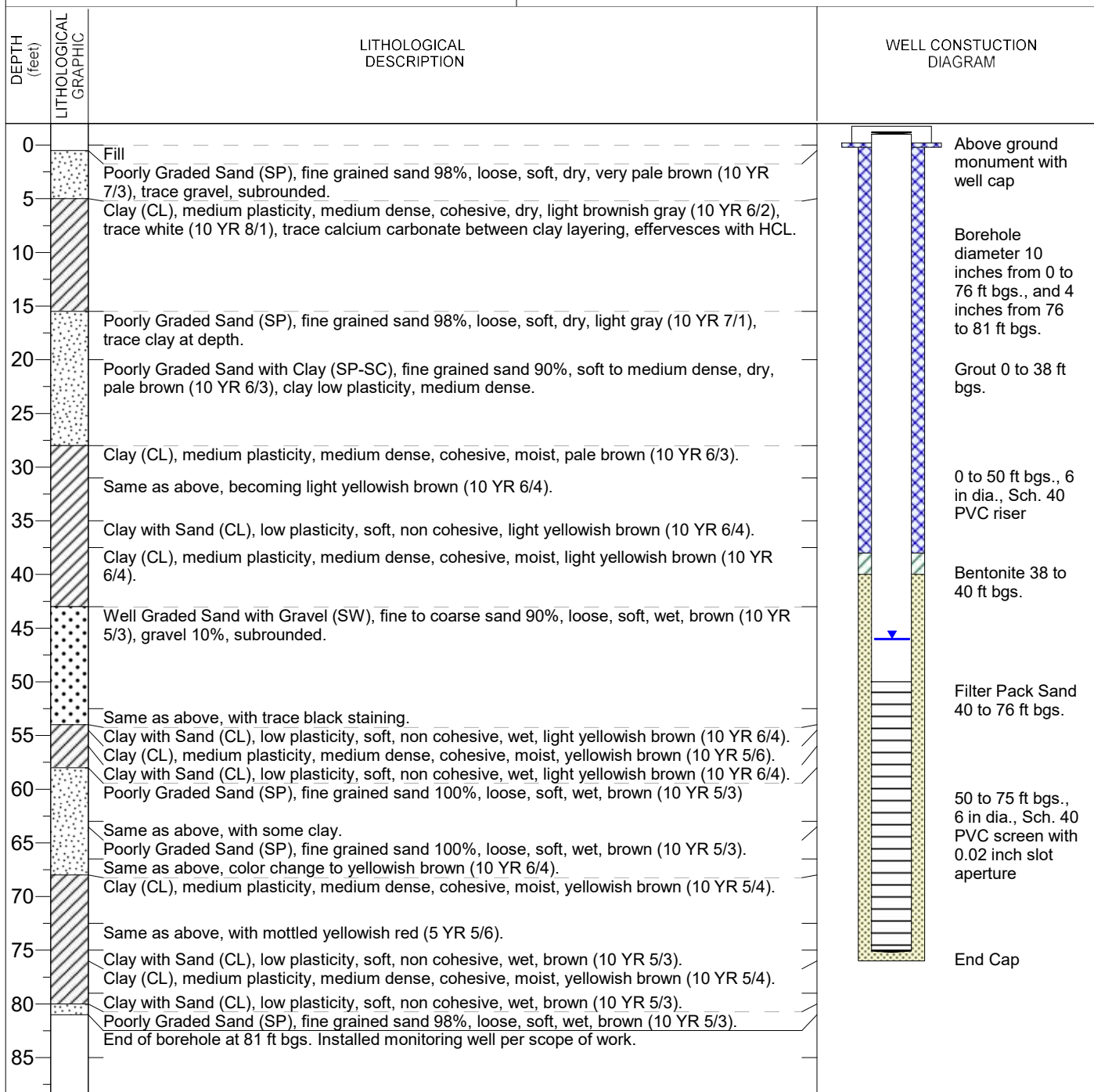
BOREHOLE ANGLE: 90 degrees

TOTAL DEPTH (ft.): 81

GROUNDWATER LEVEL (ft. btoc.): 46.03

DATE STARTED: 12/7/2019 DATE FINISHED: 12/9/2019

LOGGED BY: Michael Ward



Notes: bgs. = below ground surface Sch. = Schedule
dia. = diameter YR = Yellow-Red
ft = feet

MONITORING WELL ID: BAC-16

CLIENT: Intermountain Power Service Corporation

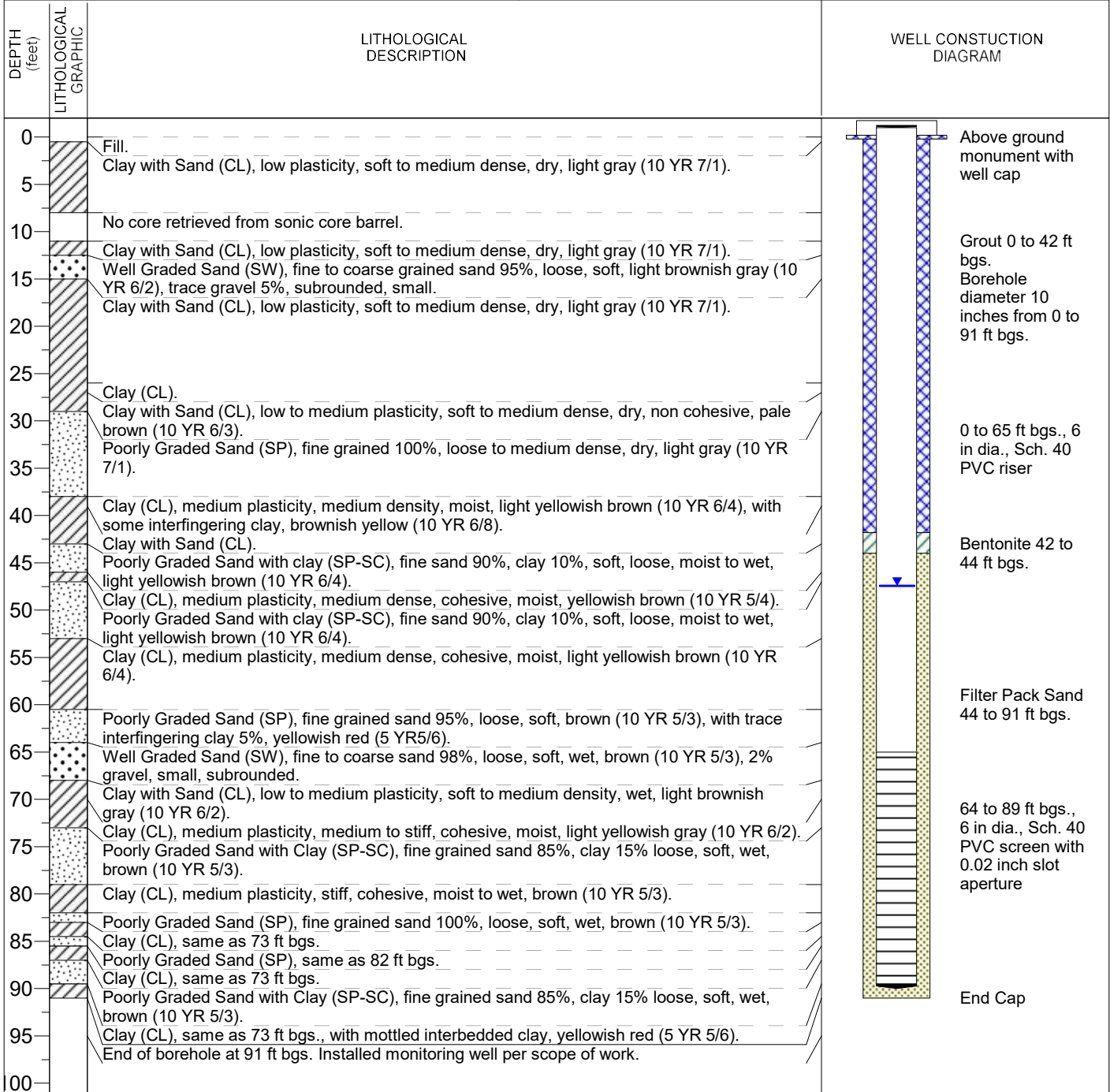
PROJECT: Monitoring Well Installation

SITE LOCATION: Southwest of Bottom Ash Basin Surface Impoundment



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600 11-77287
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 91 ft bgs.,
 10 inch sonic core barrel 0 to 91 ft bgs.

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.) 91 GROUNDWATER LEVEL (ft. btoc.): 47.45
 DATE STARTED: 11/18/2019 DATE FINISHED: 11/21/2019
 LOGGED BY: Michael Ward



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORING WELL ID: **BAC-17**

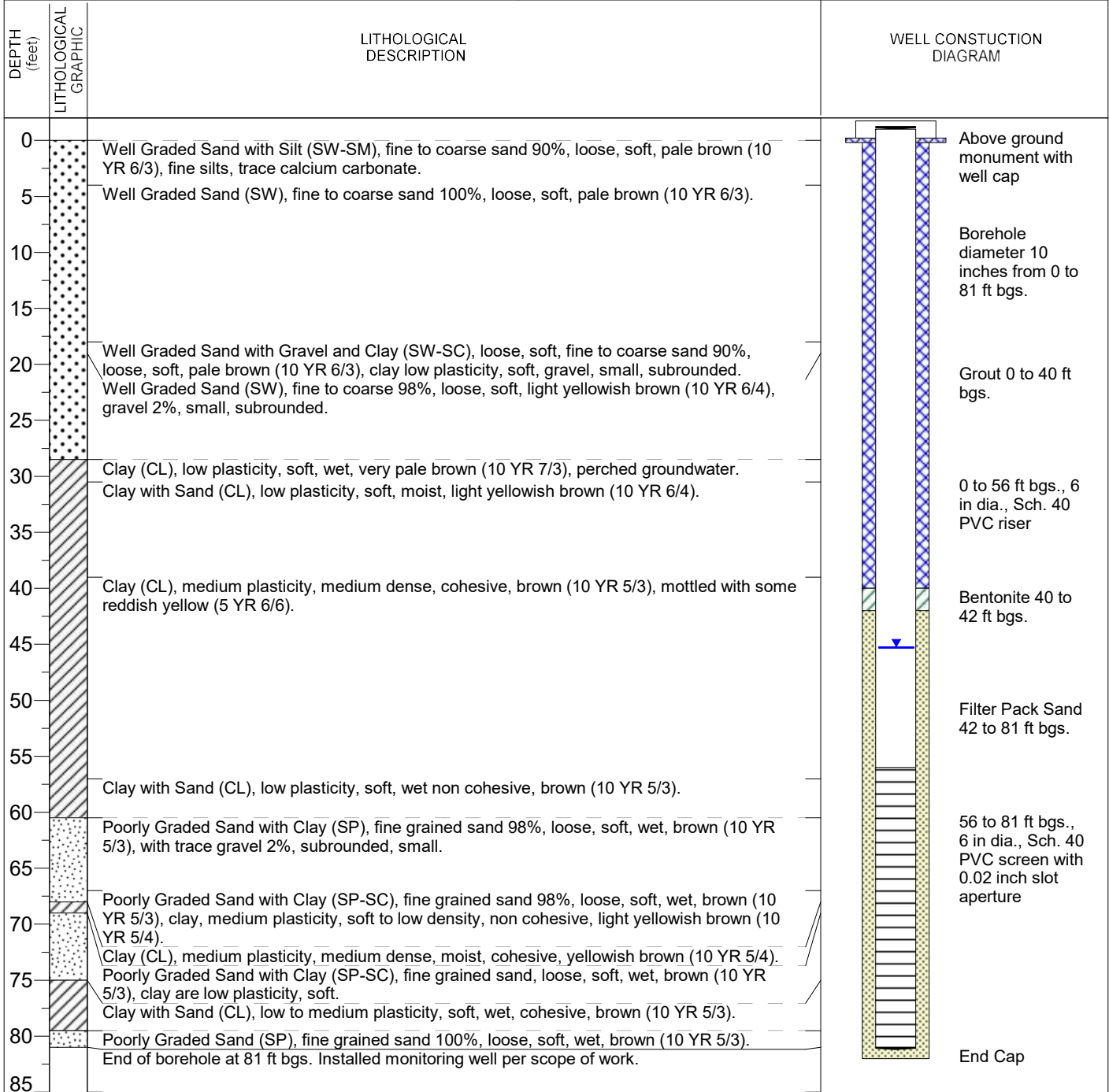
CLIENT: Intermountain Power Service Corporation

PROJECT: Monitoring Well Installation

SITE LOCATION: Southwest of Bottom Ash Basin Surface Impoundment



DRILLING CONTRACTOR:	Cascade Drilling	COORDINATE SYSTEM:	
DRILLING METHOD:	Sonic	EASTING:	NORTHING:
DRILLING EQUIPMENT:	Pro Sonic 600 11-77287	ELEVATION:	BOREHOLE ANGLE: 90 degrees
SAMPLING METHOD:	4 inch sonic core barrel 0 to 91 ft bgs., 10 inch sonic core barrel 0 to 91 ft bgs.	TOTAL DEPTH (ft.): 82	GROUNDWATER LEVEL (ft. btoc.): 45.3
		DATE STARTED: 12/12/9/2019	DATE FINISHED: 12/10/2019
		LOGGED BY:	Michael Ward



Notes: bgs. = below ground surface Sch. = Schedule
dia. = diameter YR = Yellow-Red
ft = feet



MONITORING WELL ID: **BAC-18**

CLIENT: Intermountain Power Service Corporation

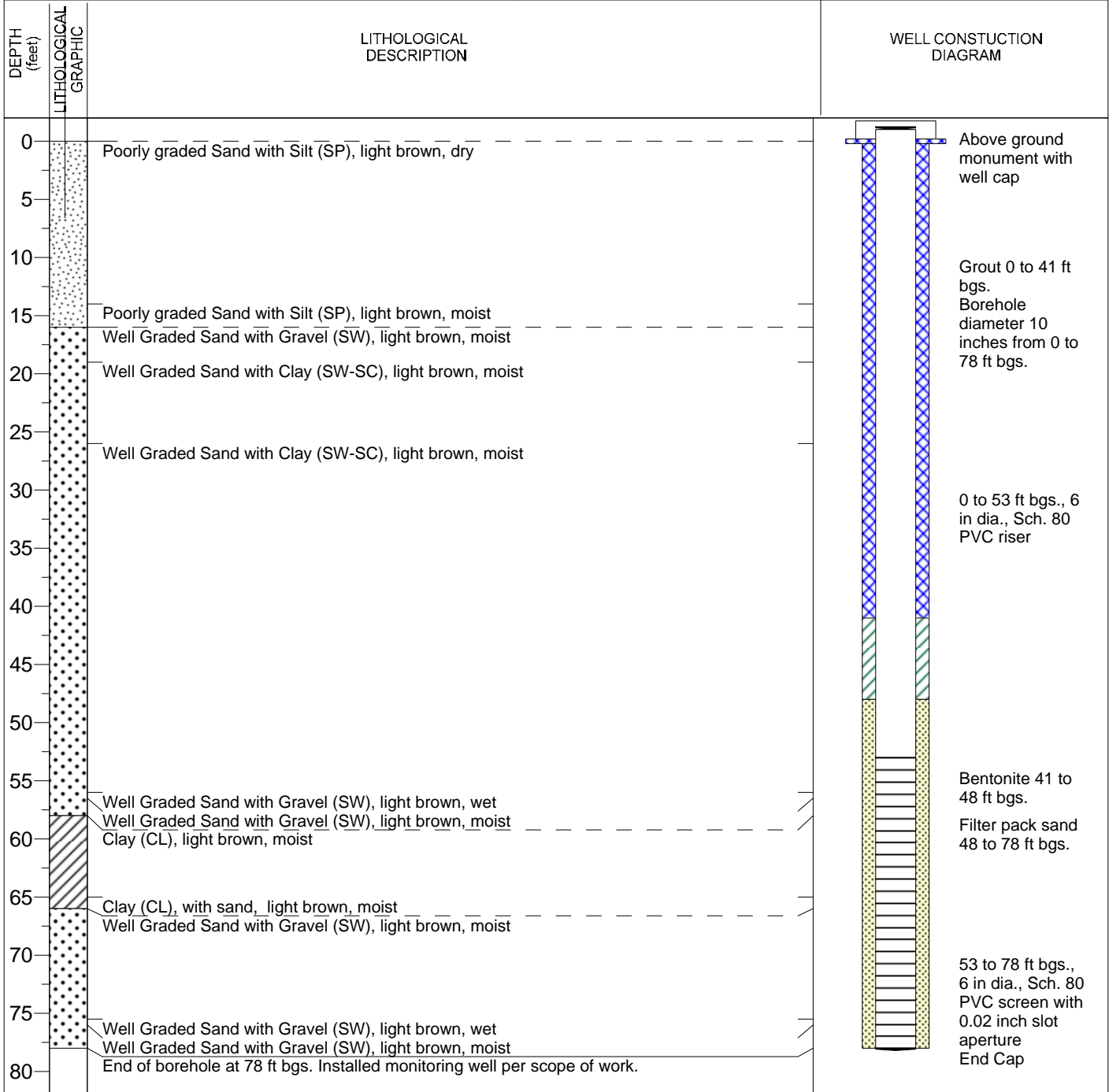
PROJECT: Monitoring Well Installation

SITE LOCATION: Down Gradient North



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs.,
 10 inch sonic core barrel 0 to 78 ft bgs.,

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.): 78 GROUNDWATER LEVEL (ft. btoc.):
 DATE STARTED: 5/8/2020 DATE FINISHED: 5/9/2020
 LOGGED BY: Rich Pratt



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORNG WELL ID: **BAC-19**

CLIENT: Intermountain Power Service Corporation

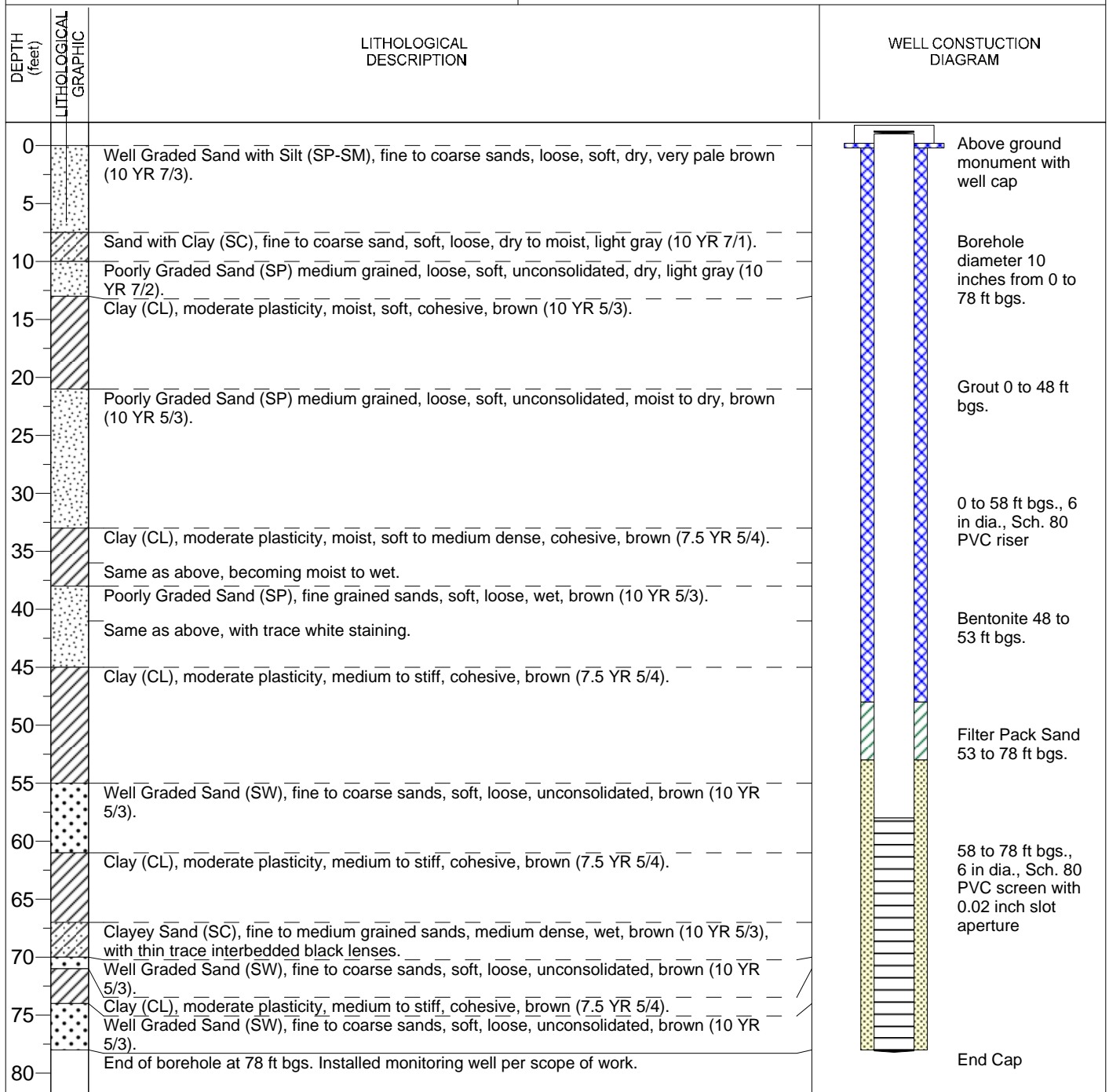
PROJECT: Monitoring Well Installation

SITE LOCATION: Down Gradient South



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 91 ft bgs.,
 10 inch sonic core barrel 0 to 91 ft bgs.,

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.): 78 GROUNDWATER LEVEL (ft. btoc.):
 DATE STARTED: 5/9/2020 DATE FINISHED: 5/9/2020
 LOGGED BY: Michael Ward



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORNG WELL ID: **BAC-20**

CLIENT: Intermountain Power Service Corporation

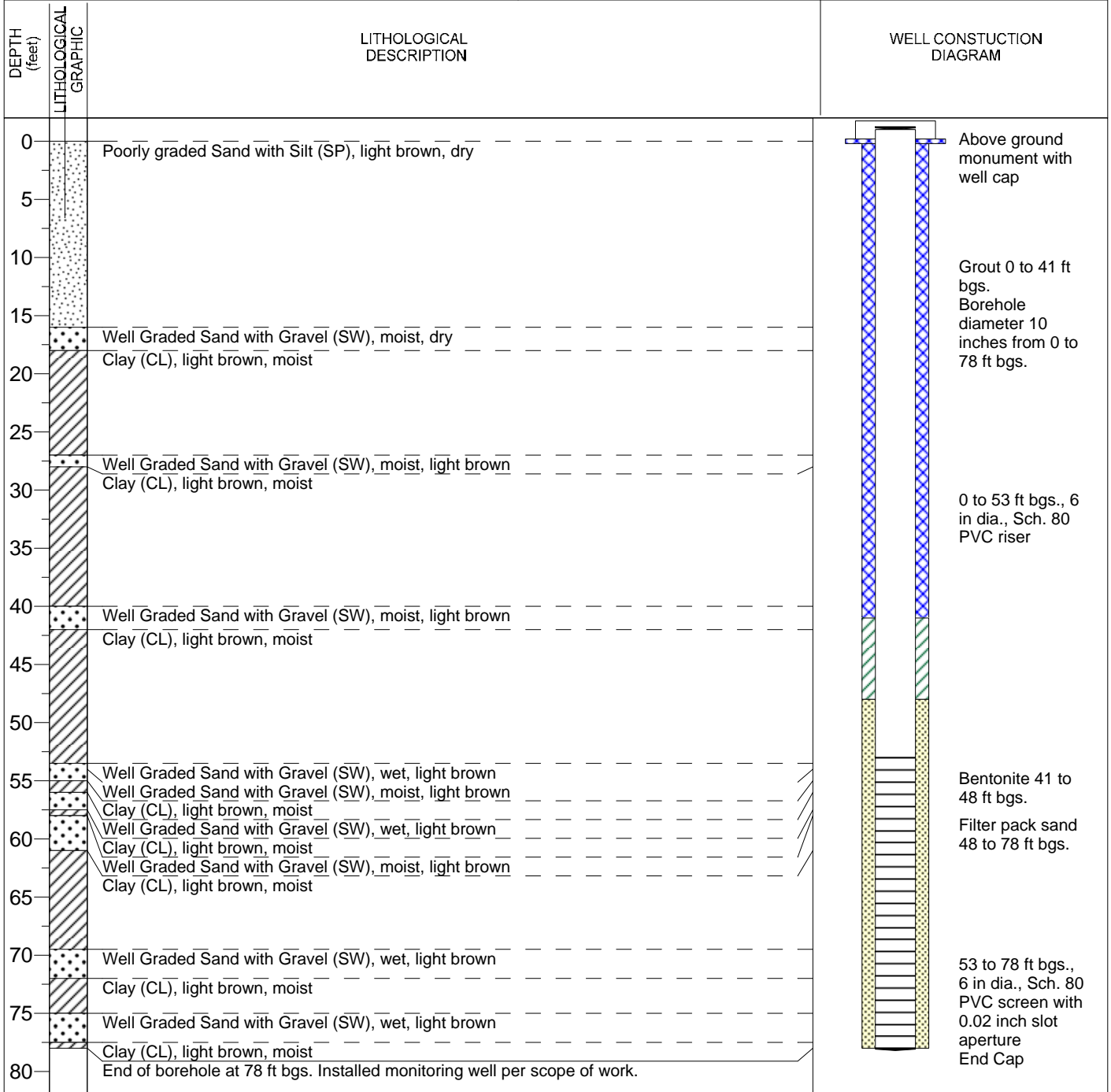
PROJECT: Monitoring Well Installation

SITE LOCATION: South Wells



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs.,
 10 inch sonic core barrel 0 to 78 ft bgs.,

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.): 78 GROUNDWATER LEVEL (ft. btoc.):
 DATE STARTED: 5/9/2020 DATE FINISHED: 5/10/2020
 LOGGED BY: Rich Pratt



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORING WELL ID: **BAC-21**

CLIENT: Intermountain Power Service Corporation

PROJECT: Monitoring Well Installation

SITE LOCATION: South Wells



DRILLING CONTRACTOR: Cascade Drilling

DRILLING METHOD: Sonic

DRILLING EQUIPMENT: Pro Sonic 600

SAMPLING METHOD: 4 inch sonic core barrel 0 to 91 ft bgs.,
10 inch sonic core barrel 0 to 91 ft bgs.,

COORDINATE SYSTEM:

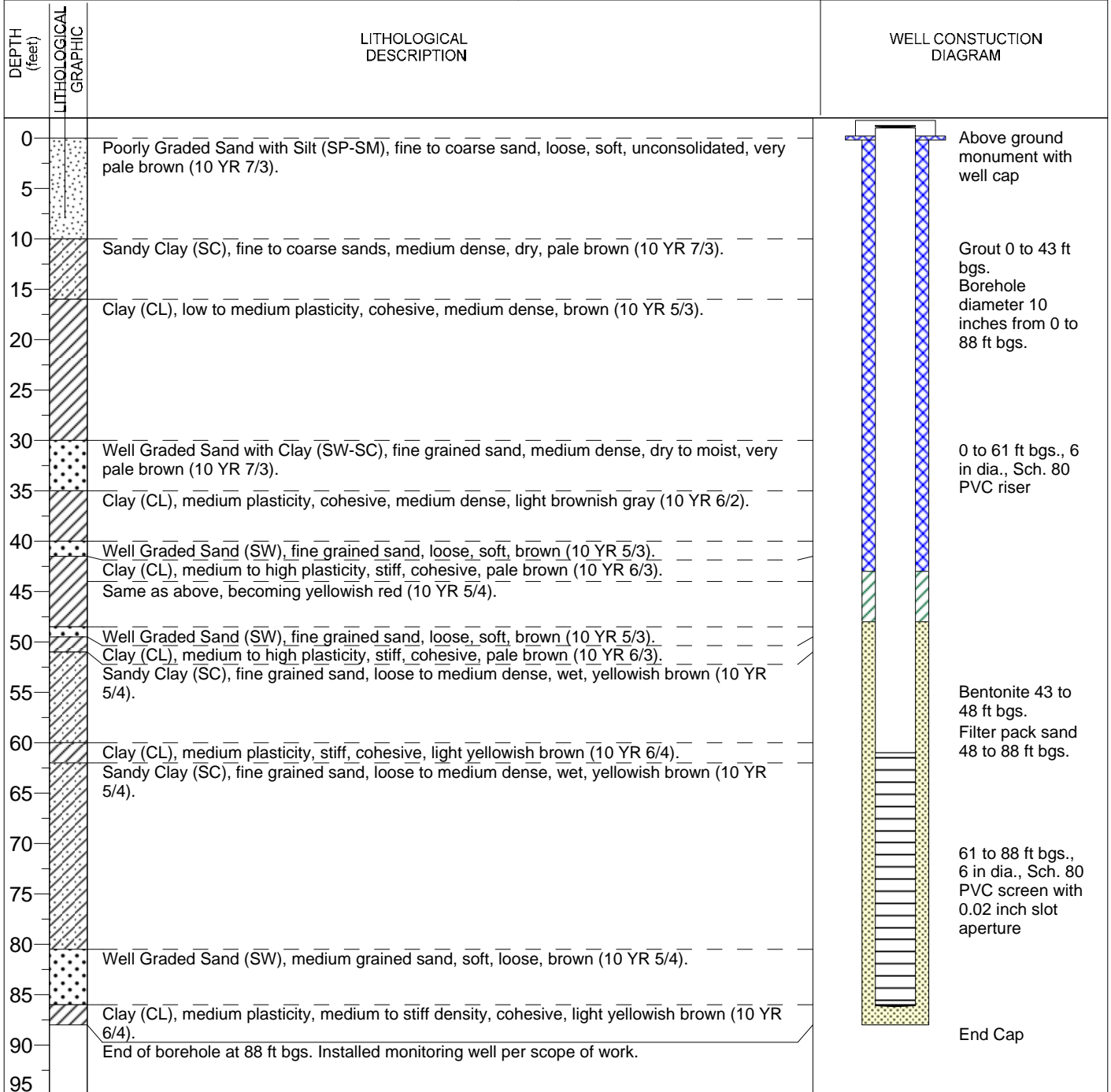
EASTING: NORTHING:

ELEVATION: BOREHOLE ANGLE: 90 degrees

TOTAL DEPTH (ft.): 88 GROUNDWATER LEVEL (ft. btoc.):

DATE STARTED: 5/10/2020 DATE FINISHED: 5/10/2020

LOGGED BY: Michael Ward



Notes: bgs. = below ground surface Sch. = Schedule
dia. = diameter YR = Yellow-Red
ft = feet



MONITORING WELL ID: **BAC-22**

CLIENT: Intermountain Power Service Corporation

PROJECT: Monitoring Well Installation

SITE LOCATION: South Wells



DRILLING CONTRACTOR: Cascade Drilling

DRILLING METHOD: Sonic

DRILLING EQUIPMENT: Pro Sonic 600

SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs.,
10 inch sonic core barrel 0 to 78 ft bgs.,

COORDINATE SYSTEM:

EASTING:

NORTHING:

ELEVATION:

BOREHOLE ANGLE: 90 degrees

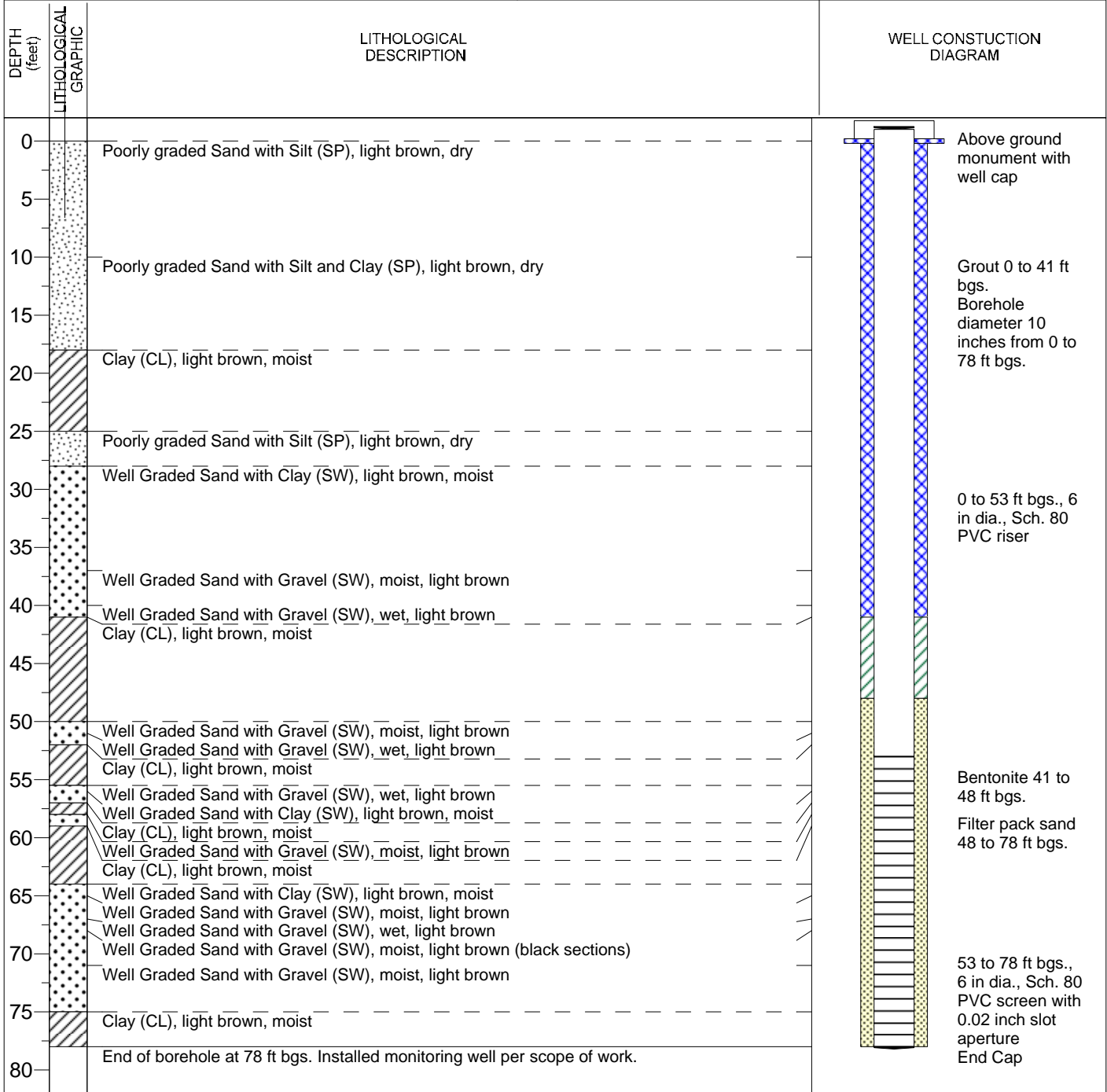
TOTAL DEPTH (ft.): 78

GROUNDWATER LEVEL (ft. btoc.):

DATE STARTED: 5/10/2020

DATE FINISHED: 5/10/2020

LOGGED BY: Rich Pratt



Notes: bgs. = below ground surface Sch. = Schedule
dia. = diameter YR = Yellow-Red
ft = feet



MONITORING WELL ID: **BAC-23**

CLIENT: Intermountain Power Service Corporation

PROJECT: Monitoring Well Installation

SITE LOCATION: South Wells



DRILLING CONTRACTOR: Cascade Drilling

COORDINATE SYSTEM:

DRILLING METHOD: Sonic

EASTING:

NORTHING:

DRILLING EQUIPMENT: Pro Sonic 600

ELEVATION:

BOREHOLE ANGLE: 90 degrees

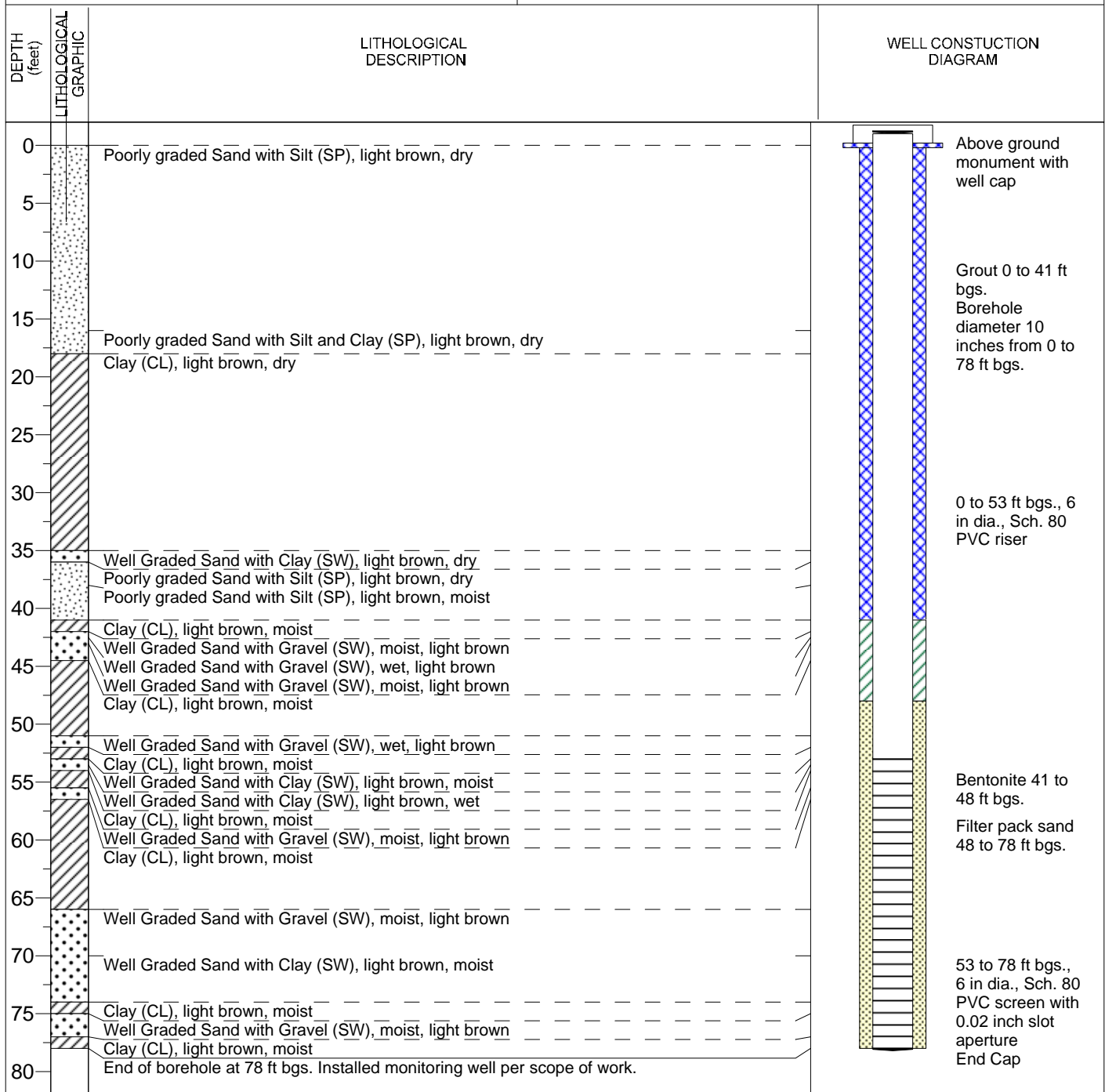
SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs.,
10 inch sonic core barrel 0 to 78 ft bgs.,

TOTAL DEPTH (ft.): 78

GROUNDWATER LEVEL (ft. btoc.):

DATE STARTED: 5/11/2020 DATE FINISHED: 5/11/2020

LOGGED BY: Rich Pratt



Notes: bgs. = below ground surface Sch. = Schedule
dia. = diameter YR = Yellow-Red
ft = feet



MONITORNG WELL ID: **BAC-24**

CLIENT: Intermountain Power Service Corporation

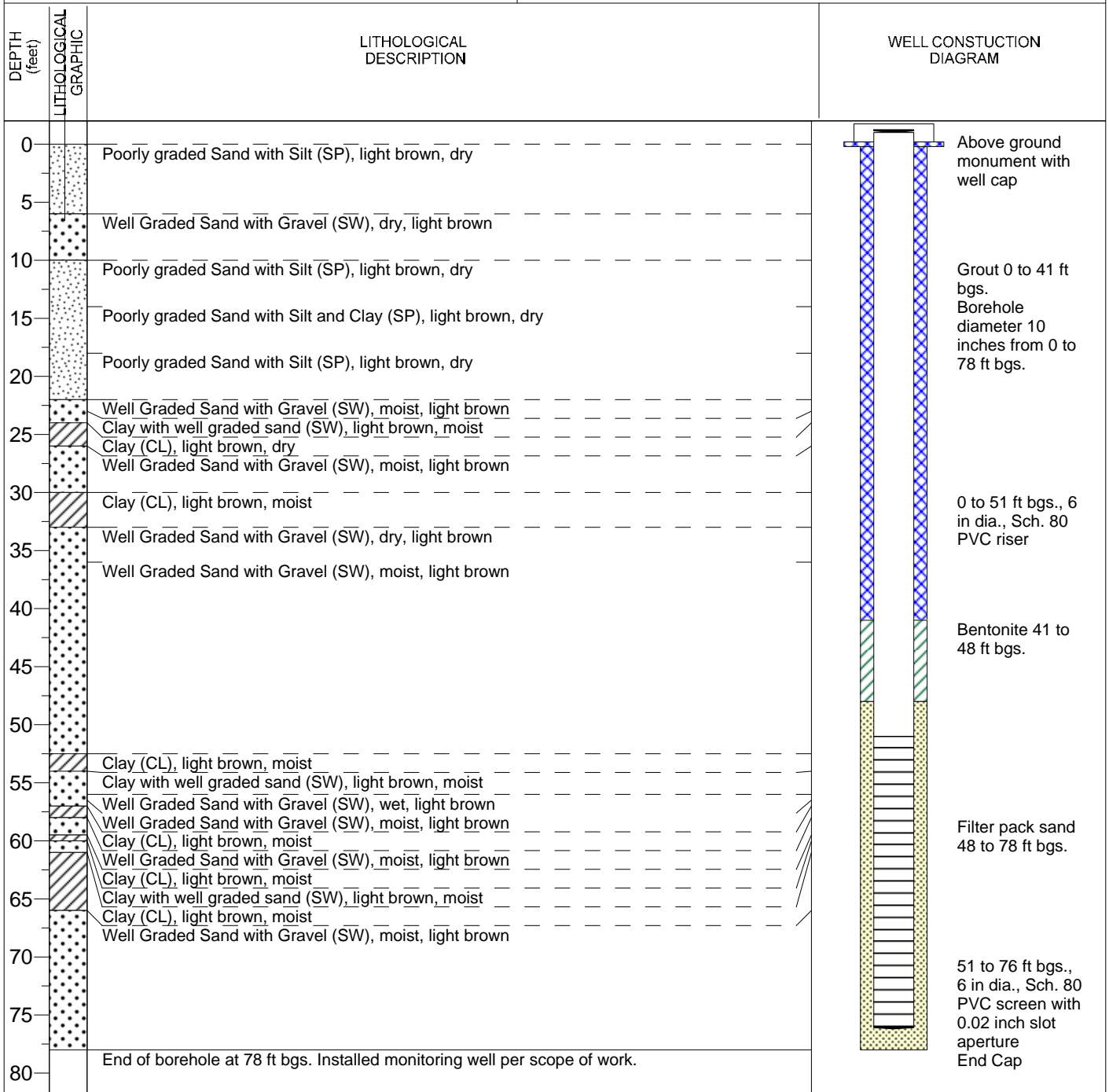
PROJECT: Monitoring Well Installation

SITE LOCATION: South Wells



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs.,
 10 inch sonic core barrel 0 to 78 ft bgs.,

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.): 76.2 GROUNDWATER LEVEL (ft. btoc.):
 DATE STARTED: 5/12/2020 DATE FINISHED: 5/12/2020
 LOGGED BY: Rich Pratt



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORNG WELL ID: **BAC-25**

CLIENT: Intermountain Power Service Corporation

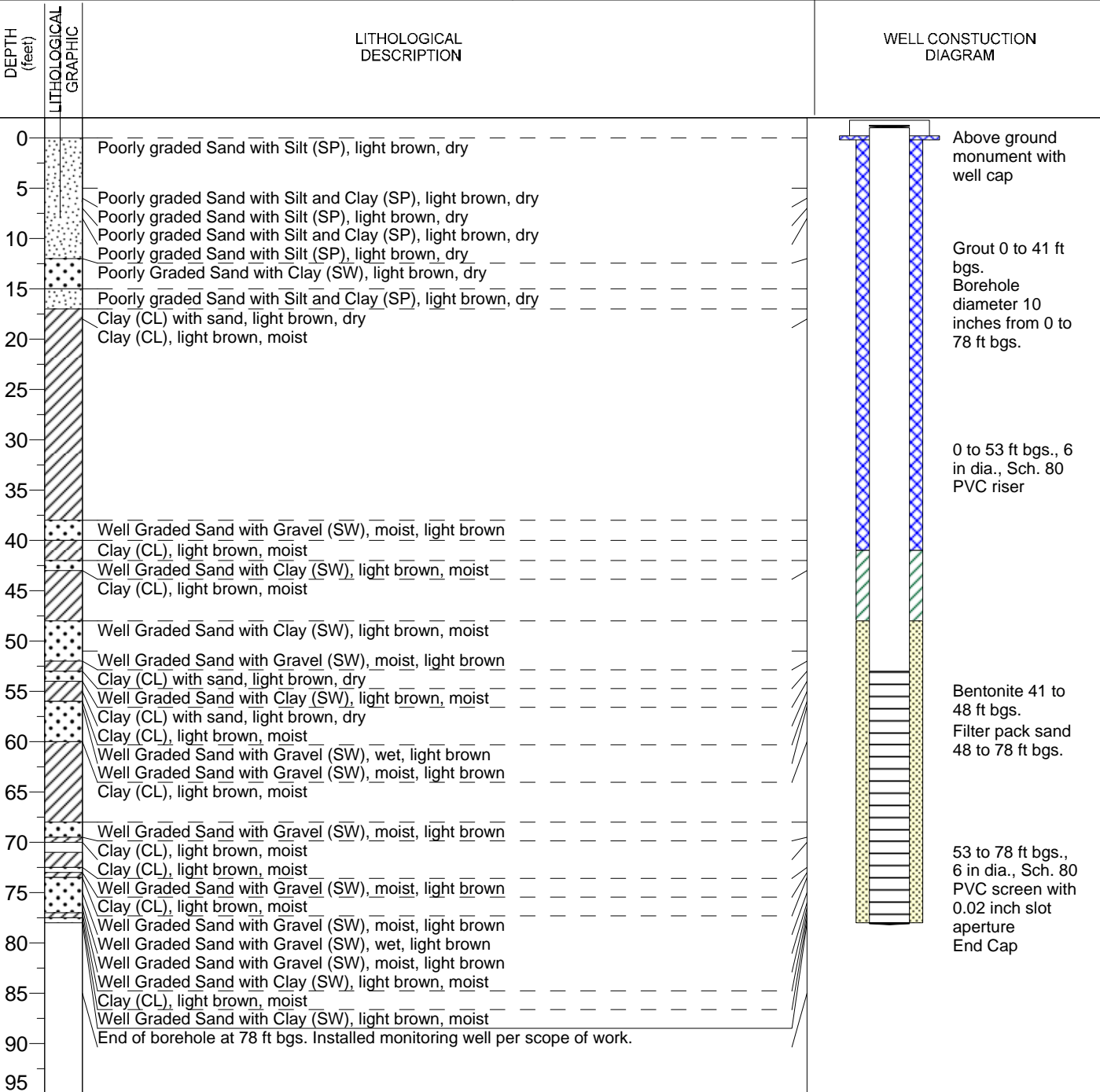
PROJECT: Monitoring Well Installation

SITE LOCATION: South Wells



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs.,
 10 inch sonic core barrel 0 to 78 ft bgs.,

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.): 78 GROUNDWATER LEVEL (ft. btoc.):
 DATE STARTED: 5/12/2020 DATE FINISHED: 5/12/2020
 LOGGED BY: Rich Pratt



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORNG WELL ID: **BAC-26**

CLIENT: Intermountain Power Service Corporation

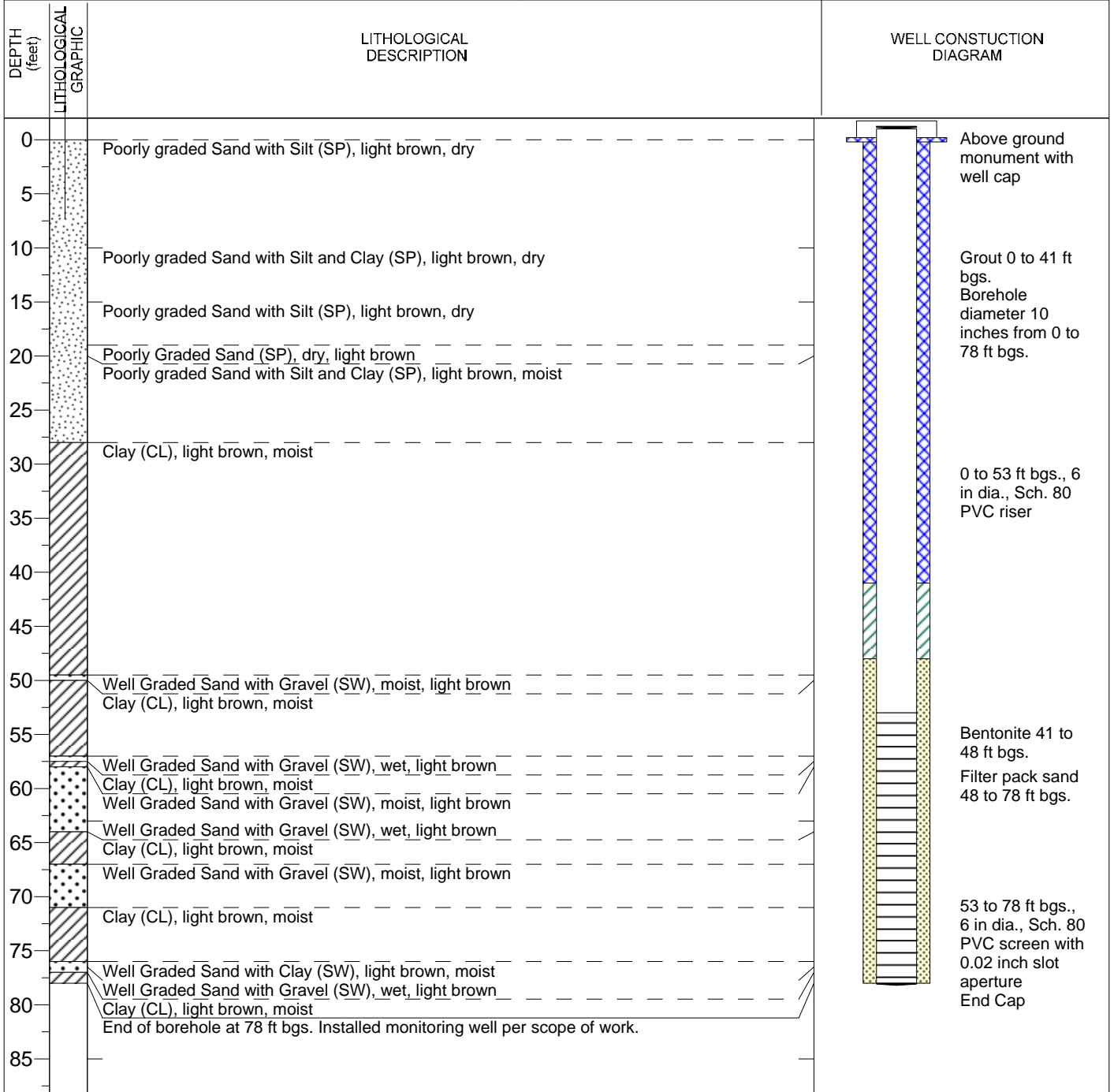
PROJECT: Monitoring Well Installation

SITE LOCATION: South Wells



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs.,
 10 inch sonic core barrel 0 to 78 ft bgs.,

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.): 78 GROUNDWATER LEVEL (ft. btoc.):
 DATE STARTED: 5/13/2020 DATE FINISHED: 5/13/2020
 LOGGED BY: Rich Pratt



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORNG WELL ID: **BAC-27**

CLIENT: Intermountain Power Service Corporation

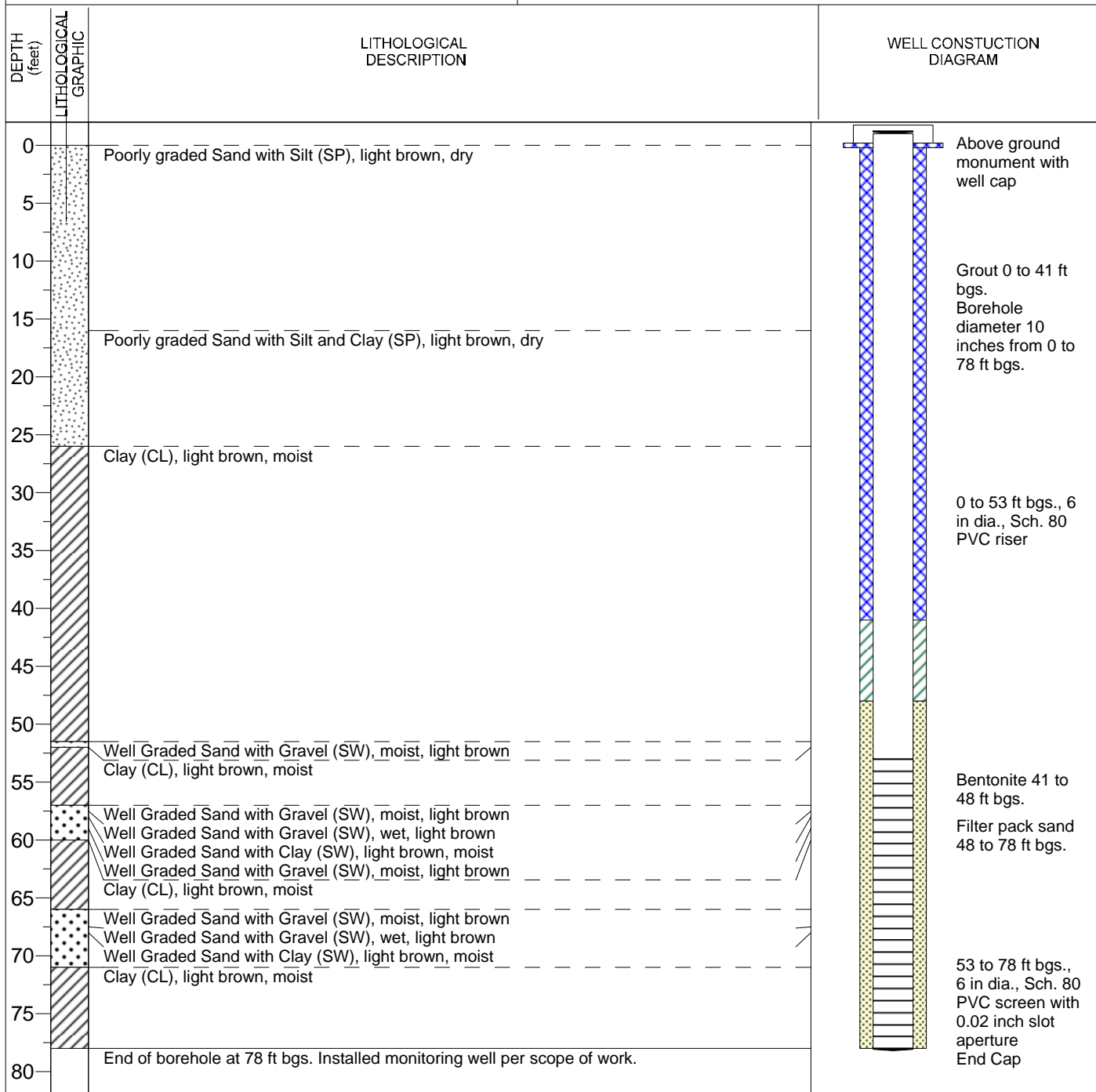
PROJECT: Monitoring Well Installation

SITE LOCATION: North Wells



DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHOD: Sonic
DRILLING EQUIPMENT: Pro Sonic 600
SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs.,
10 inch sonic core barrel 0 to 78 ft bgs.,

COORDINATE SYSTEM:
EASTING: NORTHING:
ELEVATION: BOREHOLE ANGLE: 90 degrees
TOTAL DEPTH (ft.): 78 GROUNDWATER LEVEL (ft. btoc.):
DATE STARTED: 5/13/2020 DATE FINISHED: 5/13/2020
LOGGED BY: Rich Pratt



Notes: bgs. = below ground surface Sch. = Schedule
dia. = diameter YR = Yellow-Red
ft = feet

MONITORING WELL ID: **BAC-28**

CLIENT: Intermountain Power Service Corporation

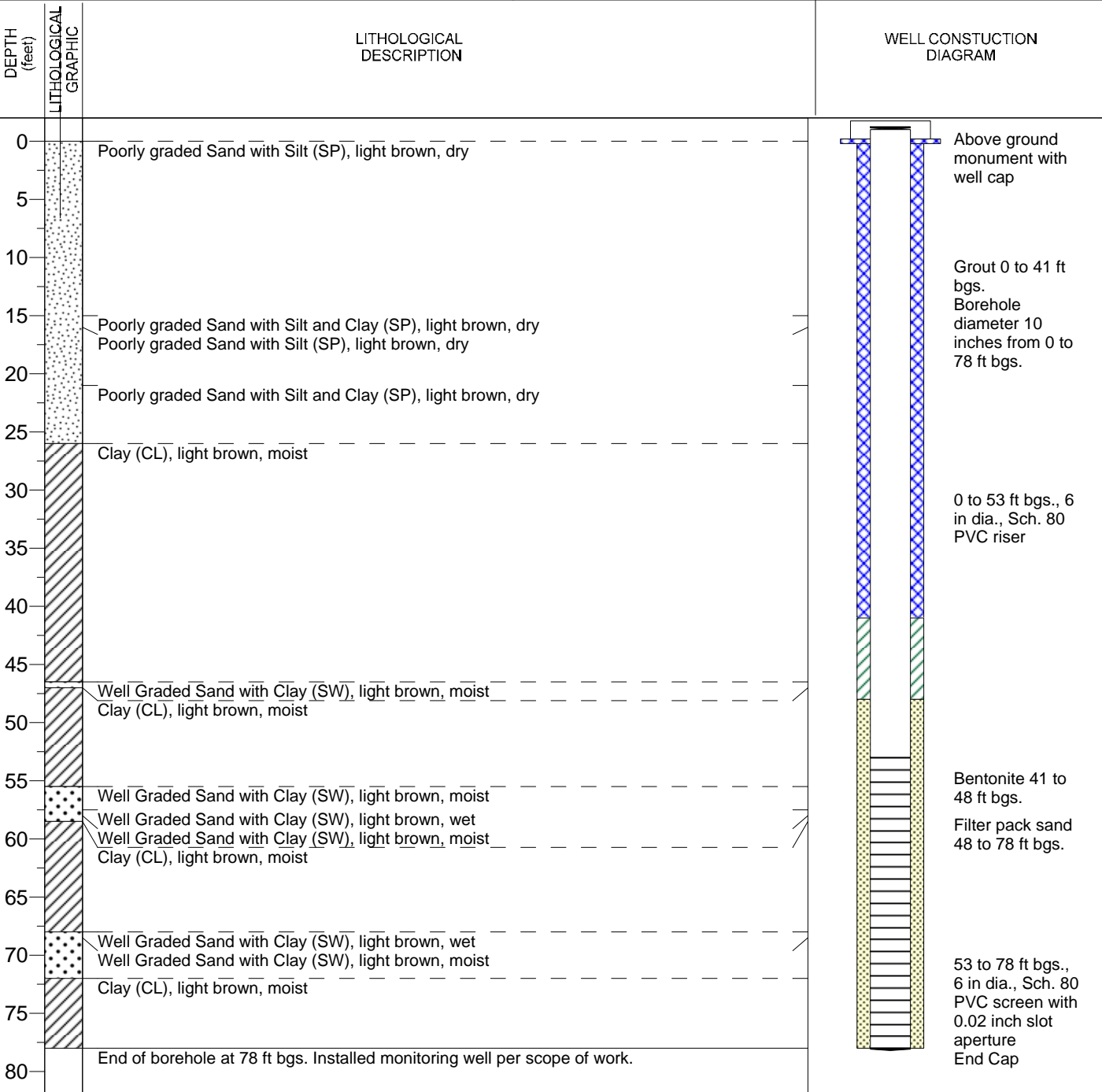
PROJECT: Monitoring Well Installation

SITE LOCATION: North Wells



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs.,
 10 inch sonic core barrel 0 to 78 ft bgs.,

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.): 78 GROUNDWATER LEVEL (ft. btoc.):
 DATE STARTED: 5/14/2020 DATE FINISHED: 5/14/2020
 LOGGED BY: Rich Pratt



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORING WELL ID: **BAC-29**

CLIENT: Intermountain Power Service Corporation

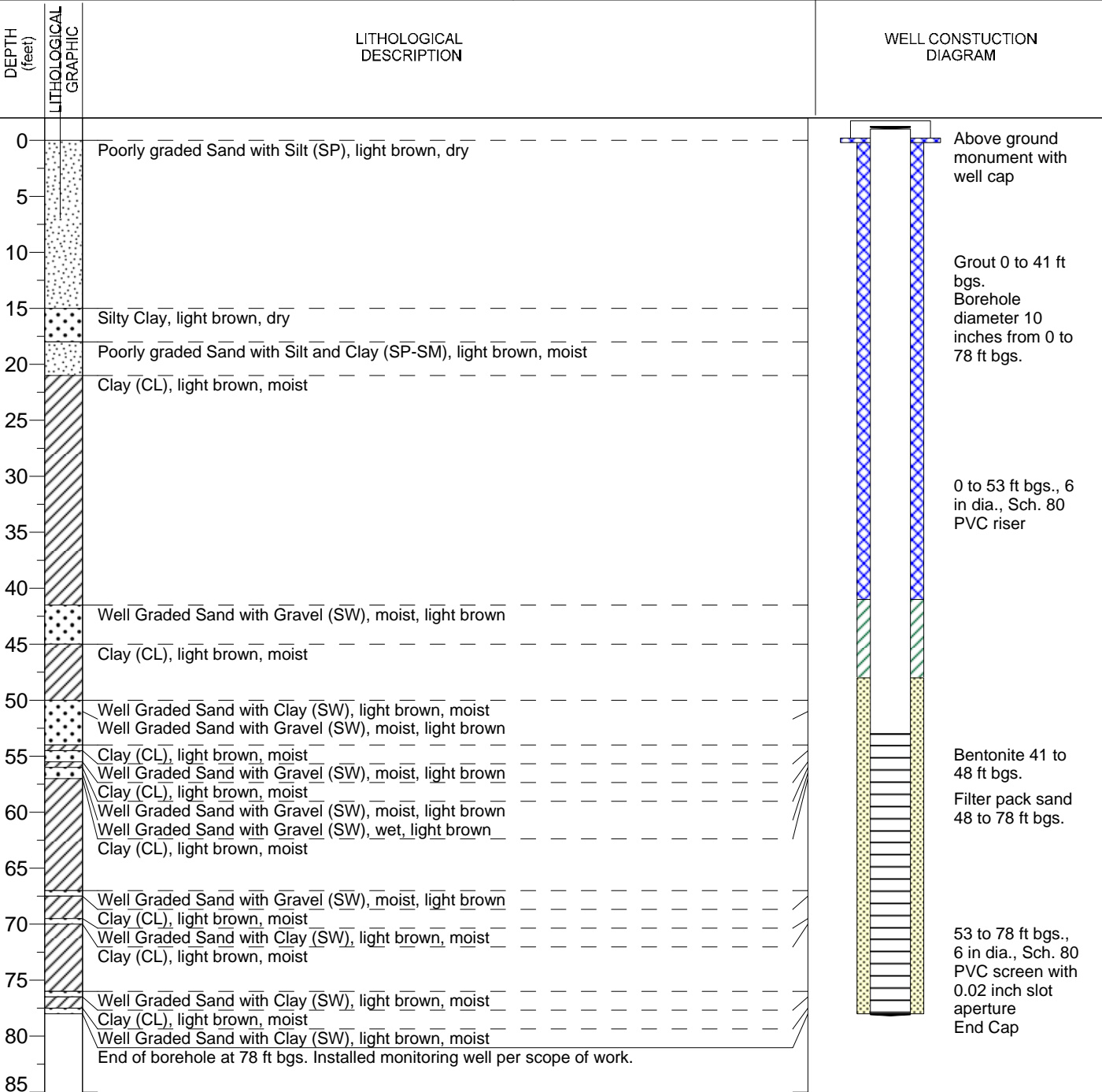
PROJECT: Monitoring Well Installation

SITE LOCATION: North Wells



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs.,
 10 inch sonic core barrel 0 to 78 ft bgs.,

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.): 78 GROUNDWATER LEVEL (ft. btoc.):
 DATE STARTED: 5/15/2020 DATE FINISHED: 5/15/2020
 LOGGED BY: Rich Pratt



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORNG WELL ID: **BAC-30**

CLIENT: Intermountain Power Service Corporation

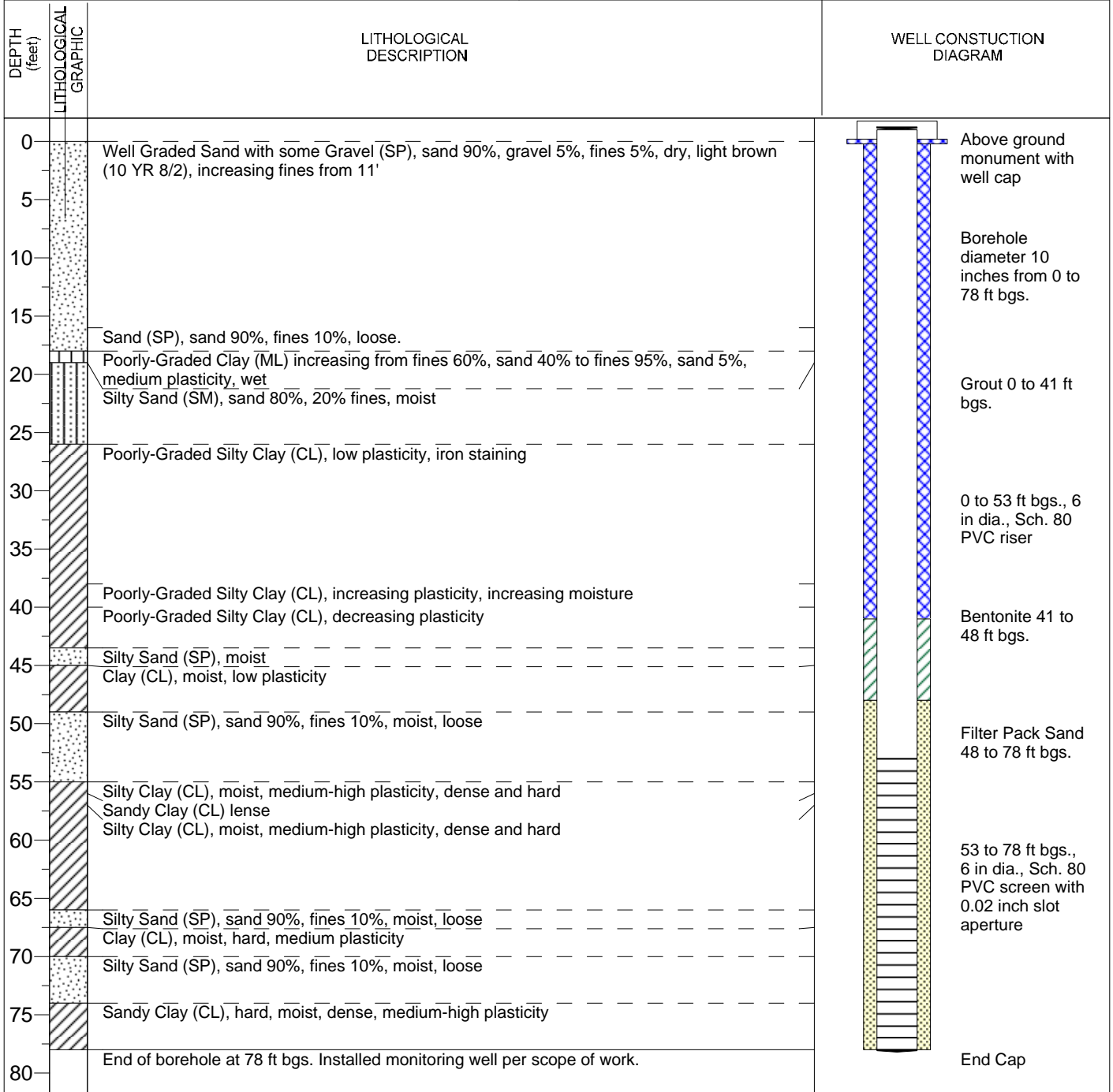
PROJECT: Monitoring Well Installation

SITE LOCATION: North Wells



DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHOD: Sonic
DRILLING EQUIPMENT: Pro Sonic 600
SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs.,
10 inch sonic core barrel 0 to 78 ft bgs.,

COORDINATE SYSTEM:
EASTING: NORTHING:
ELEVATION: BOREHOLE ANGLE: 90 degrees
TOTAL DEPTH (ft.): 78 GROUNDWATER LEVEL (ft. btoc.):
DATE STARTED: 5/14/2020 DATE FINISHED: 5/15/2020
LOGGED BY: Joel Pierson



Notes: bgs. = below ground surface Sch. = Schedule
dia. = diameter YR = Yellow-Red
ft = feet



MONITORNG WELL ID: **BAC-31**

CLIENT: Intermountain Power Service Corporation

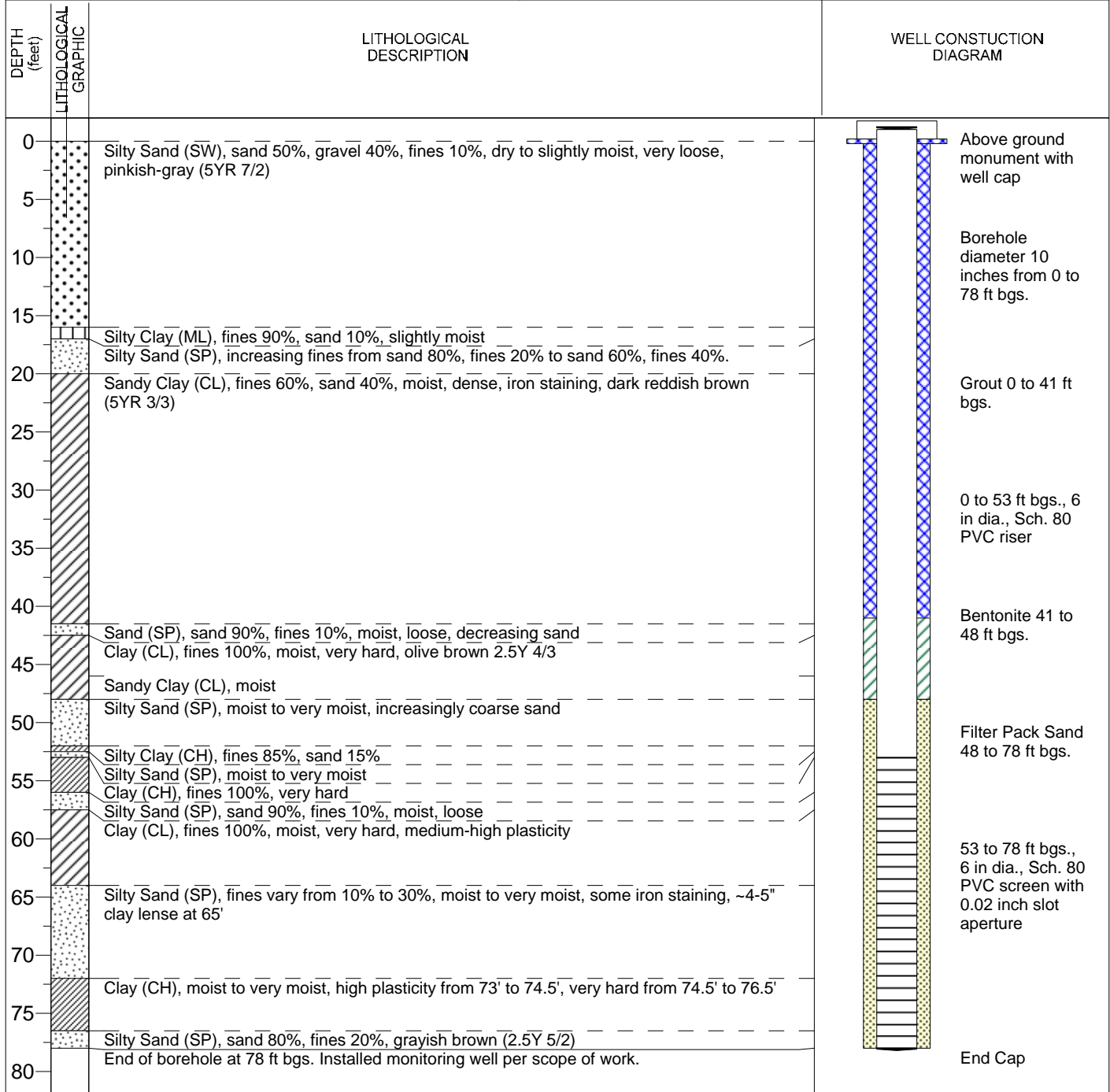
PROJECT: Monitoring Well Installation

SITE LOCATION: North Wells



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs.,
 10 inch sonic core barrel 0 to 78 ft bgs.,

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.): 78 GROUNDWATER LEVEL (ft. btoc.):
 DATE STARTED: 5/15/2020 DATE FINISHED: 5/18/2020
 LOGGED BY: Joel Pierson



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORNG WELL ID: **BAC-32**

CLIENT: Intermountain Power Service Corporation

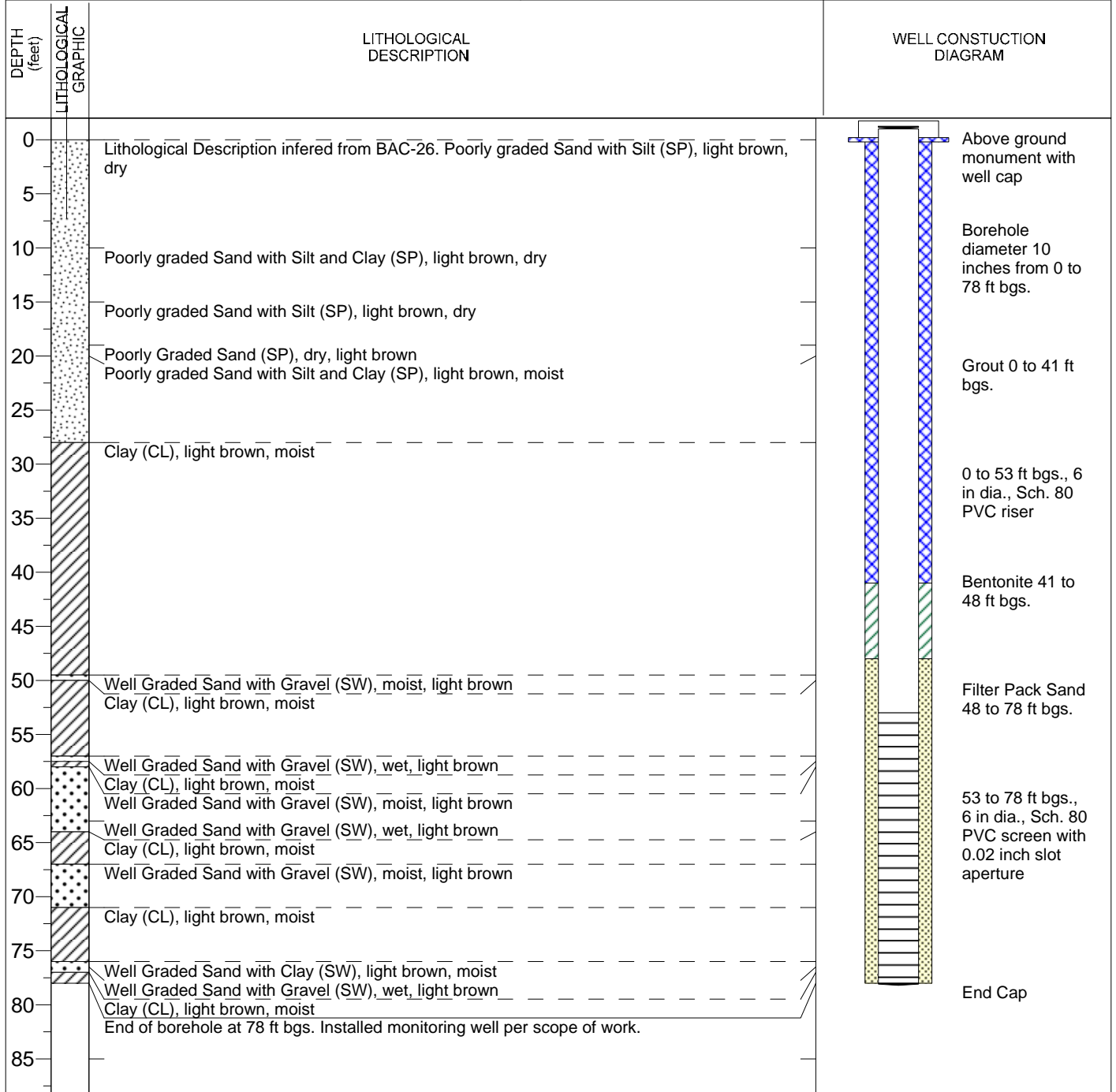
PROJECT: Monitoring Well Installation

SITE LOCATION: North Wells



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs.,
 10 inch sonic core barrel 0 to 78 ft bgs.,

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.): 78 GROUNDWATER LEVEL (ft. btoc.):
 DATE STARTED: 5/19/2020 DATE FINISHED: 5/19/2020
 LOGGED BY: Not Available



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORING WELL ID: **BAC-33**

CLIENT: Intermountain Power Service Corporation

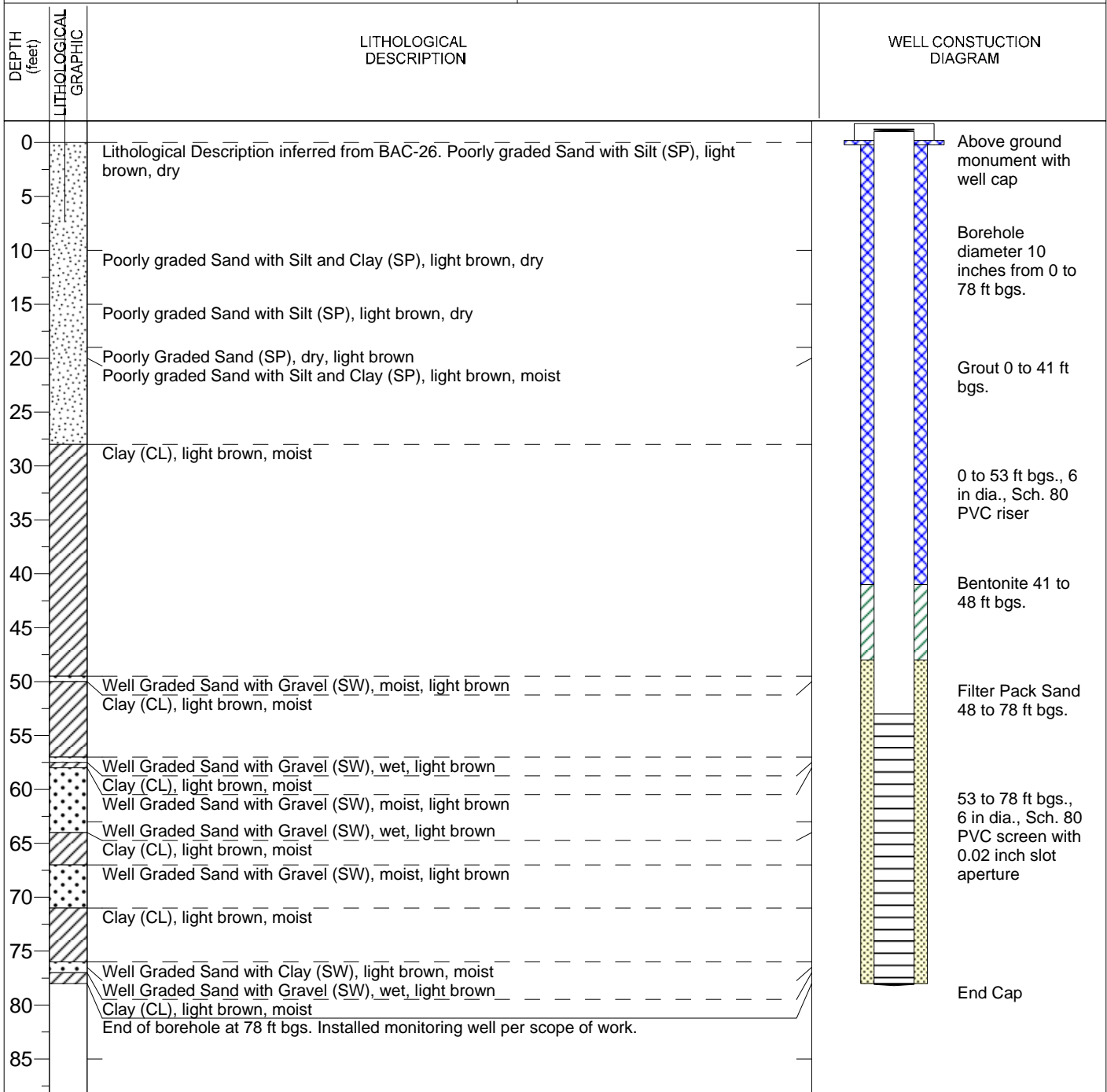
PROJECT: Monitoring Well Installation

SITE LOCATION: North Wells



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs.,
 10 inch sonic core barrel 0 to 78 ft bgs.,

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.): 78 GROUNDWATER LEVEL (ft. btoc.):
 DATE STARTED: 5/18/2020 DATE FINISHED: 5/18/2020
 LOGGED BY: Not Available



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORNG WELL ID: BAC-34

CLIENT: Intermountain Power Service Corporation

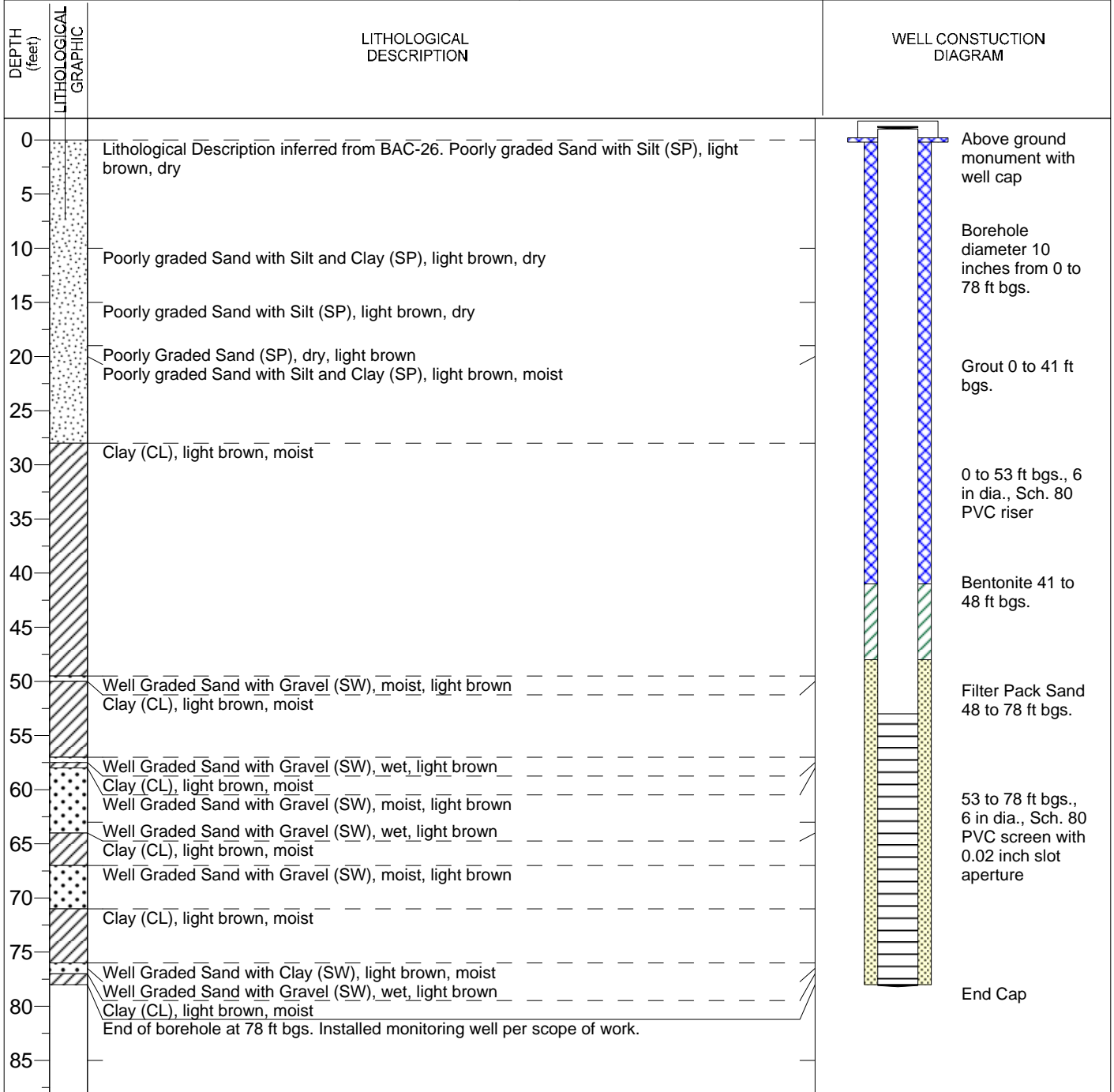
PROJECT: Monitoring Well Installation

SITE LOCATION: North Wells



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs.,
 10 inch sonic core barrel 0 to 78 ft bgs.,

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.): 78 GROUNDWATER LEVEL (ft. btoc.):
 DATE STARTED: 5/21/2020 DATE FINISHED: 5/21/2020
 LOGGED BY: Not Available



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORNG WELL ID: **BAC-35**

CLIENT: Intermountain Power Service Corporation

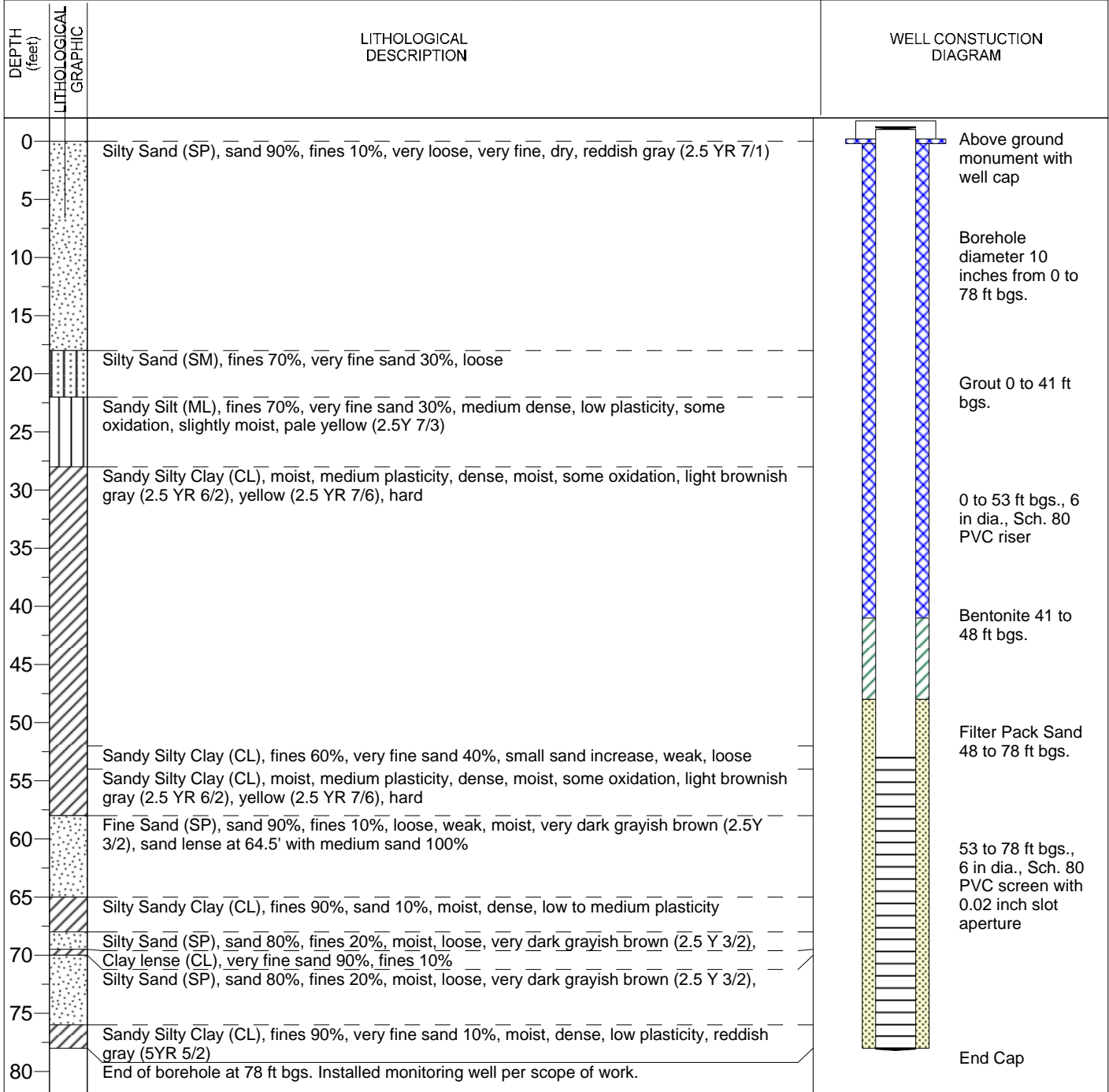
PROJECT: Monitoring Well Installation

SITE LOCATION: North Wells



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs.,
 10 inch sonic core barrel 0 to 78 ft bgs.,

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.): 78 GROUNDWATER LEVEL (ft. btoc.):
 DATE STARTED: 5/28/2020 DATE FINISHED: 5/29/2020
 LOGGED BY: Joel Pierson



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORNG WELL ID: **BAC-36**

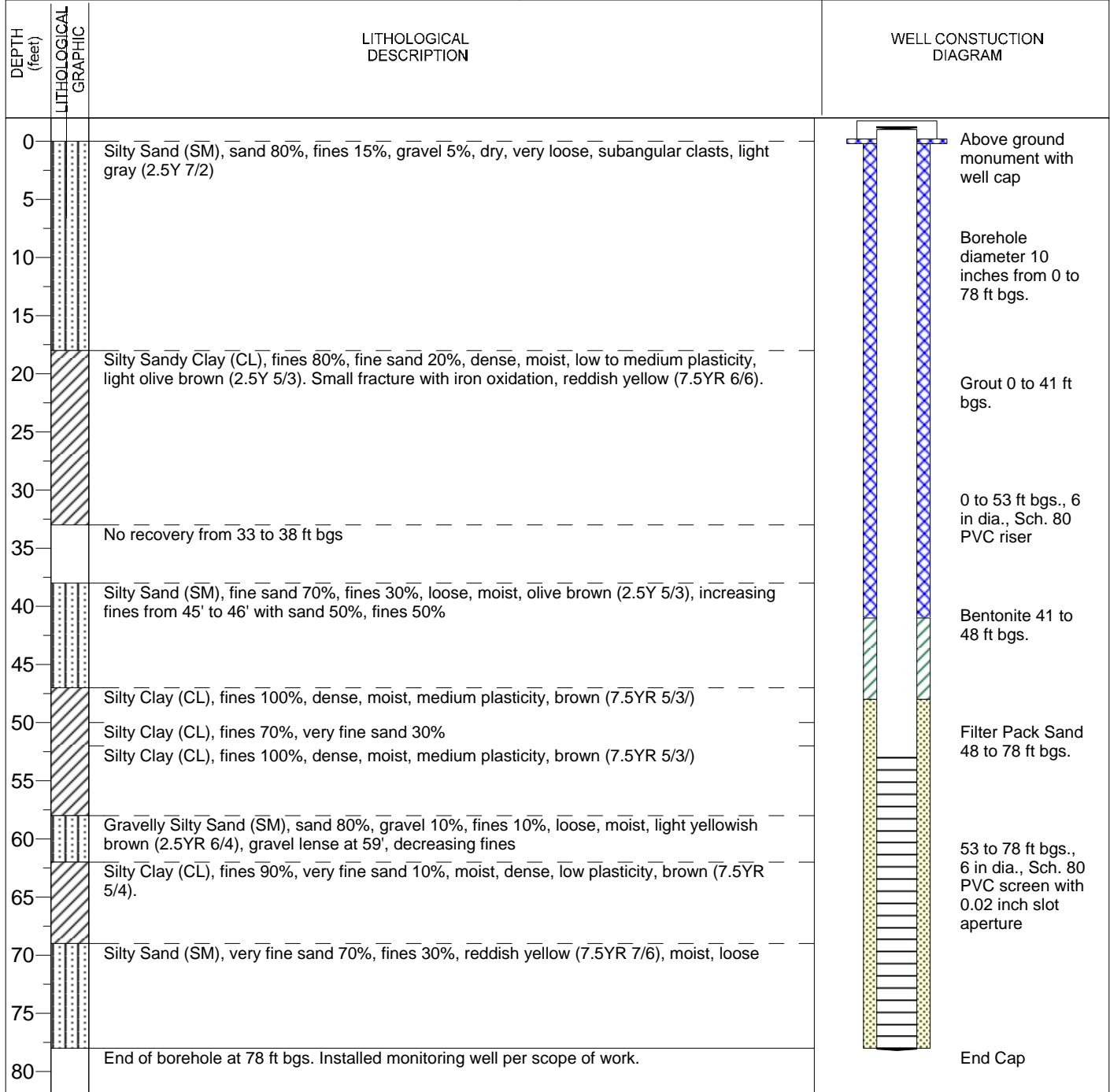
CLIENT: Intermountain Power Service Corporation

PROJECT: Monitoring Well Installation

SITE LOCATION: South Wells



DRILLING CONTRACTOR: Cascade Drilling DRILLING METHOD: Sonic DRILLING EQUIPMENT: Pro Sonic 600 SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs., 10 inch sonic core barrel 0 to 78 ft bgs.,	COORDINATE SYSTEM: EASTING: NORTHING: ELEVATION: BOREHOLE ANGLE: 90 degrees TOTAL DEPTH (ft.): 78 GROUNDWATER LEVEL (ft. btoc.): DATE STARTED: 5/30/2020 DATE FINISHED: 5/31/2020 LOGGED BY: Joel Pierson
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Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORNG WELL ID: **BAC-37**

CLIENT: Intermountain Power Service Corporation

PROJECT: Monitoring Well Installation

SITE LOCATION: South Wells



DRILLING CONTRACTOR: Cascade Drilling

DRILLING METHOD: Sonic

DRILLING EQUIPMENT: Pro Sonic 600

SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs.,
10 inch sonic core barrel 0 to 78 ft bgs.,

COORDINATE SYSTEM:

EASTING:

NORTHING:

ELEVATION:

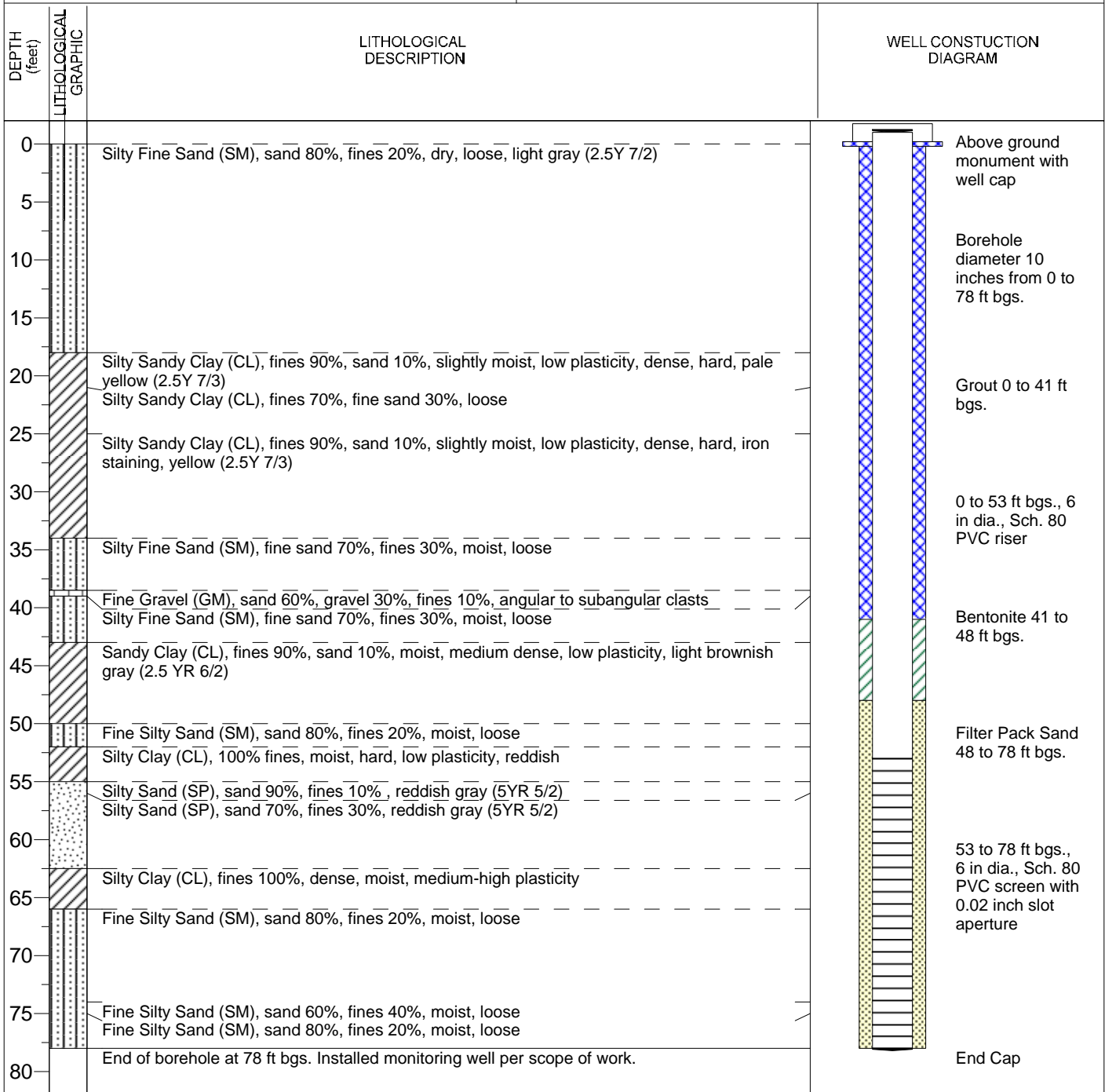
BOREHOLE ANGLE: 90 degrees

TOTAL DEPTH (ft.): 78

GROUNDWATER LEVEL (ft. btoc.):

DATE STARTED: 5/29/2020 DATE FINISHED: 5/30/2020

LOGGED BY: Joel Pierson



Notes: bgs. = below ground surface Sch. = Schedule
dia. = diameter YR = Yellow-Red
ft = feet



MONITORING WELL ID: **BAC-38**

CLIENT: Intermountain Power Service Corporation

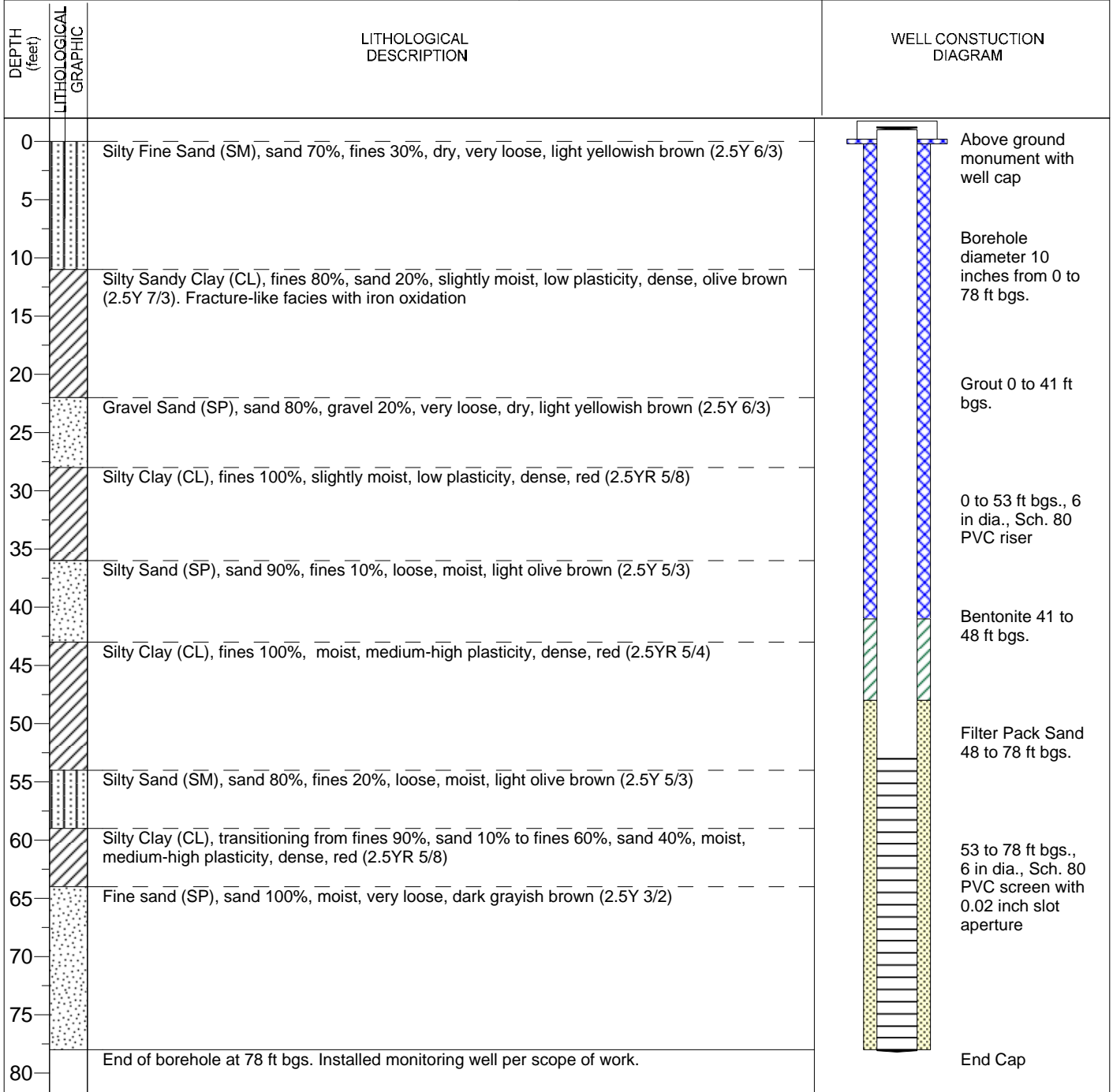
PROJECT: Monitoring Well Installation

SITE LOCATION: South Wells



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 78 ft bgs.,
 10 inch sonic core barrel 0 to 78 ft bgs.,

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.): 78 GROUNDWATER LEVEL (ft. btoc.):
 DATE STARTED: 5/31/2020 DATE FINISHED: 5/31/2020
 LOGGED BY: Joel Pierson



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet

BA-U-1

Interval (feet)	Drilling Method	USCS	Sample Description
7/24/2015			
0-0.5	8" Sonic	TOPSOIL	Surface - Sand, Gravel, roots, coal ash.
0.5-1.5	8" Sonic	SM	Silty SAND:
1.5-2.5	8" Sonic	SC	Clayey SAND:
2.5-3.5	8" Sonic	ML	Sandy SILT:
3.5-5	8" Sonic	SM/ML	Silty SAND/Sandy Silt:
5-6	8" Sonic	SP	SAND:
6-9.5	8" Sonic		SAND:
9.5-11	8" Sonic		SAND:
11-11.5	8" Sonic	SM	Silty SAND:
11.5-12	8" Sonic		Silty SAND:
12-13	8" Sonic	SP/SM	SAND with silt:
13-17	8" Sonic	SP	SAND:
17-17.5	8" Sonic	SP/SM	SAND with silt:
17.5-20	8" Sonic	SP	SAND:
20-22.5	8" Sonic		SAND:
22.5-25	8" Sonic	SM	Silty SAND:
25-26	8" Sonic	SP	SAND:
26-27.5	8" Sonic	SP/SM	SAND with silt:
27.5-28.25	8" Sonic	SM	Silty SAND with clay:
28.25-29.25	8" Sonic	SP/SM	SAND with silt:
29.25-30	8" Sonic	CL	CLAY:
30-31.5	8" Sonic		Sandy CLAY:
31.5-33	8" Sonic	ML	Sandy SILT:
33-35	8" Sonic	SM	Silty SAND with clay:
35-36.25	8" Sonic	SP/SM	SAND with silt:
36.25-40	8" Sonic	CH	CLAY:
40-46.5	8" Sonic		CLAY:
46.5-47.5	8" Sonic	SP/SM	SAND with silt:
47.5-50	8" Sonic	SM	Silty SAND with clay:
50-51	8" Sonic	SC	Clayey SAND:
51-51.75	8" Sonic	SW	SAND:
51.75-52.5	8" Sonic	SP	SAND:
52.5-53	8" Sonic	CH	Sandy CLAY:
53-54	8" Sonic		Sandy CLAY:
54-55	8" Sonic		CLAY:

TD = 55; PVC 4-inch screen from 45 to 55; PVC 4-inch riser from -2.5 to 45
Drilling Method: Guspech GS24-300RS, 8" Rotasonic

Drilling Company - Cascade Drilling
Driller - Daniel Dodge
Geologist - Michael Sauerwein

Above-grade, 5-feet. long, 8-in. dia., steel Wellhead Protective Monument set in a 2X2 Concrete Pad ~ 2.5-feet. stick-up

Ground Surface

8-inch diameter, from 0 to 55-feet bgs

4-inch diameter, Sch. 40 PVC, from ~ 2.0 feet above ground surface (ags) to 45 feet below ground surface (bgs)

Portland Cement-Bentonite gel (~ 10:1) Grout, Tremie-Pipe Slurry, from 0 to 38-feet bgs

Bentonite medium chips, from 38 to 43 feet bgs

At Time of Drilling, Depth to Uppermost Ground Water ~ 46.25-feet bgs

16/30 washed silica sand, 2-feet above screen from 43 to 55 feet bgs

Centralizers placed ~ the bottom and the top of the well screen.

10-foot length; 4-inch diameter Sch. 40 PVC, 0.020"-slotted, from 45 to 55 feet bgs

Total Depth (TD) = 55 feet bgs



IPSC – BOTTOM ASH BASIN AREA
DELTA, UTAH

Well BA-U-1 Schematic

Date Drawn
7/24/15

Design by

Drawn by

MS

Scale

Last Revision
Date

Boring Logs
ISPC
Delta, Utah

BA-U-2

Interval (feet)	Drilling Method	USCS	Sample Description
7/25/2015			
0-0.5	8" Sonic	TOPSOIL	Surface - Sand, Gravel, roots, coal ash.
0.5-1.5	8" Sonic	ML	Sandy SILT:
1.5-2.5	8" Sonic	SP/SM	SAND with silt:
2.5-4	8" Sonic		SAND with silt:
4-5	8" Sonic	ML	SILT with sand and clay:
5-6	8" Sonic	SP/SM	SAND with silt:
6-7	8" Sonic	SP	SAND:
7-9	8" Sonic	SW	Gravelly SAND:
9-9.75	8" Sonic		Gravelly SAND:
9.75-10.25	8" Sonic	SP	Gravelly SAND:
10.25-11	8" Sonic	SP/SM	SAND with silt:
11-12.5	8" Sonic	CL	CLAY:
12.5-13	8" Sonic	SP	SAND:
13-15.5	8" Sonic		SAND:
15.5-18	8" Sonic		SAND:
18-22.5	8" Sonic		SAND:
22.5-23	8" Sonic		SAND:
23-23.5	8" Sonic	SM	Silty SAND:
23.5-25	8" Sonic	SP/SM	SAND with silt:
25-30	8" Sonic	SM	Silty SAND:
30-32.5	8" Sonic	SC	Clayey SAND:
32.5-35	8" Sonic	SM	Silty SAND with clay:
35-37.5	8" Sonic		Silty SAND:
37.5-40	8" Sonic	CL	Sandy CLAY:
40-42	8" Sonic	SC	Clayey SAND:
42-45	8" Sonic	CH	CLAY:
45-47.5	8" Sonic		Sandy CLAY:
47.5-51.75	8" Sonic		CLAY:
51.75-53	8" Sonic	SM	Silty SAND:
53-54	8" Sonic		Silty SAND:
54-55	8" Sonic	SC/SM	Clayey SAND with silt:
55-56.5	8" Sonic	CH	CLAY:
56.5-57.5	8" Sonic		CLAY:
57.5-60	8" Sonic	SC	Clayey SAND:
60-60.75	8" Sonic	SM	Silty SAND with clay:
60.75-61.5	8" Sonic	SC	Clayey SAND:
61.5-62.5	8" Sonic	SP	SAND:
62.5-63.5	8" Sonic		SAND:
63.5-65	8" Sonic	SW	SAND:
65-67.5	8" Sonic	SP	SAND:
67.5-70	8" Sonic		SAND:

TD = 70'; PVC 4-inch screen from 60 to 70; PVC 4-inch riser from -2.5 to 60
Drilling Method: Guspech GS24-300RS, 8" Rotasonic

Drilling Company - Cascade Drilling
Driller - Daniel Dodge
Geologist - Michael Sauerwein

Above-grade, 5-feet. long, 8-in. dia., steel Wellhead Protective Monument set in a 2X2 Concrete Pad ~ 2.5-feet. stick-up

Ground Surface

8-inch diameter, from 0 to 70-feet bgs

4-inch diameter, Sch. 40 PVC, from ~ 2.0 feet above ground surface (ags) to 60 feet below ground surface (bgs)

Portland Cement-Bentonite gel (~ 10:1) Grout, Tremie-Pipe Slurry, from 0 to 52.5-feet bgs

At Time of Drilling, Depth to Uppermost Ground Water ~ 60.0-feet bgs

Bentonite medium chips, from 52.5 to 57.5 feet bgs

16/30 washed silica sand, 2-feet above screen from 57.5 to 70 feet bgs

Centralizers - placed at the bottom and the top of the well screen.

10-foot length; 4-inch diameter Sch. 40 PVC, 0.020"-slotted, from 60 to 70 feet bgs

Total Depth (TD) = 70 feet bgs



IPSC – BOTTOM ASH BASIN AREA
DELTA, UTAH

Well BA-U-2 Schematic

Date Drawn
7/25/15

Design by

Drawn by

MS

Scale

Last Revision
Date

WWC-1

Interval (feet)	Drilling Method	USCS	Sample Description
7/26/2015			
0-0.5	8" Sonic	TOPSOIL	Surface - Sand, Gravel, roots, coal ash.
0.5-2	8" Sonic	ML	Sandy SILT:
2-2.5	8" Sonic	SP	SAND:
2.5-5	8" Sonic		SAND:
5-6.75	8" Sonic	SM	Silty SAND:
6.75-7.5	8" Sonic	ML	Sandy SILT:
7.5-10	8" Sonic		Sandy SILT:
10-12	8" Sonic		Sandy SILT:
12-12.5	8" Sonic	SP/SM	SAND with silt:
12.5-13	8" Sonic	SM	Silty SAND:
13-15	8" Sonic	CL	Silty CLAY:
15-17.5	8" Sonic		Silty CLAY:
17.5-18.5	8" Sonic		Silty CLAY:
18.5-19	8" Sonic		Sandy CLAY:
19-20	8" Sonic		Silty CLAY:
20-22	8" Sonic	CH	CLAY:
22-24.5	8" Sonic		Sandy CLAY:
24.5-25.5	8" Sonic		Sandy CLAY:
25.5-27	8" Sonic		Sandy CLAY:
27-31	8" Sonic		CLAY:
31-31.5	8" Sonic		CLAY:
31.5-33	8" Sonic		CLAY:
33-34.5	8" Sonic		Sandy CLAY:
34.5-35	8" Sonic	Sandy CLAY:	
35-37.5	8" Sonic	SM	Silty SAND:
37.5-40	8" Sonic		Silty SAND:
40-41.5	8" Sonic	SP	SAND:
41.5-42.5	8" Sonic		SAND:
42.5-44	8" Sonic		SAND:
44-45	8" Sonic	CH	SAND:
45-46.5	8" Sonic		CLAY:
46.5-47.5	8" Sonic		Sandy CLAY:
47.5-50.5	8" Sonic	SC/SM	SAND with silt and clay:
50.5-52.5	8" Sonic	SW	SAND:
52.5-53.5	8" Sonic		SAND:
53.5-55	8" Sonic	SM	Silty SAND:
55-57	8" Sonic		Silty SAND:
57-57.5	8" Sonic	CH	CLAY:
57.5-60			CLAY:

TD = 60'; PVC 4-inch screen from 48 to 58; PVC 4-inch riser from -2.5 to 48
 Drilling Method: Guspech GS24-300RS, 8" Rotasonic

Drilling Company - Cascade Drilling
 Driller - Daniel Dodge
 Geologist - Michael Sauerwein

Above-grade, 5-foot long, 6-inch diameter, steel Wellhead Protective Monument set in Concrete

~ 2.5-foot. stick-up

Ground Surface

8-inch diameter,
from 0 to 60-feet bgs

4-inch diameter, Sch. 40 PVC,
from ~ 2.0 feet above ground surface (ags)
to 48 feet below ground surface (bgs)

Cement-Bentonite gel (~ 10:1) Grout,
Tremie-Pipe Slurry,
from 0 to 41-feet bgs

At Time of Drilling,
Depth to Uppermost Ground
Water ~ 47.5-feet bgs

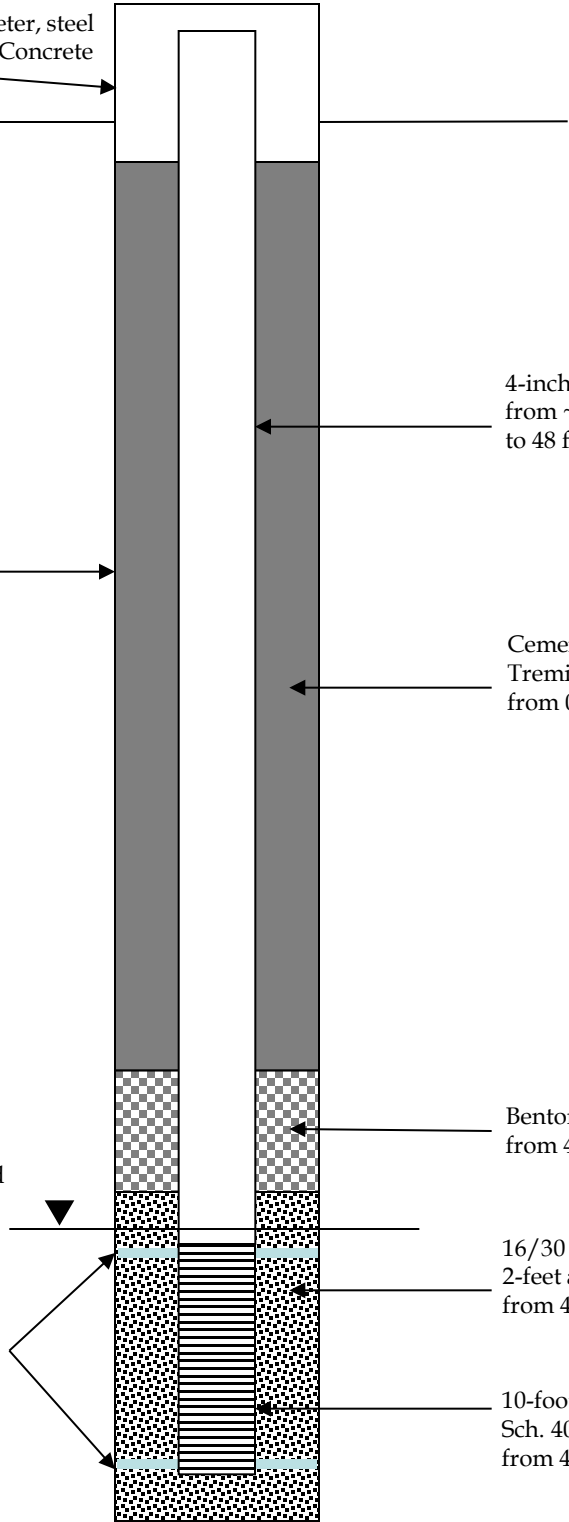
Bentonite medium chips,
from 41 to 46 feet bgs

16/30 washed silica sand,
2-feet above screen
from 46 to 60 feet bgs

Centralizers - placed at the bottom
and the top of the well screen.

10-foot length; 4-inch diameter
Sch. 40 PVC, 0.020" -slotted,
from 48 to 58 feet bgs

Total Depth (TD) = 60 feet bgs



IPSC – WASTEWATER SURFACE IMPOUNDMENT
DELTA, UTAH

Well WWC-1 Schematic

Date Drawn
7/26/15

Design by

Drawn by

MS

Scale

Last Revision
Date

Boring Logs
 IPSC
 Delta, Utah

WWC-2

Interval (feet)	Drilling Method	USCS	Sample Description
7/27/2015			
0-0.5	8" Sonic	TOPSOIL	Surface - Sand, Gravel, roots, coal ash.
0.5-2.5	8" Sonic	SM	Silty SAND:
2.5-5	8" Sonic	SP	SAND:
5-7	8" Sonic		SAND:
7-9.5	8" Sonic	SW	Gravelly SAND:
9.5-10	8" Sonic	SW/SP	SAND:
10-12	8" Sonic	SP	SAND:
12-12.5	8" Sonic	SP/SW	Gravelly SAND:
12.5-14.5	8" Sonic	SW	Gravelly SAND:
14.5-15	8" Sonic	SP	SAND with gravel:
15-16	8" Sonic		SAND:
16-17.5	8" Sonic	CL	Sandy CLAY:
17.5-19	8" Sonic	SC	Clayey SAND:
19-20	8" Sonic		Clayey SAND:
20-21	8" Sonic		Clayey SAND:
21-22	8" Sonic	CH	CLAY:
22-24	8" Sonic		CLAY:
24-25	8" Sonic	SM	Silty SAND with clay:
25-26.5	8" Sonic	SM/SC	Silty SAND and clay:
26.5-27.5	8" Sonic	SC	Clayey SAND with silt:
27.5-31.5	8" Sonic	CH	CLAY:
31.5-34	8" Sonic		Silty CLAY:
34-35.5	8" Sonic	SP	SAND:
35.5-37	8" Sonic	ML	Sandy SILT with clay:
37-38.5	8" Sonic	CL	Silty CLAY:
38.5-40	8" Sonic	SM	Silty SAND:
40-42	8" Sonic	CH	CLAY:
42-42.5	8" Sonic		Silty CLAY:
42.5-45	8" Sonic	SC	Clayey SAND:
45-46.25	8" Sonic	CH	CLAY:
46.25-46.75	8" Sonic	SW/SM	SAND with silt:
46.75-47	8" Sonic	ML	Sandy SILT:
47-47.5	8" Sonic	SM	Silty SAND:
47.5-50	8" Sonic	CH	CLAY:
50-51.5	8" Sonic	SM	Silty SAND:
51.5-52	8" Sonic	CH	Sandy CLAY:
52-52.5	8" Sonic	SM	CLAY:
52.5-53.5	8" Sonic	CH	Sandy CLAY:
53.5-55	8" Sonic	SM	Silty SAND:
55-56.25	8" Sonic	ML	Sandy SILT:
56.25-57.5	8" Sonic		SILT:
57.5-60	8" Sonic	SP/SM	SAND with silt:
60-61.5	8" Sonic	SM	Silty SAND:
61.5-62.5	8" Sonic	CH	CLAY:
62.5-63.75	8" Sonic	SP/SM	SAND with silt:
63.75-65	8" Sonic	SW	SAND:
65-67.5	8" Sonic		SAND:
67.5-70	8" Sonic		Gravelly SAND:
70-70.5	8" Sonic	SC/SM	Silty SAND and clay:
70.5-72.5	8" Sonic	CH	CLAY:
72.5-75	8" Sonic		CLAY:

TD = 75'; PVC 4-inch screen from 60 to 70; PVC 4-inch riser from -2.5 to 60
 Drilling Method: Guspech GS24-300RS, 8" Rotasonic

Drilling Company - Cascade Drilling
 Driller - Daniel Dodge
 Geologist - Michael Sauerwein

Above-grade, 5-foot long, 6-inch diameter, steel Wellhead Protective Monument set in Concrete

~ 2.5-foot stick-up

Ground Surface

8-inch diameter, from 0 to 75-feet bgs

4-inch diameter, Sch. 40 PVC, from ~ 2.0 feet above ground surface (ags) to 60 feet below ground surface (bgs)

Cement-Bentonite gel (~ 10:1) Grout, Tremie-Pipe Slurry, from 1 to 53-feet bgs

At Time of Drilling, Depth to Uppermost Ground Water ~ 57.5-feet bgs

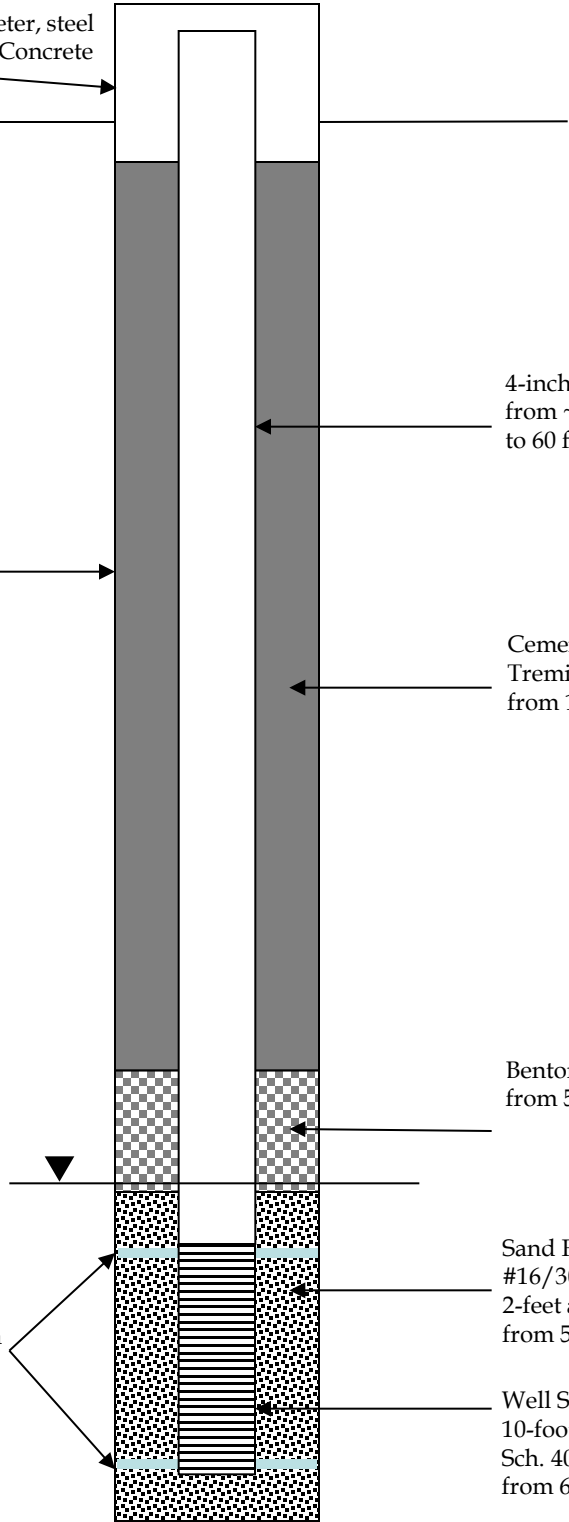
Bentonite medium chips, from 53 to 58 feet bgs

Centralizers placed ~ the bottom and the top of the well screen.

Sand Filter Pack: #16/30 washed silica sand, 2-feet above screen from 58 to 75 feet bgs

Well Screen: 10-foot length; 4-inch diameter Sch. 40 PVC, 0.020"-slotted, from 60 to 70 feet bgs

Total Depth (TD) = 75 feet bgs



IPSC – WASTEWATER SURFACE IMPOUNDMENT
DELTA, UTAH

Well WWC-2 Schematic

Date Drawn
7/27/15

Design by

Drawn by

MS

Scale

Last Revision
Date

Boring Logs
ISPC
Delta, Utah

WWC-3

Interval (feet)	Drilling Method	USCS	Sample Description
7/30/2015			
0-0.5	8" Sonic	TOPSOIL	Surface - Sand, Gravel, roots, coal ash.
0.5-1	8" Sonic	SP	Gravelly SAND:
1-2.5	8" Sonic	SM	Silty SAND:
2.5-3.5	8" Sonic		Silty SAND:
3.5-5	8" Sonic	SP/SM	SAND with silt:
5-6.5	8" Sonic	ML	Sandy SILT:
6.5-7.5	8" Sonic	CL	Sandy CLAY:
7.5-8	8" Sonic	SM	Silty SAND:
8-10	8" Sonic	SC	Clayey SAND:
10-11	8" Sonic	SM	Silty SAND:
11-12.5	8" Sonic		Silty SAND with clay:
12.5-13.5	8" Sonic		Silty SAND:
13.5-14	8" Sonic	SC	Clayey SAND:
14-15	8" Sonic	SM	Silty SAND:
15-15.5	8" Sonic	CH	CLAY:
15.5-16	8" Sonic		CLAY:
16-16.5	8" Sonic		Sandy CLAY:
16.5-17.5	8" Sonic		Sandy CLAY:
17.5-20	8" Sonic		CLAY:
20-21	8" Sonic		CLAY:
21-22	8" Sonic		CLAY:
22-24	8" Sonic		CLAY:
24-25	8" Sonic	SM	Silty SAND:
25-26.25	8" Sonic	SP/SM	SAND with silt:
26.25-27	8" Sonic	SP	SAND:
27-29	8" Sonic	SM	Silty SAND:
29-30	8" Sonic	CH	CLAY:
30-31	8" Sonic		CLAY:
31-32.5	8" Sonic	SP	SAND:
32.5-34	8" Sonic		SAND:
34-36	8" Sonic	CH	CLAY:
36-37	8" Sonic		CLAY:
37-39.5	8" Sonic	SP/SM	SAND with silt:
39.5-40.5	8" Sonic	SP	SAND:
40.5-41.5	8" Sonic		SAND:
41.5-43	8" Sonic	CH	CLAY:
43-44	8" Sonic	SP/SM	SAND with silt:
44-45	8" Sonic	SM	Silty SAND:
45-47.5	8" Sonic	SP	SAND:
47.5-50	8" Sonic		CLAY:
50-52.5	8" Sonic	CH	CLAY:
52.5-55	8" Sonic	SP	SAND:
55-61	8" Sonic		SAND:
61-62.5	8" Sonic	SW	SAND:
62.5-65	8" Sonic		SAND:
65-67.5	8" Sonic	SP	SAND:
67.5-69.5	8" Sonic	SW	SAND:
69.5-70	8" Sonic	CH	CLAY:

TD = 70'; PVC 4-inch screen from 55 to 65; PVC 4-inch riser from -2.5 to 55

Drilling Method: Guspech GS24-300RS, 8" Rotasonic

Drilling Company - Cascade Drilling

Driller - Daniel Dodge

Geologist - Michael Sauerwein

Above-grade, 5-foot long, 6-inch diameter, steel Wellhead Protective Monument set in Concrete

~ 2.5-foot stick-up

Ground Surface

8-inch diameter, from 0 to 70-feet bgs

4-inch diameter, Sch. 40 PVC, from ~ 2.0 feet above ground surface (ags) to 55 feet below ground surface (bgs)

Cement-Bentonite gel (~ 10:1) Grout, Tremie-Pipe Slurry, from 0 to 48-feet bgs

At Time of Drilling, Depth to Uppermost Ground Water ~ 52.5-feet bgs

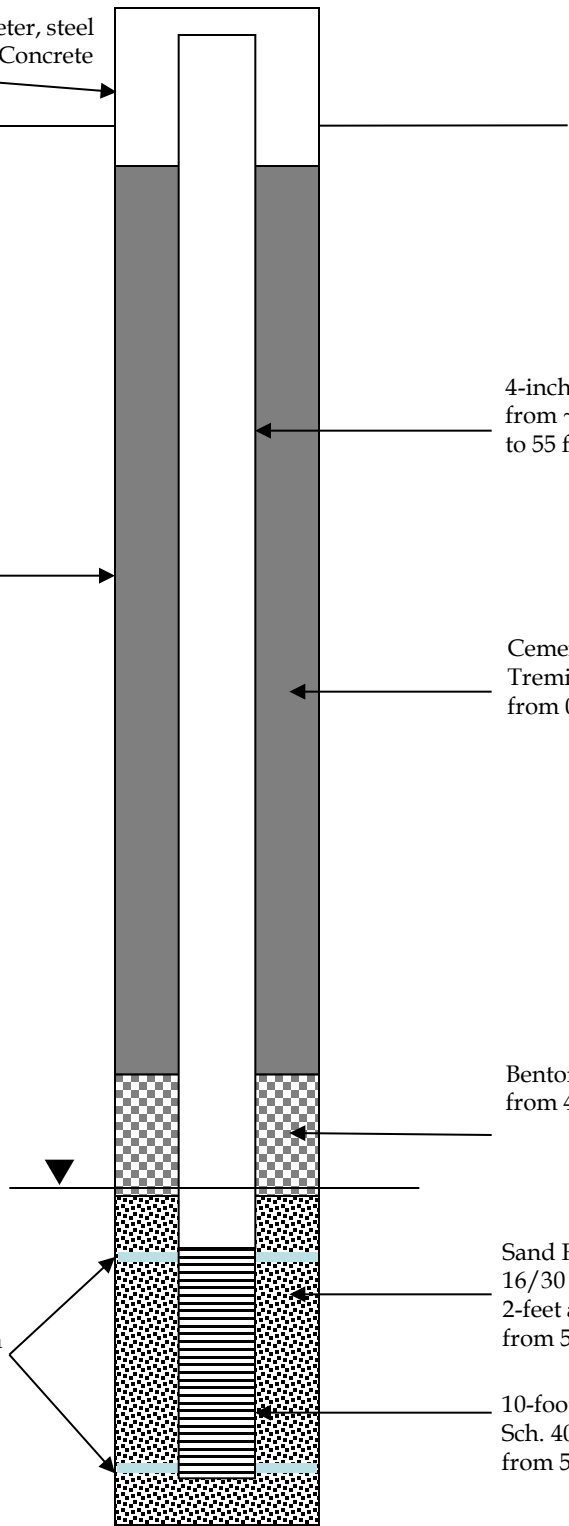
Bentonite medium chips, from 48 to 53 feet bgs

Centralizers - placed at the bottom and the top of the well screen.

Sand Filter Pack: 16/30 washed silica sand, 2-feet above screen from 53 to 70 feet bgs

10-foot length; 4-inch diameter Sch. 40 PVC, 0.020"-slotted, from 55 to 65 feet bgs

Total Depth (TD) = 70 feet bgs



IPSC – WASTEWATER SURFACE IMPOUNDMENT
DELTA, UTAH UTAH

Well WWC-3 Schematic

Date Drawn
7/30/15

Design by

Drawn by

MS

Scale

Last Revision
Date

WWC-4

Interval (feet)	Drilling Method	USCS	Sample Description
7/29/2015			
0-0.5	8" Sonic	TOPSOIL	Surface - Sand, Gravel, roots, coal ash.
0.5-2.5	8" Sonic	SP/SM	SAND with silt:
2.5-5	8" Sonic		SAND with silt:
5-6.25	8" Sonic	ML	Sandy SILT:
6.25-7.25	8" Sonic	CL	CLAY:
7.25-8	8" Sonic	SC	Clayey SAND:
8-9	8" Sonic	SP/SC	SAND with clay:
9-10	8" Sonic	SP	SAND:
10-11	8" Sonic	ML	SILT:
11-12.5	8" Sonic	ML/CL	Clayey SILT:
12.5-14	8" Sonic	CL	CLAY:
14-15	8" Sonic		Sandy CLAY:
15-16	8" Sonic	SC	Clayey SAND:
16-18	8" Sonic		Clayey SAND:
18-19.5	8" Sonic	SM	Silty SAND:
19.5-20	8" Sonic	CH	CLAY:
20-21.25	8" Sonic		Sandy CLAY:
21.25-22.5	8" Sonic	SM	Silty SAND:
22.5-23.75	8" Sonic	CH	CLAY:
23.75-25	8" Sonic	SM	Silty SAND:
25-25.75	8" Sonic	SC	Clayey SAND:
25.75-27.5	8" Sonic	CL	Sandy CLAY:
27.5-29	8" Sonic	CH	CLAY:
29-30.5	8" Sonic		CLAY:
30.5-31.5	8" Sonic	SM	Silty SAND:
31.5-32.25	8" Sonic	CL	Sandy CLAY:
32.25-32.5	8" Sonic		Sandy CLAY:
32.5-33	8" Sonic	CH	CLAY:
33-36	8" Sonic	SP/SM	SAND with silt:
36-37	8" Sonic	SM	Silty SAND:
37-40	8" Sonic	SP	SAND:
40-42.5	8" Sonic		SAND:
42.5-45	8" Sonic		SAND:
45-46	8" Sonic	SP/SW	SAND:
46-46.5	8" Sonic	CH	CLAY:
45.5-47.5	8" Sonic		Sandy CLAY:
47.5-48.5	8" Sonic		CLAY:
48.5-50	8" Sonic		CLAY:
50-50.5	8" Sonic		CLAY:
50.5-52.5	8" Sonic	SM	Silty SAND:
52.5-54	8" Sonic	CH	CLAY:
54-55	8" Sonic	SP	SAND:
55-57	8" Sonic	CH	Sandy CLAY:
57-57.5	8" Sonic	SP	SAND:
57.5-60	8" Sonic	SM	Silty SAND:
60-62	8" Sonic		Silty SAND:
62-62.5	8" Sonic	SC	Clayey SAND:
62.5-63	8" Sonic	CH	Sandy CLAY:
63-65	8" Sonic	SM	Silty SAND:
65-67.5	8" Sonic	SW	SAND:
67.5-69.5	8" Sonic	SP	SAND:
69.5-70	8" Sonic	SW	SAND:
70-72	8" Sonic		SAND:
72-72.5	8" Sonic	SP/SM	SAND with silt:
72.5-75	8" Sonic	SM	Silty SAND:
75-80	8" Sonic	CH	CLAY:

TD = 80'; PVC 4-inch screen from 65 to 75; PVC 4-inch riser from -2.5 to 65
Drilling Method: Guspech GS24-300RS, 8" Rotasonic

Drilling Company - Cascade Drilling
Driller - Daniel Dodge
Geologist - Michael Sauerwein

Above-grade, 5-foot long, 6-inch diameter, steel Wellhead Protective Monument set in Concrete

~ 2.5-foot stick-up

Ground Surface

8-inch diameter,
from 0 to 80-feet bgs

4-inch diameter, Sch. 40 PVC,
from ~ 2.0 feet above ground surface (ags)
to 65 feet below ground surface (bgs)

Cement-Bentonite gel (~ 10:1) Grout,
Tremie-Pipe Slurry,
from 0 to 58-feet bgs

Bentonite medium chips,
from 58 to 63 feet bgs

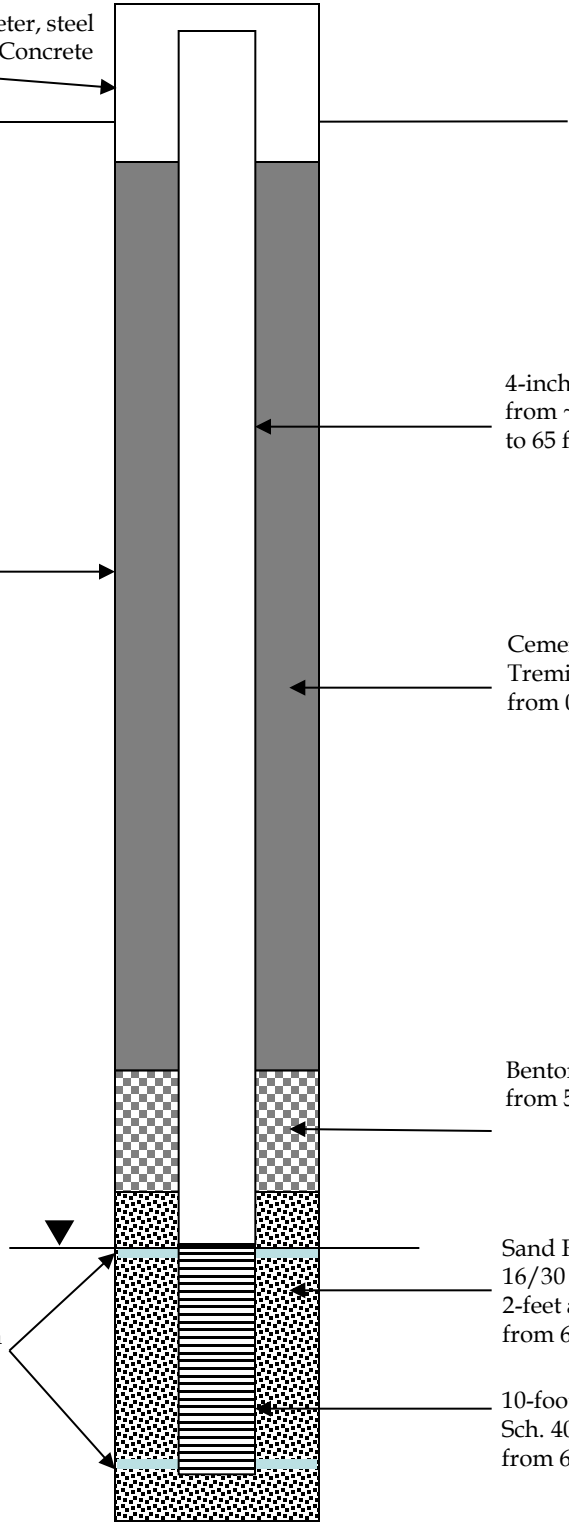
At Time of Drilling,
Depth to Uppermost Ground
Water ~ 65-feet bgs

Centralizers placed ~ the bottom
and the top of the well screen.

Sand Filter Pack:
16/30 washed silica sand,
2-feet above screen
from 63 to 80 feet bgs

10-foot length; 4-inch diameter
Sch. 40 PVC, 0.020"-slotted,
from 65 to 75 feet bgs

Total Depth (TD) = 80 feet bgs



IPSC – WASTEWATER SURFACE IMPOUNDMENT
DELTA, UTAH

Well WWC-4 Schematic

Date Drawn
7/29/15

Design by

Drawn by

MS

Scale

Last Revision
Date

WWC-5

Interval (feet)	Drilling Method	USCS	Sample Description
7/28/2015			
0-0.5	8" Sonic	TOPSOIL	Surface - Sand, Gravel, roots, coal ash.
0.5-2	8" Sonic	ML	Sandy SILT:
2-2.5	8" Sonic	SP/SM	SAND with silt:
2.5-4.25	8" Sonic	SM	Silty SAND:
4.25-5	8" Sonic	SP	SAND:
5-7.5	8" Sonic	ML	Clayey SILT:
7.5-9	8" Sonic	CL	Silty CLAY:
9-10	8" Sonic		Sandy CLAY:
10-10.5	8" Sonic	SC	Clayey SAND:
10.5-11.25	8" Sonic	CL	CLAY:
11.25-12.5	8" Sonic	ML	Clayey SILT:
12.5-13.25	8" Sonic	SM	Silty SAND:
13.25-13.75	8" Sonic	SC	Clayey SAND:
13.75-15	8" Sonic	CL	CLAY:
15-16	8" Sonic		CLAY:
16-17.5	8" Sonic	CH	CLAY:
17.5-19	8" Sonic	SC	Clayey SAND:
19-20.5	8" Sonic	CH	CLAY:
20.5-21.25	8" Sonic		Sandy CLAY:
21.25-22	8" Sonic		CLAY:
22-22.5	8" Sonic	SC	Clayey SAND:
22.5-24	8" Sonic	SM	Silty SAND:
24-25	8" Sonic	CH	CLAY:
25-26	8" Sonic	SM/CH	Silty SAND / CLAY:
26-27.5	8" Sonic	CH	CLAY:
27.5-28	8" Sonic		Sandy CLAY:
28-28.25	8" Sonic	SM	Silty SAND:
28.25-30	8" Sonic	CH	CLAY:
30-32.5	8" Sonic	SP	SAND:
32.5-34	8" Sonic		SAND:
34-37.5	8" Sonic		SAND:
37.5-40	8" Sonic	SP/SM	SAND with silt:
40-42.5	8" Sonic	CH	CLAY:
42.5-42.75	8" Sonic	SM	Silty SAND:
42.75-44	8" Sonic	CH	Sandy CLAY:
44-44.5	8" Sonic	SM	Silty SAND:
44.5-45	8" Sonic		Silty SAND:
45-45.5	8" Sonic		Silty SAND:
45.5-46.75	8" Sonic		Silty SAND:
46.75-47.5	8" Sonic	CH	CLAY:
47.5-50	8" Sonic		CLAY:
50-50.5	8" Sonic		Sandy CLAY:
50.5-51.5	8" Sonic		CLAY:
51.5-52	8" Sonic	SM	Silty SAND:
52-53.25	8" Sonic	CH	CLAY:
53.25-53.5	8" Sonic		CLAY:
53.5-54	8" Sonic	SC	Clayey SAND:
54-55	8" Sonic	SM/SC	Silty SAND and clay:
55-57.5	8" Sonic	SP	SAND:
57.5-60	8" Sonic		SAND:
60-60.75	8" Sonic		SAND:
60.75-61.5	8" Sonic	CH	CLAY:
61.5-62.5	8" Sonic	SP/SM	SAND with silt:
62.5-64	8" Sonic		SAND with silt:
64-65	8" Sonic	SW	SAND:
65-67.5	8" Sonic		SAND with gravel:
67.5-70	8" Sonic		Gravelly SAND:
70-72.5	8" Sonic		SAND:
72.5-75	8" Sonic		SAND:

TD = 75'; PVC 4-inch screen from 64 to 74; PVC 4-inch riser from -2.5 to 64
Drilling Method: Guspech GS24-300RS, 8" Rotasonic

Drilling Company - Cascade Drilling
Driller - Daniel Dodge
Geologist - Michael Sauerwein

Above-grade, 5-foot long, 6-inch diameter, steel Wellhead Protective Monument set in Concrete

~ 2.5-foot. stick-up

Ground Surface

8-inch diameter,
from 0 to 75-feet bgs

4-inch diameter, Sch. 40 PVC,
from ~ 2.0 feet above ground surface (ags)
to 64 feet below ground surface (bgs)

Cement-Bentonite gel (~ 10:1) Grout,
Tremie-Pipe Slurry,
from 0 to 57-feet bgs

At Time of Drilling,
Depth to Uppermost Ground
Water ~ 61.5-feet bgs

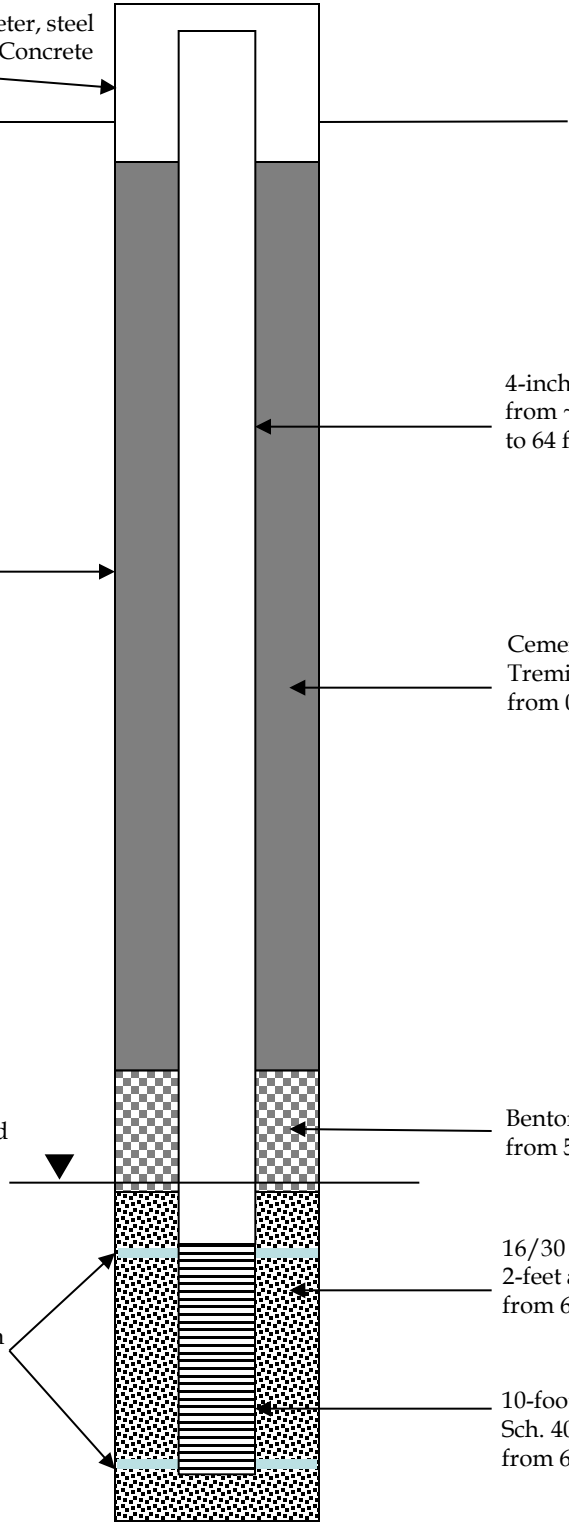
Bentonite medium chips,
from 57 to 62 feet bgs

16/30 washed silica sand,
2-feet above screen
from 62 to 75 feet bgs

Centralizers - placed at the bottom
and the top of the well screen.

10-foot length; 4-inch diameter
Sch. 40 PVC, 0.020"-slotted,
from 64 to 74 feet bgs

Total Depth (TD) = 75 feet bgs



IPSC – WASTEWATER SURFACE IMPOUNDMENT
DELTA, UTAH

Well WWC-5 Schematic

Date Drawn
7/28/15

Design by

Drawn by

MS

Scale

Last Revision
Date

Boring Logs
ISPC
Delta, Utah

WWC-6

Interval (feet)	Drilling Method	USCS	Sample Description
03/23/2018 - 03/24/2018			
0-0.5	8" Sonic	SM	Silty sand
0.7-7	8" Sonic	SP	Sand, poorly graded, dry
7-12.5	8" Sonic	CH	Silty clay
12.5-15.5	8" Sonic	SM	Sand, some silt
15.5-19.5	8" Sonic	SP	Sand, poorly graded
19.5-21.5	8" Sonic	SW/GW	Sand and gravel
21.5-27	8" Sonic	SP	Sand, poorly graded, running sands @ ~26
27-29.5	8" Sonic	SP	Sand, poorly graded, running sands
29.5-30	8" Sonic	SW	Sand with gravel
30-37	8" Sonic	CH	Clay, stiff
37-41	8" Sonic	CH	Clay, trace silt, moist, stiff
41-47	8" Sonic	CH	Clay, stiff, moist
47-48	8" Sonic	SP	Sand
48-57	8" Sonic	SW	Sand, silt and gravel
57-59	8" Sonic	SP	Sand
59-60.5	8" Sonic	CH	Clay wet
60.5-64.5	8" Sonic	MH	Silt, trace clay
64.5-67	8" Sonic	CH	Clay wet
67-72	8" Sonic	CH	Clay wet
72-77	8" Sonic	SP	Sand, saturated
77-87	8" Sonic	CH	Clay

TD = 87'; PVC sump 87-77; 4" screen 77-67; sand 87-62 centralizers 67.5 and 76.5
Drilling Method: Sonic

Drilling Company - Cascade Drilling
Driller - David Donnely
Geologist - Tom Fendler

Flush-mount, Wellhead Protective Vault, 8-inch diameter, steel lid

Ground Surface

Concrete Apron

Borehole:
8-inch diameter,
from 0 to 87-feet bgs

4-inch diameter, Sch. 40 PVC,
from ~ 0.25 - 67 feet bgs

Cement-Bentonite (~ 10:1) Grout,
Tremie-Pipe Slurry,
from 0 to 57-feet bgs

Bentonite medium chips, from 57
to 62 feet bgs

At Time of Drilling, Depth to
Uppermost Ground Water ~ 72 to 77-
feet bgs

Sand Filter Pack:
(16/30 washed silica sand,
2-feet above screen
from 62 to 87 feet bgs)

Centralizers placed ~ the bottom
and the top of the well screen.

10-foot length; 4-inch diameter
Sch. 40 PVC, 0.020" -slotted,
from 67 to 77 feet bgs...with 10-ft. solid
PVC sump at 77 to 87 feet bgs.

Total Depth (TD) = 87 feet bgs



IPSC – WASTEWATER SURFACE IMPOUNDMENT
Delta, Utah

Well WWC-6 Schematic

Date Drawn	10/24/1
Last Revision	8
Date	

Design by

Drawn by JR

Scale

Boring Logs
 ISPC
 Delta, Utah

WWC-7

Interval (feet)	Drilling Method	USCS	Sample Description
03/20/2018 - 03/23/2018			
0-1.5	8" Sonic	SM	Silty sand, dry
1.5-8.5	8" Sonic	SP	Sand, poorly graded, saturated at 7.5
8.5-9	8" Sonic	CH	Sandy clay
9-14	8" Sonic	SC	Clay with trace sand
14-24	8" Sonic	SP	Sand, poorly graded, saturated with heaving sands at 17'
24-25	8" Sonic	SW/GW	Gravel/sand and gravel
25-27	8" Sonic	CH	Clay, moist
27-34.5	8" Sonic	SP	Sandy, wet
34.5-35.5	8" Sonic	SW/GW	Sand, some gravel
35.5-37	8" Sonic	CH	Clay, moist, stiff
37-47	8" Sonic	CH	Clay, moist, stiff
47-49.5	8" Sonic	CH	Clay, moist, stiff
49.5-50.5	8" Sonic	SP	Sand, poorly sorted, moist
50.5-57	8" Sonic	CH	Clay, moist, stiff
57-67	8" Sonic	CH	Clay, moist, stiff
67-72	8" Sonic	CH	Clay, moist, stiff
72-77	8" Sonic	SP	Sand, poorly graded, saturated @76.5
77-87	8" Sonic	SP	Sand, poorly graded, saturated

TD = 87'; PVC 4-inch screen from 77 to 87; sand pack 72-87; bentonite pellets 67-72; grout 67-grade

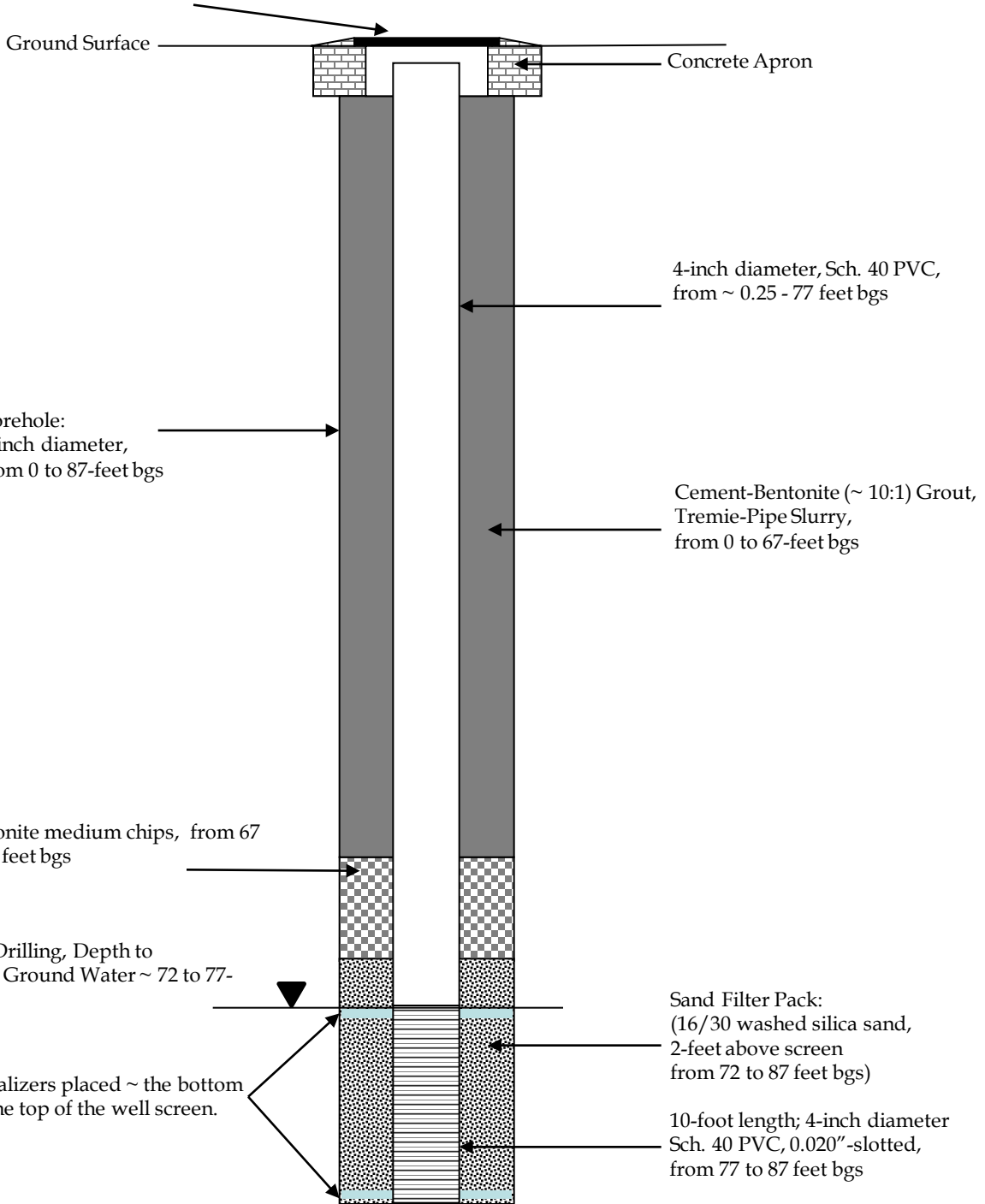
Drilling Method: Sonic

Drilling Company - Cascade Drilling

Driller - David Donnely

Geologist - Tom Fendler

Flush-mount, Wellhead Protective Vault, 8-inch diameter, steel lid



Total Depth (TD) = 87 feet bgs



IPSC – WASTEWATER SURFACE IMPOUNDMENT
DELTA, UTAH

Well WWC-7 Schematic

Design by

Drawn by JR

Scale

Date Drawn	10/24/1
Last Revision	8
Date	



Project Name: Intermountain Power Service Corporation
Boring Monitor Well: WWC-8

Project No.: 203709098
Completion Date: 2019-04-25

Drilling Firm: Cascade
Boring Method: Sonic
Boring Diameter: 10 inches

Driller: Ryan Miller
Logged by: Rich Pratt
Depth to Water at Drilling: 77 feet
Depth to Water at Drilling (static at 24 hours): 27 feet

WWC-8

Interval (feet)	Description
0 - 3	Light brown sand, moist
3 - 7	Light brown sand with silt, dry
7 - 9	Medium brown clay with sand, moist
9 - 13	Medium brown clay, moist
13 - 15	Light brown clay, moist
15 - 17	Light brown clay, dry
17 - 26	Light brown clay, moist
26 - 35	Light brown clay with sand, moist
35 - 37	Light brown clay, moist
37 - 41	Medium brown medium grained sand, moist
41 - 43	Medium brown medium grained sand, moist
43 - 55	Medium brown medium grained sand, moist
55 - 59	Light brown clay, moist
59 - 63	Light brown clay with sand, moist
63 - 66	Light brown clay, moist
66 - 67	Light brown clay with sand, moist
67 - 68	Light brown sand, moist
68 - 77	Light brown clay with sand, moist
77 - 88	Medium brown sand, saturated
88 - 93	Light brown clay
93 - 94	Light brown clay with sand
94 - 96	Light brown clay
96 - 97	Medium brown sand

Well Completion materials and Depth Intervals (feet) Below Ground Surface

Surface Completion: Stick-up
Casing, solid (6-inch PVC): 0-69.38 feet
Screen (6 inch, 0.02 slotted, PVC): 69.38-94.38 feet
Sand Pack: 16/30 sand, 64.38-94.38 feet
Bentonite Seal: Hydrolyzed bentonite pellet seal
 57.38-64.38 feet

Top of 6 in. PVC Casing Elevation (Relative Datum Survey): NA
Top of Manhole Cover (Relative Datum Survey): NA

Top of PVC casing above ground surface ~ 2.02 feet. stick-up

Above-grade, 5-feet. long, 8-in. square, steel Wellhead Protective Monument ~ 2.57 feet. stick-up

Ground Surface

6-inch Diameter, Sch 40 PVC Well Casing from below top of casing - 96.4 feet

Cement-Bentonite (~ 10:1) Grout, Tremie-Pipe Slurry from 0 to 57.38 feet below ground surface (bgs)

10-inch boring from 0 to 94.38-feet bgs

Medium bentonite chips From 57.38 to 64.38 feet bgs

Sand Filter Pack (16/30 washed, silica sand, 5 feet above screen from 64.38 to 94.38 feet bgs)

At Time of Drilling, Depth to Uppermost Ground Water ~ 77 feet bgs

Centralizers - placed at the bottom and at 25-30 foot intervals

25-feet; 6-inch 0.020-slotted, PVC well screen from 69.38 to 94.38 feet bgs

Total Depth (TD) = 94.38 feet bgs



IPSC – WASTEWATER SURFACE IMPOUNDMENT
DELTA, UTAH

WWC-8 Schematic

Date Drawn
6-4-19

Design by

Drawn by

RP

Scale

Last Revision
Date



Project Name: Intermountain Power Service Corporation

Boring Monitor Well: WWC-9

Project No.: 203709098

Completion Date: 2019-04-28

Drilling Firm: Cascade

Boring Method: Sonic

Boring Diameter: 10 inches

Driller: Ryan Miller

Logged by: Rich Pratt

Depth to Water at Drilling: 67 feet

Depth to Water at Drilling (static at 24 hours):
23.75 feet

WWC-9

Interval (feet)	Description
0 - 0.5	Medium brown silt, dry
0.5 - 1	Medium brown clay, dry
1 - 4	Light brown fine-grained sand, dry
4 - 8	Light brown clay, dry
8 - 13	Light brown fine-grained sand, dry
13 - 15	Light brown clay, dry
15 - 16	Light brown clay with sand, dry
16 - 17	Light brown clay, dry
17 - 18	Light brown clay with sand, moist
18 - 21.5	Light brown clay, moist
21.5 - 22	Light brown clay with sand, moist
22 - 23	Light brown clay, moist
23 - 26	Light brown clay with sand, moist
26 - 27	Light brown clay, moist
27 - 30	Light brown clay, moist
30 - 31	Light brown clay, saturated
31 - 32	Light brown clay with sand, moist
32 - 36	Light brown clay, moist
36 - 37	Light brown clay with sand, moist
37 - 38	Light brown clay with sand, moist
38 - 51	Medium brown medium grained sand, moist
51 - 54	Light brown clay, moist
54 - 58	Medium brown medium grained sand, moist
58 - 59	Medium brown medium grained sand, moist
59 - 62	Medium brown medium grained sand, moist
62 - 63	Light brown clay, moist to moist
63 - 66	Light brown clay with sand, moist
66 - 67	Light brown clay, moist
67 - 69	Light brown clay with sand, saturated

Interval (feet)	Description
69 – 69.5	Medium brown sand
69.5 - 70	Light brown clay with sand
70 - 71	Light brown clay
71 - 74	Light brown clay with sand
74 - 75	Medium brown sand
75 - 77	Light brown clay
77 - 83	Medium brown sand
83 - 85	Light brown clay
85 - 87	Light brown clay with sand

Well Completion materials and Depth Intervals (feet) Below Ground Surface

Surface Completion: Stick-up

Casing, solid (6-inch PVC): 0-61.7 feet

Screen (6 inch, 0.02 slotted, PVC): 61.7-86.7 feet

Sand Pack: 16/30 sand, 56.7-86.7 feet

Bentonite Seal: Hydrolyzed bentonite pellet seal
49.7-56.7 feet

Top of 6 in. PVC Casing Elevation (Relative Datum Survey): NA

Top of Manhole Cover (Relative Datum Survey):
NA

Top of PVC casing above ground surface ~ 2.45 feet. stick-up

Above-grade, 5-feet. long, 8-in. square, steel Wellhead Protective Monument ~ 3.24 feet. stick-up

Ground Surface

6-inch Diameter, Sch 40 PVC Well Casing from below top of casing - 89.15 feet

Cement-Bentonite (~ 10:1) Grout, Tremie-Pipe Slurry from 0 to 49.7 feet below ground surface (bgs)

10-inch boring from 0 to 86.7-feet bgs

Medium bentonite chips From 49.7 to 56.7 feet bgs

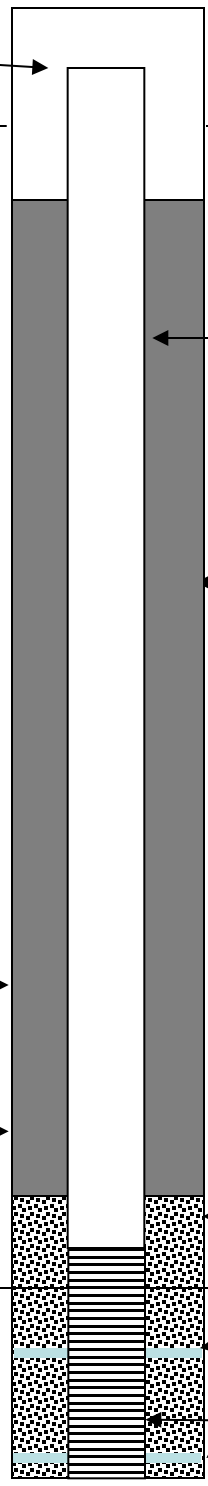
Sand Filter Pack (16/30 washed, silica sand, 5 feet above screen from 56.7 to 86.7 feet bgs)

At Time of Drilling, Depth to Uppermost Ground Water ~ 67 feet bgs

Centralizers - placed at the bottom and at 25-30 foot intervals

25-feet; 6-inch 0.020-slotted, PVC well screen from 61.7 to 86.7 feet bgs

Total Depth (TD) = 86.7 feet bgs



IPSC – WASTEWATER SURFACE IMPOUNDMENT
Delta, Utah

WWC-9 Schematic

Date Drawn
6-4-19

Design by

Drawn by RP

Scale

Last Revision
Date



Project Name: Intermountain Power Service Corporation

Boring Monitor Well: WWC-10

Project No.: 203709098

Completion Date: 2019-04-26

Drilling Firm: Cascade

Boring Method: Sonic

Boring Diameter: 10 inches

Driller: Ryan Miller

Logged by: Rich Pratt

Depth to Water at Drilling: 67 feet

Depth to Water at Drilling (static at 24 hours): 17.65 feet

WWC-10

Interval (feet)	Description
0 - 5	Light brown sand, moist
5 - 9.5	Light brown clay with sand, moist
9.5 - 13	Dark gray clay, moist
13 - 14	Dark brown silt with organic plant matter, moist
14 - 15	Dark gray clay, moist
15 - 17	Gray medium grained sand, moist
17 - 34	Gray medium grained sand, moist
34 - 45	Brown medium grained sand, moist
45 - 47	Medium brown clay, moist
47 - 49	Medium brown clay with sand, moist
49 - 50	Medium brown medium grained sand, moist
50 - 51	Medium brown clay with sand, moist
51 - 52	Medium brown medium grained sand, moist
52 - 53	Medium brown clay with sand, moist
53 - 54	Medium brown medium grained sand, moist
54 - 60	Medium brown clay, moist
60 - 61	Medium brown clay with sand, moist
61 - 67	Medium brown clay, moist
67 - 68	Medium brown clay, saturated
68 - 69	Medium brown clay with sand
69 - 70	Medium brown clay
70 - 76	Medium brown clay with sand
76 - 87	Medium brown clay

Well Completion materials and Depth Intervals (feet) Below Ground Surface

Surface Completion: Stick-up

Casing, solid (6-inch PVC): 0-62.75 feet

Screen (6 inch, 0.02 slotted, PVC): 62.75-87.75 feet

Sand Pack: 16/30 sand, 57.75-87.75 feet

Bentonite Seal: Hydrolyzed bentonite pellet seal
50.75-57.75 feet

Top of 6 in. PVC Casing Elevation (Relative Datum Survey): NA

Top of Manhole Cover (Relative Datum Survey): NA

Top of PVC casing above ground surface ~ 2.35 feet. stick-up

Above-grade, 5-feet. long, 8-in. square, steel Wellhead Protective Monument ~ 3.17 feet. stick-up

Ground Surface

6-inch Diameter, Sch 40 PVC Well Casing from below top of casing - 90.1 feet

Cement-Bentonite (~ 10:1) Grout, Tremie-Pipe Slurry from 0 to 50.75 feet below ground surface (bgs)

10-inch boring from 0 to 87.75-feet bgs

Medium bentonite chips From 50.75 to 57.75 feet bgs

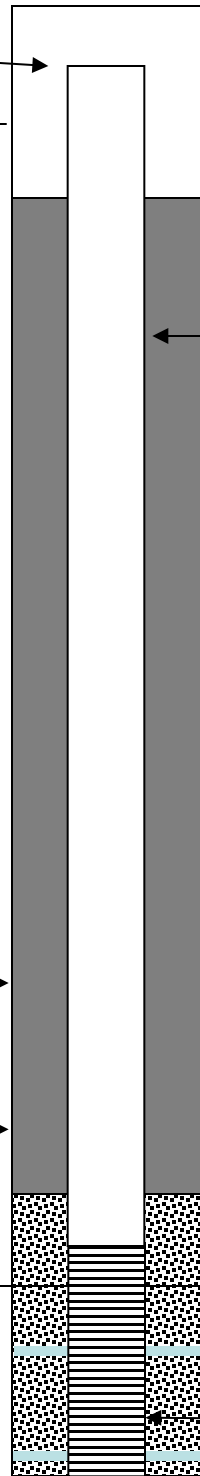
Sand Filter Pack (16/30 washed, silica sand, 5 feet above screen from 57.75 to 87.75 feet bgs)

At Time of Drilling, Depth to Uppermost Ground Water ~ 67 feet bgs

Centralizers - placed at the bottom and at 25-30 foot intervals

25-feet; 6-inch 0.020-slotted, PVC well screen from 62.75 to 87.75 feet bgs

Total Depth (TD) = 87.75 feet bgs



IPSC – WASTEWATER SURFACE IMPOUNDMENT
DELTA, UTAH

WWC-10 Schematic

Date Drawn
6-4-19

Design by

Drawn by

RP

Scale

Last Revision
Date



MONITORNG WELL ID: **WWC-11**

CLIENT Intermountain Power Service Corporation

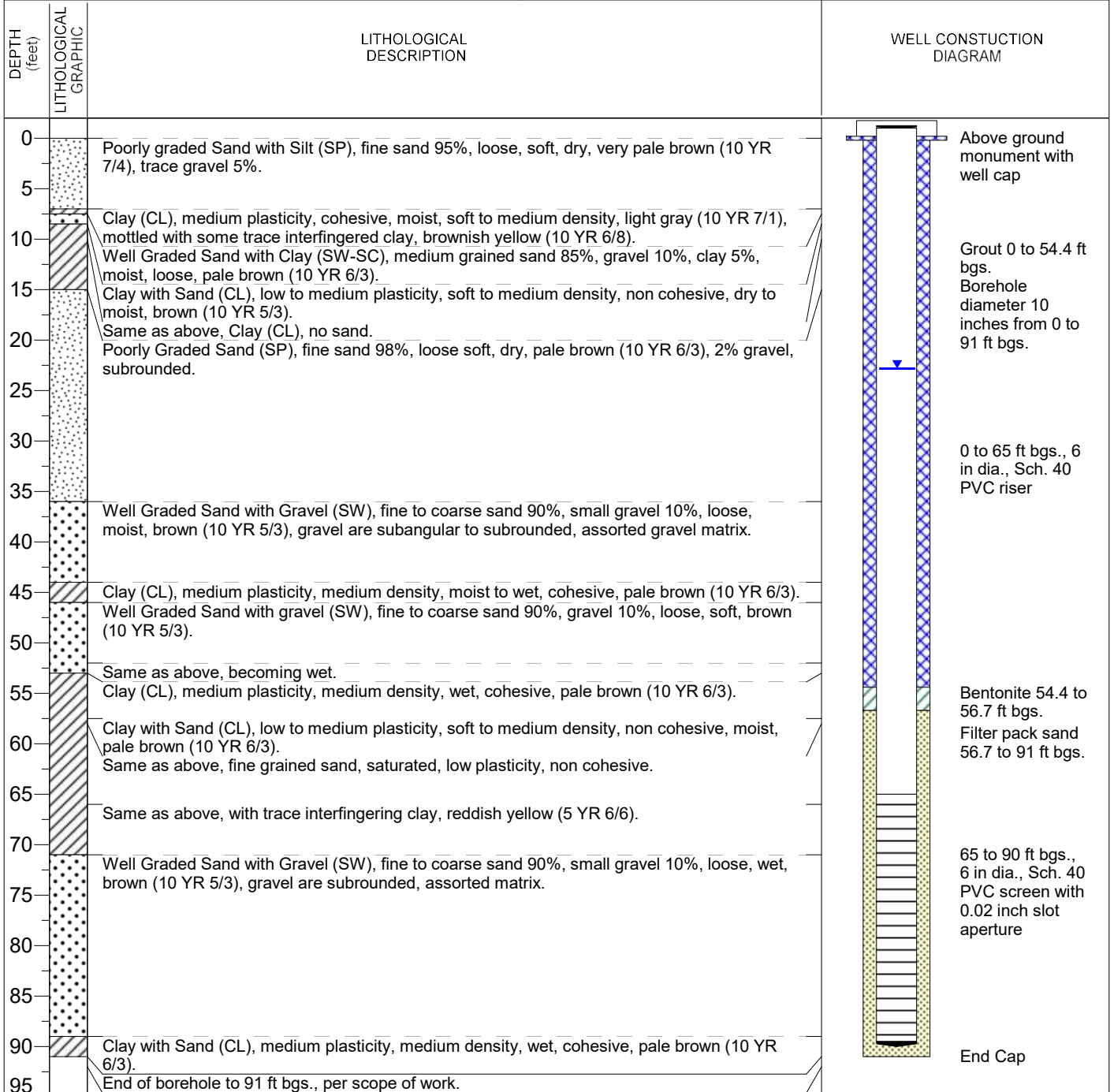
PROJECT Monitoring Well Installation

SITE LOCATION South of Waste Water Basin Surface Impoundment



DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHOD: Sonic
DRILLING EQUIPMENT: Pro Sonic 600 11-77287
SAMPLING METHOD: 4 inch sonic core barrel 0 to 91 ft bgs.,
10 inch sonic core barrel 0 to 91 ft bgs.

COORDINATE SYSTEM:
EASTING: NORTHING:
ELEVATION: BOREHOLE ANGLE: 90 degrees
TOTAL DEPTH (ft.) 91 GROUNDWATER LEVEL (ft. btoc.): 22.82
DATE STARTED: 11/15/2019 DATE FINISHED: 11/16/2019
LOGGED BY: Michael Ward



Notes: bgs. = below ground surface Sch. = Schedule
dia. = diameter YR = Yellow-Red
ft = feet



MONITORNG WELL ID: **WWC-12**

CLIENT: Intermountain Power Service Corporation
PROJECT: Monitoring Well Installation
SITE LOCATION: South of Waste Water Basin Surface Impoundment



DRILLING CONTRACTOR: Cascade Drilling

DRILLING METHOD: Sonic

DRILLING EQUIPMENT: Pro Sonic 600 11-77287

SAMPLING METHOD: 4 inch sonic core barrel 0 to 91 ft bgs.,
10 inch sonic core barrel 0 to 91 ft bgs.

COORDINATE SYSTEM:

EASTING:

NORTHING:

ELEVATION:

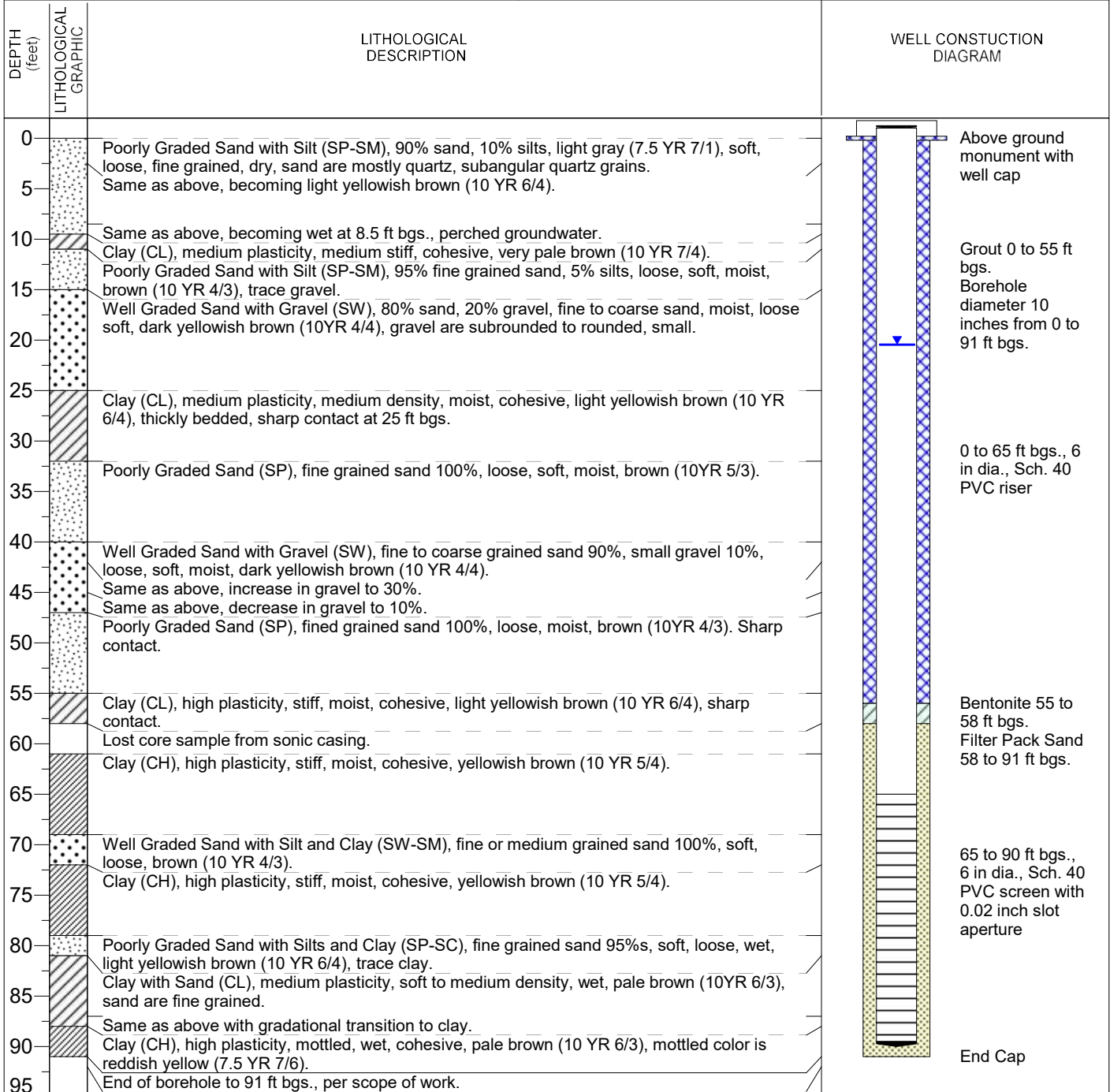
BOREHOLE ANGLE: 90 degrees

TOTAL DEPTH (ft.): 91

GROUNDWATER LEVEL (ft. btoc.): 20.46

DATE STARTED: 11/11/2019 DATE FINISHED: 11/12/2019

LOGGED BY: Michael Ward



Notes: bgs. = below ground surface Sch. = Schedule
dia. = diameter YR = Yellow-Red
ft = feet



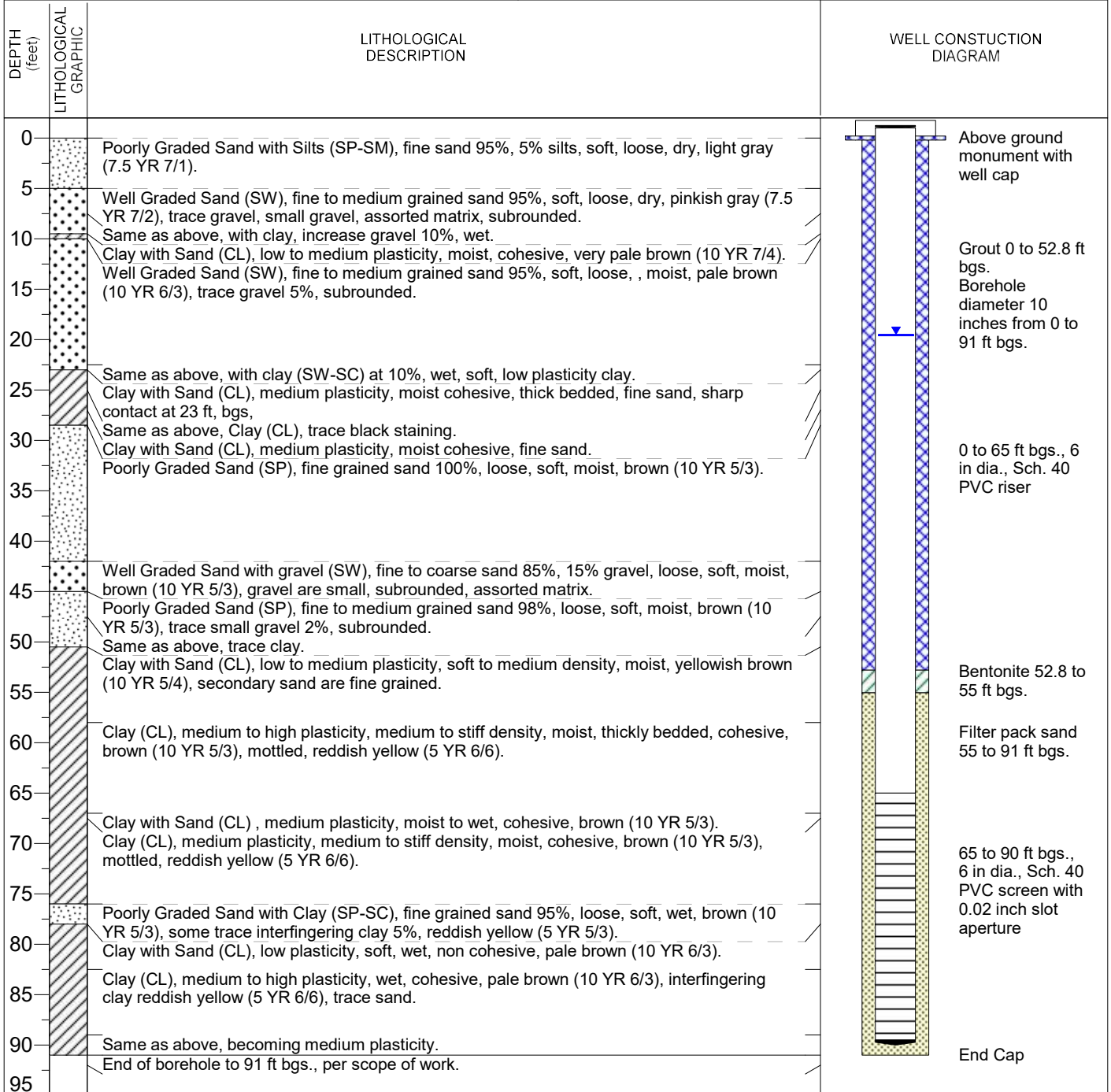
MONITORING WELL ID: **WWC-13**

CLIENT: Intermountain Power Service Corporation
PROJECT: Monitoring Well Installation
SITE LOCATION: South of Waste Water Basin Surface Impoundment



DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHOD: Sonic
DRILLING EQUIPMENT: Pro Sonic 600 11-77287
SAMPLING METHOD: 4 inch sonic core barrel 0 to 91 ft bgs.,
10 inch sonic core barrel 0 to 91 ft bgs.

COORDINATE SYSTEM:
EASTING: NORTHING:
ELEVATION: BOREHOLE ANGLE: 90 degrees
TOTAL DEPTH (ft.) 91 GROUNDWATER LEVEL (ft. btoc.): 19.55
DATE STARTED: 11/13/2019 DATE FINISHED: 11/15/2019
LOGGED BY: Michael Ward



Notes: bgs. = below ground surface Sch. = Schedule
dia. = diameter YR = Yellow-Red
ft = feet



MONITORNG WELL ID: **WWC-14**

CLIENT: Intermountain Power Service Corporation

PROJECT: Monitoring Well Installation

SITE LOCATION: South of Waste Water Basin Surface Impoundment



DRILLING CONTRACTOR: Cascade Drilling

DRILLING METHOD: Sonic

DRILLING EQUIPMENT: Pro Sonic 600

SAMPLING METHOD: 4 inch sonic core barrel 0 to 88 ft bgs.,
10 inch sonic core barrel 0 to 88 ft bgs.,

COORDINATE SYSTEM:

EASTING:

NORTHING:

ELEVATION:

BOREHOLE ANGLE: 90 degrees

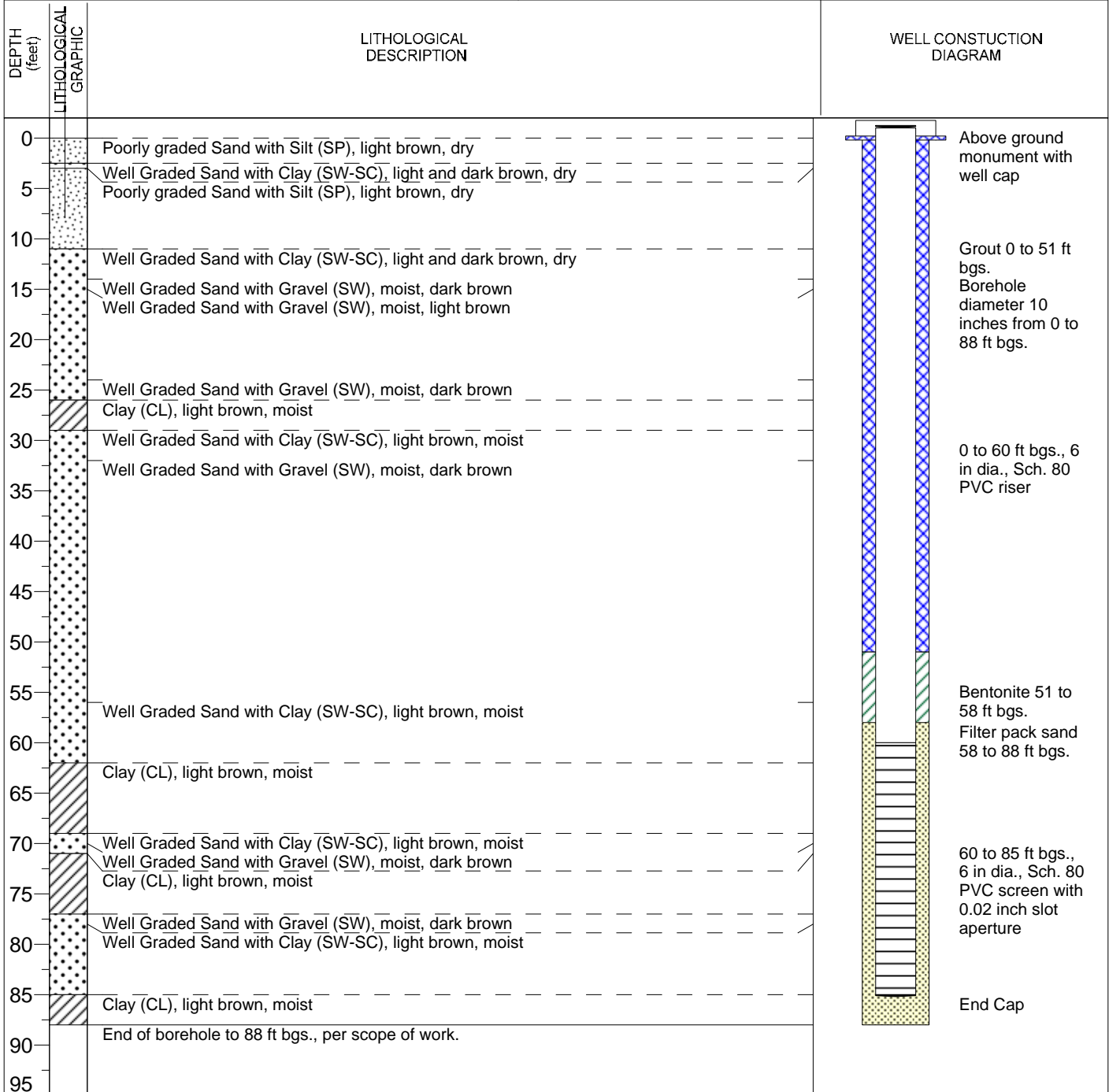
TOTAL DEPTH (ft.): 88

GROUNDWATER LEVEL (ft. btoc.):

DATE STARTED: 5/6/2020

DATE FINISHED: 5/7/2020

LOGGED BY: Rich Pratt



Notes: bgs. = below ground surface Sch. = Schedule
dia. = diameter YR = Yellow-Red
ft = feet



MONITORNG WELL ID: **WWC-15**

CLIENT: Intermountain Power Service Corporation

PROJECT: Monitoring Well Installation

SITE LOCATION: South of Waste Water Basin Surface Impoundment



DRILLING CONTRACTOR: Cascade Drilling

DRILLING METHOD: Sonic

DRILLING EQUIPMENT: Pro Sonic 600

SAMPLING METHOD: 4 inch sonic core barrel 0 to 88 ft bgs.,
10 inch sonic core barrel 0 to 88 ft bgs.,

COORDINATE SYSTEM:

EASTING:

NORTHING:

ELEVATION:

BOREHOLE ANGLE: 90 degrees

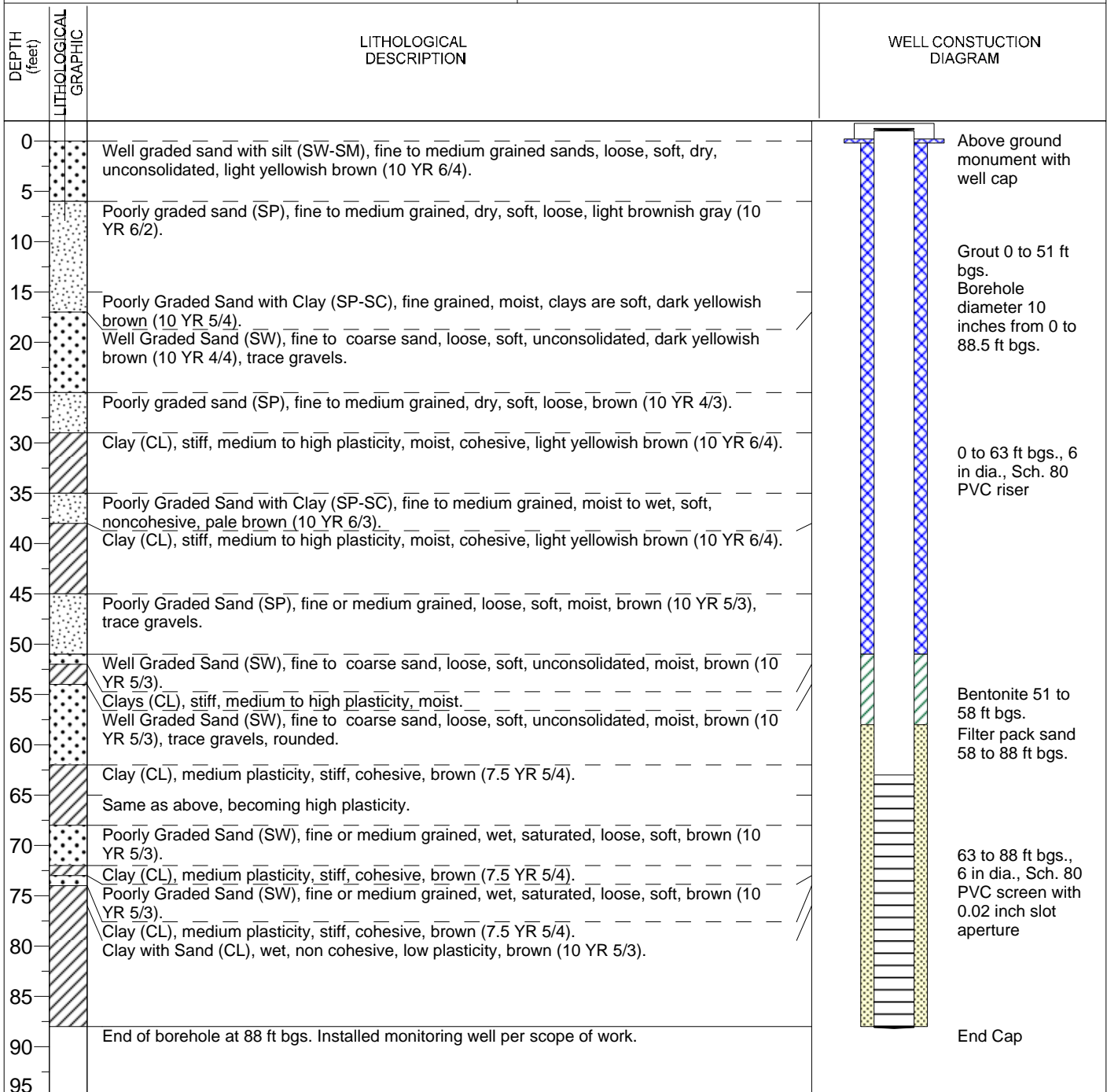
TOTAL DEPTH (ft.): 88

GROUNDWATER LEVEL (ft. btoc.):

DATE STARTED: 5/6/2020

DATE FINISHED: 5/7/2020

LOGGED BY: Michael Ward



Notes: bgs. = below ground surface Sch. = Schedule
dia. = diameter YR = Yellow-Red
ft = feet



MONITORING WELL ID: **WWC-16**

CLIENT: Intermountain Power Service Corporation

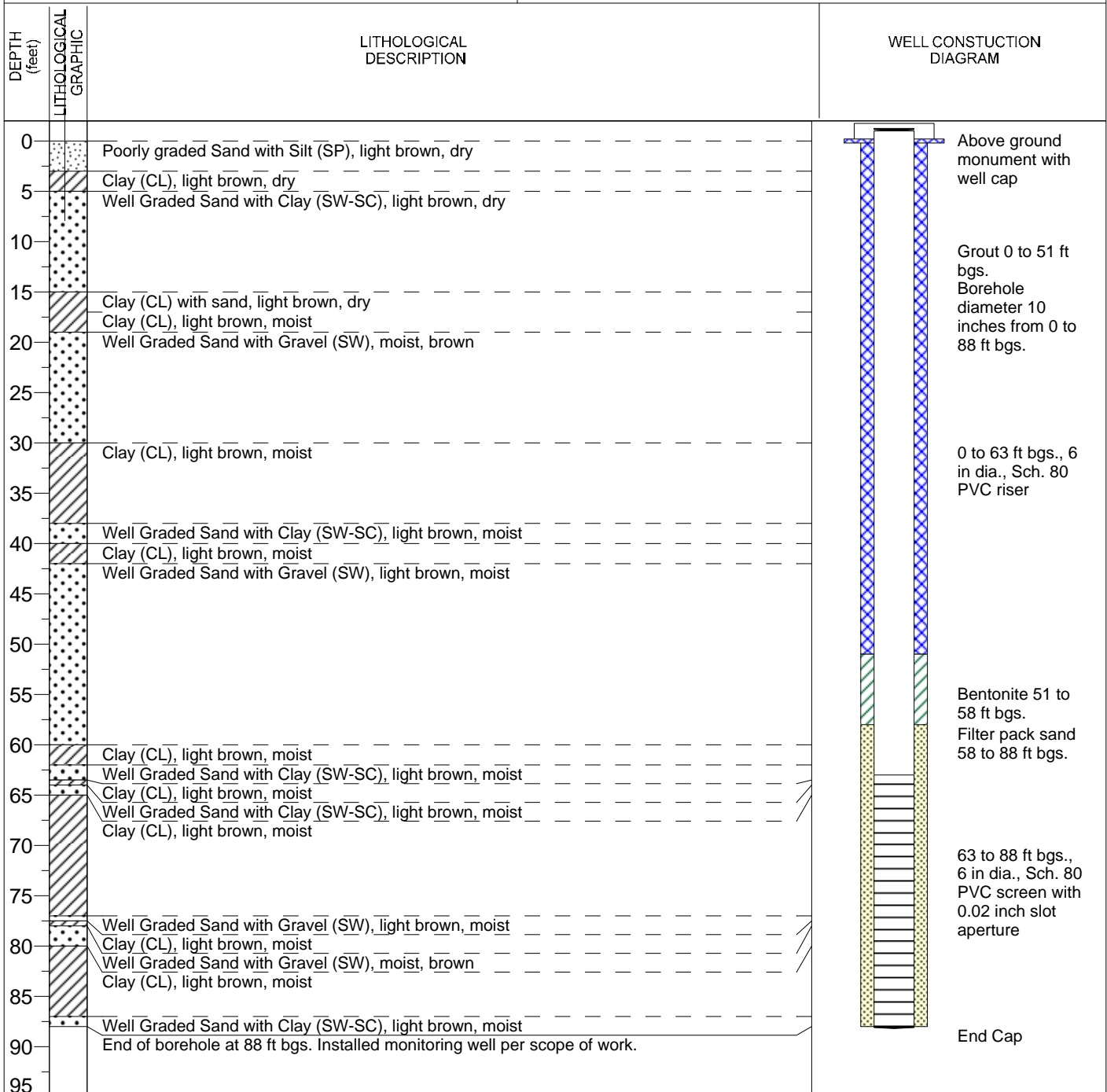
PROJECT: Monitoring Well Installation

SITE LOCATION: South of Waste Water Basin Surface Impoundment



DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 88 ft bgs.,
 10 inch sonic core barrel 0 to 88 ft bgs.,

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.): 88 GROUNDWATER LEVEL (ft. btoc.):
 DATE STARTED: 5/7/2020 DATE FINISHED: 5/8/2020
 LOGGED BY: Rich Pratt



Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet



MONITORNG WELL ID: **WWC-17**

CLIENT: Intermountain Power Service Corporation

PROJECT: Monitoring Well Installation



SITE LOCATION: South of Waste Water Basin Surface Impoundment

DRILLING CONTRACTOR: Cascade Drilling
 DRILLING METHOD: Sonic
 DRILLING EQUIPMENT: Pro Sonic 600
 SAMPLING METHOD: 4 inch sonic core barrel 0 to 91 ft bgs.,
 10 inch sonic core barrel 0 to 91 ft bgs.,

COORDINATE SYSTEM:
 EASTING: NORTHING:
 ELEVATION: BOREHOLE ANGLE: 90 degrees
 TOTAL DEPTH (ft.): 88 GROUNDWATER LEVEL (ft. btoc.):
 DATE STARTED: 5/8/2020 DATE FINISHED: 5/8/2020
 LOGGED BY: Michael Ward

DEPTH (feet)	LITHOLOGICAL GRAPHIC	LITHOLOGICAL DESCRIPTION	WELL CONSTRUCTION DIAGRAM
0		Well Graded Sand with Silt (SW-SM), fine or medium grained sand, loose, soft, dry, very pale brown (10 YR 7/4).	<p>Above ground monument with well cap</p> <p>Grout 0 to 50 ft bgs. Borehole diameter 10 inches from 0 to 88 ft bgs.</p> <p>0 to 63 ft bgs., 6 in dia., Sch. 80 PVC riser</p> <p>Bentonite 50 to 55 ft bgs. Filter pack sand 55 to 88 ft bgs.</p> <p>63 to 88 ft bgs., 6 in dia., Sch. 80 PVC screen with 0.02 inch slot aperture</p> <p>End Cap</p>
5		Poorly Graded Sand (SP), fine to coarse, loose, soft, dry, unconsolidated, light gray (10 YR 7/2).	
10		Clays (CL), low to medium plasticity, medium dense, moist, light yellowish brown (10 YR 7/4).	
15		Poorly Graded Sand (SP), fine to coarse, loose, soft, dry, unconsolidated, light gray (10 YR 7/2).	
20		Clay (CL), medium plasticity, medium dense, cohesive, dark red (2.5 YR 4/6).	
25		Well Graded Sand (SW), fine grained, loose, soft, moist, yellowish brown (10 YR 5/4).	
30		Clay (CL), medium plasticity, medium dense, cohesive, dark red (2.5 YR 4/6), mottled with gray (10 YR 6/1).	
35		Well Graded Sand (SW), fine grained, loose, soft, wet, brown (10 YR 4/3), with thin black lenses.	
40			
45			
50		Sandy Lean Clay (CL), low plasticity, soft to medium dense, wet, yellowish brown (10 YR 6/1).	
55		Well Graded Sand with Clay (SW-SC), fine grained sand, wet, loose, soft, yellowish brown (10 YR 5/4).	
60			
65		Sandy Lean Clay (CL), low plasticity, soft to medium dense, wet, brown (10 YR 5/3).	
70		Well Graded Sand (SW), fine or medium grained sand, loose, soft, wet, brown (10 YR 5/3)	
75		Clay (CL), moderate plasticity, medium dense, consolidated, brown (10 YR 5/3).	
80		Well Graded Sand (SW), fine or medium grained sand, loose, soft, wet, brown (10 YR 5/3)	
85		Clay (CL), medium to high plasticity, stiff, dense, consolidated, brown (10 YR 5/3).	
90		Well Graded Sand (SW), fine or medium grained sand, loose, soft, wet, brown (10 YR 5/3)	
95		End of borehole at 88 ft bgs. Installed monitoring well per scope of work.	

Notes: bgs. = below ground surface Sch. = Schedule
 dia. = diameter YR = Yellow-Red
 ft = feet

WWU-1

Interval (feet)	Drilling Method	USCS	Sample Description
8/11/2015			
0-0.5	8" Sonic	TOPSOIL	Surface - Sand and Gravel.
0.5-1.5	8" Sonic	SM	Silty SAND:
1.5-2.5	8" Sonic	SP/SM	SAND with silt:
2.5-3.5	8" Sonic	ML	Sandy SILT:
3.5-4.75	8" Sonic	SP	SAND:
4.75-5	8" Sonic	SC	Clayey SAND:
5-7	8" Sonic	SP/SM	SAND with silt:
7-10.75	8" Sonic	SC	Clayey SAND:
10.75-12.5	8" Sonic	SP/SM	SAND with silt:
12.5-13	8" Sonic	SC	Clayey SAND:
13-14	8" Sonic	SM	Silty SAND:
14-15	8" Sonic	SP	SAND:
15-17.5	8" Sonic	SP/SM	SAND with silt:
17.5-20	8" Sonic	SP	SAND:
20-22	8" Sonic	SP/SM	SAND with silt:
22-22.5	8" Sonic	SC	Clayey SAND:
22.5-25	8" Sonic	CL	Sandy CLAY:
25-27.5	8" Sonic		Sandy CLAY:
27.5-28	8" Sonic	SC	Clayey SAND:
28-30	8" Sonic	SW	Gravelly SAND:
30-32.5	8" Sonic	SP/SM	SAND with silt:
32.5-35	8" Sonic	SM	Silty SAND:
35-37.5	8" Sonic	SP	SAND:
37.5-40	8" Sonic		SAND:
40-42.5	8" Sonic	SW/SM	SAND with silt:
42.5-43.25	8" Sonic	SM	Silty SAND:
43.25-44.25	8" Sonic		Silty SAND:
44.25-45	8" Sonic	SP/SW	SAND:
45-47.5	8" Sonic	SW	SAND:
47.5-50	8" Sonic	SP	SAND:
50-50.5	8" Sonic		SAND:
50.5-51.75	8" Sonic	ML	Sandy SILT:
51.75-52.5	8" Sonic	SP	SAND:
52.5-53.25	8" Sonic	SC	Clayey SAND:
53.25-55	8" Sonic		Clayey SAND:
55-56.5	8" Sonic		Clayey SAND:
56.5-57.5	8" Sonic		Clayey SAND:
57.5-60	8" Sonic		Clayey SAND:
60-61	8" Sonic	ML	Clayey SILT with sand:
61-62.5	8" Sonic	SM	Silty SAND:
62.5-63.75	8" Sonic	CL	Sandy CLAY:
63.75-64.75	8" Sonic	SM	Silty SAND:
64.75-65.5	8" Sonic	SP	SAND:
65.5-66.5	8" Sonic	ML	Clayey SILT with sand:
66.5-67.5	8" Sonic	SC	Clayey SAND:
67.5-70	8" Sonic	SM	Silty SAND with clay:

TD = 70'; PVC 4-inch screen from 60 to 70; PVC 4-inch riser from -2.5 to 60

Drilling Method: Prosonic T600, 8" Rotosonic

Drilling Company - Cascade Drilling

Driller - Rick Mallett

Geologist - Michael Sauerwein

Above-grade, 5-foot long, 6-inch diameter, steel Wellhead Protective Monument set in Concrete
 ~ 2.5-foot. stick-up

Ground Surface

8-inch diameter,
 from 0 to 70-feet bgs

4-inch diameter, Sch. 40 PVC,
 from ~ 2.0 feet above ground surface (ags)
 to 60 feet below ground surface (bgs)

Portland Cement-Bentonite gel (~ 10:1)
 Grout, Tremie-Pipe Slurry,
 from 0 to 53-feet bgs

Bentonite medium chips,
 from 53 to 58 feet bgs

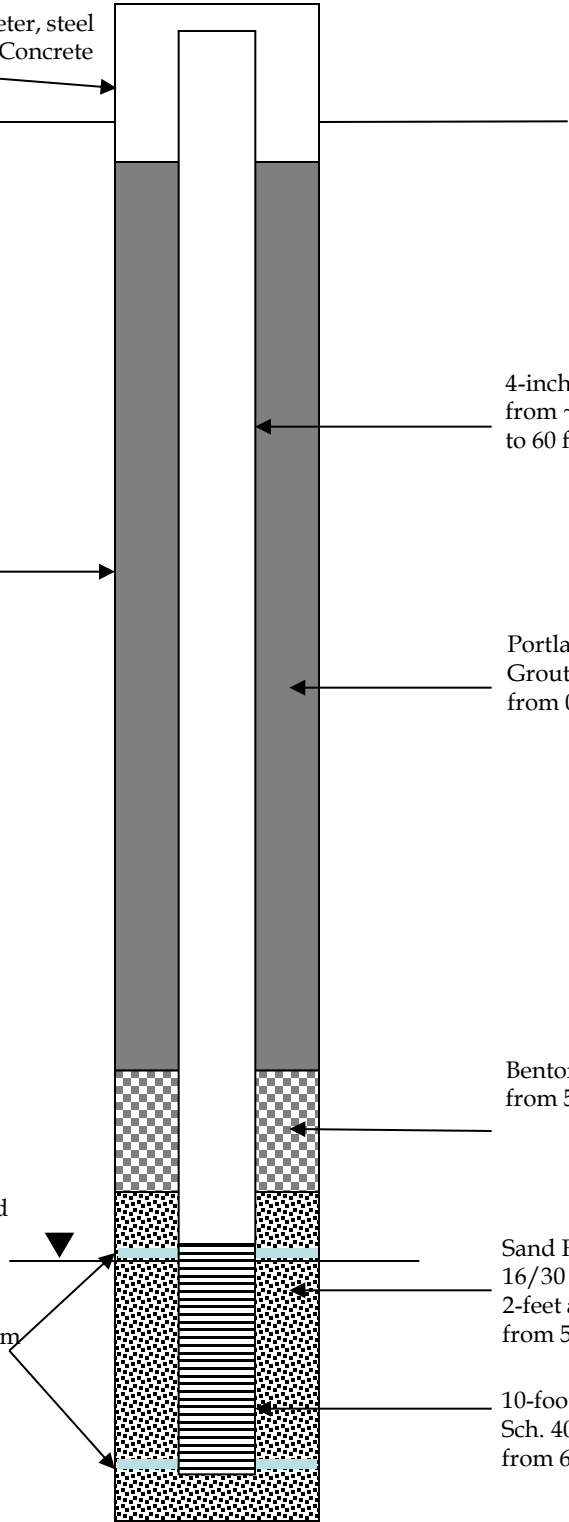
At Time of Drilling,
 Depth to Uppermost Ground
 Water ~ 61-feet bgs

Sand Filter Pack
 16/30 washed silica sand,
 2-feet above screen
 from 58 to 70 feet bgs

Centralizers - placed at the bottom
 and the top of the well screen.

10-foot length; 4-inch diameter
 Sch. 40 PVC, 0.020"-slotted,
 from 60 to 70 feet bgs

Total Depth (TD) = 70 feet bgs



IPSC – WASTEWATER HOLDING BASIN AREA
 DELTA, UTAH

Well WW-U-1 Schematic

Date Drawn
 8/11/15

Design by

Drawn by

MS

Scale

Last Revision
 Date

WWU-2

Interval (feet)	Drilling Method	USCS	Sample Description
8/11/2015			
0-0.5	8" Sonic	TOPSOIL	Surface - Sand and Gravel.
0.5-2.5	8" Sonic	ML	Gravelly SILT with sand:
2.5-4	8" Sonic	SP	SAND:
4-5	8" Sonic		SAND:
5-5.5	8" Sonic		SAND:
5.5-7.5	8" Sonic		SAND:
7.5-9.5	8" Sonic	SP/SW	SAND:
9.5-10	8" Sonic	SP	SAND:
10-11	8" Sonic	SW	SAND:
11-12.5	8" Sonic	SP/SM	SAND with silt:
12.5-13	8" Sonic	SM	Silty SAND:
13-15	8" Sonic	ML	Sandy SILT:
15-15.5	8" Sonic	SP	SAND:
15.5-17	8" Sonic	SC	Clayey SAND with gravel:
17-17.5	8" Sonic	SW	Gravelly SAND with sand:
17.5-19	8" Sonic		SAND:
19-20	8" Sonic		SAND:
20-22.5	8" Sonic	GW	Sandy GRAVEL:
22.5-23.5	8" Sonic	SW	SAND:
23.5-25	8" Sonic	SP/SM	SAND with silt:
25-32.5	8" Sonic		SAND with silt:
32.5-33.5	8" Sonic	SW/SC	Gravelly SAND with clay:
33.5-35	8" Sonic	SP/SM	SAND with silt:
35-37.5	8" Sonic		SAND with silt:
37.5-39	8" Sonic	SC/CL	Clayey SAND/Sandy CLAY:
39-40	8" Sonic	SC	Clayey SAND:
40-45	8" Sonic	SC/CL	Clayey SAND/Sandy CLAY:
45-45.5	8" Sonic	SM	Silty SAND with clay:
45.5-47.5	8" Sonic	SC/CL	Clayey SAND/Sandy CLAY:
47.5-49.5	8" Sonic	CH/SC	Sandy CLAY/Clayey SAND:
49.5-50	8" Sonic	SP/SM	SAND with silt:
50-51.5	8" Sonic	SC	Clayey SAND:
51.5-52.5	8" Sonic	SP/SC	SAND with clay:
52.5-55	8" Sonic	SP	SAND:
55-56.5	8" Sonic	CH	Sandy CLAY:
56.5-57.5	8" Sonic	SC	Clayey SAND:
57.5-59	8" Sonic	ML	Clayey SILT with sand:
59-60	8" Sonic	CH	Sandy CLAY:
60-62.5	8" Sonic	SC	Clayey SAND:
62.5-64	8" Sonic	CH	Sandy CLAY:
64-65	8" Sonic	SM	Silty SAND:
65-66.5	8" Sonic	SP	SAND:
66.5-67.5	8" Sonic	SM	Silty SAND:
67.5-75	8" Sonic	SW	SAND:

TD = 75'; PVC 4-inch screen from 65 to 75; PVC 4-inch riser from -2.5 to 65

Drilling Method: Prosonic T600, 8" Rotasonic

Drilling Company - Cascade Drilling

Driller - Rick Mallett

Geologist - Michael Sauerwein

Above-grade, 5-feet. long, 8-in. dia., steel Wellhead Protective Monument set in a 2X2 Concrete Pad ~ 2.5-feet. stick-up

Ground Surface

8-inch diameter, from 0 to 75-feet bgs

4-inch diameter, Sch. 40 PVC, from ~ 2.0 feet above ground surface (ags) to 65 feet below ground surface (bgs)

Cement-Bentonite gel (~ 10:1) Grout, Tremie-Pipe Slurry, from 0 to 58-feet bgs

At Time of Drilling, Depth to Uppermost Ground Water ~ 61-feet bgs

Bentonite medium chips, from 58 to 63 feet bgs

Sand Filter Pack: 16/30 washed silica sand, 2-feet above screen from 63 to 75 feet bgs

Centralizers - placed at the bottom and the top of the well screen.

10-foot length; 4-inch diameter Sch. 40 PVC, 0.020"-slotted, from 65 to 75 feet bgs

Total Depth (TD) = 75 feet bgs



IPSC – WASTEWATER HOLDING BASIN AREA
DELTA, UTAH

Well WW-U-2 Schematic

Date Drawn
8/11/15

Design by

Drawn by

MS

Scale

Last Revision
Date

SI-U-1

Interval (feet)	USCS	Sample Description
8/12/2015		
0-0.5	TOPSOIL	Surface - Sand and Gravel, roots and grass.
0.5-2.5	SP/SM	SAND with silt:
2.5-5	SP	SAND:
5-6.5	SP/SM	SAND with silt:
6.5-7.5	SW/SM	SAND with silt:
7.5-8	SW	SAND:
8-12.5	SP	SAND:
12.5-17.5		SAND:
17.5-18	SP/SM	SAND with silt:
18-19	SM	Silty SAND:
19-20	CL	CLAY:
20-21.5	SP	SAND:
21.5-22.5	SP/SM	Gravelly SAND with silt:
22.5-26.5	SW	SAND:
26.5-27.5	SW/SC	SAND with clay:
27.5-29.5	ML	Sandy SILT with clay:
29.5-30	SP	SAND:
30-32	ML	Sandy SILT with clay:
32-32.5	SW	SAND with gravel:
32.5-38	SC	Clayey SAND:
38-40	SM	Silty SAND:
40-42.5	SP/SM	SAND with silt:
42.5-44.25	GW	Sandy GRAVEL with clay:
44.25-45	SM	Silty SAND:
45-46.5	SC	Clayey SAND:
46.5-47.75	SP/SC	SAND with clay:
47.75-52.5	SP	SAND:
52.5-54	CH	CLAY:
54-55	SC/CH	Clayey SAND/Sandy CLAY:
55-60	CH	CLAY:
60-62.5		CLAY:
62.5-66		CLAY:
66-70	SC	Clayey SAND:
70-70.75	ML	Clayey SILT with sand:
70.75-71.5	CH	CLAY:
71.5-72.5	SP/SC	SAND with clay:
72.5-75	SP/SM	SAND with silt:
75-75.75	SM	Silty SAND:
75.75-77	SC	Clayey SAND:
77-80	SP/SM	SAND with silt:

TD = 80'; PVC 4-inch screen from 69 to 79; PVC 4-inch riser from -2.5 to 69
Drilling Method: Prosonic T600, 8" Rotasonic

Drilling Company - Cascade Drilling
Driller - Rick Mallett
Geologist - Michael Sauerwein

Above-grade, 5-foot long, 6-inch diameter, steel Wellhead Protective Monument set in Concrete
 ~ 2.5-foot. stick-up

Ground Surface

8-inch diameter,
 from 0 to 80-feet bgs

4-inch diameter, Sch. 40 PVC,
 from ~ 2.0 feet above ground surface (ags)
 to 69 feet below ground surface (bgs)

Cement-Bentonite gel (~ 10:1) Grout,
 Tremie-Pipe Slurry,
 from 0 to 62-feet bgs

Bentonite medium chips,
 from 62 to 67 feet bgs

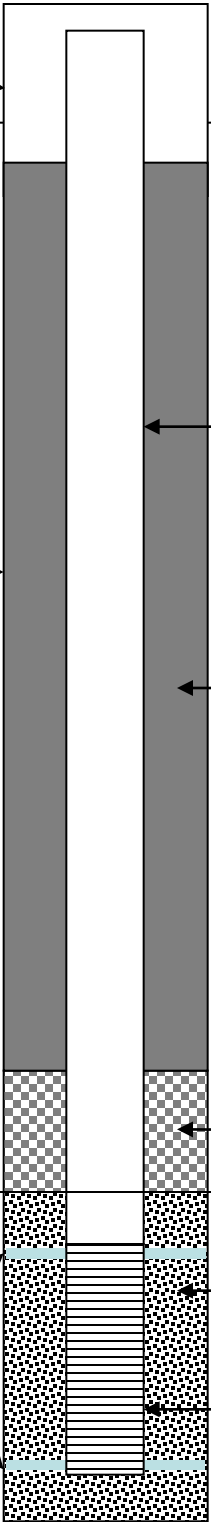
At Time of Drilling,
 Depth to Uppermost
 Groundwater ~ 67-feet bgs

#16/30 washed silica sand,
 2-feet above screen
 from 67 to 80 feet bgs

Centralizers - placed at the bottom
 and the top of the well screen.

10-foot length; 4-inch diameter
 Sch. 40 PVC, 0.020"-slotted,
 from 69 to 79 feet bgs

Total Depth (TD) = 80 feet bgs



IPSC – COAL STORAGE AND UNLOADING AREA
 DELTA, UTAH

Well SI-U-1 Schematic

Date Drawn
 8/12/15

Design by

Drawn by

MS

Scale

Last Revision
 Date



DRILLING LOG

PROJECT NAME: Intermountain Power Plant
 BORING/MONITORING WELL: WR-101 / RW-2
 DRILLING FIRM: Boart Longyear
 BORING METHOD: Sonic
 BORING DIAMETER: 10.0-inch

PROJECT No.: 07.00408.01
 COMPLETION DATE: 12/11/2007
 DRILLER: Robert
 LOGGED BY: Thomas Hedrick
 DEPTH TO WATER (at drilling): ~ 40 ft.
 DEPTH TO WATER (static > 24-hrs.): 36.09 ft.

WR-101 / RW-2

Interval (feet)	Drilling Method	Sample Description
0 - 9	SDM	Light Brown fine grained SAND with clay matrix
9 - 17	SDM	Light Brown clayey SILT
17 - 20	SDM	Light Brown silty CLAY
20 - 25	SDM	Brown medium grained SAND with pebbles, Dry and loose
25 - 28	SDM	Light Brown silty CLAY, very tight, MOIST
28 - 38	SDM	Light Brown CLAY, Moist
38 - 42	SDM	Brown fine grained SAND, Moist
42 - 50	SDM	Brownish/Red CLAY, Dry
50 - 56	SDM	Brown medium grained SAND with clay matrix, very moist/saturated
56 - 58	SDM	Brown silty CLAY, moist
60 - 66	SDM	Brown medium grained SAND, Saturated
Total Depth = 66 feet BGS, Screened from 66 – 46', Sand 40-66', Bentonite 36-40', Grout 0-36'		

Well Completion Materials and Depth Intervals (ft.)

Surface Completion: Stick-up

Casing, solid: 6 inch diameter sch. 80 PVC casing, 0-7 ft.

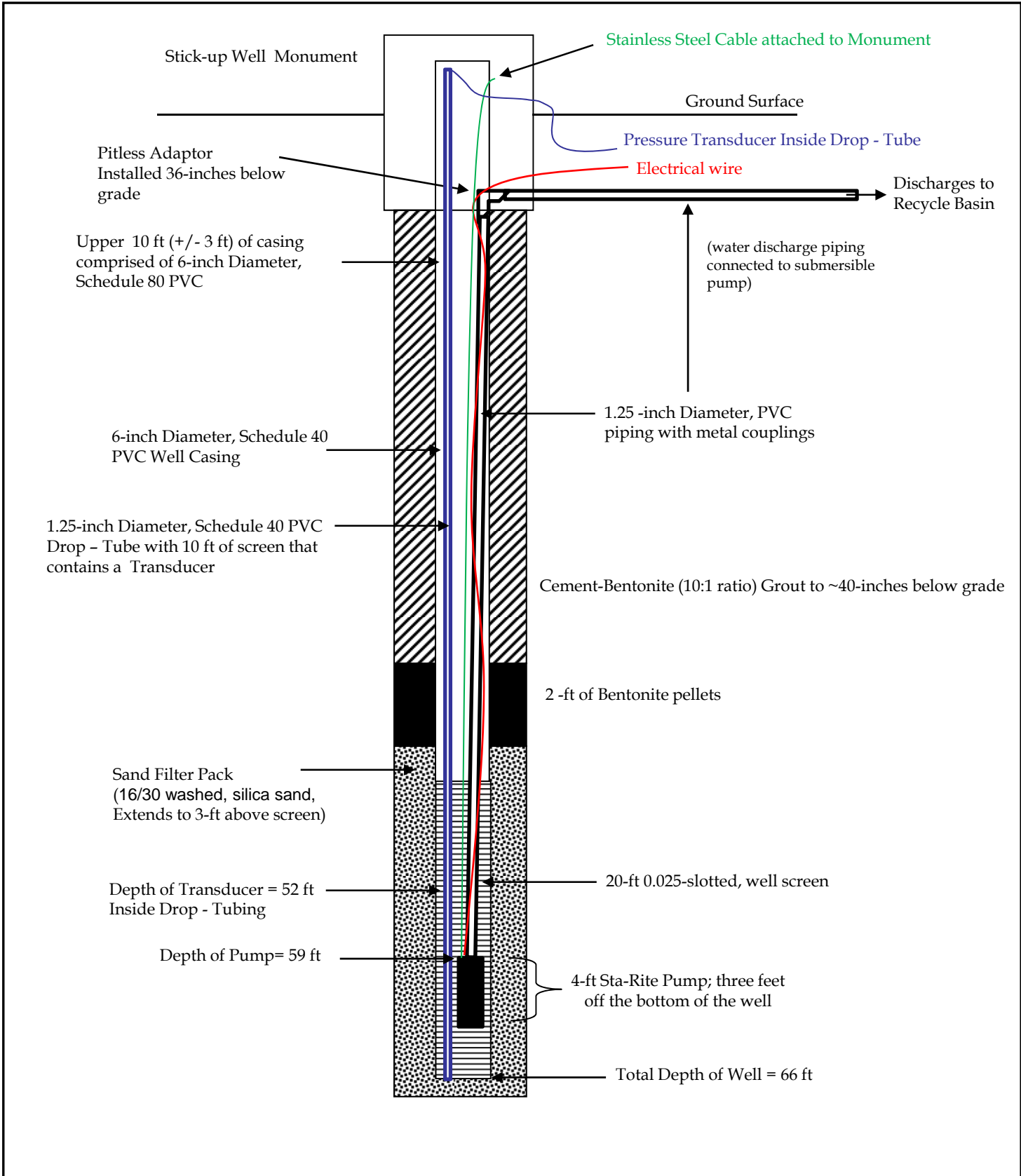
Casing, solid: 6 inch diameter sch. 40 PVC casing, 7 -46 ft.

Screen: 6 inch diameter sch. 40 PVC well screen 0.025-slotted, 46-66 ft.

Sand Pack: 16/30 washed, silica sand, 40-66 ft.

Bentonite Seal: "Pure Gold" Bentonite Pellets, 36-40 ft.

Cement-Bentonite (10:1 ratio) Grout: 0-36 ft.



INTERMOUNTAIN POWER PLANT 850 WEST BRUSH WELLMAN ROAD – DELTA, MILLARD COUNTY, UTAH			
Ground Water Recovery Well WR-101 Schematic			
			Date Drawn
			Last Revision Date
Design by	Drawn by	Scale	



DRILLING LOG

PROJECT NAME: Intermountain Power Plant
BORING/MONITORING WELL: WR-102

PROJECT No.: 08.00463.01
COMPLETION DATE: 3/30/2009

DRILLING FIRM: Boart Longyear
BORING METHOD: Sonic Drilling Method
BORING DIAMETER: 10.0-inch

DRILLER: Chato
LOGGED BY: Thomas Hedrick
DEPTH TO WATER (at drilling): ~ 40 ft.
DEPTH TO WATER (static > 24-hrs.): ~ 27 ft.

WR-102

Interval (feet)	Drilling Method	Sample Description
0 - 11	SDM	Light Brown fine grained SAND with pebbles present from 3 - 7 feet, Dry
11 - 16	SDM	Light Brown fine grained SAND with interbeds of brown CLAY, Dry
16 - 35	SDM	Light Gray CLAY, moist at ~ 35 feet,
35 - 37	SDM	Light Gray Clay with a fine to medium grained sandy matrix, very moist
37 - 48	SDM	Brown fine to medium grained SAND, saturated
48 - 50	SDM	Brown CLAY, dry
50 - 53	SDM	Brown to Black medium grained SAND, saturated
53 - 57	SDM	Brown CLAY with two fine grained sand layer present
		Total Depth = 57 feet BGS, Screened from 37 – 57', Sand 34-57', Bentonite 31-34, Grout 0-31'

Well Completion Materials and Depth Intervals (ft.)

Surface Completion: Stick-up

Casing, solid: 6 inch diameter sch. 80 PVC casing, 0-9 ft.

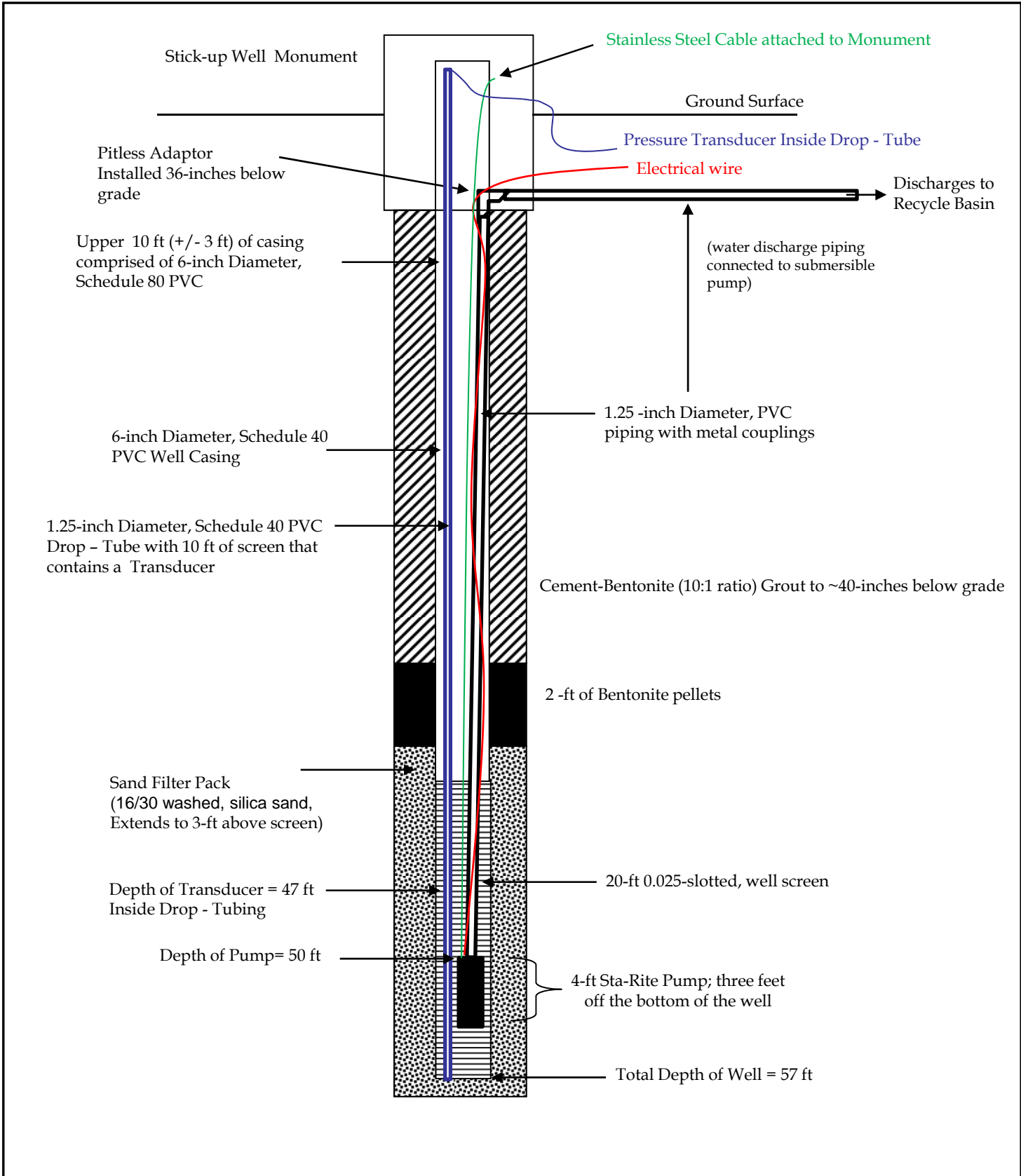
Casing, solid: 6 inch diameter sch. 40 PVC casing, 9 -37 ft.

Screen: 6 inch diameter sch. 40 PVC well screen 0.025-slotted, 37-57 ft.

Sand Pack: 16/30 washed, silica sand, 34-57 ft.

Bentonite Seal: "Pure Gold" Bentonite Pellets, 31-34 ft.

Cement-Bentonite (10:1 ratio) Grout: 0-31 ft.



INTERMOUNTAIN POWER PLANT 850 WEST BRUSH WELLMAN ROAD – DELTA, MILLARD COUNTY, UTAH			
Ground Water Recovery Well WR-102 Schematic			
			Date Drawn
Design by		Drawn by	Last Revision Date
		Scale	



DRILLING LOG

PROJECT NAME: Intermountain Power
Plant BORING/MONITORING WELL: WR-103

PROJECT No.: 08.00463.01
COMPLETION DATE: 3/31/2009

DRILLING FIRM: Boart Longyear
BORING METHOD: Sonic
BORING DIAMETER: 10.0-inch

DRILLER: Chato
LOGGED BY: Thomas Hedrick
DEPTH TO WATER (at drilling): ~ 40 ft.
DEPTH TO WATER (static > 24-hrs.): ~ 30 ft.

WR-103

Interval (feet)	Drilling Method	Sample Description
0 - 3	SDM	Brown to Light brown fine grained SAND to silt, Dry
3 - 15	SDM	Light brown fine to medium grained SAND, pebbles present from 3 - 5 feet, Dry
15 - 17	SDM	Light brown fine to medium grained SAND, with interbeds of light brown CLAY with a sandy matrix, Dry
17 - 24	SDM	Light brown CLAY, Dry
24 - 37	SDM	Reddish Gray CLAY, Dry
37 - 45	SDM	Brown to Black medium fine to medium grained SAND, very moist
45 - 47	SDM	Brown fine grained SAND with a CLAY matrix, very moist
47 - 52	SDM	Brown Fine to medium grained SAND, saturated
52 - 55	SDM	Red CLAY, dry
Total Depth = 55 feet BGS, Screened from 35 – 55', Sand 32-55', Bentonite 29-32, Grout 0-29'		

Well Completion Materials and Depth Intervals (ft.)

Surface Completion: Stick-up

Casing, solid: 6 inch diameter sch. 80 PVC casing, 0-6.5 ft.

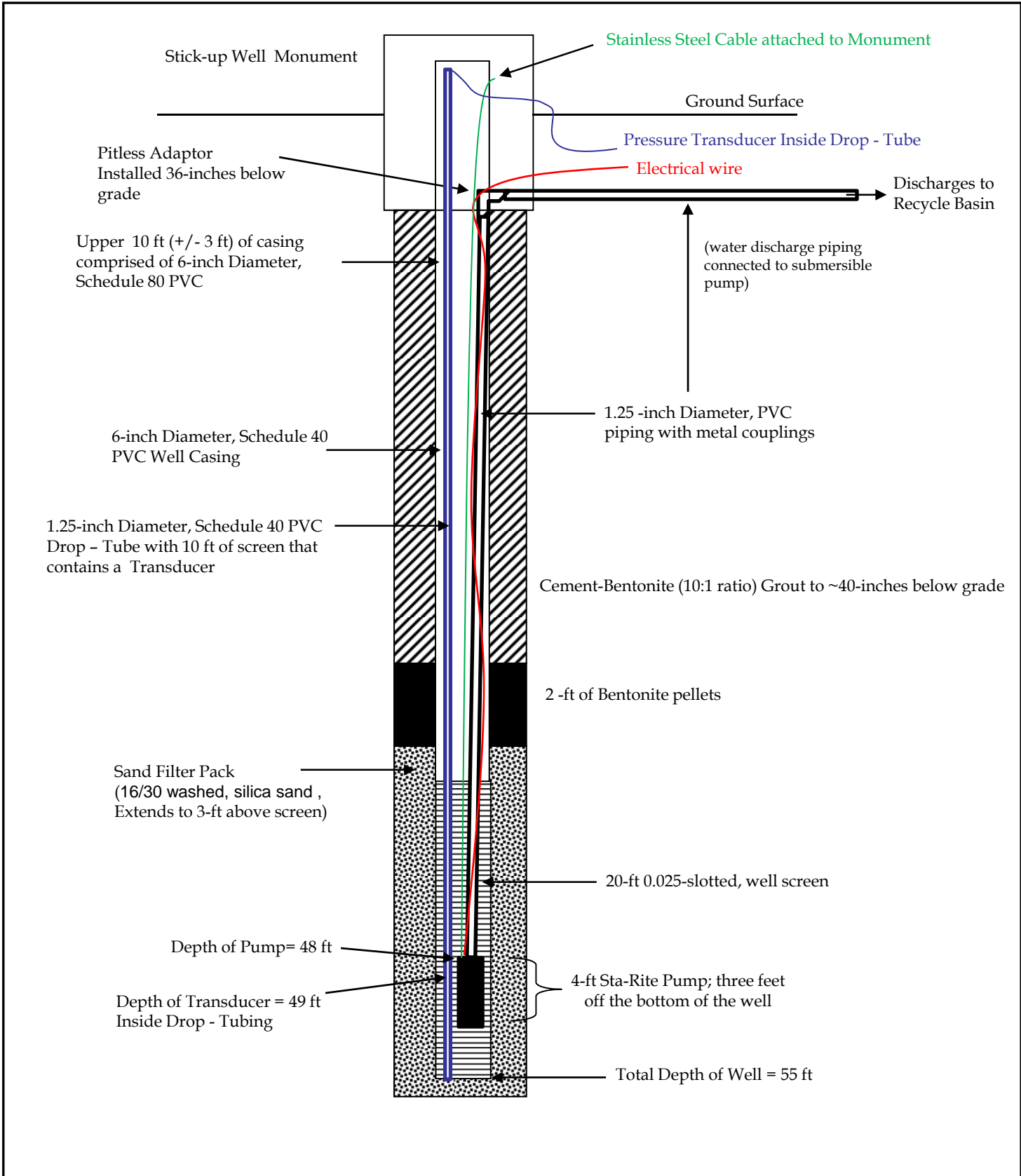
Casing, solid: 6 inch diameter sch. 40 PVC casing, 6.5 -35 ft.

Screen: 6 inch diameter sch. 40 PVC well screen 0.025-slotted, 35-55 ft.

Sand Pack: 16/30 washed, silica sand, 32-55 ft.

Bentonite Seal: "Pure Gold" Bentonite Pellets, 29-32 ft.

Cement-Bentonite (10:1 ratio) Grout: 0-29 ft.



INTERMOUNTAIN POWER PLANT 850 WEST BRUSH WELLMAN ROAD – DELTA, MILLARD COUNTY, UTAH			
Ground Water Recovery Well WR-103 Schematic			
			Date Drawn
			Last Revision Date
Design by	Drawn by	Scale	



DRILLING LOG

PROJECT NAME: Intermountain Power Plant
BORING/MONITORING WELL: RW-1

PROJECT No.: 07.00408.01
COMPLETION DATE: 12/14/2007

DRILLING FIRM: Boart Longyear
BORING METHOD: Sonic
BORING DIAMETER: 8.0-inch

DRILLER: Robert
LOGGED BY: Thomas Hedrick
DEPTH TO WATER (at drilling): ~ 40 ft.
DEPTH TO WATER (static > 24-hrs.): ~ 30 ft.

RW-1

Interval (feet)	Drilling Method	Sample Description
0 - 8	SDM	Light Brown fine grained SAND with clay matrix
8 - 22	SDM	Grayish green clayey SILT, Dry
22 - 27	SDM	Gray silty CLAY, Dry
27 - 29	SDM	Brown Fine to medium grained SAND, Dry
29 - 31	SDM	Brown Fine grained SAND
31 - 32	SDM	Brown Course grained SAND with Pebbles
32 - 35	SDM	Gray CLAY
35 - 39	SDM	Fine grained SAND. Moist
39 - 41	SDM	Brown medium grained SAND with Pebbles, Moist
41 - 44	SDM	Brown silty CLAY, Moist
44 - 46	SDM	Brown fine grained SAND, Saturated
46 - 50	SDM	Brown silty CLAY
Total Depth = 50 feet BGS, Screened from 40 - 50 feet		

Well Completion Materials and Depth Intervals (ft.)

Surface Completion: Stick-up
Casing, solid: 0 - 40 ft.
Screen: 40 - 50 ft.

Top of 4 in PVC Casing Elevation (Relative Datum Survey): NA
Top of Manhole Cover (Relative Datum Survey): NA

Sand Pack: Oglebay Norton "Colorado Si Sand" Industrial Sands Inc. 50 - 37 ft.
Bentonite Seal: "Pure Gold" Bentonite Pellets 33 - 37 ft.



DRILLING LOG

PROJECT NAME: Intermountain Power Plant
BORING/MONITORING WELL: RW-4

PROJECT No.: 07.00408.01
COMPLETION DATE: 12/14/2007

DRILLING FIRM: Boart Longyear
BORING METHOD: Sonic
BORING DIAMETER: 8.0-inch

DRILLER: Robert
LOGGED BY: Thomas Hedrick
DEPTH TO WATER (at drilling): ~ 26 ft.
DEPTH TO WATER (static > 24-hrs.): ~ 30 ft.

RW-4

Interval (feet)	Drilling Method	Sample Description
0 - 8	SDM	Light Brown fine grained SAND with clay matrix
8 - 13	SDM	Light Brown CLAY
13 - 18	SDM	Brown medium grained SAND, Moist
18 - 26	SDM	Reddish brown CLAY, dry
26 - 32	SDM	Brown fine grained SAND, saturated
32 - 36	SDM	Brown course to medium grained SAND, saturated
Total Depth = 36 feet BGS, Screened from 26 - 36 feet, Sand 23-36', Bentonite 21-23		

Well Completion Materials and Depth Intervals (ft.)

Surface Completion: Stick-up

Casing, solid: 0 - 26 ft.

Screen: 26 – 36 ft.

Sand Pack: Oglebay Norton "Colorado Si Sand" Industrial Sands Inc. 23 – 36 ft.

Bentonite Seal: "Pure Gold" Bentonite Pellets 21 – 23 ft.

Top of 4 in PVC Casing Elevation (Relative Datum Survey): NA

Top of Manhole Cover (Relative Datum Survey): NA



DRILLING LOG

PROJECT NAME: Intermountain Power Plant
BORING/MONITORING WELL: RW-5

PROJECT No.: 07.00408.01
COMPLETION DATE: 12/12/2007

DRILLING FIRM: Boart Longyear
BORING METHOD: Sonic
BORING DIAMETER: 10.0-inch

DRILLER: Robert
LOGGED BY: Thomas Hedrick
DEPTH TO WATER (at drilling): ~ 60 ft.
DEPTH TO WATER (static > 24-hrs.): ~ 30 ft.

RW-5

Interval (feet)	Drilling Method	Sample Description
0 - 7	SDM	Light Brown fine grained SAND with clay matrix
7 - 16	SDM	Light Brown fine grained Sand
16 - 21	SDM	Dark course grained Sand
21 - 28	SDM	Brown medium grained SAND with pebbles (23-26 no pebbles)
28 - 30	SDM	Light Brown silty CLAY, very tight, slight moist
30 - 37	SDM	Light Brown clayey SILT, slight moist
37 - 43	SDM	Light Brown CLAY
43 - 54	SDM	Reddish brown CLAY
54 - 56	SDM	Light Brown silty CLAY, Dry
56 - 58	SDM	Brown fine grained SAND, very moist
58 - 60	SDM	Brown Medium grained SAND, very moist
60 - 61	SDM	Brown fine grained SAND, saturated
61 - 66	SDM	Brown course grained SAND with pebbles, saturated
66 - 73	SDM	Brown fine grained SAND, saturated
73 - 76	SDM	Brown CLAY, dry
Total Depth = 76 feet BGS, Screened from 56 - 76 feet, Sand 53.5 - 76', Bentonite 53.5 - 49.5'		

Well Completion Materials and Depth Intervals (ft.)

Surface Completion: Stick-up

Casing, solid: 0 - 56 ft.

Screen: 56 - 76 ft.

Sand Pack: Oglebay Norton "Colorado Si Sand" Industrial Sands Inc. 53.5 - 76 ft.

Bentonite Seal: "Pure Gold" Bentonite Pellets 53.5 - 49.5 ft.

Top of 6 in PVC Casing Elevation (Relative Datum Survey): NA

Top of Manhole Cover (Relative Datum Survey): NA



DRILLING LOG

PROJECT NAME: Intermountain Power Plant
BORING/MONITORING WELL: RW-6

PROJECT No.: 07.00408.01
COMPLETION DATE: 12/13/2007

DRILLING FIRM: Boart Longyear
BORING METHOD: Sonic
BORING DIAMETER: 8.0-inch

DRILLER: Robert
LOGGED BY: Thomas Hedrick
DEPTH TO WATER (at drilling): ~ 47 ft.
DEPTH TO WATER (static > 24-hrs.): ~ 30 ft.

RW-6

Interval (feet)	Drilling Method	Sample Description
0 - 9	SDM	Light Brown fine grained SAND with clay matrix
9 - 17	SDM	Light Brown clayey SILT
17 - 20	SDM	Light Brown silty CLAY, dry
20 - 33	SDM	Brown medium grained SAND, dry
30 - 33	SDM	Light Brown CLAY, Moist
33 - 37	SDM	Brown medium grained SAND, with pebbles, slightly moist
37 - 39	SDM	Brown fine grained SAND , moist
39 - 44	SDM	Reddish gray CLAY, dry
44 - 47	SDM	Gray CLAY, dry
47 - 56	SDM	Brown fine grained SAND, Saturated
Total Depth = 56 feet BGS, Screened from 46 - 56 feet, Sand 42-56', Bentonite 38-42		

Well Completion Materials and Depth Intervals (ft.)

Surface Completion: Stick-up

Casing, solid: 0 - 46 ft.

Screen: 46 – 56 ft.

Sand Pack: Oglebay Norton “Colorado Si Sand” Industrial Sands Inc. 42 – 56 ft.

Bentonite Seal: “Pure Gold” Bentonite Pellets 38 – 42 ft.

Top of 4 in PVC Casing Elevation (Relative Datum Survey): NA

Top of Manhole Cover (Relative Datum Survey): NA



DRILLING LOG

PROJECT NAME: Intermountain Power Plant
BORING/MONITORING WELL: RW-7

PROJECT No.: 07.00408.01
COMPLETION DATE: 12/14/2007

DRILLING FIRM: Boart Longyear
BORING METHOD: Sonic
BORING DIAMETER: 8.0-inch

DRILLER: Robert
LOGGED BY: Thomas Hedrick
DEPTH TO WATER (at drilling): ~ 36 ft.
DEPTH TO WATER (static > 24-hrs.): ~ 30 ft.

RW-7

Interval (feet)	Drilling Method	Sample Description
0 - 8	SDM	Light Brown fine grained SAND with clay matrix
8 - 12	SDM	Brown silty CLAY
12 - 13	SDM	White fine grained SAND
13 - 19	SDM	Reddish brown CLAY
19 - 22	SDM	Brown silty CLAY
22 - 28	SDM	Course to medium grained SAND with Pebbles, moist
28 - 31	SDM	Brown silty fine grained SAND, moist
31 - 32	SDM	Brown silty CLAY, moist
32 - 36	SDM	Brown CLAY, dry
36 - 46	SDM	Brown medium to course grained SAND, Saturated
46-76		Reddish brown CLAY, dry
Total Depth = 46 feet BGS, Screened from 36 - 46 feet, Sand 33-46', Bentonite 29-33'		

Well Completion Materials and Depth Intervals (ft.)

Surface Completion: Stick-up

Top of 4 in PVC Casing Elevation (Relative Datum Survey): NA

Casing, solid: 0 - 36 ft.

Top of Manhole Cover (Relative Datum Survey): NA

Screen: 36 – 46 ft.

Sand Pack: Oglebay Norton "Colorado Si Sand" Industrial Sands Inc. 33 – 46 ft.

Bentonite Seal: "Pure Gold" Bentonite Pellets 29 – 33 ft.



DRILLING LOG

PROJECT NAME: Intermountain Power Plant
 BORING/MONITORING WELL: RW-9
 DRILLING FIRM: WDC Exploration & Wells
 BORING METHOD: Hollow Stem Auger
 BORING DIAMETER: 8.0-inch

PROJECT No.: 08.00463.01
 COMPLETION DATE: 9/30/2008
 DRILLER: Dennis
 LOGGED BY: Thomas Hedrick
 DEPTH TO WATER (at drilling): ~ 45 ft.
 DEPTH TO WATER (static > 24-hrs.): ~ 40 ft.

RW-9

Interval (feet)	Drilling Method	Sample Description
5 - 6.5	HSA	Brown to orange fine grained sand with pebbles, Dry
10 - 11.5	HSA	Brown silty CLAY, dry
15 - 16.5	HSA	Light brown fine grained silty SAND, dry
20 - 21.5	HSA	Light brown to light gray silty CLAY, dry,
25 - 26.5	HSA	Light brown to light gray CLAY, with interbeds of silty SAND, dry
30 - 31.5	HSA	Brown to black medium grained SAND, with pebbles, dry
35 - 35.5	HSA	Light brown fine grained SAND, dry
35.5 - 36.5	HSA	Dark brown, black to orange medium grained SAND, moist
40 - 41.5	HSA	Same as above, moist
45 - 46.5	HSA	Same as above, saturated
50 - 51.5	HSA	NA Heaving sands
		Diameter = 4 inch, Total Depth = 50 feet BGS, Screened from 35 - 50 feet, Sand 33-50', Bentonite 31-33'

Well Completion Materials and Depth Intervals (ft.)

Surface Completion: Stick-up

Casing, solid: 0 - 35 ft.

Screen: 35 - 50 ft.

Sand Pack: Oglebay Norton "Colorado Si Sand" Industrial Sands Inc. 33 - 50 ft.

Bentonite Seal: "Pure Gold" Bentonite Pellets 31 - 33 ft.

Top of 4 in PVC Casing Elevation (Relative Datum Survey): NA

Top of Manhole Cover (Relative Datum Survey): NA

LABORATORY TEST DATA										PENETRATION RESISTANCE (BLOWS/FOOT)					LITHOLOGIC DATA	
TEST REPORTED ELEMENTS	GRAIN SIZE DISTRIBUTION			ATTERBURG LIMITS		UNOBTAINED SHEAR STRENGTH (PSF)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	% RECOVERY	DEPTH (FEET)					
	% GRAVEL	% SAND	% FINES	LIQUID LIMIT (%)	PLASTICITY INDEX (%)											
DS							8	112	P	90	0	SAND (SP & SP-SM), light brown, loose to dense, fine to medium; occasional fine gravel.				
							6	111	P	100	5					
							9	106	P	65	10	SAND (SP & SP-SM), light brown, loose to dense, fine to medium; occasional fine gravel.				
							7	108	P	79	15					
DS				28	9		16	98	P	96	20	SILTY SAND (SM), brown, dense, fine; layer of silty clay at about 19'				
											25	CLAYEY SILT (ML-CL), gray, stiff to hard; trace of very fine sand; clay layer at about 25'.				
COMO PERM SG	2	98	34	14	>4.5		22	98	P	87	30	SILTY CLAY (CL-CH), brown to reddish brown, medium to high plasticity, stiff to hard, isolated thin lenses of silt and silty sand.				
UU					4.3		28	98	P	100	35	SILTY CLAY (CL-CH), brown to reddish brown, medium to high plasticity, stiff to hard, isolated thin lenses of silt and silty sand.				
											40					
COMO PERM SG	0	100	39	19	4.5		23	103	P	92	45	SILTY CLAY (CL-CH), brown to reddish brown, medium to high plasticity, stiff to hard, isolated thin lenses of silt and silty sand.				
					>4.5		27	100	P	80	50					
					2.8		31	93	P	76	55	CLAY (CH), gray and reddish brown, very stiff to hard; high plasticity.				
											60	SILTY SAND (SM), gray, medium dense, fine.				
											65					
					3.0		18	109	P	100	70	SANDY CLAY (CL), gray, stiff, low to medium plasticity, thin layers of silty sand and sand below 68'.				
					>4.5		24	97	P	100	75	CLAY (CH), reddish brown, hard, high plasticity.				
					>4.5		18	106	P	100	80	SAND (SP), gray brown, medium dense, fine.				
											85	SILTY SAND (SM), gray brown, medium dense, fine.				
											90					

ELEVATION: 4624'

TYPE OF BORING: ROTARY WASH

DATE DRILLED: 4-1-80

FOR EXPLANATION OF SYMBOLS USED ON THIS BORING LOG, REFER TO INITIAL SECTION OF THIS APPENDIX



INTERMOUNTAIN POWER PROJECT
80-164

LOG OF BORING NO. WD-B-5

LABORATORY TEST DATA							PENETRATION RESISTANCE (BLOWS/FOOT)					LITHOLOGIC DATA	
TESTS REPORTED ELEMENTS	GRAIN SIZE DISTRIBUTION			ATTENBERG LIMITS		UNDRAINED SHEAR STRENGTH (PSF)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	% RECOVERY	DEPTH (FEET)		
	% GRAVEL	% SAND	% FINES	LIQUID LIMIT (%)	PLASTICITY INDEX (%)								
						4.6	24	102	P	92	80	CLAY (CH), brown, hard, high plasticity. T.D. = 82.5'	
											85		
											90		
											95		
											100		
											105		
											110		
											115		
											120		
											125		
											130		
											135		
											140		
											145		
											150		
											155		
											160		
											165		
											170		
											175		
											180		

ELEVATION: 4624'
 TYPE OF BORING: ROTARY WASH
 DATE DRILLED: 4-1-80



INTERMOUNTAIN POWER PROJECT
 80-164
 LOG OF BORING NO. WD-B-5

FOR EXPLANATION OF SYMBOLS USED ON THIS BORING LOG REFER TO INITIAL SECTION OF THIS APPENDIX

LABORATORY TEST DATA										PENETRATION RESISTANCE (BLOWS/FOOT)			LITHOLOGIC DATA		
TESTS REPORTED (CLEARANCE)	GRAIN SIZE DISTRIBUTION			ATTERBERG LIMITS		UNDOUBTED SHEAR STRENGTH (PSF)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	% RECOVERY	DEPTH (FEET)				
	% GRAVEL	% SAND	% FINES	LIQUID LIMIT (%)	PLASTICITY INDEX (%)										
COM PERM							8	108	P	75	0-5	SAND (SP), brown, medium dense, fine to medium some gravel at about 3'.			
				40	20	3.8	26	90	P	100	5-10	SILTY CLAY (CL-CH), gray, very stiff to hard, medium to high plasticity; thin lenses of silt below 10'.			
						> 4.5	22	90	P	68	10-15	SAND (SP), brown, medium dense, fine.			
						> 4.5	11	107	P	84	15-20	SANDY CLAY (CL), gray, stiff, low to medium plasticity.			
						4.0	22	98	P	84	20-26	SILTY SAND (SM), gray, medium dense, fine.			
						4.0	29	95	P	92	26-36	CLAY (CH), gray to reddish brown, hard, high plasticity.			
						> 4.5	28	99	P	76	36-40	CLAY (CH), very stiff to hard.			
											40-45	CLAYEY SILT (CL-ML), brown, stiff, low to nonplastic.			
											45-50	CLAY (CH), very stiff to hard.			
											50-55	CLAYEY SILT (CL-ML), some very fine sand.			
										55-60	SAND (SP), fine to medium; layer of clay at about 62'; layer of silty fine sand at about 65'.				
										60-65	SANDY CLAY (CL), very stiff to hard.				
										65-70					
										70-75	T.D. = 71.0'				
										75-80					

ELEVATION: 4626'
 TYPE OF BORING: ROTARY WASH
 DATE DRILLED: 4-2-80



INTERMOUNTAIN POWER PROJECT
 80-164

LOG OF BORING NO. WD-B-7

FOR EXPLANATION OF SYMBOLS USED ON THIS BORING LOG, REFER TO INITIAL SECTION OF THIS APPENDIX

LABORATORY TEST DATA										PENETRATION RESISTANCE (BLOWS/FOOT)										LITHOLOGIC DATA	
TEST REPORT NO. ELEVATION (FEET)	GRAIN SIZE DISTRIBUTION			ATTENDING LABS		UNDRAINED SHEAR STRENGTH (PSF)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	0	20	40	60	80	100	REFUSAL	SAMPLE TYPE	% RECOVERY	DEPTH (FEET)			
	% GRAVEL	% SAND	% FINES	LIQUID LIMIT (%)	PLASTICITY INDEX (%)																
COM PERM SG	0	12	88	23	5	2.0	6	107							P	100	0	SAND (SP), brown, dense, fine; weakly to moderately cemented below 7.5'			
							20	97							P	88	5				
							21	97							P	72	10				
							25	94							P	100	15				
COM PERM UU	0	12	88	23	5	2.0	25	94							P	100	20	SANDY SILT (CL-ML), light brown, stiff, slightly plastic.			
							25	94							P	100	25				
							33	88							P	100	30				
							36	86							P	100	35				
COM UU	0	12	88	23	5	2.0	34	89							P	100	40	SILTY CLAY (CL), light brown, very stiff, low to medium plasticity.			
							34	89							P	100	45				
							32	91							P	100	50				
							28	94							P	100	55				
COM PERM UU SG	0	100	0	100	54	35	35	91							P	88	60	SILTY CLAY (CL-CH), light brown to gray, very stiff to hard, medium plasticity.			
							35	91							P	88	65				
							36	87							P	100	70				
							1.8	93							P	95	75				
COM PERM UU SG	0	100	0	100	54	35	1.8	93							P	95	80	SILTY SAND (SM), gray, dense to very dense, fine			
							1.8	93							P	95	85				

ELEVATION: 4633'

TYPE OF BORING: ROTARY WASH

DATE DRILLED: 4-3 & 4-80

FOR EXPLANATION OF SYMBOLS USED ON THIS BORING LOG REFER TO INITIAL SECTION OF THIS APPENDIX



INTERMOUNTAIN POWER PROJECT
80-164

LOG OF BORING NO. WD-B-19

LABORATORY TEST DATA										PENETRATION RESISTANCE (BLOWS/FOOT)			LITHOLOGIC DATA		
TEST REPORTED (USE APPROPRIATE)	GRAIN SIZE DISTRIBUTION			ATTERBERG LIMITS		UNDRAINED SHEAR STRENGTH (PSF)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	% RECOVERY	DEPTH (FEET)				
	% GRAVEL	% SAND	% FINES	LIQUID LIMIT (%)	PLASTICITY INDEX (%)										
						3.8	24	100	P	84	84	CLAY (CH), gray, very stiff, high plasticity.			
						4.5	23	104	P	80	86	SILTY SAND (SM), gray, very dense, fine.			
											88	SILT (ML), light brown, hard, low plasticity to nonplastic.			
									P	85	90	SAND (SP), brown, medium dense, fine; occasional clay lenses.			
											96				
											100	T.D. = 98.0'			
											106				
											110				
											115				
											120				
											125				
											130				
											135				
											140				
											145				
											150				
											155				
											160				
											165				
											170				
											175				
											180				

ELEVATION: 4633'
 TYPE OF BORING: ROTARY WASH
 DATE DRILLED: 4-3 & 4-80



INTERMOUNTAIN POWER PROJECT
 80-164

LOG OF BORING NO. WD-B-19

FOR EXPLANATION OF SYMBOLS USED ON THIS BORING LOG, REFER TO INITIAL SECTION OF THIS APPENDIX.

**2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION SUMMARY
REPORT**

ATTACHMENT B. TABULATED GROUNDWATER MONITORING DATA

January 21, 2021

ATTACHMENT B. TABULATED GROUNDWATER MONITORING DATA

CCR Well Levels

Well	Depth	Date	Time
WW-U-1	33.23	12/7/2015	12:54
WW-U-2	23.42	12/7/2015	12:59
SI-U-1	32.47	12/7/2015	13:09
CL-U-1	32.02	12/7/2015	13:35
CL-U-2	37.55	12/7/2015	13:32
CL-W-1	31.05	12/7/2015	13:49
CL-W-2	33.14	12/7/2015	15:55
CL-W-3	31.54	12/7/2015	9:50
CL-W-4	30.56	12/7/2015	11:34
CL-W-5	29.76	12/7/2015	13:21
CL-W-6	28.71	12/7/2015	15:00
CL-W-7	35.23	12/7/2015	13:41
CL-W-8	32.37	12/7/2015	13:47
BA-U-1	39.21	12/7/2015	13:15
BA-U-2	33.26	12/7/2015	13:22
BAC-1	39.32	12/7/2015	16:58
BAC-2	51.38	12/7/2015	17:22
BAC-3	51.02	12/7/2015	17:34
BAC-4	35.35	12/7/2015	17:44
BAC-5	32.62	12/7/2015	17:47
BAC-6	29.76	12/7/2015	17:51
BAC-7	31.26	12/7/2015	17:54
WWC-1	21.16	12/7/2015	17:35
WWC-2	22.16	12/7/2015	17:40
WWC-3	16.42	12/7/2015	17:45
WWC-4	17.85	12/7/2015	17:50
WWC-5	18.78	12/7/2015	17:55

CCR Well Levels

Well	Depth	Date	Time
WW-U-1	33.08	3/3/2016	10:23
WW-U-2	23.52	3/3/2016	9:21
SI-U-1	32.45	3/3/2016	10:27
CL-U-1	31.53	3/3/2016	9:33
CL-U-2	37.09	3/3/2016	9:31
CL-W-1	31.56	3/3/2016	10:36
CL-W-2	32.59	3/3/2016	10:34
CL-W-3	30.91	3/3/2016	13:05
CL-W-4	30.02	3/3/2016	13:02
CL-W-5	28.17	3/3/2016	13:00
CL-W-6	28.13	3/3/2016	12:57
CL-W-7	34.75	3/3/2016	10:40
CL-W-8	31.89	3/3/2016	10:38
BA-U-1	38.82	3/3/2016	9:27
BA-U-2	33.05	3/3/2016	9:24
BAC-1	39.85	3/3/2016	9:16
BAC-2	51.31	3/3/2016	9:11
BAC-3	51.29	3/3/2016	9:07
BAC-4	34.97	3/3/2016	8:59
BAC-5	32.07	3/3/2016	8:57
BAC-6	29.27	3/3/2016	8:55
BAC-7	29.78	3/3/2016	8:48
WWC-1	20.92	3/3/2016	10:21
WWC-2	21.79	3/3/2016	10:17
WWC-3	16.12	3/3/2016	10:12
WWC-4	17.56	3/3/2016	10:11
WWC-5	18.5	3/3/2016	10:09

CCR Well Levels

Well	Depth	Date	Time
WW-U-1	34.2	6/24/2016	9:18
WW-U-2	24.21	6/24/2016	9:40
SI-U-1	32.93	6/24/2016	9:23
CL-U-1	31.88	6/24/2016	9:52
CL-U-2	37.41	6/24/2016	9:49
CL-W-1	30.67	6/24/2016	10:20
CL-W-2	32.49	6/24/2016	10:02
CL-W-3	30.78	6/24/2016	10:15
CL-W-4	29.86	6/24/2016	10:13
CL-W-5	27.97	6/24/2016	10:10
CL-W-6	27.9	6/24/2016	10:06
CL-W-7	34.98	6/24/2016	10:28
CL-W-8	32.07	6/24/2016	10:25
BA-U-1	39.13	6/24/2016	9:44
BA-U-2	33.49	6/24/2016	9:34
BAC-1	40.42	6/24/2016	11:40
BAC-2	51.38	6/24/2016	11:46
BAC-3	51.35	6/24/2016	11:52
BAC-4	34.85	6/24/2016	10:38
BAC-5	31.79	6/24/2016	10:41
BAC-6	28.86	6/24/2016	10:44
BAC-7	30.26	6/24/2016	10:47
WWC-1	21.47	6/24/2016	11:25
WWC-2	22.33	6/24/2016	11:22
WWC-3	16.63	6/24/2016	11:17
WWC-4	18.07	6/24/2016	11:14
WWC-5	19.03	6/24/2016	11:12

CCR Well Levels

Well	Depth	Date	Time
WW-U-1	34.42	8/30/2016	9:22
WW-U-2	24.57	8/30/2016	9:27
SI-U-1	33.49	8/30/2016	9:41
CL-U-1	32.74	8/30/2016	16:16
CL-U-2	38.31	8/30/2016	16:17
CL-W-1	31.52	8/30/2016	16:28
CL-W-2	33.5	8/30/2016	16:31
CL-W-3	31.81	8/30/2016	16:34
CL-W-4	30.89	8/30/2016	16:38
CL-W-5	28.99	8/30/2016	16:39
CL-W-6	28.95	8/30/2016	16:43
CL-W-7	35.84	8/30/2016	16:23
CL-W-8	32.93	8/30/2016	16:25
BA-U-1	39.95	8/30/2016	10.:11
BA-U-2	34.24	8/30/2016	10:20
BAC-1	40.97	8/30/2016	11:42
BAC-2	52.1	8/30/2016	13:03
BAC-3	51.94	8/30/2016	14:40
BAC-4	35.68	8/30/2016	9:41
BAC-5	32.67	8/30/2016	9:36
BAC-6	29.64	8/30/2016	9:30
BAC-7	31.09	8/30/2016	8:33
WWC-1	22.4	8/30/2016	10:27
WWC-2	22.87	8/30/2016	10:31
WWC-3	17.17	8/30/2016	10:36
WWC-4	18.61	8/30/2016	10:39
WWC-5	19.6	8/30/2016	10:45

CCR Well Levels

Well	Depth	Date	Time
WW-U-1	34.74	11/9/2016	13:36
WW-U-2	24.81	11/9/2016	13:39
SI-U-1	33.74	11/9/2016	13:42
CL-U-1	33.04	11/9/2016	13:56
CL-U-2	38.59	11/9/2016	13:54
CL-W-1	31.89	11/9/2016	14:07
CL-W-2	34.00	11/9/2016	14:10
CL-W-3	32.34	11/9/2016	14:15
CL-W-4	31.43	11/9/2016	14:18
CL-W-5	29.58	11/9/2016	14:19
CL-W-6	29.55	11/9/2016	14:20
CL-W-7	36.20	11/9/2016	14:03
CL-W-8	33.28	11/9/2016	14:06
BA-U-1	40.27	11/9/2016	13:49
BA-U-2	34.59	11/9/2016	13:47
BAC-1	41.51	11/9/2016	10:00
BAC-2	52.61	11/9/2016	10:02
BAC-3	52.10	11/9/2016	10:04
BAC-4	35.98	11/9/2016	14:36
BAC-5	32.90	11/9/2016	14:34
BAC-6	29.81	11/9/2016	14:31
BAC-7	30.92	11/9/2016	14:28
WWC-1	22.27	11/9/2016	13:28
WWC-2	23.22	11/9/2016	13:30
WWC-3	17.43	11/9/2016	13:23
WWC-4	18.88	11/9/2016	13:20
WWC-5	19.85	11/9/2016	13:18

CCR Well Levels

Well	Depth	Date	Time
WW-U-1	33.88	3/30/2017	10:22
WW-U-2	22.19	3/30/2017	10:32
SI-U-1	32.89	3/30/2017	10:39
CL-U-1	31.99	3/30/2017	10:53
CL-U-2	37.56	3/30/2017	10:51
CL-W-1	32.84	3/30/2017	11:58
CL-W-2	32.72	3/30/2017	11:35
CL-W-3	31.08	3/30/2017	11:38
CL-W-4	30.25	3/30/2017	11:40
CL-W-5	28.41	3/30/2017	11:43
CL-W-6	28.40	3/30/2017	11:45
CL-W-7	35.15	3/30/2017	11:50
CL-W-8	32.04	3/30/2017	11:54
BA-U-1	39.29	3/30/2017	10:47
BA-U-2	33.67	3/30/2017	10:43
BAC-1	40.89	3/30/2017	12:23
BAC-2	51.32	3/30/2017	12:28
BAC-3	51.94	3/30/2017	12:33
BAC-4	34.73	3/30/2017	11:09
BAC-5	31.71	3/30/2017	11:07
BAC-6	28.74	3/30/2017	11:03
BAC-7	30.03	3/30/2017	11:01
WWC-1	18.91	3/30/2017	11:22
WWC-2	22.21	3/30/2017	11:27
WWC-3	16.53	3/30/2017	11:17
WWC-4	17.97	3/30/2017	11:20
WWC-5	17.94	3/30/2017	11:22

CCR Well Levels

Well	Depth	Date	Time
WW-U-1	34.70	6/21/2017	8:10
WW-U-2	24.75	6/21/2017	8:19
SI-U-1	33.46	6/21/2017	8:24
CL-U-1	32.13	6/21/2017	8:42
CL-U-2	37.72	6/21/2017	8:38
CL-W-1	30.74	6/21/2017	9:24
CL-W-2	32.35	6/21/2017	9:27
CL-W-3	30.72	6/21/2017	9:29
CL-W-4	29.90	6/21/2017	9:32
CL-W-5	28.06	6/21/2017	9:34
CL-W-6	28.01	6/21/2017	9:36
CL-W-7	35.16	6/21/2017	9:20
CL-W-8	32.21	6/21/2017	9:22
BA-U-1	39.41	6/21/2017	8:32
BA-U-2	33.90	6/21/2017	8:29
BAC-1	41.29	6/21/2017	11:30
BAC-2	50.94	6/21/2017	11:36
BAC-3	51.14	6/21/2017	11:41
BAC-4	34.08	6/21/2017	9:50
BAC-5	30.98	6/21/2017	9:47
BAC-6	28.03	6/21/2017	9:46
BAC-7	29.30	6/21/2017	9:44
WWC-1	21.95	6/21/2017	13:16
WWC-2	22.74	6/21/2017	8:01
WWC-3	17.04	6/21/2017	11:51
WWC-4	18.48	6/21/2017	11:48
WWC-5	19.44	6/21/2017	11:46

CCR Well Levels

Well	Depth	Date	Time
WW-U-1	35.43	10/4/2017	12:47
WW-U-2	25.49	10/5/2017	12:53
SI-U-1	34.28	10/6/2017	12:59
CL-U-1	33.25	10/7/2017	13:13
CL-U-2	38.81	10/8/2017	13:10
CL-W-1	31.80	10/9/2017	13:31
CL-W-2	33.60	10/10/2017	13:27
CL-W-3	31.93	10/11/2017	13:35
CL-W-4	31.09	10/12/2017	13:23
CL-W-5	29.26	10/13/2017	13:20
CL-W-6	29.26	10/14/2017	13:19
CL-W-7	36.23	10/15/2017	13:34
CL-W-8	33.28	10/16/2017	13:32
BA-U-1	40.42	10/17/2017	13:05
BA-U-2	34.85	10/18/2017	13:04
BAC-1	41.78	10/19/2017	13:16
BAC-2	52.03	10/20/2017	13:11
BAC-3	52.31	10/21/2017	13:07
BAC-4	35.29	10/22/2017	13:18
BAC-5	32.19	10/23/2017	13:22
BAC-6	29.24	10/24/2017	13:27
BAC-7	30.48	10/25/2017	13:33
WWC-1	22.69	10/26/2017	9:42
WWC-2	23.51	10/27/2017	13:43
WWC-3	17.80	10/28/2017	13:44
WWC-4	19.27	10/29/2017	13:42
WWC-5	20.26	10/30/2017	13:40

CCR Well Levels

Well	Depth	Date
WW-U-1	36.14	3/26/2018
WW-U-2	25.79	3/26/2018
SI-U-1	34.04	3/26/2018
CL-U-1	32.64	3/26/2018
CL-U-2	38.22	3/26/2018
CL-W-1	31.73	3/26/2018
CL-W-2	33.49	3/26/2018
CL-W-3	31.73	3/26/2018
CL-W-4	30.94	3/26/2018
CL-W-5	29.00	3/26/2018
CL-W-6	28.96	3/26/2018
CL-W-7	35.99	3/26/2018
CL-W-8	33.11	3/26/2018
BA-U-1	40.28	3/26/2018
BA-U-2	34.74	3/26/2018
BAC-1	42.05	3/26/2018
BAC-2	34.62	3/26/2018
BAC-3	52.76	3/26/2018
BAC-4	35.82	3/26/2018
BAC-5	33.28	3/26/2018
BAC-6	30.53	3/26/2018
BAC-7	31.88	3/26/2018
WWC-1	22.56	3/26/2018
WWC-2	23.31	3/26/2018
WWC-3	17.55	3/26/2018
WWC-4	19.04	3/26/2018
WWC-5	20.08	3/26/2018

CCR Well Levels

Well	Depth	Date
WW-U-1	36.20	6/13/2018
WW-U-2	25.95	6/13/2018
SI-U-1	34.27	6/13/2018
CL-U-1	32.83	6/13/2018
CL-U-2	38.42	6/13/2018
CL-W-1	31.92	6/13/2018
CL-W-2	33.53	6/13/2018
CL-W-3	31.72	6/13/2018
CL-W-4	30.79	6/13/2018
CL-W-5	28.95	6/13/2018
CL-W-6	29.12	6/13/2018
CL-W-7	36.19	6/13/2018
CL-W-8	33.31	6/13/2018
BA-U-1	40.54	6/13/2018
BA-U-2	35.00	6/13/2018
BAC-1	42.29	6/13/2018
BAC-2	52.68	6/13/2018
BAC-3	53.92	6/13/2018
BAC-4	35.83	6/13/2018
BAC-5	33.32	6/13/2018
BAC-6	30.52	6/13/2018
BAC-7	31.83	6/13/2018
WWC-1	22.89	6/13/2018
WWC-2	23.64	6/13/2018
WWC-3	17.92	6/13/2018
WWC-4	19.34	6/13/2018
WWC-5	20.19	6/13/2018

CCR Well Levels

Well	Depth	Date
WW-U-1	36.74	10/24/2018
WW-U-2	26.65	10/24/2018
SI-U-1	35.25	10/24/2018
CL-U-1	34.43	10/24/2018
CL-U-2	40.02	10/24/2018
CL-W-1	33.69	10/24/2018
CL-W-2	35.53	10/24/2018
CL-W-3	33.67	10/24/2018
CL-W-4	32.74	10/24/2018
CL-W-5	30.84	10/24/2018
CL-W-6	30.79	10/24/2018
CL-W-7	37.82	10/24/2018
CL-W-8	35.01	10/24/2018
BA-U-1	42.07	10/24/2018
BA-U-2	36.40	10/24/2018
BAC-1	43.46	10/24/2018
BAC-2	54.24	10/24/2018
BAC-3	54.22	10/24/2018
BAC-4	35.66	10/24/2018
BAC-5	35.70	10/24/2018
BAC-6	33.22	10/24/2018
BAC-7	34.85	10/24/2018
WWC-1	23.70	10/24/2018
WWC-2	24.48	10/24/2018
WWC-3	18.74	10/24/2018
WWC-4	20.22	10/24/2018
WWC-5	21.23	10/24/2018

Original CCR Wells
Appendix III and IV Constituents
America West COC #1

CCR Wells	Level	Date
WW-U-1	35.34	5/20/19
WW-U-2	25.90	5/20/19
SI-U-1	34.60	5/20/19
CL-U-1	33.35	5/20/19
CL-U-2	38.93	5/20/19
CL-W-1	32.93	5/20/19
CL-W-2	34.76	5/20/19
CL-W-3	32.86	5/20/19
CL-W-4	31.89	5/20/19
CL-W-5	29.99	5/20/19
CL-W-6	29.91	5/20/19
CL-W-7	36.94	5/20/19
CL-W-8	34.18	5/20/19
BA-U-1	41.22	5/20/19
BA-U-2	35.55	5/20/19
BAC-1	43.02	5/20/19
BAC-2	54.19	5/20/19
BAC-3	54.69	5/20/19
BAC-4	37.62	5/20/19
BAC-5	35.66	5/20/19
BAC-6	33.08	5/20/19
BAC-7	34.69	5/20/19
WWC-1	22.95	5/20/19
WWC-2	24.70	5/20/19
WWC-3	18.01	5/20/19
WWC-4	19.47	5/20/19
WWC-5	20.47	5/20/19

CCR New Wells
Appendix III and IV Constituents
America West COC #2

Investigative W	Level	Date
RW-4	19.85	5/20/19
RW-5	45.41	5/20/19
RW-7	13.80	5/20/19
WDB-19	28.00	5/20/19

New CCR Wells
Appendix III and IV Constituents
America West COC #1

Investigative W	Level	Date
CLW-9	18.37	5/20/19
WWC-6	35.74	5/20/19
WWC-7	17.47	5/20/19
WWC-8	27.06	5/20/19
WWC-9	23.80	5/20/19
WWC-10	17.80	5/20/19
BAC-8	45.65	5/20/19
BAC-9	46.70	5/20/19
BAC-10	47.21	5/20/19
CLU-3	41.49	5/20/19

Appendix IV - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226 and 228 combined

State Discharge Permit Wells
Chemtech COC #3

(All Constituents* - TDS)	Level	Date
WR-101	54.61	5/20/19
WR-102	44.76	5/20/19
WR-103	47.30	5/20/19
EP-W-19	32.61	5/20/19

(TBS/Boron)	Level	Date
RW-6	44.17	5/20/19
RW-9	42.91	5/20/19
WDB-7	41.72	5/20/19
EP-W-23	30.71	5/20/19
EP-W-27	28.92	5/20/19
WDB-19	28.00	5/20/19

* TDS, Boron, Chloride, Sulfate, Alkalinity, Sodium, Magnesium, Potassium, Calcium

Corrective Action Plan Well
Chemtech COC #4

(TDS)	Level	Date
RW-5	45.41	5/20/19

Appendix III - Boron, Calcium, Chloride, Fluoride, pH, Sulfate, TDS

Original CCR Wells
Appendix III and IV Constituents
America West COC #1

CCR Wells	Level	Date
WW-U-1	35.91	10/17/19
WW-U-2	26.64	10/17/19
SI-U-1	35.35	10/17/19
CL-U-1	34.52	10/17/19
CL-U-2	40.08	10/17/19
CL-W-1	33.81	10/17/19
CL-W-2	35.70	10/17/19
CL-W-3	33.85	10/17/19
CL-W-4	32.90	10/17/19
CL-W-5	31.02	10/17/19
CL-W-6	30.99	10/17/19
CL-W-7	37.98	10/17/19
CL-W-8	35.11	10/17/19
BA-U-1	42.09	10/17/19
BA-U-2	36.42	10/17/19
BAC-1	43.71	10/17/19
BAC-2	54.62	10/17/19
BAC-3	55.01	10/17/19
BAC-4	38.14	10/17/19
BAC-5	36.01	10/17/19
BAC-6	33.01	10/17/19
BAC-7	35.06	10/17/19
WWC-1	23.81	10/17/19
WWC-2	24.61	10/17/19
WWC-3	18.90	10/17/19
WWC-4	20.37	10/17/19
WWC-5	21.37	10/17/19

CCR New Wells
Appendix III and IV Constituents
America West COC #2

Investigative W	Level	Date
RW-4	20.69	10/17/19
RW-5	46.31	10/17/19
RW-7	14.74	10/17/19
WDB-19	29.11	10/17/19

New CCR Wells
Appendix III and IV Constituents
America West COC #1

Investigative W	Level	Date
CLW-9	36.97	10/17/19
WWC-6	19.57	10/17/19
WWC-7	19.20	10/17/19
WWC-8	28.15	10/17/19
WWC-9	24.86	10/17/19
WWC-10	19.40	10/17/19
BAC-8	46.07	10/17/19
BAC-9	47.18	10/17/19
BAC-10	47.80	10/17/19
CLU-3	42.49	10/17/19

Appendix IV - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226 and 228 combined

State Discharge Permit Wells
Chemtech COC #3

(All Constituents* - TDS)	Level	Date
WR-101	54.60	10/17/19
WR-102	43.14	10/17/19
WR-103	45.40	10/17/19
EP-W-19	33.52	10/17/19

(TBS/Boron)	Level	Date
RW-6	44.69	10/17/19
RW-9	43.16	10/17/19
WDB-7	42.55	10/17/19
EP-W-23	31.66	10/17/19
EP-W-27	29.89	10/17/19
WDB-19	29.11	10/17/19

* TDS, Boron, Chloride, Sulfate, Alkalinity, Sodium, Magnesium, Potassium, Calcium

Corrective Action Plan Well
Chemtech COC #4

(TDS)	Level	Date
RW-5	46.31	10/17/19

Appendix III - Boron, Calcium, Chloride, Fluoride, pH, Sulfate, TDS

	Level	Date
WW-U-1	30.42	3/23/2020
WW-U-2	22.31	3/23/2020
SI-U-1	33.78	3/23/2020
CL-U-1	33.46	3/23/2020
CL-U-2	38.92	3/23/2020
CL-W-1	32.75	3/23/2020
CL-W-2	34.71	3/23/2020
CL-W-3	32.87	3/23/2020
CL-W-4	31.99	3/23/2020
CL-W-5	30.09	3/23/2020
CL-W-6	30.08	3/23/2020
CL-W-7	36.70	3/23/2020
CL-W-8	33.95	3/23/2020
BA-U-1	40.76	3/23/2020
BA-U-2	34.81	3/23/2020
BAC-1	41.89	3/23/2020
BAC-2	53.88	3/23/2020
BAC-3	54.42	3/23/2020
BAC-4	37.21	3/23/2020
BAC-5	35.05	3/23/2020
BAC-6	32.35	3/23/2020
BAC-7	33.95	3/23/2020
WWC-1	22.85	3/23/2020
WWC-2	23.80	3/23/2020
WWC-3	18.02	3/23/2020
WWC-4	19.42	3/23/2020
WWC-5	20.39	3/23/2020
CLW-9	36.13	3/23/2020
WWC-6	18.48	3/23/2020
WWC-7	17.68	3/23/2020
WWC-8	27.11	3/23/2020
WWC-9	23.98	3/23/2020
WWC-10	17.92	3/23/2020
WWC-11	22.01	3/23/2020
WWC-12	19.59	3/23/2020
WWC-13	18.66	3/23/2020
BAC-8	46.08	3/23/2020
BAC-9	47.08	3/23/2020
BAC-10	47.60	3/23/2020
BAC-11	47.73	3/23/2020
BAC-12	48.07	3/23/2020
BAC-13	45.11	3/23/2020
BAC-14	46.62	3/23/2020
BAC-15	45.92	3/23/2020
BAC-16	47.19	3/23/2020
BAC-17	45.33	3/23/2020
CLU-3	41.32	3/23/2020
RW-4	19.80	3/23/2020
RW-5	45.88	3/23/2020
RW-7	14.01	3/23/2020
WDB-19	28.19	3/23/2020
RW-1		3/23/2020
EPW-15	43.84	3/23/2020

Well Levels Recorded on 10/20/20

CCR Wells	Level
WW-U-1	35.28
WW-U-2	25.96
SI-U-1	35.19
CL-U-1	35.06
CL-U-2	40.63
CL-U-3	42.93
CL-W-1	34.22
CL-W-2	36.27
CL-W-3	34.42
CL-W-4	33.48
CL-W-5	31.62
CL-W-6	31.61
CL-W-7	38.26
CL-W-8	35.51
*CL-W-9	37.75
BA-U-1	42.35
BA-U-2	36.54
BAC-1	43.54
BAC-2	55.01
BAC-3	55.36
BAC-4	38.61
BAC-5	36.36
BAC-6	33.72
BAC-7	35.26
WWC-1	23.98
WWC-2	24.79
WWC-3	19.12
WWC-4	20.57
WWC-5	21.58
BAC-8	46.50
BAC-9	47.62
BAC-10	48.29
BAC-11	48.82
BAC-12	49.18
BAC-13	45.95
BAC-14	47.21
BAC-15	46.34
BAC-16	47.66
BAC-17	46.43
BAC-18	45.05
BAC-19	41.31
BAC-20	42.90
BAC-21	44.74
BAC-22	45.10
BAC-23	44.60
BAC-24	44.35
BAC-25	44.49
BAC-26	48.43
BAC-27	47.85
BAC-28	45.42
BAC-29	44.86
BAC-30	44.71
BAC-31	44.34
BAC-32	48.31
BAC-33	48.14
BAC-34	48.22
BAC-35	48.08
BAC-36	44.73
BAC-37	43.67
BAC-38	42.82
WWC-6	19.84
WWC-7	20.22
WWC-8	28.57
WWC-9	25.34
WWC-10	19.57
WWC-11	23.28
WWC-12	20.97
WWC-13	20.13
WWC-14	18.90
WWC-15	21.19
WWC-16	19.52
WWC-17	24.62
RW-3	38.71
RW-4	20.84
RW-5	46.95
RW-7	15.10
RW-8	43.97
EPW-15	44.53
WDB-5	45.33
WDB-17	40.46

Round 1 Detection Monitoring - December 2-10, 2015

Round 1

Table with columns for Landfill Wells (CLW-1 to CLW-8) and Results (Boron, Calcium, Chloride, Fluoride, pH, Sulfate, TDS, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226, Radium 228, Radium 226 and 228 combined).

Table with columns for Landfill Wells (CLW-1 to CLW-8) and Field Results (Temp, pH, REDOX, Conductance, Turbidity (NTUs), DO, TDS).

Table with columns for Bottom Ash (BA-U-1 to BA-U-2, BAC-1 to BAC-7) and Results (Boron, Calcium, Chloride, Fluoride, pH, Sulfate, TDS, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226, Radium 228, Radium 226 and 228 combined).

Table with columns for Bottom Ash (BA-U-1 to BA-U-2, BAC-1 to BAC-7) and Field Results (Temp, pH, REDOX, Conductance, Turbidity (NTUs), DO, TDS).

Table with columns for Waste Water (SI-U-1, WW-U-1, WW-U-2, WWC-1 to WWC-5) and Results (Boron, Calcium, Chloride, Fluoride, pH, Sulfate, TDS, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226, Radium 228, Radium 226 and 228 combined).

Table with columns for Waste Water (SI-U-1, WW-U-1, WW-U-2, WWC-1 to WWC-5) and Field Results (Temp, pH, REDOX, Conductance, Turbidity (NTUs), DO, TDS).

Round 2 Detection Monitoring - February 23-March 8, 2016

Landfill Wells	Results																						Field Results							
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
CL-U-1	< 0.500	47.7	391	0.839	8.52	123	908	<0.00200	0.0415	0.0953	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.401	<0.000150	0.00733	<0.00200	<0.00200	0.27	1.6	1.87	14.18	8.74	-209	1750	4.3	2.15	1.12
CL-U-2	< 0.500	59.9	372	0.873	7.75	119	940	<0.00200	0.0243	0.0934	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.387	<0.000150	0.00414	<0.00200	<0.00200	0.28	1	1.28	14.41	7.75	-89	1820	4.6	1.85	1.17
CLW-1	< 0.500	35.1	301	0.834	7.89	71.6	808	<0.00200	0.0266	0.0648	<0.00200	<0.000500	0.00235	<0.00400	<0.00200	0.361	<0.000150	0.00506	<0.00200	<0.00200	0.36	1.5	1.86	15.84	7.95	-60	1560	3.8	1.4	0.996
CLW-2	< 0.500	45.9	378	1.18	7.66	90.5	936	<0.00200	0.0243	0.0882	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.438	<0.000150	0.00481	<0.00200	<0.00200	0.51	0.53	1.04	17.53	7.81	-137	1840	2	9.35	1.17
CLW-3	< 0.500	40.5	336	1.35	7.92	96	884	<0.00200	0.0437	0.103	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.435	<0.000150	0.0049	<0.00200	<0.00200	0.47	1.1	1.57	14.99	7.87	-203	1710	0	3.96	1.09
CLW-4	< 0.500	32.1	282	1.53	7.87	80.9	776	<0.00200	0.0271	0.109	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.375	<0.000150	0.00762	<0.00200	<0.00200	0.37	0.7	1.07	17.08	7.81	-211	1490	11.5	1.82	0.955
CLW-5	< 0.500	35.4	318	1.82	7.91	85.7	824	<0.00200	0.0214	0.0869	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.411	<0.000150	0.00922	<0.00200	<0.00200	0.27	0.32	0.59	17.06	7.82	-168	1650	10.9	8.45	1.06
CLW-6	< 0.500	32.1	306	1.72	7.97	75.4	816	<0.00200	0.0246	0.095	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.4	<0.000150	0.0117	<0.00200	<0.00200	0.02	0.96	0.98	15.83	7.91	-194	1600	6.2	0.95	1.02
CLW-7	< 0.500	42.8	290	0.825	7.65	67.6	832	<0.00200	0.0239	0.0794	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.327	<0.000150	0.146	<0.00200	<0.00200	0.14	0.29	0.43	16.53	7.75	9	1560	3.5	2.67	0.996
CLW-8	< 0.500	41.5	293	0.782	7.8	70.3	808	<0.00200	0.022	0.0839	<0.00200	<0.000500	0.00224	<0.00400	<0.00200	0.35	<0.000150	0.00499	<0.00200	<0.00200	0.32	0.32	0.64	15.86	7.81	-25	1560	8	1.92	0.996

Bottom Ash	Results																						Field Results							
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
BA-U-1	< 0.500	28.7	258	1.67	8.55	64.2	852	<0.00200	0.023	0.0969	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.376	<0.000150	0.0359	<0.00200	<0.00200	0.33	1.3	1.63	13.53	8.63	5	1550	11.3	2.59	0.995
BA-U-2	< 0.500	67.4	529	0.938	8.02	55.7	1230	<0.00200	0.0199	0.175	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.514	<0.000150	0.00298	<0.00200	<0.00200	0.2	1	1.2	15.78	7.94	-167	2240	19.7	1.06	1.44
BAC-1	2.85	155	1730	<0.100	7.86	1390	5240	<0.00200	0.0174	0.39	<0.00200	<0.000500	0.00536	<0.00400	<0.00200	0.63	<0.000150	0.0607	0.0131	<0.00200	0.96	1.6	2.56	17.51	8.16	39	6.5	10.7	3	4.11
BAC-2	9.83	196	1600	<0.100	7.35	2900	7640	<0.00200	0.0411	0.0385	<0.00200	<0.000500	0.00742	<0.00400	0.00221	1.22	<0.000150	0.167	0.0128	<0.00200	0.4	2.5	2.9	16.74	7.2	322	9.96	3.2	2.59	6.26
BAC-3	6.55	406	3240	<0.100	7.62	3960	10400	<0.00200	0.0192	0.0553	<0.00200	<0.000500	0.00676	<0.00400	<0.00200	1.12	<0.000150	0.0337	0.0184	<0.00200	0.44	0.68	1.12	14.4	7.36	29	1590	3.8	3.35	9.84
BAC-4	< 0.500	57.4	488	1.36	7.87	191	1290	<0.00200	0.0371	0.0806	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.532	<0.000150	0.0106	<0.00200	<0.00200	0.48	0.5	0.98	15.9	7.81	-55	2370	3.9	2.08	1.51
BAC-5	< 0.500	41.3	433	1.34	7.95	111	1010	<0.00200	0.0392	0.0736	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.476	<0.000150	0.00758	<0.00200	<0.00200	0.25	-0.03	0.22	16.34	7.92	-23	1980	4	2.89	1.27
BAC-6	2.67	98.4	491	0.734	7.72	636	1880	<0.00200	0.0144	0.0736	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.597	<0.000150	0.0569	<0.00200	<0.00200	0.61	0.6	1.21	18.19	7.67	-8	2.94	0	1.73	1.88
BAC-7	4.43	132	623	1.07	7.89	1230	2980	<0.00200	0.0225	0.0372	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.699	<0.000150	0.0681	0.00274	<0.00200	0.16	0.51	0.67	14.22	7.9	-9	4560	3.9	2.46	2.92

Waste Water	Results																						Field Results							
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
SI-U-1	< 0.500	168	752	0.557	7.65	665	2320	<0.00200	0.00781	0.0846	<0.00200	<0.000500	0.00346	<0.00400	<0.00200	0.634	<0.000150	0.00671	<0.00200	<0.00200	0.43	-0.16	0.27	12.99	7.49	11	3790	7.4	1.37	2.42
WW-U-1	1.03	346	2430	<0.100	7.23	1440	5330	<0.00200	0.00446	0.123	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	1.33	<0.000150	0.00669	0.00432	<0.00200	1	2.2	3.2	15.75	7.21	-117	8030	19.6	4.07	5.06
WW-U-2	1.59	362	2410	<0.100	7.34	1370	5780	<0.00200	0.00846	0.0761	<0.00200	<0.000500	0.00735	<0.00400	<0.00200	1.35	<0.000150	0.0126	0.0108	<0.00200	0.51	1.2	1.71	14.5	7.34	-22	9240	12.9	2.4	5.82
WWC-1	6.01	458	4530	0.256	7.24	2710	10800	<0.00200	0.00331	0.072	<0.00200	<0.000500	0.00369	0.00842	<0.00200	1.08	<0.000150	0.0103	0.00919	<0.00200	0.91	1.6	2.51	15.29	7.11	-108	1400	11.8	7.82	8.62
WWC-2	< 0.500	61.3	352	0.208	7.97	131	932	<0.00200	0.0147	0.0421	<0.00200	<0.000500	0.00335	<0.00400	<0.00200	0.162	<0.000150	0.00391	<0.00200	<0.00200	0.18	1	1.18	14.19	7.75	-86	1720	9.1	2.37	1.1
WWC-3	< 0.500	29.2	203	0.845	8.2	78.5	660	<0.00200	0.021	0.0357	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.172	<0.000150	0.00593	<0.00200	<0.00200	0.16	0.52	0.68	15.63	8.1	-183	1190	2	1.36	0.759
WWC-4	0.826	185	1100	0.39	7.31	716	3100	<0.00200	0.00923	0.101	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.75	<0.000150	0.00783	<0.00200	<0.00200	0.6	0.84	1.44	15.58	7.37	-8	5004	4.7	1.61	3.18
WWC-5	1.59	320	1640	0.319	7.22	1210	4790	<0.00200	0.00371	0.0882	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	1.41	<0.000150	0.0205	0.00345	<0.00200	0.52	1.9	2.42	15	7.22	19	7510	6.4	2	4.75

Date: 2/29/2016

Round 3 Detection Monitoring - June 6-15, 2016

Landfill Wells	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
	CL-U-1	< 0.500	51.2	414	1.01	7.83	122	1080	<0.00200	0.0507	0.0887	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.378	<0.000150	0.00491	<0.00200	<0.00200	0.11	0.72
CL-U-2	< 0.500	53.7	390	1.14	7.75	121	976	<0.00200	0.0245	0.0933	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.346	<0.000150	0.00391	<0.00200	<0.00200	0.26	1.5	1.76
CLW-1	< 0.500	34.6	312	1.13	7.9	70.1	716	<0.00200	0.0285	0.0621	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.318	<0.000150	0.00438	<0.00200	<0.00200	0.28	0.89	1.17
CLW-2	< 0.500	43.9	402	1.21	7.84	87.9	976	<0.00200	0.0264	0.0819	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.396	<0.000150	0.00427	<0.00200	<0.00200	0.25	1.1	1.35
CLW-3	< 0.500	36.2	346	1.3	7.86	104	876	<0.00200	0.0402	0.0992	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.375	<0.000150	0.00463	<0.00200	<0.00200	0.35	1.2	1.55
CLW-4	< 0.500	30.6	294	1.58	7.79	77.9	748	<0.00200	0.0196	0.119	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.338	<0.000150	0.0092	<0.00200	<0.00200	0.45	0.72	1.17
CLW-5	< 0.500	33	336	1.81	7.86	84.9	848	<0.00200	0.0182	0.0851	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.352	<0.000150	0.00868	<0.00200	<0.00200	0.27	0.65	0.92
CLW-6	< 0.500	29.8	313	1.73	7.9	73.2	756	<0.00200	0.0181	0.0901	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.333	<0.000150	0.0105	<0.00200	<0.00200	0.34	1.4	1.74
CLW-7	< 0.500	39.3	328	1.16	7.64	67.4	732	<0.00200	0.0246	0.0581	<0.00200	<0.000500	0.00891	<0.00400	<0.00200	0.331	<0.000150	0.00638	<0.00200	<0.00200	0.19	0.55	0.74
CLW-8	< 0.500	40.3	312	1.08	7.82	69.7	808	<0.00200	0.0225	0.0797	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.32	<0.000150	0.00435	<0.00200	<0.00200	0.27	0.32	0.59

Round 3

Landfill Wells	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
	CL-U-1	18.94	8.04	-204	1910	22.6	1.2
CL-U-2	18.47	7.7	-136	1900	1	2.72	1.22
CLW-1	23.71	7.77	62	1550	0	1.34	0.99
CLW-2	22.15	7.66	-169	1840	0	1.31	1.17
CLW-3	20.8	7.71	-225	1720	0.8	1.8	1.1
CLW-4	19.51	7.8	-235	1480	0	4.39	0.95
CLW-5	21.24	7.77	-209	1570	11.5	4.22	1.01
CLW-6	18.81	7.87	-235	1600	0	1.7	1.02
CLW-7	16.73	7.62	66	1580	8.9	3.82	1.01
CLW-8	20.93	7.66	55	1510	0	12.58	0.966

Bottom Ash	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
	BA-U-1	< 0.500	195	1130	0.801	7.63	339	2520	<0.00200	0.0177	0.0935	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.773	<0.000150	0.00317	0.00426	<0.00200	0.3	1.6
BA-U-2	< 0.500	15.9	284	0.865	12	40.6	720	<0.00200	<0.00200	0.128	<0.00200	<0.000500	0.0032	<0.00400	<0.00200	0.315	<0.000150	0.016	<0.00200	<0.00200	0.22	1.5	1.72
BAC-1	4.73	191	2240	0.402	7.59	1840	6420	<0.00200	0.0164	0.081	<0.00200	<0.000500	0.0033	<0.00400	<0.00200	1.3	<0.000150	0.0669	0.0168	<0.00200	0.51	1.3	1.81
BAC-2	11.2	216	1650	0.986	7.17	3220	7520	<0.00200	0.0416	0.0248	<0.00200	<0.000500	0.00488	<0.00400	<0.00200	1.32	<0.000150	0.14	0.0142	<0.00200	0.17	1.6	1.77
BAC-3	6.82	445	3230	0.794	7.42	4490	10900	<0.00200	0.0158	0.048	<0.00200	<0.000500	0.00707	<0.00400	<0.00200	2.53	<0.000150	0.0269	0.0198	<0.00200	0.25	1.6	1.85
BAC-4	< 0.500	66.1	551	1.38	7.73	223	1280	<0.00200	0.0334	0.0772	<0.00200	<0.000500	0.00461	<0.00400	<0.00200	0.509	<0.000150	0.0122	<0.00200	<0.00200	0.16	0.68	0.84
BAC-5	< 0.500	50.4	541	1.26	7.79	122	1220	<0.00200	0.0337	0.0839	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.494	<0.000150	0.00738	<0.00200	<0.00200	0.11	1.7	1.81
BAC-6	1.7	89.5	521	1.04	7.72	448	1560	<0.00200	0.0122	0.0859	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.542	<0.000150	0.0359	<0.00200	<0.00200	0.27	0.76	1.03
BAC-7	4.51	132	685	1.31	7.69	1370	2870	<0.00200	0.0234	0.0315	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.674	<0.000150	0.0749	0.00319	<0.00200	0.17	2.4	2.57

Bottom Ash	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
	BA-U-1	18.51	7.48	-114	4730	4.9	1.73
BA-U-2	20.17	11.9	-206	1980	5.1	4.04	1.26
BAC-1	20.91	7.43	-5	10.3	33.2	3.43	6.41
BAC-2	19.81	7.01	33	11.6	2	0.69	7.18
BAC-3	18.81	7.19	16	16.6	2.6	1.26	10.3
BAC-4	18.21	7.71	83	2490	2.6	3.05	1.59
BAC-5	18.58	7.75	51	2260	0	1320	1.45
BAC-6	20.42	7.7	50	2740	0.4	21.84	1.75
BAC-7	21.43	7.63	-7	4510	8	15.04	2.89

Waste Water	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
	SI-U-1	< 0.500	129	901	0.564	7.6	318	1880	<0.00200	0.00989	0.0929	<0.00200	<0.000500	0.0156	<0.00400	<0.00200	0.499	<0.000150	0.00411	<0.00200	<0.00200	0.45	0.64
WW-U-1	1.18	296	2030	0.386	7.21	1300	5820	<0.00200	0.0052	0.115	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	1	<0.000150	0.00888	0.00637	<0.00200	0.64	0.92	1.56
WW-U-2	1.49	412	2300	0.534	7.33	1180	5400	<0.00200	0.00538	0.0746	<0.00200	<0.000500	0.0114	<0.00400	<0.00200	1.08	<0.000150	0.0126	0.0107	<0.00200	0.64	1.1	1.74
WWC-1	3.59	526	3950	<0.100	7.12	1990	8820	<0.00200	0.00401	0.077	<0.00200	<0.000500	<0.00200	0.00532	<0.00200	2.18	<0.000150	0.00653	0.00824	<0.00200	0.47	2	2.47
WWC-2	< 0.500	59.1	369	0.833	7.79	145	956	<0.00200	0.0151	0.0408	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.225	<0.000150	0.00402	<0.00200	<0.00200	0.22	0.39	0.61
WWC-3	< 0.500	26.4	197	1.02	8.12	85.6	664	<0.00200	0.0213	0.0328	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.23	<0.000150	0.00574	<0.00200	<0.00200	0.13	3.3	3.43
WWC-4	0.627	138	902	0.576	7.57	406	2010	<0.00200	0.00498	0.0768	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.606	<0.000150	0.0082	<0.00200	<0.00200	0.27	1.7	1.97
WWC-5	1.65	406	1730	0.3	7.24	1140	5060	<0.00200	0.00608	0.067	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	1.4	<0.000150	0.0119	0.00363	<0.00200	0.42	0.85	1.27

Waste Water	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
	SI-U-1	18	7.54	-69	3350	0.3	8.11
WW-U-1	22.73	7.15	34	7560	0	4.74	4.76
WW-U-2	18.42	7.25	-66	8820	25.9	1.6	5.56
WWC-1	18.38	6.9	62	14.7	1.6	1.86	9.13
WWC-2	18.22	7.74	-101	1.74	1.9	5.2	1.12
WWC-3	16.62	7.99	-168	1.2	0	0.59	0.765
WWC-4	16.85	7.43	-8	3.63	1.2	0.85	2.32
WWC-5	17.35	7.01	15	7.44	1	0.78	4.69

Date: 6/13/2016

Round 4 Detection Monitoring - August 22-September 1, 2016

Landfill Wells	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
CL-U-1	<0.500	54.8	424	1.03	7.63	124	1030	<0.00200	0.0301	0.0911	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.375	<0.000150	0.00428	<0.00200	<0.00200	Radium 226	Radium 228	0.8
CL-U-2	<0.500	57.7	406	1.17	7.69	113	948	<0.00200	0.0265	0.0961	<0.00200	<0.000500	0.00227	<0.00400	<0.00200	0.351	<0.000150	0.00508	<0.00200	<0.00200	0.31	1.1	1.41
CLW-1	<0.500	35	315	1.18	7.89	65.4	832	<0.00200	0.0279	0.0594	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.316	<0.000150	0.00454	<0.00200	<0.00200	0.52	0.86	1.38
CLW-2	<0.500	46.8	424	1.29	7.75	89.2	992	<0.00200	0.0284	0.0823	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.391	<0.000150	0.00462	<0.00200	<0.00200	0.31	0.62	0.93
CLW-3	<0.500	38.7	349	1.33	7.75	109	896	<0.00200	0.0412	0.0995	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.368	<0.000150	0.00472	<0.00200	<0.00200	0.3	0.15	0.45
CLW-4	<0.500	32.1	318	1.53	7.81	84.5	808	<0.00200	0.0316	0.104	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.336	<0.000150	0.00577	<0.00200	<0.00200	0.39	0.62	1.01
CLW-5	<0.500	34.3	350	1.83	7.75	92.1	860	<0.00200	0.0189	0.0803	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.346	<0.000150	0.00798	<0.00200	<0.00200	0.24	0.27	0.51
CLW-6	<0.500	31.5	331	1.73	7.84	77.1	812	<0.00200	0.0164	0.0966	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.342	<0.000150	0.011	<0.00200	<0.00200	0.2	1	1.2
CLW-7	<0.500	42.1	336	1.1	7.71	70	760	<0.00200	0.024	0.0529	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.302	<0.000150	0.00396	<0.00200	<0.00200	0.17	0.33	0.5
CLW-8	<0.500	40.1	327	1.08	7.73	75	720	<0.00200	0.0224	0.0761	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.308	<0.000150	0.00459	<0.00200	<0.00200	0.35	1	1.35

Landfill Wells	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
CL-U-1	17.53	7.66	-180	1.84	4.1	1.72	1.18
CL-U-2	19.27	7.65	-151	1.81	0	9.25	1.16
CLW-1	18.96	7.85	34	1.55	0	5.66	0.992
CLW-2	19.41	7.7	-177	1.81	0	10.68	1.16
CLW-3	19.1	7.74	-225	1.66	0	10.74	1.07
CLW-4	21.52	7.8	-244	1.54	0	5.07	0.985
CLW-5	20.36	7.74	-195	1.67	45.2	9.17	1.07
CLW-6	18.53	7.79	-235	1.61	0	4.22	1.03
CLW-7	19.86	7.62	-71	1.57	0.01	12.06	1.01
CLW-8	20.81	7.7	-78	1.53	0	5.02	0.976

Bottom Ash	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
BA-U-1	<0.500	180	1170	0.888	7.62	327	2390	<0.00200	0.0191	0.0802	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.684	<0.000150	0.00386	0.00384	<0.00200	0.45	0.84	1.29
BA-U-2	<0.500	10.4	317	0.975	11.8	39.9	748	<0.00200	0.00225	0.114	<0.00200	<0.000500	0.00216	<0.00400	<0.00200	0.337	<0.000150	0.0147	<0.00200	<0.00200	0.26	1.1	1.36
BAC-1	4.95	221	2520	0.401	7.52	2380	7210	<0.00200	0.0146	0.0643	<0.00200	<0.000500	0.0028	<0.00400	<0.00200	1.42	<0.000150	0.0603	0.0148	<0.00200	0.63	0.64	1.27
BAC-2	10.5	203	1640	1.03	7.22	3180	7620	<0.00200	0.0431	0.0237	<0.00200	<0.000500	0.0081	<0.00400	<0.00200	1.17	<0.000150	0.166	0.0136	<0.00200	0.33	0.23	0.56
BAC-3	6.77	399	3350	1.28	7.36	4630	11700	<0.00200	0.0213	0.0436	<0.00200	<0.000500	0.00386	<0.00400	<0.00200	2.37	<0.000150	0.0294	0.019	<0.00200	0.38	0.76	1.14
BAC-4	<0.500	56.1	498	1.35	7.62	210	1460	<0.00200	0.0358	0.0757	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.508	<0.000150	0.0103	<0.00200	<0.00200	0.19	0.83	1.02
BAC-5	<0.500	49.4	561	1.25	7.68	127	1200	<0.00200	0.0331	0.0879	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.538	<0.000150	0.0077	<0.00200	<0.00200	0.1	0.46	0.56
BAC-6	1.38	80.2	546	0.901	7.61	502	1540	<0.00200	0.0115	0.0781	<0.00200	0.000677	0.00283	<0.00400	<0.00200	0.54	<0.000150	0.034	<0.00200	<0.00200	0.31	0.24	0.55
BAC-7	3.96	126	612	1.28	7.68	1370	2770	<0.00200	0.0232	0.0274	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.669	<0.000150	0.0942	0.00257	<0.00200	0.37	-0.17	0.2

Bottom Ash	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
BA-U-1	20.11	7.46	-160	4.24	0	3.38	2.72
BA-U-2	17.77	11.83	-224	2.11	9.1	8.94	1.35
BAC-1	22.39	7.33	10	11.8	8.7	2.54	7.3
BAC-2	21.36	7.04	0	10200	0	2.17	6.33
BAC-3	22.52	7.22	34	15.4	0	2.18	9.58
BAC-4	19.45	7.62	-94	2350	0	11.45	1.51
BAC-5	19.21	7.62	-96	2340	0	10.71	1.5
BAC-6	19.95	7.59	9	2650	0	24.99	1.7
BAC-7	19.38	7.56	-77	4270	0	2.75	2.73

Waste Water	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
SI-U-1	<0.500	131	922	0.564	7.57	281	1880	<0.00200	0.00926	0.0858	<0.00200	<0.000500	0.00217	<0.00400	<0.00200	0.467	<0.000150	0.00295	<0.00200	<0.00200	0.45	0.96	1.41
WW-U-1	1.25	304	2200	0.327	7.21	1280	5270	<0.00200	0.00439	0.0916	<0.00200	<0.000500	0.00337	<0.00400	<0.00200	1.01	<0.000150	0.00835	0.00689	<0.00200	0.54	2	2.54
WW-U-2	0.641	308	2140	0.614	7.42	854	4550	<0.00200	0.00258	0.117	<0.00200	<0.000500	0.00424	<0.00400	<0.00200	0.994	<0.000150	0.0342	0.00617	<0.00200	0.82	1.6	2.42
WWC-1	10.2	457	4680	0.213	7.11	3130	12100	<0.00200	0.02	0.0335	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	2.41	0.00019	0.00966	0.0145	<0.00200	0.33	0.86	1.19
WWC-2	<0.500	57.9	389	0.508	7.86	151	960	<0.00200	0.0152	0.0406	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.243	<0.000150	0.0034	<0.00200	<0.00200	0.69	1.2	1.89
WWC-3	<0.500	27.3	220	1.03	8.02	78	628	<0.00200	0.0217	0.0342	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.241	<0.000150	0.00559	<0.00200	<0.00200	0.2	-0.34	-0.14
WWC-4	1.17	225	1330	0.422	7.37	868	3230	<0.00200	0.0131	0.065	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.879	<0.000150	0.00237	0.00238	<0.00200	0.27	0.48	0.75
WWC-5	2.87	326	1920	0.366	7.18	1700	5440	<0.00200	0.00717	0.0439	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	1.33	<0.000150	0.00742	0.00312	<0.00200	0.41	0.51	0.92

Waste Water	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
SI-U-1	21.31	7.57	-21	3.25	1.6	14.7	2.08
WW-U-1	20.96	7.12	34	8.06	10.9	3.52	5.08
WW-U-2	19.51	7.41	-63	7.34	4.7	8.24	4.62
WWC-1	20.69	6.94	-34	18400	0	0.54	11.4
WWC-2	17.91	7.64	-153	1720	2.6	3.57	1.1
WWC-3	17.39	7.97	-176	1200	0	0.54	0.766
WWC-4	17.14	7.22	-68	5320	0	2.25	3.35
WWC-5	17.85	7.01	-89	7790	0.9	0.59	4.91

Round 5 Detection Monitoring - October 17-26, 2016

Landfill Wells	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
CL-U-1	< 0.500	57.4	424	0.959	7.7	115	912	<0.00200	0.037	0.089	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.217	<0.000150	0.00404	<0.00200	<0.00200	0.25	0.18	0.43
CL-U-2	< 0.500	59.5	395	0.99	7.73	113	864	<0.00200	0.0269	0.101	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.206	<0.000150	0.00401	<0.00200	<0.00200	0.36	0.84	1.2
CLW-1	< 0.500	38.9	325	1.15	7.8	67.8	824	<0.00200	0.0295	0.0668	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.189	<0.000150	0.0043	<0.00200	<0.00200	0.27	0.19	0.46
CLW-2	< 0.500	49.2	422	1.13	7.82	85.3	984	<0.00200	0.0258	0.0855	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.223	<0.000150	0.00456	<0.00200	<0.00200	0.31	0.34	0.65
CLW-3	< 0.500	40.8	366	1.19	7.83	100	944	<0.00200	0.0412	0.104	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.214	<0.000150	0.00508	<0.00200	<0.00200	0.35	0.13	0.48
CLW-4	< 0.500	34.6	335	1.39	7.84	85.9	828	<0.00200	0.0385	0.0932	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.203	<0.000150	0.00414	<0.00200	<0.00200	0.59	-0.37	0.22
CLW-5	< 0.500	35.3	339	1.69	7.89	82.1	928	<0.00200	0.0206	0.0812	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.204	<0.000150	0.00723	<0.00200	<0.00200	0.31	0.84	1.15
CLW-6	< 0.500	33.9	325	1.46	7.85	77.9	972	<0.00200	0.0287	0.0908	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.203	<0.000150	0.00638	<0.00200	<0.00200	0.35	0.18	0.53
CLW-7	< 0.500	42.8	343	1.14	7.9	68.6	796	<0.00200	0.0235	0.0551	<0.00200	<0.000500	0.00234	<0.00400	<0.00200	0.182	<0.000150	0.00413	<0.00200	<0.00200	0.27	0.32	0.59
CLW-8	< 0.500	41.7	334	1.11	7.77	68.9	744	<0.00200	0.0258	0.0797	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.189	<0.000150	0.00428	<0.00200	<0.00200	0.37	-0.28	0.09

Round 5

Landfill Wells	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
CL-U-1	16.15	7.72	-195	1900	0.7	2.79	1.22
CL-U-2	16.89	7.67	-102	1820	0.4	0.82	1.17
CLW-1	16.85	7.77	-50	1520	2	1.57	0.974
CLW-2	17.05	7.76	-202	1900	0.4	3.82	1.21
CLW-3	15.28	7.75	-231	1720	1.8	1.29	1.1
CLW-4	14.67	7.78	-235	1620	7	1.4	1.04
CLW-5	17.4	7.71	-209	1690	8.1	1.41	1.08
CLW-6	15.85	7.83	-249	1620	1.1	1.72	1.04
CLW-7	17.42	7.7	-73	564	0	13.65	0.361
CLW-8	17.18	7.7	-100	1530	2.2	1.03	0.978

Bottom Ash	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
BA-U-1	< 0.500	16.7	327	1.65	9.08	60.2	832	<0.00200	0.0362	0.0679	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.215	<0.000150	0.0163	<0.00200	<0.00200	0.67	0.13	0.8
BA-U-2	< 0.500	38.1	357	1.02	8.56	51.9	824	<0.00200	0.0234	0.131	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.21	<0.000150	0.00449	<0.00200	<0.00200	0.57	0.42	0.99
BAC-1	3.42	131	1850	0.437	8.8	1610	7720	<0.00200	0.0103	0.049	<0.00200	<0.000500	0.00612	<0.00400	<0.00200	0.402	<0.000150	0.0498	0.00852	<0.00200	0.34	0.27	0.61
BAC-2	9.71	216	1620	1.11	7.34	2980	7040	<0.00200	0.0444	0.0228	<0.00200	<0.000500	0.00644	<0.00400	<0.00200	0.414	<0.000150	0.165	0.0131	<0.00200	0.25	-0.03	0.22
BAC-3	7.04	401	3160	0.76	7.39	4260	11400	<0.00200	0.0226	0.0404	<0.00200	<0.000500	0.00362	<0.00400	<0.00200	0.812	<0.000150	0.0275	0.0195	<0.00200	0.24	0.14	0.38
BAC-4	< 0.500	59.2	534	1.34	7.8	222	1230	<0.00200	0.0352	0.0723	<0.00200	<0.000500	0.00212	<0.00400	<0.00200	0.243	<0.000150	0.00992	<0.00200	<0.00200	0.09	0.4	0.49
BAC-5	< 0.500	40.5	479	1.33	7.85	110	1070	<0.00200	0.0359	0.0909	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.219	<0.000150	0.00715	<0.00200	<0.00200	0.2	-0.01	0.19
BAC-6	4.35	133	606	0.97	7.61	1080	2620	<0.00200	0.022	0.0287	<0.00200	<0.000500	0.00257	<0.00400	<0.00200	0.266	<0.000150	0.0858	0.00369	<0.00200	0.13	0.69	0.82
BAC-7	3.97	135	628	1.42	7.69	1340	2880	<0.00200	0.0241	0.026	<0.00200	<0.000500	0.00217	<0.00400	<0.00200	0.279	<0.000150	0.0944	0.00279	<0.00200	0.26	1.1	1.36

Bottom Ash	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
BA-U-1	16.41	9.07	6	1660	3.2	1.88	1.06
BA-U-2	16.67	8.77	-318	1600	1.7	1.76	1.03
BAC-1	18.66	7.57	-144	8800	7.7	0.55	6.19
BAC-2	19.51	7.01	-2	10200	0.6	0.46	6.34
BAC-3	18.63	7.15	2	16700	20	4.99	10.4
BAC-4	16.35	7.72	-120	0.859	3	4.2	0.55
BAC-5	16.43	7.85	-64	726	1.4	12.41	0.464
BAC-6	16.07	7.62	-86	1370	11.4	1.77	0.879
BAC-7	16.64	7.59	-67	1560	4.6	12.42	0.998

Waste Water	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
SI-U-1	< 0.500	132	863	0.514	7.52	286	1850	<0.00200	0.00895	0.0871	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.254	<0.000150	0.00276	<0.00200	<0.00200	0.32	0.11	0.43
WW-U-1	1.23	348	2190	0.346	7.18	1230	5370	<0.00200	0.0041	0.0771	<0.00200	<0.000500	0.00538	<0.00400	<0.00200	0.479	<0.000150	0.00891	0.00579	<0.00200	0.73	0.17	0.9
WW-U-2	1.47	383	2340	0.416	7.22	1120	5540	<0.00200	0.00573	0.0704	<0.00200	<0.000500	0.00396	<0.00400	<0.00200	0.512	<0.000150	0.0111	0.0116	<0.00200	0.78	0.46	1.24
WWC-1	9.83	513	4540	0.133	7.04	2960	12500	<0.00200	0.0197	0.0317	<0.00200	<0.000500	0.00348	<0.00400	<0.00200	0.819	0.000198	0.00936	0.0153	<0.00200	0.23	0.73	0.96
WWC-2	< 0.500	58.5	369	0.42	7.88	140	960	<0.00200	0.0129	0.0543	<0.00200	<0.000500	0.0243	<0.00400	<0.00200	0.112	<0.000150	0.00809	<0.00200	<0.00200	0.1	0.45	0.55
WWC-3	< 0.500	27.7	224	1.08	8.01	86.1	612	<0.00200	0.0218	0.0332	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.123	<0.000150	0.00543	<0.00200	<0.00200	0.07	0.1	0.17
WWC-4	1.19	227	1200	0.509	7.32	763	3200	<0.00200	0.0136	0.0629	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.351	<0.000150	0.00222	0.00216	<0.00200	0.08	0.75	0.83
WWC-5	3.02	343	1850	0.401	0.71	1570	5300	<0.00200	0.00778	0.0389	<0.00200	<0.000500	0.00238	<0.00400	<0.00200	0.497	<0.000150	0.00498	0.0041	<0.00200	0.43	1.1	1.53

Waste Water	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
SI-U-1	16.62	7.47	-22	3370	1	9	2.16
WW-U-1	17.72	6.99	7	8330	3	1.89	5.25
WW-U-2	17.84	7.19	-10	8400	2.6	1.89	5.29
WWC-1	15.78	6.93	-22	18600	0	0.51	11.6
WWC-2	15.91	7.75	-210	1680	6	1.08	1.07
WWC-3	16.26	7.94	-166	1210	0	0.24	0.772
WWC-4	16.51	7.22	-41	5140	0.2	1.09	3.24
WWC-5	15.83	7.02	-87	7930	0.2	0.37	4.99

Date: 10/17/2016

Round 6 Detection Monitoring - March 20-30, 2017

Round 6

Landfill Wells	Results																						Field Results							
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
CL-U-1	< 0.500	57.1	403	0.876	7.83	113	908	< 0.00200	0.0322	0.0867	< 0.00200	< 0.000500	< 0.00200	< 0.00400	< 0.00200	0.214	< 0.000150	0.00365	< 0.00200	< 0.00200	0.62	0.22	0.62	17.27	7.52	-194	957	4.2	2.53	0.613
CL-U-2	< 0.500	61.2	374	0.903	7.89	110	852	< 0.00200	0.0272	0.0976	< 0.00200	< 0.000500	< 0.00200	< 0.00400	< 0.00200	0.208	< 0.000150	0.00386	< 0.00200	< 0.00200	0.4	0.39	0.4	15.81	7.48	-139	929	0	10.45	0.598
CLW-1	< 0.500	38.4	295	1.05	7.83	62.4	768	< 0.00200	0.0309	0.0631	< 0.00200	< 0.000500	0.0187	< 0.00400	< 0.00200	0.185	< 0.000150	0.00654	< 0.00200	< 0.00200	0.41	0.78	1.2	14.45	7.6	-173	1540	0	5.98	0.984
CLW-2	< 0.500	49.7	377	1.07	7.85	92.9	936	< 0.00200	0.0277	0.0811	< 0.00200	< 0.000500	< 0.00200	< 0.00400	< 0.00200	0.219	< 0.000150	0.00437	< 0.00200	< 0.00200	0.31	0.72	1	16.63	7.58	-221	950	0	9.29	0.609
CLW-3	< 0.500	42.4	333	1.23	7.87	94.4	876	< 0.00200	0.0423	0.103	< 0.00200	< 0.000500	< 0.00200	< 0.00400	< 0.00200	0.214	< 0.000150	0.00473	< 0.00200	< 0.00200	0.35	0.7	1.1	16.58	7.66	-235	840	0	10.64	0.539
CLW-4	< 0.500	35.2	306	1.27	8.02	79.1	808	< 0.00200	0.0388	0.0898	< 0.00200	< 0.000500	< 0.00200	< 0.00400	< 0.00200	0.202	< 0.000150	0.00439	< 0.00200	< 0.00200	0.39	0.12	0.39	16.67	7.68	-253	785	0	2.14	0.502
CLW-5	< 0.500	36	320	1.71	7.88	79.9	748	< 0.00200	0.0216	0.0801	< 0.00200	< 0.000500	0.00214	< 0.00400	< 0.00200	0.025	< 0.000150	0.00666	< 0.00200	< 0.00200	0.4	0.38	0.4	16.63	7.6	-222	834	0	2.29	0.534
CLW-6	< 0.500	33.4	302	1.48	7.91	66	752	< 0.00200	0.0164	0.0976	< 0.00200	< 0.000500	< 0.00200	< 0.00400	< 0.00200	0.193	< 0.000150	0.00805	< 0.00200	< 0.00200	0.25	-0.35	0.25	15.51	7.65	-245	790	0	8.85	0.505
CLW-7	< 0.500	46.4	312	1.02	7.68	61	824	< 0.00200	0.0257	0.0545	< 0.00200	< 0.000500	0.00772	< 0.00400	< 0.00200	0.182	< 0.000150	0.00425	< 0.00200	< 0.00200	0.14	0.18	0.14	15.48	7.52	-150	1600	0	1.94	1.02
CLW-8	< 0.500	42.8	301	1.03	7.71	63.8	772	< 0.00200	0.0255	0.0707	< 0.00200	< 0.000500	0.012	< 0.00400	< 0.00200	0.189	< 0.000150	0.00526	< 0.00200	< 0.00200	0.25	0.29	0.25	15.08	7.57	-159	1550	0	1.55	0.991

Bottom Ash	Results																						Field Results							
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
BA-U-1	< 0.500	24.5	259	1.57	8.59	48.8	648	< 0.00200	0.0359	0.0856	< 0.00200	< 0.000500	< 0.00200	< 0.00400	< 0.00200	0.193	< 0.000150	0.0124	< 0.00200	< 0.00200	0.28	0.15	0.28	16.08	8.22	55	783	1.8	6.02	0.501
BA-U-2	< 0.500	3.76	328	0.886	12.1	39.2	728	< 0.00200	0.00254	0.122	< 0.00200	< 0.000500	< 0.00200	< 0.00400	< 0.00200	0.221	< 0.000150	0.00986	< 0.00200	< 0.00200	0.3	0.47	0.3	17.77	11.71	-250	2120	1.9	7.87	1.36
BAC-1	4.01	188	2170	< 0.100	7.47	1650	6320	< 0.00200	0.0202	0.279	< 0.00200	< 0.000500	0.0412	< 0.00400	< 0.00200	0.429	< 0.000150	0.0391	0.0152	< 0.00200	1.1	1.5	2.6	16.44	7.24	-131	9640	11.2	2.14	6.07
BAC-2	10.5	193	1480	0.871	7.2	2780	7320	< 0.00200	0.0469	0.022	< 0.00200	< 0.000500	0.0145	< 0.00400	< 0.00200	0.44	< 0.000150	0.194	0.0144	< 0.00200	0.34	0.22	0.56	15.89	6.86	-53	10400	0.1	0.6	6.44
BAC-3	7.57	408	3140	< 0.100	7.36	4290	13000	< 0.00200	0.0239	0.0376	< 0.00200	< 0.000500	0.00447	< 0.00400	< 0.00200	0.974	< 0.000150	0.026	0.0211	< 0.00200	0.2	0.5	0.7	15.61	7.1	-44	18000	3.4	0.5	11.2
BAC-4	< 0.500	59	461	1.13	7.68	206	1260	< 0.00200	0.0362	0.0705	< 0.00200	< 0.000500	0.011	< 0.00400	< 0.00200	0.237	< 0.000150	0.012	< 0.00200	< 0.00200	0.13	0.18	0.13	14.42	7.58	-165	2400	0	2.76	1.53
BAC-5	< 0.500	59.5	576	0.994	7.73	190	1430	< 0.00200	0.032	0.0893	< 0.00200	< 0.000500	0.00204	< 0.00400	< 0.00200	0.277	< 0.000150	0.00666	< 0.00200	< 0.00200	0.21	0.24	0.45	15.18	7.53	-155	2550	0.1	0.57	1.63
BAC-6	4.44	128	594	0.763	7.6	1040	2500	< 0.00200	0.0237	0.0269	< 0.00200	< 0.000500	0.00205	< 0.00400	< 0.00200	0.28	< 0.000150	0.0873	0.0045	< 0.00200	0.12	-0.21	-0.09	16.07	7.42	-115	4030	0	0.32	2.58
BAC-7	3.31	151	591	0.936	7.43	1140	3120	< 0.00200	0.0237	0.0253	< 0.00200	< 0.000500	< 0.00200	< 0.00400	< 0.00200	0.327	< 0.000150	0.0702	0.007	< 0.00200	0.21	0.7	0.91	16.54	7.34	-124	4780	1.5	0.38	3.06

Waste Water	Results																						Field Results							
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
SI-U-1	< 0.500	131	785	0.458	7.54	247	1760	< 0.00200	0.00941	0.08	< 0.00200	< 0.000500	< 0.00200	< 0.00400	< 0.00200	0.25	< 0.000150	0.00227	< 0.00200	< 0.00200	0.33	0.24	0.33	17.03	7.37	-45	3340	1.1	8.42	2.14
WW-U-1	1.15	336	1880	0.2	7.26	1180	4890	< 0.00200	0.00593	0.0568	< 0.00200	< 0.000500	< 0.00200	< 0.00400	< 0.00200	0.477	< 0.000150	0.00558	0.00583	< 0.00200	0.53	0.89	1.42	18.15	6.96	-57	7980	11.5	1.02	5.02
WW-U-2	0.6	317	1860	0.438	7.38	734	4300	< 0.00200	0.00355	0.095	< 0.00200	< 0.000500	< 0.00200	< 0.00400	< 0.00200	0.479	< 0.000150	0.021	0.00749	< 0.00200	0.51	1.6	2.11	17.03	7.29	-15	7470	2.3	1.36	4.71
WWC-1	11.2	479	4510	< 0.100	6.98	2940	12200	< 0.00200	0.0213	0.0288	< 0.00200	< 0.000500	< 0.00200	< 0.00400	< 0.00200	0.932	0.000328	0.00995	0.0149	< 0.00200	0.26	1.1	1.36	15.08	6.74	-32	19700	0.3	1.8	12.2
WWC-2	< 0.500	52	318	0.405	7.79	125	856	< 0.00200	0.0149	0.0361	< 0.00200	< 0.000500	< 0.00200	< 0.00400	< 0.00200	0.122	< 0.000150	0.00357	< 0.00200	< 0.00200	0.17	0.61	0.78	15.4	7.75	-134	1650	1	0.44	1.06
WWC-3	< 0.500	25.7	195	0.852	8.13	76	680	< 0.00200	0.0227	0.0302	< 0.00200	< 0.000500	0.00309	< 0.00400	< 0.00200	0.137	< 0.000150	0.00537	< 0.00200	< 0.00200	0.24	-0.21	0.03	15.31	8.09	207	1230	1.2	0.22	0.784
WWC-4	1.3	233	1250	0.319	7.38	819	3230	< 0.00200	0.0135	0.061	< 0.00200	< 0.000500	< 0.00200	< 0.00400	< 0.00200	0.382	< 0.000150	< 0.00200	0.00239	< 0.00200	0.18	-0.2	-0.02	15.85	7.18	-70	5390	0.5	3.15	3.39
WWC-5	1.72	318	1520	0.292	7.13	1190	4560	< 0.00200	0.01	0.0501	< 0.00200	< 0.000500	< 0.00200	< 0.00400	< 0.00200	0.555	< 0.000150	0.00523	0.00399	< 0.00200	0.23	0.95	1.18	16.2	6.84	-61	7180	0	0.62	4.52

Date: 3/23/2017

Round 7 Detection Monitoring - June 5-21, 2017

Landfill Wells	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
CL-U-1	< 0.500	53	480	0.996	7.74	132	1010	<0.00200	0.0344	0.0826	<0.00200	0.00065	<0.00200	<0.00400	<0.00200	0.202	<0.000150	0.00402	<0.00200	<0.00200	0.36	0.95	1.31
CL-U-2	< 0.500	55.1	444	1	7.8	134	952	<0.00200	0.0247	0.0938	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.19	<0.000150	0.00408	<0.00200	<0.00200	2.7	1	3.7
CLW-1	< 0.500	36.4	322	1.06	7.85	68.2	772	<0.00200	0.0289	0.0615	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.173	<0.000150	0.00389	<0.00200	<0.00200	0.2	0.14	0.34
CLW-2	< 0.500	44.7	436	1.19	7.83	102	964	<0.00200	0.0246	0.0754	<0.00200	<0.000500	0.00411	<0.00400	<0.00200	0.211	<0.000150	0.00461	<0.00200	<0.00200	0.24	1	1.24
CLW-3	< 0.500	37.3	380	1.23	7.85	106	856	<0.00200	0.0378	0.0951	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.197	<0.000150	0.00498	<0.00200	<0.00200	0.27	0.29	0.56
CLW-4	< 0.500	30.6	345	1.44	7.89	86.3	816	<0.00200	0.0352	0.0885	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.189	<0.000150	0.00481	<0.00200	<0.00200	0.29	0.3	0.59
CLW-5	< 0.500	32.4	358	1.82	7.86	91.6	860	<0.00200	0.0203	0.0732	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.188	<0.000150	0.00572	<0.00200	<0.00200	1.4	1.2	2.6
CLW-6	< 0.500	31	336	1.61	7.9	77.5	768	<0.00200	0.02	0.0893	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	<0.100	0.183	<0.00200	0.0068	<0.00200	0.01	0.5	0.51
CLW-7	< 0.500	41.5	352	1.01	7.88	70.4	832	<0.00200	0.0241	0.0514	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.169	<0.000150	0.0033	<0.00200	<0.00200	0.14	0.75	0.89
CLW-8	< 0.500	38.4	339	1.02	7.81	73.1	812	<0.00200	0.0239	0.0681	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.176	<0.000150	0.00391	<0.00200	<0.00200	0.18	0.81	0.99

Round 7

Landfill Wells	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
CL-U-1	16.35	7.59	-206	1920	0	1.51	1.23
CL-U-2	15.98	7.5	-177	1860	0	1.62	1.19
CLW-1	18.47	7.79	-160	768	0	0.9	0.491
CLW-2	16.77	7.73	-210	945	0	1.52	0.605
CLW-3	17.35	7.78	-246	879	0	2.13	0.562
CLW-4	17.86	7.75	-252	1580	0	4.35	1.01
CLW-5	18.97	7.66	-232	1680	0	2.65	1.08
CLW-6	16.95	7.75	-258	1590	0	5.1	1.02
CLW-7	18.07	7.7	-131	805	0	2.21	0.516
CLW-8	17.59	7.74	-130	776	0	1.58	0.497

Bottom Ash	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
BA-U-1	< 0.500	26.3	317	1.75	8.32	52.9	776	<0.00200	0.0323	0.0901	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.191	<0.000150	0.0109	<0.00200	<0.00200	0.15	0.73	0.88
BA-U-2	< 0.500	3.58	366	0.821	11.8	39.6	748	<0.00200	<0.00200	0.0899	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.215	<0.000150	0.0086	<0.00200	<0.00200	0.09	0.98	1.07
BAC-1	1.91	88.7	914	0.266	8.92	702	2920	<0.00200	0.0145	0.0563	<0.00200	<0.000500	0.00666	<0.00400	<0.00200	0.305	<0.000150	0.0317	0.00643	<0.00200	0.2	0.99	1.19
BAC-2	10.6	216	1730	<0.100	7.21	3260	7720	<0.00200	0.042	0.0211	<0.00200	<0.000500	0.00799	<0.00400	<0.00200	0.586	<0.000150	0.177	0.0138	<0.00200	0.14	0.64	0.78
BAC-3	7.76	401	3510	<0.100	7.29	4900	13200	<0.00200	0.0251	0.0316	<0.00200	<0.000500	0.00858	<0.00400	<0.00200	1.17	<0.000150	0.0292	0.0212	<0.00200	0.3	0.76	1.06
BAC-4	< 0.500	56.1	612	1.13	7.84	212	1220	<0.00200	0.0329	0.0666	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.228	<0.000150	0.0113	<0.00200	<0.00200	0.37	0.47	0.84
BAC-5	< 0.500	58.3	654	1.1	7.76	217	1180	<0.00200	0.0297	0.0881	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.259	<0.000150	0.00728	<0.00200	<0.00200	0.31	0.28	0.59
BAC-6	4.25	135	697	0.779	7.63	1110	2810	<0.00200	0.0229	0.0256	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.257	<0.000150	0.0921	0.00414	<0.00200	0.24	0.76	1
BAC-7	3.4	146	632	0.864	7.78	1290	3170	<0.00200	0.0154	0.0288	<0.00200	<0.000500	0.00398	<0.00400	<0.00200	0.36	<0.000150	0.0888	0.00457	<0.00200	2.5	0.88	3.38

Bottom Ash	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
BA-U-1	18.46	8.13	-138	1500	0	2.32	0.963
BA-U-2	19.9	11.43	-301	1870	0	0.58	1.2
BAC-1	22.57	9.92	-118	5180	15.6	2.32	3.27
BAC-2	19.02	7.09	-80	10900	2.2	0.84	6.76
BAC-3	18.87	7.1	-69	17800	3.2	1.02	11
BAC-4	17.01	7.62	-158	2380	0	1.61	1.52
BAC-5	17.31	7.69	-131	2560	0	2.62	1.64
BAC-6	19.46	7.59	-128	3900	35.2	0.85	2.5
BAC-7	17.97	7.5	-147	4610	2.9	1.16	2.95

Waste Water	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
SI-U-1	< 0.500	116	763	0.522	7.56	427	1800	<0.00200	0.0101	0.0599	<0.00200	0.00128	0.00274	<0.00400	<0.00200	0.235	<0.000150	0.00233	<0.00200	<0.00200	0.2	1.3	1.5
WW-U-1	1.18	312	2340	0.181	7.41	1450	4540	<0.00200	0.00568	0.0521	<0.00200	<0.000500	0.00212	<0.00400	<0.00200	0.441	<0.000150	0.00556	0.00625	<0.00200	1.2	1.5	2.7
WW-U-2	0.741	338	2590	0.287	7.36	1040	12500	<0.00200	0.00325	0.0803	<0.00200	<0.000500	0.067	<0.00400	<0.00200	0.512	<0.000150	0.0226	0.00846	<0.00200	0.52	1.6	2.12
WWC-1	9.88	413	4410	<0.100	7.14	2770	11000	<0.00200	0.0173	0.0326	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	1.11	0.000175	0.0147	0.0147	<0.00200	0.39	1.5	1.89
WWC-2	< 0.500	49.5	326	0.447	7.85	134	832	<0.00200	0.0141	0.0339	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.138	<0.000150	0.00405	<0.00200	<0.00200	0.24	0.24	0.48
WWC-3	< 0.500	25.9	220	0.974	8.12	84.3	696	<0.00200	0.0214	0.0281	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.146	<0.000150	0.00504	<0.00200	<0.00200	0.1	0.45	0.55
WWC-4	1.33	229	1330	0.466	7.22	912	3060	<0.00200	0.013	0.0545	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.421	<0.000150	<0.00200	0.00241	<0.00200	0.22	0.74	0.96
WWC-5	2.25	287	1790	<0.100	7.49	1420	4810	<0.00200	0.00753	0.0379	<0.00200	<0.000500	0.00202	<0.00400	<0.00200	0.567	<0.000150	0.00531	0.00336	<0.00200	0.2	1.5	1.7

Waste Water	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
SI-U-1	17.96	7.27	-138	3170	0	0.57	2.03
WW-U-1	18.63	6.87	-32	8050	0	1	5.07
WW-U-2	18.21	7.22	-161	7610	0	0.91	4.79
WWC-1	16.96	6.95	-34	15200	0.1	0.67	9.48
WWC-2	16.11	7.72	-169	1500	1.3	0.94	0.96
WWC-3	16.94	7.99	-194	1210	0.7	0.63	0.773
WWC-4	16.15	7.16	-73	5.48	0.5	0.6	3.46
WWC-5	16.54	7.01	-42	7225	0.9	0.76	4.57

Round 8 Detection Monitoring - September 25-October 4, 2017

Round 8

Landfill Wells	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
CL-U-1	< 0.500	52.1	422	1.07	7.73	116	1130	<0.00200	0.0291	0.088	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.228	<0.000150	0.00398	<0.00200	<0.00200	0.25	1.6	1.85
CL-U-2	< 0.500	53.8	390	1.1	7.67	120	1060	<0.00200	0.0262	0.0941	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.212	<0.000150	0.00415	<0.00200	<0.00200	0.17	1.4	1.57
CLW-1	< 0.500	35.7	310	1.15	7.85	71.7	808	<0.00200	0.0308	0.0614	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.192	<0.000150	0.00407	<0.00200	<0.00200	0.21	1.7	1.91
CLW-2	< 0.500	43.5	407	1.23	7.76	97.3	1040	<0.00200	0.0257	0.0793	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.229	<0.000150	0.00467	<0.00200	<0.00200	0.12	3	3.12
CLW-3	< 0.500	36.2	347	1.34	7.8	100	884	<0.00200	0.0408	0.102	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.223	<0.000150	0.00474	<0.00200	<0.00200	0.16	1.1	1.26
CLW-4	< 0.500	30.5	313	1.6	7.81	85.1	856	<0.00200	0.0333	0.09	<0.00200	<0.000500	0.0516	<0.00400	<0.00200	0.199	<0.000150	0.0115	<0.00200	<0.00200	0.24	1.8	2.04
CLW-5	< 0.500	33.2	344	1.82	7.8	88.5	824	<0.00200	0.023	0.0727	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.211	<0.000150	0.0052	<0.00200	<0.00200	0.2	2.2	2.4
CLW-6	< 0.500	30.5	317	1.73	7.82	74.5	828	<0.00200	0.0143	0.0961	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.199	<0.000150	0.00721	<0.00200	<0.00200	0.29	1.7	1.99
CLW-7	< 0.500	45.5	319	1.11	7.7	64.5	868	<0.00200	0.0244	0.0539	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.189	<0.000150	0.00389	<0.00200	<0.00200	0.45	0.95	1.4
CLW-8	< 0.500	37.9	319	1.13	7.77	70.6	788	<0.00200	0.0252	0.0689	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.192	<0.000150	0.00431	<0.00200	<0.00200	0.25	1.6	1.85

Landfill Wells	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
CL-U-1	16.07	7.45	-199	1930	0.4	0.56	1.24
CL-U-2	15.67	7.43	-176	1880	0.8	0.58	1.2
CLW-1	20.49	7.68	-172	1.48	0	0.41	0.949
CLW-2	16.63	7.63	-199	1880	0.7	0.64	1.2
CLW-3	16.82	7.59	-251	1750	1.5	2.9	1.12
CLW-4	17.63	7.56	-269	1620	1.6	1.56	1.03
CLW-5	17.21	7.71	-244	1690	3.7	1.12	1.09
CLW-6	15.97	7.75	-259	1.6	2.3	3.3	1.02
CLW-7	16.72	7.59	-147	1640	0	0.86	1.05
CLW-8	18.26	7.65	-145	1.53	1.1	1.89	0.975

Bottom Ash	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
BA-U-1	< 0.500	169	1040	1.02	7.53	343	2310	<0.00200	0.0215	0.0745	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.368	<0.000150	0.00296	0.00375	<0.00200	0.07	1.3	1.37
BA-U-2	< 0.500	46.3	479	0.993	8.04	53.7	1140	<0.00200	0.0249	0.156	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.241	<0.000150	0.00294	<0.00200	<0.00200	0.24	1.5	1.74
BAC-1	4.86	229	2620	0.854	7.4	2150	8400	<0.00200	0.0148	0.702	<0.00200	<0.000500	0.114	0.00461	<0.00200	0.52	<0.000150	0.0467	0.0174	<0.00200	0.39	1.6	1.99
BAC-2	10.1	221	1690	1.33	7.62	2970	7940	<0.00200	0.0469	0.0202	<0.00200	<0.000500	0.00547	<0.00400	<0.00200	0.431	<0.000150	0.154	0.0149	<0.00200	0.11	0.14	0.25
BAC-3	8.76	353	3370	2.51	7.43	5340	12700	<0.00200	0.054	0.0306	<0.00200	<0.000500	0.0114	<0.00400	<0.00200	0.897	<0.000150	0.0525	0.0287	<0.00200	0.23	1.3	1.53
BAC-4	< 0.500	62.4	482	1.26	7.76	231	1280	<0.00200	0.0359	0.0703	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.262	<0.000150	0.0139	<0.00200	<0.00200	0.1	2.5	2.6
BAC-5	< 0.500	67.5	593	1.17	7.74	269	1450	<0.00200	0.0325	0.0877	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.294	<0.000150	0.00838	<0.00200	<0.00200	0.26	2.7	2.96
BAC-6	0.978	77.2	516	1.01	7.97	301	1510	<0.00200	0.0156	0.0833	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.265	<0.000150	0.0213	<0.00200	<0.00200	0.27	3.8	4.07
BAC-7	3.41	144	633	1.15	7.65	1220	2990	<0.00200	0.0191	0.0223	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.285	<0.000150	0.074	0.00446	<0.00200	0.15	0.84	0.99

Bottom Ash	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
BA-U-1	16.04	7.21	-166	4300	1.7	0.78	2.75
BA-U-2	16.58	8.07	-272	2030	0	1.63	1.3
BAC-1	15.36	6.93	-28	7170	1	0.54	4.52
BAC-2	16.95	6.92	-20	11500	2	0.9	7.11
BAC-3	16.87	7.07	-102	18.7	43.3	0.94	11.6
BAC-4	16.67	7.68	-148	2470	1.1	0.62	1.58
BAC-5	16.66	7.71	-140	2740	0.8	1.12	1.75
BAC-6	17.02	7.83	-47	2610	0.9	2.54	1.67
BAC-7	15.97	7.45	-121	4500	3.3	2.56	2.88

Waste Water	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
SI-U-1	< 0.500	110	820	0.618	7.55	263	1810	0.002	0.00969	0.0783	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.257	<0.000150	0.00251	<0.00200	<0.00200	0.44	0.56	1
WW-U-1	1.2	311	2130	0.539	7.23	1280	5260	<0.00200	0.0055	0.0545	<0.00200	<0.000500	0.003309	<0.00400	<0.00200	0.459	<0.000150	0.00792	0.00697	<0.00200	0.34	1.2	1.54
WW-U-2	1.66	314	2280	0.721	7.31	1220	5510	<0.00200	0.0104	0.0659	<0.00200	<0.000500	0.00415	<0.00400	<0.00200	0.485	<0.000150	0.00647	0.0122	<0.00200	0.24	1.3	1.54
WWC-1	9.55	492	4430	0.507	7.37	2990	11500	<0.00200	0.0177	0.0272	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.755	0.000262	0.0068	0.014	<0.00200	0.26	1.2	1.46
WWC-2	< 0.500	53.6	347	0.452	7.78	137	936	<0.00200	0.0142	0.0361	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.112	<0.000150	0.00341	<0.00200	<0.00200	0.04	1.2	1.24
WWC-3	< 0.500	25.3	207	1.13	8.14	84	704	<0.00200	0.0207	0.0242	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.127	<0.000150	0.00477	<0.00200	<0.00200	0.08	2	2.08
WWC-4	1.11	201	1100	0.57	7.38	744	3280	<0.00200	0.0135	0.0529	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.313	<0.000150	<0.00200	0.00214	<0.00200	0.38	0.4	0.78
WWC-5	1.48	327	1620	0.544	7.16	1240	4590	<0.00200	0.0104	0.0438	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.496	<0.000150	0.00395	0.00407	<0.00200	0.41	0.65	1.06

Waste Water	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
SI-U-1	17.02	7.36	-123	3490	0	1.25	2.24
WW-U-1	16.41	6.96	-135	8820	0.7	1.56	5.56
WW-U-2	16.68	7.09	-34	9.23	0.6	3.75	5.82
WWC-1	16.21	6.78	48	18900	0.8	1.92	11.7
WWC-2	16.38	7.64	-110	1740	1	2.87	1.12
WWC-3	15.49	8.16	-207	1220	1.3	0.45	0.781
WWC-4	16.11	7.17	-77	4980	1.2	0.46	3.19
WWC-5	15.42	6.94	-31	7180	1.3	0.53	4.52

Round 9 Assessment Monitoring - March 26-30, 2018

Results

Landfill Wells	Results																					Radium 226 and 228 combined	
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226		Radium 228
CL-U-1	< 0.500	62.6	402	0.971	7.66	94.9	1090	<0.00200	0.0283	0.0758	<0.00200	<0.000500	0.000529	<0.00400	<0.00200	0.209	<0.000150	0.00359	<0.00200	<0.00200	0.18	0.81	0.99
CL-U-2	< 0.500	64.1	352	0.895	7.65	92.7	980	<0.00200	0.0236	0.0873	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.194	<0.000150	0.00376	<0.00200	<0.00200	0.34	0.16	0.5
CLW-1	< 0.500	37.8	318	1.02	7.67	59.5	720	<0.00200	0.0265	0.053	<0.00200	<0.000500	0.0271	<0.00400	<0.00200	0.179	<0.000150	0.0068	<0.00200	<0.00200	0.09	0.53	0.62
CLW-2	< 0.500	51.4	421	1.13	7.8	79.4	1020	<0.00200	0.0258	0.0711	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.212	<0.000150	0.00439	<0.00200	<0.00200	0.24	0.94	1.18
CLW-3	< 0.500	42.8	334	1.23	7.86	82.3	956	<0.00200	0.0364	0.089	<0.00200	<0.000500	0.000505	<0.00400	<0.00200	0.2	<0.000150	0.00464	<0.00200	<0.00200	0.37	0.94	1.31
CLW-4	< 0.500	35.8	301	1.35	7.77	70.4	864	<0.00200	0.0352	0.0788	<0.00200	<0.000500	0.000762	<0.00400	<0.00200	0.189	<0.000150	0.00477	<0.00200	<0.00200	0.46	0.59	1.05
CLW-5	< 0.500	37.4	354	1.71	7.66	79.9	876	<0.00200	0.021	0.0671	<0.00200	<0.000500	0.000712	<0.00400	<0.00200	0.194	<0.000150	0.0054	<0.00200	<0.00200	0.15	0.96	1.11
CLW-6	< 0.500	34.2	292	1.62	7.74	60.4	916	<0.00200	0.0104	0.0885	<0.00200	<0.000500	0.000612	<0.00400	<0.00200	0.182	<0.000150	0.00729	<0.00200	<0.00200	0.56	0.48	1.04
CLW-7	< 0.500	47	316	0.972	7.59	51.3	792	<0.00200	0.0215	0.0475	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.183	<0.000150	0.00341	<0.00200	<0.00200	0.28	0.22	0.5
CLW-8	< 0.500	44.1	303	0.981	7.63	54.2	792	<0.00200	0.0231	0.0609	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.188	<0.000150	0.00376	<0.00200	<0.00200	0.25	0.8	1.05

Round 9

Field Results

Landfill Wells	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
CL-U-1	14.91	7.28	-193	1940	0.6	0.54	1.24
CL-U-2	14.84	7.24	-174	1890	0.2	0.67	1.21
CLW-1	16.76	7.7	-186	1530	0.2	0.7	0.98
CLW-2	15.47	7.6	-204	1880	0.4	0.96	1.22
CLW-3	16.64	7.49	-236	1720	0	1.61	1.1
CLW-4	16.15	7.51	-259	1610	0	2.2	1.03
CLW-5	16.46	7.43	-239	1720	3	1	1.1
CLW-6	15.56	7.47	-250	1600	0.1	3.61	1.03
CLW-7	18.88	7.52	-123	1570	0	1.89	1
CLW-8	18.47	7.58	-129	1520	0	0.45	0.973

Results

Bottom Ash	Results																					Radium 226 and 228 combined	
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226		Radium 228
BA-U-1	< 0.500	33.5	296	1.64	8.05	50.7	872	<0.00200	0.0276	0.0837	<0.00200	<0.000500	0.00126	<0.00400	<0.00200	0.199	<0.000150	0.00914	0.0022	<0.00200	0.07	0.31	0.38
BA-U-2	< 0.500	46.2	399	0.943	8.2	46.9	1080	<0.00200	0.0227	0.125	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.209	<0.000150	0.00311	0.000691	<0.00200	0.12	0.34	0.46
BAC-1	3.88	192	1890	0.507	7.63	1470	6120	0.00138	0.0127	0.0501	<0.00200	<0.000500	0.00451	<0.00400	<0.00200	0.581	<0.000150	0.028	0.00924	<0.00200	0.31	0.48	0.79
BAC-2	9.89	283	1940	1.32	7.72	3070	8590	<0.00200	0.0508	0.0238	<0.00200	<0.000500	0.00777	<0.00400	<0.00200	0.524	<0.000150	0.142	0.0173	<0.00200	0.29	0.89	1.18
BAC-3	7.91	417	3480	1.62	7.84	4460	13000	<0.00200	0.0441	0.0331	<0.00200	<0.000500	0.00468	<0.00400	<0.00200	1.05	<0.000150	0.0396	0.0228	<0.00200	0.28	1.25	1.53
BAC-4	< 0.500	67.4	489	1.14	7.74	221	1300	<0.00200	0.0316	0.0605	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.249	<0.000150	0.0143	<0.00200	<0.00200	0.1	0.81	0.91
BAC-5	< 0.500	74.8	524	1.07	7.68	234	1480	<0.00200	0.0275	0.0706	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.284	<0.000150	0.00915	<0.00200	<0.00200	0.24	0.5	0.74
BAC-6	4.58	145	595	1.15	7.48	1100	2600	<0.00200	0.0214	0.0227	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.28	<0.000150	0.0898	0.00249	<0.00200	0.08	0.72	0.8
BAC-7	4.51	137	1980	0.388	7.57	1100	2730	<0.00200	0.0235	0.0195	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.288	<0.000150	0.0752	0.0048	<0.00200	0.14	0.71	0.85

Field Results

Bottom Ash	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
BA-U-1	15.13	7.78	-33	1600	0.6	3.82	1.02
BA-U-2	16.14	8.65	-281	1750	0.2	0.25	1.12
BAC-1	16.99	7.23	-189	9190	8.1	0.52	5.79
BAC-2	15.94	6.82	-77	12000	1.2	0.51	7.44
BAC-3	15.37	7.03	-82	18900	5	3.65	11.7
BAC-4	15.79	7.47	-150	2500	0.5	0.7	1.6
BAC-5	18.41	7.47	-149	2570	0.5	3.97	1.63
BAC-6	19.15	7.32	-92	3810	0.5	0.55	2440
BAC-7	19.26	7.4	-101	4190	3	3.14	2.68

Results

Waste Water	Results																					Radium 226 and 228 combined	
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226		Radium 228
SI-U-1	< 0.500	129	739	0.506	7.5	201	1840	<0.00200	0.00929	0.0741	<0.00200	<0.000500	0.00137	<0.00400	<0.00200	0.241	<0.000150	0.00227	<0.00200	<0.00200	0.04	0.73	0.77
WW-U-1	1.34	339	1900	0.406	7.05	1050	5280	<0.00200	0.005	0.0486	<0.00200	<0.000500	0.00193	<0.00400	<0.00200	0.436	<0.000150	0.00702	0.00653	<0.00200	0.45	0.91	1.36
WW-U-2	1.47	370	2010	0.532	7.16	925	5260	<0.00200	0.00642	0.0499	<0.00200	<0.000500	0.00144	<0.00400	<0.00200	0.475	<0.000150	0.00467	0.0115	<0.00200	0.34	0.94	1.28
WWC-1	11.9	638	4100	0.236	6.89	2640	12700	<0.00200	0.02	0.0209	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.805	0.000205	0.00596	0.015	<0.00200	0.25	1.21	1.46
WWC-2	< 0.500	57.2	308	0.41	7.62	111	784	<0.00200	0.014	0.031	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.104	<0.000150	0.00356	<0.00200	<0.00200	0.1	0.55	0.65
WWC-3	< 0.500	28.9	200	0.985	7.96	67.8	628	<0.00200	0.0214	0.0245	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.131	<0.000150	0.00464	<0.00200	<0.00200	0.07	0.27	0.34
WWC-4	1.19	200	1010	0.365	7.3	593	2790	<0.00200	0.0128	0.0463	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.355	<0.000150	<0.00200	<0.00200	<0.00200	0.22	0.58	0.8
WWC-5	2.86	321	1600	0.384	6.92	1450	5030	<0.00200	0.0096	0.0302	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.511	<0.000150	0.00301	0.00415	<0.00200	0.2	1.64	1.84

Field Results

Waste Water	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
SI-U-1	16.11	7.56	-31	3240	0	0.71	2.07
WW-U-1	16.35	7.11	-75	8010	0.7	0.4	5.03
WW-U-2	16.11	7.27	-10	8450	0.2	0.47	5.32
WWC-1	16.03	6.65	-17	19900	0	2.51	12.4
WWC-2	15.75	7.52	-124	1650	0.4	0.55	1.05
WWC-3	14.89	7.81	-190	1250	1.1	0.79	0.8
WWC-4	16.17	7.26	-64	4600	2.3	0.37	2.92
WWC-5	17.27	7.02	-36	7300	0	0.34	4.6

Round 10 Assessment Monitoring - June 4-13, 2018

Table with columns: Landfill Wells, Results, Boron, Calcium, Chloride, Fluoride, pH, Sulfate, TDS, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226, Radium 228, Radium 226 and 228 combined. Rows include CL-U-1 through CLW-8.

Round 10

Table with columns: Landfill Wells, Field Results, Temp, pH, REDOX, Conductance, Turbidity (NTUs), DO, TDS. Rows include CL-U-1 through CLW-8.

Table with columns: Bottom Ash, Results, Boron, Calcium, Chloride, Fluoride, pH, Sulfate, TDS, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226, Radium 228, Radium 226 and 228 combined. Rows include BA-U-1 through BAC-7.

Table with columns: Bottom Ash, Field Results, Temp, pH, REDOX, Conductance, Turbidity (NTUs), DO, TDS. Rows include BA-U-1 through BAC-7.

Table with columns: Waste Water, Results, Boron, Calcium, Chloride, Fluoride, pH, Sulfate, TDS, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium 226, Radium 228, Radium 226 and 228 combined. Rows include SI-U-1 through WWC-5.

Table with columns: Waste Water, Field Results, Temp, pH, REDOX, Conductance, Turbidity (NTUs), DO, TDS. Rows include SI-U-1 through WWC-5.

Round 11 (all results ppm) Assessment Monitoring - October 8-18, 2018

Landfill Wells	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
CL-U-1	< 0.500	61.9	415	0.981	7.79	122	1060	<0.00200	0.029	0.0796	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.229	<0.000150	0.00383	<0.00200	<0.00200	0.09	0.32	0.41
CL-U-2	< 0.500	67.5	414	0.995	7.73	128	1010	<0.00200	0.0255	0.0919	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.212	<0.000150	0.00408	<0.00200	<0.00200	0.12	0.94	0.94
CLW-1	< 0.500	39.6	288	1.06	7.76	61.9	784	<0.00200	0.0298	0.0582	<0.00200	<0.000500	0.0157	<0.00400	<0.00200	0.194	<0.000150	0.00589	<0.00200	<0.00200	0.11	1.2	1.2
CLW-2	< 0.500	49.7	475	1.19	7.72	88.1	904	<0.00200	0.0244	0.0716	<0.00200	<0.000500	0.014	<0.00400	<0.00200	0.227	<0.000150	0.00593	<0.00200	<0.00200	0.17	0.39	0.56
CLW-3	< 0.500	42	325	1.27	7.79	95	888	<0.00200	0.0384	0.0941	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.217	<0.000150	0.0052	<0.00200	<0.00200	0.33	0.68	1.01
CLW-4	< 0.500	35.2	297	1.45	7.85	80.7	792	<0.00200	0.0375	0.0786	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.211	<0.000150	0.00525	<0.00200	<0.00200	1.89	0.65	1.89
CLW-5	< 0.500	36.9	320	1.7	7.72	85.3	852	<0.00200	0.0229	0.0714	<0.00200	<0.000500	0.00999	<0.00400	<0.00200	0.213	<0.000150	0.00679	<0.00200	<0.00200	1.87	0.17	1.87
CLW-6	< 0.500	33.8	292	1.6	7.82	73.3	804	<0.00200	0.0152	0.0873	<0.00200	<0.000500	0.0116	<0.00400	<0.00200	0.204	<0.000150	0.00746	<0.00200	<0.00200	0.18	0.41	0.59
CLW-7	< 0.500	46.5	399	1.02	7.65	73.2	780	<0.00200	0.0232	0.0491	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.19	<0.000150	0.00416	<0.00200	<0.00200	0.05	0.07	0.12
CLW-8	< 0.500	43	300	1.04	7.71	66.5	796	<0.00200	0.0254	0.0643	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.192	<0.000150	0.00503	<0.00200	<0.00200	0.19	1.2	1.2

Round 11

Landfill Wells	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
CL-U-1	17.4	7.85	-132	1800	40.9	0.61	1.15
CL-U-2	18.15	7.83	-97	1770	0	3.95	1.13
CLW-1	17.83	7.93	-114	1490	0	1.48	0.951
CLW-2	16.04	7.84	-184	1850	0.6	2.72	1.18
CLW-3	17.52	7.98	-178	1660	3.6	3.1	1.06
CLW-4	18.53	8.02	-192	1530	7.2	1.63	0.983
CLW-5	21	7.94	-175	1640	0	1.29	1.05
CLW-6	16.49	8.02	-210	1560	0	2.23	1
CLW-7	17.12	7.83	-81	1560	2.4	2.97	1
CLW-8	17.05	7.91	-130	1510	0	1.37	0.963

Bottom Ash	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
BA-U-1	< 0.500	73.9	561	0.881	7.97	62.2	1050	<0.00200	0.0216	0.149	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.276	<0.000150	0.00237	<0.00200	<0.00200	0.44	0.74	1.18
BA-U-2	< 0.500	143	885	0.977	7.58	298	1750	<0.00200	0.0209	0.0728	<0.00200	<0.000500	0.0125	<0.00400	<0.00200	0.321	<0.000150	0.00574	<0.00200	<0.00200	0.22	0.62	0.84
BAC-1	4.87	225	1840	0.582	7.57	1760	6420	<0.00200	0.0129	0.0391	<0.00200	<0.000500	0.0184	<0.00400	<0.00200	0.629	<0.000150	0.0232	0.00818	<0.00200	0.45	0.88	1.33
BAC-2	9.98	255	1660	1.1	7.35	2730	7800	<0.00200	0.0565	0.0204	<0.00200	<0.000500	0.0111	<0.00400	<0.00200	0.472	<0.000150	0.156	0.0157	<0.00200	0.08	0.96	0.96
BAC-3	8.33	469	3280	1.63	7.31	4450	12300	<0.00200	0.0496	0.0317	<0.00200	<0.000500	0.00968	<0.00400	<0.00200	1.06	<0.000150	0.038	0.022	<0.00200	0.39	1.06	1.45
BAC-4	0.523	68.1	501	1.15	7.96	273	1300	<0.00200	0.00882	0.0171	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.267	<0.000150	0.017	<0.00200	<0.00200	-0.16	0.48	0.32
BAC-5	< 0.500	82.2	557	1.04	7.86	353	1460	<0.00200	0.0325	0.0714	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.323	<0.000150	0.0134	<0.00200	<0.00200	0.26	0.81	1.07
BAC-6	4.57	138	624	0.847	7.75	1080	2340	<0.00200	0.0248	0.0245	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.276	<0.000150	0.0842	<0.00200	<0.00200	0.17	1.02	1.19
BAC-7	4.24	143	649	1.51	7.75	1210	2830	<0.00200	0.0434	0.0214	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.303	<0.000150	0.075	0.00579	<0.00200	0.19	0.71	0.9

Bottom Ash	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
BA-U-1	16.4	7.71	-41	3010	0	0.7	1.94
BA-U-2	18.72	8.31	-138	2010	0	0.56	1.28
BAC-1	16.12	7.43	-228	9840	77.8	0.85	6.2
BAC-2	16.79	7.15	-22	11200	2.5	1.3	6.93
BAC-3	16.79	7.31	42	18300	7	5.15	11.3
BAC-4	15.08	7.77	-69	2500	0.2	0.61	1.6
BAC-5	16.95	7.88	-43	2860	0	0.52	1.83
BAC-6	17.13	7.74	-35	3970	0	0.49	2.54
BAC-7	17	7.76	-71	4420	1.9	0.48	2.84

Waste Water	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
SI-U-1	< 0.500	139	805	0.533	7.63	394	1760	<0.00200	0.0103	0.0575	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.265	<0.000150	0.00241	<0.00200	<0.00200	0.07	0.85	0.85
WW-U-1	1.36	357	2150	0.41	7.28	1360	5090	<0.00200	<0.00200	0.0449	<0.00200	<0.000500	0.0258	<0.00400	<0.00200	0.456	<0.000150	0.0101	0.00682	<0.00200	0.43	1.2	1.63
WW-U-2	1.23	380	2160	0.604	7.31	1090	4570	<0.00200	0.0109	0.0446	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.519	<0.000150	0.00338	0.0105	<0.00200	0.14	0.83	0.83
WWC-1	12	607	4430	0.331	7.25	3210	13000	<0.00200	0.0243	0.0223	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.964	0.000312	0.00835	0.0145	<0.00200	0.15	1.2	1.35
WWC-2	< 0.500	59.5	344	0.448	7.85	139	832	<0.00200	0.0152	0.0344	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.124	<0.000150	0.00304	<0.00200	<0.00200	0.17	0.03	0.2
WWC-3	< 0.500	29.7	209	1.06	7.92	84.2	436	<0.00200	0.0247	0.0289	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.139	<0.000150	0.00482	<0.00200	<0.00200	0	0.76	0.76
WWC-4	1.34	219	1030	0.481	7.46	692	2880	<0.00200	0.0145	0.0507	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.36	<0.000150	<0.00200	<0.00200	<0.00200	0.03	0.8	0.83
WWC-5	3.07	364	1720	0.431	7.38	1620	5000	<0.00200	0.0131	0.034	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.523	<0.000150	0.0031	0.00478	<0.00200	0.2	-0.56	-0.36

Waste Water	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
SI-U-1	17.1	7.65	-6	3290	0	0.58	2.11
WW-U-1	16.29	7.25	-7	8350	0.6	0.87	5.27
WW-U-2	16.41	7.44	55	7730	0	1.5	4.87
WWC-1	16.6	7.11	40	19600	0	4.49	12.1
WWC-2	17.73	7.91	-84	1600	2.1	0.62	1.03
WWC-3	16.97	8.12	-179	1190	0.2	0.56	0.759
WWC-4	16.27	7.4	-32	4780	0.7	0.54	3.06
WWC-5	15.76	7.16	-11	7580	1	3.51	4.77

Round 12 (all results ppm) Assessment Monitoring - April 4 - May 15, 2019

Landfill Wells	Results																					Radium 226 and 228 combined		
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228		
CL-U-1	< 0.500	61.1	388	0.989	7.74	112	932	<0.00200	0.0279	0.0841	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.231	<0.000150	0.0036	<0.00200	<0.00200	0.13	0.4	0.53	
CL-U-2	< 0.500	68.4	378	1.02	7.74	97.6	920	<0.00200	0.0254	0.0943	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.214	<0.000150	0.00405	<0.00200	<0.00200	0.31	0.94	1.25	
CLW-1	< 0.500	39.4	303	1.12	7.88	64.5	692	<0.00200	0.002	0.0589	<0.00200	<0.000500	0.00742	<0.00400	<0.00200	0.203	<0.000150	0.00481	<0.00200	<0.00200	0	0.41	0.41	
CLW-2	< 0.500	55.1	416	1.25	7.8	96.4	976	<0.00200	0.0259	0.0743	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.253	<0.000150	0.00423	<0.00200	<0.00200	0.21	0.75	0.96	
CLW-3	< 0.500	44.5	351	1.34	7.83	98.4	884	<0.00200	0.0382	0.0970	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.243	<0.000150	0.00488	<0.00200	<0.00200	0.16	0.49	0.65	
CLW-4	< 0.500	38.8	321	1.45	7.90	85.5	968	<0.00200	0.0376	0.0819	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.232	<0.000150	0.00425	<0.00200	<0.00200	0.47	0.54	1.01	
CLW-5	< 0.500	38.5	340	1.85	7.93	85.6	936	<0.00200	0.0236	0.0707	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.226	<0.000150	0.00515	<0.00200	<0.00200	0.14	0.28	0.42	
CLW-6	< 0.500	38.4	270	1.55	7.89	72.8	828	<0.00200	0.0271	0.0896	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.214	<0.000150	0.00478	<0.00200	<0.00200	0.2	0.78	0.98	
CLW-7	< 0.500	51.3	336	1.07	7.76	68.9	792	<0.00200	0.0228	0.0511	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.205	<0.000150	0.00323	<0.00200	<0.00200	-0.09	0.54	0.45	
CLW-8	< 0.500	44.3	317	1.11	7.81	67.2	776	<0.00200	0.0257	0.0621	<0.00200	<0.000500	0.00200	<0.00400	<0.00200	0.212	<0.000150	0.00358	<0.00200	<0.00200	0.27	0.22	0.49	
CLW-9	< 0.500	26.2	298	2.02	7.91	86.4	760	<0.00200	0.0368	0.0462	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.168	<0.000150	0.00518	<0.00200	<0.00200	0.21	0.21	0.42	
CL-U-3	< 0.500	59.6	390	0.872	7.83	114	984	<0.00200	0.0183	0.0495	<0.00200	<0.000500	0.00565	<0.00400	<0.00200	0.212	<0.000150	0.00372	<0.00200	<0.00200	0	0.48	0.48	

Bottom Ash	Results																					Radium 226 and 228 combined		
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228		
BA-U-1	< 0.500	174	934	0.919	7.61	271	2050	<0.00200	0.002	0.0776	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.354	<0.000150	0.00312	0.00458	<0.00200	0	0.4	0.4	
BA-U-2	< 0.500	91.8	718	0.844	7.68	102	1350	<0.00200	0.0211	0.1670	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.300	<0.000150	0.0022	0.00234	<0.00200	0.18	0.62	0.8	
BAC-1	1.31	72.4	431	0.197	8.42	404	1830	<0.00200	0.0121	0.0567	<0.00200	<0.000500	0.00359	<0.00400	<0.00200	0.172	<0.000150	0.142	0.00278	<0.00200	0.28	0.09	0.37	
BAC-2	10.3	233	1700	1.11	7.2	2590	8310	<0.00200	0.0519	0.0180	<0.00200	<0.000500	0.00556	<0.00400	<0.00200	0.491	<0.000150	0.163	0.0145	<0.00200	0.17	0.48	0.65	
BAC-3	8.64	417	3400	1.3	7.24	4090	12900	<0.00200	0.0472	0.0272	<0.00200	<0.000500	0.00593	<0.00400	<0.00200	1.030	0.000105	0.0388	0.0206	<0.00200	0.17	0.77	0.94	
BAC-4	0.553	72.4	488	1.22	7.76	269	1270	<0.00200	0.0319	0.0641	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.281	<0.000150	0.0196	<0.00200	<0.00200	0.16	0.58	0.74	
BAC-5	< 0.500	91.8	585	1.07	7.73	393	1540	<0.00200	0.0294	0.0594	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.334	<0.000150	0.0168	<0.00200	<0.00200	-0.1	0.27	0.17	
BAC-6	4.4	137	536	0.866	7.84	963	2260	<0.00200	0.0248	0.0206	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.283	<0.000150	0.0923	<0.00200	<0.00200	-0.09	-0.38	-0.47	
BAC-7	5.17	142	529	1.34	7.72	985	2760	<0.00200	0.0298	0.0184	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.284	<0.000150	0.0908	0.00388	<0.00200	0.09	0.34	0.43	
BAC-8	< 0.500	27.8	266	1.61	7.92	81.1	708	<0.00200	0.0519	0.0732	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.165	<0.000150	0.0055	<0.00200	<0.00200	0.31	0.41	0.72	
BAC-9	< 0.500	28.4	283	1.7	7.91	82.6	736	<0.00200	0.583	0.051	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.167	<0.000150	0.00451	<0.00200	<0.00200	0.06	0.53	0.59	
BAC-10	< 0.500	31.1	273	1.66	7.91	85	788	<0.00200	0.0527	0.0612	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.171	<0.000150	0.00567	<0.00200	<0.00200	0.15	0.5	0.65	

Waste Water	Results																					Radium 226 and 228 combined		
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228		
SI-U-1	< 0.500	147	744	0.519	7.59	263	1840	<0.00200	0.00927	0.0634	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.271	<0.000150	0.00206	<0.00200	<0.00200	0.27	0.59	0.86	
WW-U-1	1.39	323	1820	0.416	7.27	1140	5120	<0.00200	0.00592	0.0442	<0.00200	<0.000500	0.00432	<0.00400	<0.00200	0.431	<0.000150	0.00702	0.00748	<0.00200	0.38	0.89	1.27	
WW-U-2	1.16	347	1170	0.633	7.45	872	4270	<0.00200	0.0114	0.0473	<0.00200	<0.000500	0.00237	<0.00400	<0.00200	0.484	<0.000150	0.00411	0.0113	<0.00200	0.19	0.54	0.73	
WWC-1	12.9	584	4600	0.245	7.1	3190	13800	<0.00200	0.0215	0.0183	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	1.000	0.00018	0.00794	0.0146	<0.00200	0.13	0.82	0.95	
WWC-2	< 0.500	54.2	316	0.534	7.75	128	824	<0.00200	0.0161	0.0296	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.128	<0.000150	0.00348	<0.00200	<0.00200	-0.06	0.5	0.44	
WWC-3	< 0.500	35.3	244	1.14	7.79	86	764	<0.00200	0.0226	0.0306	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.151	<0.000150	0.00471	<0.00200	<0.00200	0.06	0.38	0.44	
WWC-4	1.34	240	1030	0.449	7.97	673	2780	<0.00200	0.0133	0.0412	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.388	<0.000150	<0.00200	<0.00200	<0.00200	-0.03	0.56	0.53	
WWC-5	3	388	1600	0.493	7.12	1440	5160	<0.00200	0.0134	0.0309	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.557	<0.000150	0.00203	0.00448	<0.00200	0.18	1.12	1.12	
WWC-6	0.535	137	943	0.25	7.54	451	2470	<0.00200	0.0133	0.0822	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.204	<0.000150	0.00484	<0.00200	<0.00200	0.48	0.81	1.29	
WWC-7	< 0.500	42.8	187	0.422	7.93	119	640	<0.00200	0.0165	0.0314	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	<0.100	<0.000150	0.00386	<0.00200	<0.00200	0.16	0.18	0.34	
WWC-8	0.561	151	943	0.391	7.54	537	440	<0.00200	0.0081	0.173	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.23	<0.000150	0.00632	0.00274	<0.00200	0.29	0.68	0.97	
WWC-9	< 0.500	42.6	212	1.11	8.01	78.2	560	<0.00200	0.0261	0.0973	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.147	<0.000150	0.00538	<0.00200	<0.00200	0.16	0.27	0.43	
WWC-10	< 0.500	52.3	328	0.651	7.85	141	1070	<0.00200	0.0265	0.0615	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.115	<0.000150	0.00854	<0.00200	<0.00200	0.13	0.49	0.62	

Date Oct. 2018

Round 12

Landfill Wells	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
CL-U-1	15.92	7.84	-138	1880	1.6	0.42	1.2
CL-U-2	15.68	7.81	-119	1820	4.7	0.6	1.17
CLW-1	15.59	7.68	-68	1540	0.9	2.06	0.984
CLW-2	15.77	7.86	-187	1870	1.7	1.5	1.2
CLW-3	15.45	7.93	-201	1720	2.1	1.37	1.1
CLW-4	15.51	7.97	-203	1610	12.7	1.55	1.03
CLW-5	15.07	7.94	-214	1.69	3.8	3.03	1.08
CLW-6	16.62	8.04	-225	1570	1.1	1.54	1
CLW-7	16.75	7.76	-79	1630	0.5	0.91	1.05
CLW-8	16.41	7.82	-99	1570	0.07	1.7	1.01
CLW-9	15.39	7.98	-184	1550	3.6	0.83	0.993
CL-U-3	15.07	7.55	-197	1830	0.3	2.51	1.17

Bottom Ash	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
BA-U							

Round 13 (all results ppm) Assessment Monitoring - September 23 - October 15, 2019

Landfill Wells	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
CL-U-1	< 0.500	58.9	432	0.753	7.94	109	976	<0.00200	0.0289	0.0799	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.239	<0.000150	0.0035	<0.00200	<0.00200	0.03	0.75	0.75
CL-U-2	< 0.500	60.6	424	0.792	7.87	112	968	<0.00200	0.0251	0.0935	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.229	<0.000150	0.00412	<0.00200	<0.00200	0.03	0.57	0.6
CLW-1	< 0.500	36	328	1.11	8.03	69.1	852	<0.00200	0.0295	0.0612	<0.00200	<0.000500	0.00742	<0.00400	<0.00200	0.187	<0.000150	0.00357	<0.00200	<0.00200	0.29	0.38	0.67
CLW-2	< 0.500	50.8	438	1.13	8.15	88.1	924	<0.00200	0.0283	0.1510	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.253	<0.000150	0.0102	<0.00200	<0.00200	0.08	0.56	0.64
CLW-3	< 0.500	47	363	1.24	7.99	90.8	828	<0.00200	0.039	0.0976	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.242	<0.000150	0.00504	<0.00200	<0.00200	0.6	0.43	1.03
CLW-4	< 0.500	34.6	332	1.55	7.97	75.6	768	<0.00200	0.0387	0.0797	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.235	<0.000150	0.00441	<0.00200	<0.00200	0.22	1.06	1.06
CLW-5	< 0.500	37.5	351	1.89	8	76.9	1060	<0.00200	0.0231	0.0685	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.237	<0.000150	0.00479	<0.00200	<0.00200	0.25	0.44	0.69
CLW-6	< 0.500	34.5	330	1.7	7.98	74.4	1110	<0.00200	0.0145	0.0936	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.239	<0.000150	0.00607	<0.00200	<0.00200	0.42	1.05	1.47
CLW-7	< 0.500	43.7	362	1	7.89	71.4	796	<0.00200	0.0238	0.0523	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.192	<0.000150	0.00402	<0.00200	<0.00200	0.12	-0.03	0.09
CLW-8	< 0.500	39.9	337	1.04	7.98	70.7	836	<0.00200	0.0266	0.0521	<0.00200	<0.000500	0.00000	<0.00400	<0.00200	0.196	<0.000150	0.00449	<0.00200	<0.00200	-0.05	0.32	0.27
CLW-9	< 0.500	26.9	288	1.94	8.12	88.7	792	<0.00200	0.0398	0.0469	<0.00200	<0.000500	0.00287	<0.00400	<0.00200	0.181	<0.000150	0.00573	<0.00200	<0.00200	0.36	0.02	0.38
CL-U-3	< 0.500	64.6	304	0.429	8.85	168	596	<0.00200	<0.00200	0.0342	<0.00200	<0.000500	0.0738	<0.00400	<0.00200	0.152	<0.000150	0.00964	<0.00200	<0.00200	2.13	0.21	2.13

Bottom Ash	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
BA-U-1	< 0.500	173	1140	0.587	7.71	314	2290	<0.00200	0.0223	0.0770	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.385	<0.000150	0.00302	<0.00502	<0.00200	0.16	0.73	0.73
BA-U-2	< 0.500	47.1	400	0.893	8.18	56.6	972	<0.00200	0.0283	0.1270	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.247	<0.000150	0.00332	<0.00200	<0.00200	0.26	0.7	0.96
BAC-1	1.43	93.7	801	0.307	8.16	701	2730	<0.00200	0.0126	0.0460	<0.00200	<0.000500	0.00163	<0.00400	<0.00200	0.259	<0.000150	0.128	0.00436	<0.00200	0	0.14	0.14
BAC-2	9.49	208	1730	1.07	7.45	2760	7240	<0.00200	0.0647	0.0192	<0.00200	<0.000500	0.0058	<0.00400	<0.00200	0.466	0.00028	0.19	0.0145	<0.00200	0.12	0.39	0.51
BAC-3	7.32	441	3500	0.675	7.49	4310	13900	0.0027	0.0356	0.0321	<0.00200	<0.000500	0.00449	<0.00400	<0.00200	0.957	<0.000150	0.0255	0.0236	<0.00200	0	0.45	0.45
BAC-4	0.606	66.7	573	1.13	7.95	330	1820	<0.00200	0.0322	0.0637	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.279	<0.000150	0.0218	<0.00200	<0.00200	0.15	0.16	0.31
BAC-5	< 0.500	66.2	568	1.11	8.07	250	1410	<0.00200	0.0321	0.0814	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.289	<0.000150	0.00941	<0.00200	<0.00200	0.25	0.36	0.61
BAC-6	2.66	119	625	0.796	7.86	646	1870	<0.00200	0.0223	0.0338	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.288	<0.000150	0.0651	0.00273	<0.00200	0.31	0.83	1.14
BAC-7	5.06	107	566	1.31	7.96	1170	2320	<0.00200	0.0314	0.0174	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.248	<0.000150	0.0887	0.00276	<0.00200	0.04	0.22	0.26
BAC-8	< 0.500	23.2	280	1.53	8.05	95.5	784	<0.00200	0.0639	0.0389	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.156	<0.000150	0.00545	<0.00200	<0.00200	0.03	1.21	1.21
BAC-9	< 0.500	27.1	299	1.45	8.06	87.6	788	<0.00200	0.0593	0.0388	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.16	<0.000150	0.00483	<0.00200	<0.00200	0.09	0	0.53
BAC-10	< 0.500	25.7	280	1.51	8.09	87.4	808	<0.00200	0.0595	0.045	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.16	<0.000150	0.00584	<0.00200	<0.00200	0.8	1	1.8

Waste Water	Results																						
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	Radium 226 and 228 combined
SI-U-1	< 0.500	136	824	0.38	7.71	281	1850	<0.00200	0.00981	0.0599	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.277	<0.000150	<0.00200	<0.00200	<0.00200	0.19	1.61	1.61
WW-U-1	1.41	311	1010	<0.100	7.37	588	5720	<0.00200	0.00594	0.0419	<0.00200	<0.000500	0.00166	<0.00400	<0.00200	0.485	<0.000150	0.00689	0.0077	<0.00200	-0.08	1.42	1.42
WW-U-2	1.02	346	2020	<0.100	7.3	855	4400	<0.00200	0.00735	0.0499	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.54	<0.000150	0.00317	0.011	<0.00200	-0.2	1.36	1.36
WWC-1	13.2	473	4940	0.292	7.42	3570	14900	<0.00200	0.0264	0.0205	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.974	0.000278	0.0113	0.016	<0.00200	0.23	0.9	0.9
WWC-2	< 0.500	57.6	349	0.427	7.99	141	876	<0.00200	0.0166	0.0336	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.126	<0.000150	0.00327	<0.00200	<0.00200	-0.15	0.81	0.81
WWC-3	< 0.500	33.3	262	0.986	8.13	95.3	776	<0.00200	0.0236	0.0331	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.151	<0.000150	0.00477	<0.00200	<0.00200	3.1	0.58	3.1
WWC-4	1.06	176	968	0.453	7.61	594	3080	<0.00200	0.0154	0.0456	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.329	<0.000150	<0.00200	0.00177	<0.00200	0.72	0.57	1.29
WWC-5	2.11	344	1530	0.448	7.39	1290	4740	<0.00200	0.0154	0.0382	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.538	<0.000150	0.00256	0.00596	<0.00200	0.26	1.05	1.05
WWC-6	0.548	125	855	0.23	7.66	451	2340	<0.00200	0.0138	0.0852	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.204	<0.000150	0.00595	<0.00200	<0.00200	0.034	0.41	0.444
WWC-7	< 0.500	46.7	186	0.418	8.12	129	652	<0.00200	0.0187	0.0316	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	<0.100	<0.000150	0.00414	<0.00200	<0.00200	0.14	0.21	0.35
WWC-8	0.803	144	1230	0.353	7.7	579	3670	<0.00200	0.0145	0.0627	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.246	<0.000150	0.00284	0.00422	<0.00200	0.05	0.42	0.47
WWC-9	< 0.500	47.1	309	0.909	8.04	107	780	<0.00200	0.0309	0.0643	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.153	<0.000150	0.00351	<0.00200	<0.00200	0.14	0.05	0.19
WWC-10	< 0.500	54.4	380	0.629	8.02	177	988	<0.00200	0.0289	0.0347	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.125	<0.000150	0.00932	<0.00200	<0.00200	0.03	0.14	0.17

Date Oct. 2018

Round 13

Landfill Wells	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
CL-U-1	15.85	7.75	-159	777	0	1.62	0.497
CL-U-2	15.96	7.7	-158	743	0	1.01	0.476
CLW-1	15.83	7.73	-48	1480	1.3	2.01	0.948
CLW-2	16.6	7.79	-191	760	0	2	0.488
CLW-3	17.14	7.84	-215	1730	0.5	1.43	1.11
CLW-4	16.47	7.88	-233	1600	2.7	1.61	1.03
CLW-5	17.05	7.83	-220	1700	1.9	1.84	1.09
CLW-6	16.65	7.7	-229	1590	1.6	2.69	1.02
CLW-7	17.74	7.76	-57	1580	0.6	1.24	1.01
CLW-8	16.37	7.81	-36	1520	1	1.51	0.969
CLW-9	16.03	7.72	-299	1610	0.2	7.56	1.03
CL-U-3	16.1	9.08	-76	503	0	1.84	0.322

Bottom Ash	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
BA-U-1	16.68	7.47					

Round 14 (all results ppm) Assessment Monitoring - March 25 - April 9, 2020

Round 14

Landfill Wells	Results																						Radium 226 and 228 combined
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	
CL-U-1	< 0.500	57.6	429	0.979	7.70	122	916	<0.00200	0.0310	0.0800	<0.00200	<0.000500	0.00551	<0.00400	<0.00200	0.241	<0.000150	0.00505	<0.00200	<0.00200	0.36	0.93	1.29
CL-U-2	< 0.500	60.0	408	1.01	7.68	118	964	<0.00200	0.0266	0.0901	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.221	<0.000150	0.00404	<0.00200	<0.00200	0.09	1.23	1.23
CLW-1	< 0.500	36.6	304	0.979	7.91	61.0	856	<0.00200	0.0300	0.0612	<0.00200	<0.000500	0.00551	<0.00400	<0.00200	0.172	<0.000150	0.00527	<0.00200	<0.00200	0.25	0.12	0
CLW-2	< 0.500	47.0	418	1.23	7.84	86.0	992	<0.00200	0.0258	0.0770	<0.00200	<0.000500	0.00337	<0.00400	<0.00200	0.212	0.000278	0.00556	<0.00200	<0.00200	0.03	0.54	0
CLW-3	< 0.500	39.4	361	1.27	7.88	101	488	<0.00200	0.0387	0.0991	<0.00200	<0.000500	0.00251	<0.00400	<0.00200	0.206	<0.000150	0.00560	<0.00200	<0.00200	0.20	-0.04	0
CLW-4	< 0.500	33.6	323	1.34	7.88	85.5	960	<0.00200	0.0381	0.0822	<0.00200	<0.000500	0.00245	<0.00400	<0.00200	0.204	<0.000150	0.00508	<0.00200	<0.00200	-0.03	0.47	0
CLW-5	< 0.500	34.5	340	1.58	7.86	83.9	800	<0.00200	0.0227	0.0737	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.198	<0.000150	0.00585	<0.00200	<0.00200	0.15	0.62	0
CLW-6	< 0.500	33.0	312	1.48	7.94	81.2	544	<0.00200	0.0225	0.0878	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.203	<0.000150	0.00540	<0.00200	<0.00200	0.43	-0.06	0
CLW-7	< 0.500	44.3	329	1.03	7.79	60.5	1020	<0.00200	0.0242	0.0526	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.180	<0.000150	0.00392	<0.00200	<0.00200	0.20	-0.08	0
CLW-8	< 0.500	40.8	316	1.03	7.86	63.7	880	<0.00200	0.0267	0.0634	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.182	<0.000150	0.00400	<0.00200	<0.00200	0.12	0.12	0
CLW-9	< 0.500	25.2	296	1.90	7.96	83.5	932	<0.00200	0.0402	0.0499	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.170	<0.000150	0.00597	<0.00200	<0.00200	0.15	0.32	0
CL-U-3	< 0.500	57.7	386	0.889	7.75	116	1090	<0.00200	0.0206	0.0478	<0.00200	<0.000500	0.00553	<0.00400	<0.00200	0.205	<0.000150	0.00467	<0.00200	<0.00200	-0.06	0.95	0.95

Landfill Wells	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
Round 13	14.31	7.53	-172	1970	1.0	0.46	1.26
CL-U-2	14.47	7.47	-132	1890	1.1	4.72	1.21
CLW-1	15.51	7.45	-110	1500	0.3	0.40	0.96
CLW-2	15.46	7.59	-189	1950	1.0	0.14	1.25
CLW-3	15.26	7.66	-230	1760	1.0	0.16	1.13
CLW-4	15.25	7.67	-237	1650	3.3	0.17	1.06
CLW-5	15.20	7.57	-234	1730	7.5	0.40	1.11
CLW-6	14.63	7.57	-236	1650	0.9	0.26	1.06
CLW-7	16.02	7.45	-97	1610	0.2	0.24	1.03
CLW-8	16.24	7.47	-106	1540	6.0	0.37	0.98
CLW-9	13.95	7.72	-276	1590	1.9	6.57	1.02
CL-U-3	14.31	7.51	-210	1870	1.7	5.53	1.20

Bottom Ash	Results																						Radium 226 and 228 combined
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	
BA-U-1	< 0.500	188	1090	0.817	7.50	367	3050	<0.00200	0.0226	0.0774	<0.00200	<0.000500	0.0711	<0.00400	<0.00200	0.375	<0.000150	0.0152	0.00519	<0.00200	0.28	1.20	1.2
BA-U-2	< 0.500	2.47	395	0.912	10.70	42.7	872	<0.00200	0.00683	0.0804	<0.00200	<0.000500	0.00611	<0.00400	<0.00200	0.327	<0.000150	0.00629	<0.00200	<0.00200	-0.03	0.70	0
BAC-1	3.00	239	1890	0.645	7.39	1300	5270	<0.00200	0.0154	0.0340	<0.00200	<0.000500	0.00219	<0.00400	<0.00200	0.547	<0.000150	0.0170	0.00791	<0.00200	0.09	0.83	0.83
BAC-2	8.38	210	1710	1.16	7.27	2440	6380	<0.00200	0.0609	0.0206	<0.00200	<0.000500	0.00986	<0.00400	<0.00200	0.431	0.000192	0.172	0.0128	<0.00200	0.33	1.21	1.21
BAC-3	7.47	447	3620	1.26	7.21	4380	12500	<0.00200	0.0321	0.0284	<0.00200	<0.000500	0.0150	<0.00400	<0.00200	0.913	<0.000150	0.0251	0.0204	<0.00200	0.16	0.51	0
BAC-4	0.613	70.5	541	1.09	7.89	295	1540	<0.00200	0.0330	0.0649	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.272	<0.000150	0.0211	<0.00200	<0.00200	-0.06	0.17	0
BAC-5	0.547	83.5	552	0.991	7.79	416	1760	<0.00200	0.0297	0.0560	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.306	<0.000150	0.0242	<0.00200	<0.00200	0.03	0.22	0
BAC-6	4.02	115	560	0.847	7.74	1020	2340	<0.00200	0.0255	0.0215	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.242	0.000278	0.0805	<0.00200	<0.00200	0.14	0.52	0
BAC-7	5.48	92.6	532	1.48	7.91	1090	2400	<0.00200	0.0350	0.0168	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.180	<0.000150	0.0805	0.00202	<0.00200	0.21	0.25	0
BAC-8	< 0.500	25.4	264	1.61	7.97	84.4	784	<0.00200	0.0596	0.0370	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.183	<0.000150	0.00581	<0.00200	<0.00200	0	0.16	0
BAC-9	< 0.500	31.4	305	1.47	7.94	77.5	824	<0.00200	0.0488	0.0400	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.185	<0.000150	0.00487	<0.00200	<0.00200	0.09	0.29	0
BAC-10	0.571	26.1	278	1.62	7.95	84.0	804	<0.00200	0.0531	0.0381	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.171	<0.000150	0.00617	<0.00200	<0.00200	0.22	0.19	0
BAC-11	< 0.500	84.4	676	0.984	7.71	147	1100	<0.00200	0.0312	0.1160	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.244	<0.000150	0.00345	<0.00200	<0.00200	0.36	0.09	0
BAC-12	< 0.500	25.9	210	1.24	7.99	71.7	360	<0.00200	0.0423	0.0938	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.132	<0.000150	0.00479	<0.00200	<0.00200	0.23	0.18	0
BAC-13	0.604	115	929	0.957	7.50	276	46400	<0.00200	0.0329	0.0773	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.285	<0.000150	0.00250	<0.00200	<0.00200	0.35	0.55	0
BAC-14	0.565	158	940	0.972	7.53	432	1180	<0.00200	0.0359	0.0542	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.321	<0.000150	0.00222	<0.00200	<0.00200	0.03	0.08	0
BAC-15	< 0.500	26.2	263	1.75	8.01	78.9	600	<0.00200	0.0539	0.0395	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.172	<0.000150	0.00827	<0.00200	<0.00200	0.08	0.18	0
BAC-16	< 0.500	24.2	304	1.89	8.15	77.8	900	<0.00200	0.0783	0.0346	<0.00200	<0.000500	<0.00200	<0.00400	<0.00200	0.183	<0.000150	0.00732	<0.00200	<0.00200	0.20	0.22	0

Bottom Ash	Field Results						
	Temp	pH	REDOX	Conductance	Turbidity (NTUs)	DO	TDS
BA-U-1	15.43	7.22	-203	4340	5.7	0.20	2.78
BA-U-2	15.98	10.31	-330	469	0.0	0.35	0.305
BAC-1	17.25	7.20	-60	8060	2.4	0.32	5.09
BAC-2	16.70	7.16	-30	10100	8.1	5.44	6.26
BAC-3	16.05	7.18	-5	16500	3.7	0.50	10.2
BAC-4	15.70	7.53	-107	2600	0.0	0.18	1.67
BAC-5	15.76	7.51	-74	2900	0.2	0.16	1.86
BAC-6	16.17	7.49	-63	3540	0.9	0.33	2.26
BAC-7	15.35	7.66	-115	3840	1.9	2.47	2.46
BAC-8							
BAC-9							
BAC-10							
BAC-11	15.03	7.41	12	2980	7.1	7.33	1.91
BAC-12	14.93	7.75	-152	1280	1.4	6.36	0.821
BAC-13	14.46	7.28	-47	3850	1.1	6.99	2.47
BAC-14	14.81	7.20	4230	22	2.0	4.84	2.7
BAC-15	14.67	7.72	-45	1550	1.5	7.69	0.99
BAC-16	14.41	7.71	-64	1710	0.5	7.76	1.1

Waste Water	Results																						Radium 226 and 228 combined
	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Radium 226	Radium 228	
SI-U-1	< 0.500	113	699	0.511	7.70	279	1230	<0.00200	0.00865	0.0609	<0.00200	<0.000500	0.00305	<0.00400	<0.00200	0.239	<0.000150	0.00280	<0.00200	<0.00200	0.20	1.04	1.04
WW-U-1	1.42	286	1940	0.324	7.24	1270	4740	<0.00200	0.00653	0.0391	<0.00200	<0.000500	0.00544	<0.00400	<0.00200	0.412	<0.000150	0.00811	0.00724	<0.00200	0.21	1.38	1.38
WW-U-2	1.23	337	2020	0.473	7.42	981	4020	<0.00200	0.0108	0.0502	<0.00200	<0.000500	0.00696	<0.00400	<0.00200	0.498	<0.000150	0.00309	0.0112	<0.00200	0	1.08	1.08
WWC-1	13.4																						

Round 15

Table with 22 columns for chemical elements and 20 rows of data for Landfill Wells (CL-U-1 to CL-U-3).

Round 15

Table with 8 columns for field results and 20 rows of data for Landfill Wells (CL-U-1 to CL-U-3).

Results

Table with 22 columns for chemical elements and 38 rows of data for Bottom Ash (BA-U-1 to BA-U-38).

Field Results

Table with 8 columns for field results and 38 rows of data for Bottom Ash (BA-U-1 to BA-U-38).

Results

Table with 22 columns for chemical elements and 17 rows of data for Waste Water (SI-U-1 to WWC-17).

Field Results

Table with 8 columns for field results and 17 rows of data for Waste Water (SI-U-1 to WWC-17).

Results

Table with 22 columns for chemical elements and 10 rows of data for Additional Wells (RW-1 to WDB-19).

Field Results

Table with 8 columns for field results and 10 rows of data for Additional Wells (RW-1 to WDB-19).

**2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION SUMMARY
REPORT**

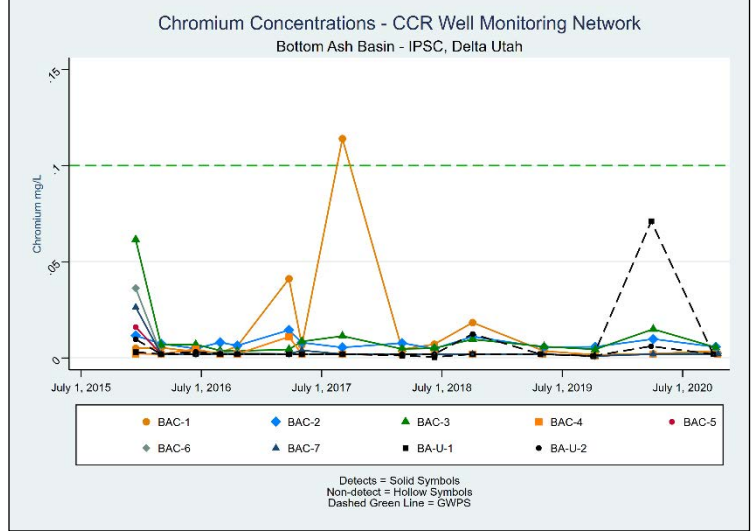
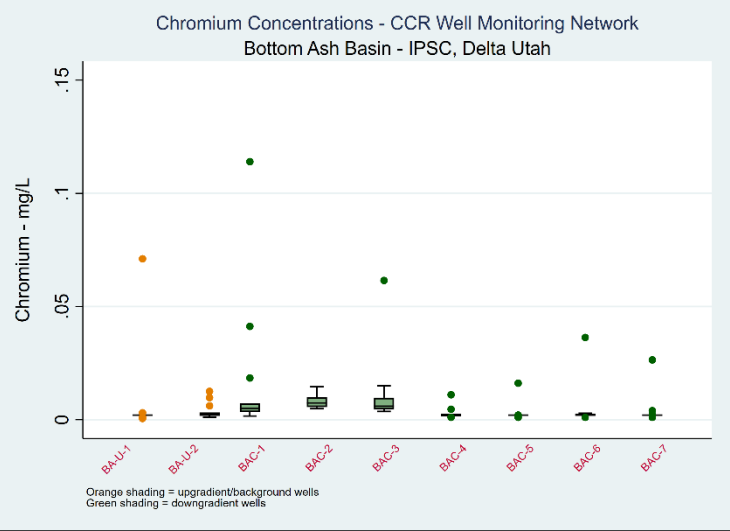
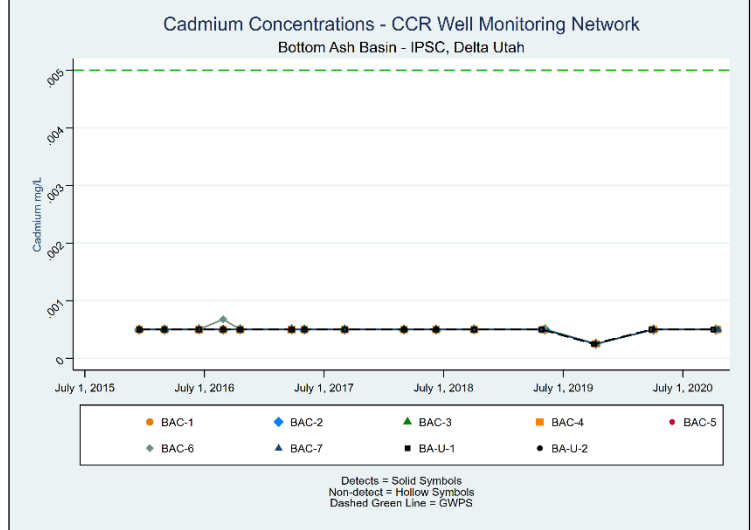
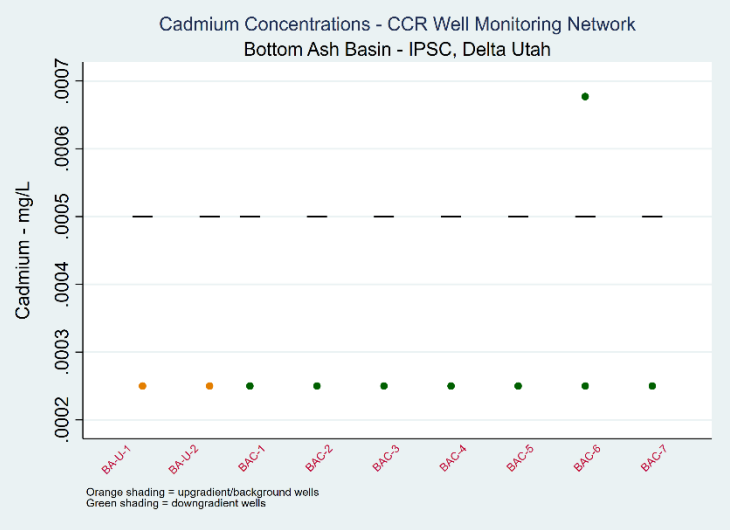
ATTACHMENT C. STANTEC STATISTICAL ANALYSIS RESULTS

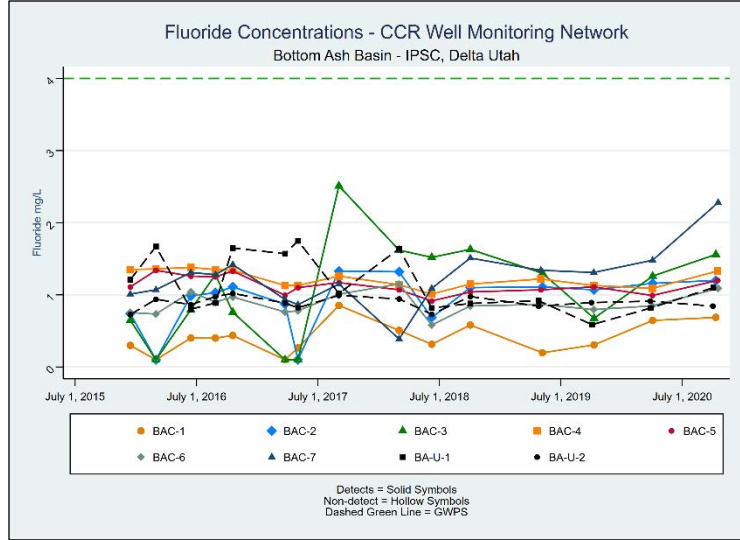
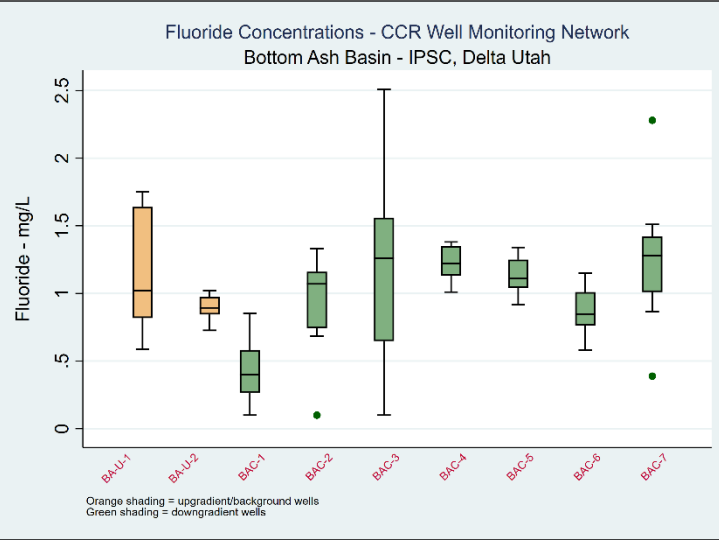
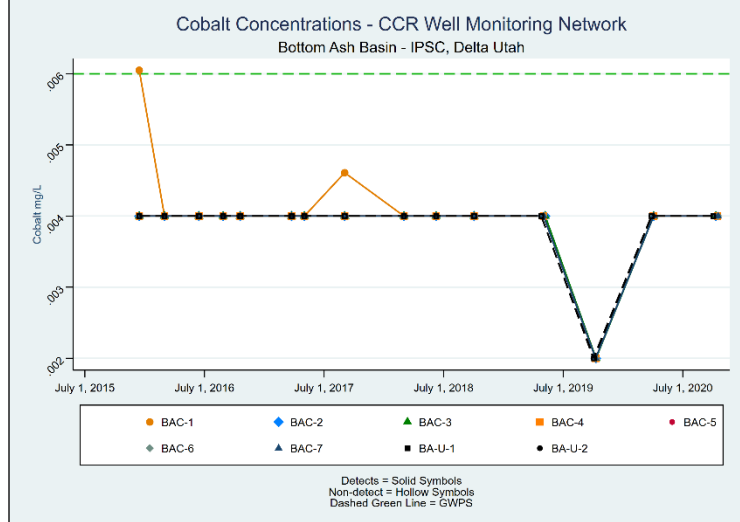
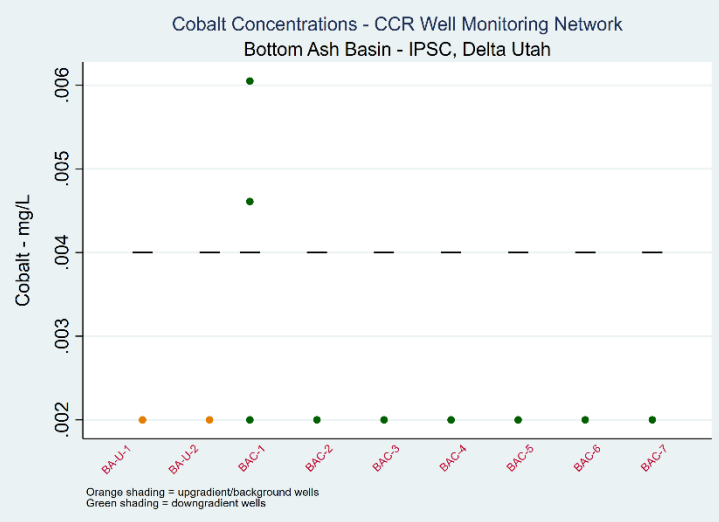
January 21, 2021

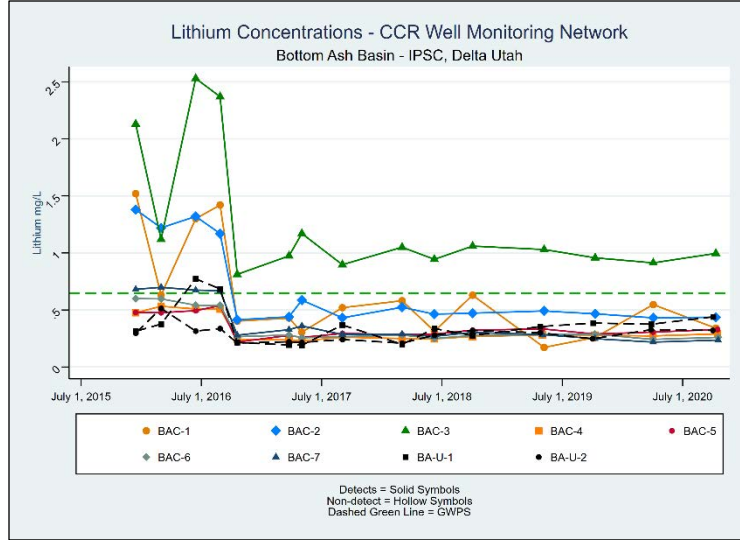
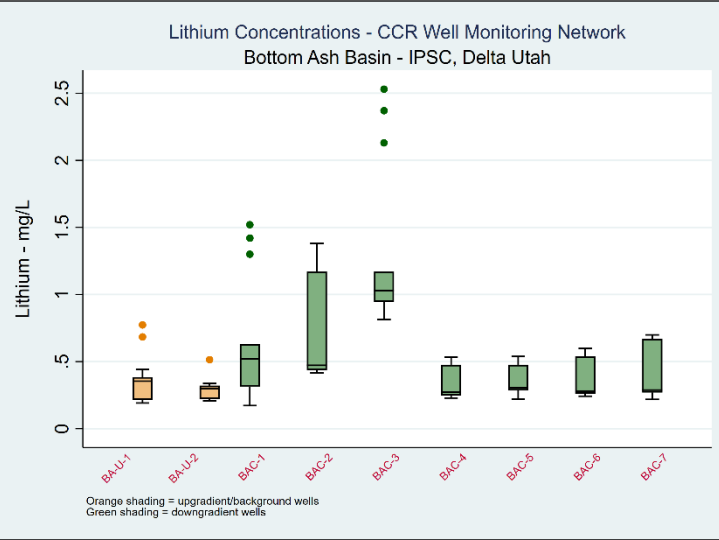
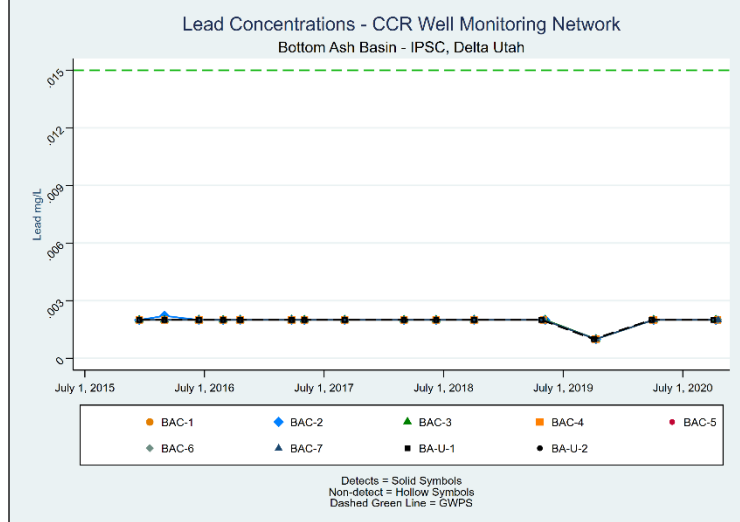
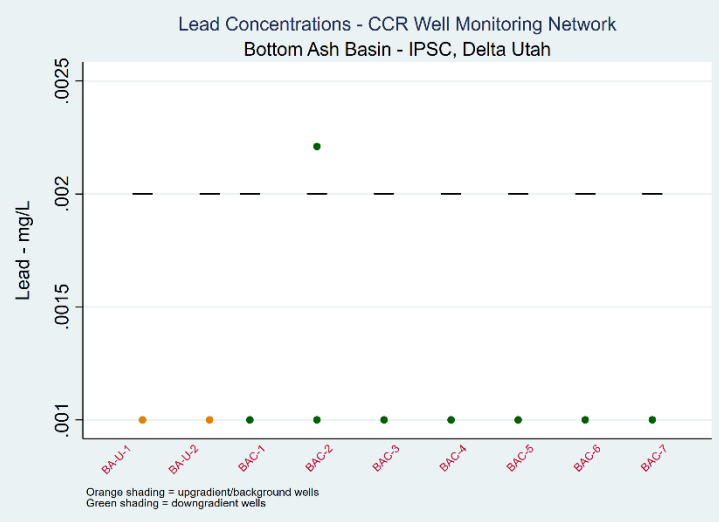
ATTACHMENT C. STANTEC STATISTICAL ANALYSIS RESULTS

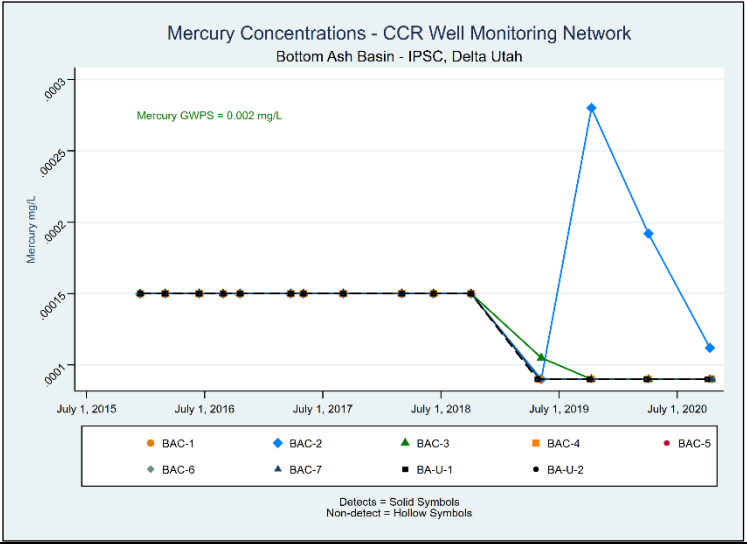
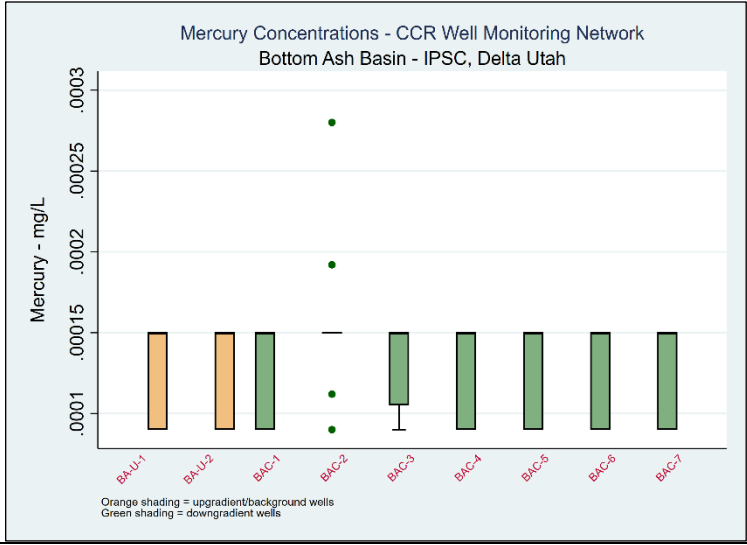
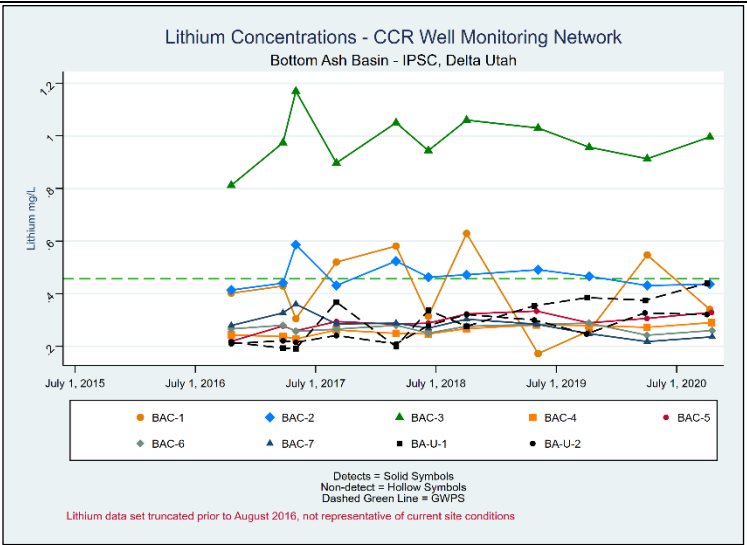
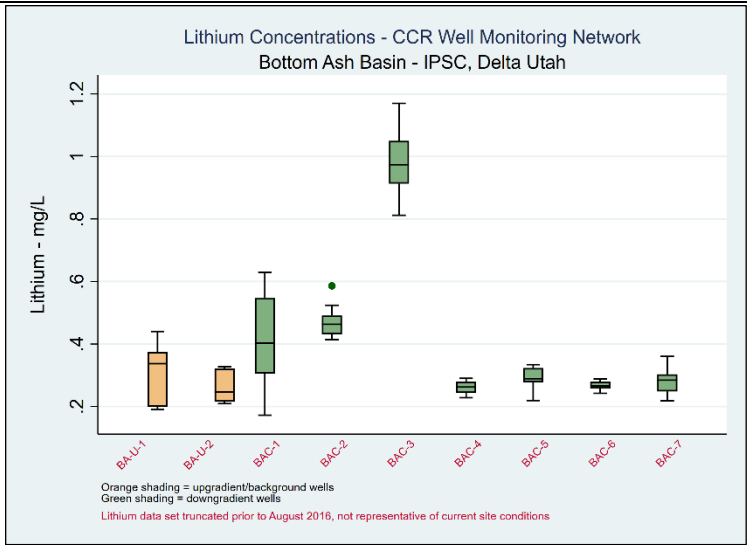
FIGURES C-1a, C-1b, and C-1c

Box & Time Series Plots









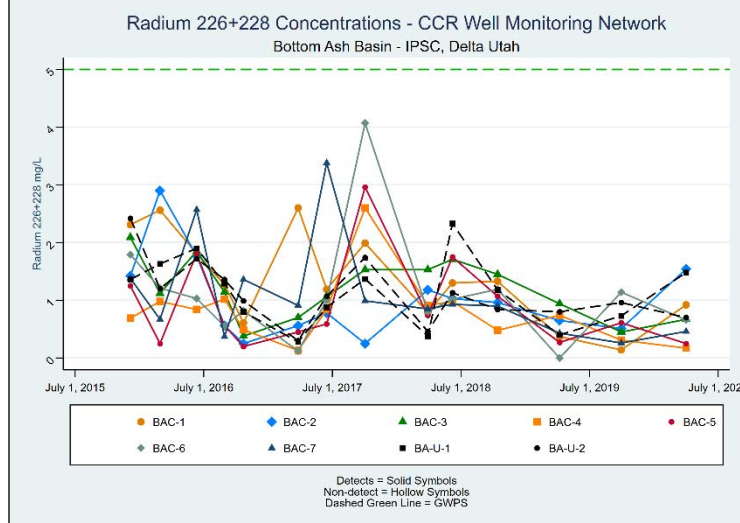
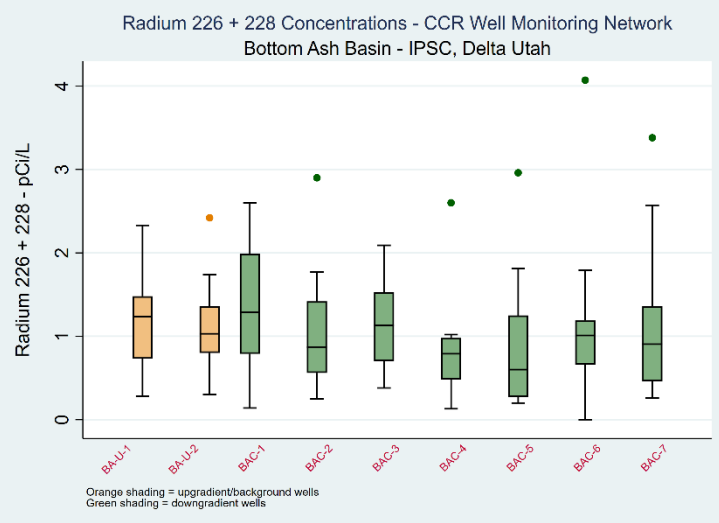
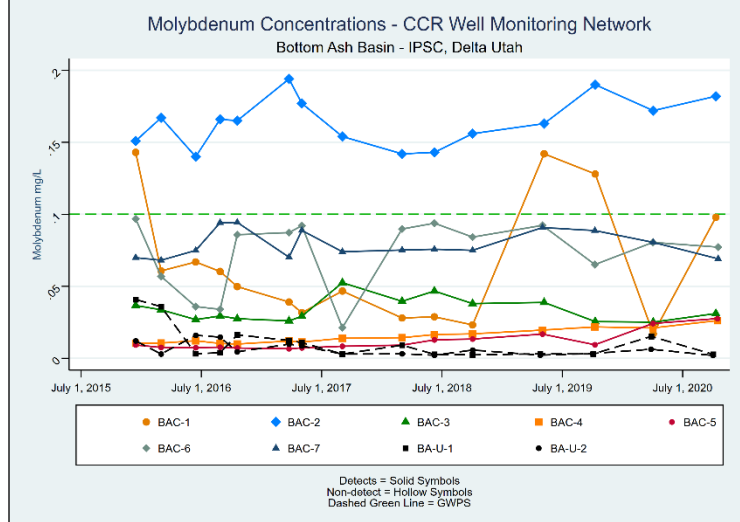
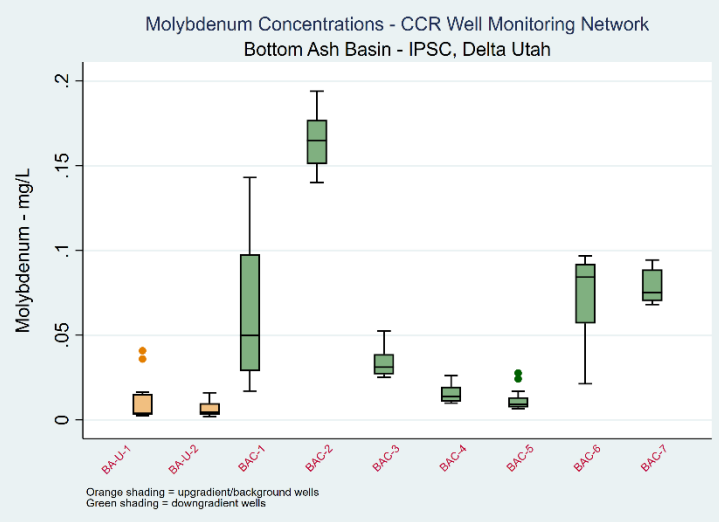
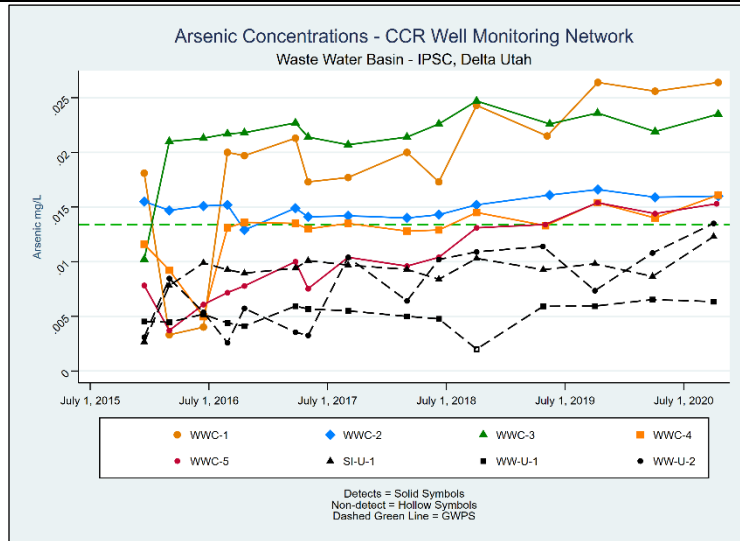
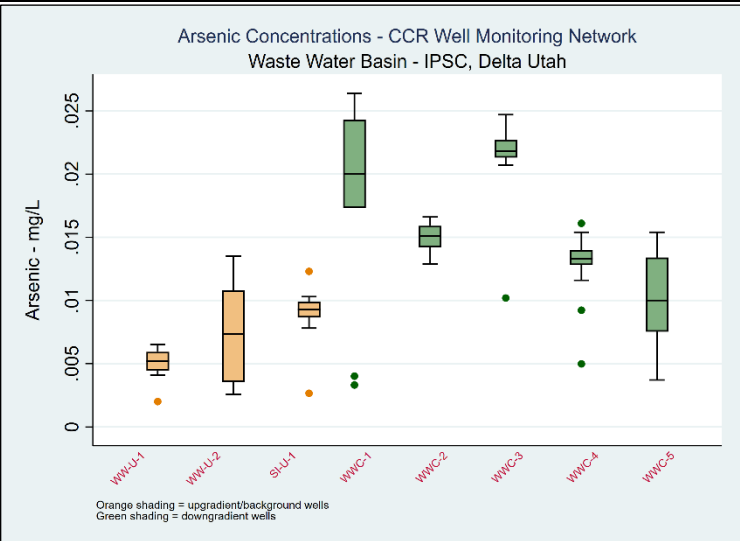
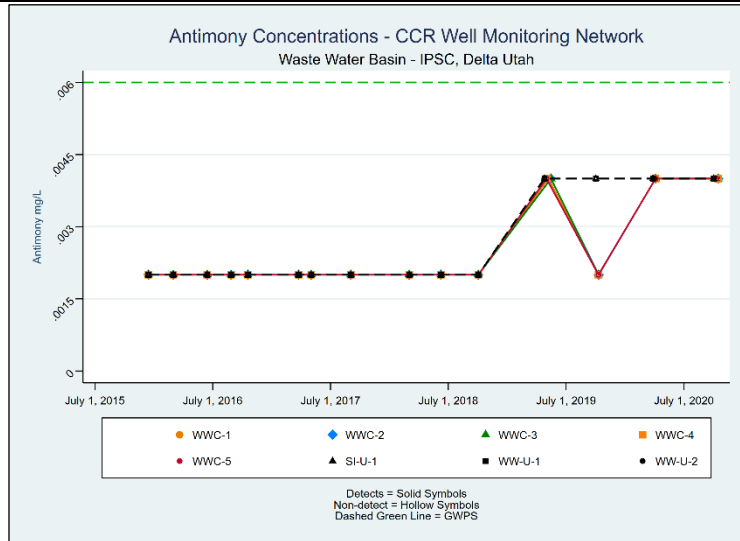
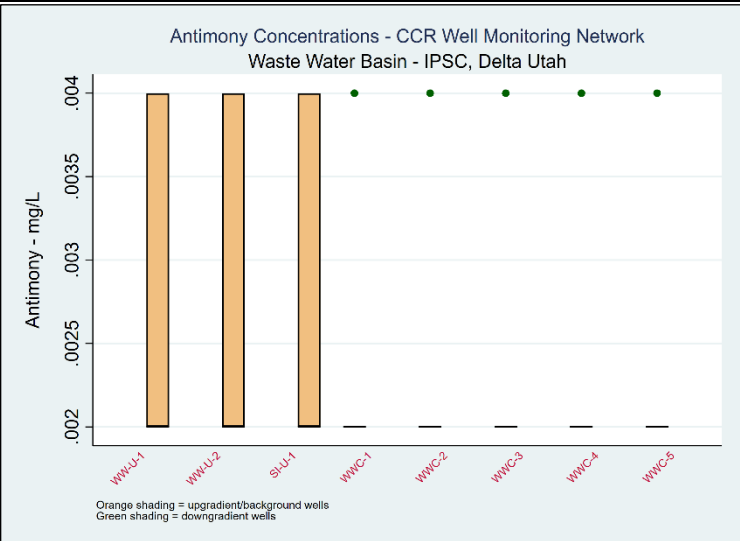
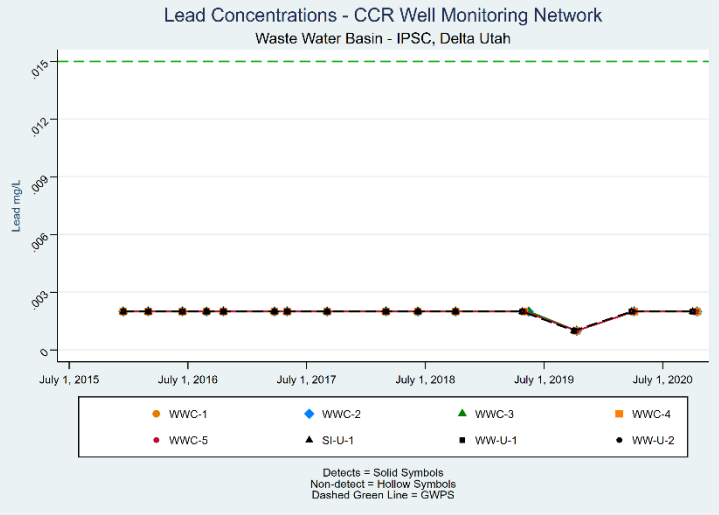
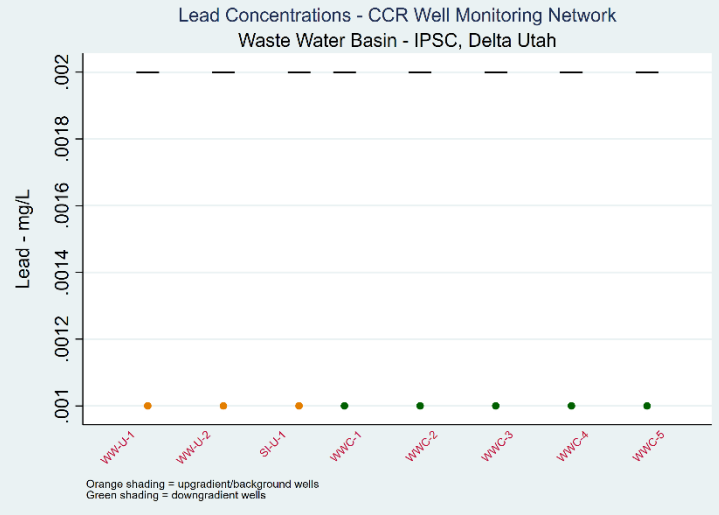
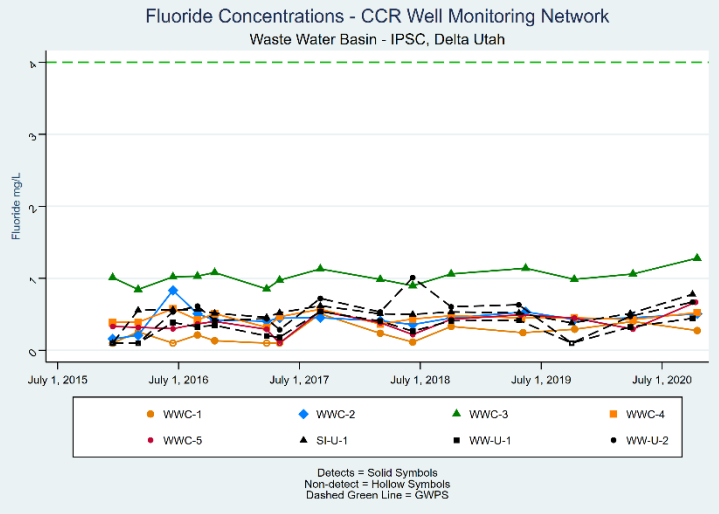
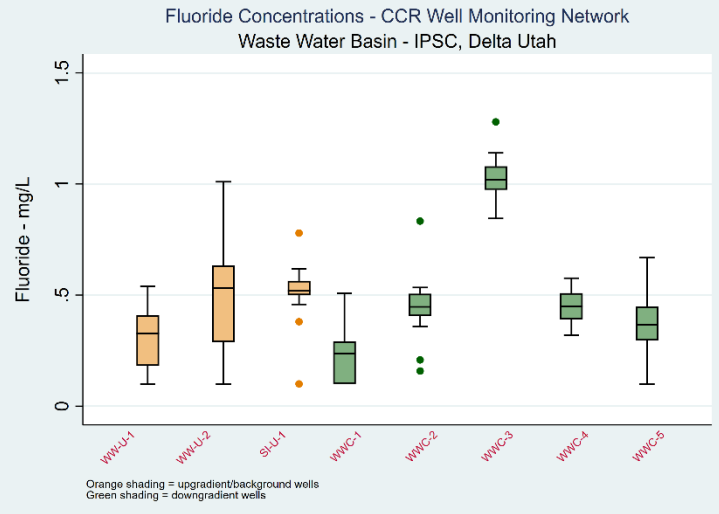
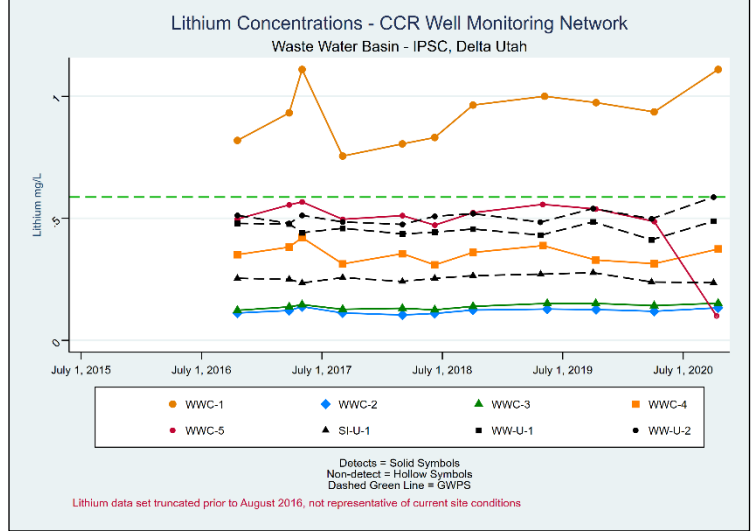
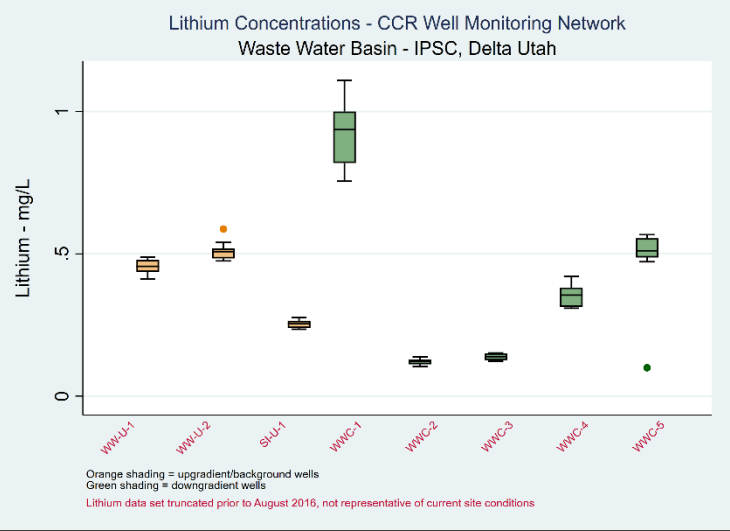
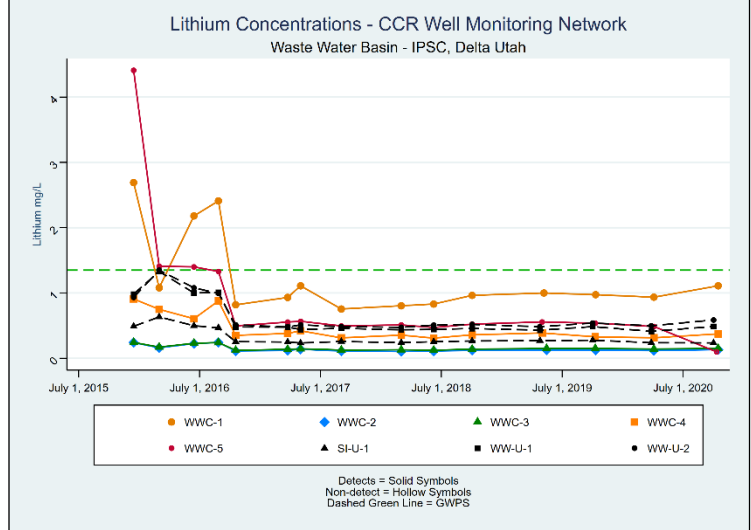
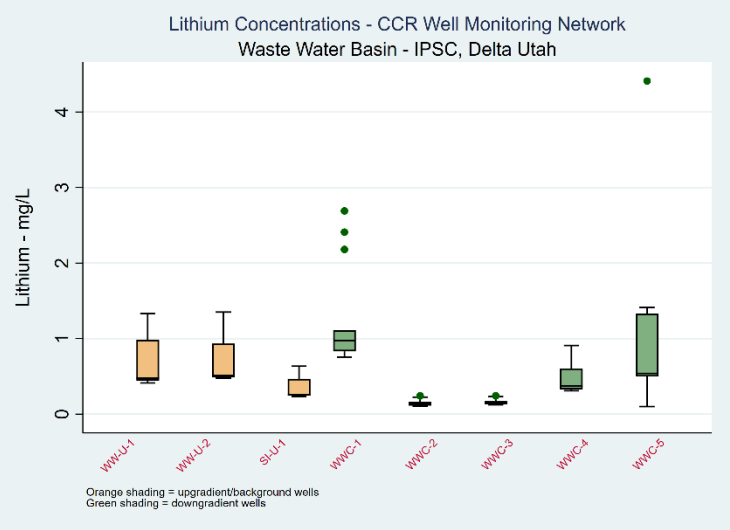
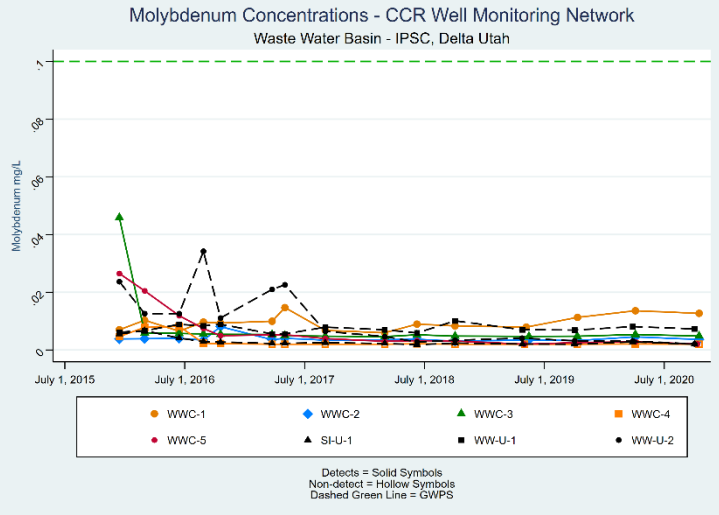
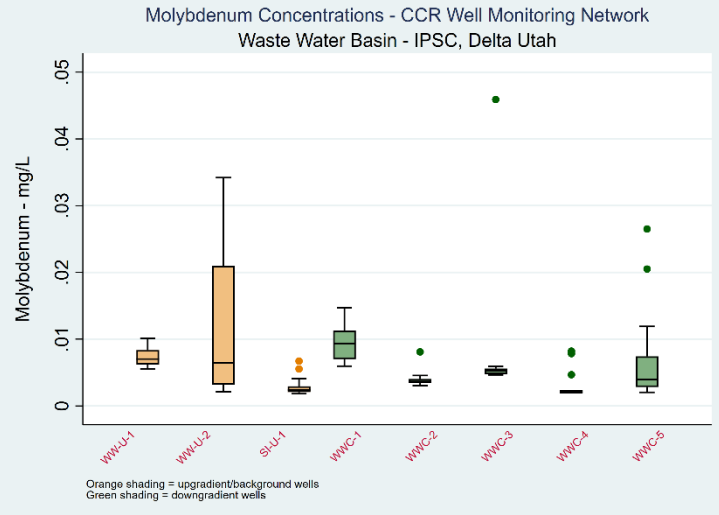
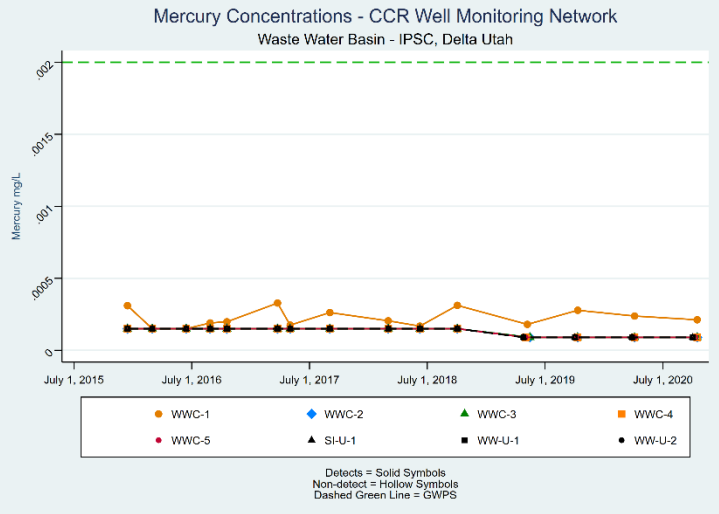
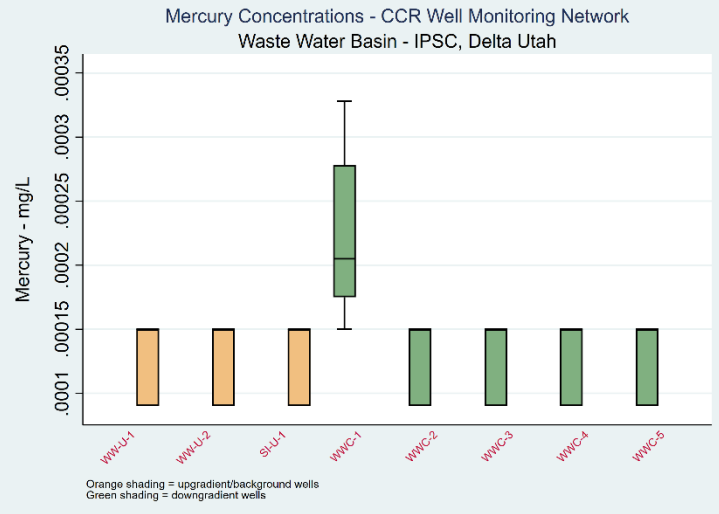


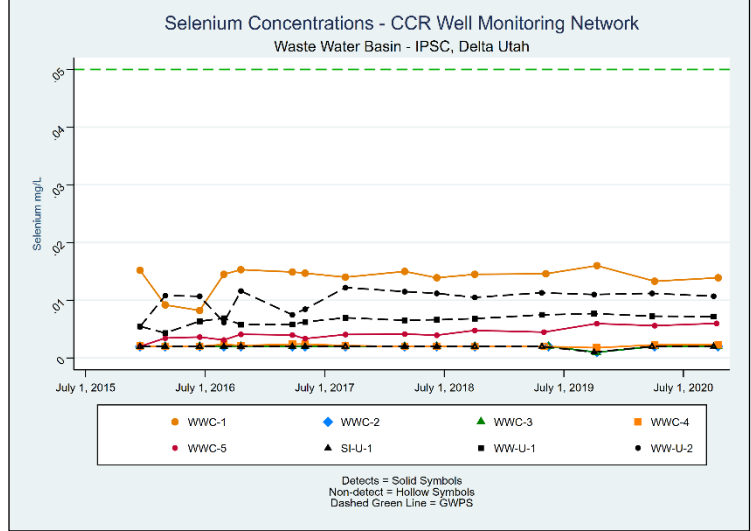
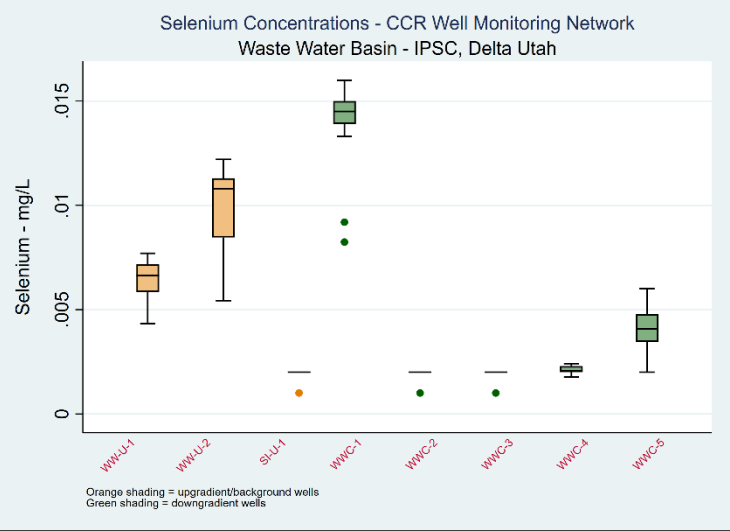
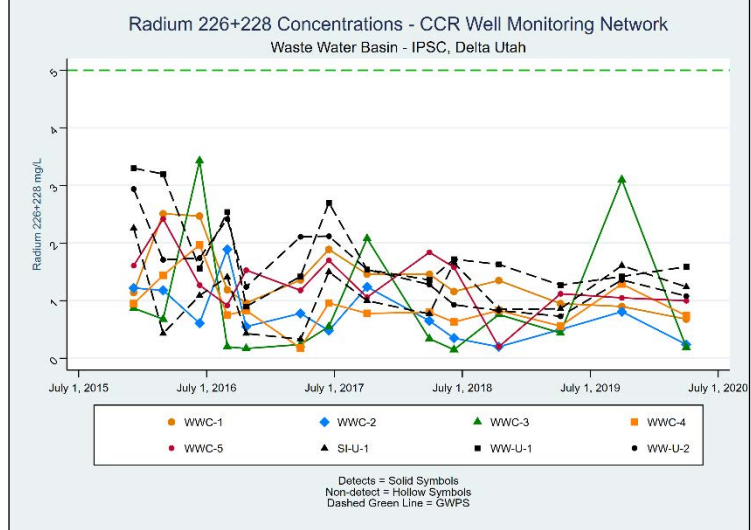
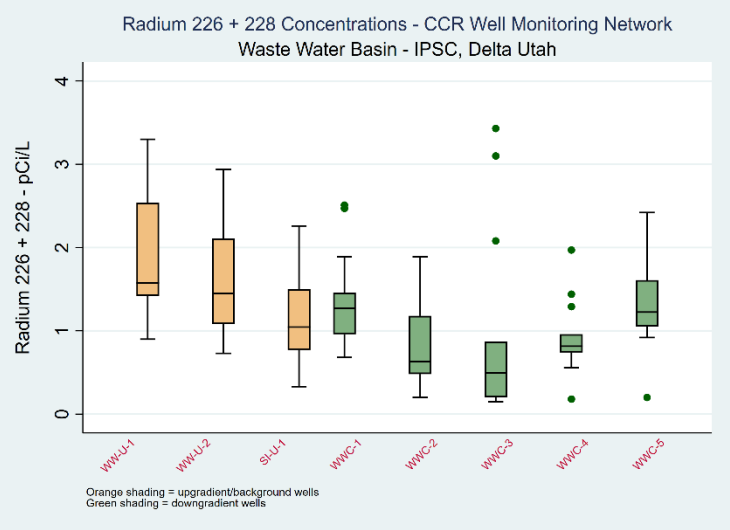
Figure C-1b - Box & Time Series Plots – Waste Water Basin - IPSC, Delta Utah











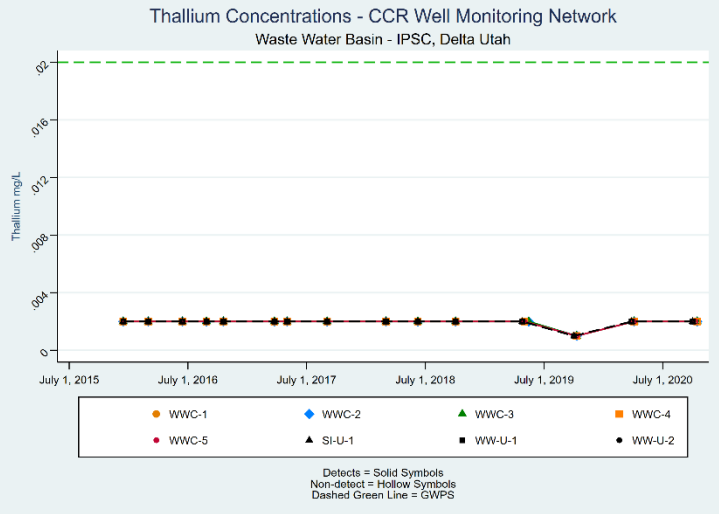
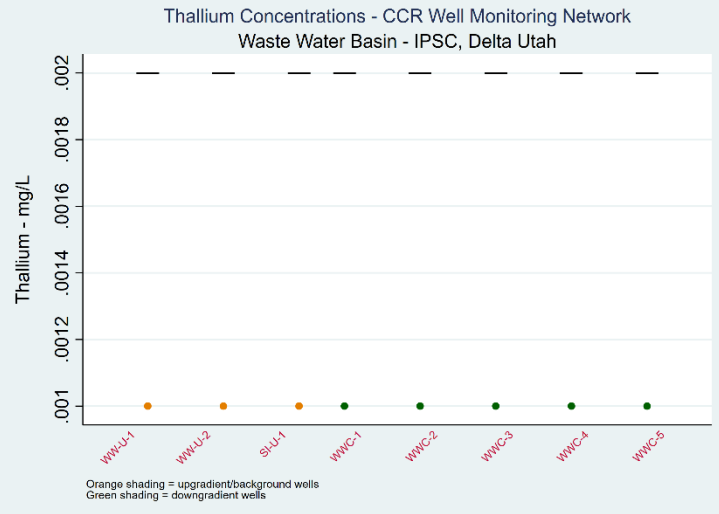
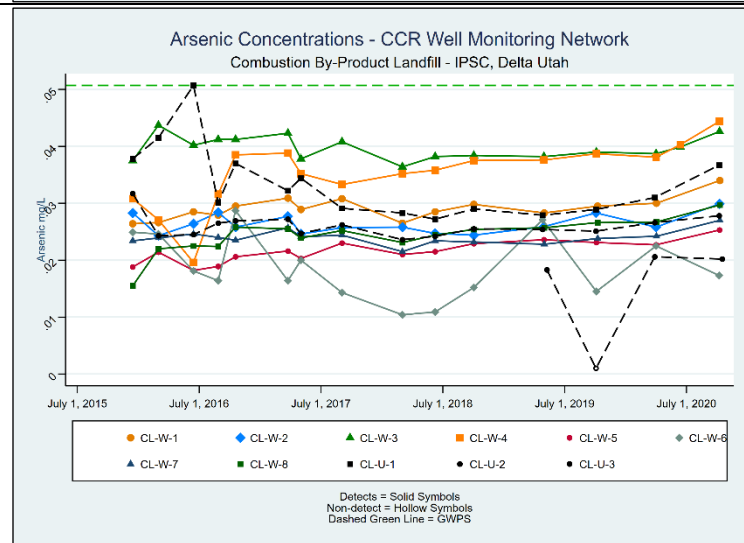
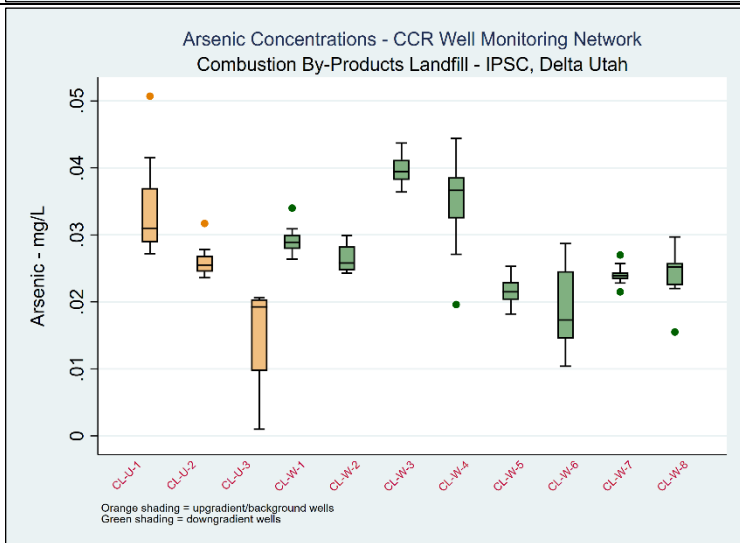
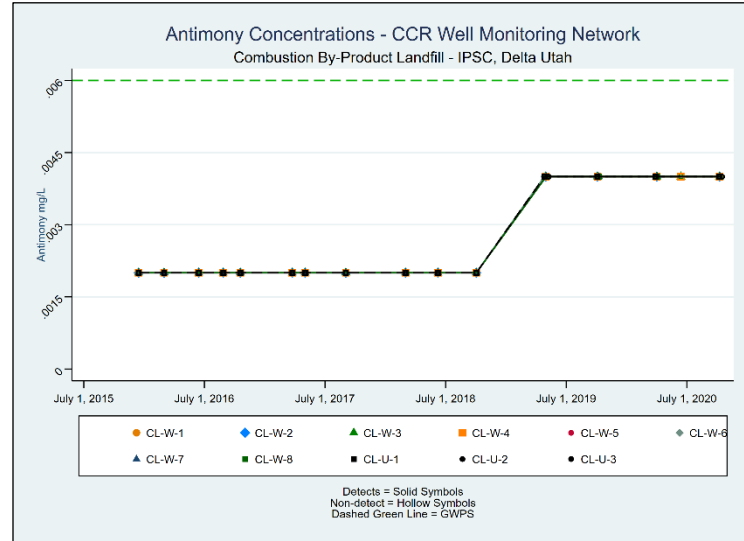
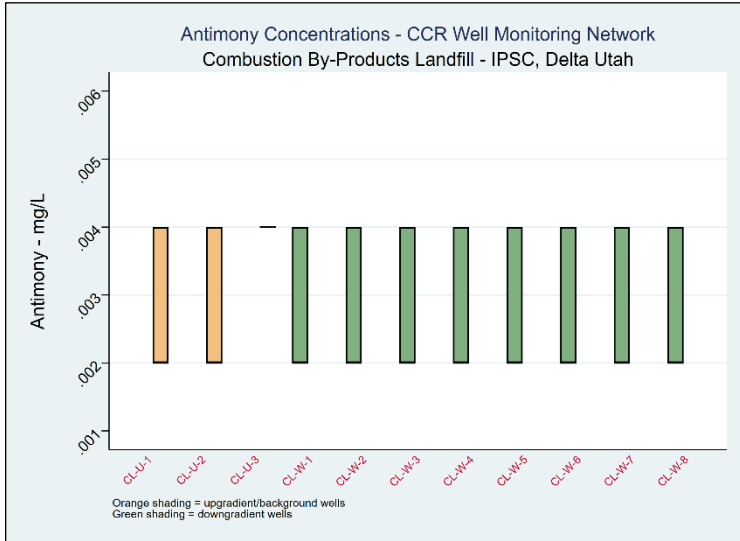
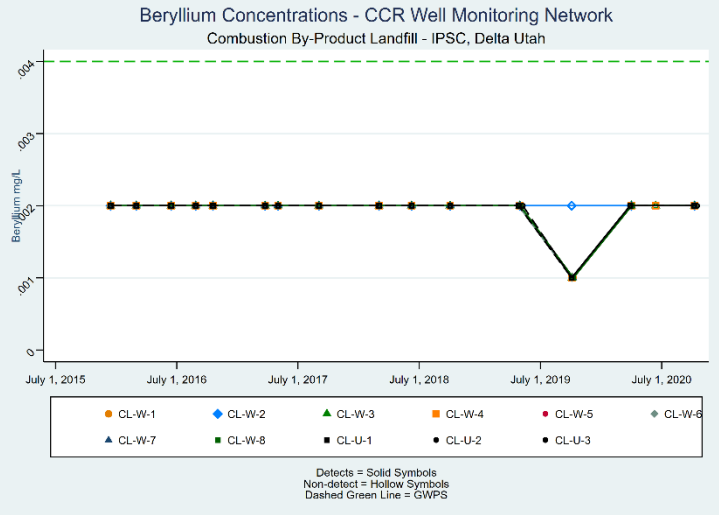
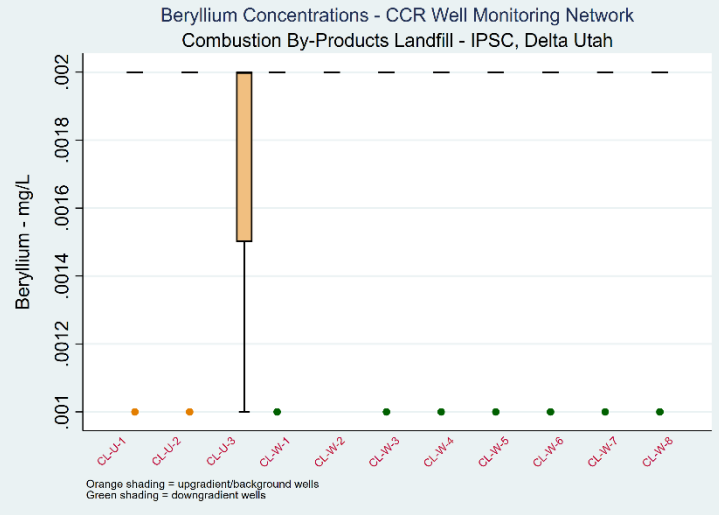
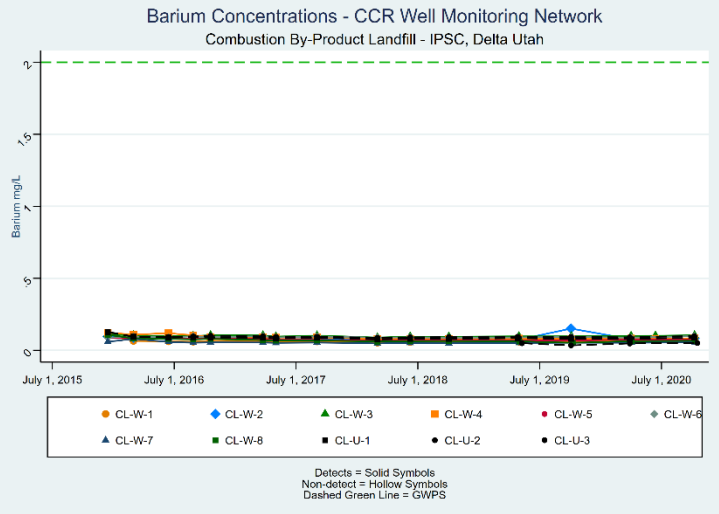
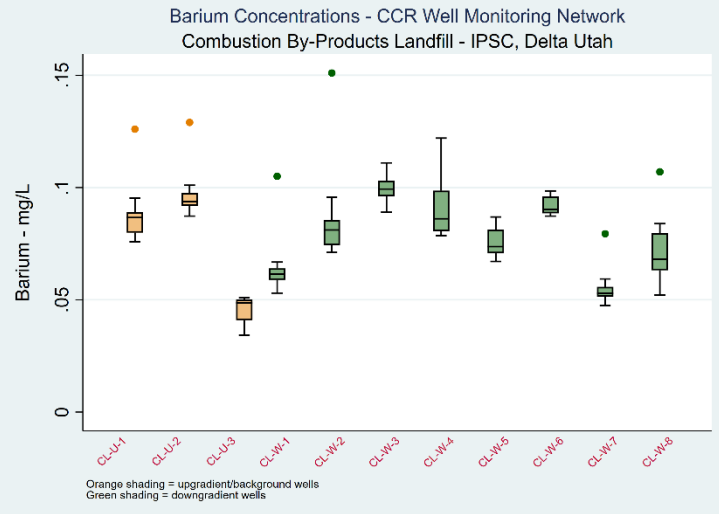
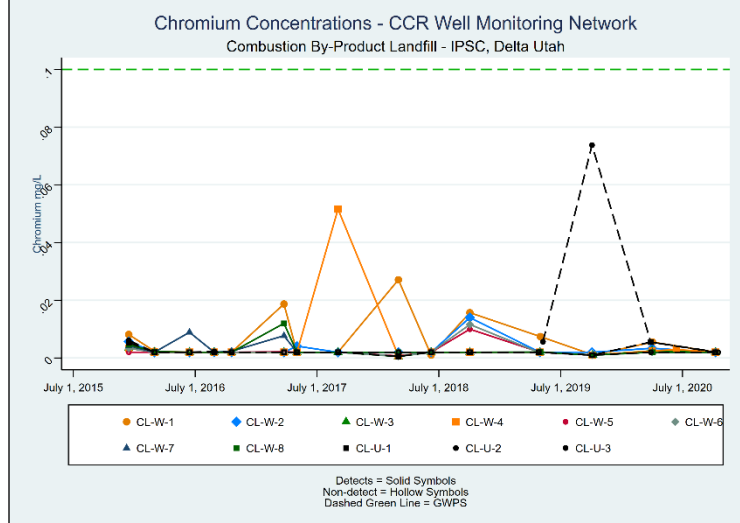
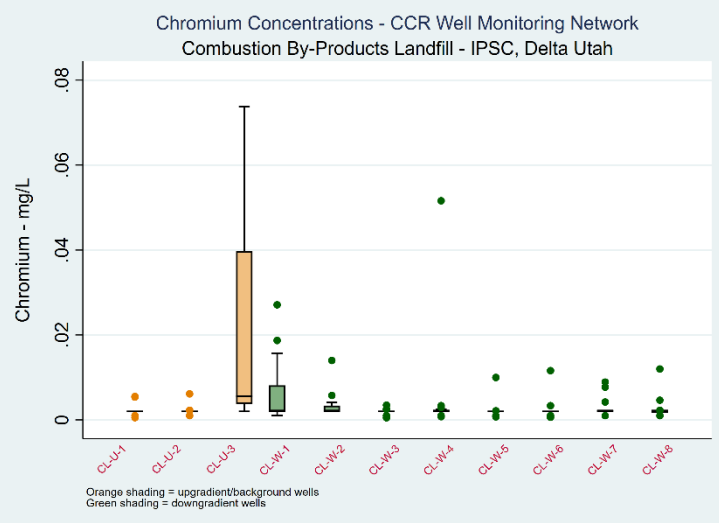
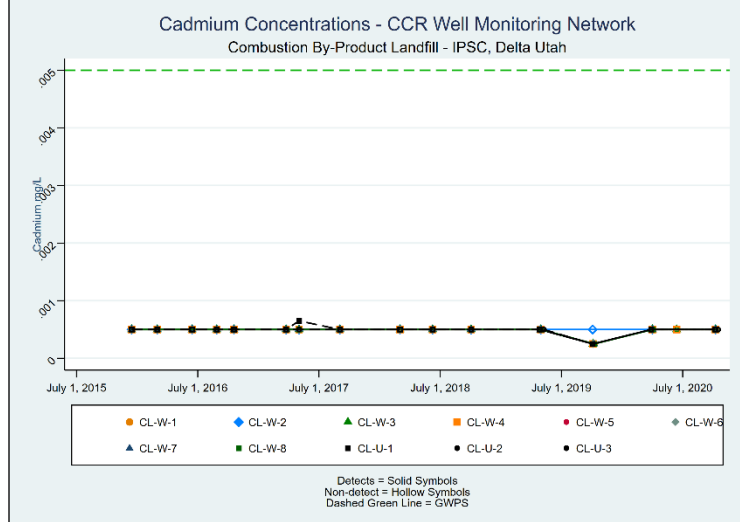
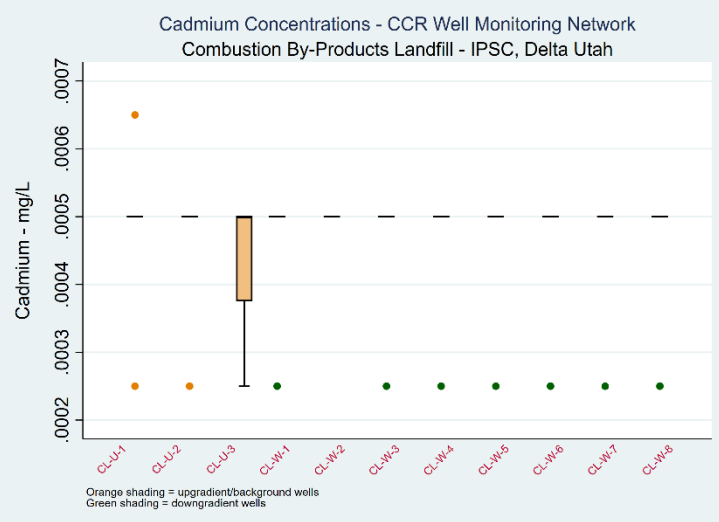
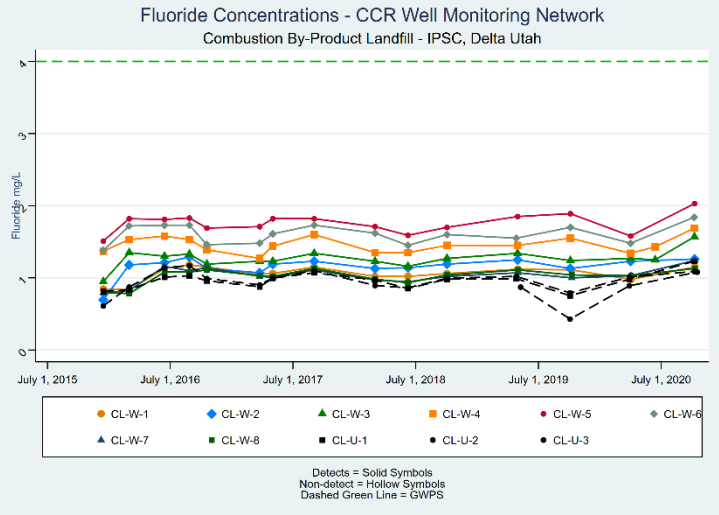
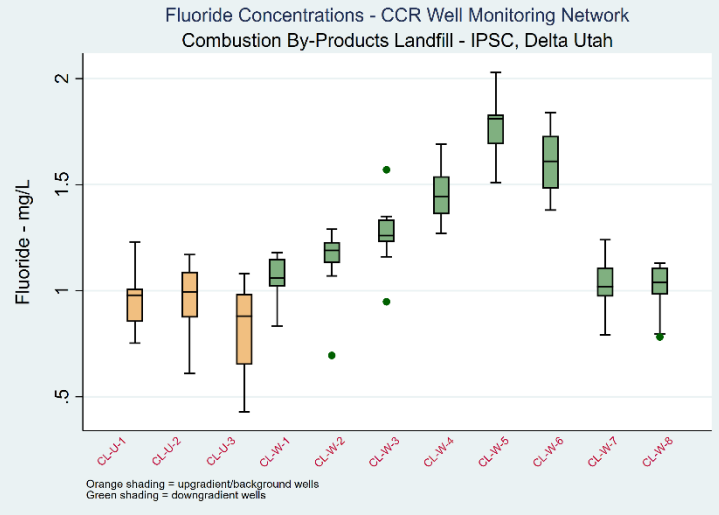
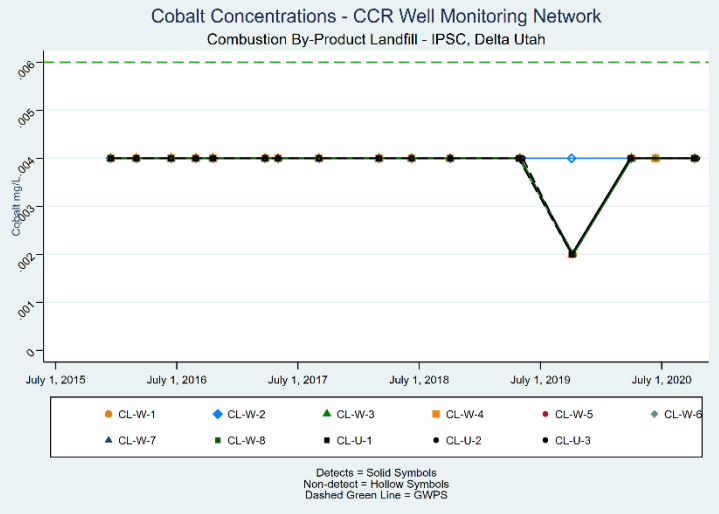
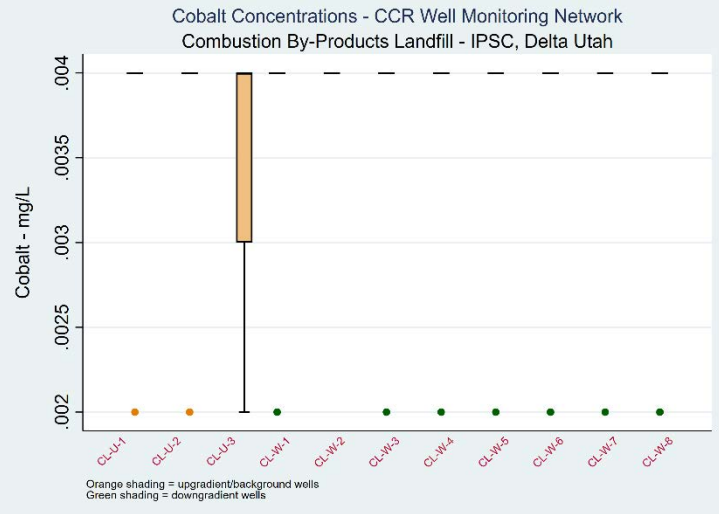


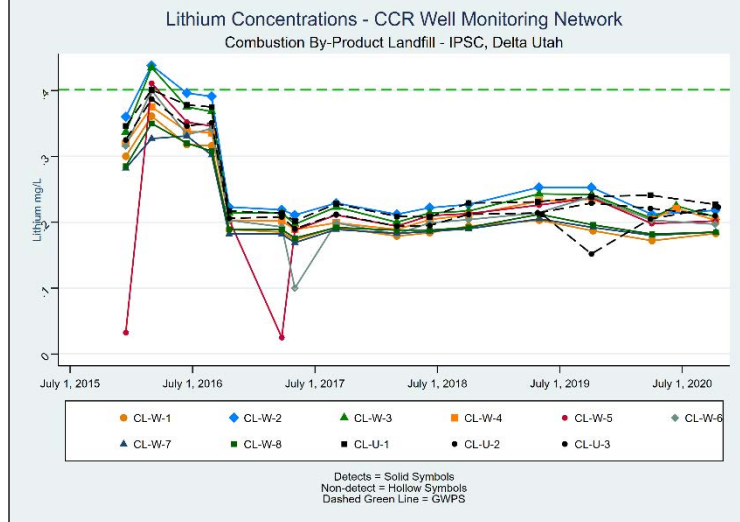
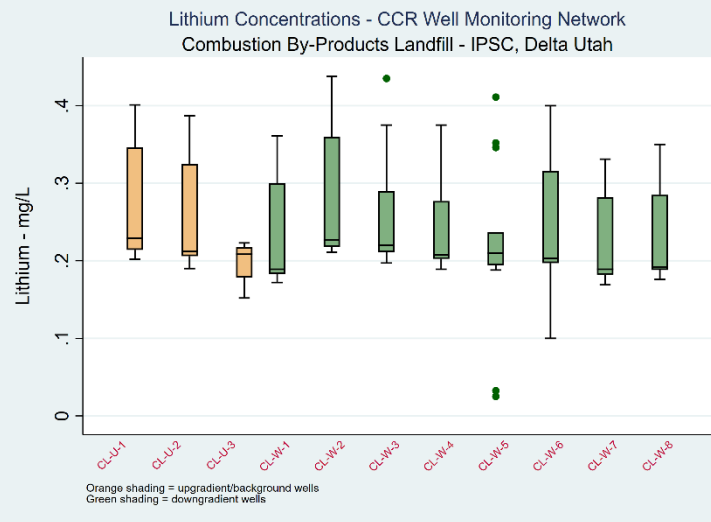
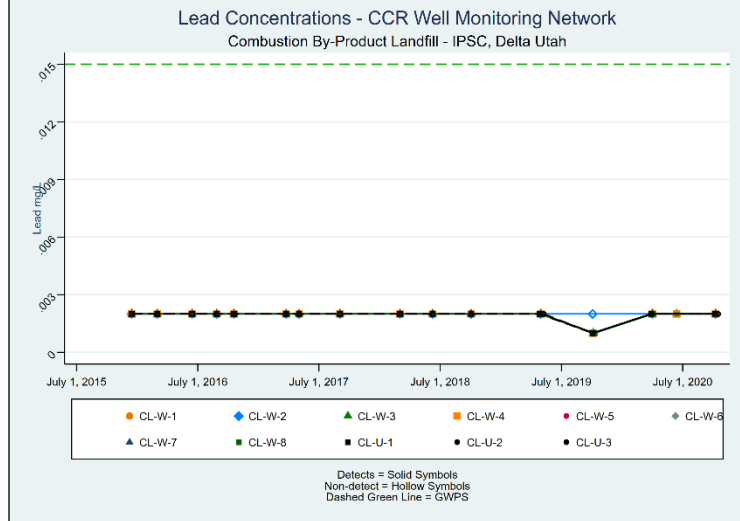
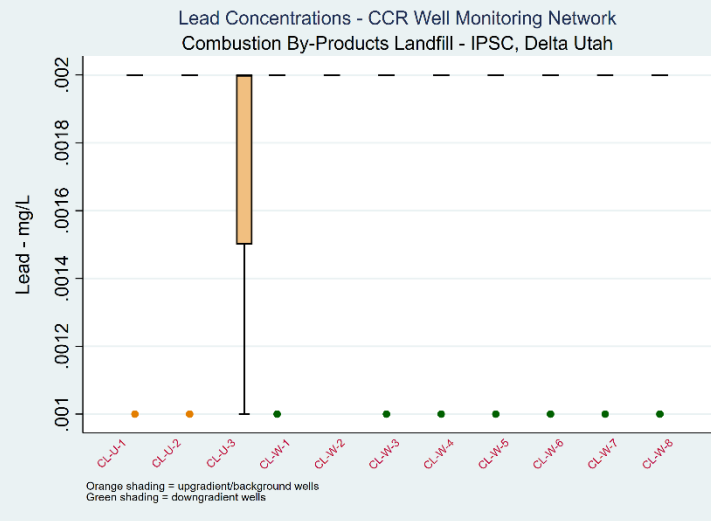
Figure C-1c - Box & Time Series Plots – Combustion By-Product Landfill - IPSC, Delta Utah

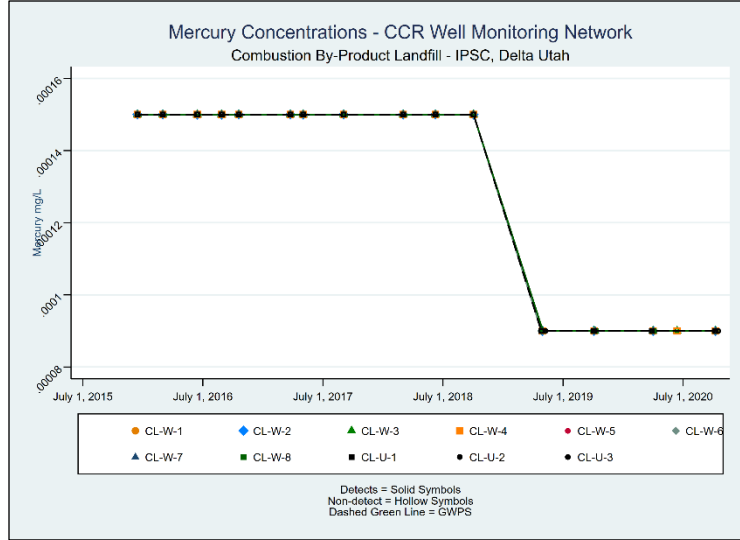
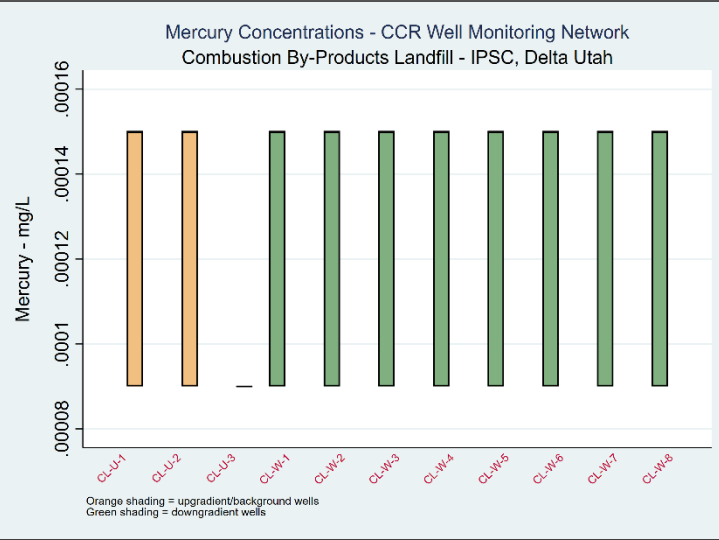
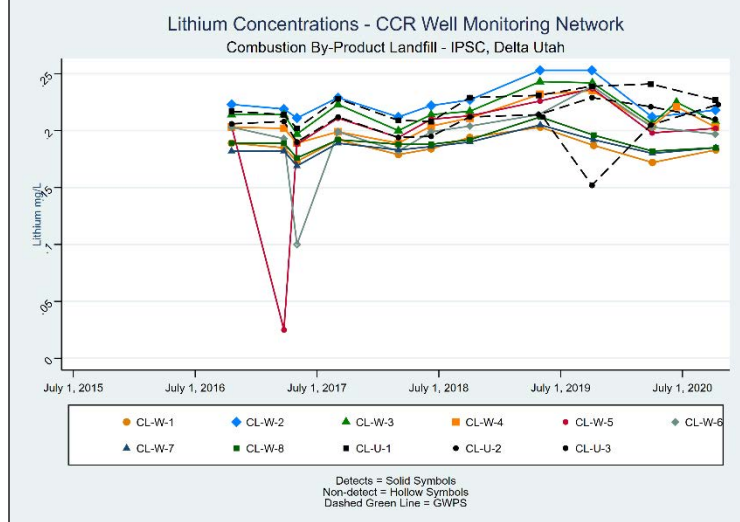
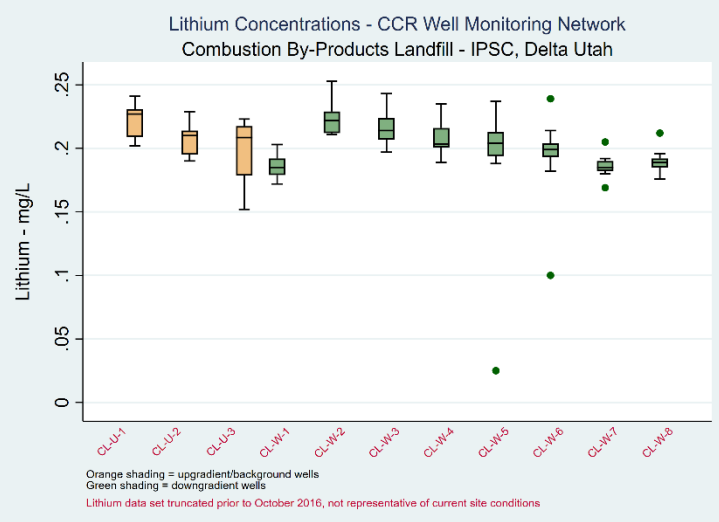




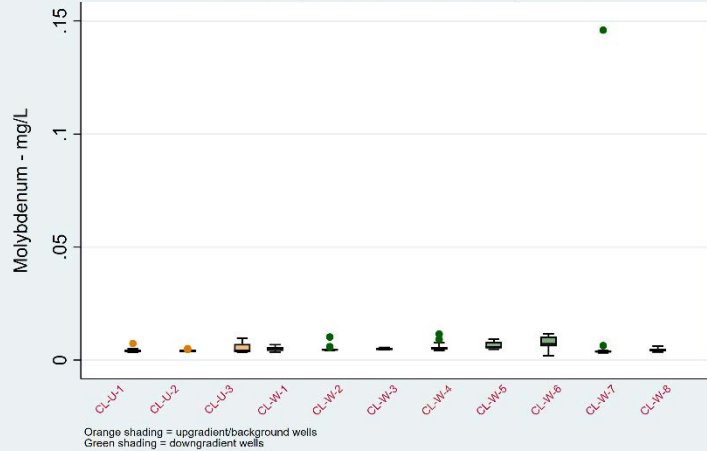




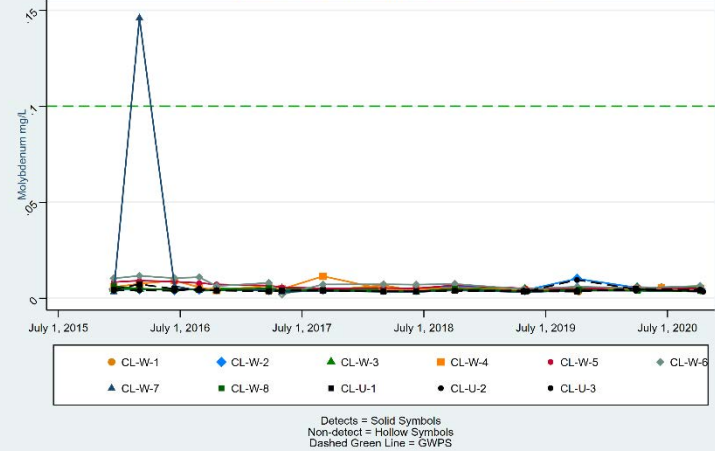




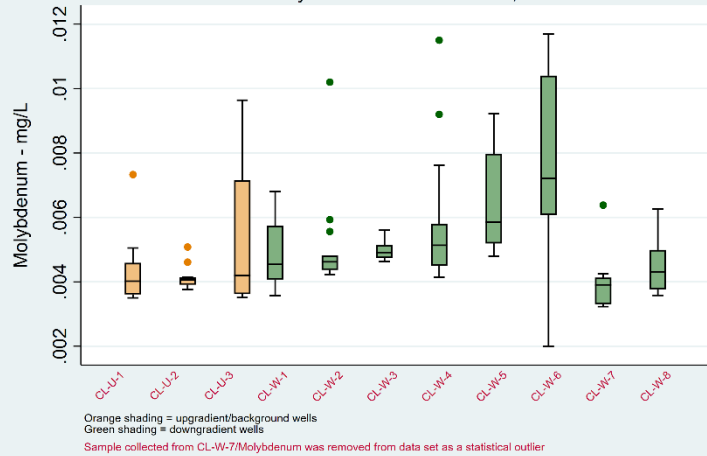
Molybdenum Concentrations - CCR Well Monitoring Network
Combustion By-Products Landfill - IPSC, Delta Utah



Molybdenum Concentrations - CCR Well Monitoring Network
Combustion By-Product Landfill - IPSC, Delta Utah



Molybdenum Concentrations - CCR Well Monitoring Network
Combustion By-Products Landfill - IPSC, Delta Utah



Molybdenum Concentrations - CCR Well Monitoring Network
Combustion By-Product Landfill - IPSC, Delta Utah

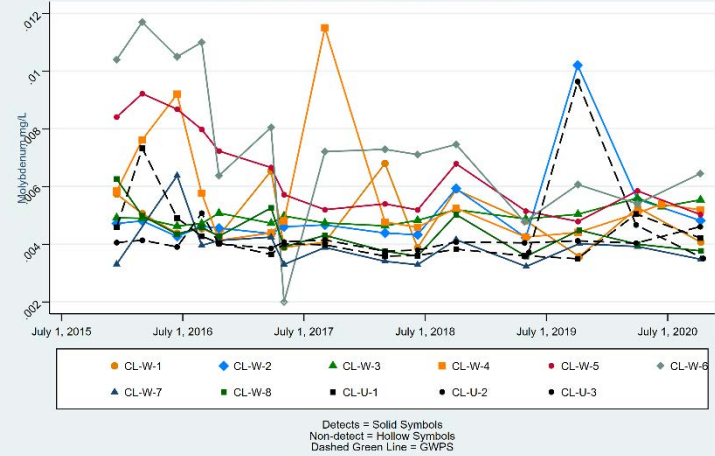


Figure C-2.

Assessment Monitoring - Stoplight Plot - Statistically Significant Levels above Groundwater Protection Standards - (2015 - 2020)

Figure C-2. Assessment Monitoring - Stoplight Plot - Statistically Significant Levels above Groundwater Protection Standards - (2015 - 2020)
Intermountain Power Service Corporation - Intermountain Generation Facility
Delta, Utah

Bottom Ash Basin															
	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt (AS)	Fluoride	Lead (AS)	Lithium (AS)	Mercury	Molybdenum (AS)	Radium 226+228	Selenium	Thallium
UTL	0.004	0.0362	0.175	0.002	0.0005	0.0711	0.004	1.75	0.002	0.4564	0.00015	0.0421	2.409	0.00519	0.002
MCL	0.006	0.01	2	0.004	0.005	0.1	0.006	4	0.015	0.04	0.002	0.1	5	0.05	0.02
GWPS	0.006	0.0362	2	0.004	0.005	0.1	0.006	4	0.015	0.4564	0.002	0.1	5	0.05	0.02
BAC-1															
BAC-2															
BAC-3															
BAC-4															
BAC-5															
BAC-6															
BAC-7															
Waste Water Basin															
UTL	0.004	0.01338	0.1412	0.002	0.00128	0.067	0.004	1.01	0.002	0.587	0.00015	0.02742	3.271	0.0122	0.002
MCL	0.006	0.01	2	0.004	0.005	0.1	0.006	4	0.015	0.04	0.002	0.1	5	0.05	0.02
GWPS	0.006	0.01338	2	0.004	0.005	0.1	0.006	4	0.015	0.587	0.002	0.1	5	0.05	0.02
WWC-1															
WWC-2															
WWC-3															
WWC-4															
WWC-5															
COMBUSTION BY-PRODUCTS LANDFILL															
UTL	0.004	0.0507	0.129	0.002	0.00065	0.0738	0.004	1.224	0.002	0.2492	0.00015	0.00964	2.793	0.002	0.002
MCL	0.006	0.01	2	0.004	0.005	0.1	0.006	4	0.015	0.04	0.002	0.1	5	0.05	0.02
GWPS	0.006	0.0507	2	0.004	0.005	0.1	0.006	4	0.015	0.2492	0.002	0.1	5	0.05	0.02
CLW-1															
CLW-2															
CLW-3															
CLW-4															
CLW-5															
CLW-6															
CLW-7															
CLW-8															

All units micrograms per liter (mg/L), except for Radium 226+228 which has units of picocuries per liter (pCi/L)
 Includes wells that have been sampled for 8 or more sampling events
 UTL: 95% Upper Tolerance Limit with 95% coverage
 MCL: US EPA Maximum Contaminant Level
 AS: US EPA Alternative Standards establish for cobalt, lead, lithium, & molybdenum as these constituents do not have an MCLs
 GWPS: Groundwater protection standard is the greater of the site specific UTL or the MCL/AS.
Green Shading indicates that no detected concentration in the constituent/well pair exceed the GWPS
Yellow Shading indicates that the at least one detected concentration in the constituent/well pair exceeded GWPS, but the LCL/LCB is below the GWPS (e.g. No Statistical Evidence of a statistical significant level (SSL) above the GWPS)
Red Shading indicates that the LCL exceeds the GWPS or the LCB exceeds the GWPS at the last round of sampling. Evidence of a statistically significant level above the GWPS for the constituent/well pair

Tables C-1a, C-1b, C-1c, and C-2

Summary Statistics - 2015 -2020

Table C-1a
Summary Statistics - Bottom Ash Basin Surface Impoundment - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	BA-U-1	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	BA-U-1	15/15	--	0.024	0.00621	0.0163	0.0362	0.0223	0.036
Barium	BA-U-1	15/15	--	0.0878	0.0238	0.0636	0.149	0.0802	0.138
Beryllium	BA-U-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BA-U-1	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	BA-U-1	4/15	(0.001 - 0.002)	0.0056	0.0175	5.06E-04	0.0711	0.002	0.0235
Cobalt	BA-U-1	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	BA-U-1	15/15	--	1.155	0.394	0.587	1.75	1.02	1.694
Lead	BA-U-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	BA-U-1	15/15	--	0.365	0.168	0.191	0.773	0.354	0.711
Mercury	BA-U-1	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	BA-U-1	15/15	--	0.011	0.0122	0.00237	0.0408	0.00386	0.0374
Radium 226 + 228	BA-U-1	14/14	--	1.144	0.601	0.14	2.6	1.285	2.574
Selenium	BA-U-1	9/15	(0.002 - 0.002)	0.00328	0.00128	0.0022	0.00519	0.00324	0.00518
Thallium	BA-U-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	BA-U-2	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	BA-U-2	13/15	(0.002 - 0.002)	0.0157	0.00932	0.00225	0.0283	0.0208	0.0259
Barium	BA-U-2	15/15	--	0.129	0.03	0.0728	0.175	0.128	0.169
Beryllium	BA-U-2	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BA-U-2	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	BA-U-2	5/15	(0.001 - 0.002)	0.00291	0.00352	0.00216	0.0125	0.002	0.0105
Cobalt	BA-U-2	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	BA-U-2	15/15	--	0.891	0.0885	0.727	1.02	0.893	1.001
Lead	BA-U-2	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	BA-U-2	15/15	--	0.29	0.0775	0.209	0.514	0.297	0.39
Mercury	BA-U-2	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	BA-U-2	14/15	(0.002 - 0.002)	0.00643	0.00457	0.00215	0.016	0.00449	0.0151
Radium 226 + 228	BA-U-2	14/14	--	1.121	0.555	0.41	1.8	0.65	1.685
Selenium	BA-U-2	4/15	(0.001 - 0.002)	9.94E-04	6.10E-04	6.91E-04	0.00234	0.002	0.00229
Thallium	BA-U-2	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002

Table C-1a
Summary Statistics - Bottom Ash Basin Surface Impoundment - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	BAC-1	3/15	(0.002 - 0.004)	0.00212	2.04E-04	0.00237	0.00258	0.002	0.004
Arsenic	BAC-1	15/15	--	0.0148	0.00276	0.0103	0.0202	0.0146	0.0201
Barium	BAC-1	15/15	--	0.136	0.186	0.034	0.702	0.0563	0.484
Beryllium	BAC-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BAC-1	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	BAC-1	15/15	--	0.015	0.0292	0.00163	0.114	0.00503	0.063
Cobalt	BAC-1	2/15	(0.002 - 0.004)	0.00244	0.00116	0.00461	0.00605	0.004	0.00504
Fluoride	BAC-1	13/15	(0.1 - 0.1)	0.407	0.21	0.197	0.854	0.401	0.737
Lead	BAC-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	BAC-1	15/15	--	0.625	0.432	0.172	1.52	0.52	1.45
Mercury	BAC-1	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	BAC-1	15/15	--	0.0642	0.0432	0.017	0.143	0.0498	0.142
Radium 226 + 228	BAC-1	14/14	--	1.371	0.788	0.45	0.45	0.45	0.45
Selenium	BAC-1	15/15	--	0.0107	0.00523	0.00274	0.0204	0.00852	0.0183
Thallium	BAC-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	BAC-2	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	BAC-2	15/15	--	0.0491	0.00852	0.0386	0.0647	0.0469	0.0636
Barium	BAC-2	15/15	--	0.0244	0.00788	0.018	0.0472	0.022	0.0411
Beryllium	BAC-2	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BAC-2	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	BAC-2	15/15	--	0.0078	0.00284	0.00483	0.0145	0.00742	0.0125
Cobalt	BAC-2	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	BAC-2	13/15	(0.1 - 0.1)	0.927	0.369	0.684	1.33	1.07	1.323
Lead	BAC-2	1/15	(0.001 - 0.002)	0.00108	3.02E-04	0.00221	0.00221	0.002	0.00206
Lithium	BAC-2	15/15	--	0.683	0.373	0.414	1.38	0.472	1.338
Mercury	BAC-2	3/15	(0.00009 - 0.00015)	1.19E-04	4.97E-05	1.12E-04	2.80E-04	1.50E-04	2.18E-04
Molybdenum	BAC-2	15/15	--	0.164	0.0169	0.14	0.194	0.165	0.191
Radium 226 + 228	BAC-2	14/14	--	1.026	0.714	0.41	0.41	0.41	0.41
Selenium	BAC-2	15/15	--	0.0145	0.0013	0.0128	0.0173	0.0144	0.0167
Thallium	BAC-2	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002

Table C-1a
Summary Statistics - Bottom Ash Basin Surface Impoundment - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	BAC-3	1/15	(0.002 - 0.004)	0.00206	1.93E-04	0.0027	0.0027	0.002	0.004
Arsenic	BAC-3	15/15	--	0.0339	0.0142	0.0158	0.0588	0.0321	0.0554
Barium	BAC-3	15/15	--	0.039	0.0144	0.0272	0.0827	0.0327	0.0635
Beryllium	BAC-3	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BAC-3	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	BAC-3	15/15	--	0.0105	0.0145	0.00362	0.0615	0.00593	0.029
Cobalt	BAC-3	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	BAC-3	12/15	(0.1 - 0.1)	1.057	0.663	0.648	2.51	1.26	1.894
Lead	BAC-3	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	BAC-3	15/15	--	1.264	0.571	0.812	2.53	1.03	2.418
Mercury	BAC-3	1/15	(0.00009 - 0.00015)	9.38E-05	6.50E-06	1.05E-04	1.05E-04	1.50E-04	1.50E-04
Molybdenum	BAC-3	15/15	--	0.0338	0.0082	0.0251	0.0525	0.0311	0.0484
Radium 226 + 228	BAC-3	14/14	--	1.187	0.527	0.9	0.9	0.9	0.9
Selenium	BAC-3	15/15	--	0.0214	0.00256	0.0184	0.0287	0.0211	0.0251
Thallium	BAC-3	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	BAC-4	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	BAC-4	15/15	--	0.0327	0.00706	0.00882	0.0407	0.0334	0.0382
Barium	BAC-4	15/15	--	0.0666	0.0151	0.0171	0.0821	0.0672	0.081
Beryllium	BAC-4	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BAC-4	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	BAC-4	4/15	(0.001 - 0.002)	0.00206	0.00257	0.00212	0.011	0.002	0.00653
Cobalt	BAC-4	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	BAC-4	15/15	--	1.225	0.121	1.01	1.38	1.22	1.366
Lead	BAC-4	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	BAC-4	15/15	--	0.325	0.115	0.228	0.532	0.272	0.516
Mercury	BAC-4	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	BAC-4	15/15	--	0.0151	0.00505	0.00992	0.0262	0.0139	0.0231
Radium 226 + 228	BAC-4	14/14	--	0.799	0.599	0.11	0.11	0.11	0.11
Selenium	BAC-4	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	BAC-4	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002

Table C-1a
Summary Statistics - Bottom Ash Basin Surface Impoundment - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	BAC-5	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	BAC-5	15/15	--	0.0323	0.00304	0.0275	0.0392	0.0322	0.0369
Barium	BAC-5	15/15	--	0.0777	0.0128	0.0556	0.0928	0.0814	0.0915
Beryllium	BAC-5	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BAC-5	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	BAC-5	2/15	(0.001 - 0.002)	0.00208	0.00376	0.00204	0.0161	0.002	0.00626
Cobalt	BAC-5	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	BAC-5	15/15	--	1.13	0.126	0.916	1.34	1.11	1.333
Lead	BAC-5	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	BAC-5	15/15	--	0.346	0.0991	0.219	0.538	0.306	0.507
Mercury	BAC-5	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	BAC-5	15/15	--	0.0116	0.00646	0.00666	0.0276	0.00915	0.0252
Radium 226 + 228	BAC-5	14/14	--	0.911	0.794	0.26	0.26	0.26	0.26
Selenium	BAC-5	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	BAC-5	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	BAC-6	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	BAC-6	15/15	--	0.0202	0.00527	0.0115	0.027	0.022	0.0259
Barium	BAC-6	15/15	--	0.042	0.0261	0.0187	0.0859	0.0269	0.0841
Beryllium	BAC-6	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BAC-6	1/15	(0.00025 - 0.0005)	2.78E-04	1.07E-04	6.77E-04	6.77E-04	5.00E-04	5.53E-04
Chromium	BAC-6	5/15	(0.001 - 0.002)	0.00375	0.00873	0.00205	0.0363	0.002	0.0129
Cobalt	BAC-6	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	BAC-6	15/15	--	0.875	0.153	0.582	1.15	0.847	1.108
Lead	BAC-6	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	BAC-6	15/15	--	0.348	0.139	0.242	0.599	0.28	0.598
Mercury	BAC-6	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	BAC-6	15/15	--	0.0729	0.0246	0.0213	0.0968	0.0842	0.0947
Radium 226 + 228	BAC-6	14/14	--	1.1	0.968	0.42	0.42	0.42	0.42
Selenium	BAC-6	6/15	(0.002 - 0.002)	0.00252	8.34E-04	0.00229	0.0045	0.002	0.00425
Thallium	BAC-6	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002

Table C-1a
Summary Statistics - Bottom Ash Basin Surface Impoundment - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	BAC-7	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	BAC-7	15/15	--	0.0269	0.0081	0.0154	0.0434	0.0237	0.0423
Barium	BAC-7	15/15	--	0.026	0.0105	0.0168	0.0577	0.0223	0.0434
Beryllium	BAC-7	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BAC-7	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	BAC-7	3/15	(0.001 - 0.002)	0.00297	0.00631	0.00217	0.0264	0.002	0.0107
Cobalt	BAC-7	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	BAC-7	15/15	--	1.229	0.409	0.388	2.28	1.28	1.741
Lead	BAC-7	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	BAC-7	15/15	--	0.388	0.186	0.218	0.699	0.288	0.686
Mercury	BAC-7	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	BAC-7	15/15	--	0.0793	0.00948	0.0681	0.0944	0.0752	0.0943
Radium 226 + 228	BAC-7	14/14	--	1.104	0.876	0.25	2.9	0.87	2.166
Selenium	BAC-7	15/15	--	0.00381	0.00147	0.00202	0.007	0.00319	0.00615
Thallium	BAC-7	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	BAC-8	0/4	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	BAC-8	4/4	--	0.0593	0.00525	0.0519	0.0639	0.0608	0.0636
Barium	BAC-8	4/4	--	0.0465	0.0178	0.0368	0.0732	0.0379	0.0681
Beryllium	BAC-8	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BAC-8	0/4	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	BAC-8	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cobalt	BAC-8	0/4	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	BAC-8	4/4	--	1.595	0.0443	1.53	1.63	1.61	1.627
Lead	BAC-8	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	BAC-8	4/4	--	0.165	0.0132	0.154	0.183	0.161	0.18
Mercury	BAC-8	0/4	(0.00009 - 0.00009)	--	--	--	--	9.00E-05	9.00E-05
Molybdenum	BAC-8	4/4	--	0.0058	4.55E-04	0.00545	0.00644	0.00565	0.00635
Radium 226 + 228	BAC-8	3/3	--	0.697	5.25E-01	0.38	2.09	1.13	1.934
Selenium	BAC-8	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	BAC-8	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002

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Summary Statistics - Bottom Ash Basin Surface Impoundment - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	BAC-9	0/4	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	BAC-9	4/4	--	0.0542	0.00537	0.0488	0.0593	0.0543	0.0592
Barium	BAC-9	4/4	--	0.0431	0.0055	0.0388	0.051	0.0413	0.0498
Beryllium	BAC-9	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BAC-9	0/4	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	BAC-9	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cobalt	BAC-9	0/4	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	BAC-9	4/4	--	1.515	0.124	1.44	1.7	1.46	1.666
Lead	BAC-9	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	BAC-9	4/4	--	0.168	0.0118	0.16	0.185	0.163	0.182
Mercury	BAC-9	0/4	(0.00009 - 0.00009)	--	--	--	--	9.00E-05	9.00E-05
Molybdenum	BAC-9	4/4	--	0.00468	2.00E-04	0.0045	0.00487	0.00467	0.00486
Radium 226 + 228	BAC-9	3/3	--	0.5	1.08E-01	0.13	2.6	0.79	1.573
Selenium	BAC-9	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	BAC-9	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	BAC-10	0/4	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	BAC-10	4/4	--	0.0553	0.00314	0.0527	0.0595	0.0545	0.059
Barium	BAC-10	4/4	--	0.0454	0.0111	0.0373	0.0612	0.0416	0.0588
Beryllium	BAC-10	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BAC-10	0/4	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	BAC-10	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cobalt	BAC-10	0/4	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	BAC-10	4/4	--	1.605	0.0656	1.51	1.66	1.625	1.655
Lead	BAC-10	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	BAC-10	4/4	--	0.164	0.00845	0.154	0.171	0.166	0.171
Mercury	BAC-10	0/4	(0.00009 - 0.00009)	--	--	--	--	9.00E-05	9.00E-05
Molybdenum	BAC-10	4/4	--	0.00587	2.12E-04	0.00567	0.00617	0.00583	0.00612
Radium 226 + 228	BAC-10	3/3	--	0.953	7.43E-01	0.2	2.96	0.6	2.212
Selenium	BAC-10	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	BAC-10	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002

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Summary Statistics - Bottom Ash Basin Surface Impoundment - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	BAC-11	0/3	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	BAC-11	3/3	--	0.0324	0.00132	0.0312	0.0338	0.0321	0.0336
Barium	BAC-11	3/3	--	0.123	0.00586	0.116	0.127	0.125	0.127
Beryllium	BAC-11	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BAC-11	0/3	(0.0005 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	BAC-11	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cobalt	BAC-11	0/3	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	BAC-11	3/3	--	0.993	0.173	0.824	1.17	0.984	1.151
Lead	BAC-11	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Lithium	BAC-11	3/3	--	0.239	0.00436	0.236	0.244	0.237	0.243
Mercury	BAC-11	0/3	(0.00009 - 0.00009)	--	--	--	--	9.00E-05	9.00E-05
Molybdenum	BAC-11	3/3	--	0.00342	2.62E-04	0.00314	0.00366	0.00345	0.00364
Selenium	BAC-11	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Thallium	BAC-11	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Antimony	BAC-12	0/3	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	BAC-12	3/3	--	0.0409	0.00725	0.0331	0.0474	0.0423	0.0469
Barium	BAC-12	3/3	--	0.138	0.0728	0.0938	0.222	0.0983	0.21
Beryllium	BAC-12	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BAC-12	0/3	(0.0005 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	BAC-12	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cobalt	BAC-12	0/3	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	BAC-12	3/3	--	1.27	0.167	1.12	1.45	1.24	1.429
Lead	BAC-12	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Lithium	BAC-12	3/3	--	0.201	0.105	0.132	0.322	0.15	0.305
Mercury	BAC-12	0/3	(0.00009 - 0.00009)	--	--	--	--	9.00E-05	9.00E-05
Molybdenum	BAC-12	3/3	--	0.00486	3.66E-04	0.00454	0.00526	0.00479	0.00521
Selenium	BAC-12	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Thallium	BAC-12	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002

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Summary Statistics - Bottom Ash Basin Surface Impoundment - 2015 -2020
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CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	BAC-13	0/3	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	BAC-13	3/3	--	0.0301	0.00684	0.0223	0.0351	0.0329	0.0349
Barium	BAC-13	3/3	--	0.0802	0.0205	0.0613	0.102	0.0773	0.0995
Beryllium	BAC-13	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BAC-13	0/3	(0.0005 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	BAC-13	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cobalt	BAC-13	0/3	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	BAC-13	3/3	--	0.919	0.203	0.699	1.1	0.957	1.086
Lead	BAC-13	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Lithium	BAC-13	3/3	--	0.281	0.00351	0.278	0.285	0.281	0.285
Mercury	BAC-13	0/3	(0.00009 - 0.00009)	--	--	--	--	9.00E-05	9.00E-05
Molybdenum	BAC-13	2/3	(0.002 - 0.002)	0.003	0.00108	0.0025	0.0045	0.0025	0.0043
Selenium	BAC-13	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Thallium	BAC-13	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Antimony	BAC-14	0/3	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	BAC-14	3/3	--	0.0323	0.00326	0.0296	0.0359	0.0313	0.0354
Barium	BAC-14	3/3	--	0.0556	0.00451	0.0519	0.0606	0.0542	0.06
Beryllium	BAC-14	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BAC-14	0/3	(0.0005 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	BAC-14	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cobalt	BAC-14	0/3	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	BAC-14	3/3	--	0.853	0.276	0.538	1.05	0.972	1.042
Lead	BAC-14	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Lithium	BAC-14	3/3	--	0.324	0.0147	0.311	0.34	0.321	0.338
Mercury	BAC-14	0/3	(0.00009 - 0.00009)	--	--	--	--	9.00E-05	9.00E-05
Molybdenum	BAC-14	2/3	(0.002 - 0.002)	0.00208	1.01E-04	0.00201	0.00222	0.00201	0.0022
Selenium	BAC-14	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Thallium	BAC-14	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002

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Summary Statistics - Bottom Ash Basin Surface Impoundment - 2015 -2020
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CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	BAC-15	0/4	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	BAC-15	4/4	--	0.0573	0.00236	0.0539	0.059	0.0581	0.059
Barium	BAC-15	4/4	--	0.0431	0.00517	0.0395	0.0506	0.0411	0.0494
Beryllium	BAC-15	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BAC-15	0/4	(0.0005 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	BAC-15	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cobalt	BAC-15	0/4	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	BAC-15	4/4	--	1.665	0.125	1.49	1.76	1.705	1.758
Lead	BAC-15	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Lithium	BAC-15	4/4	--	0.158	0.0105	0.147	0.172	0.156	0.17
Mercury	BAC-15	0/4	(0.00009 - 0.00009)	--	--	--	--	9.00E-05	9.00E-05
Molybdenum	BAC-15	4/4	--	0.00743	5.74E-04	0.00705	0.00827	0.0072	0.00813
Selenium	BAC-15	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Thallium	BAC-15	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Antimony	BAC-16	0/4	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	BAC-16	4/4	--	0.0834	0.00344	0.0783	0.0856	0.0849	0.0855
Barium	BAC-16	4/4	--	0.0357	8.46E-04	0.0346	0.0364	0.0358	0.0364
Beryllium	BAC-16	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BAC-16	0/4	(0.0005 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	BAC-16	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cobalt	BAC-16	0/4	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	BAC-16	4/4	--	1.813	0.0932	1.69	1.89	1.835	1.888
Lead	BAC-16	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Lithium	BAC-16	4/4	--	0.172	0.00757	0.167	0.183	0.169	0.181
Mercury	BAC-16	0/4	(0.00009 - 0.00009)	--	--	--	--	9.00E-05	9.00E-05
Molybdenum	BAC-16	4/4	--	0.00652	5.91E-04	0.00591	0.00732	0.00642	0.0072
Selenium	BAC-16	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Thallium	BAC-16	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002

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Summary Statistics - Bottom Ash Basin Surface Impoundment - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	BAC-17	0/3	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	BAC-17	3/3	--	0.0319	3.21E-04	0.0315	0.0321	0.032	0.0321
Barium	BAC-17	3/3	--	0.0431	0.0163	0.0316	0.0618	0.0359	0.0592
Beryllium	BAC-17	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	BAC-17	0/3	(0.0005 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	BAC-17	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cobalt	BAC-17	0/3	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	BAC-17	3/3	--	0.667	0.122	0.558	0.799	0.644	0.784
Lead	BAC-17	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Lithium	BAC-17	0/3	(0.1 - 0.1)	--	--	--	--	0.1	0.1
Mercury	BAC-17	0/3	(0.00009 - 0.00009)	--	--	--	--	9.00E-05	9.00E-05
Molybdenum	BAC-17	3/3	--	0.00445	4.48E-04	0.00418	0.00497	0.00421	0.00489
Selenium	BAC-17	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Thallium	BAC-17	0/3	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Antimony	RW-5	0/5	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	RW-5	5/5	--	0.0301	0.00253	0.027	0.0337	0.0306	0.0331
Barium	RW-5	5/5	--	0.0254	7.05E-04	0.0244	0.0263	0.0253	0.0262
Beryllium	RW-5	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	RW-5	0/5	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	RW-5	1/5	(0.001 - 0.002)	0.00174	0.00149	0.00472	0.00472	0.002	0.00418
Cobalt	RW-5	0/5	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	RW-5	5/5	--	0.649	0.122	0.563	0.86	0.625	0.813
Lead	RW-5	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	RW-5	0/5	(0.1 - 0.1)	--	--	--	--	0.1	0.1
Mercury	RW-5	0/5	(0.00009 - 0.00015)	--	--	--	--	9.00E-05	1.50E-04
Molybdenum	RW-5	5/5	--	0.00457	3.76E-04	0.00393	0.00486	0.00466	0.00485
Selenium	RW-5	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	RW-5	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002

Notes:

All units micrograms per liter (mg/L)

Summary statistics were not calculated for any constituent in the following wells: BAC-18 through BAC-38, RW-6, RW-9, WDB-5, WDB-7, WR-101, WR-102 and WR-103, as these wells were sample 2 or fewer times as of December 2020.

Summary statistics were not calculated for Radium 226 + 228 in the following wells: BAC-11 through BAC-38, RW-6, RW-9, WDB-5, WDB-7, WR-101, WR-102 and WR-103, as these wells were sampled 2 or fewer times as of December 2020.

The mean and standard deviation are represented by the Kaplan-Meier mean and standard deviation for constituent/well pairs with non-detects, reported at the laboratory reporting limit

"--": Not applicable

Well ID BA-U-1 and BA-U-2 are upgradient of the Bottom Ash Basin and represent background conditions, all other wells are downgradient of the Bottom Ash Basin

Table C-1b
Summary Statistics - Waste Water Basin Surface Impoundment - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	WW-U-1	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	WW-U-1	14/15	(0.002 - 0.002)	0.00509	0.0011	0.0041	0.00653	0.0052	0.0064
Barium	WW-U-1	15/15	--	0.0702	0.0403	0.0381	0.178	0.0521	0.14
Beryllium	WW-U-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	WW-U-1	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	WW-U-1	12/15	(0.002 - 0.002)	0.00436	0.00588	1.24E-03	0.0258	0.00275	0.0115
Cobalt	WW-U-1	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	WW-U-1	12/15	(0.1 - 0.1)	0.303	0.134	0.181	0.539	0.327	0.472
Lead	WW-U-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	WW-U-1	15/15	--	0.622	0.297	0.412	1.33	0.477	1.106
Mercury	WW-U-1	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	WW-U-1	15/15	--	0.00736	0.00133	0.00556	0.0101	0.00702	0.00927
Radium 226 + 228	WW-U-1	14/14	--	1.868	0.748	0.9	3.3	1.575	3.235
Selenium	WW-U-1	15/15	--	0.0065	0.00087403	0.00432	0.0077	0.00663	0.00755
Thallium	WW-U-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	WW-U-2	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	WW-U-2	15/15	--	0.00753	0.00355	0.00258	0.0135	0.00735	0.012
Barium	WW-U-2	15/15	--	0.0693	0.0256	0.0446	0.123	0.0659	0.119
Beryllium	WW-U-2	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	WW-U-2	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	WW-U-2	12/15	(0.001 - 0.002)	0.00812	0.016	0.00137	0.067	0.00396	0.0281
Cobalt	WW-U-2	1/15	(0.002 - 0.004)	0.00235	0.0013	0.0072	0.0072	0.004	0.00496
Fluoride	WW-U-2	12/15	(0.1 - 0.1)	0.482	0.247	0.287	1.01	0.532	0.808
Lead	WW-U-2	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	WW-U-2	15/15	--	0.664	0.28	0.475	1.35	0.512	1.161
Mercury	WW-U-2	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	WW-U-2	15/15	--	0.0112	0.00991	0.00211	0.0342	0.00647	0.0269
Radium 226 + 228	WW-U-2	14/14	--	1.574	0.643	0.73	2.94	1.45	2.602
Selenium	WW-U-2	15/15	--	1.00E-02	2.09E-03	5.43E-03	0.0122	0.0108	0.0118
Thallium	WW-U-2	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002

Table C-1b
Summary Statistics - Waste Water Basin Surface Impoundment - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	SI-U-1	1/15	(0.002 - 0.004)	0.002	0.00E+00	0.002	0.002	0.002	0.004
Arsenic	SI-U-1	15/15	--	0.00905	0.00204	0.00266	0.0123	0.00929	0.0109
Barium	SI-U-1	15/15	--	0.0739	0.017	0.0465	0.112	0.0741	0.0986
Beryllium	SI-U-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	SI-U-1	1/15	(0.00025 - 0.0005)	0.00031867	0.00025693	0.00128	0.00128	5.00E-04	7.34E-04
Chromium	SI-U-1	8/15	(0.001 - 0.002)	0.00298	0.00408	0.000602	0.0156	0.002	0.0116
Cobalt	SI-U-1	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	SI-U-1	14/15	(0.1 - 0.1)	0.508	0.137	0.38	0.779	0.519	0.666
Lead	SI-U-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	SI-U-1	15/15	--	0.325	0.129	0.235	0.634	0.257	0.54
Mercury	SI-U-1	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	SI-U-1	13/15	(0.002 - 0.002)	0.00295	0.00138	0.00182	0.00671	0.00241	0.00589
Radium 226 + 228	SI-U-1	14/14	--	1.103	0.549	0.33	2.26	1.045	1.87
Selenium	SI-U-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	SI-U-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	WWC-1	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	WWC-1	15/15	--	0.0189	0.00694	0.00331	0.0264	0.02	0.0264
Barium	WWC-1	15/15	--	0.0339	0.0186	0.0183	0.077	0.0272	0.0735
Beryllium	WWC-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	WWC-1	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	WWC-1	3/15	(0.001 - 0.002)	0.0022	0.00325	0.00348	0.0139	0.002	0.00675
Cobalt	WWC-1	2/15	(0.002 - 0.004)	0.00265	0.00175	0.00532	0.00842	0.004	0.00625
Fluoride	WWC-1	10/15	(0.1 - 0.4)	0.213	0.112	0.114	0.507	0.236	0.432
Lead	WWC-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	WWC-1	15/15	--	1.24	0.631	0.755	2.69	0.974	2.494
Mercury	WWC-1	13/15	(0.00015 - 0.00015)	2.24E-04	5.85E-05	1.68E-04	3.28E-04	2.05E-04	3.17E-04
Molybdenum	WWC-1	15/15	--	0.00954	0.00263	0.00596	0.0147	0.00936	0.0139
Radium 226 + 228	WWC-1	14/14	--	1.391	0.552	0.68	2.51	1.27	2.484
Selenium	WWC-1	15/15	--	0.0138	0.00218	0.00824	0.016	0.0145	0.0155
Thallium	WWC-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002

Table C-1b
Summary Statistics - Waste Water Basin Surface Impoundment - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	WWC-2	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	WWC-2	15/15	--	0.015	0.00097702	0.0129	0.0166	0.0151	0.0163
Barium	WWC-2	15/15	--	0.0379	0.00693	0.0296	0.0543	0.0357	0.0521
Beryllium	WWC-2	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	WWC-2	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	WWC-2	4/15	(0.001 - 0.002)	0.00303	0.00576	0.00332	0.0243	0.002	0.00973
Cobalt	WWC-2	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	WWC-2	15/15	--	0.438	0.15	0.158	0.833	0.447	0.624
Lead	WWC-2	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	WWC-2	15/15	--	0.147	0.0486	0.104	0.243	0.126	0.242
Mercury	WWC-2	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	WWC-2	15/15	--	0.00397	0.0012	0.00304	0.00809	0.00364	0.00561
Radium 226 + 228	WWC-2	14/14	--	0.764	0.47	0.2	1.89	0.63	1.468
Selenium	WWC-2	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	WWC-2	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	WWC-3	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	WWC-3	15/15	--	0.0214	0.00329	0.0102	0.0247	0.0218	0.0239
Barium	WWC-3	15/15	--	0.0326	0.00924	0.0242	0.0638	0.0306	0.0441
Beryllium	WWC-3	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	WWC-3	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	WWC-3	3/15	(0.001 - 0.002)	0.00155	0.00128	0.0024	0.00577	0.002	0.00389
Cobalt	WWC-3	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	WWC-3	15/15	--	1.023	0.113	0.845	1.28	1.02	1.182
Lead	WWC-3	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	WWC-3	15/15	--	0.161	0.042	0.123	0.243	0.146	0.242
Mercury	WWC-3	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	WWC-3	15/15	--	0.00788	0.0105	0.00464	0.0459	0.00527	0.0179
Radium 226 + 228	WWC-3	14/14	--	0.943	1.104	0.15	3.43	0.495	3.215
Selenium	WWC-3	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	WWC-3	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002

Table C-1b
Summary Statistics - Waste Water Basin Surface Impoundment - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	WWC-4	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	WWC-4	15/15	--	0.0128	0.00266	0.00498	0.0161	0.0133	0.0156
Barium	WWC-4	15/15	--	0.0593	0.0175	0.0412	0.101	0.0529	0.0933
Beryllium	WWC-4	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	WWC-4	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	WWC-4	1/15	(0.001 - 0.002)	0.00152	0.00194	0.00877	0.00877	0.002	0.00403
Cobalt	WWC-4	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	WWC-4	15/15	--	0.451	0.0727	0.319	0.576	0.449	0.572
Lead	WWC-4	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	WWC-4	15/15	--	0.469	0.21	0.309	0.909	0.374	0.888
Mercury	WWC-4	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	WWC-4	7/15	(0.002 - 0.002)	0.00303	0.00206	0.00207	0.0082	0.002	0.00794
Radium 226 + 228	WWC-4	14/14	--	0.908	0.428	0.18	1.97	0.815	1.626
Selenium	WWC-4	10/15	(0.002 - 0.002)	0.00205	0.00025261	0.00177	0.00241	0.00207	0.0024
Thallium	WWC-4	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	WWC-5	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	WWC-5	15/15	--	0.0101	0.00355	0.00371	0.0154	0.01	0.0153
Barium	WWC-5	15/15	--	0.0474	0.0218	0.0302	0.103	0.0382	0.0926
Beryllium	WWC-5	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	WWC-5	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	WWC-5	4/15	(0.001 - 0.002)	0.00191	0.00207	0.00202	0.00892	0.002	0.0057
Cobalt	WWC-5	1/15	(0.002 - 0.004)	0.00223	0.00087305	0.0055	0.0055	0.004	0.00445
Fluoride	WWC-5	14/15	(0.1 - 0.1)	0.373	0.132	0.219	0.668	0.366	0.581
Lead	WWC-5	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	WWC-5	14/15	(0.1 - 0.1)	0.924	1.003	0.472	4.41	0.538	2.31
Mercury	WWC-5	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	WWC-5	15/15	--	0.00698	0.00726	0.00203	0.0265	0.00395	0.0223
Radium 226 + 228	WWC-5	14/14	--	1.32	0.522	0.2	2.42	1.225	2.043
Selenium	WWC-5	14/15	(0.002 - 0.002)	0.00418	1.05E-03	0.00312	0.006	0.00407	0.00597
Thallium	WWC-5	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002

Table C-1b
Summary Statistics - Waste Water Basin Surface Impoundment - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	WWC-6	0/5	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	WWC-6	5/5	--	0.014	0.00051478	0.0133	0.0147	0.014	0.0146
Barium	WWC-6	5/5	--	0.0853	0.00497	0.0795	0.0925	0.0852	0.0914
Beryllium	WWC-6	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	WWC-6	0/5	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	WWC-6	1/5	(0.001 - 0.002)	0.00139	0.000784	0.00296	0.00296	0.002	0.00277
Cobalt	WWC-6	0/5	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	WWC-6	5/5	--	0.23	0.0317	0.175	0.25	0.244	0.25
Lead	WWC-6	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	WWC-6	5/5	--	0.21	0.00726	0.204	0.221	0.207	0.219
Mercury	WWC-6	0/5	(0.00009 - 0.00015)	--	--	--	--	9.00E-05	1.38E-04
Molybdenum	WWC-6	5/5	--	0.00558	0.00047469	0.00484	0.00601	0.00566	0.006
Radium 226 + 228	WWC-6	3/3	--	0.821	0.43	0.444	1.29	0.73	1.234
Selenium	WWC-6	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	WWC-6	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	WWC-7	0/5	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	WWC-7	5/5	--	0.0175	0.0022	0.0141	0.0194	0.0187	0.0193
Barium	WWC-7	5/5	--	0.0373	0.00879	0.0297	0.0477	0.0316	0.0474
Beryllium	WWC-7	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	WWC-7	0/5	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	WWC-7	1/5	(0.001 - 0.002)	0.00161	0.00123	0.00407	0.00407	0.002	0.00366
Cobalt	WWC-7	0/5	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	WWC-7	5/5	--	0.415	0.0385	0.357	0.465	0.418	0.456
Lead	WWC-7	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	WWC-7	2/5	(0.1 - 0.1)	0.104	0.00523	0.109	0.112	0.1	0.111
Mercury	WWC-7	0/5	(0.00009 - 0.00015)	--	--	--	--	9.00E-05	1.38E-04
Molybdenum	WWC-7	5/5	--	0.00438	3.88E-04	0.00386	0.00477	0.0044	0.00476
Radium 226 + 228	WWC-7	3/3	--	0.323	3.79E-02	0.28	0.35	0.34	0.349
Selenium	WWC-7	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	WWC-7	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002

Table C-1b
Summary Statistics - Waste Water Basin Surface Impoundment - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	WWC-8	0/4	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	WWC-8	4/4	--	0.0137	0.00381	0.0081	0.0166	0.015	0.0164
Barium	WWC-8	4/4	--	0.0859	0.0583	0.0514	0.173	0.0596	0.156
Beryllium	WWC-8	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	WWC-8	0/4	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	WWC-8	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cobalt	WWC-8	0/4	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	WWC-8	4/4	--	0.415	0.0531	0.353	0.472	0.417	0.468
Lead	WWC-8	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	WWC-8	4/4	--	0.232	0.00954	0.224	0.246	0.23	0.244
Mercury	WWC-8	0/4	(0.00009 - 0.00009)	--	--	--	--	9.00E-05	9.00E-05
Molybdenum	WWC-8	4/4	--	0.00391	1.62E-03	0.00284	0.00632	0.00324	0.00586
Radium 226 + 228	WWC-8	3/3	--	0.6	3.25E-01	0.36	0.97	0.47	0.92
Selenium	WWC-8	4/4	--	0.00367	0.00064391	0.00274	0.00422	0.00386	0.00417
Thallium	WWC-8	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	WWC-9	0/4	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	WWC-9	4/4	--	0.0293	0.00218	0.0261	0.0309	0.03	0.0308
Barium	WWC-9	4/4	--	0.0742	0.0159	0.0629	0.0973	0.0684	0.0936
Beryllium	WWC-9	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	WWC-9	0/4	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	WWC-9	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cobalt	WWC-9	0/4	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	WWC-9	4/4	--	0.97	0.118	0.843	1.11	0.964	1.097
Lead	WWC-9	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	WWC-9	4/4	--	0.152	0.00618	0.147	0.16	0.15	0.159
Mercury	WWC-9	0/4	(0.00009 - 0.00009)	--	--	--	--	9.00E-05	9.00E-05
Molybdenum	WWC-9	4/4	--	0.00394	9.60E-04	0.00338	0.00538	0.00351	0.0051
Radium 226 + 228	WWC-9	3/3	--	0.28	1.31E-01	0.19	0.43	0.22	0.409
Selenium	WWC-9	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	WWC-9	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002

Table C-1b
Summary Statistics - Waste Water Basin Surface Impoundment - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	WWC-10	0/4	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	WWC-10	4/4	--	0.0264	0.002	0.024	0.0289	0.0263	0.0285
Barium	WWC-10	4/4	--	0.0415	0.0134	0.0338	0.0615	0.0354	0.0577
Beryllium	WWC-10	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	WWC-10	1/4	(0.00025 - 0.0005)	0.0003825	0.0002295	0.00078	0.00078	5.00E-04	7.38E-04
Chromium	WWC-10	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cobalt	WWC-10	0/4	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	WWC-10	4/4	--	0.624	0.0981	0.491	0.726	0.64	0.715
Lead	WWC-10	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	WWC-10	4/4	--	0.116	0.00737	0.107	0.125	0.115	0.124
Mercury	WWC-10	0/4	(0.00009 - 0.00009)	--	--	--	--	9.00E-05	9.00E-05
Molybdenum	WWC-10	4/4	--	0.00797	1.21E-03	0.00656	0.00932	0.008	0.0092
Radium 226 + 228	WWC-10	3/3	--	0.407	2.26E-01	0.17	0.62	0.43	0.601
Selenium	WWC-10	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	WWC-10	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	WWC-11	0/4	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	WWC-11	4/4	--	0.00599	0.00367	0.00231	0.011	0.00533	0.0102
Barium	WWC-11	4/4	--	0.118	0.0324	0.0762	0.15	0.124	0.148
Beryllium	WWC-11	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	WWC-11	0/4	(0.0005 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	WWC-11	1/4	(0.002 - 0.002)	0.00212	0.00019919	0.00246	0.00246	0.002	0.00239
Cobalt	WWC-11	0/4	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	WWC-11	4/4	--	0.434	0.0627	0.35	0.494	0.447	0.49
Lead	WWC-11	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Lithium	WWC-11	1/4	(0.1 - 0.1)	0.124	0.0416	0.196	0.196	0.1	0.182
Mercury	WWC-11	0/4	(0.00009 - 0.00009)	--	--	--	--	9.00E-05	9.00E-05
Molybdenum	WWC-11	4/4	--	0.00731	3.23E-03	0.00475	0.0119	0.0063	0.0112
Selenium	WWC-11	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Thallium	WWC-11	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002

Table C-1b
Summary Statistics - Waste Water Basin Surface Impoundment - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	WWC-12	0/4	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	WWC-12	4/4	--	0.0345	0.00685	0.0264	0.0428	0.0345	0.0418
Barium	WWC-12	4/4	--	0.0654	0.00755	0.0583	0.0761	0.0637	0.0743
Beryllium	WWC-12	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	WWC-12	0/4	(0.0005 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	WWC-12	1/4	(0.002 - 0.002)	0.00254	0.00092665	0.00414	0.00414	0.002	0.00382
Cobalt	WWC-12	0/4	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	WWC-12	4/4	--	0.429	0.0403	0.377	0.468	0.436	0.466
Lead	WWC-12	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Lithium	WWC-12	4/4	--	0.121	0.0113	0.111	0.137	0.117	0.134
Mercury	WWC-12	0/4	(0.00009 - 0.00009)	--	--	--	--	9.00E-05	9.00E-05
Molybdenum	WWC-12	4/4	--	0.00441	0.0003417	0.0041	0.00488	0.00433	0.00481
Selenium	WWC-12	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Thallium	WWC-12	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Antimony	WWC-13	0/4	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	WWC-13	4/4	--	0.0203	0.00085	0.019	0.0207	0.0207	0.0207
Barium	WWC-13	4/4	--	0.0487	0.00701	0.0434	0.0589	0.0462	0.0572
Beryllium	WWC-13	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	WWC-13	0/4	(0.0005 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	WWC-13	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cobalt	WWC-13	0/4	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	WWC-13	4/4	--	0.38	0.0352	0.34	0.423	0.377	0.418
Lead	WWC-13	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Lithium	WWC-13	4/4	--	0.111	0.0114	0.103	0.127	0.106	0.124
Mercury	WWC-13	0/4	(0.00009 - 0.00009)	--	--	--	--	9.00E-05	9.00E-05
Molybdenum	WWC-13	4/4	--	0.00397	3.27E-04	0.00366	0.00442	0.00391	0.00436
Selenium	WWC-13	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Thallium	WWC-13	0/4	(0.002 - 0.002)	--	--	--	--	0.002	0.002

Table C-1b
Summary Statistics - Waste Water Basin Surface Impoundment - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	RW-4	0/5	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	RW-4	5/5	--	0.0297	0.002	0.0264	0.0313	0.0298	0.0313
Barium	RW-4	5/5	--	0.0851	0.00364	0.0805	0.089	0.0857	0.0888
Beryllium	RW-4	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	RW-4	0/5	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	RW-4	1/5	(0.001 - 0.002)	0.00136	7.12E-04	0.00278	0.00278	0.002	0.00262
Cobalt	RW-4	0/5	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	RW-4	5/5	--	0.794	0.148	0.556	0.919	0.831	0.917
Lead	RW-4	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	RW-4	5/5	--	0.245	0.0105	0.235	0.262	0.245	0.259
Mercury	RW-4	0/5	(0.00009 - 0.00015)	--	--	--	--	9.00E-05	1.50E-04
Molybdenum	RW-4	5/5	--	0.00322	2.74E-04	0.00292	0.00365	0.00314	0.00358
Selenium	RW-4	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	RW-4	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	RW-7	0/5	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	RW-7	5/5	--	0.0211	8.57E-04	0.0203	0.0223	0.0206	0.0222
Barium	RW-7	5/5	--	0.0321	7.77E-04	0.0311	0.033	0.0318	0.0329
Beryllium	RW-7	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	RW-7	0/5	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	RW-7	1/5	(0.001 - 0.002)	0.00153	0.00106	0.00366	0.00366	0.002	0.00333
Cobalt	RW-7	0/5	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	RW-7	5/5	--	0.595	0.0292	0.564	0.626	0.582	0.626
Lead	RW-7	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	RW-7	5/5	--	0.141	0.00642	0.132	0.148	0.142	0.148
Mercury	RW-7	0/5	(0.00009 - 0.00015)	--	--	--	--	9.00E-05	1.50E-04
Molybdenum	RW-7	5/5	--	0.00435	2.56E-04	0.00399	0.0047	0.00436	0.00464
Selenium	RW-7	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	RW-7	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002

Notes:

All units micrograms per liter (mg/L)

Summary statistics were not calculated for any constituent in the following wells: WWC-14 through WWC-17 as these wells were sample 2 or fewer times as of December 2020.

Summary statistics were not calculated for Radium 226 + 228 in the following wells: WC-11 through WC-13, RW-4 and RW-7, as these wells were sampled 2 or fewer times as of December 2020.

The mean and standard deviation are represented by the Kaplan-Meier mean and standard deviation for constituent/well pairs with non-detects, reported at the laboratory reporting limit

"--": Not applicable

Well ID WW-U-1, WW-U-2 and SI-U-1 are upgradient of the Waste Water Basin and represent background conditions, all other wells are downgradient of the Waste Water Basin

Table C-1c
Summary Statistics - Combustion By-Products Landfill - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	CL-U-1	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	CL-U-1	15/15	--	0.0335	0.00644	0.0272	0.0507	0.031	0.0443
Barium	CL-U-1	15/15	--	0.0876	0.0119	0.0758	0.126	0.0866	0.105
Beryllium	CL-U-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	CL-U-1	1/15	(0.00025 - 0.0005)	0.00027667	0.000099778	0.00065	0.00065	5.00E-04	5.45E-04
Chromium	CL-U-1	3/15	(0.001 - 0.002)	0.00118	0.00167	5.29E-04	0.00551	0.002	0.00541
Cobalt	CL-U-1	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	CL-U-1	15/15	--	0.957	0.117	0.753	1.23	0.979	1.118
Lead	CL-U-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	CL-U-1	15/15	--	0.263	0.0715	0.202	0.401	0.229	0.385
Mercury	CL-U-1	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	CL-U-1	15/15	--	0.00428	0.0009711	0.0035	0.00733	0.00402	0.00573
Radium 226 + 228	CL-U-1	14/14	--	0.968	0.467	0.41	1.87	0.84	1.857
Selenium	CL-U-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	CL-U-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	CL-U-2	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	CL-U-2	15/15	--	0.026	0.002	0.0236	0.0317	0.0255	0.029
Barium	CL-U-2	15/15	--	0.0963	0.00971	0.0873	0.129	0.0938	0.109
Beryllium	CL-U-2	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	CL-U-2	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	CL-U-2	2/15	(0.001 - 0.002)	0.00143	0.0013	0.00227	0.00613	0.002	0.00343
Cobalt	CL-U-2	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	CL-U-2	15/15	--	0.963	0.146	0.611	1.17	0.995	1.149
Lead	CL-U-2	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	CL-U-2	15/15	--	0.247	0.0677	0.19	0.387	0.212	0.362
Mercury	CL-U-2	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	CL-U-2	15/15	--	0.00412	0.00033131	0.00376	0.00508	0.00406	0.00475
Radium 226 + 228	CL-U-2	14/14	--	1.311	0.82	0.4	3.7	1.265	2.439
Selenium	CL-U-2	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	CL-U-2	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002

Table C-1c
Summary Statistics - Combustion By-Products Landfill - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	CL-U-3	0/4	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	CL-U-3	3/4	(0.001 - 0.001)	0.015	0.00814	0.0183	0.0206	0.0192	0.0205
Barium	CL-U-3	4/4	--	0.0456	0.0077	0.0342	0.0509	0.0487	0.0507
Beryllium	CL-U-3	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	CL-U-3	0/4	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	CL-U-3	3/4	(0.002 - 0.002)	0.0217	0.0301	0.00553	0.0738	0.00559	0.0636
Cobalt	CL-U-3	0/4	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	CL-U-3	4/4	--	0.818	0.276	0.429	1.08	0.88	1.051
Lead	CL-U-3	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	CL-U-3	4/4	--	0.198	0.0315	0.152	0.223	0.208	0.221
Mercury	CL-U-3	0/4	(0.00009 - 0.00009)	--	--	--	--	9.00E-05	9.00E-05
Molybdenum	CL-U-3	4/4	--	0.00538	0.00288	0.00351	0.00964	0.0042	0.00889
Radium 226 + 228	CL-U-3	3/3	--	1.187	0.85	0.48	2.13	0.95	2.012
Selenium	CL-U-3	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	CL-U-3	0/4	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	CL-W-1	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	CL-W-1	15/15	--	0.0291	0.00198	0.0264	0.034	0.0289	0.0318
Barium	CL-W-1	15/15	--	0.0638	0.0119	0.053	0.105	0.0614	0.0783
Beryllium	CL-W-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	CL-W-1	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	CL-W-1	8/15	(0.001 - 0.002)	0.0062	0.00783	0.00102	0.0271	0.002	0.0212
Cobalt	CL-W-1	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	CL-W-1	15/15	--	1.057	0.106	0.834	1.18	1.06	1.159
Lead	CL-W-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	CL-W-1	15/15	--	0.222	0.0649	0.172	0.361	0.189	0.331
Mercury	CL-W-1	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	CL-W-1	15/15	--	0.00485	0.001	0.00357	0.0068	0.00454	0.00662
Radium 226 + 228	CL-W-1	14/14	--	1.075	0.614	0.34	2.16	1.185	1.998
Selenium	CL-W-1	1/15	(0.001 - 0.002)	0.000928	0	0.000928	0.000928	0.002	0.002
Thallium	CL-W-1	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002

Table C-1c
Summary Statistics - Combustion By-Products Landfill - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	CL-W-2	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	CL-W-2	15/15	--	0.0264	0.00172	0.0243	0.0299	0.0258	0.0288
Barium	CL-W-2	15/15	--	0.0846	0.0196	0.0711	0.151	0.0811	0.112
Beryllium	CL-W-2	0/15	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	CL-W-2	0/15	(0.0005 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	CL-W-2	4/15	(0.002 - 0.002)	0.00328	0.00305	0.00337	0.014	0.002	0.00823
Cobalt	CL-W-2	0/15	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	CL-W-2	15/15	--	1.155	0.141	0.695	1.29	1.19	1.269
Lead	CL-W-2	0/15	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Lithium	CL-W-2	15/15	--	0.271	0.0806	0.211	0.438	0.227	0.409
Mercury	CL-W-2	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	CL-W-2	15/15	--	0.00507	0.00149	0.00423	0.0102	0.00462	0.00721
Radium 226 + 228	CL-W-2	14/14	--	1.147	0.648	0.56	3.12	1.02	2.138
Selenium	CL-W-2	0/15	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Thallium	CL-W-2	0/15	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Antimony	CL-W-3	0/16	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	CL-W-3	16/16	--	0.0398	0.00207	0.0364	0.0437	0.0395	0.0429
Barium	CL-W-3	16/16	--	0.0996	0.00514	0.089	0.111	0.0994	0.106
Beryllium	CL-W-3	0/16	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	CL-W-3	0/16	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	CL-W-3	4/16	(0.001 - 0.002)	0.00094406	0.00093314	0.000505	0.00346	0.002	0.00279
Cobalt	CL-W-3	0/16	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	CL-W-3	16/16	--	1.266	0.126	0.948	1.57	1.26	1.405
Lead	CL-W-3	0/16	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	CL-W-3	16/16	--	0.257	0.0757	0.197	0.435	0.22	0.39
Mercury	CL-W-3	0/16	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	CL-W-3	16/16	--	0.00498	0.00029783	0.00463	0.0056	0.00491	0.00555
Radium 226 + 228	CL-W-3	14/14	--	0.969	0.476	0.16	1.7	1.02	1.616
Selenium	CL-W-3	0/16	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	CL-W-3	0/16	(0.001 - 0.002)	--	--	--	--	0.002	0.002

Table C-1c
Summary Statistics - Combustion By-Products Landfill - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	CL-W-4	0/16	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	CL-W-4	16/16	--	0.0352	0.00584	0.0196	0.0444	0.0367	0.0413
Barium	CL-W-4	16/16	--	0.0913	0.0144	0.0786	0.122	0.0861	0.12
Beryllium	CL-W-4	0/16	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	CL-W-4	0/16	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	CL-W-4	5/16	(0.001 - 0.002)	0.00434	0.0122	0.000762	0.0516	0.002	0.0154
Cobalt	CL-W-4	0/16	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	CL-W-4	16/16	--	1.458	0.114	1.27	1.69	1.445	1.623
Lead	CL-W-4	0/16	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	CL-W-4	16/16	--	0.241	0.0623	0.189	0.375	0.207	0.347
Mercury	CL-W-4	0/16	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	CL-W-4	16/16	--	0.00576	0.00202	0.00414	0.0115	0.00513	0.00978
Radium 226 + 228	CL-W-4	14/14	--	1.102	0.576	0.39	2.24	1.03	2.11
Selenium	CL-W-4	0/16	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	CL-W-4	0/16	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	CL-W-5	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	CL-W-5	15/15	--	0.0215	0.00197	0.0182	0.0253	0.0215	0.0241
Barium	CL-W-5	15/15	--	0.076	0.00674	0.0671	0.0869	0.0737	0.0866
Beryllium	CL-W-5	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	CL-W-5	0/14	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	CL-W-5	3/15	(0.001 - 0.002)	0.00143	0.00232	0.000712	0.00999	0.002	0.0045
Cobalt	CL-W-5	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	CL-W-5	15/15	--	1.757	0.135	1.51	2.03	1.81	1.932
Lead	CL-W-5	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	CL-W-5	15/15	--	0.217	0.102	0.025	0.411	0.21	0.37
Mercury	CL-W-5	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	CL-W-5	15/15	--	0.00649	0.00149	0.00479	0.00922	0.00585	0.00884
Radium 226 + 228	CL-W-5	14/14	--	1.162	0.742	0.4	2.6	0.895	2.47
Selenium	CL-W-5	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	CL-W-5	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002

Table C-1c
Summary Statistics - Combustion By-Products Landfill - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	CL-W-6	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	CL-W-6	15/15	--	0.0188	0.00568	0.0104	0.0287	0.0173	0.0276
Barium	CL-W-6	15/15	--	0.0919	0.0039	0.0873	0.0985	0.0902	0.0979
Beryllium	CL-W-6	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	CL-W-6	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	CL-W-6	3/15	(0.001 - 0.002)	0.00153	0.00278	0.000612	0.0116	0.002	0.00582
Cobalt	CL-W-6	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	CL-W-6	15/15	--	1.605	0.135	1.38	1.84	1.61	1.763
Lead	CL-W-6	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	CL-W-6	14/15	(0.1 - 0.1)	0.235	0.0753	0.182	0.4	0.203	0.359
Mercury	CL-W-6	1/15	(0.00009 - 0.00015)	0.000094	0.000014967	0.00015	0.00015	1.50E-04	1.50E-04
Molybdenum	CL-W-6	14/15	(0.002 - 0.002)	0.00745	0.00251	0.00478	0.0117	0.00721	0.0112
Radium 226 + 228	CL-W-6	14/14	--	0.988	0.505	0.25	1.99	0.99	1.828
Selenium	CL-W-6	1/15	(0.001 - 0.002)	0.00139	0.00145	0.0068	0.0068	0.002	0.00344
Thallium	CL-W-6	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	CL-W-7	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	CL-W-7	15/15	--	0.024	0.00125	0.0215	0.027	0.0239	0.0261
Barium	CL-W-7	15/15	--	0.055	0.00744	0.0475	0.0794	0.0529	0.0653
Beryllium	CL-W-7	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	CL-W-7	0/14	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	CL-W-7	4/15	(0.001 - 0.002)	0.00228	0.00252	0.00234	0.00891	0.002	0.00808
Cobalt	CL-W-7	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	CL-W-7	15/15	--	1.029	0.119	0.792	1.24	1.02	1.184
Lead	CL-W-7	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	CL-W-7	15/15	--	0.219	0.0586	0.169	0.331	0.189	0.328
Mercury	CL-W-7	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	CL-W-7	15/15	--	0.0134	3.67E-02	0.00323	0.146	0.00392	0.0483
Radium 226 + 228	CL-W-7	14/14	--	0.557	0.366	0.12	1.4	0.52	1.121
Selenium	CL-W-7	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	CL-W-7	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002

Table C-1c
Summary Statistics - Combustion By-Products Landfill - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	CL-W-8	0/15	(0.002 - 0.004)	--	--	--	--	0.002	0.004
Arsenic	CL-W-8	15/15	--	0.0243	0.00315	0.0155	0.0297	0.0252	0.0276
Barium	CL-W-8	15/15	--	0.0711	0.013	0.0521	0.107	0.0681	0.0908
Beryllium	CL-W-8	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	CL-W-8	0/15	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	CL-W-8	4/15	(0.001 - 0.002)	0.00213	0.0028	0.00206	0.012	0.002	0.00684
Cobalt	CL-W-8	0/15	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	CL-W-8	15/15	--	1.02	0.108	0.782	1.13	1.04	1.13
Lead	CL-W-8	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	CL-W-8	15/15	--	0.223	0.0594	0.176	0.35	0.192	0.329
Mercury	CL-W-8	0/15	(0.00009 - 0.00015)	--	--	--	--	1.50E-04	1.50E-04
Molybdenum	CL-W-8	15/15	--	0.00441	7.34E-04	0.00358	0.00626	0.00431	0.00556
Radium 226 + 228	CL-W-8	14/14	--	0.839	0.494	0.24	1.85	0.815	1.525
Selenium	CL-W-8	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	CL-W-8	0/15	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Antimony	CL-W-9	0/5	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	CL-W-9	5/5	--	0.0397	0.00168	0.0368	0.0411	0.0402	0.041
Barium	CL-W-9	5/5	--	0.0482	0.00155	0.0462	0.0499	0.0489	0.0497
Beryllium	CL-W-9	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	CL-W-9	0/5	(0.00025 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	CL-W-9	1/5	(0.002 - 0.002)	0.00217	0.000348	0.00287	0.00287	0.002	0.0027
Cobalt	CL-W-9	0/5	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	CL-W-9	5/5	--	1.83	0.261	1.37	2.02	1.92	2.004
Lead	CL-W-9	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Lithium	CL-W-9	5/5	--	0.178	0.0108	0.168	0.195	0.176	0.192
Mercury	CL-W-9	0/5	(0.00009 - 0.00009)	--	--	--	--	9.00E-05	9.00E-05
Molybdenum	CL-W-9	5/5	--	0.00568	3.11E-04	0.00518	0.00597	0.00573	0.00596
Radium 226 + 228	CL-W-9	3/3	--	0.423	0.0451	0.38	0.47	0.42	0.465
Selenium	CL-W-9	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002
Thallium	CL-W-9	0/5	(0.001 - 0.002)	--	--	--	--	0.002	0.002

Table C-1c
Summary Statistics - Combustion By-Products Landfill - 2015 -2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

CCR Constituent	Well ID	Frequency of Detection	Range of Reporting Limits	Mean	Standard Deviation	Minimum Detected Concentration	Maximum Detected Concentration	Median	95th Percentile
Antimony	WDB-19	0/6	(0.002 - 0.004)	--	--	--	--	0.004	0.004
Arsenic	WDB-19	6/6	--	0.03	0.00139	0.0287	0.0326	0.0298	0.032
Barium	WDB-19	6/6	--	0.05	0.00246	0.0476	0.0539	0.0493	0.0534
Beryllium	WDB-19	0/6	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Cadmium	WDB-19	0/6	(0.0005 - 0.0005)	--	--	--	--	5.00E-04	5.00E-04
Chromium	WDB-19	1/6	(0.002 - 0.002)	0.00433	0.00522	0.016	0.016	0.002	0.0125
Cobalt	WDB-19	0/6	(0.004 - 0.004)	--	--	--	--	0.004	0.004
Fluoride	WDB-19	6/6	--	1.413	0.0599	1.3	1.46	1.425	1.46
Lead	WDB-19	0/6	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Lithium	WDB-19	6/6	--	0.214	0.0055	0.209	0.224	0.215	0.222
Mercury	WDB-19	0/6	(0.00009 - 0.00015)	--	--	--	--	9.00E-05	1.50E-04
Molybdenum	WDB-19	6/6	--	0.00515	1.08E-03	0.00417	0.00675	0.00472	0.00662
Selenium	WDB-19	0/6	(0.002 - 0.002)	--	--	--	--	0.002	0.002
Thallium	WDB-19	0/6	(0.002 - 0.002)	--	--	--	--	0.002	0.002

Notes:
All units micrograms per liter (mg/L)
Summary statistics were not calculated for Radium 226 + 228 in well WDB-19, as this well was sampled 2 or fewer times as of December 2020.
The mean and standard deviation are represented by the Kaplan-Meier mean and standard deviation for constituent/well pairs with non-detects, reported at the laboratory reporting limit
"--": Not applicable
Well ID CL-U-1, CL-U-2 and CL-U-3 are upgradient of the Combustion By-Products Landfill and represent background conditions, all other wells are downgradient of the Combustions By-Products Landfill

Table C-2
Maximum Contaminant Levels, Upper Tolerance Limits, and Groundwater Protection Standards 2015 - 2020
Intermountain Power Service Corporation - Intermountain Generation Facility, Delta, Utah

Constituent	MCL	Bottom Ash Basin		Waste Water Basin		CB Landfill	
		UTL	GWPS	UTL	GWPS	UTL	GWPS
Antimony	0.006	0.004	0.006	0.004	0.006	0.004	0.006
Arsenic	0.01	0.0362	0.0362	0.01338	0.01338	0.0507	0.0507
Barium	2	0.175	2	0.1412	2	0.129	2
Beryllium	0.004	0.002	0.004	0.002	0.004	0.002	0.004
Cadmium	0.005	0.0005	0.005	0.00128	0.005	0.00065	0.005
Chromium	0.1	0.0711	0.1	0.067	0.1	0.0738	0.1
Cobalt	0.006	0.004	0.006	0.004	0.006	0.004	0.006
Fluoride	4	1.75	4	1.01	4	1.224	4
Lead	0.015	0.002	0.015	0.002	0.015	0.002	0.015
Lithium	0.04	0.4564	0.4564	0.587	0.587	0.2492	0.2492
Mercury	0.002	0.00015	0.002	0.00015	0.002	0.00015	0.002
Molybdenum	0.1	0.0421	0.1	0.02742	0.1	0.00964	0.1
Radium 226 + 228	5	2.409	5	3.271	5	2.793	5
Selenium	0.05	0.00519	0.05	0.0122	0.05	0.002	0.05
Thallium	0.02	0.002	0.02	0.002	0.02	0.002	0.02

All units microgram per liter (mg/L)

MCL: US EPA Maximum Contaminant Level

UTL: Upper Tolerance Limit

GWPS: Groundwater Protection Standard, the higher of the UTL or the MCL/US EPA alternate standard

Cobalt data collected from wells associated with the Waste Water Basin prior to and including the June 2016 sample event were excluded from the data set and subsequent statistical analyses, as not being representative of current site conditions.

Lithium data from the first four rounds of sampling (December 2015 through August 2016) were excluded from the data set and subsequent statistical analyses, as not being representative of current site conditions.