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Scoping Summary for the General Separations Area Western Groundwater Operable Unit (U)

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Aiken, South Carolina

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KEY CHANGES TO THE SCOPING SUMMARY

Section	Description of Change	Rationale for Change
4.1 and 4.2	Revised sections to include results from 2017 GW sampling.	These changes update the Scoping Summary to include results from sampling in 2017.
Figures 6, 7, and 8	Figures were updated based on the results of 2017 GW sampling.	These changes update the Scoping Summary with sampling results from 2017.
Appendix C	Data table was updated with the results of 2017 GW sampling.	These changes update the Scoping Summary with sampling results from 2017.

RECORD OF CORE TEAM AGREEMENTS

Agreement	Meeting
Core Team agreed to transition to annual sampling for locations FGW-023 and FGW-024.	October 2017
Locations FGW-023 and FGW-024 will be sampled at least 2 more times and results will be discussed in the 2016 Scoping Summary. Continued monitoring of these locations will be evaluated.	September 2015
Technetium-99 will be added to the analyte list for the South plume.	September 2014
Sampling data (one event) for new locations, FGW-023 and FGW-024, will be included in the final Scoping Summary for 2014.	September 2014
At the South plume, the Core Team agreed to move forward with installation of one surface water sample station and one shallow seepline piezometer on a tributary to the west of the Biomass Facility. The need for additional monitoring points will be evaluated based on monitoring results.	August 2013
Sampling of established wells will be performed annually. New monitoring locations added to the OU will be sampled semi-annually until a baseline is established.	August 2013
As documented in the GSA Eastern and Western GW OUs GW Monitoring Optimization White Paper, SRNS-RP-2012-00783, Rev. 1, January 2014, the Core Team agreed to discontinue monitoring at wells FNB-3, FNB-12, FBP-13D, FBP-44D, FBP-46D, FBP-47D, BRR-5D and UTR-7.	August 2013
As documented in the GSA Eastern and Western GW OUs GW Monitoring Optimization White Paper, SRNS-RP-2012-00783, Rev. 1, January 2014, the Core Team agreed to add alpha and beta/gamma speciation to analyte list for well FGW005C.	August 2013
The Core Team recognized the difficulty of installing a new well down gradient of UTR-18R and agreed that a new well is not needed at this time as long as SRS continues to monitor water at the seep in well UTR-18R.	August 2013
Add one monitoring well in the lower aquifer zone down gradient of FGW-012C, if possible.	August 2012
Add one seepline and one surface water monitoring location down gradient of FGW-012C along unnamed tributary, if surface water is present.	August 2012
Data are being collected and reported for future evaluation of VOC degradation as a remedial alternative.	August 2011
The Core Team agreed to include information on wells FBP 44D, 46D, and 47D in the August 2011 Scoping Summary instead of submitting the February 2011 white paper that was agreed to during the June 2010 meeting.	August 2011
FBP 44D, FBP 46D, and FBP 47D can be dry during periods of lower water table. This could represent a data gap if the UTR 18R seepline piezometer is also dry (monitors the same aquifer zone). UTR 18R typically contains water. Historical data associated with the dry wells will be evaluated with respect to contaminants to determine if modifications to the well network are necessary to define plume extent. The evaluation will be reported in February 2011 as a white paper.	June 2010

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1.0 PROJECT PHASE AND STATUS

The *Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI)/Remedial Investigation (RI) Phase 1 Work Plan for the General Separations Area (GSA) Western Groundwater Operable Unit (OU)*, Revision 1.1, was approved by the United States Environmental Protection Agency (USEPA) and by the South Carolina Department of Health and Environmental Control (SCDHEC) on September 9, 2004. A Field Start was achieved for the OU on September 20, 2004.

In 2007, SRS completed establishment of the GW monitoring network. The GSA Western GW OU is currently in a GW monitoring program. The purpose of this Scoping Summary is to present the analytical data obtained in 2017 from GW monitoring to the Core Team to determine if the monitoring network and analytical suite remain appropriate for continued monitoring. In 2017, concentrations have remained consistent with results from 2016 and continued sampling of the GW monitoring network is recommended. GW plumes remain stable with respect to concentrations and extent, and surface waters are not above maximum contaminant limits (MCLs).

2.0 BACKGROUND

The GSA is located on a topographic ridge near the center of the SRS. The GSA Western GW OU is located in the northwest portion of the GSA on a GW divide. It encompasses the GW beneath approximately (~) 485.6 hectares (ha [1,200 acres {ac}]) in F Area. This OU is bordered to the south by the F-Area Hazardous Waste Management Facility and to the east by the Mixed Waste Management Facility (see Figure 1). Because the OU is located on a GW divide, shallow GW flows toward both Fourmile Branch and Upper Three Runs Creek (UTRC) (see Figure 2).

This OU underlies many operating facilities and waste units in and around F Area that are potential sources of contamination. Some of these facilities and units have been investigated during previous RCRA RFI/RI characterization work. From these investigations and from review of the existing monitoring well networks, three distinct GW

plumes have been identified in the Upper Three Runs Aquifer (UTRA). The plumes are identified by geographic reference as the North plume, the West plume, and the South plume.

Some of the operating facilities in the area are undergoing decontamination and decommissioning and will be brought to closure in the near term. Because other facilities will remain active into the future, in September 2005, the Core Team determined:

- It is not appropriate to achieve a Record of Decision on the GSA Western GW OU until all sources of potential contamination are brought to closure (including closure of the F-Area High Level Waste Tanks).

- The most appropriate action at this time is continued GW monitoring to ensure that surface water resources are adequately protected.

- If contamination in the GW is thought to represent a threat to surface water resources, the Core Team will reconvene to determine if early response actions are required.

SRS characterized the nature and extent of GW contamination. The primary GW contaminants are volatile organic compounds (VOCs), radionuclides, and nitrate. Tritium, iodine-129, and trichloroethylene (TCE) are sporadically above MCLs in GW at points of discharge at the seeplines. However, concentrations in adjacent surface water are consistently below MCLs.

3.0 LAND USE

The area encompassed by the GSA Western GW OU is heavily developed with many active industrial facilities. No future residential use of this area is anticipated. Land use of the entire GSA Western GW OU area will be controlled to prevent use of the GW that exceeds MCLs. The UTRA and Gordon Aquifer (GA) are not used as a drinking water source at SRS.

4.0 SUBUNITS

The GSA Western GW OU includes the following two subunits:

- GW (i.e., North Plume, West Plume, South Plume), including shallow GW discharging to surface at the seeplines, and
- Surface Water.

In September 2005, the Core Team determined that soil contamination from the potential source units will be addressed during closure of the individual waste units and operating facilities.

4.1 GW Subunit

The UTRA is the shallow-most aquifer beneath the GSA Western GW OU and consists of two aquifer zones; the Upper Aquifer Zone (UAZ) and the Lower Aquifer Zone (LAZ). The GA underlies the UTRA and is separated from the UTRA by the Gordon Confining Unit (GCU). Contamination is present only in the UTRA. Previous investigations have demonstrated that within the GSA Western GW OU, the GA is protected by a competent confinement unit (e.g., GCU) and contamination is not migrating into the aquifer.

In 2017, the GSA Western GW OU was under a GW monitoring program that consisted of sampling 33 monitoring wells, 4 shallow sampling points at the seeplines (i.e., seepline piezometers), and 4 surface water sampling stations (Table 1 and Figure 2). Starting in 2014, sampling of the monitoring network is performed annually for established wells except for the F-Area Retention Basin. The F-Area Retention Basin is sampled semi-annually according to the Record of Decision. New wells are sampled semi-annually until a baseline is established in accordance with Table 1. The results from the 2017 monitoring of the well network are discussed below for the North, West, and South plumes. The analytical data for 2017 are presented in Appendix C.

Beginning in 2011, all locations in the North and West plumes have been sampled for TCE and degradation products. This is necessary to ensure that sufficient data are available to evaluate natural attenuation as a future remedial action. Currently cis-1,2-dichloroethylene

is detected in the GW in the West plume; however, concentrations are very low (0.49 µg/L) and below the laboratory analytical quantitation limit (i.e., 1 µg/L). Cis-1,2-dicloroethylene and vinyl chloride are both non-detect (less than detection limit 0.3 µg/L) in the North plume.

GW contaminants in the UTRA include VOCs, radionuclides, and nitrate. Tritium, TCE, and nonvolatile beta are recognized as the most widespread contaminants in the GW at the OU and thus are mapped each year. Other constituents are co-mingled with these primary contaminants. For example, TCE is the primary chlorinated solvent present yet the plume typically also contains limited quantities of tetrachloroethylene (PCE) and trichlorofluoromethane (TCFM) co-located with the TCE. Tritium and nonvolatile beta are the most widespread radioactive contaminants; however, other radionuclides such as iodine-129, strontium-90, uranium-238, etc., are also co-located within these plumes. Thus, mapping of the primary contaminants is useful to evaluate the distribution and nature of the plumes from year to year.

Beginning with the 2011 annual Core Team meeting, the TCE plume (Figure 3) was revised. The value of the contour line was changed from 10 µg/L to the MCL of 5 µg/L. Also, the general shape of the plume was modified to reflect the absence of TCE at the wells adjacent to the Old F-Area Seepage Basin (OFASB). This change resulted in two distinct plumes being interpreted (North and West plumes) and the reassignment of well FGW 003C to the West plume monitoring network.

North Plume

The North plume covers an area of ~20.2 ha (50 ac) on the north side of the F-Area industrial facilities. Within this portion of the OU, the water table and the plume are located completely within the LAZ of the UTRA. GW flow in this aquifer is north toward UTRC and its tributaries. During 2017, GW samples were collected from four wells, two seepline piezometers, and two surface water locations. All locations yielded samples in 2017.

Previous investigations have shown that elevated concentrations of TCE, gross alpha, and nonvolatile beta are present to the east and north-east of the OFASB. In 2002, depth

discrete samples measured TCE concentrations up to 85 µg/L. Elevated concentrations of gross alpha and nonvolatile beta were also detected. Sample locations from this investigation were shown in the November 2005 Scoping Summary. This area of the plume is likely from sources within the F-Area fence line such as facilities associated with the now decommissioned Naval Fuels and the Fabrication Shop located north of F Canyon.

During the 2017 monitoring period, TCE concentrations were similar to 2016 concentrations and ranged between non-detect and 12 µg/L. The maximum concentration was detected at well FNB 15 (12 µg/L). At adjacent well FNB 13, TCE was 10.6 µg/L. TCE was only detected at one other location (1.07 µg/L at UTR-016). Both PCE and TCFM were below the MCL in the North plume.

In addition to VOCs, gross alpha, nonvolatile beta, nitrate, iodine-129, strontium-90, and tritium have been present in the UTRA at levels greater than MCLs. In 2017, concentrations were similar to levels measured in 2016 and only slightly greater than respective MCLs at most locations. Near the OFASB at well FNB 2, the concentration of I-129 was 5.89 pCi/L which was slightly lower than the 2016 result. Sr-90 was also above the MCL (8 pCi/L) near the OFASB at well FNB 5 at a concentration (8.71 pCi/L) slightly lower than the previous year. Tritium exceeded the MCL (20 pCi/mL) at only one well which is down gradient of the OFASB (FNB 13 [21.1 pCi/mL]). Tritium concentrations down gradient of the OFASB have been decreasing over the past fifteen years and are currently barely above the MCL as shown in Figure 4. The downward concentration trend since monitoring began in year 2000 is indicative of a plume that is shrinking and a tritium source term that is depleted. Nitrate exceeded the MCL (10 mg/L) at wells (FNB 13 and FNB 15) and the maximum concentration was 16.6 mg/L (FNB 15). Nonvolatile beta (53 pCi/L), Sr-90 (22.1 pCi/L), gross alpha (16.4 pCi/L), and iodine-129 (4.33 pCi/L) also exceeded their respective MCLs at one of the wells downgradient of the OFASB (FNB 13 or FNB 15).

In 2017, shallow GW discharging at the seepline was monitored by two seepline piezometers (UTR 6 and UTR 16). Historically, primarily tritium has been detected near or slightly above the MCL at location UTR 16. However, I-129 has also been sporadically

measured above the MCL in the past. During the 2017 sampling at UTR 16, tritium (5.54 pCi/mL) was below the MCL and iodine-129 was non-detect (i.e., less than 1.06 pCi/L). Levels of tritium and I-129 were both similar to what was measured in 2016.

In accordance with the monitoring strategy, surface water samples are also collected near the points of GW discharge. Samples from surface water stations UTR 003 and UTR 004 had very low results for tritium, with the highest being 2.76 pCi/mL (2017).

I-129 was detected at UTR 003, but the result (1.57 J pCi/L) was less than the sample quantitation limit and thus cannot be accurately quantified.

Overall, the 2017 results were similar to 2016 results. The data continue to indicate that the plume remains stable to decreasing with respect to extent and concentrations. Surface water is not being impacted above MCLs. Continued monitoring is recommended for the North plume. Monitoring results for 2017 are provided in Appendix C.

West Plume

The West plume occupies ~26.3 ha (65 ac) on the western side of F Area. The plume is located within both the UAZ and LAZ of the UTRA. GW flow in this area is generally west toward UTRC. During 2017, GW samples were obtained from 11 of 12 wells. Well FBP 1A (LAZ) was damaged beyond repair by lightning in 2015 and remained out of service for the 2017 sampling event. In September 2017, a replacement well (FBP 1AR) was installed and added to the sampling matrix in Table 1. At the seepline, surface water station UTR 005 was dry, but a sample was collected from adjacent piezometer UTR 18R. Sampling results from the monitoring network are included in Appendix C.

Overall, the West plume is comprised primarily of VOCs (PCE, TCE, and TCFM), nitrates, and gross alpha/nonvolatile beta constituents. Based on previous sampling, the primary isotopes present include iodine-129, strontium-90, technetium-99, uranium-233/234, and uranium-238. In 2017, the data show MCL exceedances for: PCE, TCE, TCFM, nitrates, gross alpha, nonvolatile beta, radium-226, radium-228, strontium-90, uranium 233/234,

and uranium-238. VOCs and nitrates are the most widespread contaminants for the West plume.

VOCs are present beneath the burning rubble pits and up gradient of the pits toward the F-Area facilities. The most prevalent VOCs are TCE and TCFM. The highest concentrations of TCE are located at the northwest edge of the F-Area facilities at wells FGW 003C, FGW 005C, FGW 022C, and FBP43DL. The maximum concentrations of TCE and TCFM were located at wells FGW 003C and FBP 43 DL, respectively (29.4 µg/L and 28.2 µg/L, respectively). TCE concentrations in this part of the plume (wells FGW 003C, FGW 005C, FGW 022C, and FBP 43DL) have been stable to decreasing over time (Figure 5).

In 2017, TCE concentrations remained steady at 9.81 µg/L in the distal part of the plume (Figure 6). PCE concentrations were also similar to last year's results (2017 maximum result of 5.72 µg/L). TCFM exceeded the MCL at wells FBP 2A and FBP 6D (6.76 and 5.64 µg/L, respectively).

The maximum concentrations of nitrates, gross alpha, and nonvolatile beta are also present adjacent to the F-Area facilities and the Inactive Process Sewer Line (IPSL) at LAZ wells FGW 005C and FGW 022C. In 2017, the maximum nitrate concentration was slightly lower than last year at 39.3 mg/L (FGW 005C). Gross alpha and nonvolatile beta concentrations were similar to results from 2016; gross alpha 1,160 pCi/L (FGW 005C), nonvolatile beta 844 pCi/L (FGW 005C) (2017 results). At well FGW 005C, the specific isotopes associated with the elevated gross alpha are uranium-233/234 (358 pCi/L) and uranium-238 (1,190 pCi/L) and the beta emitting isotopes present are primarily strontium-90 (149 pCi/L) and technetium-99 (166 pCi/L). The results of isotopic speciation for FGW 005C are included in Appendix B.

At the West plume, the concentrations of gross alpha and nonvolatile beta attenuate rapidly with distance away from the F-Area facilities. As shown in Figure 7, the nonvolatile beta plume terminates approximately half-way between the F-Area fence line and the wetlands of UTRC and poses no threat to surface water.

Since 2006, PCE, TCE and TCFM have been detected in GW near the seepline at piezometer UTR 18R; however, surface water samples collected down gradient from UTR 18R have historically been non-detect for VOCs. In 2017, the maximum concentration in GW was 3.17 µg/L for TCE and was below the MCL. PCE and TCFM were also below the MCL in 2017 at 3.15 µg/L and 2.01 µg/L, respectively. UTR 018R is located at the base of a slope in an area of localized GW seeps. At this area, the rate of GW discharge is so low that standing water is not present year-round. Also, the seepline sample point (UTR 18R) is ~182.9 meters (600 feet) from UTRC and GW discharged to the surface typically seeps back into the ground or evaporates before reaching the creek. Downgradient of the seep piezometer, the concentration of all constituents has been below the MCL at surface water location UTR 005. A sample was not able to be collected at UTR 005 due to dry conditions.

Overall, 2017 data continue to indicate that the plumes remain stable with respect to extent and concentrations. Both the VOC and nonvolatile beta plumes terminate prior to discharging at seeps to UTRC. Surface water is not being impacted above MCLs. Continued monitoring is recommended for the West plume. Monitoring results for 2017 are provided in Appendix C.

South Plume

The South plume covers an area of ~22.3 ha (55 ac) on the south west corner of F Area. The plume is located within the UAZ and LAZ of the UTRA. GW flow in this portion of the OU is generally south west toward UTRC. During 2017, GW samples were collected from 13 wells. The analyte list for monitoring includes nitrates, gross alpha, nonvolatile beta, tritium, iodine-129, radium-226, radium-228, strontium-90, uranium-233/234, uranium-238, and technetium-99. Technetium-99 is a new analyte that was added to the list in 2015. Analytical results are presented in Appendix C.

The South plume consists primarily of tritium and nonvolatile beta constituents. VOCs are not present at the South plume. Specific radionuclides that have been present above MCLs include iodine-129, strontium-90, radium-226, and tritium. SRS believes these

constituents are sourced from the RCRA permitted F-Area Inactive Process Sewer Line (FIPSL). Potential sources of contamination include historic releases along sections of the FIPSL. A collapsed section of the vitrified clay FIPSL is known to exist down gradient of the Tank Farm. The collapsed section is shown in Figure 2. Sampling locations near the collapsed section of the FIPSL are not accessible at this time due to interferences with power lines and active steam lines.

In 2017, nonvolatile beta was the most widespread contaminant detected. It was present at levels exceeding 50 pCi/L in five of the thirteen wells with concentrations ranging from 77.3 pCi/L (FSL 11C) to 419 pCi/L (FTF 28). Historically, the elevated concentrations have been detected in the area of wells FTF 28 and FSL 5D near the IPSL collapsed section, and also at down gradient well FGW 12C.

In addition to nonvolatile beta activity, a few wells near the FIPSL have exceeded the MCL for iodine-129, nitrate, strontium-90, radium-226, technetium-99, and tritium. In 2017, all of these analytes exceeded the MCL in at least one well with maximum concentrations as follows: iodine-129 (16.2 pCi/L), nitrate (11.5 mg/L), radium-226 (5.95 pCi/L), strontium-90 (53.9 pCi/L), technetium-99 (1050 pCi/L), and tritium (72.3 pCi/mL). The maximum concentrations occurred in wells along or near the FIPSL, except for nitrate and tritium which was highest at well FGW 12C. Historically, radium-228 has also exceeded in at least one well. However, concentrations of radium-228 were below the MCL at all sampled locations in the South plume.

Overall, the 2017 data indicate that the plume remains stable with respect to extent and concentrations. Monitoring results are provided in Appendix C.

During the August 2012 Core Team meeting, uncertainties associated with the extent of the South plume in the LAZ and the possibility of the South plume discharging to surface water were discussed. The Core Team recommended investigating a tributary to UTRC that is located down gradient of well FGW 012C for potential sampling locations. The potential locations investigated included one surface water sample station, one seepline piezometer location, and a location for one new GW monitoring well, if needed. A field

walk-down was held on April 16, 2013, with representatives from USEPA, SCDHEC, and SRS. Based on the walk-down, GW discharge to the tributary was determined to begin approximately half-way down its length with the tributary being discharged to the floodplain swamp of UTRC. The upper reaches of the tributary were dry.

In September 2014, SRS installed a surface water sample station (FGW 024) near the discharge point to the swamp and in August 2014, a shallow piezometer (FGW 023) to sample GW discharging to the surface. Seven rounds of samples have been collected for the South plume constituents since 2014. Nitrate-nitrite, radium-226, radium-228, nonvolatile beta, technetium-99 and tritium have all been detected, but all concentrations were very low and below MCLs. Based on these results, the Core Team decided in the 2017 scoping meeting to reduce the sampling frequency for FGW-023 and FGW-024 from semi-annual to annual. The analyte suite will remain the same as for the rest of the South plume. The sampling results continue to indicate the South plume is not impacting this tributary to UTRC. The results are presented in Appendix C.

F-Area Retention Basin

Previously, the Core Team decided to incorporate the monitoring and reporting for the F-Area Retention Basin in this report. The GSA Western GW OU monitoring network includes sampling at four wells for the F-Area Retention Basin (FRB 1 through FRB 4). The monitoring network is shown on Figure 2 and details are provided in Table 1. The wells are sampled semi-annually according to the ROD. An administrative error occurred during the fourth quarter in 2017 and the wells were not sampled. However, samples were collected from all of the wells during the second quarter of 2017 and all results were below MCLs at the F-Area Retention Basin. The analytical data are presented in Appendix C.

4.1.1 Problem Warranting Action

- VOCs, nitrate, and radionuclides in the UTRA are present at levels that exceed the respective MCLs.
- VOCs and radionuclides have been present in GW at the seepline at levels above the MCLs.

4.1.2 Remedial Action Objectives

- Ensure that contaminants in GW do not impact surface water at levels that exceed MCLs.
- Prevent human exposure to contaminants in GW at levels that exceed MCLs.

4.1.3 Scope of Problem

- GW contaminants in the UTRA include VOCs, radionuclides, and nitrate. Tritium, TCE, and nonvolatile beta are recognized as the most widespread contaminants in the GW at the OU. Figures 3, 7, and 8 show the distribution of these contaminants in the UTRA during 2017.

4.1.4 Likely Response Actions

- Continued monitoring of GW in the UTRA and at the seepline on an annual frequency.

4.1.5 Uncertainties

- There is some uncertainty regarding the potential sources of shallow GW contamination due to the number of operating facilities and waste units within the boundaries of the GSA Western GW OU. Individually and collectively, these facilities and waste sites have contaminated the shallow aquifer that underlies this GW OU. The closure of the F-Area facilities will manage the uncertainties associated with residual sources. The uncertainty regarding source areas will ultimately be addressed by the F-Area OU remedial investigation (prior to Area Closure). Until then, the impact of the combined sources on GW will be tracked by continued GW monitoring in the GSA Western GW OU. The well network for each plume area, sampling frequency, and specific analyte lists are summarized in Table 1.

4.2 Surface Water

Shallow GW within the OU discharges to surface water at the seeplines of UTRC and Fourmile Branch. The Phase 1 Work Plan specified that if GW contamination was detected at the seeplines above the MCLs, then surface water quality in the stream(s) would be evaluated. Four surface water sample locations are used to monitor water quality in the

GW monitoring plan (see Figure 2). In June 2010, the Core Team agreed to sample the surface water at the same frequency as the GW.

Characterization and monitoring well data show that GW contamination exists above MCLs beneath the seepline at a few locations within the OU. At the North and West plumes, GW at the seepline has exceeded MCLs for tritium, strontium-90, iodine-129, and VOCs in the past. However, confirmation sampling of the surface water in the streams has demonstrated that contaminant levels are below MCLs in the tributaries to UTRC.

4.2.1 Problem Warranting Action

- No problems warranting action have been identified for surface water at the OU.

4.2.2 Remedial Action Objectives

- To date there were no MCL exceedances in surface water; therefore, remedial action objectives are not applicable at this time.

4.2.3 Surface Water Scope of Problem Warranting Action

The GSA Western GW OU contains three distinct areas of GW contamination. Since routine monitoring started in 2005, two of these plumes, the North plume and the West plume, have been above MCLs in GW near the discharge zone to the seeplines. However, GW at the seepline in the North plume and the West plume was below the MCLs for all constituents in 2017. Historically, confirmation sampling of the surface water has demonstrated that contaminant levels have been and continue to be below MCLs in the tributaries to UTRC.

4.2.4 Surface Water Likely Response Actions

- Monitoring of surface water per the schedule in Table 1.

4.2.5 Uncertainties

- It is uncertain if surface water of UTRC and tributaries will be impacted by GW discharging from the North and West plumes. At some of the seepline locations contaminants have been detected above the MCL in GW. However, the associated

streams continue to remain below MCLs for all contaminants. As more data is obtained, trends will be developed as necessary. This uncertainty is managed by monitoring surface water in the tributaries to UTRC. Sample locations and analytes are summarized in Table 1.

5.0 OPERABLE UNIT STRATEGY

- SRS will sample the monitoring network annually for contaminants of concern until there is a decision to modify the frequency. New monitoring locations (GW and surface water) added to the OU will be sampled semi-annually until a baseline is established. Evaluation will be based on data trends. This information is reported in an annual update to this Scoping Summary.
- SRS will convene the Core Team annually (or as necessary) to review data, re-evaluate the well network, sampling frequency, and analyte list, assess the effectiveness of the OU logic, and decide if the monitoring strategy is still appropriate or if changes are required (including the need for immediate action).
- SRS will notify the Core Team promptly if monitoring data indicate a problem that requires immediate attention.

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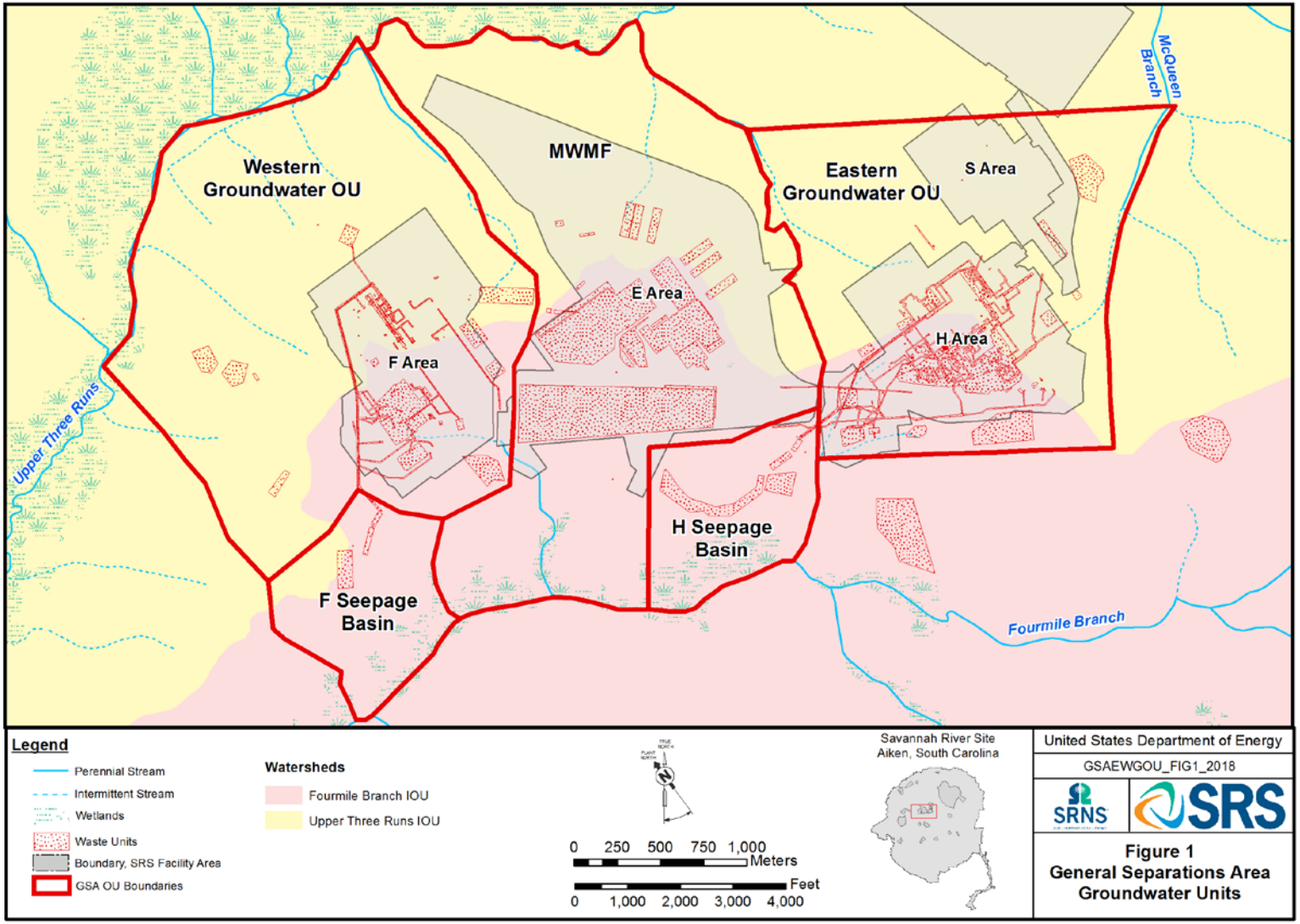

Figure 1. Groundwater Operable Units at the General Separations Area

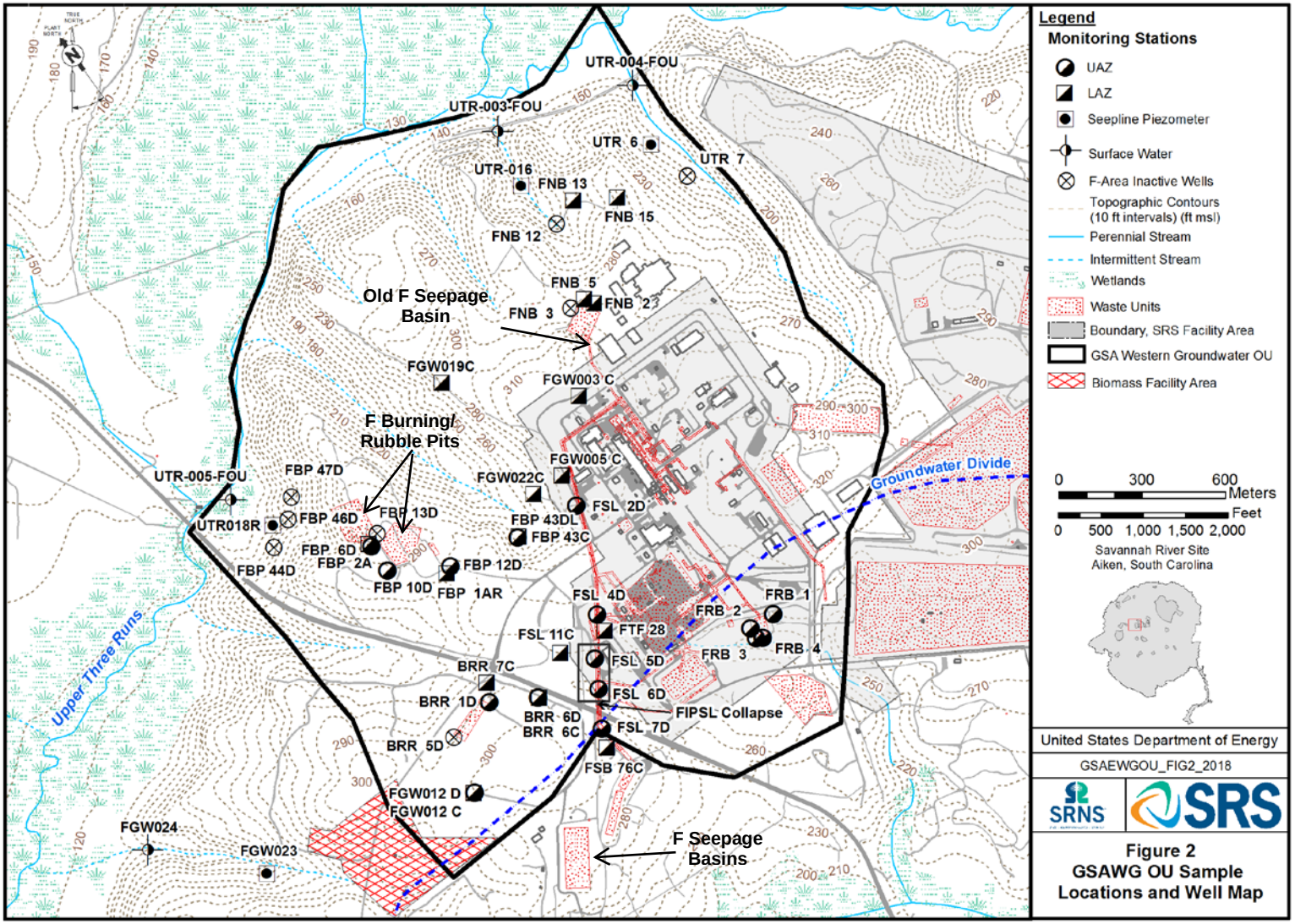

Figure 2. GSA Western Groundwater OU Sample Locations and Well Map

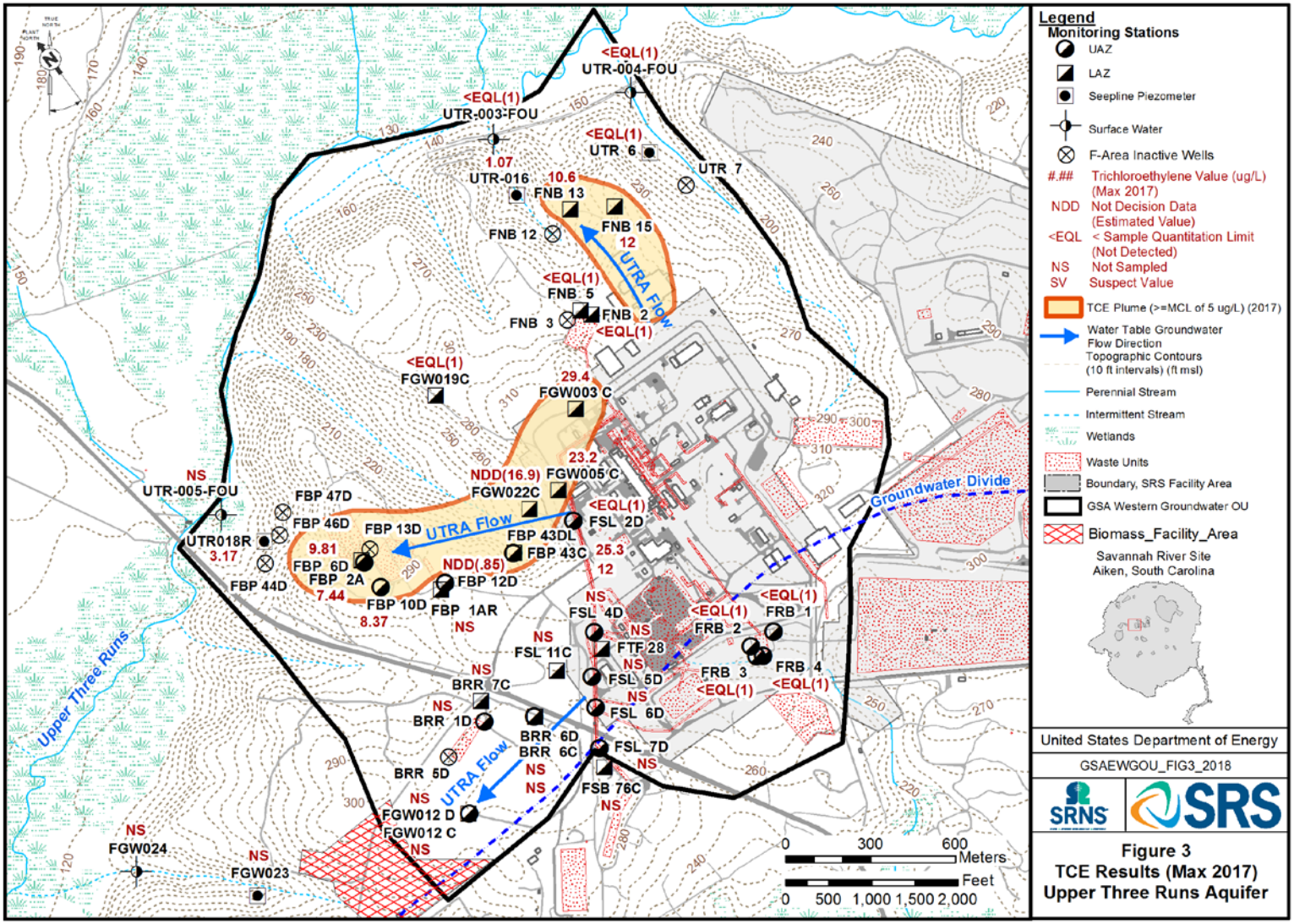

Figure 3. Trichloroethylene Results (Max 2017) Upper Three Runs Aquifer

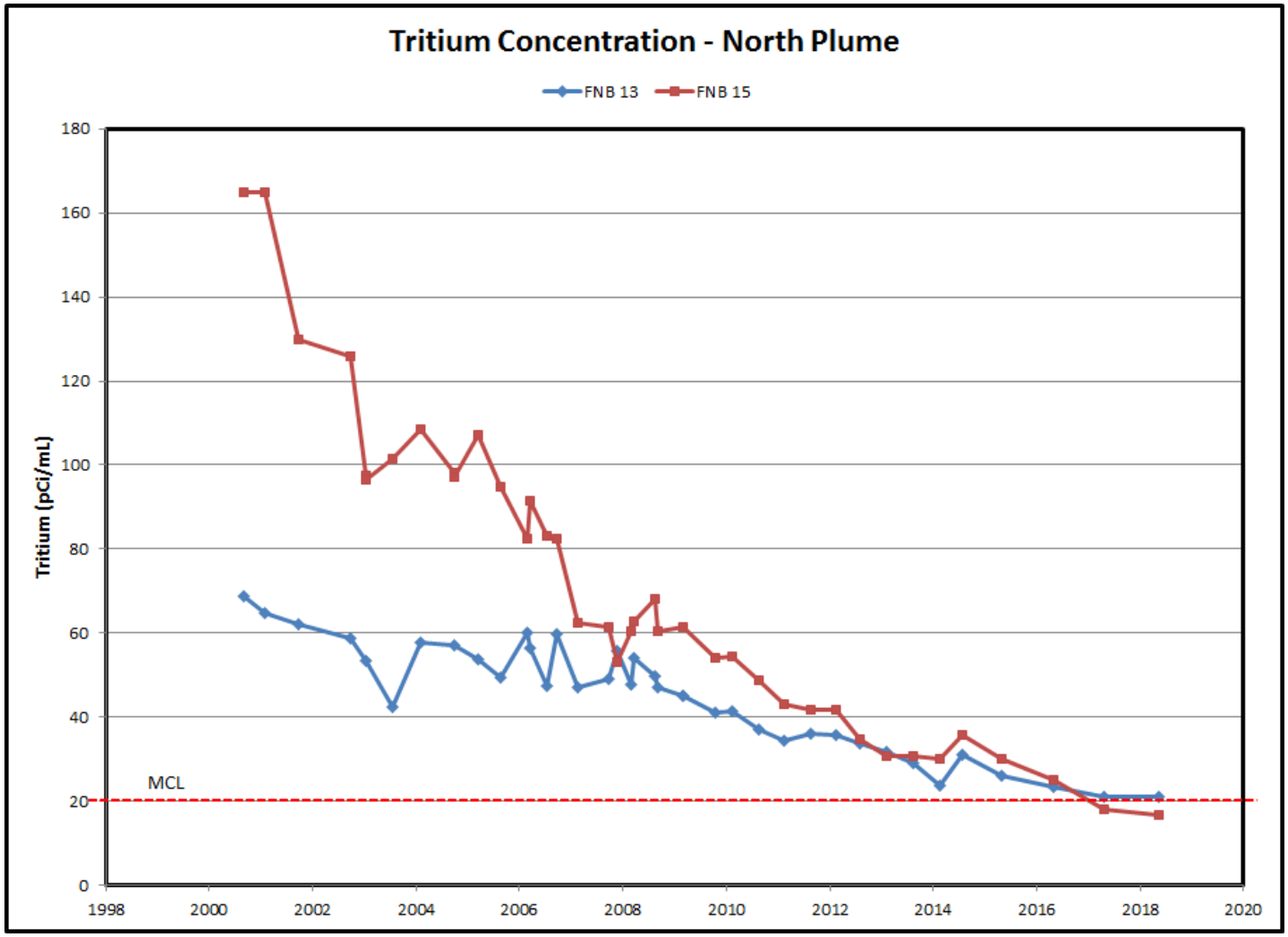

Figure 4. Tritium Concentration in the North Plume

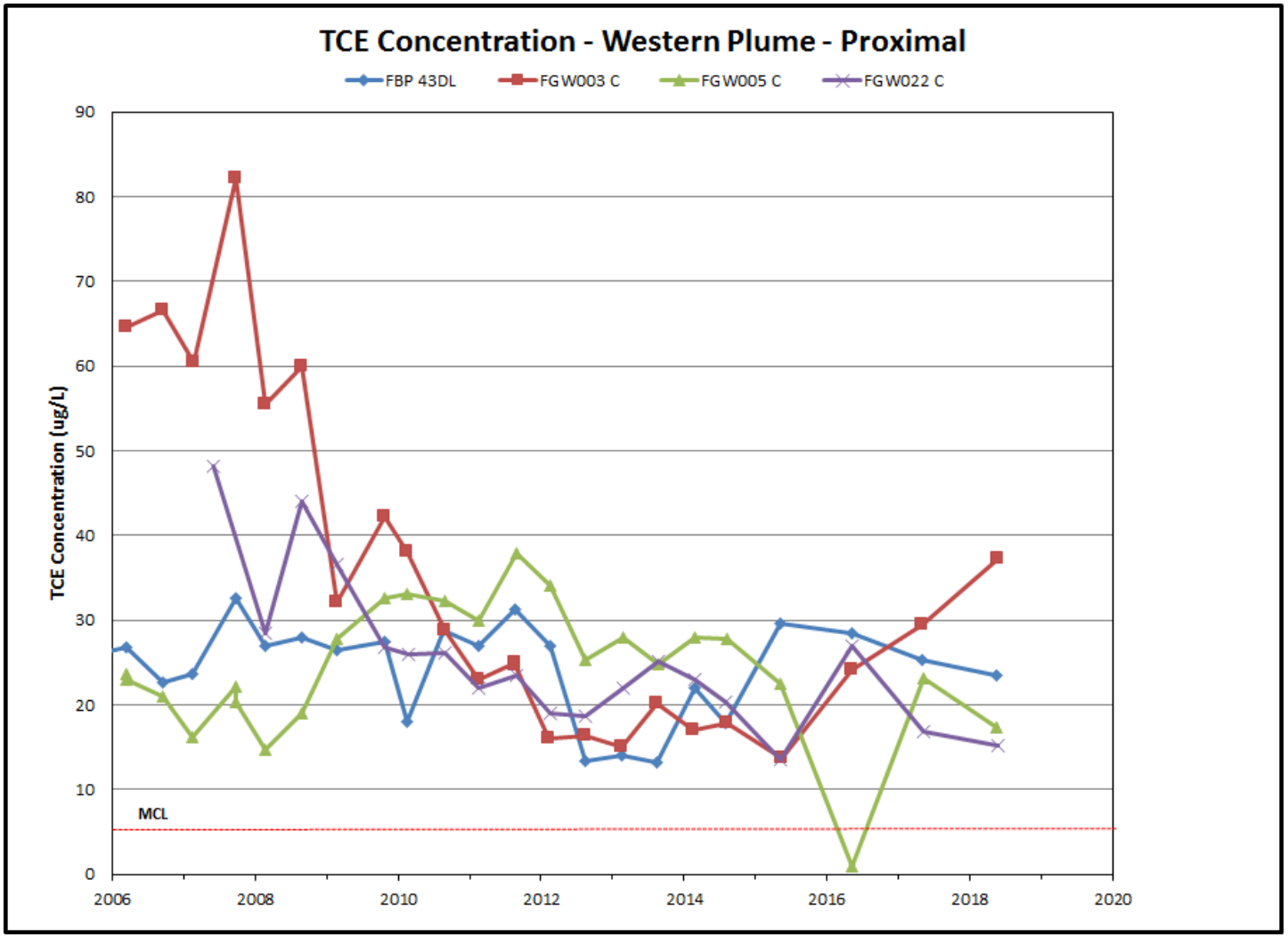

Figure 5. TCE Concentration Near the Source in the West Plume

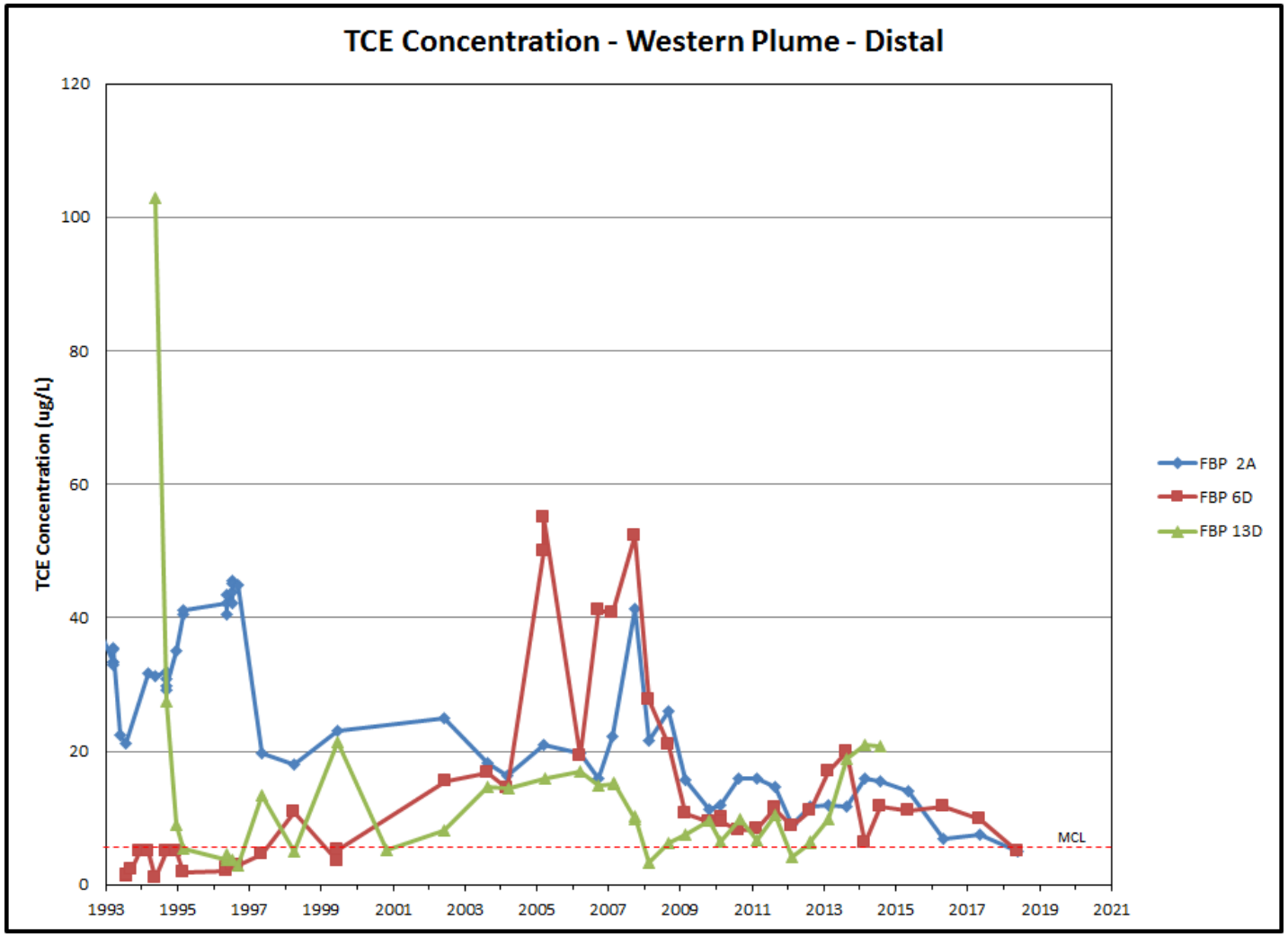

Figure 6. TCE Concentrations in the Distal Part of the West Plume

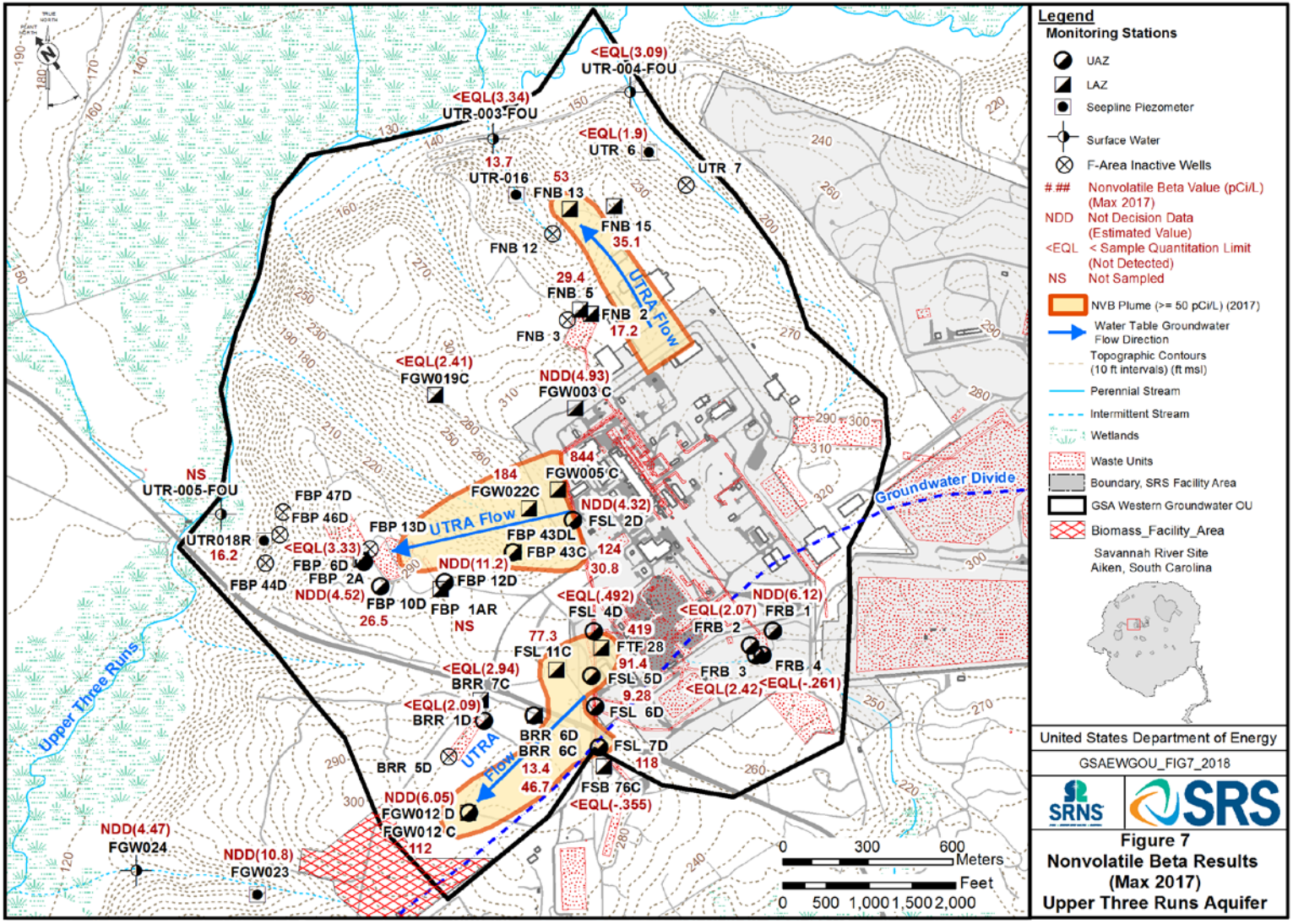

Figure 7. Nonvolatile Beta Results (Max 2017) Upper Three Runs Aquifer

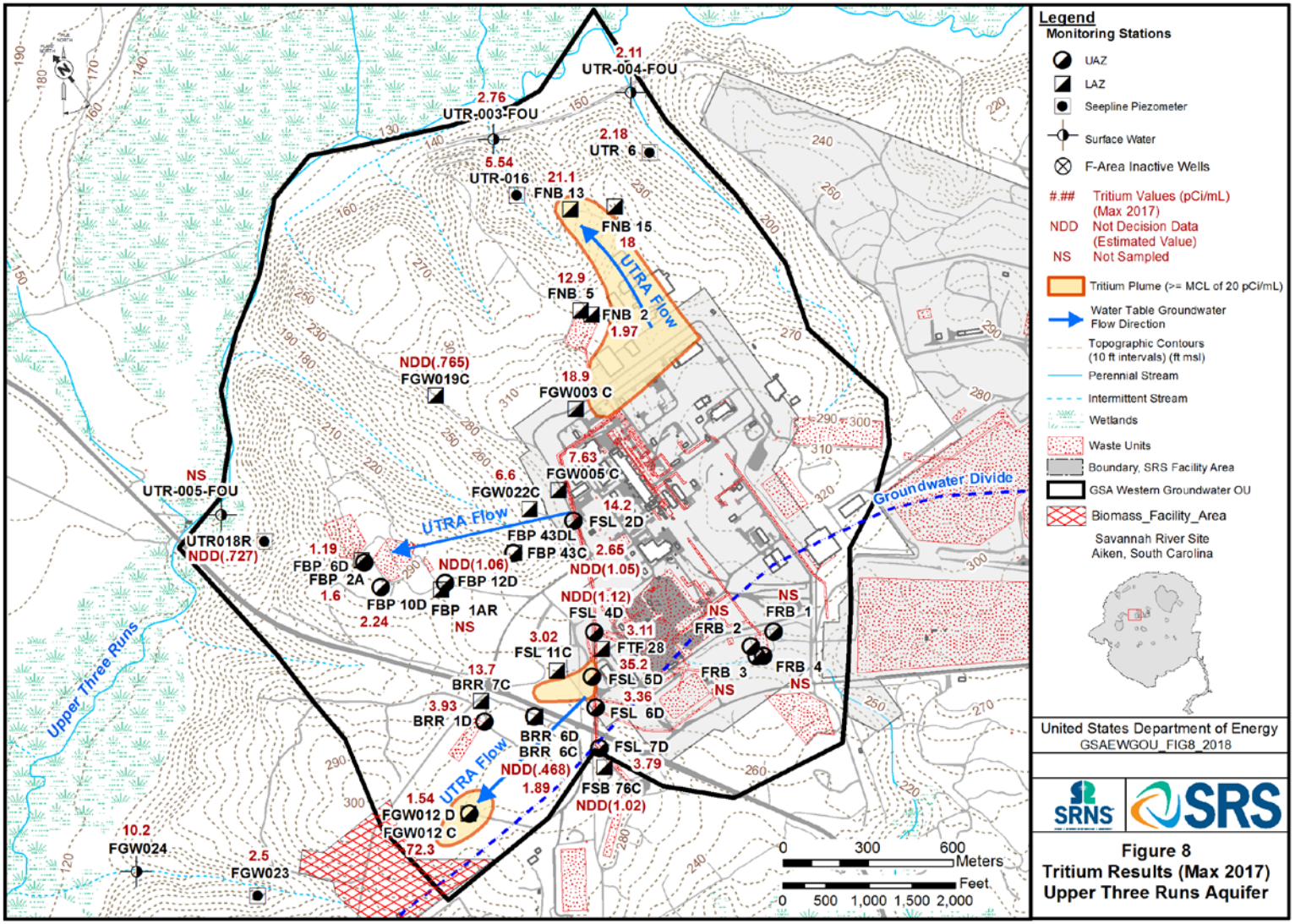

Figure 8. Tritium Results (Max 2017) Upper Three Runs Aquifer

Table 1. GW Monitoring Network

Plume Description	Aquifer Zone	Well ID	Analyte List
West Plume	UAZ of UTRA	FBP10D, FBP6D, FBP12D, FBP43DL, FSL2D	Nitrate, gross alpha, nonvolatile beta, tritium, and TCL VOCs
	LAZ of UTRA	FBP 1AR, FBP2A, FBP43C, FGW003C, FGW005C, FGW019C, FGW022C	Alpha and beta/gamma speciation for FGW005C
	Seepline/ Surface Water	UTR18R, UTR005	At surface water locations: field parameters for VOC degradation and degradation products
North Plume	LAZ of UTRA	FNB2, FNB5, FNB13, FNB15	Nitrate, gross alpha, nonvolatile beta, tritium, iodine-129, strontium-90, and TCL VOCs
	Seepline/ Surface Water	UTR16, UTR6, UTR003, UTR004	
South Plume	UAZ of UTRA	BRR1D, BRR6D, FSL4D, FSL5D, FSL6D, FSL7D, FSB76C, FGW012D	Nitrate, gross alpha, nonvolatile beta, tritium, iodine-129, radium-226, 228, strontium-90, technetium-99, uranium-233/234, 238
	LAZ of UTRA	BRR6C, BRR7C, FTF28, FSL11C, FGW012C	
	Seepline/ Surface Water	FGW024, FGW023	
F Area Retention Basin	UAZ of UTRA	FRB1, FRB2, FRB3, FRB4	Gross alpha, nonvolatile beta, cesium-137, strontium-90, radium-226, TCE

- Sampling of the well network is performed annually for existing wells starting in 2014 except for the F-Area Retention Basin. The FRB wells are sampled semi-annually according to the ROD. New monitoring locations added to the OU will be sampled semi-annually until a baseline is established. The monitoring network was revised during the August 2013 scoping meeting based on the Monitoring Optimization White Paper, SRNS-RP-2012-00783, Rev. 1, January 2014.
- Sample locations are shown on Figure 2. FBP-45D was abandoned in 2009.

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APPENDIX A

Isotopic Speciation Results for FGW 005C

Well ID	Date	Analyte	Detection Limit	Quantitation Limit	Lab Qualifier	Review Qualifier	Result	Units
FGW005 C	5/3/2017	ACTINIUM-228	41.2	84.5	U	U	3.48	pCi/L
FGW005 C	5/3/2017	AMERICIUM-241	0.122	0.147	U	U	-0.00608	pCi/L
FGW005 C	5/3/2017	AMERICIUM-241	0.105	0.191	U	U	0.0157	pCi/L
FGW005 C	5/3/2017	BISMUTH-214	20.1	75.9			118	pCi/L
FGW005 C	5/3/2017	CARBON-14	10.7	23.5	U	U	2.34	pCi/L
FGW005 C	5/3/2017	CARBON-14	10.8	24.1	U	U	8.69	pCi/L
FGW005 C	5/3/2017	CESIUM-137	10.3	21.9	U	U	-1.17	pCi/L
FGW005 C	5/3/2017	COBALT-60	9.62	20.5	U	U	-0.889	pCi/L
FGW005 C	5/3/2017	CURIUM-242	0.0649	0.0649	U	U	0	pCi/L
FGW005 C	5/3/2017	CURIUM-242	0.0557	0.0557	U	U	0	pCi/L
FGW005 C	5/3/2017	CURIUM-243/244	0.0649	0.0649	U	U	0	pCi/L
FGW005 C	5/3/2017	CURIUM-243/244	0.0557	0.0557	U	U	0	pCi/L
FGW005 C	5/3/2017	CURIUM-245/246	0.0577	0.287	U	U	0.149	pCi/L
FGW005 C	5/3/2017	CURIUM-245/246	0.125	0.35	U	U	0.118	pCi/L
FGW005 C	5/3/2017	GROSS ALPHA	2.66	91.5			1160	pCi/L
FGW005 C	5/3/2017	IODINE-129	1.15	3.92	J	J	2.91	pCi/L
FGW005 C	5/3/2017	LEAD-212	20.7	44.5	U	U	1.16	pCi/L
FGW005 C	5/3/2017	LEAD-214	21.1	104			113	pCi/L
FGW005 C	5/3/2017	NEPTUNIUM-237	0.112	0.61	J	J	0.528	pCi/L
FGW005 C	5/3/2017	NONVOLATILE BETA	14.8	74.9			844	pCi/L
FGW005 C	5/3/2017	PLUTONIUM-238	0.138	0.173	U	U	-0.0153	pCi/L
FGW005 C	5/3/2017	PLUTONIUM-238	0.053	0.053	U	U	0	pCi/L
FGW005 C	5/3/2017	PLUTONIUM-239/240	0.103	0.187	U	U	0.0153	pCi/L
FGW005 C	5/3/2017	PLUTONIUM-239/240	0.053	0.053	U	U	0	pCi/L
FGW005 C	5/3/2017	POTASSIUM-40	86.8	317	U	U	101	pCi/L
FGW005 C	5/3/2017	RADIUM-226	0.0656	1.89			16.9	pCi/L
FGW005 C	5/3/2017	RADIUM-228	0.634	2.27			5.65	pCi/L
FGW005 C	5/3/2017	RADIUM-228	0.561	2.16			5.24	pCi/L
FGW005 C	5/3/2017	STRONTIUM-90	2.98	40			149	pCi/L
FGW005 C	5/3/2017	STRONTIUM-90	2.99	36.1			130	pCi/L
FGW005 C	5/3/2017	TECHNETIUM-99	4.42	15.8			166	pCi/L
FGW005 C	5/3/2017	THALLIUM-208	13.1	27.5	U	U	5.34	pCi/L
FGW005 C	5/3/2017	THORIUM-228	0.239	0.674	J	J	0.391	pCi/L
FGW005 C	5/3/2017	THORIUM-228	0.255	0.563	U	U	0.15	pCi/L
FGW005 C	5/3/2017	THORIUM-230	0.0603	0.262	U	U	0.111	pCi/L
FGW005 C	5/3/2017	THORIUM-230	0.0606	0.263	U	U	0.112	pCi/L
FGW005 C	5/3/2017	THORIUM-232	0.0602	0.0602	U	U	0	pCi/L
FGW005 C	5/3/2017	THORIUM-232	0.112	0.135	U	U	-0.00558	pCi/L
FGW005 C	5/3/2017	TRITIUM	0.457	1.64			7.63	pCi/mL
FGW005 C	5/3/2017	URANIUM-233/234	0.394	120			351	pCi/L
FGW005 C	5/3/2017	URANIUM-233/234	0.783	125			358	pCi/L
FGW005 C	5/3/2017	URANIUM-235	0.486	16.8			36.1	pCi/L
FGW005 C	5/3/2017	URANIUM-235	0.965	17.5			35.6	pCi/L
FGW005 C	5/3/2017	URANIUM-238	0.731	386			1190	pCi/L
FGW005 C	5/3/2017	URANIUM-238	0.93	395			1190	pCi/L

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APPENDIX B

2017 Monitoring Well Results
Data Matrix Table and Field Conditions Key Codes

Field Code	Explanation
A	Pump is surging excessively; aerated
B	Blank sample was collected
C	Well is continuously pumping
D	Well is dry-no sample or field data collected
E	Equipment blank was collected
I	Well went dry during sampling; field data collected but insufficient water to collect all samples
L	Well went dry before sampling began; only depth to water can be determined
N	Well was not stabilized before sampling began
P	Inaccessibility or mechanical failure prevented sample collection and field analysis of the water
S	No water in standpipe; for water level events only
T	Samples were collected, but some samples were not sent to the laboratory due to high turbidity
W	Unable to sample well because of stabilization or sampling equipment failure; water-level measurements were obtained
X	Well went dry during purging; samples collected after well recovered measurements obtained
0	OK
1	Pump Dry
2	Sampled after recovery
3	Gallons purged through sample port
4	DI water obtained from 772-7B
5	High turbidity
6	Flow meter leaking
7	Pump failure
8	Flow meter not operating
9	# gallons added
10	Well is inaccessible, well cannot be Sampled
11	Well abandoned
12	No water to surface
13	Field measurements only
14	Not all samples were collected
15	Equipment failure
16	No water in standpipe
17	Bailed well
18	Water level tape not long enough
19	Well not sampled, maintenance required
20	Well sampled, maintenance required
21	Measurement Exceeded Criteria

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Matrix Table GSAWOU 2017

GSA Western GW OU Monitoring Constituents

Field Data | Inorganics | Radionuclides

Station	Well Use	Aquifer Zone	SAMPLE COLLECTION DATE	DEPTH TO WATER	PH	SAMPLING EVENT WATER ELEVATION	SPECIFIC CONDUCTANCE	TOTAL ALKALINITY (AS CACO3)	WATER TEMPERATURE	FIELD CONDITIONS	Constituent	NITRATE-NITRITE AS NITROGEN	CESIUM-137	COMBINED RADIUM (226 AND 228)	GROSS ALPHA	IODINE-129	NONVOLATILE BETA	RADIUM-226	RADIUM-228	STRONTIUM-90	TECHNETIUM-99	TRITIUM	URANIUM-233/234	URANIUM-238
			day-month-year	ft	pH	ft	uS/cm	mg/L	degC		Unit	mg/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/mL	pCi/L	pCi/L
											GWPS	10	200	5	15	1	50	5	5	8	900	20	15	15
FRB 1	F Area Retention Basin Plume	UAZ_UTRAU	01-May-2017	53.6	4.3	226.05	42	0	22.7	No Comments		NS	<EQL (20.2)	2.9	[9.58]	NS	[6.12]	2.9	NS	<EQL (5.8)	NS	NS	NS	NS
FRB 2	F Area Retention Basin Plume	UAZ_UTRAU	01-May-2017	49.9	4.4	224.46	52	0	21.7	No Comments		NS	<EQL (22.7)	1.21	[2.76]	NS	<EQL (9.21)	1.21	NS	<EQL (5.21)	NS	NS	NS	NS
FRB 3	F Area Retention Basin Plume	UAZ_UTRAU	01-May-2017	48.6	4.8	223.59	53	0	21.8	No Comments		NS	<EQL (20.3)	[0.83]	[4.69]	NS	<EQL (9.43)	[0.833]	NS	<EQL (5.81)	NS	NS	NS	NS
FRB 4	F Area Retention Basin Plume	UAZ_UTRAU	01-May-2017	46.8	4.4	224.26	48	0	21.5	No Comments		NS	<EQL (20.5)	1.33	[6.55]	NS	<EQL (8.48)	1.33	NS	<EQL (6.08)	NS	NS	NS	NS
UTR 6	North Plume Seepline Piezometer	LAZ_UTRAU	08-May-2017	4.5	5.8	167.5	20	16	19.1	No Comments		[0.0122]	NS	NS	<EQL (3.55)	<EQL (2.38)	<EQL (6.98)	NS	NS	<EQL (6.1)	NS	2.18	NS	NS
UTR-016	North Plume Seepline Piezometer	LAZ_UTRAU	09-May-2017	4.2	5	165.96	64	0	22.6	No Comments		4.21	NS	NS	<EQL (3.59)	<EQL (2.28)	13.7	NS	NS	<EQL (6.75)	NS	5.54	NS	NS
UTR-003-FOU	North Plume Surface Water	LAZ_UTRAU	03-May-2017	NS	6.2	NS	31	29	21.6	No Comments		0.158	NS	NS	<EQL (4.75)	[1.57]	<EQL (9.56)	NS	NS	<EQL (6.42)	NS	2.76	NS	NS
UTR-004-FOU	North Plume Surface Water	LAZ_UTRAU	03-May-2017	NS	6.1	NS	45	33	22.4	No Comments		0.751	NS	NS	<EQL (5.24)	<EQL (2.25)	<EQL (9.5)	NS	NS	<EQL (6.06)	NS	2.11	NS	NS
FNB 2	North Plume Well	LAZ_UTRAU	01-May-2017	82.82	4.1	205.86	36	0	22.8	No Comments		1.49	NS	NS	[8.05]	5.89	17.2	NS	NS	[6.14]	NS	1.97	NS	NS
FNB 5	North Plume Well	LAZ_UTRAU	03-May-2017	82	4.3	205.7	110	0	21.5	No Comments		10	NS	NS	12.4	[2.23]	29.4	NS	NS	8.72	NS	12.9	NS	NS
FNB 13	North Plume Well	LAZ_UTRAU	01-May-2017	23.48	4.7	191.47	124	0	20.1	No Comments		12.1	NS	NS	[7.14]	[3.72]	53	NS	NS	22.1	NS	21.1	NS	NS
FNB 15	North Plume Well	LAZ_UTRAU	01-May-2017	76.6	4.7	194.62	163	0	21	No Comments		16.6	NS	NS	16.4	4.33	35.1	NS	NS	[4.48]	NS	18	NS	NS
FGW023	South Plume Seepline Piezometer	LAZ_UTRAU	03-May-2017	3	5	181.14	36	0	17.3	No Comments		0.498	NS	[0.37]	<EQL (4.76)	<EQL (2.11)	[10.8]	[0.37]	<EQL (1.62)	<EQL (7.55)	23.1	2.5	<EQL (0.305)	<EQL (0.282)
FGW024	South Plume Surfacewater	LAZ_UTRAU	03-May-2017	NS	6.7	NS	40	24	16.4	No Comments		0.464	NS	[0.15]	<EQL (5.56)	<EQL (2.12)	[4.47]	[0.146]	<EQL (1.4)	<EQL (7.81)	55.2	10.2	<EQL (0.348)	<EQL (0.236)
BRR 1D	South Plume Well	UAZ_UTRAU	27-Apr-2017	80	5	216.2	41	0	22.1	No Comments		1.8	NS	0.35	[2.36]	[1.47]	<EQL (9.2)	0.348	<EQL (1.52)	<EQL (7.47)	<EQL (9.19)	3.93	<EQL (0.347)	<EQL (0.211)
BRR 6C	South Plume Well	LAZ_UTRAU	27-Apr-2017	85	5	211	45	0	21.6	No Comments		1.14	NS	[0.26]	<EQL (3.75)	<EQL (2.32)	46.7	[0.262]	<EQL (1.5)	<EQL (7.89)	119	1.89	<EQL (0.24)	<EQL (0.298)
BRR 6D	South Plume Well	UAZ_UTRAU	27-Apr-2017	89.5	5.6	206.7	58	9	19.6	No Comments		0.528	NS	<EQL (1.67)	<EQL (4.86)	<EQL (2.2)	13.4	<EQL (0.163)	<EQL (1.67)	<EQL (7.45)	25.2	[0.468]	<EQL (0.169)	<EQL (0.305)
BRR 7C	South Plume Well	LAZ_UTRAU	27-Apr-2017	82.3	4.8	208.8	55	0	21.5	No Comments		3.74	NS	[0.3]	<EQL (2.55)	<EQL (2.25)	<EQL (9.38)	[0.3]	<EQL (1.42)	<EQL (7.7)	<EQL (9.29)	13.7	<EQL (0.275)	<EQL (0.275)
FGW012 C	South Plume Well	LAZ_UTRAU	03-May-2017	79	5.1	207.37	130	0	19.9	No Comments		11.5	NS	1.91	[2.75]	<EQL (2.59)	112	1.91	<EQL (1.49)	<EQL (7.55)	584	72.3	<EQL (0.294)	<EQL (0.201)
FGW012 D	South Plume Well	UAZ_UTRAU	01-May-2017	75.9	4.8	210.65	40	0	20.3	No Comments		1.93	NS	1.44	[2.76]	<EQL (2.22)	[6.05]	1.44	<EQL (1.4)	<EQL (7.52)	<EQL (9.77)	1.54	<EQL (0.193)	<EQL (0.222)
FSB 76C	South Plume Well	LAZ_UTRAU	19-Jan-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	0.29	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			02-May-2017	80.9	5.2	212.9	49	7	21.3	No Comments		2.03	NS	[2.23]	<EQL (3.71)	[1.06]	<EQL (8.1)	[0.194]	[2.04]	<EQL (6.81)	<EQL (9.67)	[1.02]	<EQL (0.275)	<EQL (0.153)
			27-Jul-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	[0.16]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 4D	South Plume Well	UAZ_UTRAU	25-Jan-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	0.61	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			01-May-2017	75.5	4.3	219.3	67	0	22	No Comments		2.28	NS	2.46	<EQL (5.72)	<EQL (2.27)	<EQL (8.57)	0.442	2.02	<EQL (7.76)	<EQL (9.85)	[1.12]	<EQL (0.302)	<EQL (0.243)
			26-Jul-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	0.56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 5D	South Plume Well	UAZ_UTRAU	25-Jan-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	1.02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			27-Apr-2017	72.3	5.2	220.1	77	5	23.7	No Comments		2.28	NS	1.2	<EQL (4.52)	<EQL (2.46)	91.4	1.2	<EQL (1.43)	<EQL (7.63)	176	35.2	<EQL (0.318)	<EQL (0.285)
			26-Jul-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	[1.36]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 6D	South Plume Well	UAZ_UTRAU	30-Jan-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	0.36	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			04-May-2017	67.2	5.1	219.6	136	0	22.9	No Comments		0.993	NS	[0.3]	<EQL (3.17)	16.2	9.28	[0.301]	<EQL (1.78)	[4.02]	<EQL (9.92)	3.36	<EQL (0.35)	<EQL (0.297)
			27-Jul-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 7D	South Plume Well	UAZ_UTRAU	25-Jan-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	[9.26]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			27-Apr-2017	69.8	4.2	217.8	88	0	21.6	No Comments		7.85	NS	[6.94]	[10]	<EQL (2.35)	118	5.95	[0.986]	53.9	[8.49]	3.79	<EQL (0.244)	<EQL (0.185)
			26-Jul-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	[6.86]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 11C	South Plume Well	LAZ_UTRAU	26-Jan-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	[0.14]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			27-Apr-2017	88.1	5	212.63	40	0	22	No Comments		1.41	NS	[0.2]	<EQL (5.26)	<EQL (2.36)	77.3	[0.205]	<EQL (1.65)	<EQL (7.75)	152	3.02	<EQL (0.234)	<EQL (0.209)
			27-Jul-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	[0.15]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FTF 28	South Plume Well	LAZ_UTRAU	13-Feb-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	[0.64]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			27-Apr-2017	83.2	4.1	213.52	40	0	23.9	No Comments		2.13	NS	[0.1]	<EQL (5.77)	<EQL (2.29)	419	[0.101]	<EQL (1.6)	<EQL (7.08)	1050	3.11	<EQL (0.343)	<EQL (0.261)
			13-Sep-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	[0.88]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
UTR018R	West Plume Seepline Piezometer	LAZ_UTRAU	09-May-2017	7.4	5.4	148.1	36	12	22.2	No Comments		<EQL (0.0216)	NS	NS	[3.18]	NS	16.2	NS	NS	NS	NS	[0.727]	NS	NS
UTR-005-FOU	West Plume Surface Water	LAZ_UTRAU	03-May-2017	NS	NS	NS	NS	NS	NS	D		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FBP001AR	West Plume Well	LAZ_UTRAU	NS	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FBP 2A	West Plume Well	LAZ_UTRAU	02-May-2017	102.5	5	186.8	71	0	20.6	No Comments		13.3	NS	NS	<EQL (4.93)	NS	[4.52]	NS	NS	NS	NS	1.6	NS	NS
FBP 6D	West Plume Well	UAZ_UTRAU	02-May-2017	99.6	5	190.3	60	0	20.5	No Comments		0.82	NS	NS	<EQL (5.37)	NS	<EQL (9.6)	NS	NS	NS	NS	1.19	NS	NS
FBP 10D	West Plume Well	UAZ_UTRAU	02-May-2017	87.76	6.7	198.54	311	90	20.8	No Comments		13.4	NS	NS	<EQL (4.07)	NS	26.5	NS	NS	NS	NS	2.24	NS	NS
FBP 12D	West Plume Well	UAZ_UTRAU	02-May-2017	84	5	206.6	56	0	20.2	No Comments		3.04	NS	NS	[2.77]	NS	[11.2]	NS	NS	NS	NS	[1.06]	NS	NS
FBP 43C	West Plume Well	LAZ_UTRAU	01-May-2017	45.6	7.8	208.1	276	70	20	No Comments		13.4	NS	NS	<EQL (4.04)	NS	30.8	NS	NS	NS	NS	[1.05]	NS	NS
FBP 43DL	West Plume Well	UAZ_UTRAU	01-May-2017	44.6	7.7	209.22	447	83	19.9	No Comments		31.1	NS	NS	<EQL (6.41)	NS	124	NS	NS	NS	NS	2.65	NS	NS
FGW003 C	West Plume Well	LAZ_UTRAU	01-May-2017	100	5.3	211.64	101	6	21.7	No Comments		11.4	NS	NS	<EQL (6.08)	NS	[4.93]	NS	NS	NS	NS	18.9	NS	NS
FGW005 C	West Plume Well	LAZ_UTRAU	03-May-2017	95.1	3.8	214.36	408	0	22.8	No Comments		39.3	<EQL (21.9)	22.55	1160	[2.91]	844	16.9	5.65	149	166	7.63	358	1190
FGW019C	West Plume Well	LAZ_UTRAU	01-May-2017	80.6	5.4	205.21	14	25	19	No Comments		[0.132]	NS	NS	<EQL (4.73)	NS	<EQL (9.24)	NS	NS	NS	NS	[0.765]	NS	NS
FGW022C	West Plume Well	LAZ_UTRAU	08-May-2017	54.4	4.2	212	350	0	20.9	No Comments		35.7	NS	NS	467	NS	184	NS	NS	NS	NS	6.6	NS	NS
FSL 2D	West Plume Well	UAZ_UTRAU	25-Jan-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	0.6	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			01-May-2017	81.48	4.8	225.02	70	0	22.5	No Comments		2.65	NS	NS	[4.37]	NS	[4.32]	NS	NS	NS	NS	14.2	NS	NS

VOC

Station	SAMPLE COLLECTION DATE	1,1,1-TRICHLOROETHANE	1,1,2,2-TETRACHLOROETHANE	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	1,1,2-TRICHLOROETHANE	1,1-DICHLOROETHANE	1,1-DICHLOROETHYLENE	1,2,3-TRICHLOROBENZENE	1,2,4-TRICHLOROBENZENE	1,2-DIBROMO-3-CHLOROPROPANE	1,2-DIBROMOETHANE	1,2-DICHLOROBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DICHLOROPROPANE	1,3-DICHLOROBENZENE	1,4-DICHLOROBENZENE	1,4-DIOXANE	2-HEXANONE	ACETONE	BENZENE	BROMOCHLOROMETHANE
	day-month-year	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
FRB 1	01-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FRB 2	01-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FRB 3	01-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FRB 4	01-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
UTR 6	08-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
UTR-016	09-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
UTR-003-FOU	03-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
UTR-004-FOU	03-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
FNB 2	01-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
FNB 5	03-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
FNB 13	01-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
FNB 15	01-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	[0.55]	[0.43]	<EQL (1)	<EQL (1)	[0.36]	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
FGW023	03-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FGW024	03-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BRR 1D	27-Apr-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BRR 6C	27-Apr-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BRR 6D	27-Apr-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BRR 7C	27-Apr-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FGW012 C	03-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FGW012 D	01-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSB 76C	19-Jan-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	02-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Jul-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 4D	25-Jan-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	01-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	26-Jul-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 5D	25-Jan-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Apr-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	26-Jul-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 6D	30-Jan-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	04-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Jul-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 7D	25-Jan-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Apr-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	26-Jul-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 11C	26-Jan-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Apr-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Jul-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FTF 28	13-Feb-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Apr-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	13-Sep-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
UTR018R	09-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
UTR-005-FOU	03-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FBP001AR	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FBP 2A	02-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
FBP 6D	02-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
FBP 10D	02-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
FBP 12D	02-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
FBP 43C	01-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
FBP 43DL	01-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
FGW003 C	01-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
FGW005 C	03-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
FGW019C	01-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
FGW022C	08-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)
FSL 2D	25-Jan-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	01-May-2017	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (50)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)

Matrix Table GSAWOU 2017

Field Data | VOC

Station	Well Use	Aquifer Zone	SAMPLE COLLECTION DATE	DEPTH TO WATER	PH	SAMPLING EVENT WATER ELEVATION	SPECIFIC CONDUCTANCE	TOTAL ALKALINITY (AS CACO3)	WATER TEMPERATURE	FIELD CONDITIONS	Constituent	BROMODICHLOROMETHANE	BROMOFORM (TRIBROMOMETHANE)	BROMOMETHANE (METHYL BROMIDE)	CARBON DISULFIDE	CARBON TETRACHLORIDE	CHLOROBENZENE	CHLOROETHANE (ETHYL CHLORIDE)	CHLOROETHENE (VINYL CHLORIDE)	CHLOROFORM	CHLOROMETHANE (METHYL CHLORIDE)	CIS-1,2-DICHLOROETHYLENE	CIS-1,3-DICHLOROPROPENE	CUMENE (ISOPROPYLBENZENE)
			day-month-year	ft	pH	ft	uS/cm	mg/L	degC		Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
											GWPS													
FRB 1	F Area Retention Basin Plume	UAZ_UTRAU	01-May-2017	53.6	4.3	226.05	42	0	22.7	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FRB 2	F Area Retention Basin Plume	UAZ_UTRAU	01-May-2017	49.9	4.4	224.46	52	0	21.7	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FRB 3	F Area Retention Basin Plume	UAZ_UTRAU	01-May-2017	48.6	4.8	223.59	53	0	21.8	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FRB 4	F Area Retention Basin Plume	UAZ_UTRAU	01-May-2017	46.8	4.4	224.26	48	0	21.5	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
UTR 6	North Plume Seepline Piezometer	LAZ_UTRAU	08-May-2017	4.5	5.8	167.5	20	16	19.1	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
UTR-016	North Plume Seepline Piezometer	LAZ_UTRAU	09-May-2017	4.2	5	165.96	64	0	22.6	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
UTR-003-FOU	North Plume Surface Water	LAZ_UTRAU	03-May-2017	NS	6.2	NS	31	29	21.6	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
UTR-004-FOU	North Plume Surface Water	LAZ_UTRAU	03-May-2017	NS	6.1	NS	45	33	22.4	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
FNB 2	North Plume Well	LAZ_UTRAU	01-May-2017	82.82	4.1	205.86	36	0	22.8	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
FNB 5	North Plume Well	LAZ_UTRAU	03-May-2017	82	4.3	205.7	110	0	21.5	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
FNB 13	North Plume Well	LAZ_UTRAU	01-May-2017	23.48	4.7	191.47	124	0	20.1	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
FNB 15	North Plume Well	LAZ_UTRAU	01-May-2017	76.6	4.7	194.62	163	0	21	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	[0.6]	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
FGW023	South Plume Seepline Piezometer	LAZ_UTRAU	03-May-2017	3	5	181.14	36	0	17.3	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FGW024	South Plume Surfacewater	LAZ_UTRAU	03-May-2017	NS	6.7	NS	40	24	16.4	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BRR 1D	South Plume Well	UAZ_UTRAU	27-Apr-2017	80	5	216.2	41	0	22.1	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BRR 6C	South Plume Well	LAZ_UTRAU	27-Apr-2017	85	5	211	45	0	21.6	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BRR 6D	South Plume Well	UAZ_UTRAU	27-Apr-2017	89.5	5.6	206.7	58	9	19.6	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BRR 7C	South Plume Well	LAZ_UTRAU	27-Apr-2017	82.3	4.8	208.8	55	0	21.5	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FGW012 C	South Plume Well	LAZ_UTRAU	03-May-2017	79	5.1	207.37	130	0	19.9	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FGW012 D	South Plume Well	UAZ_UTRAU	01-May-2017	75.9	4.8	210.65	40	0	20.3	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSB 76C	South Plume Well	LAZ_UTRAU	19-Jan-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			02-May-2017	80.9	5.2	212.9	49	7	21.3	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			27-Jul-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 4D	South Plume Well	UAZ_UTRAU	25-Jan-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			01-May-2017	75.5	4.3	219.3	67	0	22	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			26-Jul-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 5D	South Plume Well	UAZ_UTRAU	25-Jan-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			27-Apr-2017	72.3	5.2	220.1	77	5	23.7	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			26-Jul-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 6D	South Plume Well	UAZ_UTRAU	30-Jan-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			04-May-2017	67.2	5.1	219.6	136	0	22.9	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			27-Jul-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 7D	South Plume Well	UAZ_UTRAU	25-Jan-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			27-Apr-2017	69.8	4.2	217.8	88	0	21.6	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			26-Jul-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 11C	South Plume Well	LAZ_UTRAU	26-Jan-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			27-Apr-2017	88.1	5	212.63	40	0	22	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			27-Jul-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FTF 28	South Plume Well	LAZ_UTRAU	13-Feb-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			27-Apr-2017	83.2	4.1	213.52	40	0	23.9	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			13-Sep-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
UTR018R	West Plume Seepline Piezometer	LAZ_UTRAU	09-May-2017	7.4	5.4	148.1	36	12	22.2	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	[0.42]	<EQL (1)	[0.47]	<EQL (1)	<EQL (1)
UTR-005-FOU	West Plume Surface Water	LAZ_UTRAU	03-May-2017	NS	NS	NS	NS	NS	NS	D		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FBP001AR	West Plume Well	LAZ_UTRAU	NS	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FBP 2A	West Plume Well	LAZ_UTRAU	02-May-2017	102.5	5	186.8	71	0	20.6	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	[0.52]	<EQL (1)	<EQL (1)	<EQL (1)	[0.4]	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
FBP 6D	West Plume Well	UAZ_UTRAU	02-May-2017	99.6	5	190.3	60	0	20.5	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	[0.55]	<EQL (1)	<EQL (1)	<EQL (1)	[0.51]	<EQL (1)	[0.49]	<EQL (1)	<EQL (1)
FBP 10D	West Plume Well	UAZ_UTRAU	02-May-2017	87.76	6.7	198.54	311	90	20.8	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	[0.67]	<EQL (1)	<EQL (1)	<EQL (1)	[0.5]	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
FBP 12D	West Plume Well	UAZ_UTRAU	02-May-2017	84	5	206.6	56	0	20.2	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
FBP 43C	West Plume Well	LAZ_UTRAU	01-May-2017	45.6	7.8	208.1	276	70	20	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	[0.35]	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
FBP 43DL	West Plume Well	UAZ_UTRAU	01-May-2017	44.6	7.7	209.22	447	83	19.9	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	[0.53]	<EQL (1)	<EQL (1)	<EQL (1)	[0.58]	<EQL (1)	[0.49]	<EQL (1)	<EQL (1)
FGW003 C	West Plume Well	LAZ_UTRAU	01-May-2017	100	5.3	211.64	101	6	21.7	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	[0.81]	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
FGW005 C	West Plume Well	LAZ_UTRAU	03-May-2017	95.1	3.8	214.36	408	0	22.8	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	[0.46]	<EQL (1)	<EQL (1)	<EQL (1)	[0.56]	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
FGW019C	West Plume Well	LAZ_UTRAU	01-May-2017	80.6	5.4	205.21	14	25	19	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
FGW022C	West Plume Well	LAZ_UTRAU	08-May-2017	54.4	4.2	212	350	0	20.9	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	[0.54]	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
FSL 2D	West Plume Well	UAZ_UTRAU	25-Jan-2017	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			01-May-2017	81.48	4.8	225.02	70	0	22.5	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)

Station	SAMPLE COLLECTION DATE	CYCLOHEXANE	DIBROMOCHLOROMETHANE	DICHLORODIFLUOROMETHANE	DICHLOROMETHANE (METHYLENE CHLORIDE)	ETHYLBENZENE	M,P-XYLENE	METHYL ACETATE	METHYL ETHYL KETONE	METHYL ISOBUTYL KETONE	METHYL TERTIARY BUTYL ETHER (MTBE)	METHYLCYCLOHEXANE	O-XYLENE	STYRENE	TETRACHLOROETHYLENE (PCE)	TOLUENE	TRANS-1,2-DICHLOROETHYLENE	TRANS-1,3-DICHLOROPROPENE	TRICHLOROETHYLENE (TCE)	TRICHLOROFLUOROMETHANE
	day-month-year	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
	GWPS														5				5	5
FRB 1	01-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<EQL (1)	NS
FRB 2	01-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<EQL (1)	NS
FRB 3	01-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<EQL (1)	NS
FRB 4	01-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<EQL (1)	NS
UTR 6	08-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
UTR-016	09-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	1.07	<EQL (1)
UTR-003-FOU	03-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
UTR-004-FOU	03-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
FNB 2	01-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
FNB 5	03-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
FNB 13	01-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	[0.34]	<EQL (1)	<EQL (1)	<EQL (1)	10.6	1.08
FNB 15	01-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	[0.62]	<EQL (1)	<EQL (1)	<EQL (1)	12	1.74
FGW023	03-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FGW024	03-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BRR 1D	27-Apr-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BRR 6C	27-Apr-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BRR 6D	27-Apr-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BRR 7C	27-Apr-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FGW012 C	03-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FGW012 D	01-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSB 76C	19-Jan-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	02-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Jul-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 4D	25-Jan-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	01-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	26-Jul-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 5D	25-Jan-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Apr-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	26-Jul-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 6D	30-Jan-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	04-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Jul-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 7D	25-Jan-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Apr-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	26-Jul-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FSL 11C	26-Jan-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Apr-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Jul-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FTF 28	13-Feb-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Apr-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	13-Sep-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
UTR018R	09-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	3.15	<EQL (1)	<EQL (1)	<EQL (1)	3.17	2.01
UTR-005-FOU	03-May-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FBP001AR	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FBP 2A	02-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	3.87	<EQL (1)	<EQL (1)	<EQL (1)	7.44	6.76
FBP 6D	02-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	5.72	<EQL (1)	<EQL (1)	<EQL (1)	9.81	5.64
FBP 10D	02-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	[0.36]	<EQL (1)	<EQL (1)	<EQL (1)	8.37	21.1
FBP 12D	02-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	[0.85]	4.86
FBP 43C	01-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	[0.54]	<EQL (1)	<EQL (1)	<EQL (1)	12	12.5
FBP 43DL	01-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	1.22	<EQL (1)	<EQL (1)	<EQL (1)	25.3	28.2
FGW003 C	01-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	29.4	1.93
FGW005 C	03-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	23.2	11.8
FGW019C	01-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)
FGW022C	08-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	[0.38]	<EQL (1)	<EQL (1)	<EQL (1)	[16.9]	[10.6]
FSL 2D	25-Jan-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	01-May-2017	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (1)	<EQL (2)	<EQL (5)	<EQL (5)	<EQL (5)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1)	[0.77]

Explanation

[##]	EPA Functional Guideline Code of 'J' was applied to the result, indicating an estimated quantity.
<EQL(##)	Constituent was below detection. The sample-specific Estimated Quantitation Limit is in parentheses.
	Result exceeds applicable limit.
REJ	Result Rejected
	Result is less than the applicable limit and without EPA Functional Guidline qualifiers.
NS	Not Sampled