LMS/RFS/S24227

Rocky Flats Site, Colorado

Surface Water Configuration Adaptive Management Plan Annual Report

Calendar Year 2018

February 2019

U.S. DEPARTMENT OF ENERGY | Legacy Management

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Abbreviations

Am	americium
AMP	Adaptive Management Plan
AOC	area of concern
cfs	cubic feet per second
COU	Central Operable Unit
CY	calendar year
DOE	U.S. Department of Energy
FONSI	Finding of No Significant Impact
µg/L	micrograms per liter (sometimes expressed as ug/L)
N	nitrogen
pCi/L	picocuries per liter
POC	point of compliance
POE	point of evaluation
Pu	plutonium
RFLMA	*Rocky Flats Legacy Management Agreement*
SID	South Interceptor Ditch
SPIN	SPPTS influent sampling location
SPOUT	SPPTS effluent sampling location
SPPTS	Solar Ponds Plume Treatment System
TSS	total suspended solids

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1.0 Introduction

The proposed action assessed in the *Rocky Flats Site, Colorado, Surface Water Configuration Environmental Assessment* (DOE 2011) and the resulting Finding of No Significant Impact (FONSI) is to breach the remaining retention pond dams at the Rocky Flats Site, Colorado, (Site) to allow surface water flow to return to approximately the same conditions that were present before construction of the retention ponds. Based on extensive water quality monitoring data and a thorough environmental review, and as stated in the FONSI, the U.S. Department of Energy (DOE) Office of Legacy Management has determined that the proposed action does not present a significant impact on the environment under the National Environmental Policy Act evaluation criteria.

Some members of the public have commented that additional information must be collected before DOE implements the final steps of the proposed action. The additional information will help reduce uncertainty as to whether completion of the proposed action will adversely impact the quality of water flowing from the Site and into downstream communities. In response to the requests, DOE worked with neighboring community representatives and other interested stakeholders to develop and implement an Adaptive Management Plan (AMP) (DOE 2017) to provide additional information. The AMP group is composed of these representatives and stakeholders. The resulting AMP reflects DOE's long-term commitment to collect this additional information.

The AMP provides for a monitoring and data evaluation program to assist in deciding whether to implement the final steps of the proposed action (which includes breaching the terminal dams during the planned time frame of 2018–2020) or to delay completion of the proposed action to gather additional information for evaluation. The terminal dams will be operated in a flow-through condition during the period leading up to the completion of the proposed action, which will provide data similar to what can be expected after the breach. In addition to the AMP monitoring program, the AMP identifies certain performance indicators that DOE will consider in deciding whether to adjust the time frame for completing the proposed action.

This AMP annual report for calendar year (CY) 2018 is provided in accordance with the reporting requirements described in Section 5.0 of the AMP. Table 12, at the end of this report, includes all validated analytical data available as of February 1, 2019, including any validated data that had not been tabulated in previous AMP reports.

In addition, to make data exchange as timely as possible, the monitoring summary sections below include all analytical data available as of February 1, 2019, including unvalidated analytical data (which are preliminary and subject to revision). Therefore, the evaluations in the monitoring summary sections that follow are not limited to the validated 2018 data tabulated in Table 12. Instead, the evaluations also consider any available unvalidated data, if appropriate.

The following monitoring objectives are addressed in this report:

- Predischarge monitoring
- Targeted groundwater monitoring
- Monitoring to evaluate flow-through operations at terminal ponds A-4, B-5, and C-2

- Storm-event monitoring
- Continuous flow-paced composite sampling to evaluate uranium transport
- Grab sampling for uranium in North and South Walnut Creeks
- Grab sampling for nitrate + nitrite as nitrogen in Walnut Creek

In this report, "plutonium" or "Pu" refers to plutonium-239,240 or $^{239}Pu + ^{240}Pu$; "americium" or "Am" refers to americium-241 or ^{241}Am, and "nitrate" refers to nitrate + nitrite as nitrogen. In addition, the terms "activity" and "concentration" are used interchangeably for both plutonium and americium to represent the amount of radioactivity or radioactive material per unit of water (i.e., picocuries per liter [pCi/L]).

2.0 AMP Highlights: Fourth Quarter CY 2018

- During the quarter, 23 samples were collected in support of AMP monitoring objectives.
- One informal email was transmitted to AMP participants providing notification of individual analytical results from points of compliance (POCs) or points of evaluation (POEs) that were above the applicable *Rocky Flats Legacy Management Agreement* (RFLMA) (DOE 2007) surface water standard (RFLMA Attachment 2, Table 1).

3.0 Water Quality Monitoring

AMP monitoring objectives, locations, and sampling criteria are itemized in Table 2 of the AMP. Additional field implementation protocols for the AMP monitoring objectives can be found in *Additional Field Implementation Detail for Selected Monitoring Objectives at the Rocky Flats Site, Colorado* (DOE 2018).

3.1 Predischarge Monitoring

This monitoring objective is intended to evaluate whether pond water from Ponds A-4, B-5, or C-2 would be expected to meet water quality standards at downstream monitoring locations before opening a valve to initiate a period of flow-through discharge. Predischarge samples would be collected at sampling locations A4 POND on North Walnut Creek, B5 POND on South Walnut Creek, and C2 POND on Woman Creek before opening a valve. These locations are shown in Figure 1.

Since Ponds A-4, B-5, and C-2 were operated in flow-through mode for all of CY 2018 (i.e., the valves were open throughout the year), no predischarge samples were collected.

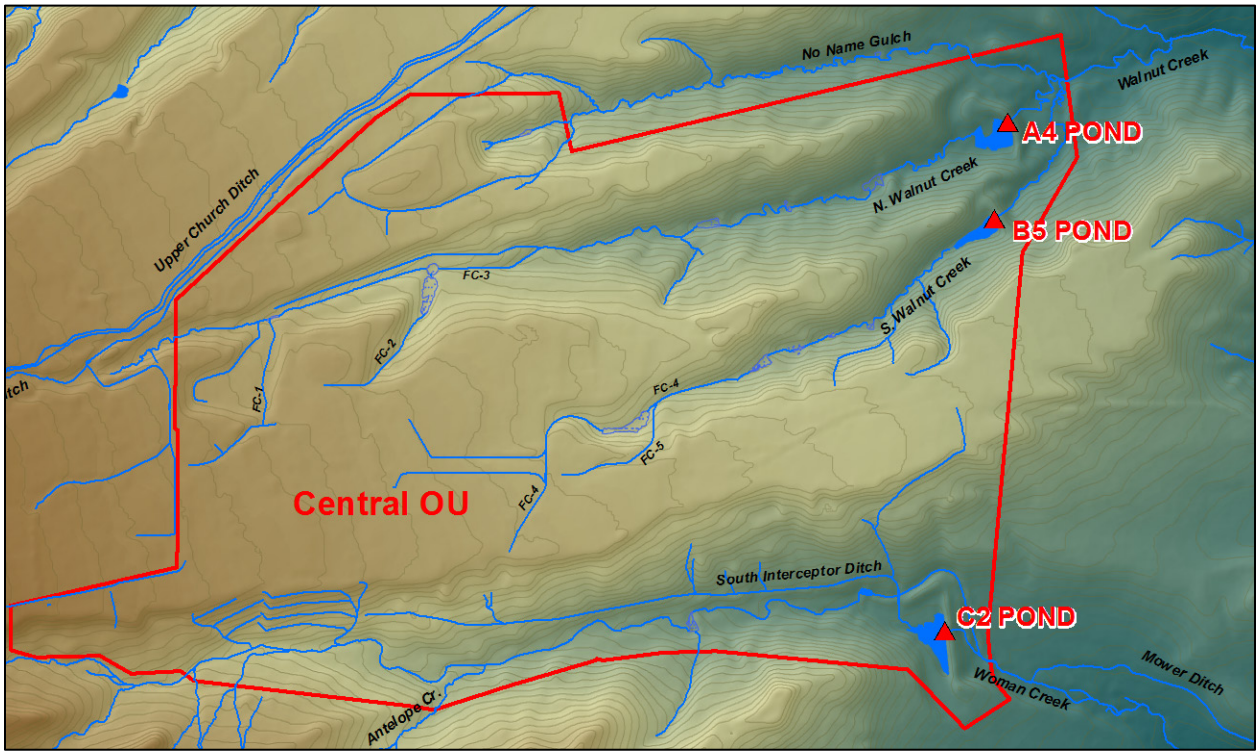


Figure 1. Predischarge Monitoring Locations

3.2 Targeted Groundwater Monitoring

The AMP targeted groundwater monitoring wells (Figure 2) are the same as the RFLMA area of concern (AOC) wells. They are in a drainage and downgradient of a contaminant plume or group of contaminant plumes. Water quality data are collected to determine whether plumes are discharging to surface water. These AOC wells are sampled semiannually in the second and fourth calendar quarters.

Data from these wells are evaluated in the RFLMA-required annual report (DOE forthcoming)[1], according to the flowchart in Figure 7 in Attachment 2 to the RFLMA (DOE 2007). Analytical data undergo preliminary evaluation as data become available; this is necessary because of the strict timeline attached to "reportable conditions" for AOC wells. In accordance with and as defined in the RFLMA, if the data are confirmed to be valid and meet the requirements of a reportable condition, the reporting process under RFLMA is initiated. One reportable condition was triggered in 2018, for trichloroethene in groundwater at AOC well 10304. The RFLMA annual report for 2018 will include results of data evaluations and discussions of groundwater quality.

[1] At the time of publication of this document, it was anticipated that the *Annual Report of Site Surveillance and Maintenance Activities at the Rocky Flats Site, Colorado, Calendar Year 2018* (DOE forthcoming) would be published in April 2019.

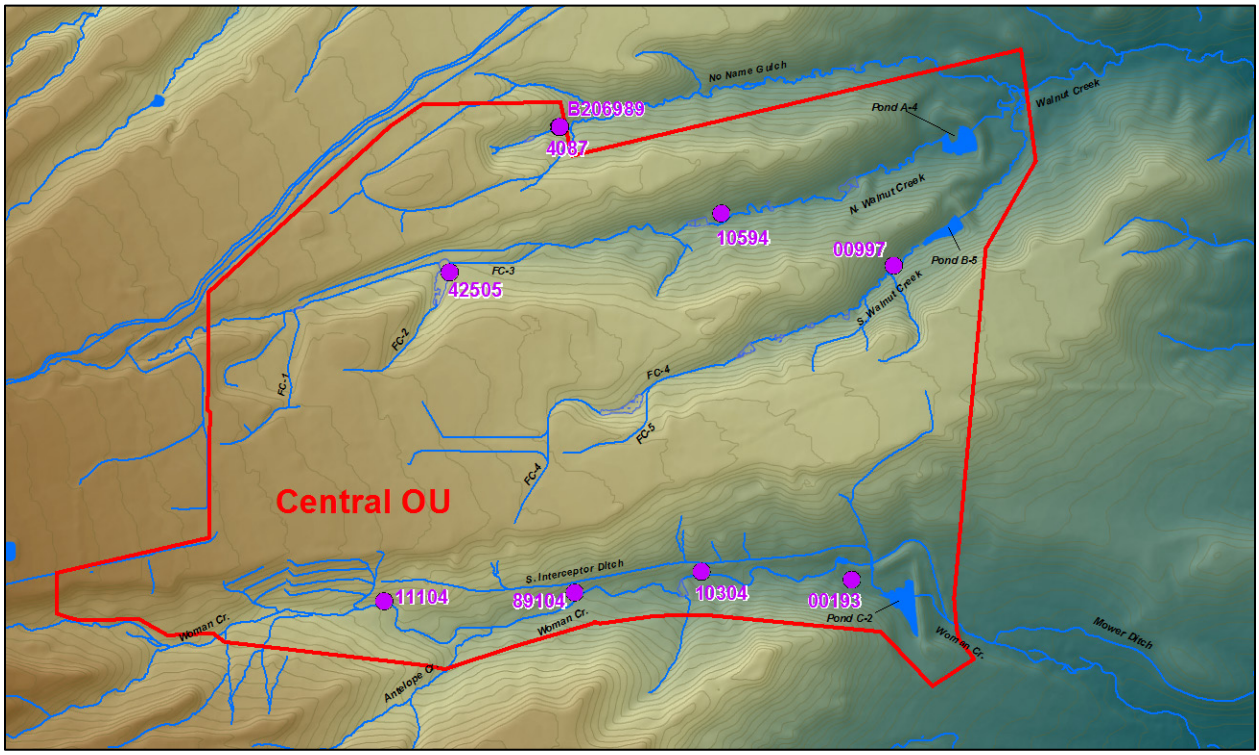
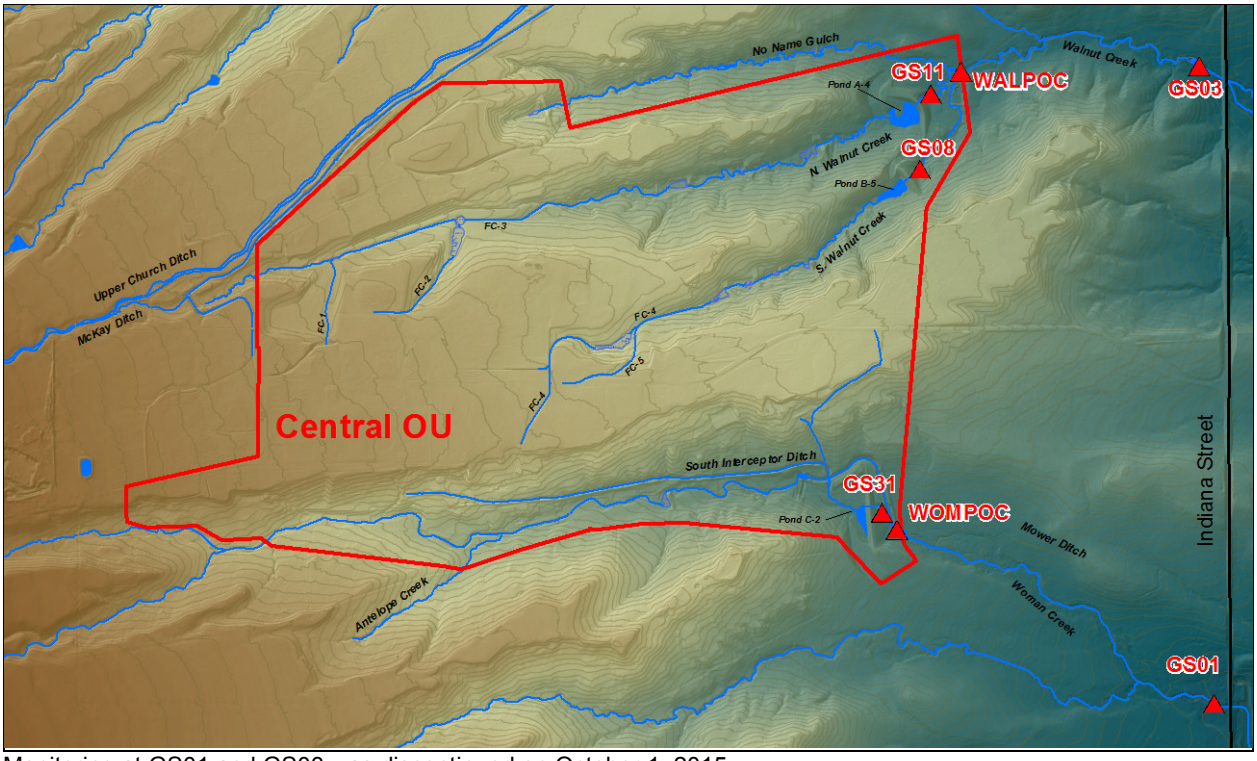


Figure 2. Targeted Groundwater Monitoring Locations

3.3 Monitoring to Evaluate Flow-Through Operations at Terminal Ponds A-4, B-5, and C-2

This objective involves collecting water quality data during flow-through operations to simulate postbreach conditions to determine if water leaving the Central Operable Unit (COU) will meet water quality standards after the terminal dams are breached. Samples for Pu, Am, and uranium analyses are collected as continuous flow-paced composites during all flow conditions; grab samples are collected for nitrate analyses. The specific locations are shown in Figure 3.



Monitoring at GS01 and GS03 was discontinued on October 1, 2015.

Figure 3. Flow-Through Operations Monitoring Locations

The two locations at the COU boundary, WALPOC and WOMPOC, became POCs on September 28, 2011, and September 9, 2011, respectively.[2] At that time, locations GS03 and GS01 were also being operated as POCs and continued to be operated as POCs until September 28, 2013, and September 9, 2013, respectively. Following those dates and at the request of the AMP participants, GS03 and GS01 were operated as AMP monitoring locations for 2 years. Monitoring at both locations was discontinued on October 1, 2015.

Flow-through operation of Ponds A-4 and B-5 began on September 12, 2011; that was also the first day of flow at WALPOC. Flow-through operation of Pond C-2 began on November 7, 2011. WOMPOC first began measuring flow from Woman Creek on October 14, 2011.

During CY 2018, Pond A-4 (GS11) discharged continuously from March 20, 2018, to June 8, 2018; GS11 was dry the remainder of the year. Pond B-5 (GS08) discharged continuously January 1, 2018, to June 2, 2018; GS08 was dry the remainder of the year. As of February 1, 2019, both GS08 and GS11 are dry (i.e., there is water in both ponds, but the water level is below the outlet pipe).

Pond C-2 (GS31) discharged intermittently January through May 2018 and was then dry for the remainder of the year. As of February 1, 2019, GS31 is dry.

[2] Although WALPOC was officially designated as a RFLMA POC on September 28, 2011, operational testing and sampling began on September 9, 2011. Data collected during operational testing is used in the evaluation in this section.

Table 1 summarizes the flow and sampling conditions for each location as of February 2019.

Table 1. Flow and Sampling Detail for Flow-Through Monitoring Locations

Location	Latest Flow[a]	Latest Available Composite Sample Results	Current Composite Sample Start Date (in progress)
GS08	6/1/2018	5/14/2018–1/29/2019	1/29/2019
GS11	6/8/2018	5/14/2018–1/26/2019	1/29/2019
WALPOC	6/18/2018	5/10/2018–5/24/2018[b]	1/3/2019
GS31	5/24/2018	5/9/2018–5/24/2018[c]	1/29/2019
WOMPOC	Currently flowing	7/2/2018–1/3/2019	1/3/2019

Notes:
[a] As of February 1, 2019.
[b] Due to low flows in Walnut Creek, the composite sample for the period 5/24/2018 to 1/3/2019 did not contain enough water to perform the laboratory analysis for Pu, Am, and uranium.
[c] Due to low flows from Pond C-2, the composite sample for the period 5/24/2018 to 1/29/2019 did not contain enough water to perform the laboratory analysis for Pu, Am, and uranium.

3.3.1 Walnut Creek Evaluation

Table 2 presents long-term volume-weighted averages in Walnut Creek for the postclosure batch release period[3] (October 2005 to September 2011) and the period since flow-through pond operations began (September 2011 to the present). Figure 4 through Figure 11 present the 30-day and 12-month rolling averages for each location, analyte, and time period.[4,5]

Compared to batch operations, the plots show increased variability and concentration for all analytes at both outlet locations after initiation of flow-through operations. Concentrations for Pu and Am remain well below the 0.15 pCi/L water quality standard at all locations except GS08.[6]

At GS08, two composite samples (7/6/2015–8/31/2015 and 8/31/2015–10/12/2015) showed higher than normal Pu and Am concentrations (Figure 4 through Figure 7). While concentrations at these levels have not been frequently observed since closure, similar concentrations were

[3] Prior to the ponds being operated in a flow-through mode (the outlet valves are continuously left open) in September 2011, the ponds were operated in "batch release" mode. Under batch release mode, water was stored in each pond (the outlet valve was closed) generally over a period of several months until the pond was partially filled (normally to 40–60% of capacity). At that point, the outlet valve was temporarily opened (1–3 weeks) to discharge the stored water and lower the pond level to 10% of capacity, at which point the outlet valve was closed to start another batch cycle.
[4] The RFLMA standards shown on these plots are for reference only. The RFLMA-required evaluation is location specific (i.e., at particular POCs and POEs) and is not part of this AMP report. Evaluation of sampling results as required by the RFLMA is routinely presented in other reports in accordance with the RFLMA reporting requirements.
[5] Due to the interruptions in automated sampling and the corresponding lack of analytical data for some periods during the September 2013 flood, for comparison purposes, the start of the high runoff (which began late in the day on September 11, 2013) through its end on September 13, 2013, is not included in the evaluation in this section. Additionally, some data are estimated to enable the comparison herein; under RFLMA data evaluation protocols, these estimated data would not be included.
[6] The short term increase at GS08 is the result of two consecutive samples collected in 2015.

observed several times during the closure process. Pu and Am concentrations at GS08 have remained at more normal levels since October 2015.

Uranium and nitrate concentrations are variable in Walnut Creek due to the seasonal variation in groundwater seepage and direct runoff from storm events. At the locations listed in Table 1, normally more than half the annual flow is measured from March through May. Runoff during this period reduces the proportion of groundwater in creek flows. Since uranium and nitrate at the Site are generally associated with groundwater seepage to the creeks, the normal spring runoff also reduces uranium and nitrate concentrations.

Uranium and nitrate increases were also noted for several months following the September 2013 flood event. This extreme event resulted in extensive creek scour and increased groundwater recharge. This water subsequently increased the volumes of groundwater reaching the creeks from seepage, thereby sustaining high base flow for an extended period. An extensive geochemistry study was conducted to examine the transport mechanisms associated with uranium and nitrate at the Site and the effects of the September 2013 flood. The report can be found at: https://www.lm.doe.gov/Rocky_Flats/RFS_Evaluation_of_Water_Quality_Variability_April_2015.pdf. A 2018 update to this report is being completed and will be available in 2019.

Concentrations of both uranium and nitrate in surface water also generally increase in the winter months. Because both constituents are associated with groundwater sources, uranium and nitrate concentrations increase when there is little runoff and groundwater makes up a larger portion of the surface water flow. Also, natural biological activity that consumes nitrate slows down in the lower temperature winter months, increasing concentrations. Since geochemical conditions are naturally more oxidizing in the winter, uranium can become more mobile and its concentrations can increase. These mechanisms were investigated in depth and described in the geochemistry study mentioned above.

During batch operations, water was accumulated in the ponds for several months, effectively mixing water with differing concentrations into a homogeneous volume. Therefore, flow-through 30-day averages show increased day-to-day variability since water is no longer batched and mixed before discharge. Conversely, flow-through 12-month rolling averages show month-to-month variability more comparable to that of batch operations.

Table 2. Volume-Weighted Averages for Walnut Creek Flow-Through Monitoring Locations

Walnut Creek: October 2005–September 2011 (Batch Release)

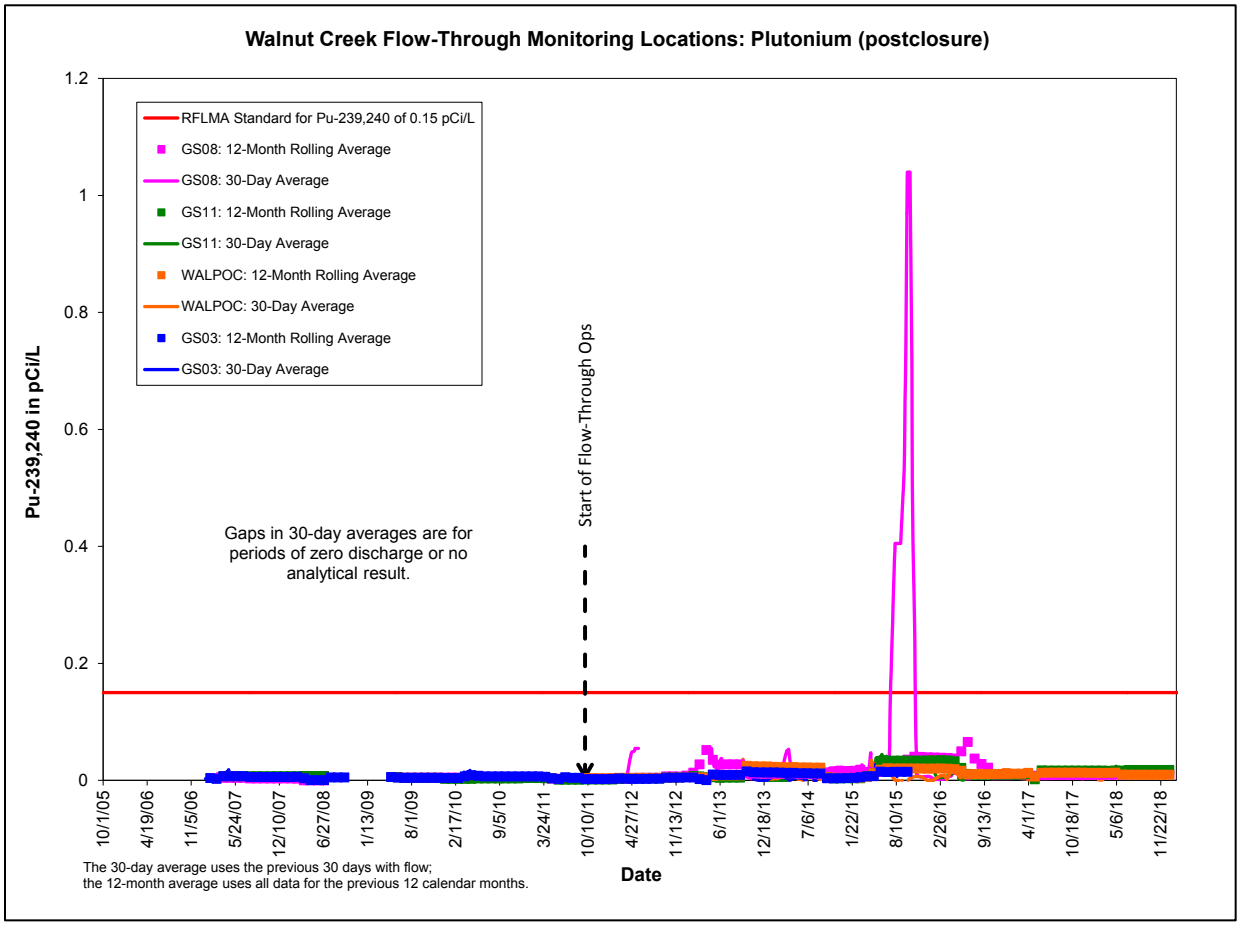
		Uranium (ug/L)		Pu-239,240 (pCi/L)		Am-241 (pCi/L)		NO3+NO2 as N (mg/L)	
	Location Code	Volume-Weighted Average	Sample Count	Volume-Weighted Average	Sample Count	Volume-Weighted Average	Sample Count	Volume-Weighted Average	Sample Count
Upstream	GS08 / GS11	8.8 / 7.6	33 / 36	0.004 / 0.004	33 / 36	0.003 / 0.003	33 / 36	2.79 [GS11 only]	36
Downstream	GS03	4.9	68	0.006	68	0.004	68	0.94	43

Walnut Creek: September 2011–Present (Flow-Through)

		Uranium (ug/L)		Pu-239,240 (pCi/L)		Am-241 (pCi/L)		NO3+NO2 as N (mg/L)	
	Location Code	Volume-Weighted Average	Sample Count	Volume-Weighted Average	Sample Count	Volume-Weighted Average	Sample Count	Volume-Weighted Average	Sample Count
Upstream	GS08 / GS11	9.6 / 10.2	68 / 53	0.025 / 0.022	68 / 53	0.015 / 0.013	68 / 53	5.75 [GS11 only]	51
⬇	WALPOC	9.7	89	0.018	89	0.011	89	2.65	89
Downstream	GS03	5.6	44	0.016	43	0.011	43	2.04	40

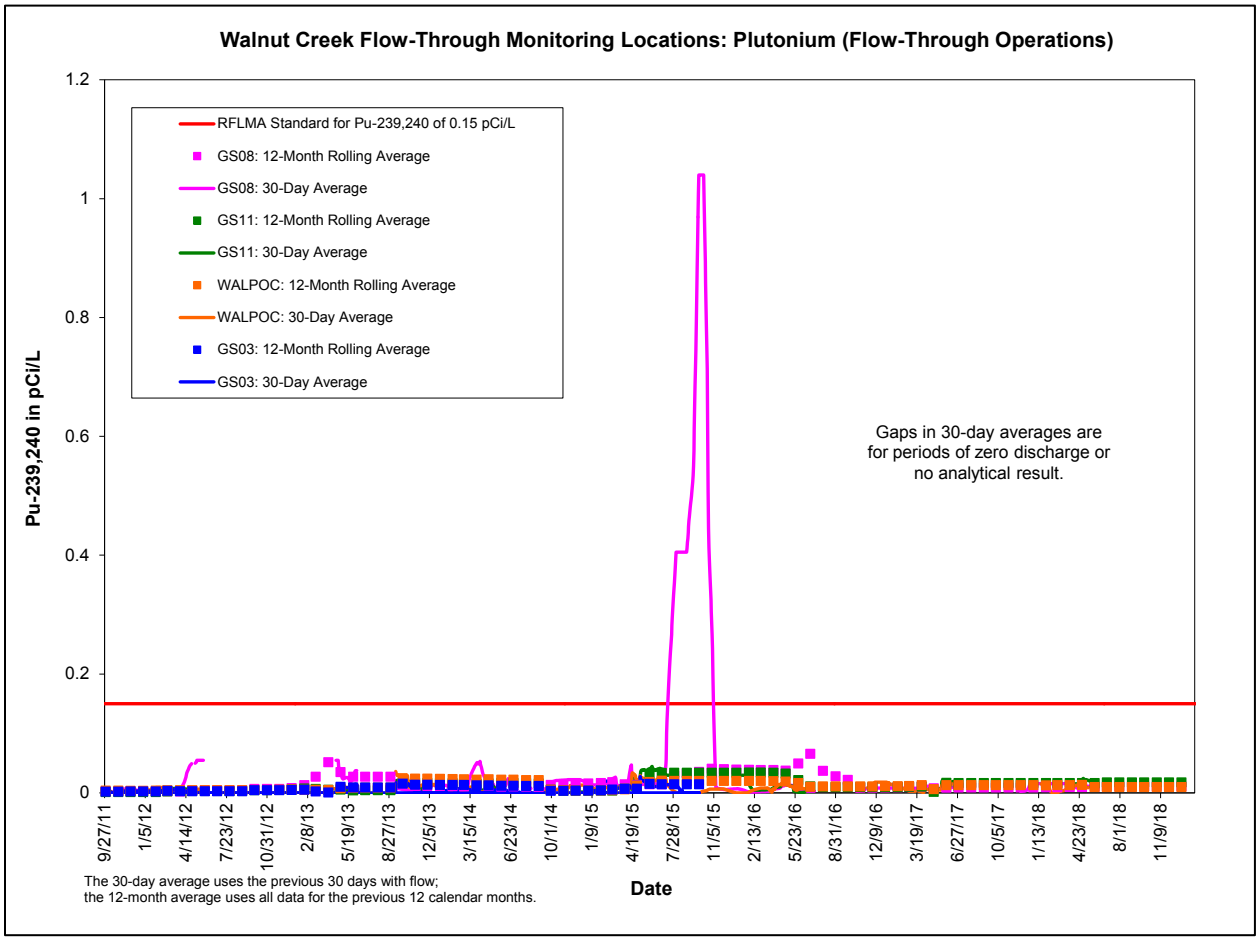
Notes:
Sample counts vary because composite sampling periods vary with water availability.
Summary includes all data available as of February 1, 2019; some recent data are not validated (i.e., are preliminary and subject to revision).
No Name Gulch is a tributary to Walnut Creek, just upstream of WALPOC; any water that flows in No Name Gulch and reaches Walnut Creek could affect water quality at WALPOC.
Monitoring at GS03 was discontinued on October 1, 2015.

Abbreviations: ug/L = µg/L = micrograms per liter; mg/L = milligrams per liter; N = nitrogen; NO_2 = nitrite; NO_3 = nitrate



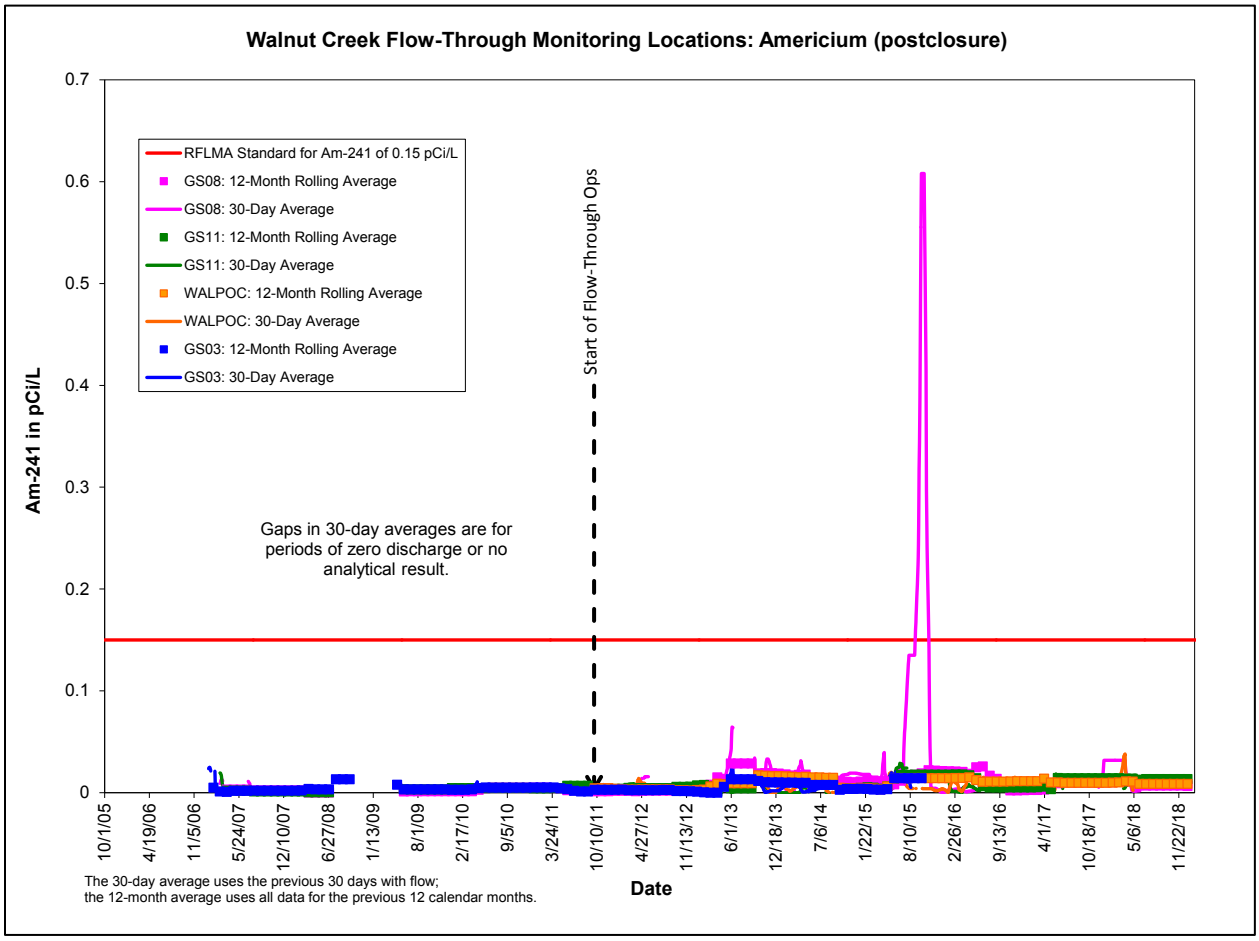
Note:
Monitoring at GS03 was discontinued on October 1, 2015.

Figure 4. Running Plutonium Averages at Walnut Creek Flow-Through Locations: Postclosure Period



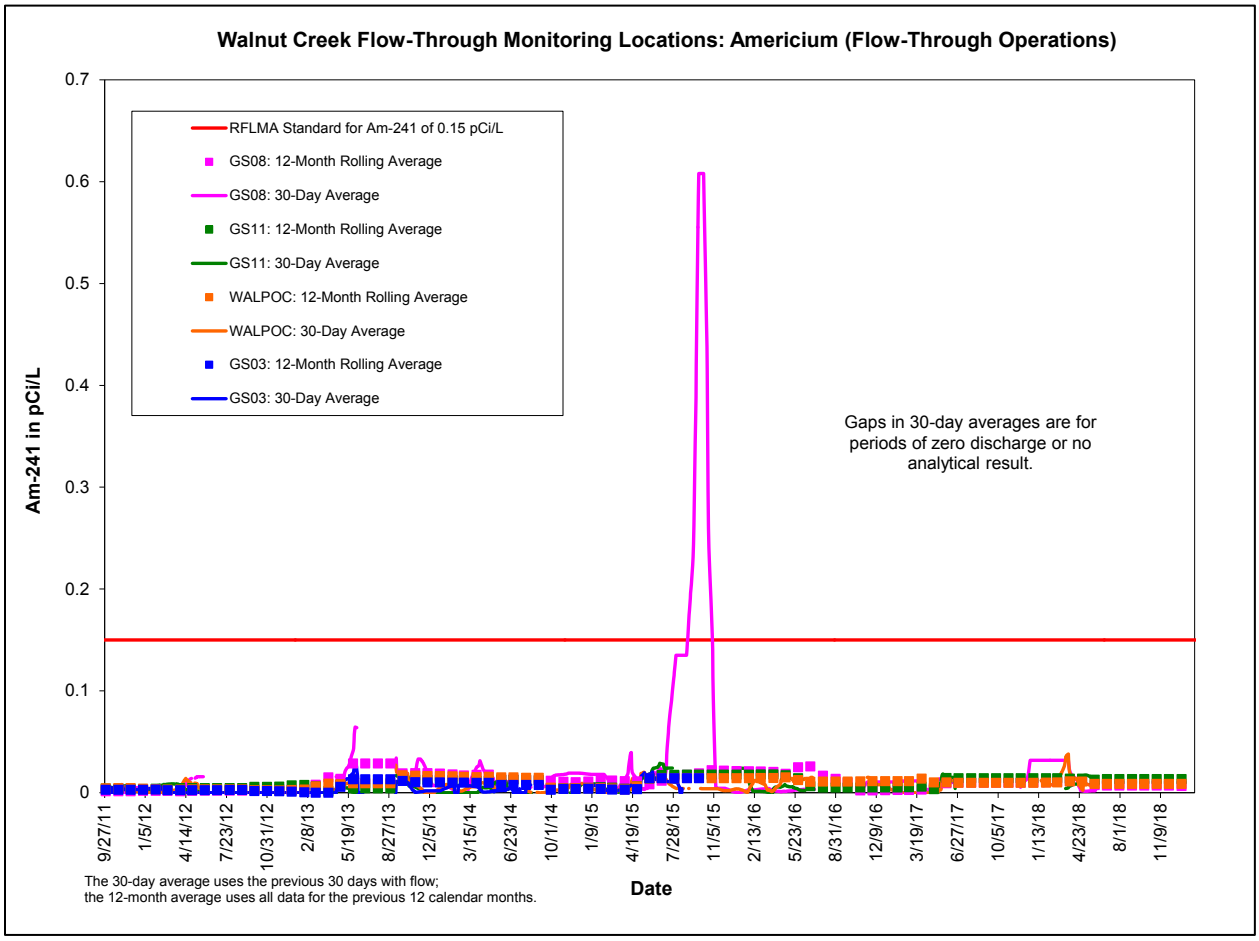
Note:
Monitoring at GS03 was discontinued on October 1, 2015.

Figure 5. Running Plutonium Averages at Walnut Creek Flow-Through Locations: Flow-Through Period



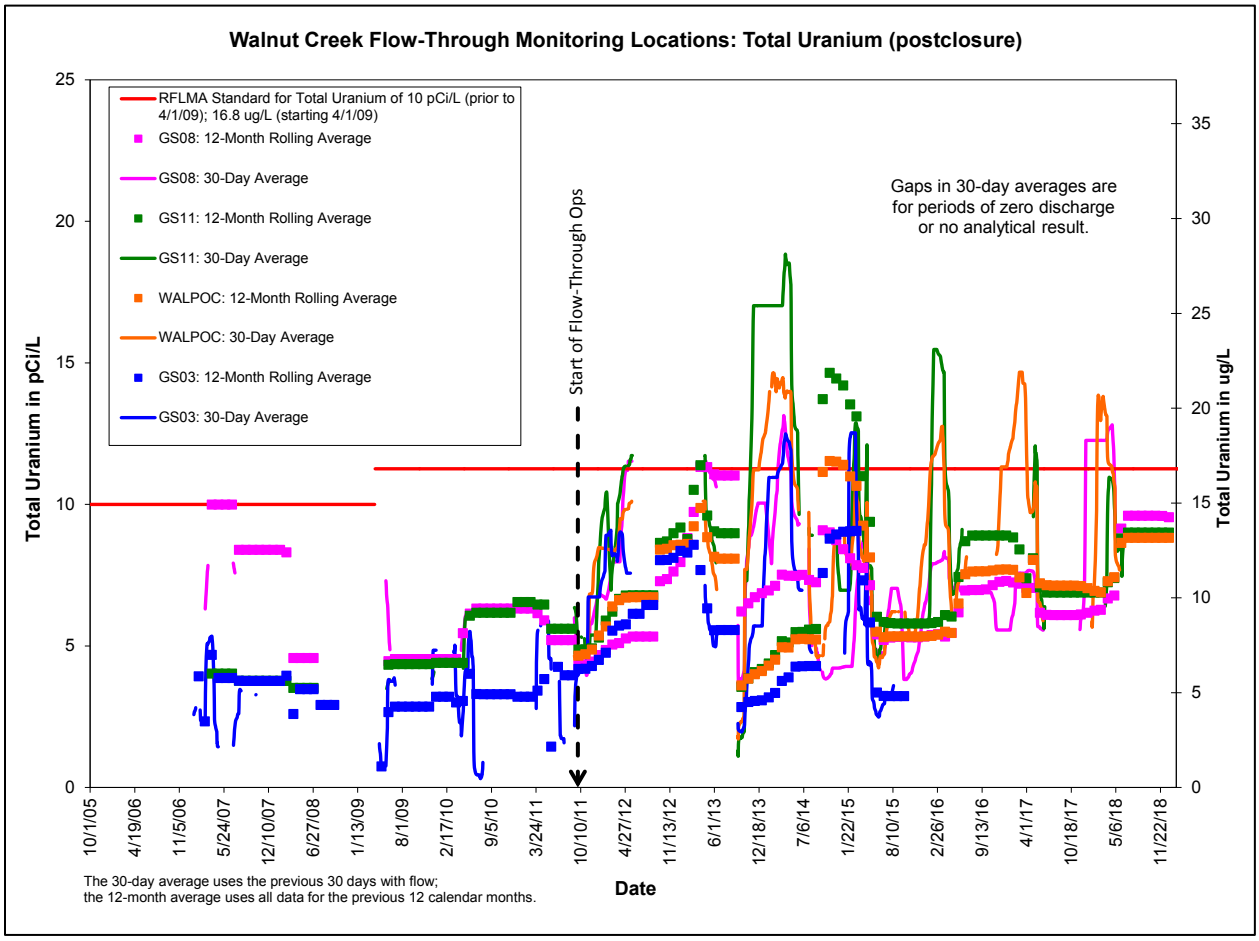
Note:
Monitoring at GS03 was discontinued on October 1, 2015.

Figure 6. Running Americium Averages at Walnut Creek Flow-Through Locations: Postclosure Period



Note:
Monitoring at GS03 was discontinued on October 1, 2015.

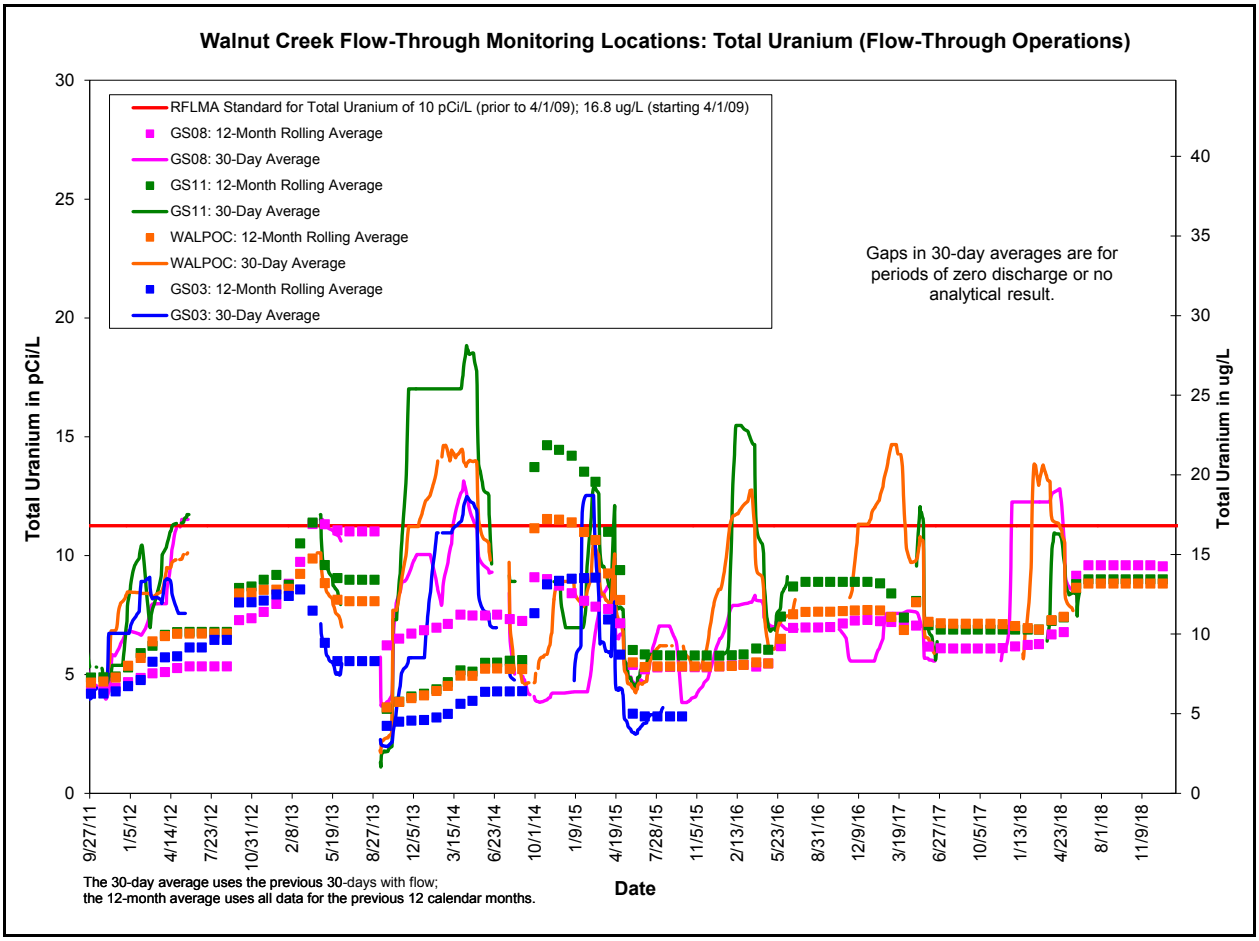
Figure 7. Running Americium Averages at Walnut Creek Flow-Through Locations: Flow-Through Period



Notes:
Monitoring at GS03 was discontinued on October 1, 2015.
After April 1, 2009, the µg/L results are shown as pCi/L using the conversion 1 µg/L = 0.67 pCi/L.

Abbreviation:
ug/L = µg/L = micrograms per liter

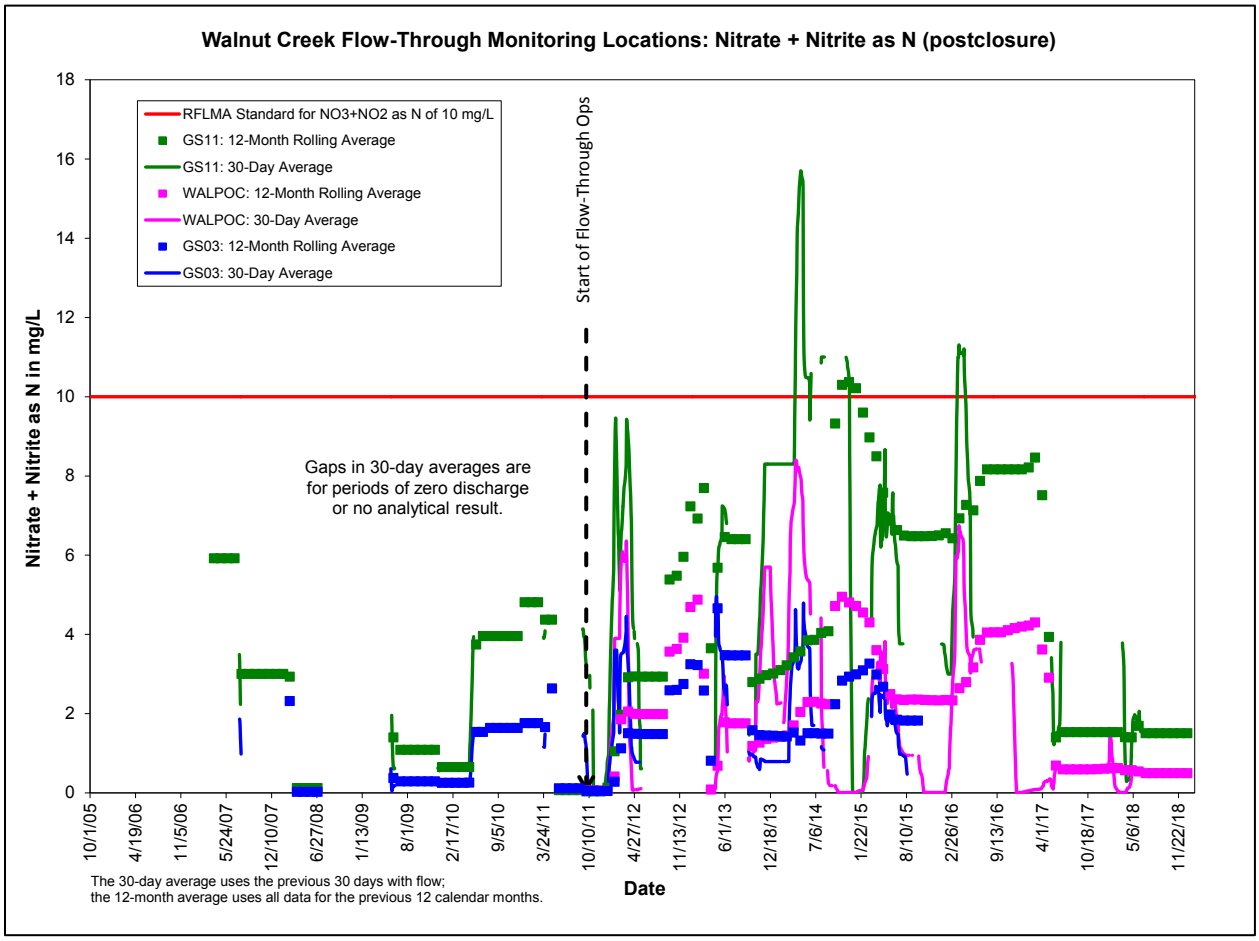
Figure 8. Running Uranium Averages at Walnut Creek Flow-Through Locations: Postclosure Period



Notes:
Monitoring at GS03 was discontinued on October 1, 2015.
After April 1, 2009, the µg/L results are shown as pCi/L using the conversion 1 µg/L = 0.67 pCi/L.

Abbreviation:
ug/L = µg/L = micrograms per liter

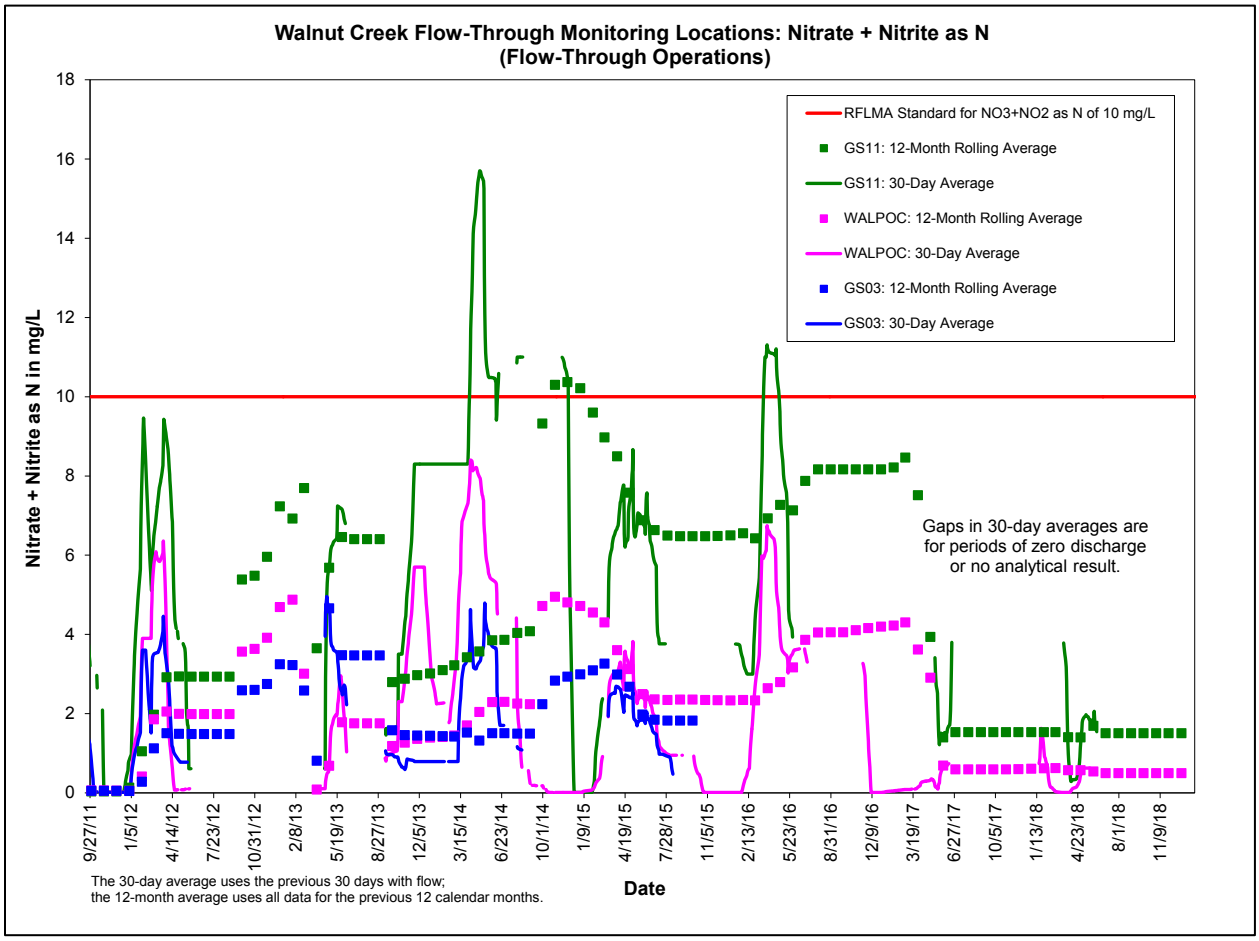
Figure 9. Running Uranium Averages at Walnut Creek Flow-Through Locations: Flow-Through Period



Note:
Monitoring at GS03 was discontinued on October 1, 2015.

Abbreviations:
mg/L = milligrams per liter
N = nitrogen
NO2 = nitrite
NO3 = nitrate

Figure 10. Running Nitrate + Nitrite as Nitrogen Averages at Walnut Creek Flow-Through Locations: Postclosure Period



Note:
Monitoring at GS03 was discontinued on October 1, 2015.

Abbreviations:
mg/L = milligrams per liter
N = nitrogen
NO2 = nitrite
NO3 = nitrate

Figure 11. Running Nitrate + Nitrite as Nitrogen Averages at Walnut Creek Flow-Through Locations: Flow-Through Period

3.3.2 Woman Creek Evaluation

Table 3 presents long-term volume-weighted averages in Woman Creek for the postclosure batch release period (October 2005 to November 2011) and the period since flow-through pond operations began (November 2011 to the present). Figure 12 through Figure 17 present the 30-day and 12-month rolling averages for each location, analyte, and time period.[7]

[7] The RFLMA standards shown on these plots are for reference only. The RFLMA-required evaluation is location specific (i.e., POCs and POEs) and is not part of this AMP report. Evaluation of sampling results as required by RFLMA is routinely presented in other reports in accordance with the RFLMA reporting requirements.

Compared to batch operations, the plots show somewhat increased water quality variability for uranium, but concentrations remain below the applicable standard. As discussed for Walnut Creek, flow-through 30-day averages show increased day-to-day variability since water is no longer being batched and mixed before discharge. Conversely, flow-through 12-month rolling averages show month-to-month variability comparable to that of batch operations.

For GS31 (outlet from Pond C-2), the significantly higher Pu and Am concentrations in 2015 are associated with the high runoff during spring 2015. These concentrations are a result of runoff from the South Interceptor Ditch (SID) passing through Pond C-2. This runoff also resulted in reportable 12-month rolling Pu concentrations at POE SW027. A detailed discussion of the reportable condition and subsequent mitigating response can be found in the RFLMA quarterly reports for 2015. Note that Pu and Am concentrations at GS31 in 2016 through 2018 are reduced (as indicated by the 30-day average), and concentrations at the downstream POC (WOMPOC) remain well below the 0.15 pCi/L standard.

Table 3. Volume-Weighted Averages for Woman Creek Flow-Through Monitoring Locations

Woman Creek: October 2005–November 2011 (Batch Release)

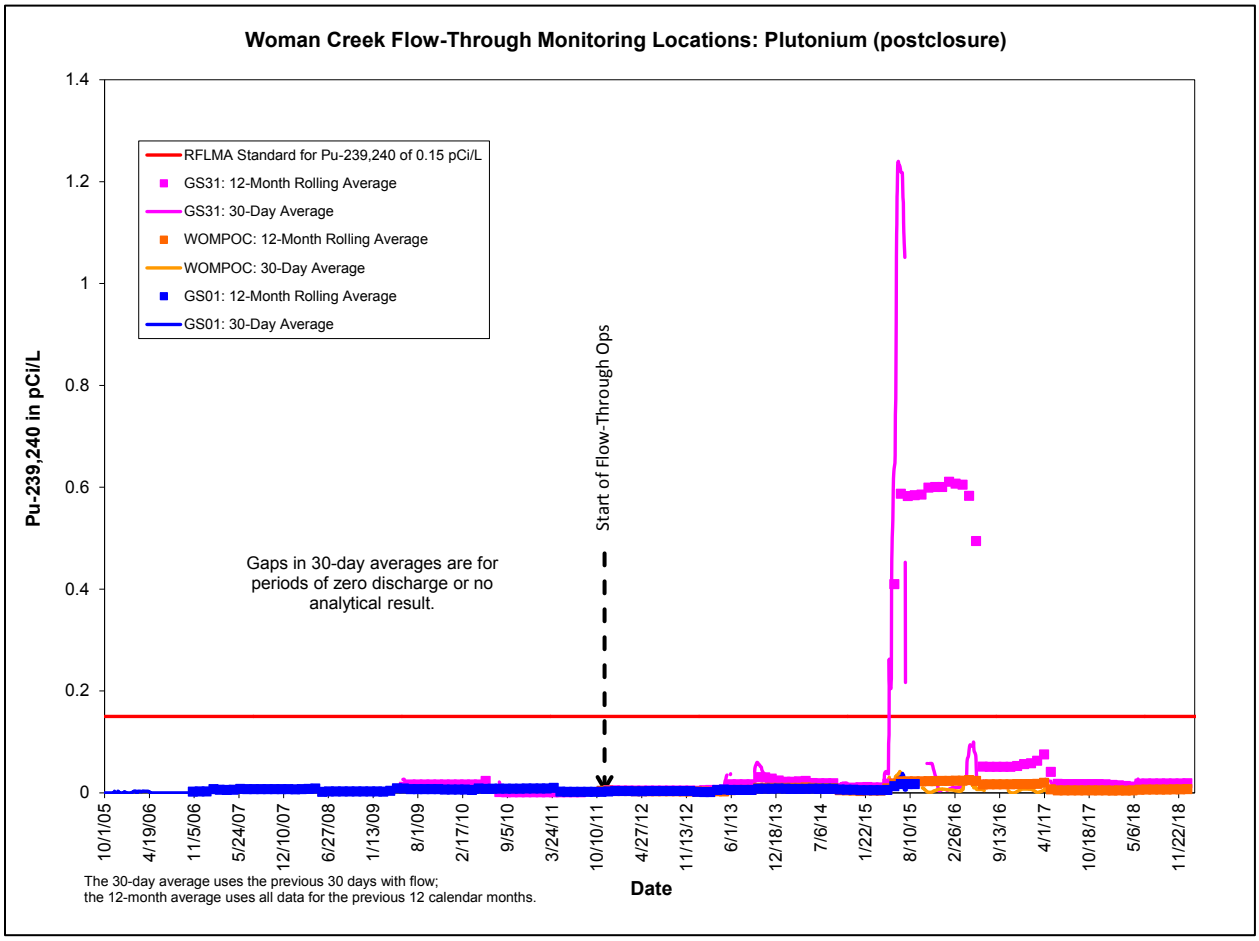
		Uranium (ug/L)		Pu-239,240 (pCi/L)		Am-241 (pCi/L)	
	Location Code	Volume-Weighted Average	Sample Count	Volume-Weighted Average	Sample Count	Volume-Weighted Average	Sample Count
Upstream	GS31	4.1	12	0.007	12	0.004	12
Downstream	GS01	2.3	95	0.007	95	0.004	95

Woman Creek: November 2011–Present (Flow-Through)

		Uranium (ug/L)		Pu-239,240 (pCi/L)		Am-241 (pCi/L)	
	Location Code	Volume-Weighted Average	Sample Count	Volume-Weighted Average	Sample Count	Volume-Weighted Average	Sample Count
Upstream	GS31	6.9	44	0.260	44	0.045	44
⬇	WOMPOC	2.0	111	0.016	111	0.006	111
Downstream	GS01	2.1	45	0.014	45	0.007	45

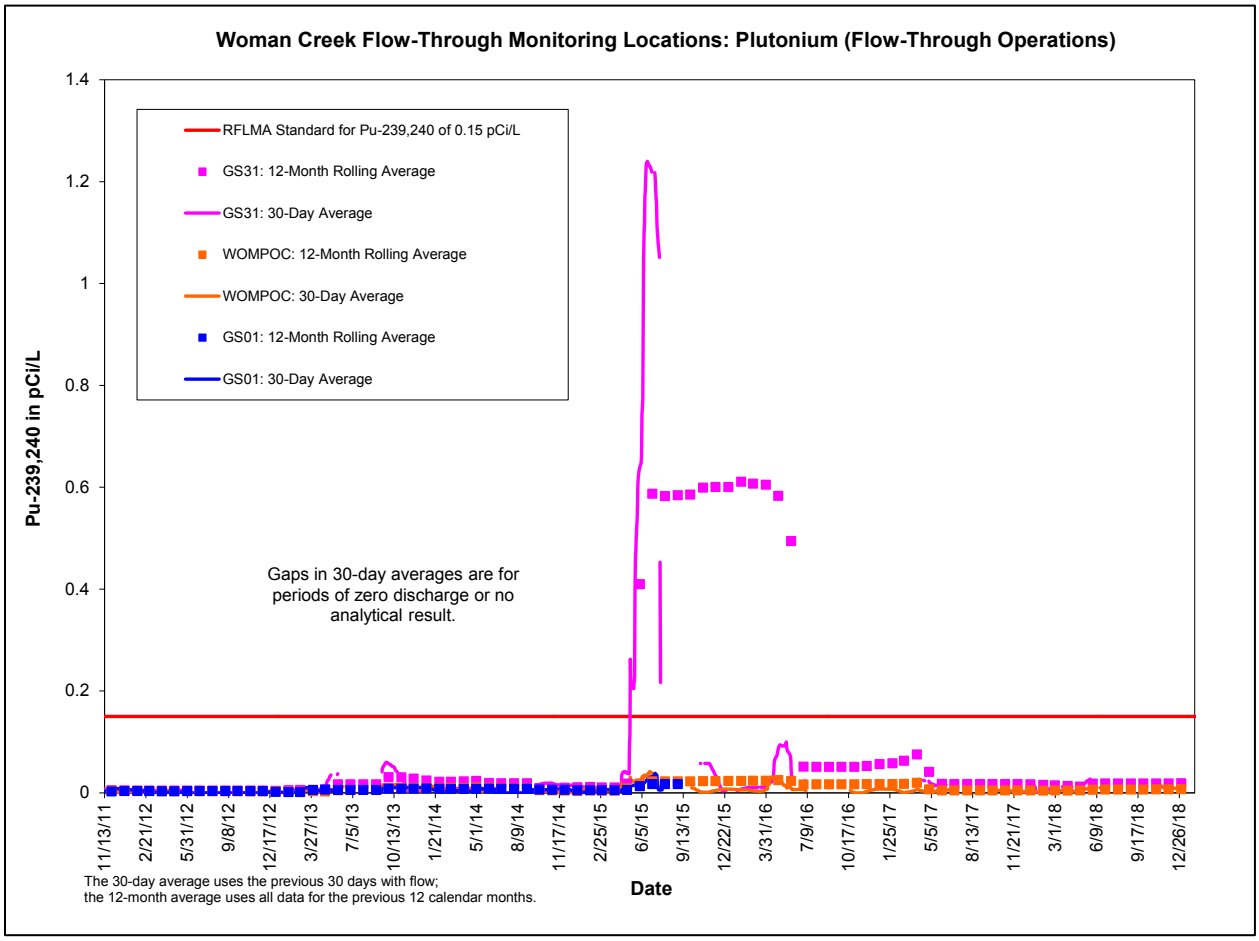
Notes:
Sample counts vary because composite sampling periods vary with water availability.
Monitoring at GS01 was discontinued on October 1, 2015.

Abbreviation:
ug/L = µg/L = micrograms per liter



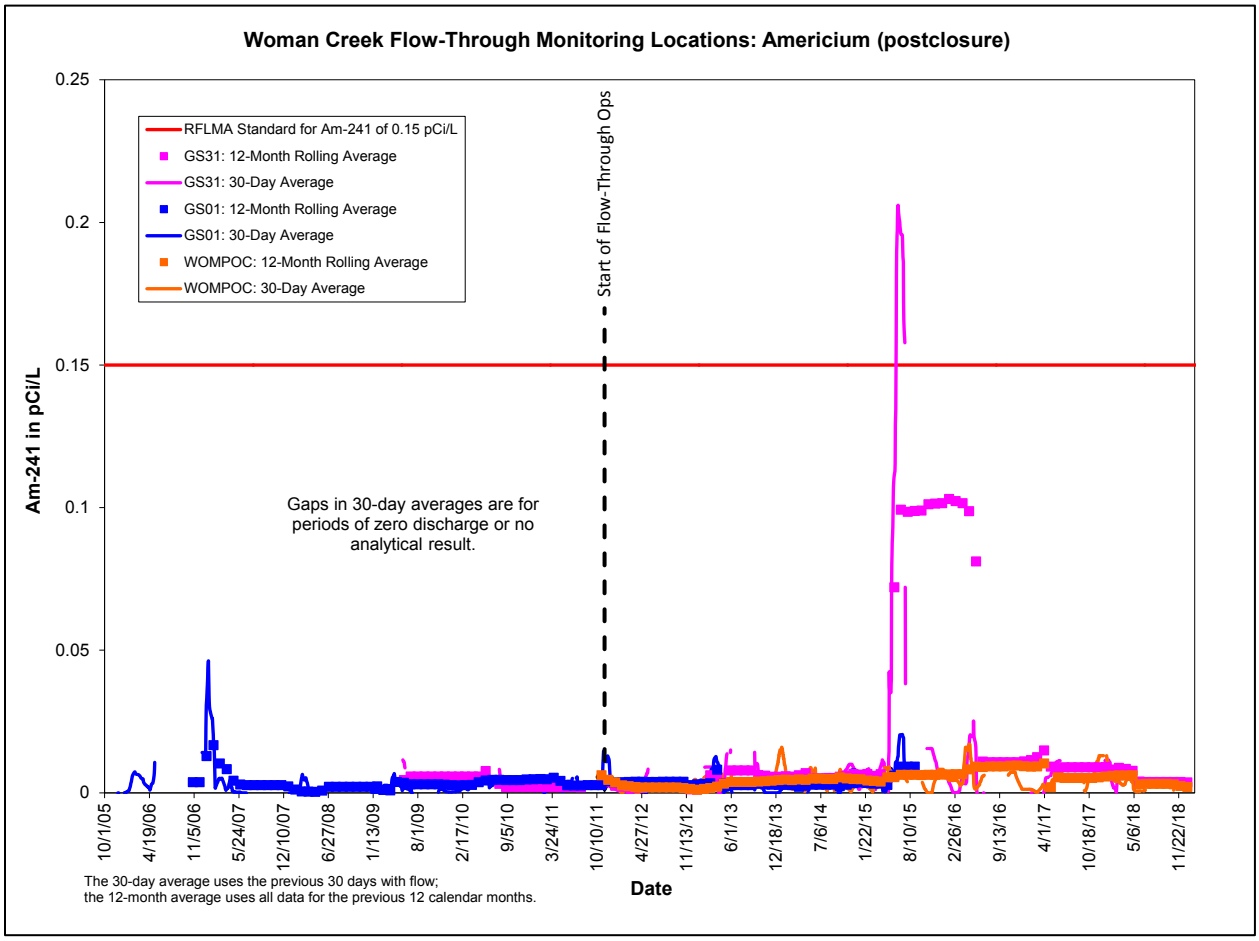
Note:
Monitoring at GS01 was discontinued on October 1, 2015.

Figure 12. Running Plutonium Averages at Woman Creek Flow-Through Locations: Postclosure Period



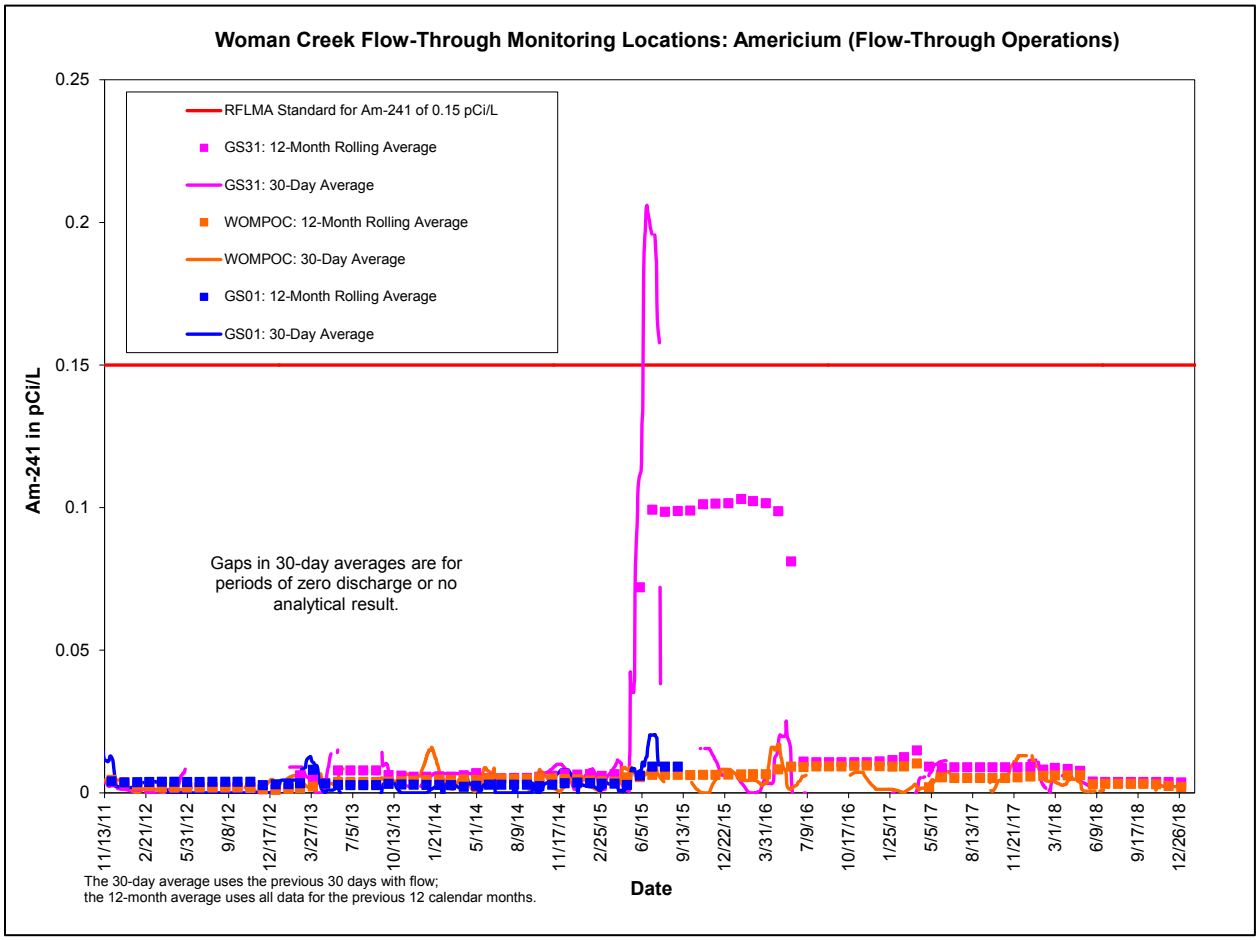
Note:
Monitoring at GS01 was discontinued on October 1, 2015.

Figure 13. Running Plutonium Averages at Woman Creek Flow-Through Locations: Flow-Through Period



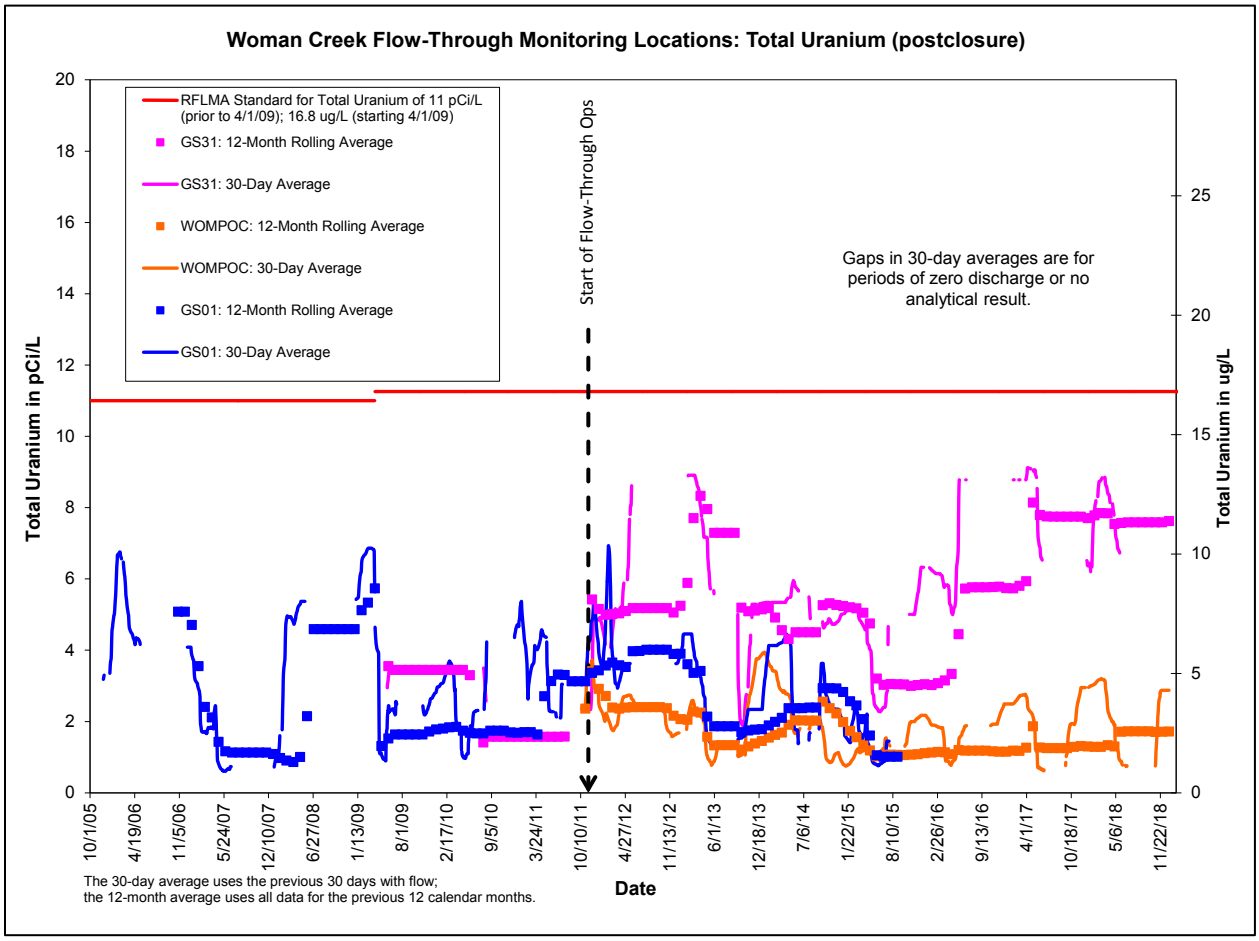
Note:
Monitoring at GS01 was discontinued on October 1, 2015.

Figure 14. Running Americium Averages at Woman Creek Flow-Through Locations: Postclosure Period



Note:
Monitoring at GS01 was discontinued on October 1, 2015.

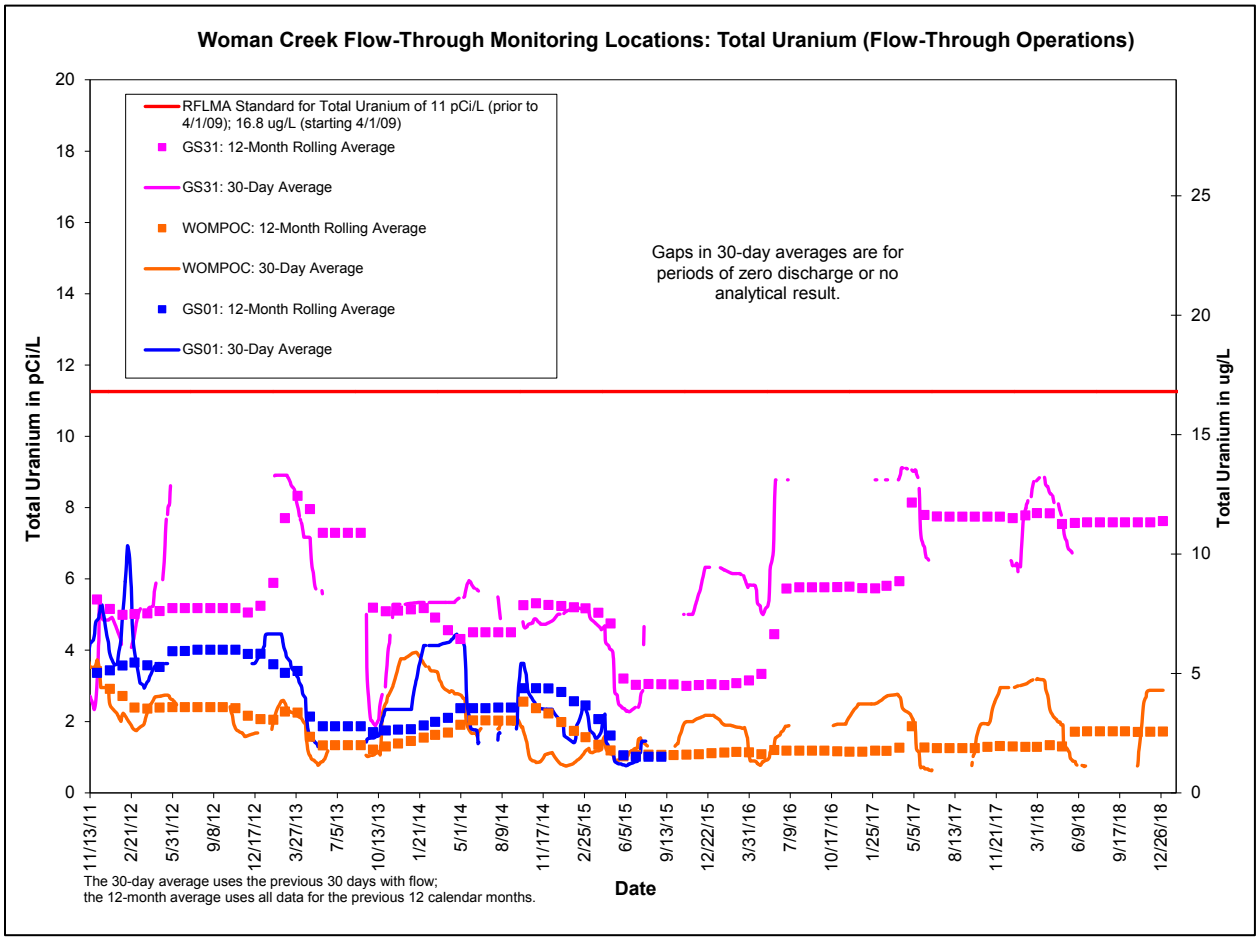
Figure 15. Running Americium Averages at Woman Creek Flow-Through Locations: Flow-Through Period



Notes:
Monitoring at GS01 was discontinued on October 1, 2015.
After April 1, 2009, the µg/L results are shown as pCi/L using the conversion 1 µg/L = 0.67 pCi/L.

Abbreviation:
ug/L = µg/L = micrograms per liter

Figure 16. Running Uranium Averages at Woman Creek Flow-Through Locations: Postclosure Period



Notes:
Monitoring at GS01 was discontinued on October 1, 2015.
After April 1, 2009, the µg/L results are shown as pCi/L using the conversion 1 µg/L = 0.67 pCi/L.

Abbreviation:
ug/L = µg/L = micrograms per liter

Figure 17. Running Uranium Averages at Woman Creek Flow-Through Locations: Flow-Through Period

3.4 Storm-Event Monitoring

This objective involves collecting water quality data to assess actinide and solids transport during runoff periods resulting from precipitation events. The intent is to evaluate whether significant correlations exist between flow rate and actinide concentrations and to further describe short-term, event-driven variability. In addition, these data can be used to assess the effectiveness of ongoing revegetation and erosion control practices.

Location GS31 below the Pond C-2 outlet (Figure 18 and Figure 19) is used for storm-event monitoring. Storm-event monitoring equipment at GS31 was installed in spring 2012 to specifically evaluate water quality when runoff passes through Pond C-2 while being operated in a flow-through configuration. Samples are collected as time-paced sequential grabs using an automated sampler with a 24-bottle carousel. The first storm-event monitoring samples were collected during the September 2013 flood.

During 2018, only one significant runoff event occurred at GS31 when SW027 was contributing flow to Pond C-2. Analytical results are listed in Table 4. Hydrographs with sample events are given in Figure 20 through Figure 26.

Various correlations are plotted in Figure 27 through Figure 30 for the relatively few results available. Relationships are observed for Pu, Am, and uranium in comparison to flow rate. Figure 28 suggests increasing Pu and Am concentration with increasing flow rate. Since Pu and Am move in association with suspended solids (i.e., soil particles), this relationship is expected because increased flow rate generally results in increased total suspended solids (TSS). However, Figure 30 shows no relationship between flow rate and TSS. Therefore, the increased concentration may depend on the origin of the runoff for specific events. In other words, if an area with higher residual contamination, like the 903 Lip Area, contributes a higher proportion of runoff during large runoff events, then an increase in concentration would consequently be observed for higher flow rates.

Figure 29, in contrast, shows a good correlation between decreasing uranium concentration and increasing flow rate. This water quality effect is observed at many locations on the Site as naturally occurring uranium from groundwater sources is diluted during runoff events.

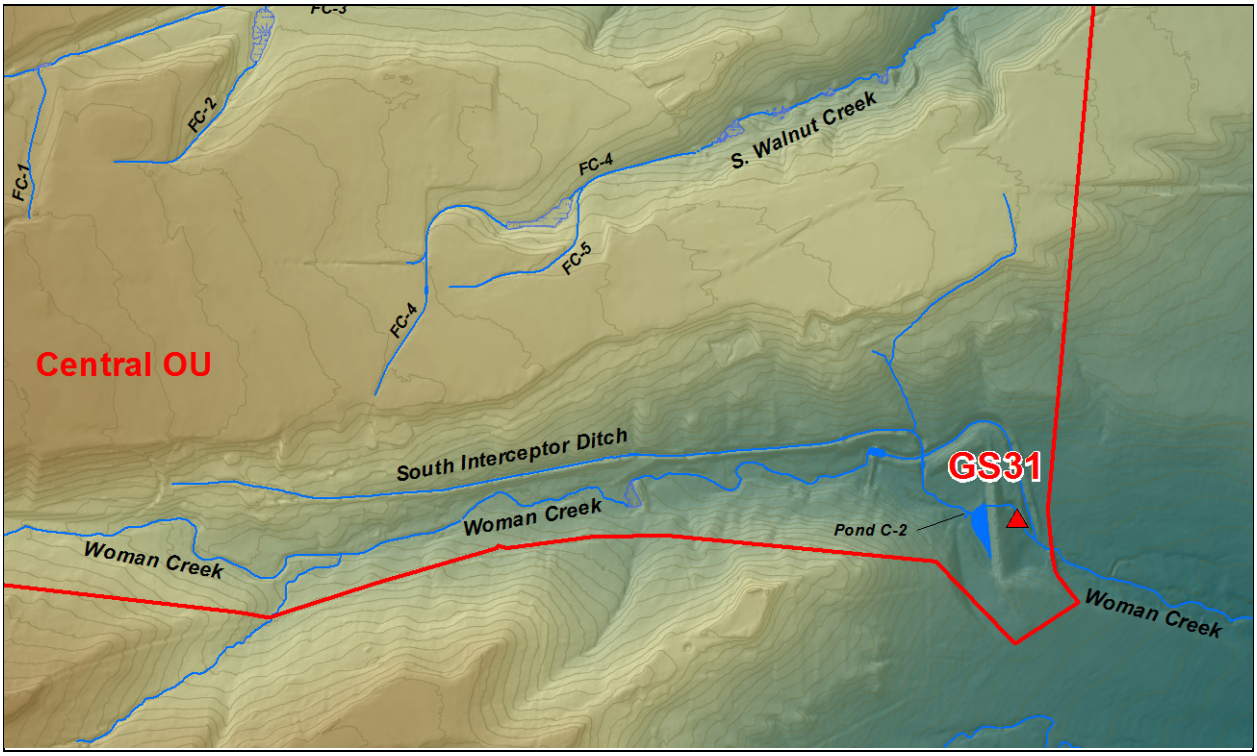


Figure 18. Storm-Event Monitoring Location GS31

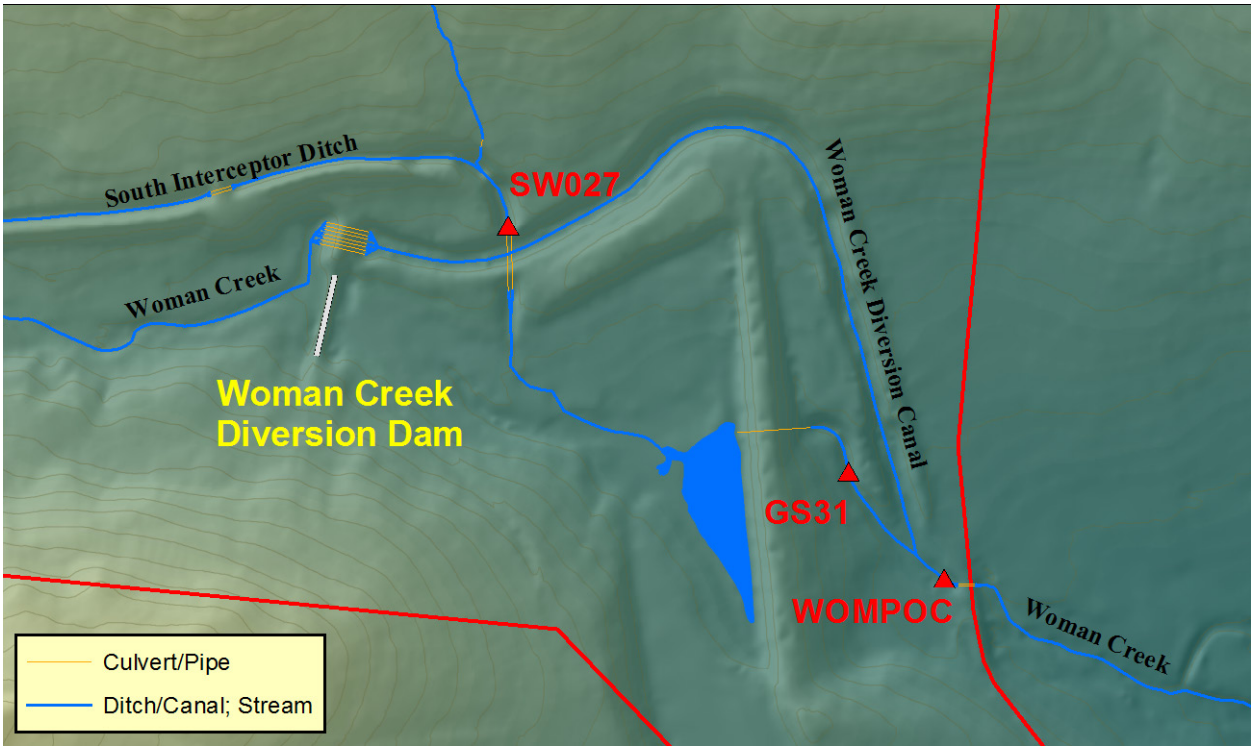


Figure 19. Detail Map for Storm-Event Monitoring Location GS31

Table 4. GS31 Storm-Event Sample Results

Sampling Date	Pu-239, 240 [pCi/L]	Am-241 [pCi/L]	Uranium [µg/L]	TSS [mg/L]	Flow Rate [cfs]
9/12/2013[a]	0.037	0.006	1.41	NA	13.5
9/12/2013[b]	0.045	0.016	1.11	NA	14.7
4/17/2015	0.090	0.008	4.86	13.3	1.79
5/5/2015	0.011	0.003	5.17	8.8	0.57
5/19/2015	0.141	0.021	3.41	8.2	2.73
6/4/2015	2.590	0.717	2.72	NA	4.67
4/16/2016	0.073	0.023	7.54	9.2	2.78
5/3/2018	0.006	0.000	10.0	11.0	0.61

Notes:
[a] Sample includes significant quantities of water that flooded over the Woman Creek diversion dam into Pond C-2 when flows from the SID were minimal (see Figure 20).
[b] Sample includes significant quantities of water that flooded over the Woman Creek diversion dam into Pond C-2 when flows from the SID were also significant (see Figure 20).

Abbreviations:
cfs = cubic feet per second
µg/L = micrograms per liter
mg/L = milligrams per liter

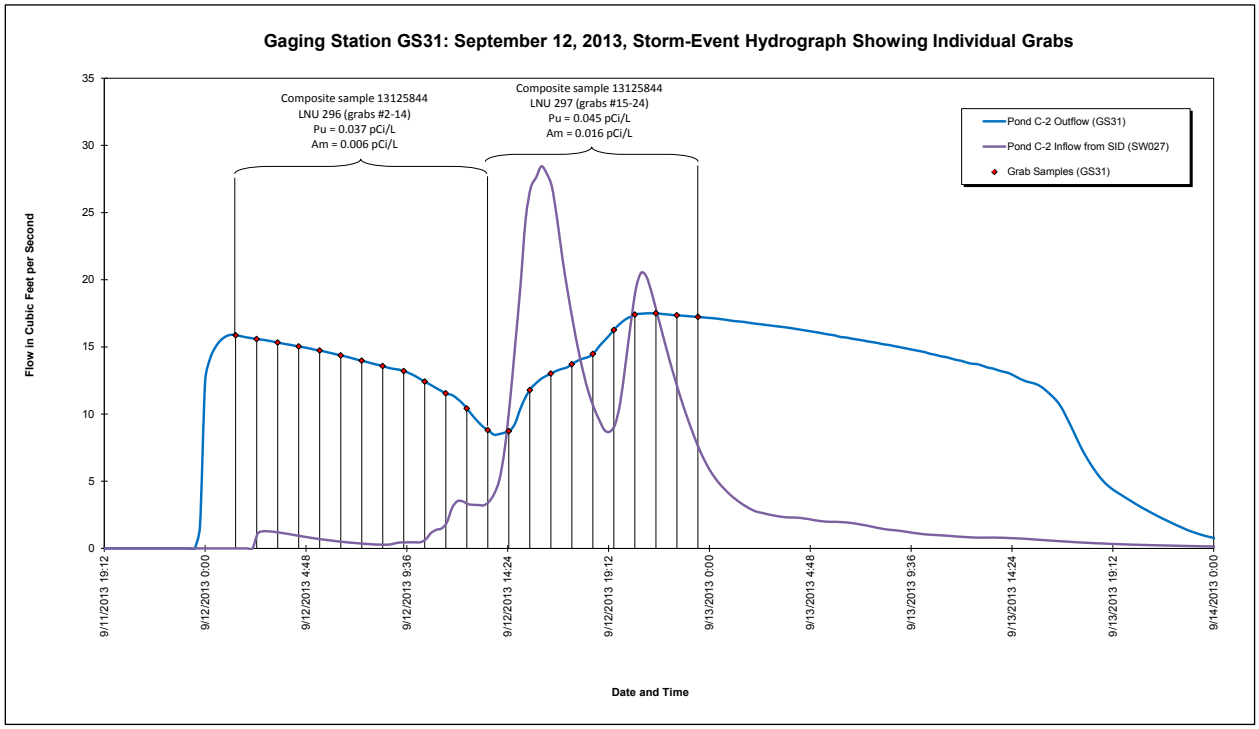


Figure 20. Storm-Event Hydrograph at GS31: September 12, 2013

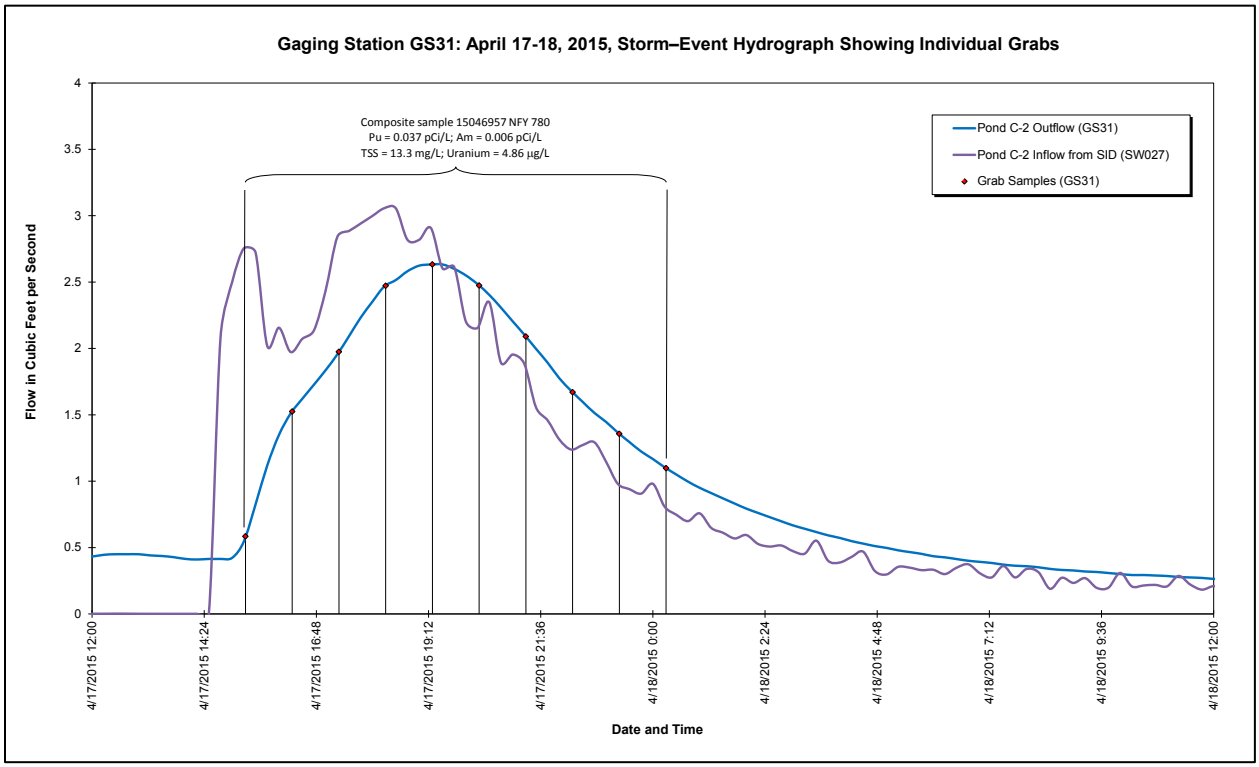


Figure 21. Storm-Event Hydrograph at GS31: April 17–18, 2015

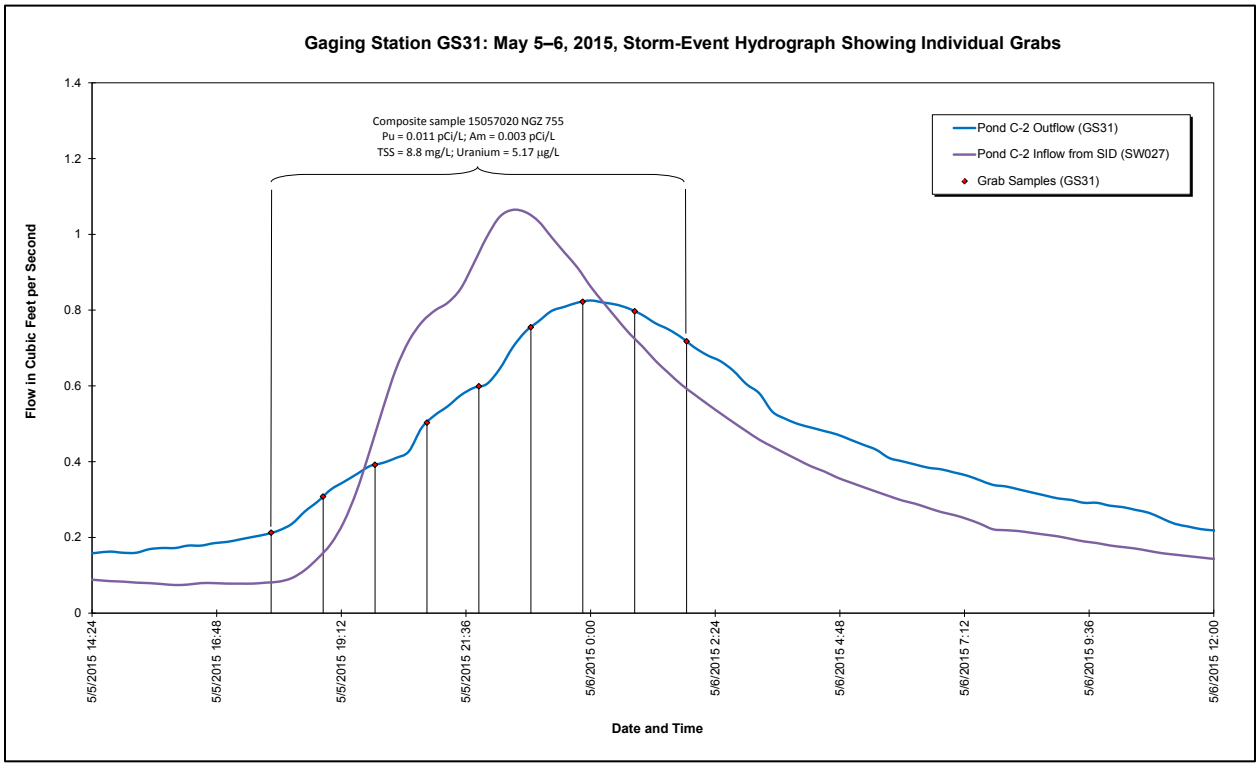


Figure 22. Storm-Event Hydrograph at GS31: May 5–6, 2015

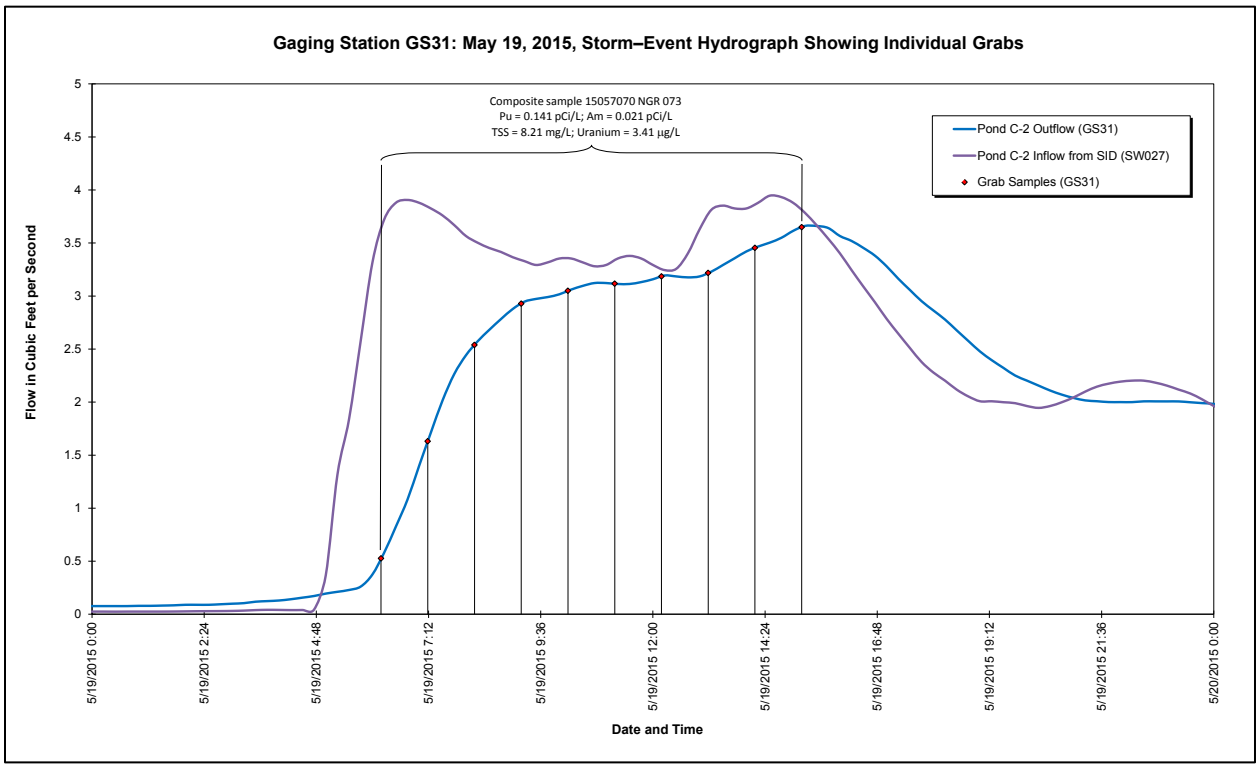


Figure 23. Storm-Event Hydrograph at GS31: May 19, 2015

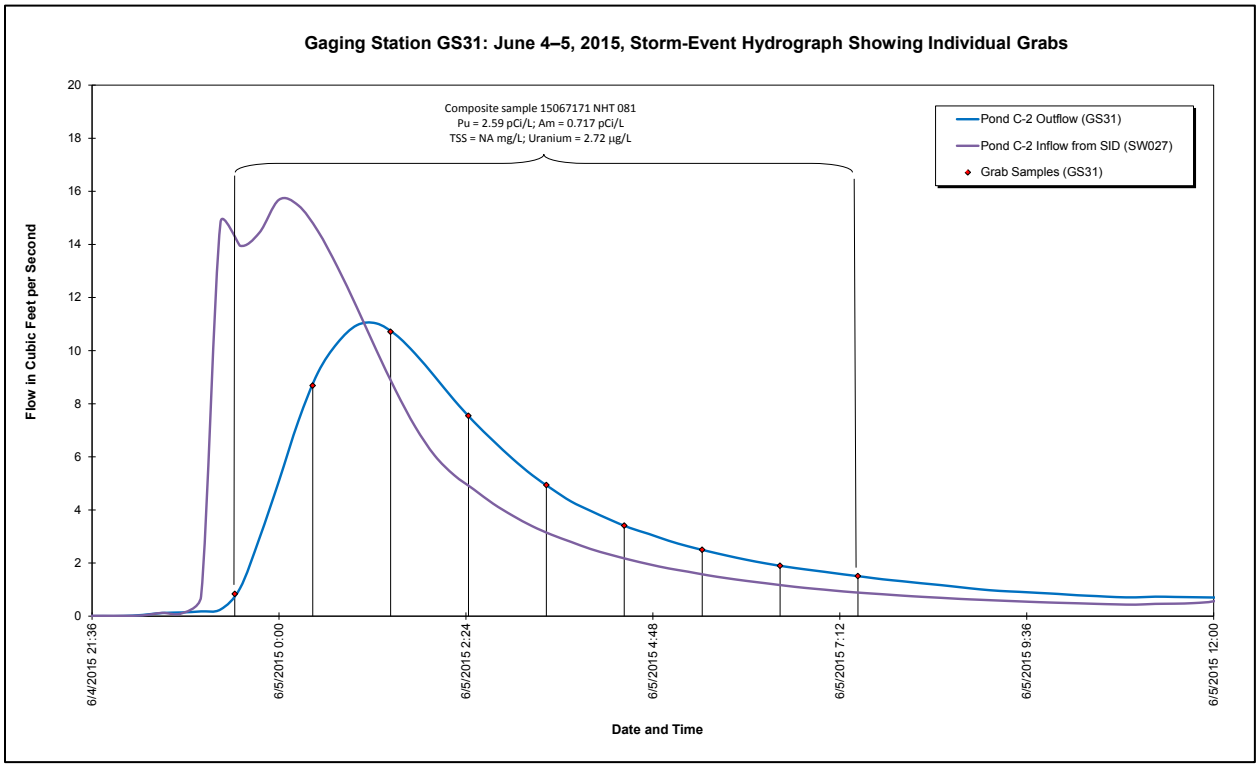


Figure 24. Storm-Event Hydrograph at GS31: June 4–5, 2015

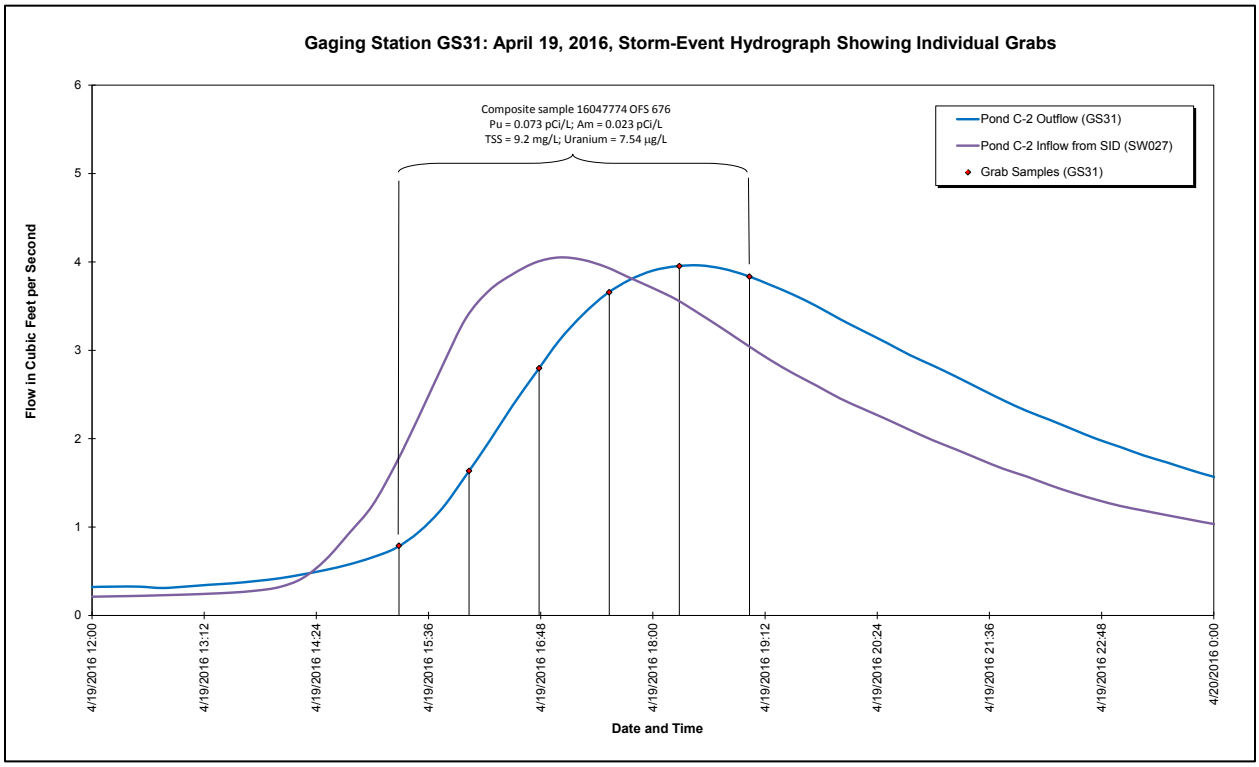


Figure 25. Storm-Event Hydrograph at GS31: April 19, 2016

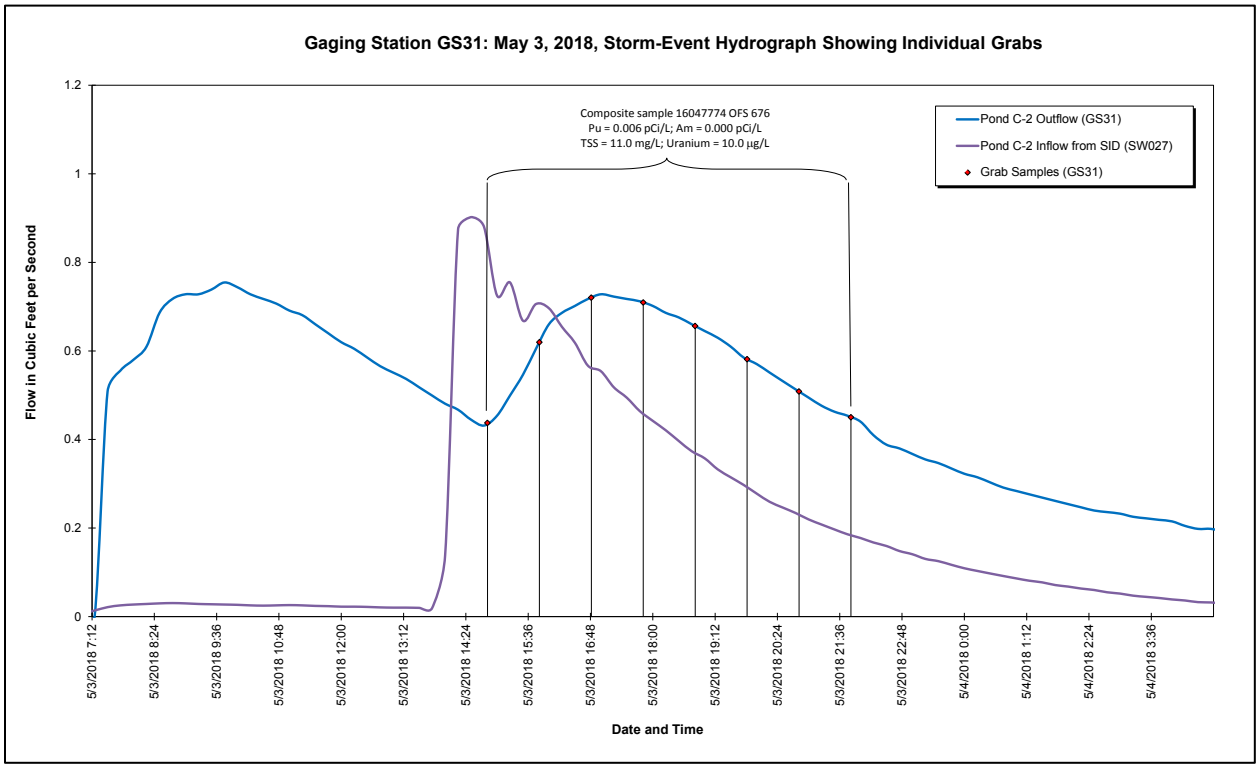
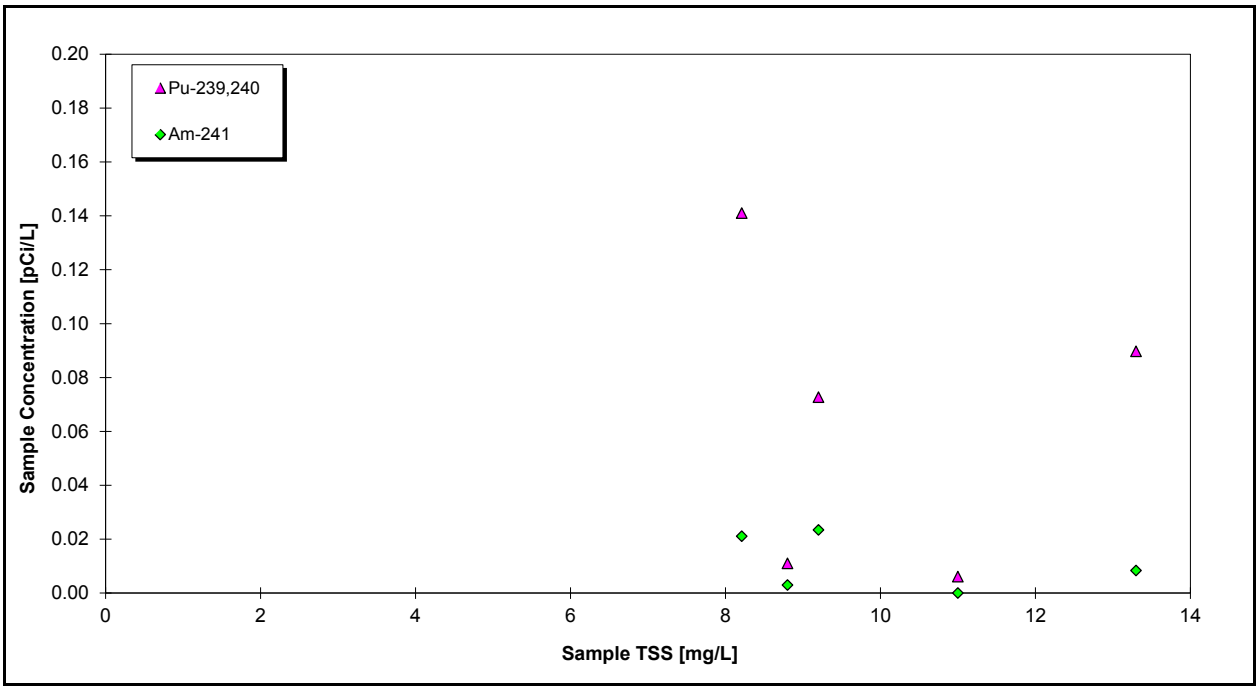


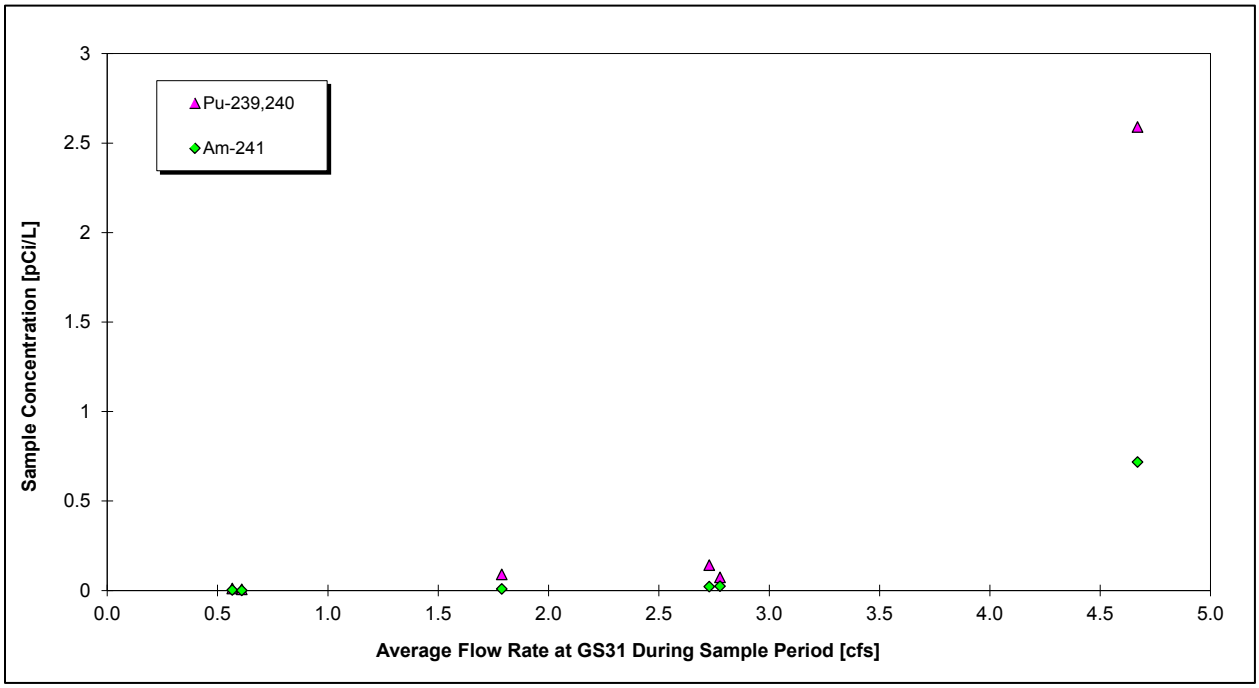
Figure 26. Storm-Event Hydrograph at GS31: May 3, 2018

5



Abbreviation:
mg/L = milligrams per liter

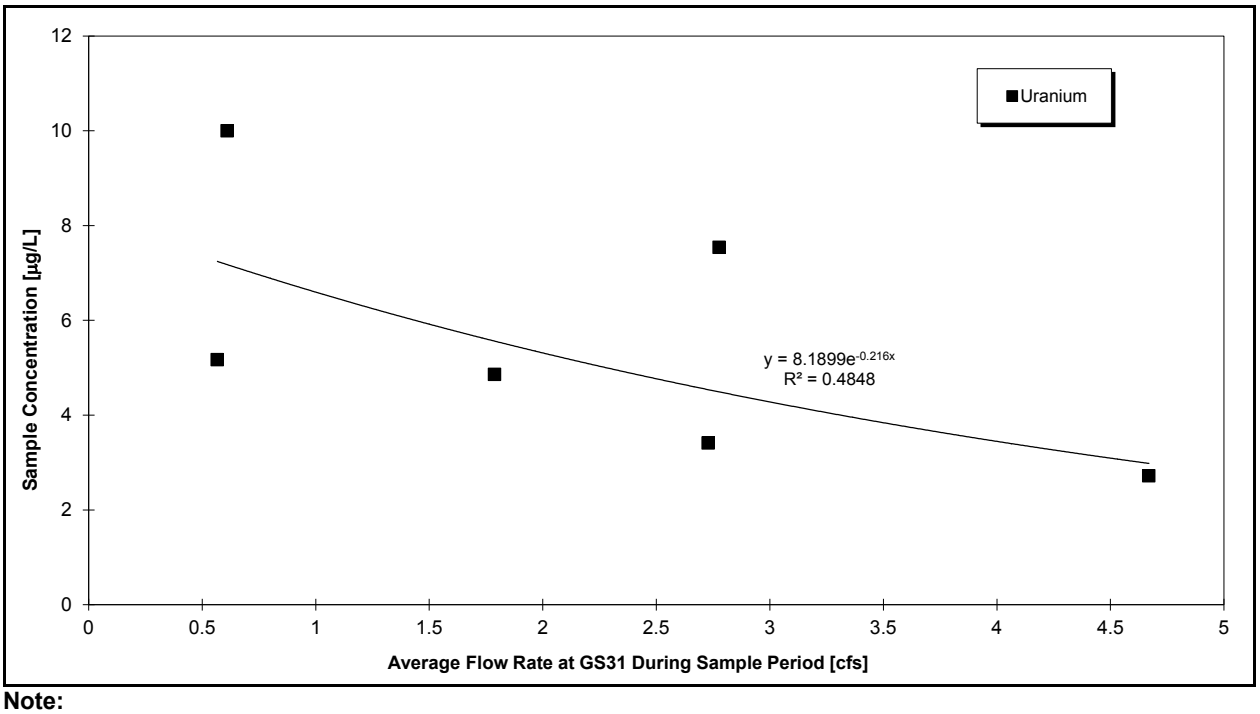
Figure 27. Plutonium and Americium Concentration Versus Total Suspended Solids for GS31 Storm-Event Samples



Note:
The 2013 results are not shown since they were significantly diluted by Woman Creek water that flooded over the Woman Creek Diversion into Pond C-2.

Abbreviation:
cfs = cubic feet per second

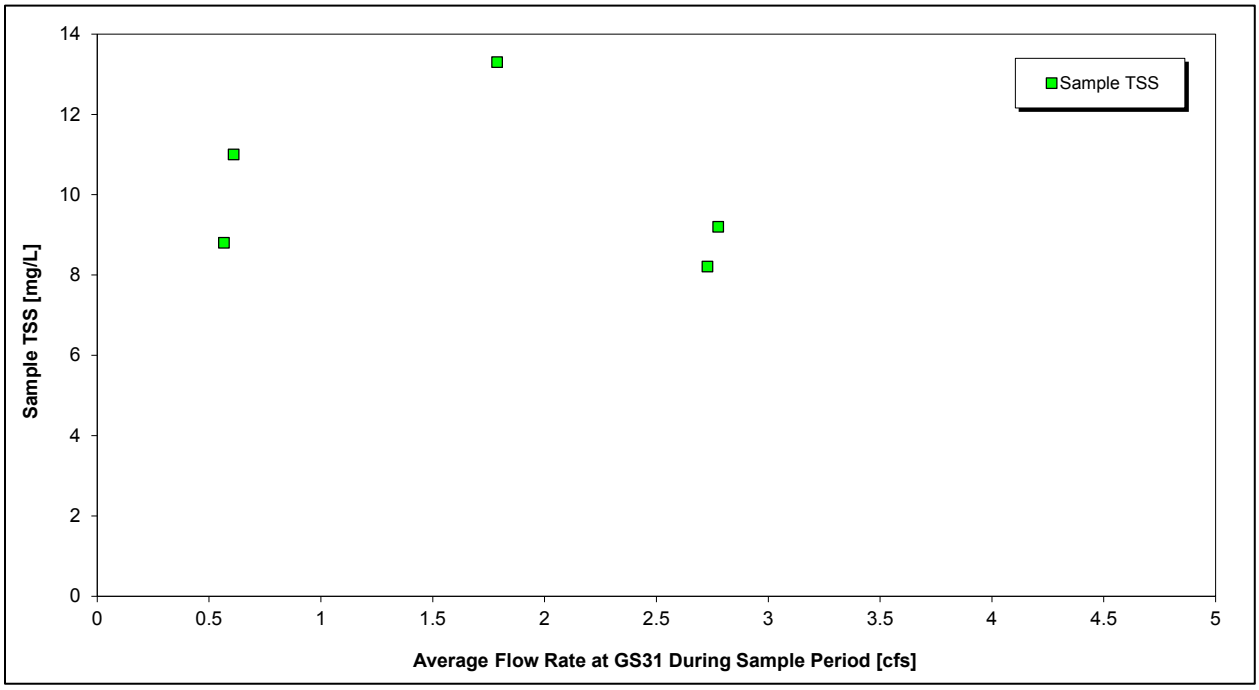
Figure 28. Plutonium and Americium Concentration Versus Average Sample Flow Rate for GS31 Storm-Event Samples



Note:
The 2013 results are not shown since they were significantly diluted by Woman Creek water that flooded over the Woman Creek Diversion into Pond C-2.

Abbreviations:
cfs = cubic feet per second
µg/L = micrograms per liter

Figure 29. Uranium Concentration Versus Average Sample Flow Rate for GS31 Storm-Event Samples

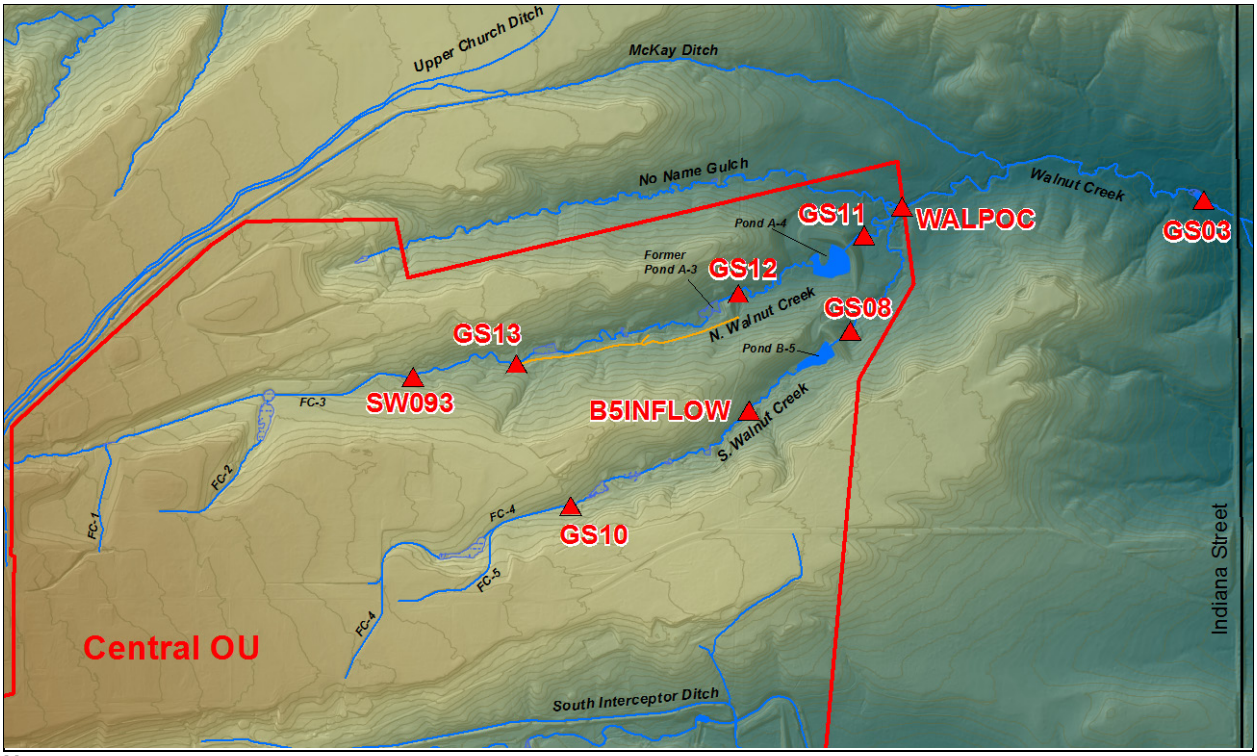


Abbreviations:
cfs = cubic feet per second
mg/L = milligrams per liter

Figure 30. Total Suspended Solids Versus Average Sample Flow Rate for GS31 Storm-Event Samples

3.5 Continuous Flow-Paced Composite Sampling to Evaluate Uranium Transport

This monitoring objective is intended to evaluate the in-stream transport of uranium, specifically for Ponds A-4 and B-5, by assessing correlations, patterns, variability, and loading. The monitoring locations currently being used to support this objective are shown in Figure 31. Samples are collected as continuous flow-paced composites during all flow conditions. Sampling for this monitoring objective began on March 10, 2010, in North Walnut Creek and on June 16, 2010, in South Walnut Creek. Monitoring location WALPOC began operational testing on September 9, 2011. Monitoring at GS03 was discontinued on October 1, 2015. Therefore, this evaluation uses three time periods: March 10, 2010, to October 1, 2015; June 16, 2010, to October 1, 2015; and September 9, 2011, to the present.



Notes:
The orange line shows the location of the A-Series Bypass Pipeline. See text for additional information.
Monitoring at GS03 was discontinued on October 1, 2015.

Figure 31. Continuous Flow-Paced Composite Sampling Locations in Walnut Creek

Starting on October 13, 2011, water in North Walnut Creek was diverted around Pond A-3 and former Ponds A-1 and A-2 to support the Dam A-3 breach construction. This diverted water was routed through the A-Series Bypass Pipeline from GS13 to just below Pond A-3 (near GS12) until March 21, 2012. During this period, it is assumed that the quality and quantity of water when it entered the pipeline were the same as when it exited the pipeline.[8] Therefore, data collected at both GS13 and GS12 during this period have been combined to effectively summarize water quality *entering* Pond A-4 and not water quality *exiting* Pond A-3.

Table 5 through Table 7 show summary statistics for the three time periods described above. The data show long-term concentrations below the uranium standard (16.8 micrograms per liter [µg/L]) at all locations. In addition, all locations show concentrations well below the 30 µg/L drinking water maximum contaminant level for uranium. Figure 32 uses proportional symbols to map the uranium concentrations since September 9, 2011 (see Table 7 for values).[9]

[8] This assumption was confirmed by grab samples taken at GS13 and A4INFLOW during use of the pipeline; A4INFLOW is just upstream of Pond A-4.

[9] Due to interruptions in automated sampling and the corresponding lack of analytical data for some periods during the September 2013 flood, for comparison purposes, the start of the high runoff (which began late in the day on September 11, 2013) through its end on September 13, 2013, is not included in the evaluation in this section. Additionally, some data are estimated to enable the comparison herein; under normal RFLMA data evaluation protocols, these estimated data would not be included.

Table 5. Summary Statistics for Uranium Continuous Flow-Paced Composite Sampling: March 10, 2010, to October 1, 2015

South Walnut Creek

	Location Code	Volume-Weighted Average (µg/L)	Sample Count
Upstream	GS10*	13.7	104
Downstream	GS08	8.9	61

North Walnut Creek

Volume-Weighted Average (µg/L)	Sample Count	Location Code	
6.6	90	SW093*	Upstream
10.2	76	GS13*	⬇
12.8	80	GS12 (A-4 inflow)	⬇
9.2	53	GS11	Downstream

Walnut Creek

Location Code	Volume-Weighted Average	Sample Count
GS03	5.5	74

Notes:

* Data for GS10, SW093, and GS13 are currently acquired through the routine RFLMA-required monitoring at these locations.

Sample counts vary because composite sampling periods vary with water availability.

Monitoring at GS03 was discontinued on October 1, 2015.

Table 6. Summary Statistics for Uranium Continuous Flow-Paced Composite Sampling: June 16, 2010, to October 1, 2015

South Walnut Creek

	Location Code	Volume-Weighted Average (µg/L)	Sample Count
Upstream	GS10*	13.7	95
⬇	B5INFLOW	10.3	62
Downstream	GS08	8.8	51

North Walnut Creek

Volume-Weighted Average (µg/L)	Sample Count	Location Code	
6.5	77	SW093*	Upstream
10.5	65	GS13*	⬇
13.1	67	GS12 (A-4 inflow)	⬇
9.1	44	GS11	Downstream

Walnut Creek

Location Code	Volume-Weighted Average	Sample Count
GS03	5.4	58

Notes:

* Data for GS10, SW093, and GS13 are currently acquired through the routine RFLMA-required monitoring at these locations.

Sample counts vary because composite sampling periods vary with water availability.

Monitoring at GS03 was discontinued on October 1, 2015.

Table 7. Summary Statistics for Uranium Continuous Flow-Paced Composite Sampling: Starting September 9, 2011

South Walnut Creek

	Location Code	Volume-Weighted Average (µg/L)	Sample Count
Upstream	GS10*	13.0	126
⬇	B5INFLOW	10.8	72
Downstream	GS08	9.4	72

North Walnut Creek

Volume-Weighted Average (µg/L)	Sample Count	Location Code	
6.7	91	SW093*	Upstream
10.0	73	GS13*	⬇
13.6	72	GS12	⬇
10.1	57	GS11	Downstream

Walnut Creek

Location Code	Volume-Weighted Average	Sample Count
WALPOC*	9.7	94

Notes:
* Data for GS10, SW093, GS13, and WALPOC are currently acquired through the routine RFLMA-required monitoring at these locations.
Sample counts vary because composite sampling periods vary with water availability.
Summary includes all data available as of February 1, 2019; some recent data are not validated (i.e., are preliminary and subject to revision).

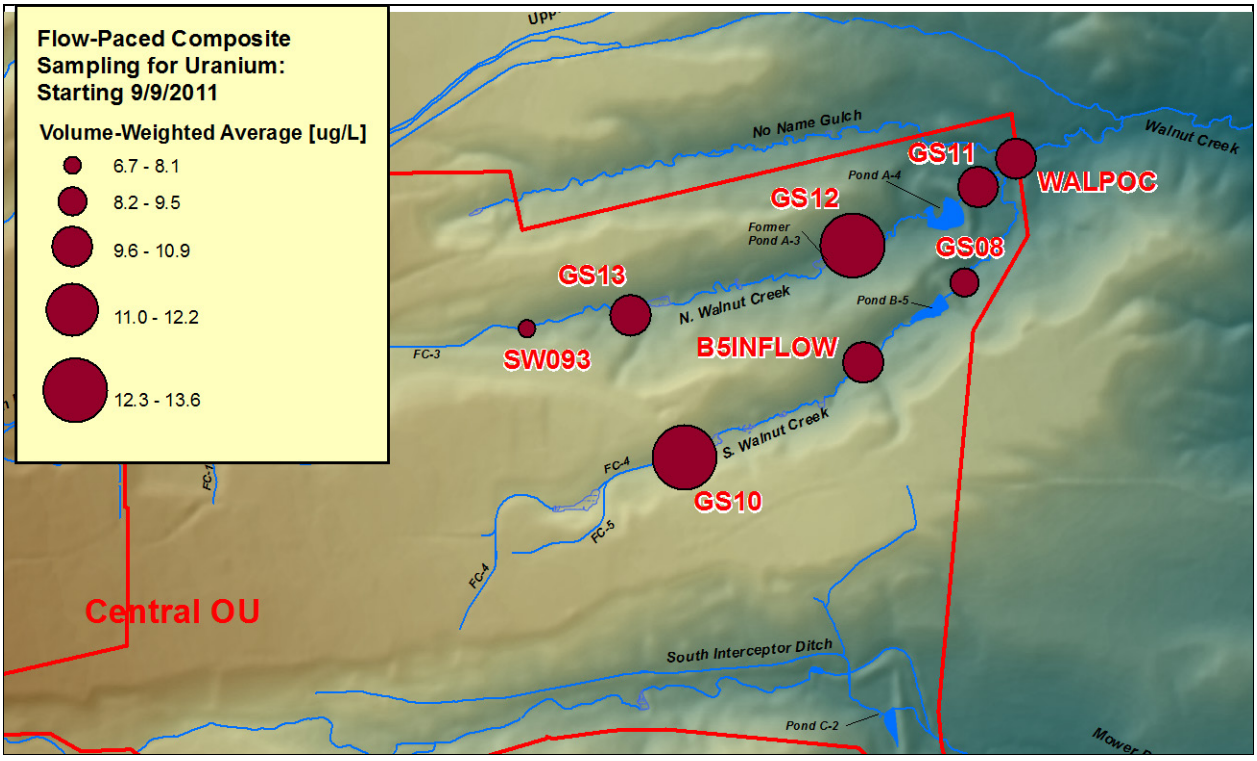
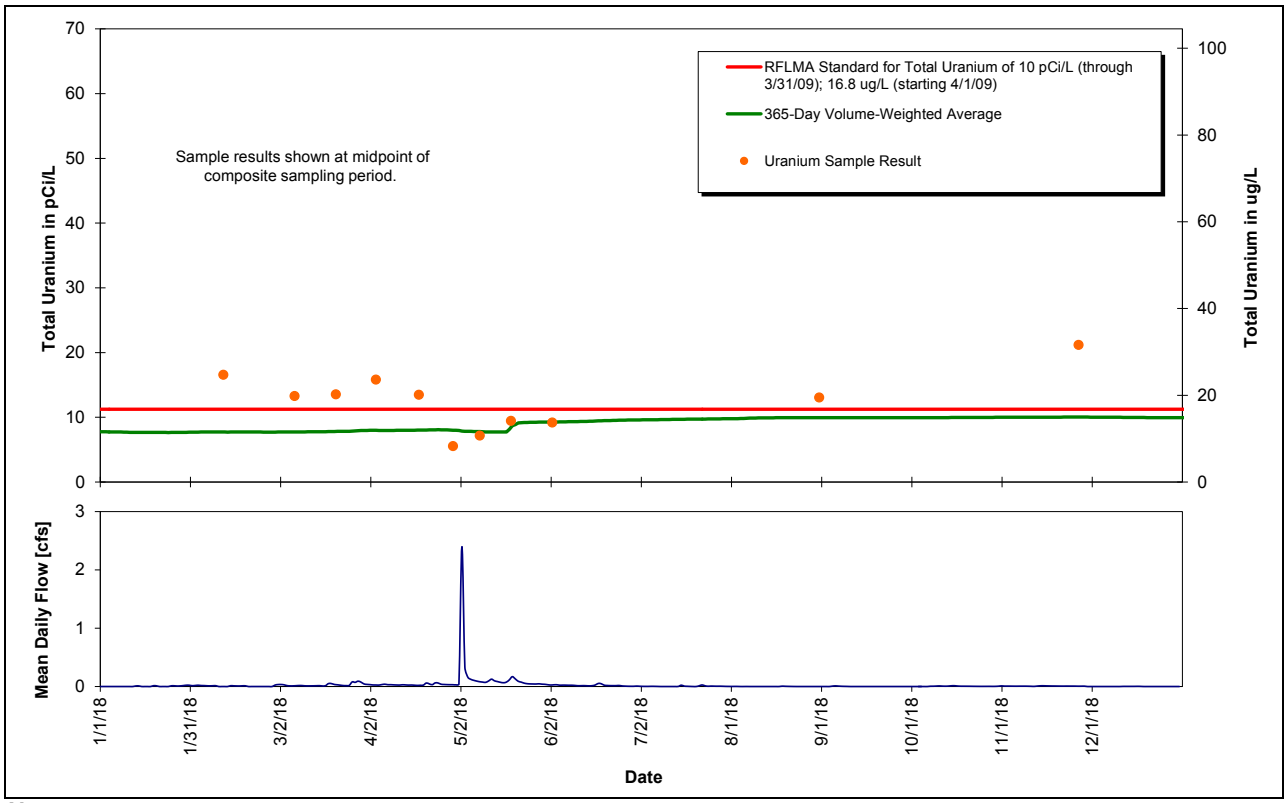


Figure 32. Map Showing Volume-Weighted Average Uranium Concentrations for Samples Collected Since September 9, 2011

Figure 33 through Figure 48 show plots of composite sample results and the 365-day volume-weighted rolling averages at each location.[10] The 365-day rolling average differs from the 12-month rolling average used for RFLMA evaluation in that the 365-day rolling average is calculated for every day, while the 12-month rolling average is calculated only for the last day of each month. The plots also show the corresponding hydrograph at each location showing the mean daily flow in cubic feet per second (cfs). The plots clearly show the significant variability in sample results. In general, the higher concentrations are during periods of base flow with very little runoff (i.e., winter) and during periods when the natural geochemistry is more favorable for uranium transport.

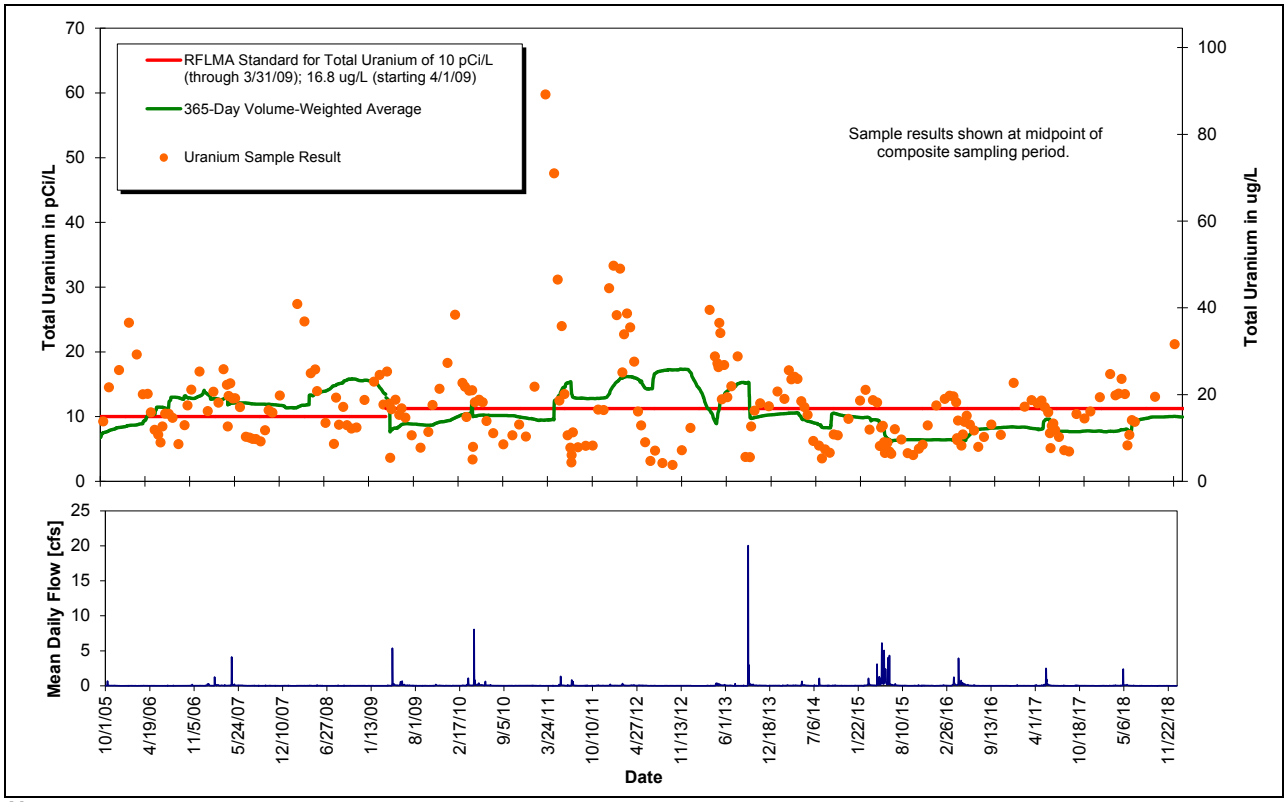
As mentioned earlier, an extensive geochemistry study has been completed that examines the transport mechanisms associated with uranium and nitrate at the Site and the effects of the September 2013 flood. The report can be found at: https://www.lm.doe.gov/Rocky_Flats/RFS_Evaluation_of_Water_Quality_Variability_April_2015.pdf. A 2018 update to this report is being completed and will be available in 2019.



Note:
Analytical results for the composite sample started on November 28, 2017, are pending.

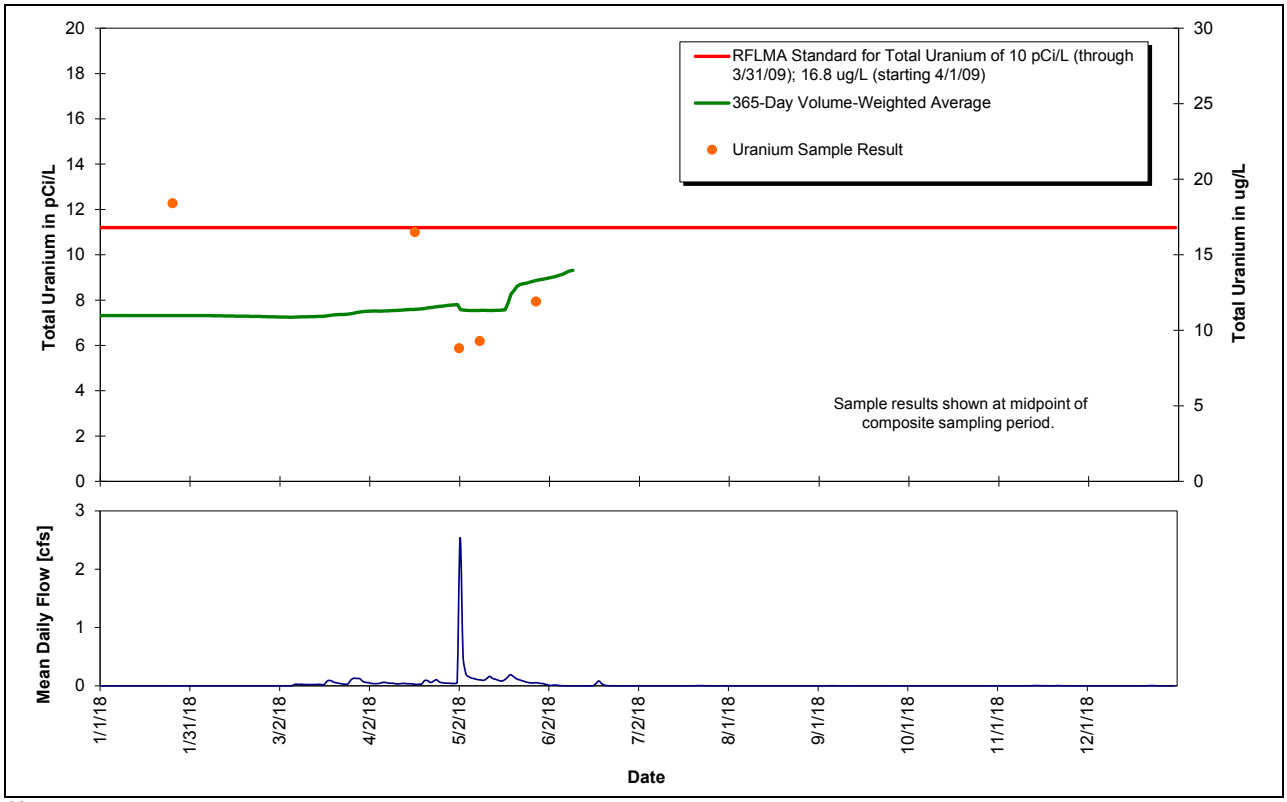
Figure 33. Composite Sample Uranium Results and Rolling 365-Day Averages at GS10: CY 2018

[10] The RFLMA standards shown on these plots are for reference only. The RFLMA-required evaluation is location specific (i.e., POCs, POEs) and is not part of this AMP report. Evaluation of sampling results as required by RFLMA is routinely presented in other reports in accordance with the RFLMA reporting requirements. To show uranium units of both pCi/L and µg/L, the conversion 1 µg = 0.67 pCi is used.



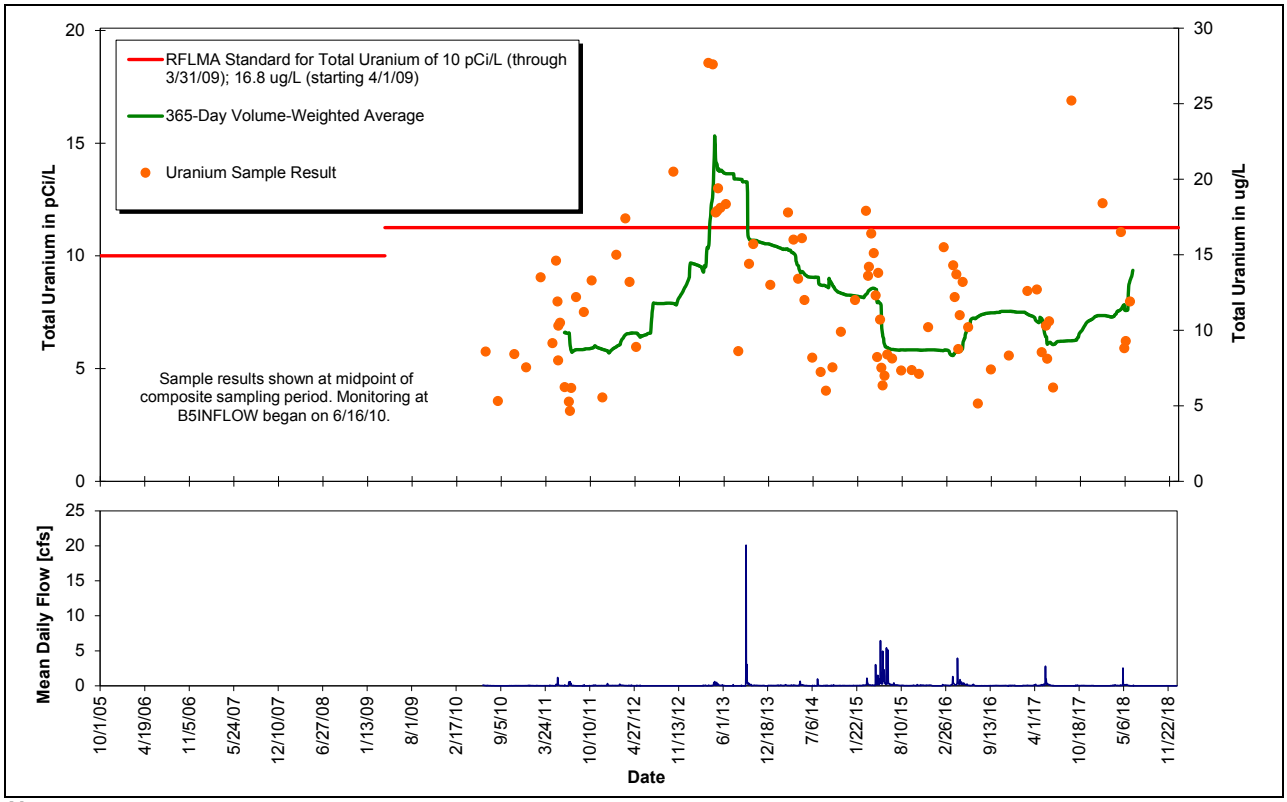
Note:
Analytical results for the composite sample started on November 28, 2017, are pending.

Figure 34. Composite Sample Uranium Results and Rolling 365-Day Averages at GS10: Postclosure



Note:
Analytical results for the composite sample started on June 11, 2018, are pending.

Figure 35. Composite Sample Uranium Results and Rolling 365-Day Averages at B5INFLOW: CY 2018



Note:
Analytical results for the composite sample started on June 11, 2018, are pending.

Figure 36. Composite Sample Uranium Results and Rolling 365-Day Averages at B5INFLOW: Postclosure

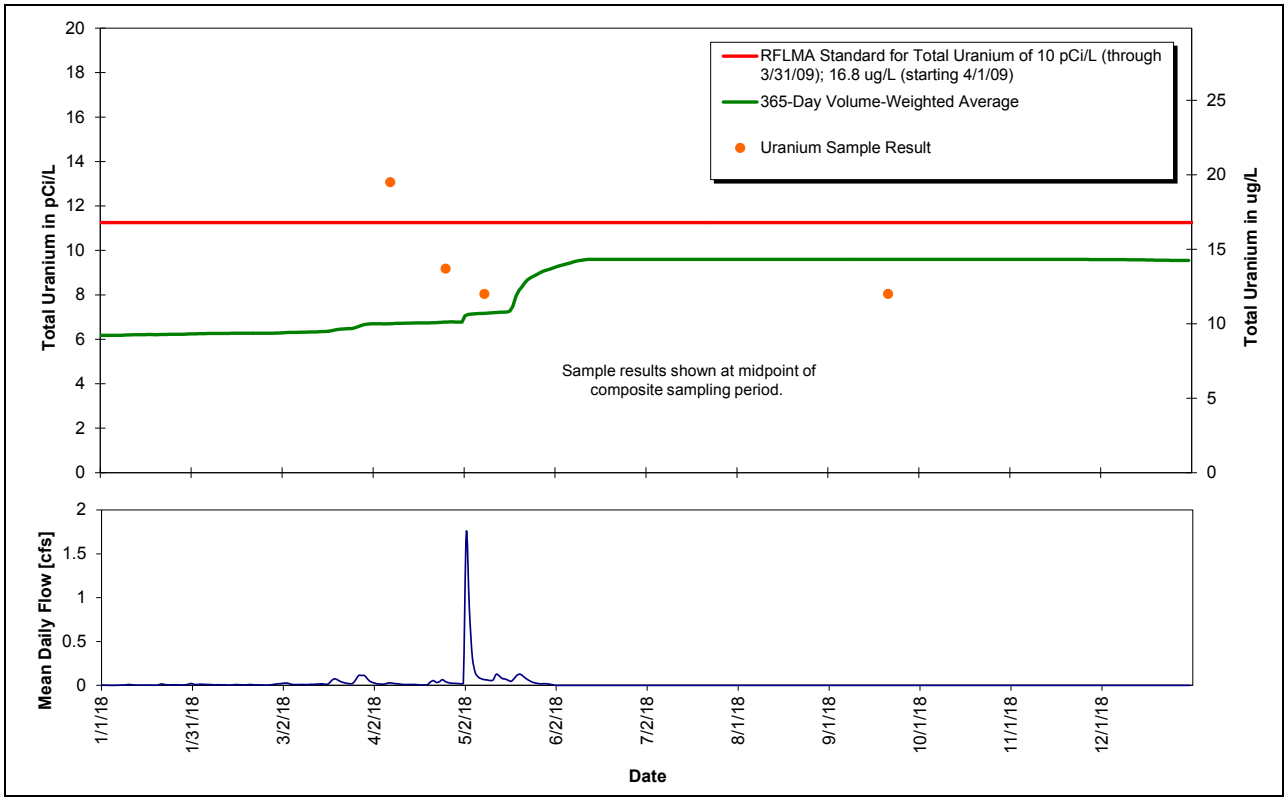


Figure 37. Composite Sample Uranium Results and Rolling 365-Day Averages at GS08: CY 2018

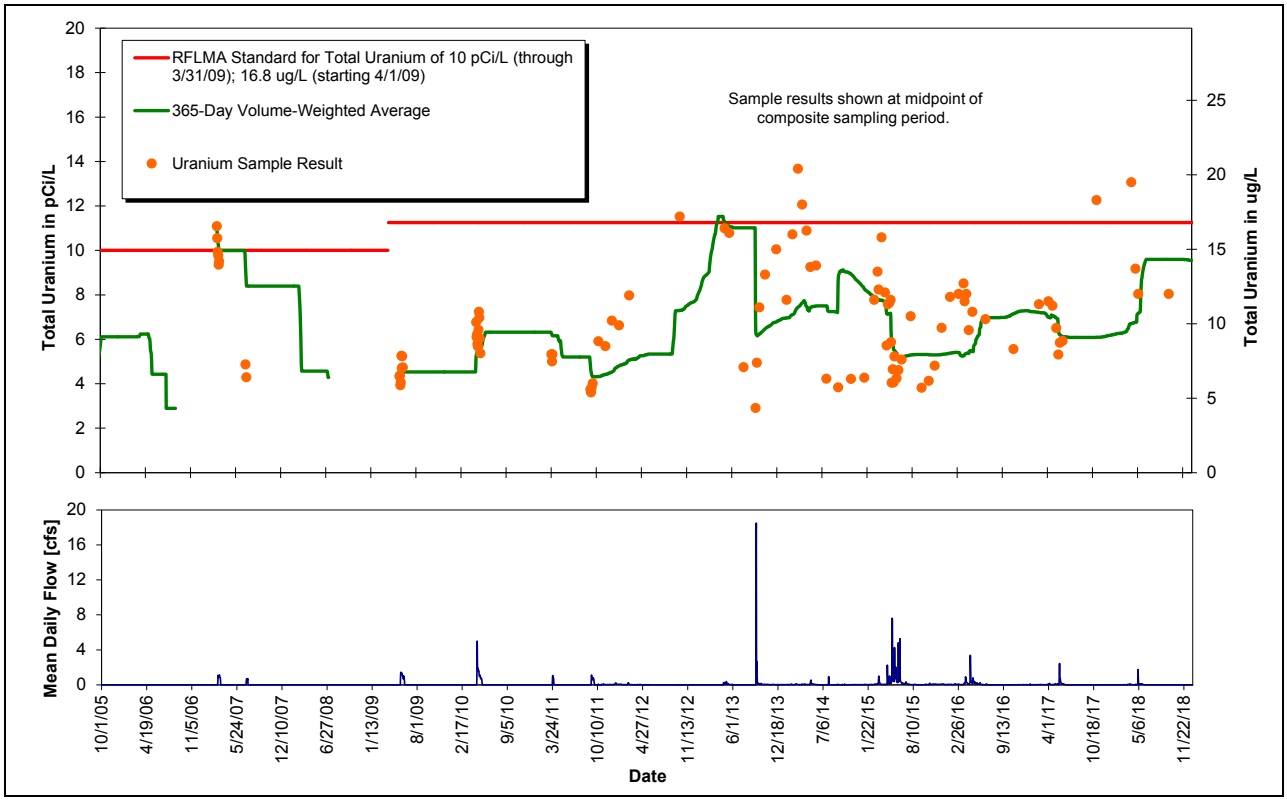


Figure 38. Composite Sample Uranium Results and Rolling 365-Day Averages at GS08: Postclosure

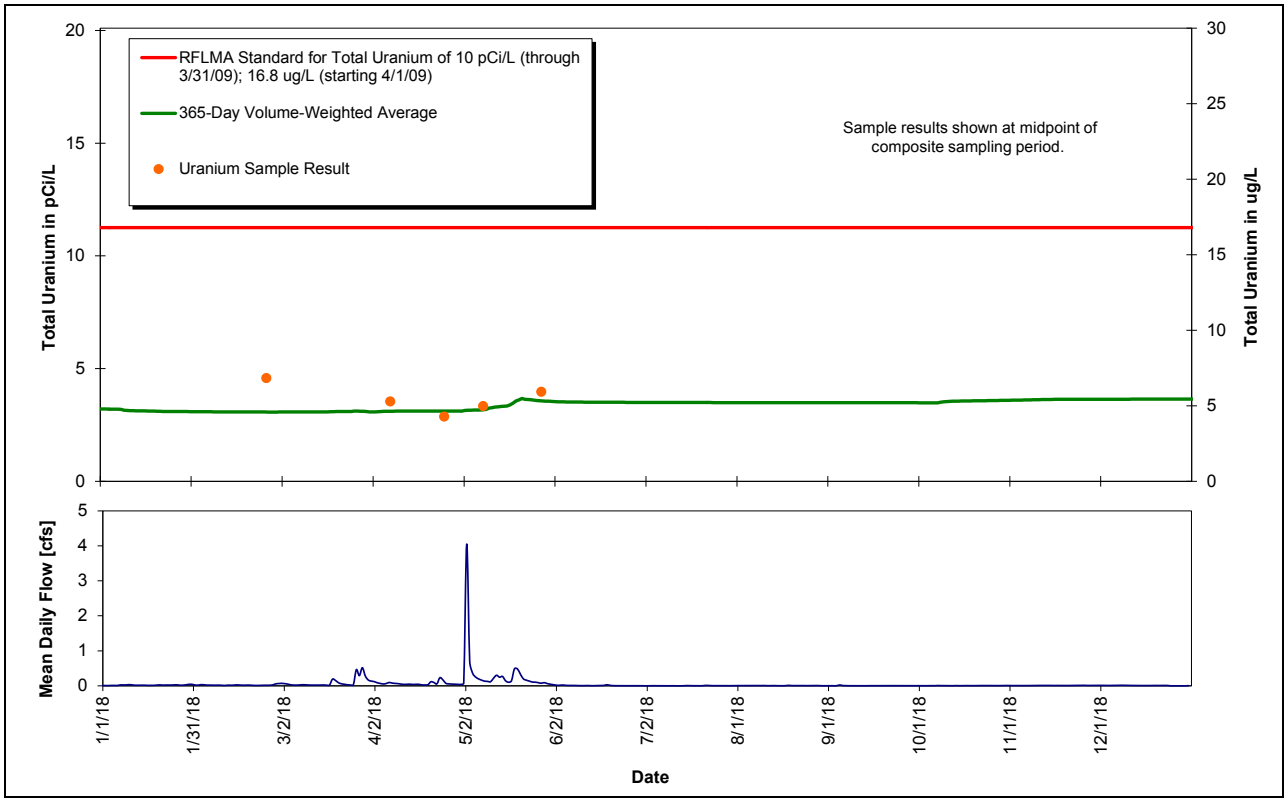


Figure 39. Composite Sample Uranium Results and Rolling 365-Day Averages at SW093: CY 2018

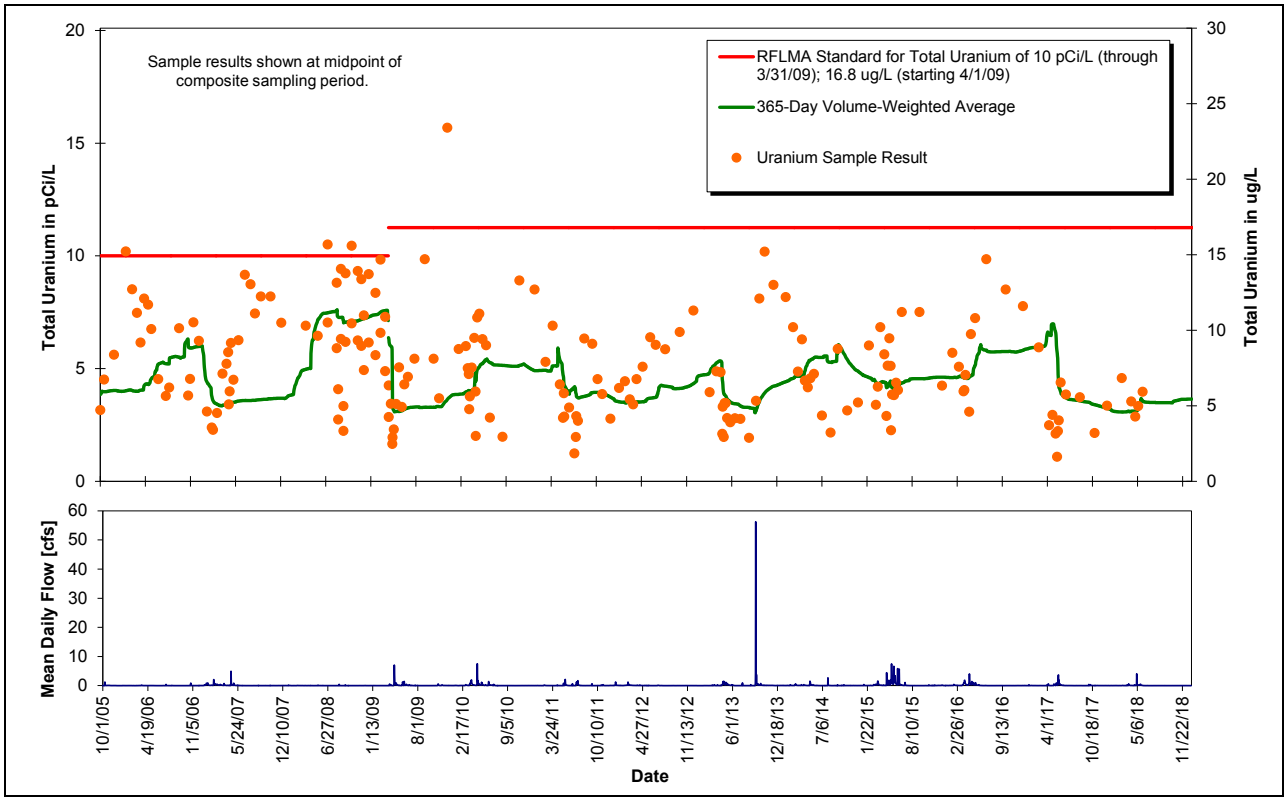


Figure 40. Composite Sample Uranium Results and Rolling 365-Day Averages at SW093: Postclosure

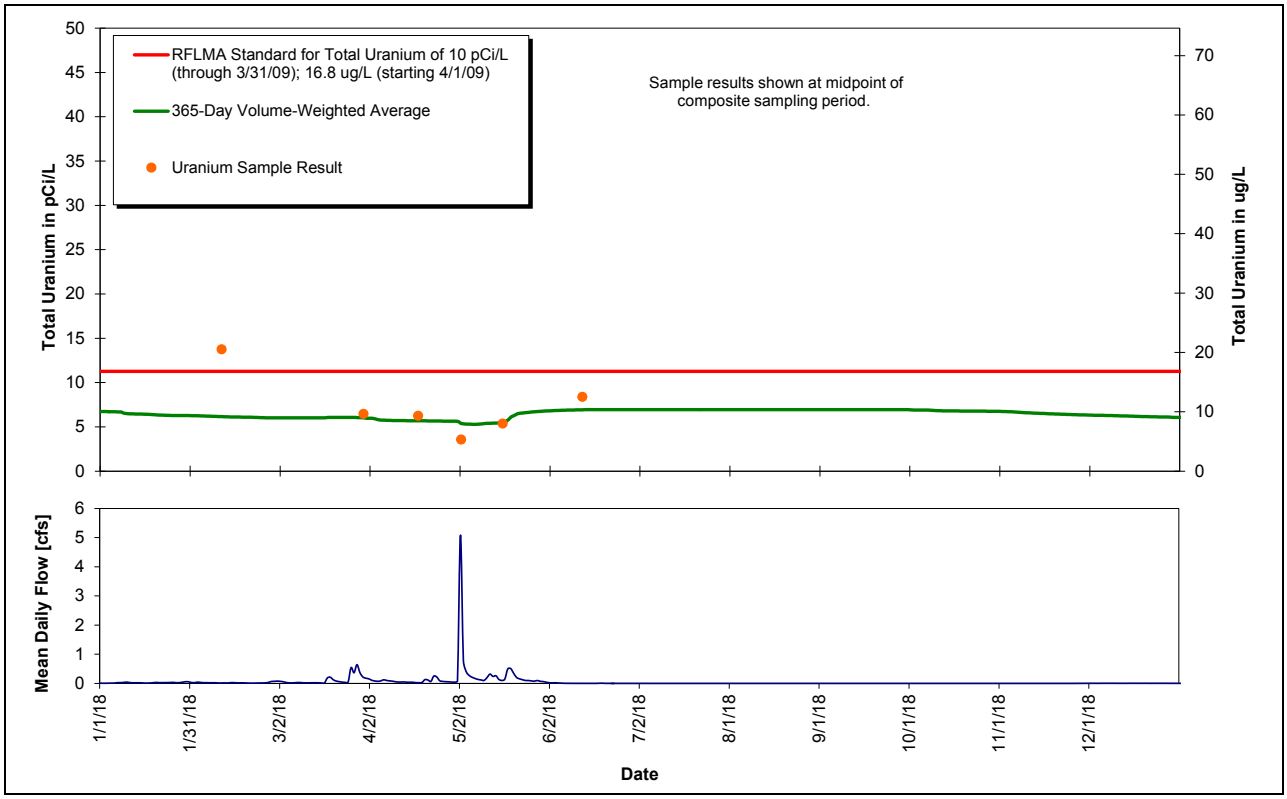


Figure 41. Composite Sample Uranium Results and Rolling 365-Day Averages at GS13: CY 2018

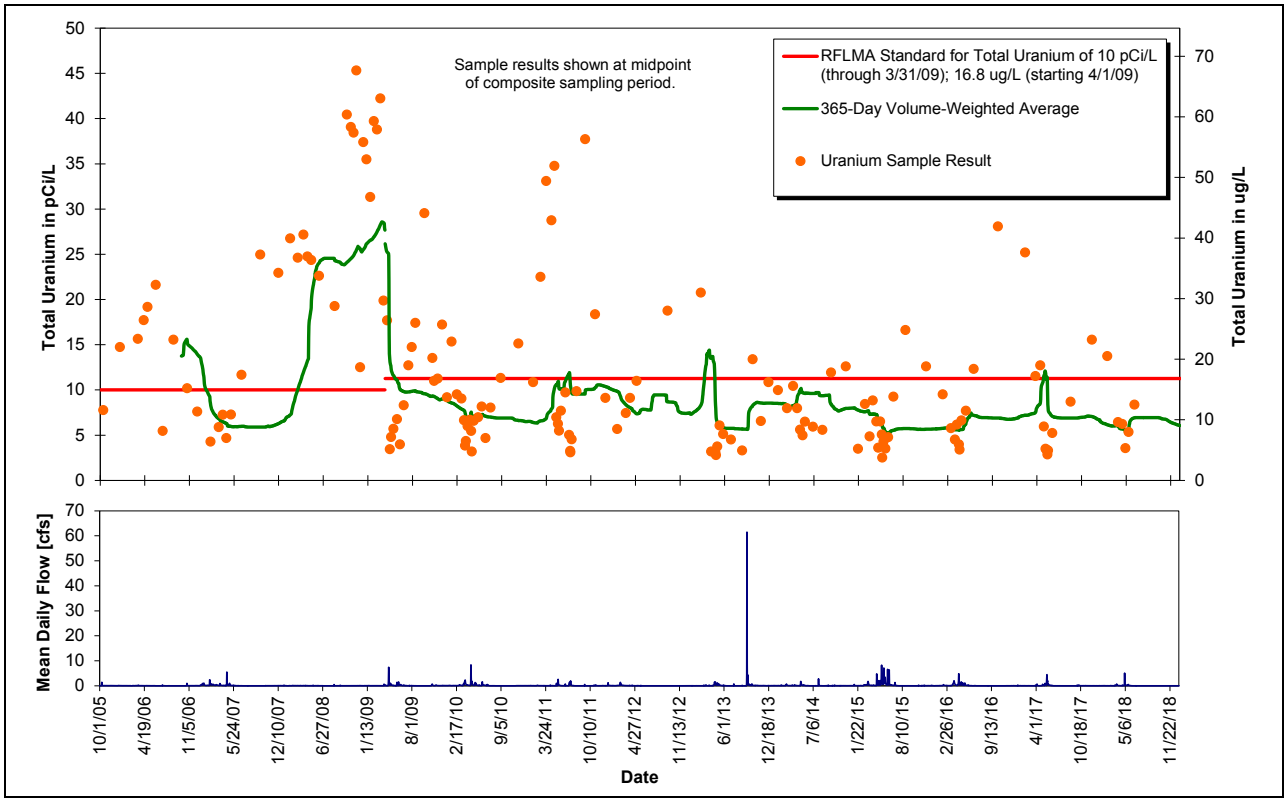


Figure 42. Composite Sample Uranium Results and Rolling 365-Day Averages at GS13: Postclosure

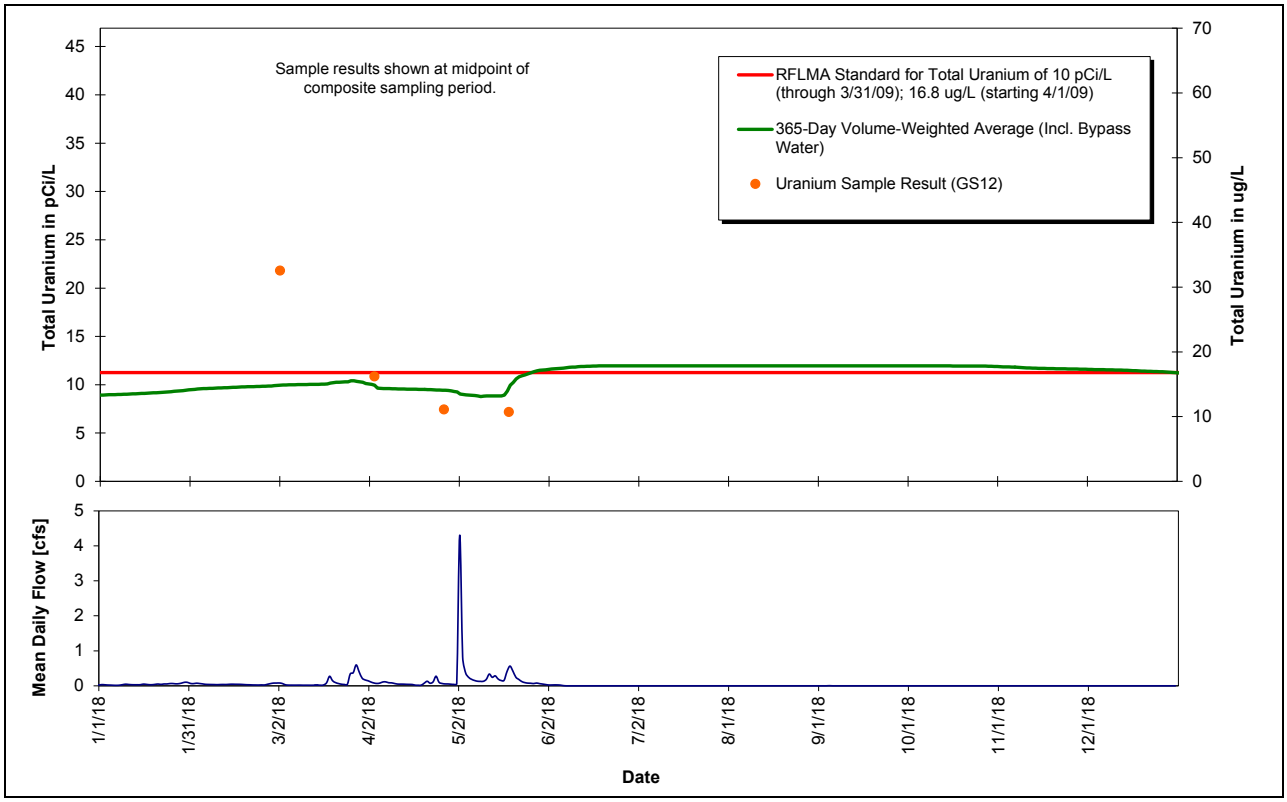


Figure 43. Composite Sample Uranium Results and Rolling 365-Day Averages at GS12 (A-4 Inflow): CY 2018

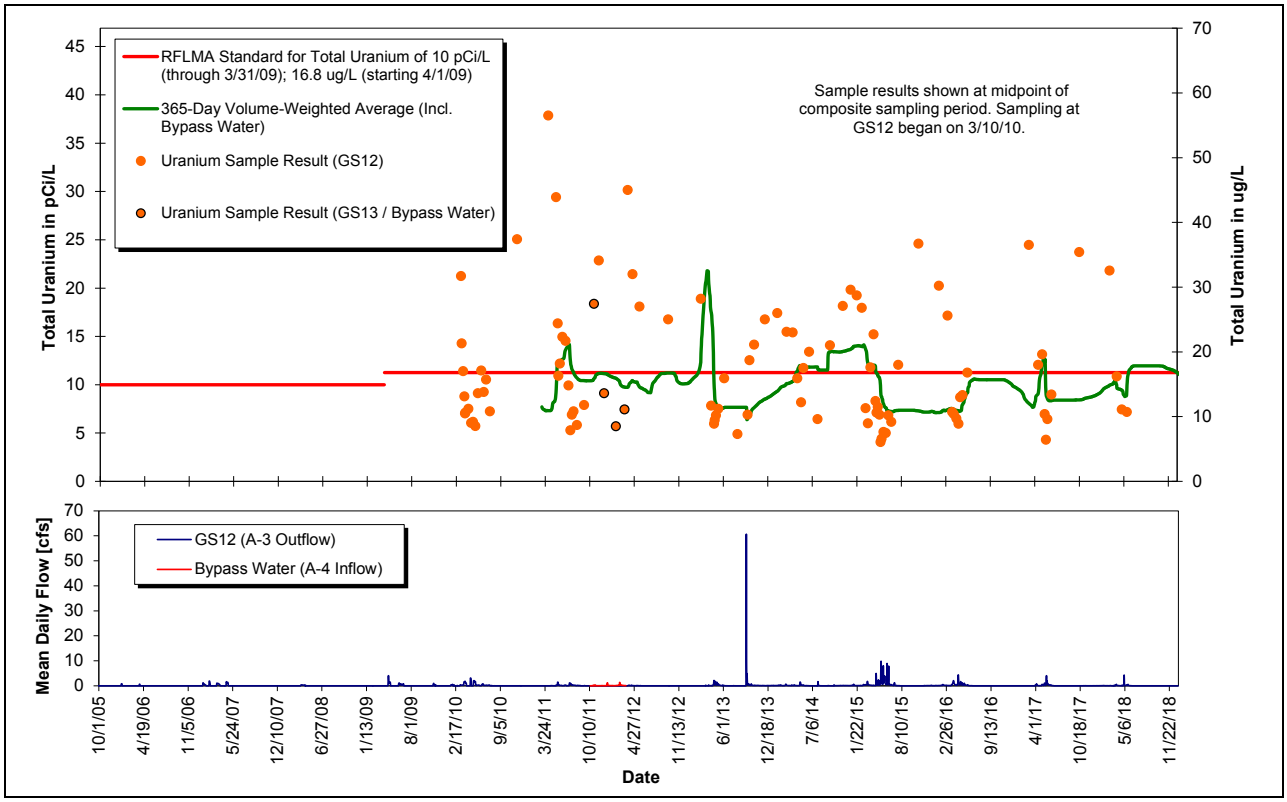


Figure 44. Composite Sample Uranium Results and Rolling 365-Day Averages at GS12 (A-4 Inflow): Postclosure

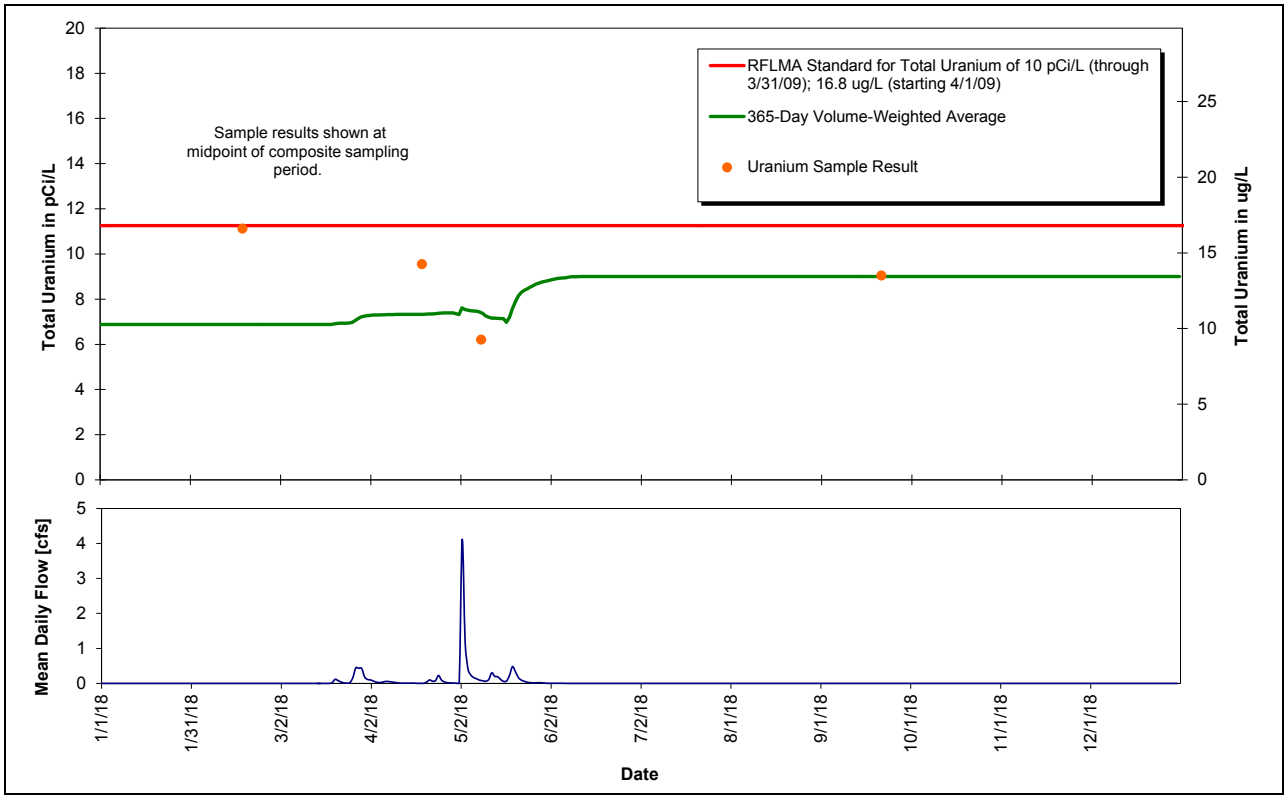


Figure 45. Composite Sample Uranium Results and Rolling 365-Day Averages at GS11: CY 2018

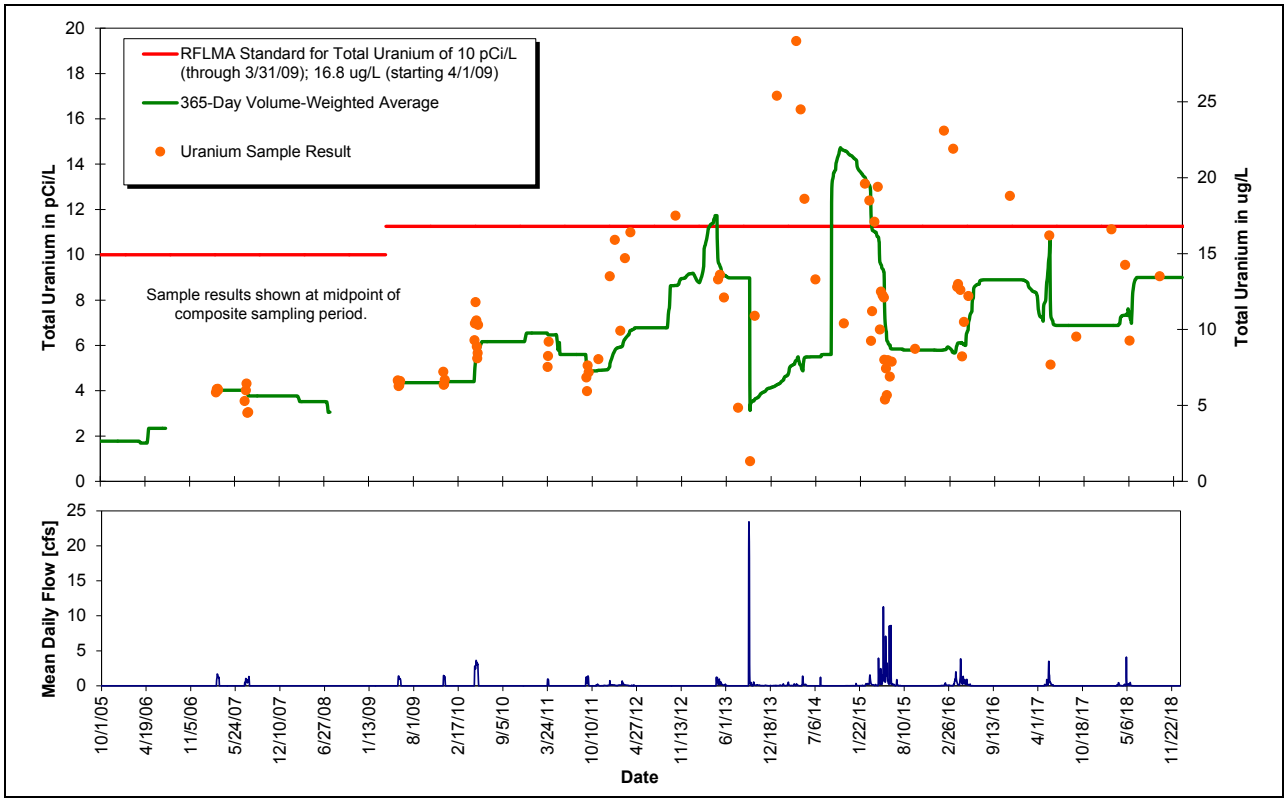


Figure 46. Composite Sample Uranium Results and Rolling 365-Day Averages at GS11: Postclosure

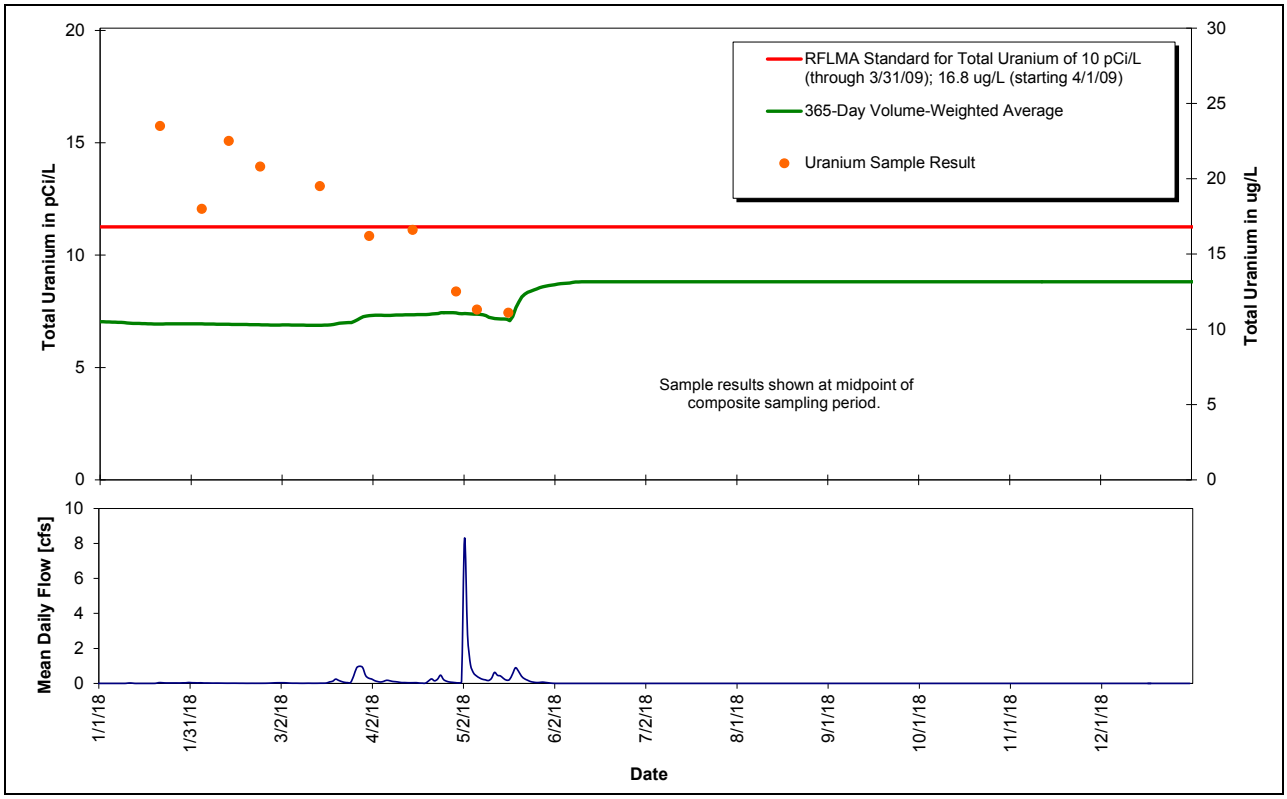


Figure 47. Composite Sample Uranium Results and Rolling 365-Day Averages at WALPOC: CY 2018

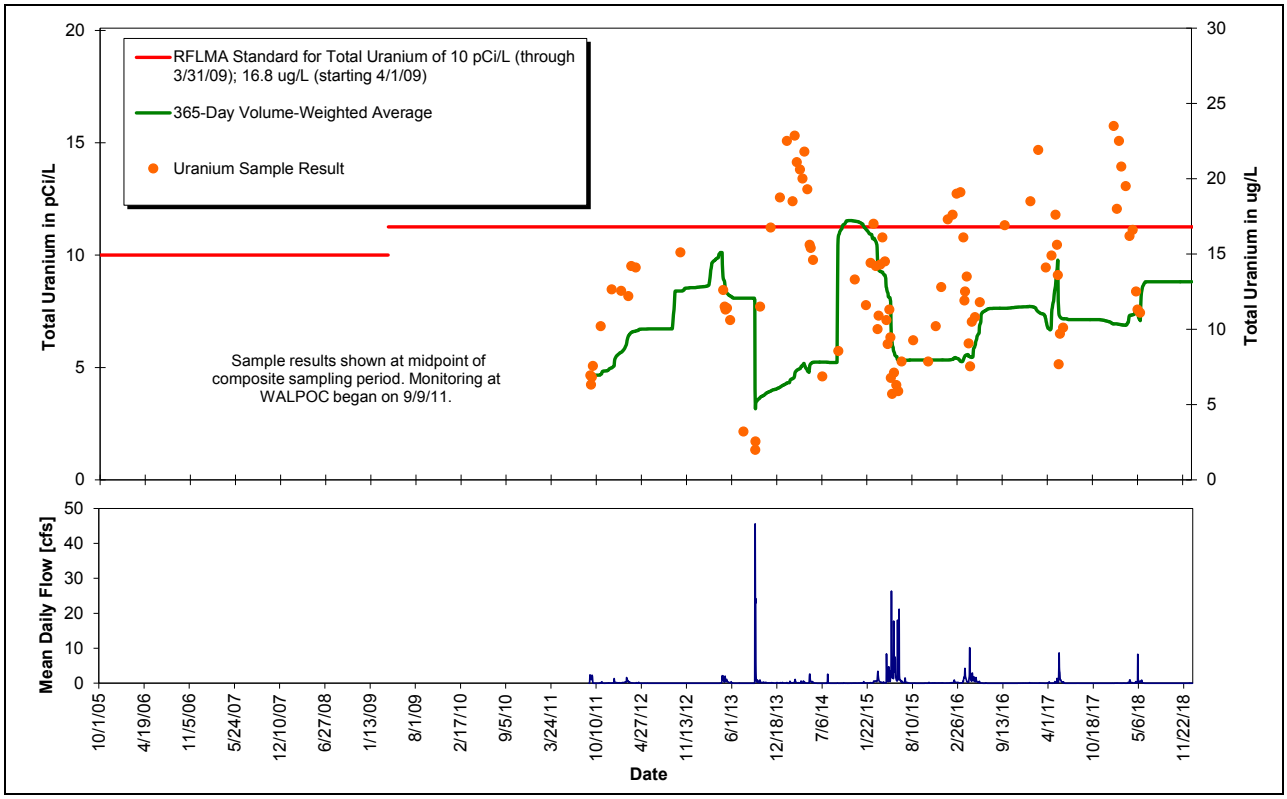
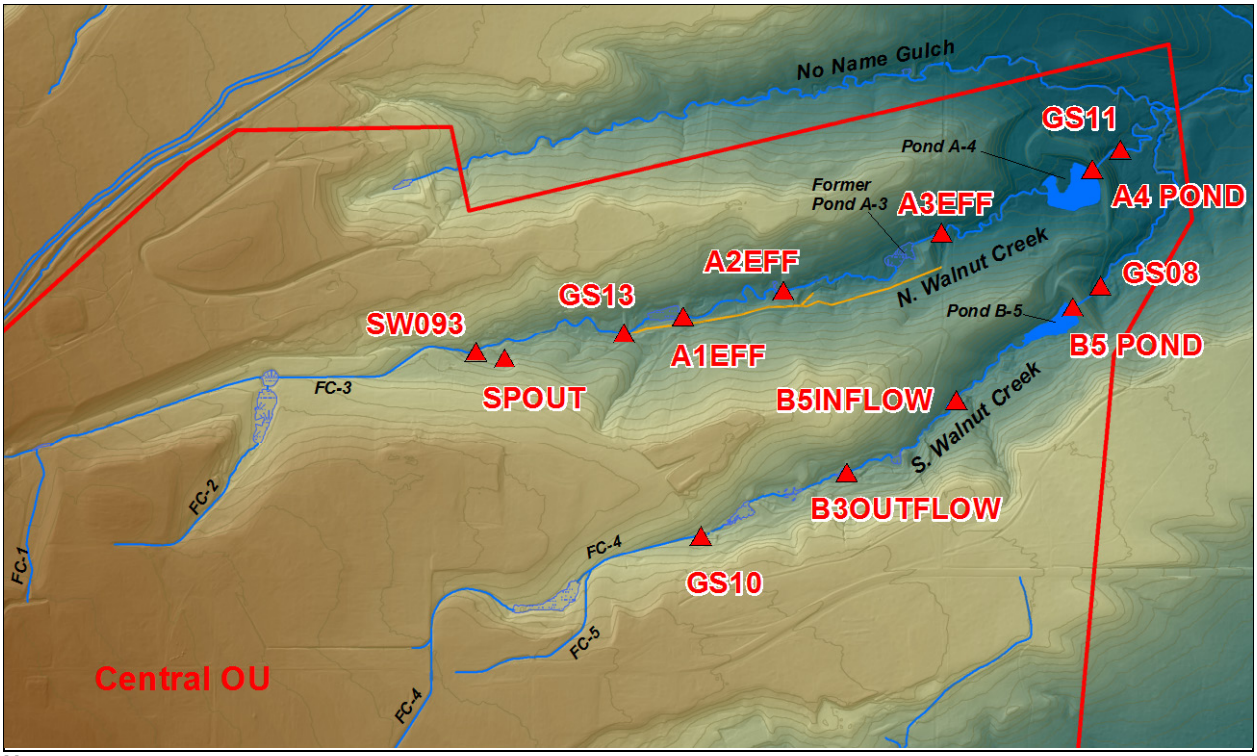


Figure 48. Composite Sample Uranium Results and Rolling 365-Day Averages at WALPOC: Postclosure

3.6 Grab Sampling for Uranium in North and South Walnut Creeks

This monitoring objective is primarily intended to evaluate the transport of uranium in North and South Walnut Creeks by assessing correlations, patterns, variability, and loading. This objective is also intended to help define the relative impact of the Solar Ponds Plume Treatment System (SPPTS) on surface water quality in North Walnut Creek. Samples are currently collected biweekly as grabs. Figure 49 presents the uranium grab sampling locations in North and South Walnut Creeks. Sampling for this monitoring objective at most locations began on January 27, 2010.



Notes:
The orange line shows the location of the A-Series Bypass Pipeline.
A3EFF is colocated with GS12 (A3EFF is the grab sampling location, while GS12 is the automated composite sampling location).

Figure 49. Uranium Grab Sampling Locations in North and South Walnut Creeks

Starting on October 13, 2011, water in North Walnut Creek was diverted around Pond A-3 and former Ponds A-1 and A-2 to support the Dam A-3 breach construction. This diverted water was routed through the A-Series Bypass Pipeline from GS13 to just below Pond A-3 (near A3EFF) until March 21, 2012. During this period, it is assumed that the water quality and quantity were the same when the water entered the pipeline as when it exited the pipeline.[11] Therefore, data collected at both GS13 and A3EFF during this period have been combined to effectively summarize water quality *entering* Pond A-4 and not water quality *exiting* Pond A-3.

Table 8 shows summary statistics for the uranium grab sampling in North and South Walnut Creeks. The grab sample results show even more variability than the flow-paced composite results, as expected. Grab samples are generally collected during fair weather, base-flow periods when uranium is more likely to be present at higher concentrations. Continuous flow-paced composite sample results are a better representation of actual longer term uranium concentrations; by design, automated composite sampling collects samples during all flow conditions, including intense, high-volume runoff periods when uranium concentrations are generally lower.

[11] This assumption has been confirmed by grab samples taken at GS13 and A4INFLOW; A4INFLOW is just upstream of Pond A-4.

Table 8. Summary Statistics for Uranium Grab Sampling in North and South Walnut Creeks for the Period Starting January 27, 2010

North Walnut Creek		Uranium (ug/L)			
	Location Code	Average	Sample Count	85th Percentile	50th Percentile
Upstream	SW093	8.04	219	12.0	7.30
⬇	SPOUT*	47.5	226	65.0	48.0
⬇	GS13	22.4	179	36.3	19.0
⬇	A1EFF	22.0	140	32.5	17.0
⬇	A2EFF	29.4	133	46.0	26.0
⬇	A3EFF (A-4 inflow)	23.0	125	35.0	23.0
⬇	A4 POND	11.3	149	17.0	9.80
Downstream	GS11	14.2	28	18.0	13.5

South Walnut Creek		Uranium (ug/L)			
	Location Code	Average	Sample Count	85th Percentile	50th Percentile
Upstream	GS10	15.0	224	21.0	15.0
⬇	B3OUTFLOW	15.9	165	23.0	16.0
⬇	B5INFLOW	13.4	161	18.5	13.0
⬇	B5 POND	8.46	147	12.1	7.30
Downstream	GS08	10.0	59	14.7	8.90

Notes:
* The SPPTS effluent sampling location (SPOUT) is not in North Walnut Creek but flows into a belowground discharge gallery south of North Walnut Creek between monitoring locations SW093 and GS13.
Sample counts vary because some locations are periodically dry.
Summary includes all data available as of February 1, 2019; some recent data are not validated (i.e., are preliminary and subject to revision).
Uranium grab sampling data at GS11 and GS08 start on April 30, 2015. AMP uranium grab sampling at Pond A-4 and Pond B-5 was discontinued on October 31, 2015.

Grab samples do, however, give a good portrayal of spatial water quality variation (i.e., upstream to downstream). Figure 50 and Figure 51 show the spatial variation of average uranium concentrations in North and South Walnut Creeks. Both plots show noticeable variation, with concentrations both increasing and decreasing between locations. As mentioned earlier, an extensive geochemistry study has been completed that examines the transport mechanisms associated with uranium and nitrate at the Site and the effects of the September 2013 flood. The report is available at:
https://www.lm.doe.gov/Rocky_Flats/RFS_Evaluation_of_Water_Quality_Variability_April_2015.pdf.
A 2018 update to this report is being completed and will be available in 2019.

Note:
SPPTS effluent (SPOUT) is not in North Walnut Creek but flows into a belowground discharge gallery south of North Walnut Creek between monitoring locations SW093 and GS13.

Figure 50. Arithmetic Average Uranium Concentration at North Walnut Creek Grab Locations

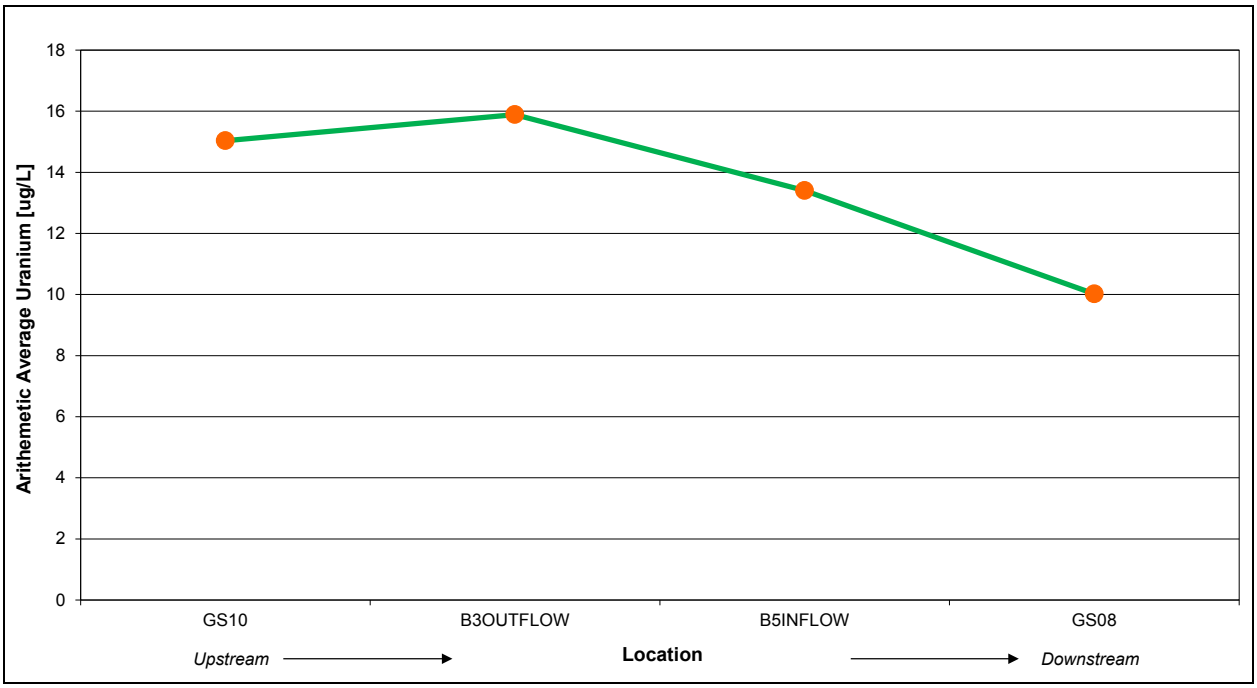
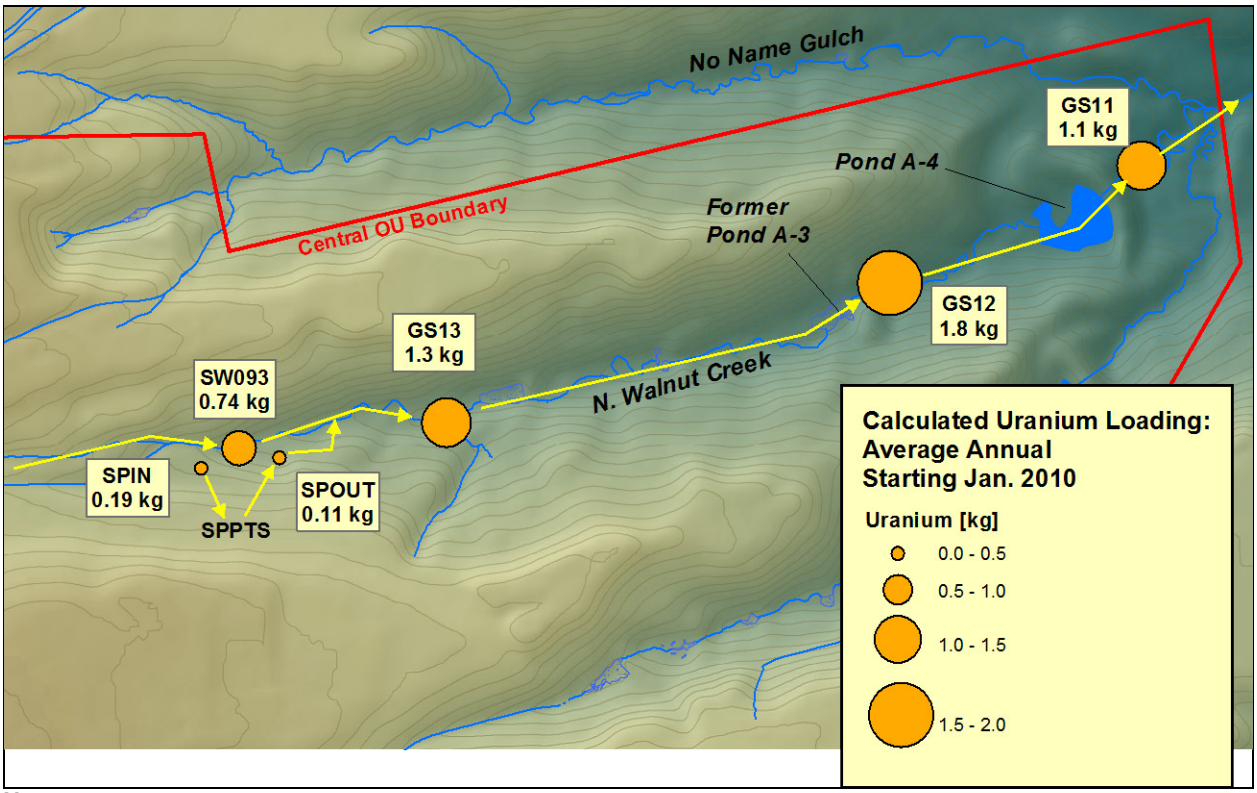


Figure 51. Arithmetic Average Uranium Concentration at South Walnut Creek Grab Locations

The map in Figure 52 shows the calculated average annual uranium loads in North Walnut Creek since January 2010 (using all available sample results as of February 1, 2019).[12] While the SPPTS has removed approximately 40% of the uranium load in the water it collects, the loads at both the SPPTS influent sampling location (SPIN) and the SPPTS effluent sampling location (SPOUT) are small compared to the loads in North Walnut Creek. Even though the SPPTS concentrations are higher than the creek concentrations, the much larger creek flow volumes yield significantly larger loads. In fact, the load at SPOUT is estimated to be only 5–10% of the load at GS13.



Notes:
Uranium loads at SW093, GS13, GS12, and GS11 are calculated using results from flow-paced composites (see Section 3.5). Uranium loads at SPIN and SPOUT are calculated using results from grab sampling related to this AMP objective and other treatment system optimization efforts.
Arrows indicate general flow routing.

Abbreviation:
kg = kilograms

Figure 52. Map Showing Calculated Uranium Loads in North Walnut Creek Since January 2010

3.7 Grab Sampling for Nitrate + Nitrite as Nitrogen in Walnut Creek

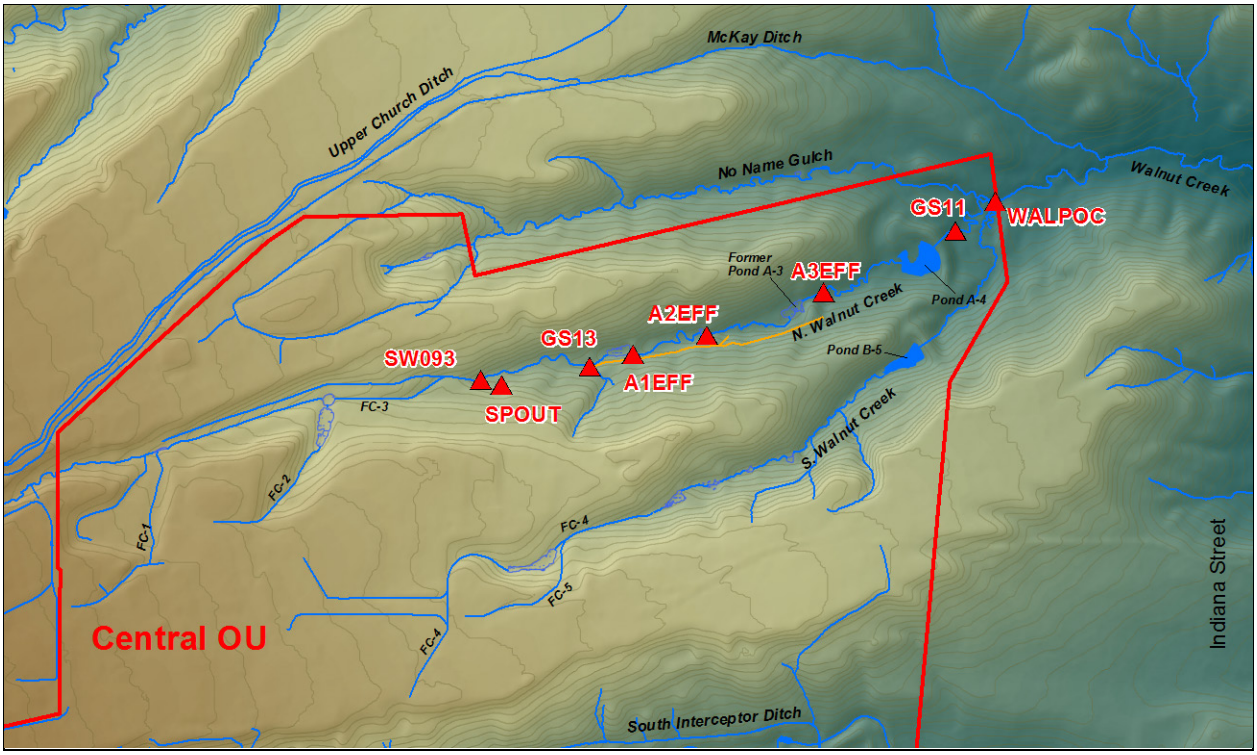
This monitoring objective is primarily intended to evaluate the transport of nitrate in North Walnut Creek and Walnut Creek by assessing correlations, patterns, variability, and loading.

[12] Uranium loads are only calculated for locations with flow volume measurement. Grab sample uranium concentrations are used for locations SPIN and SPOUT; continuous flow-paced sample uranium concentrations are used for SW093, GS13, GS12, and GS11.

This objective is also intended to help define the relative impacts of the SPPTS on surface water quality in North Walnut Creek. Samples are currently collected biweekly as grabs (Figure 53). Sampling for this monitoring objective at most locations began on January 27, 2010. WALPOC started operational testing in September 2011.

This evaluation is performed for three different time periods in recognition of the WALPOC operational testing start in September 2011, and the implementation of successful nitrate treatment at the SPPTS in late October 2016. They are:

- January 27, 2010, to November 1, 2016
- September 9, 2011, to November 1, 2016
- November 1, 2016, to the present



Notes:
The orange line shows the location of the A-Series Bypass Pipeline.
A3EFF is colocated with GS12 (A3EFF is the grab sampling location, while GS12 is the automated composite sampling location).

Figure 53. Nitrate + Nitrite as Nitrogen Grab Sampling Locations in North Walnut and Walnut Creeks

Starting on October 13, 2011, water in North Walnut Creek was diverted around Pond A-3 and former Ponds A-1 and A-2 to drain Pond A-3 in preparation for the Dam A-3 breach. This diverted water was routed through the A-Series Bypass Pipeline from GS13 to just below Pond A-3 (near A3EFF) until March 21, 2012. During this period, it is assumed that the water quality and quantity were the same when the water entered the pipeline as when it exited the

pipeline.[13] Therefore, data collected at both GS13 and A3EFF during this period have been combined to effectively summarize water quality *entering* Pond A-4 and not water quality *exiting* Pond A-3.

Table 9 shows summary statistics for the nitrate + nitrite as nitrogen grab sampling in North Walnut Creek for the period January 27, 2010, to November 1, 2016. These grab samples are collected during fair weather, base-flow periods when nitrate is more likely to be present at higher concentrations (because the source is groundwater). These grab samples also give a good portrayal of spatial nitrate variation (i.e., upstream to downstream). Figure 54 shows the spatial variation (upstream to downstream) of average nitrate concentrations in North Walnut Creek. The plot shows a measurable increase between SW093 (upstream of Solar Ponds influence) and GS13 (downstream of Solar Ponds influence). However, farther downstream, the reduction of nitrate through natural processes is apparent.

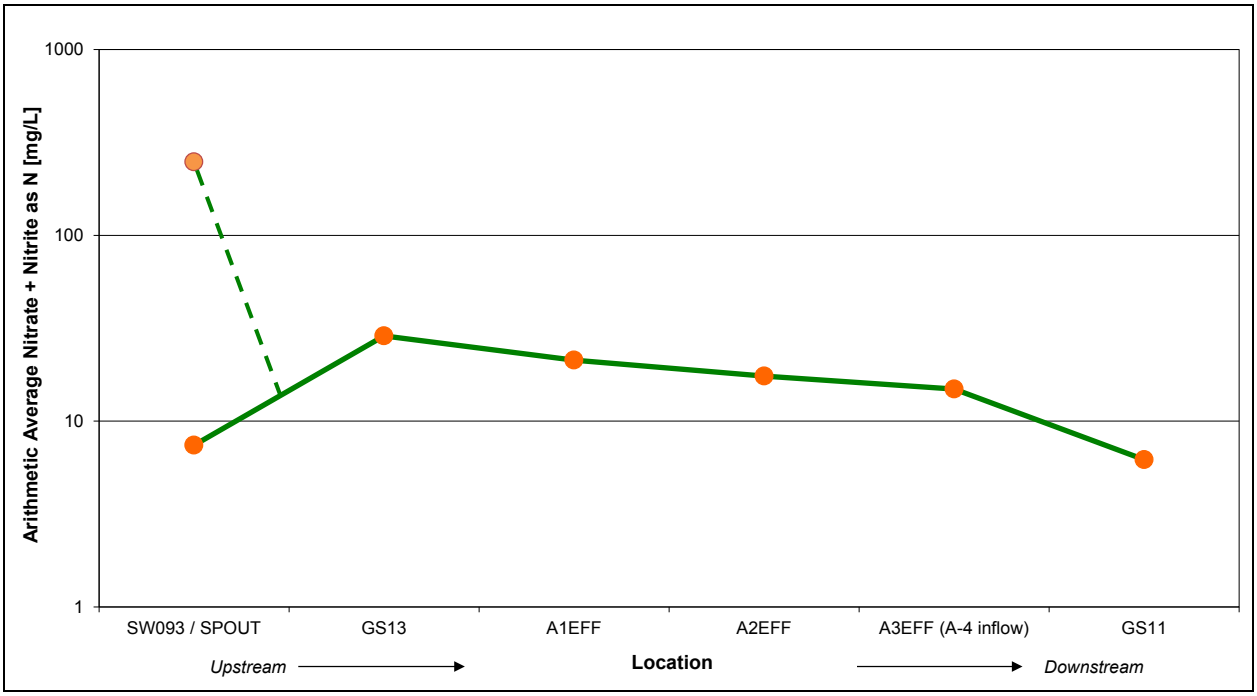
Table 9. Summary Statistics for Nitrate + Nitrite as Nitrogen Grab Sampling in North Walnut Creek and Walnut Creek for January 27, 2010, to November 1, 2016

North Walnut Creek		**Nitrate+Nitrite as N (mg/L)**			
	Location Code	**Average**	**Sample Count**	**85th Percentile**	**50th Percentile**
Upstream	SW093	7.42	163	13.4	3.40
⬇	SPOUT*	248	164	420	260
⬇	GS13	28.8	149	50.0	26.0
⬇	A1EFF	21.3	106	40.0	19.0
⬇	A2EFF	17.5	102	36.0	15.0
⬇	A3EFF (A-4 inflow)	14.9	102	30.7	12.0
Downstream	GS11	6.20	72	10.12	6.70

Notes:
* SPOUT is not in North Walnut Creek but flows into a belowground discharge gallery south of North Walnut Creek between monitoring locations SW093 and GS13.
Sample counts vary because some locations are periodically dry.
Data for the period May 1, 2010, to March 28, 2011, at GS11 include results from short-duration composite samples collected during batch-discharge operations.

Abbreviation:
mg/L = milligrams per liter

[13] This assumption has been confirmed by grab samples taken at GS13 and A4INFLOW; A4INFLOW is just upstream of Pond A-4.



Notes:
Concentrations are shown on a logarithmic scale.
SPOUT is not in North Walnut Creek but flows into a belowground discharge gallery south of North Walnut Creek between monitoring locations SW093 and GS13.
Data for May 1, 2010, to March 28, 2011, at GS11, include results from short-duration composite samples collected during batch-discharge pond operations.

Abbreviation:
mg/L = milligrams per liter

Figure 54. Arithmetic Average Nitrate + Nitrite as Nitrogen Concentration at North Walnut Creek and Walnut Creek Grab Locations for January 27, 2010, to November 1, 2016

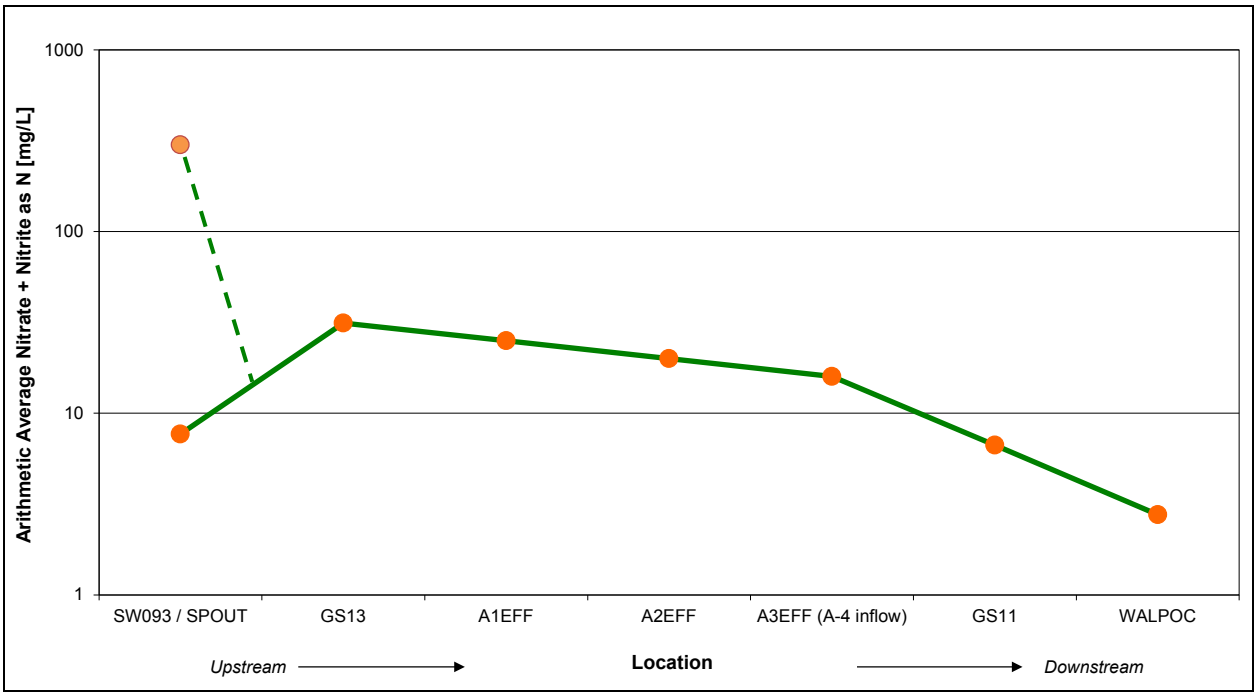
Table 10 shows summary statistics for the nitrate + nitrite as nitrogen grab sampling in North Walnut Creek and lower Walnut Creek (WALPOC) for September 1, 2011, to November 1, 2016. Figure 55 shows the spatial variation (upstream to downstream) of average nitrate concentrations in North Walnut Creek for this period. As for January 27, 2010, to November 1, 2016, the plot shows a measurable increase between SW093 (upstream of Solar Ponds influence) and GS13 (downstream of Solar Ponds influence). However, farther downstream, the reduction of nitrate through natural processes is apparent.

Table 10. Summary Statistics for Nitrate + Nitrite as Nitrogen Grab Sampling in North Walnut Creek and Walnut Creek for September 1, 2011, to November 1, 2016

North Walnut Creek		Nitrate+Nitrite as N (mg/L)			
	Location Code	Average	Sample Count	85th Percentile	50th Percentile
Upstream	SW093	7.67	122	14.8	3.10
⬇	SPOUT*	300	114	440	310
⬇	GS13	31.3	113	52.0	26.0
⬇	A1EFF	25.1	71	42.3	21.0
⬇	A2EFF	20.0	75	39.0	17.5
⬇	A3EFF (A-4 inflow)	16.0	56	30.4	16.0
⬇	GS11	6.68	59	10.8	7.15
Downstream	WALPOC	2.77	83	5.73	2.50

Notes:
* SPOUT is not in North Walnut Creek but flows into a belowground discharge gallery south of North Walnut Creek between monitoring locations SW093 and GS13.
Sample counts vary because some locations are periodically dry.

Abbreviation:
mg/L = milligrams per liter



Notes:
Concentrations are shown on a logarithmic scale.
SPOUT is not in North Walnut Creek but flows into a belowground discharge gallery south of North Walnut Creek between monitoring locations SW093 and GS13.

Abbreviation:
mg/L = milligrams per liter

Figure 55. Arithmetic Average Nitrate + Nitrite as N Concentration at North Walnut Creek and Walnut Creek Grab Locations for September 1, 2011, to November 1, 2016

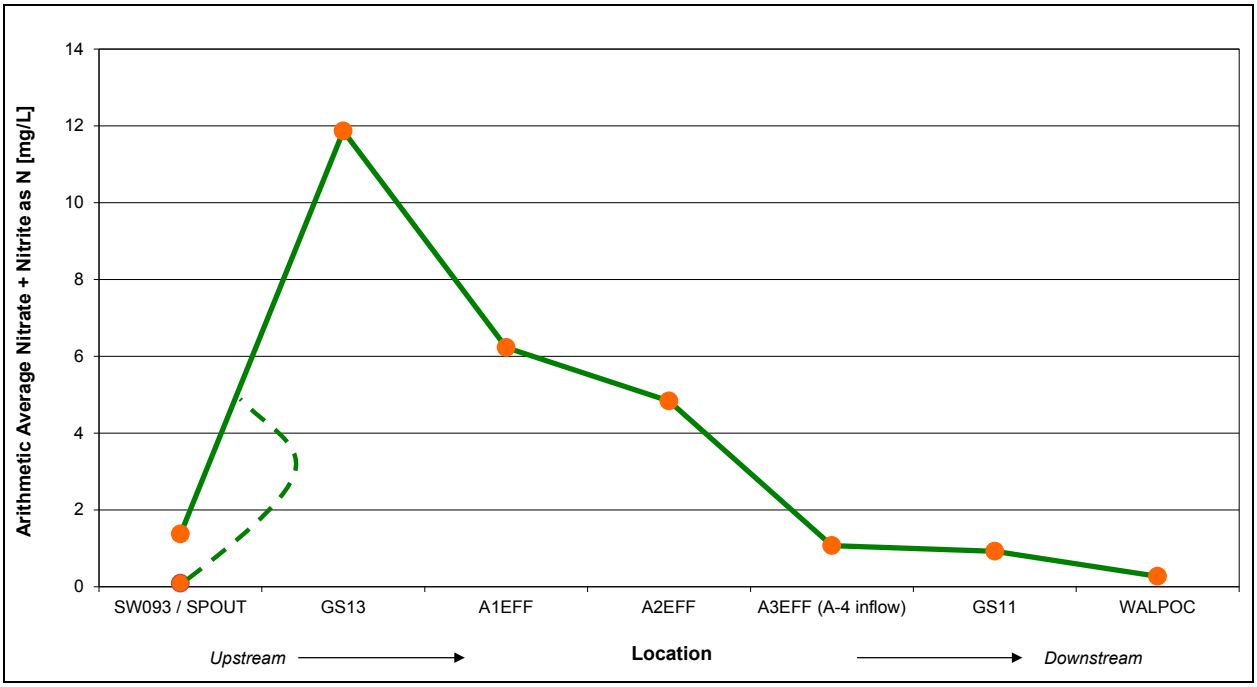
Table 11 shows summary statistics for the nitrate + nitrite as nitrogen grab sampling in North Walnut Creek and lower Walnut Creek (WALPOC) since November 1, 2016 (using all sample results available as of February 1, 2019). Figure 56 shows the spatial variation (upstream to downstream) of average nitrate concentrations for this time period.

The positive effects of the successful optimization of nitrate treatment at the SPPTS can clearly be seen in the data. Average concentrations at every location except GS13 are below 10 milligrams per liter (mg/L) nitrate+nitrite as nitrogen. As for the previously discussed time periods, the plot shows a measurable increase between SW093 (upstream of Solar Ponds influence) and GS13 (downstream of Solar Ponds influence). However, farther downstream, the reduction of nitrate through natural processes is apparent.

Table 11. Summary Statistics for Nitrate + Nitrite as Nitrogen Grab Sampling in North Walnut Creek and Walnut Creek for November 1, 2016, to Present

North Walnut Creek		**Nitrate+Nitrite as N (mg/L)**			
	Location Code	**Average**	**Sample Count**	**85th Percentile**	**50th Percentile**
Upstream	SW093	1.38	52	2.14	1.05
⬇	SPOUT*	0.10	54	0.13	0.01
⬇	GS13	11.9	36	19.0	8.75
⬇	A1EFF	6.24	30	9.0	5.35
⬇	A2EFF	4.84	28	8.8	3.00
⬇	A3EFF (A-4 inflow)	1.08	22	3.24	0.07
⬇	GS11	0.93	16	2.34	0.44
Downstream	WALPOC	0.28	33	0.63	0.07

Notes:
* SPOUT is not in North Walnut Creek but flows into a belowground discharge gallery south of North Walnut Creek between monitoring locations SW093 and GS13.
Sample counts vary because some locations are periodically dry.
Summary includes all data available as of February 1, 2019; some recent data are not validated (i.e., are preliminary and subject to revision).



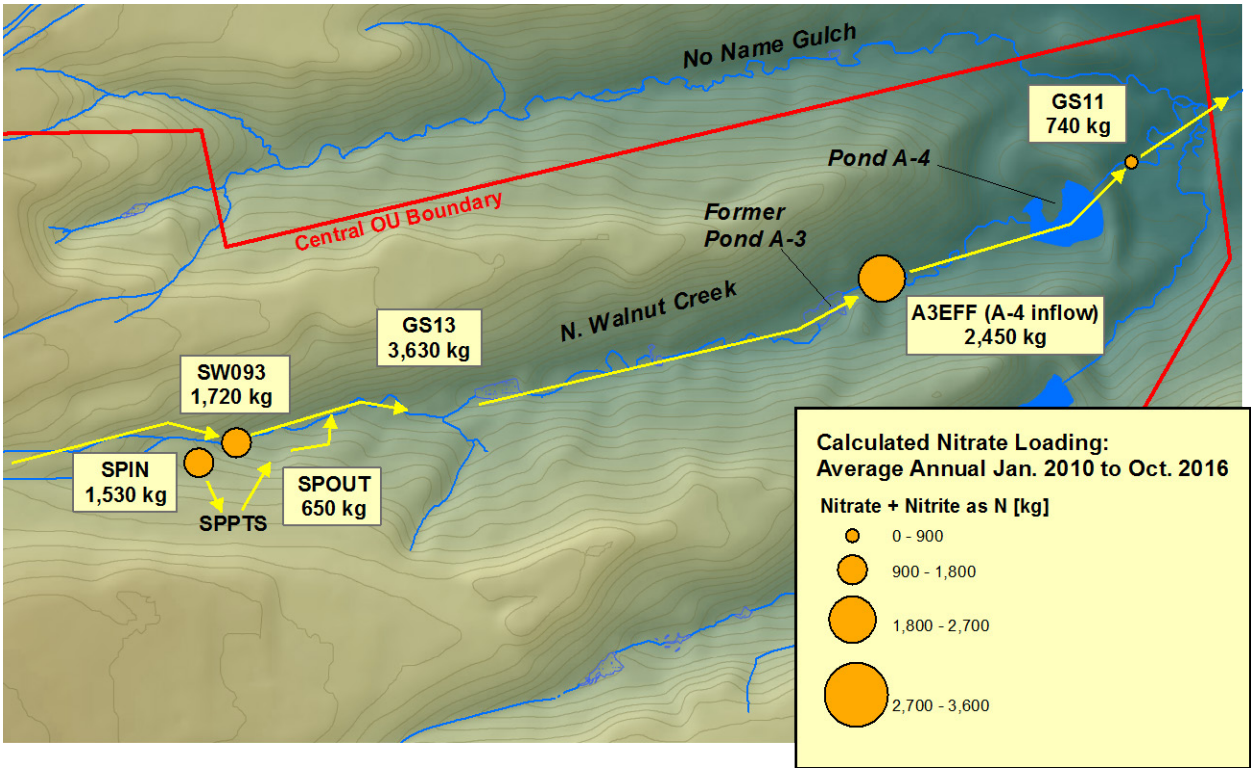
Notes:
SPOUT is not in North Walnut Creek but flows into a belowground discharge gallery south of North Walnut Creek between monitoring locations SW093 and GS13.
Summary includes all data available as of February 1, 2019; some recent data are not validated (i.e., are preliminary and subject to revision).

Figure 56. Arithmetic Average Nitrate + Nitrite as Nitrogen Concentration at North Walnut Creek and Walnut Creek Grab Locations for November 1, 2016, to Present

The map in Figure 57 shows the calculated average annual nitrate + nitrite as nitrogen loads in North Walnut Creek for the period January 2010 to October 2016.[14] While the SPPTS removes approximately 58% of the nitrate load in the water it collected during this time frame, the loads at both the system influent (SPIN) and effluent (SPOUT) are only a portion of the loads in North Walnut Creek. As with uranium, the SPPTS nitrate concentrations are higher than the creek concentrations, but the much larger creek flow volumes yield significantly larger loads. In fact, the nitrate load at SPOUT is estimated to be only about 18% of the load in North Walnut Creek at GS13.

It should be noted, however, that the grab samples collected in the creek are likely biased toward higher concentrations since they are generally collected during base-flow periods. In other words, high-volume runoff events with relatively lower concentrations are underrepresented in the average creek concentrations calculated from grab sample results. Therefore, the amount of nitrate + nitrite as nitrogen at creek locations could be overestimated. Assuming this is the case, the relative contribution from the SPPTS to North Walnut Creek would be larger than calculated.

[14] Loads are calculated only for locations with flow volume measurement.



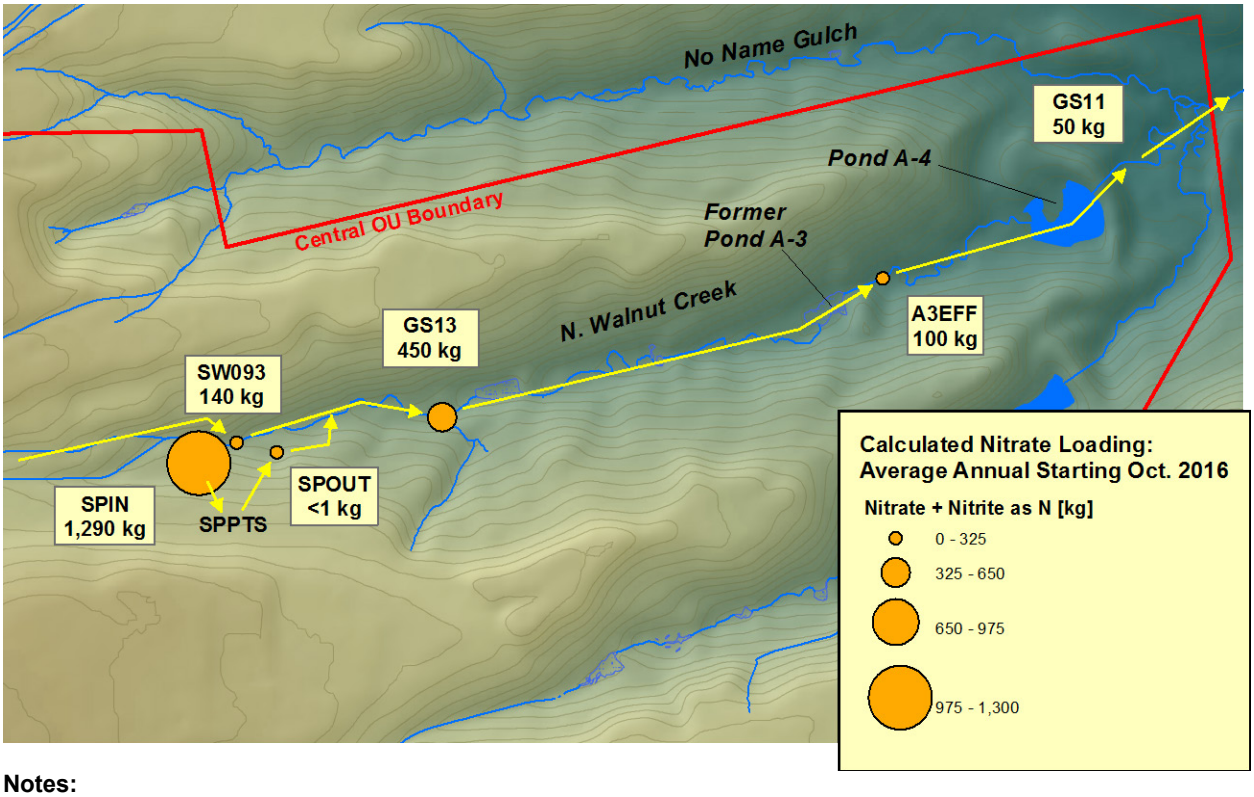
Notes:
Loads at SW093, GS13, and GS11 are calculated using results from flow-paced composites (Section 3.5). Loads at A3EFF are calculated using grab sample results and flow measurement from GS12 (colocated with A3EFF). Loads at SPIN and SPOUT are calculated using results from grab sampling related to this AMP objective and other treatment system optimization efforts.
Arrows indicate general flow routing.

Abbreviation:
kg = kilograms

Figure 57. Map Showing Calculated Nitrate + Nitrite as Nitrogen Loads in North Walnut Creek: January 2010 to October 2016

The map in Figure 58 shows the estimated total nitrate + nitrite as nitrogen loads in North Walnut Creek for the period starting in October 2016 (using all available sample results as of February 1, 2019).[15] During this period, the SPPTS removed essentially 100% of the nitrate load in the water it collected.

[15] Loads are calculated only for locations with flow volume measurement.



Notes:
Loads at SW093, GS13, and GS11 are calculated using results from flow-paced composites (Section 3.5). Loads at A3EFF are calculated using grab sample results and flow measurement from GS12 (colocated with A3EFF). Loads at SPIN and SPOUT are calculated using results from grab sampling related to this AMP objective and other treatment system optimization efforts.
Arrows indicate general flow routing.

Abbreviation:
kg = kilograms

Figure 58. Map Showing Calculated Nitrate + Nitrite as Nitrogen Loads in North Walnut Creek Since October 2016

4.0 Analytical Data: Fourth Quarter CY 2018

Table 12, "Analytical Results for Water Samples," is available at the end of this report.

Table 13, "Water Sampling Events: Fourth Quarter CY 2018," is available at the end of this report.

5.0 References

DOE (U.S. Department of Energy), 2007. *Rocky Flats Legacy Management Agreement*, March 14 (Attachment 2, "Legacy Management Requirements," was revised in 2012).

DOE (U.S. Department of Energy), 2011. *Rocky Flats Site, Colorado, Surface Water Configuration Environmental Assessment*, DOE/EA-1747, LMS/RFS/S06335, Office of Legacy Management, May.

DOE (U.S. Department of Energy), 2017. *Surface Water Configuration Adaptive Management Plan for the Rocky Flats Site, Colorado,* Revision 3.0, LMS/RFS/S07698, Office of Legacy Management, August.

DOE (U.S. Department of Energy), 2018. *Additional Field Implementation Detail for Selected Monitoring Objectives at the Rocky Flats Site, Colorado,* Revision 2.0, LMS/RFS/S08202, Office of Legacy Management, July.

DOE (U.S. Department of Energy), forthcoming. *Annual Report of Site Surveillance and Maintenance Activities at the Rocky Flats Site, Colorado, Calendar Year 2018,* LMS/RFS/S23330, Office of Legacy Management, to be published.

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Table 12. Analytical Results for Water Samples

LOCATION CODE	LOCATION TYPE	DATE SAMPLED	SAMPLE CODE	CAS	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCER-TAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
00193	WL	6/5/2018	RFS01-10.1806006-044	630-20-6	1,1,1,2-Tetrachloroethane	No	0.21	ug/L	U	F	0.21		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	71-55-6	1,1,1-Trichloroethane	No	0.16	ug/L	U	F	0.16		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	79-34-5	1,1,2,2-Tetrachloroethane	No	0.21	ug/L	U	F	0.21		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	79-00-5	1,1,2-Trichloroethane	No	0.27	ug/L	U	F	0.27		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	75-34-3	1,1-Dichloroethane	No	0.22	ug/L	U	F	0.22		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	75-35-4	1,1-Dichloroethene	No	0.23	ug/L	U	F	0.23		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	563-58-6	1,1-Dichloropropene	No	0.19	ug/L	U	F	0.19		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	87-61-6	1,2,3-Trichlorobenzene	No	0.21	ug/L	U	F	0.21		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	96-18-4	1,2,3-Trichloropropane	No	0.33	ug/L	U	F	0.33		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	120-82-1	1,2,4-Trichlorobenzene	No	0.21	ug/L	U	F	0.21		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	95-63-6	1,2,4-Trimethylbenzene	No	0.15	ug/L	U	F	0.15		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	96-12-8	1,2-Dibromo-3-chloropropane	No	0.47	ug/L	U	F	0.47		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	106-93-4	1,2-Dibromoethane	No	0.18	ug/L	U	F	0.18		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	95-50-1	1,2-Dichlorobenzene	No	0.15	ug/L	U	F	0.15		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	107-06-2	1,2-Dichloroethane	No	0.13	ug/L	U	F	0.13		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	78-87-5	1,2-Dichloropropane	No	0.18	ug/L	U	F	0.18		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	108-67-8	1,3,5-Trimethylbenzene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	541-73-1	1,3-Dichlorobenzene	No	0.13	ug/L	U	F	0.13		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	142-28-9	1,3-Dichloropropane	No	0.22	ug/L	U	F	0.22		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	106-46-7	1,4-Dichlorobenzene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	594-20-7	2,2-Dichloropropane	No	0.18	ug/L	U	F	0.18		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	78-93-3	2-Butanone	No	2	ug/L	U	F	2.0		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	95-49-8	2-Chlorotoluene	No	0.17	ug/L	U	F	0.17		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	591-78-6	2-Hexanone	No	1.7	ug/L	U	F	1.7		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	106-43-4	4-Chlorotoluene	No	0.21	ug/L	U	F	0.21		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	108-10-1	4-Methyl-2-Pentanone	No	0.98	ug/L	U	F	0.98		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	67-64-1	Acetone	No	2.8	ug/L	J	F	1.9		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	71-43-2	Benzene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	108-86-1	Bromobenzene	No	0.17	ug/L	U	F	0.17		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	74-97-5	Bromochloromethane	No	0.1	ug/L	U	F	0.10		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	75-27-4	Bromodichloromethane	No	0.17	ug/L	U	F	0.17		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	75-25-2	Bromoform	No	0.19	ug/L	U	F	0.19		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	74-83-9	Bromomethane	No	0.21	ug/L	U	F	0.21		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	75-15-0	Carbon Disulfide	No	0.45	ug/L	U	F	0.45		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	56-23-5	Carbon tetrachloride	No	0.19	ug/L	U	F	0.19		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	108-90-7	Chlorobenzene	No	0.17	ug/L	U	F	0.17		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	124-48-1	Chlorodibromomethane	No	0.17	ug/L	U	F	0.17		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	75-00-3	Chloroethane	No	0.41	ug/L	U	F	0.41		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	67-66-3	Chloroform	No	0.16	ug/L	U	F	0.16		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	74-87-3	Chloromethane	No	0.3	ug/L	U	F	0.30		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	156-59-2	cis-1,2-Dichloroethene	No	0.15	ug/L	U	F	0.15		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	10061-01-5	cis-1,3-Dichloropropene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	74-95-3	Dibromomethane	No	0.17	ug/L	U	F	0.17		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	75-71-8	Dichlorodifluoromethane	No	0.31	ug/L	U	F	0.31		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	100-41-4	Ethylbenzene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	87-68-3	Hexachlorobutadiene	No	0.36	ug/L	U	F	0.36		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	98-82-8	Isopropylbenzene	No	0.19	ug/L	U	F	0.19		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	75-09-2	Methylene chloride	No	0.32	ug/L	U	F	0.32		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	91-20-3	Naphthalene	No	0.22	ug/L	U	F	0.22		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	104-51-8	n-Butylbenzene	No	0.32	ug/L	U	F	0.32		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	103-65-1	n-Propylbenzene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	99-87-6	p-Isopropyltoluene	No	0.2	ug/L	U	F	0.20		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	135-98-8	sec-Butylbenzene	No	0.17	ug/L	U	F	0.17		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	100-42-5	Styrene	No	0.17	ug/L	U	F	0.17		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	98-06-6	tert-Butylbenzene	No	0.16	ug/L	U	F	0.16		FQ	N	STD

Table 12. Analytical Results for Water Samples

LOCATION CODE	LOCATION TYPE	DATE SAMPLED	SAMPLE CODE	CAS	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCER-TAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
00193	WL	6/5/2018	RFS01-10.1806006-044	127-18-4	Tetrachloroethene	No	0.2	ug/L	U	F	0.20		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	108-88-3	Toluene	No	0.17	ug/L	U	F	0.17		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	1330-20-7	Total Xylenes	No	0.19	ug/L	U	F	0.19		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	156-60-5	trans-1,2-Dichloroethene	No	0.15	ug/L	U	F	0.15		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	10061-02-6	trans-1,3-dichloropropene	No	0.19	ug/L	U	F	0.19		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	79-01-6	Trichloroethene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	75-69-4	Trichlorofluoromethane	No	0.29	ug/L	U	F	0.29		FQ	N	STD
00193	WL	6/5/2018	RFS01-10.1806006-044	75-01-4	Vinyl chloride	No	0.1	ug/L	U	F	0.10		FQ	N	STD
00193	WL	10/9/2018	RFS01-10.1810009-013	630-20-6	1,1,1,2-Tetrachloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	71-55-6	1,1,1-Trichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	79-34-5	1,1,2,2-Tetrachloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	79-00-5	1,1,2-Trichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	75-34-3	1,1-Dichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	75-35-4	1,1-Dichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	563-58-6	1,1-Dichloropropene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	87-61-6	1,2,3-Trichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	96-18-4	1,2,3-Trichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	120-82-1	1,2,4-Trichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	95-63-6	1,2,4-Trimethylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	96-12-8	1,2-Dibromo-3-chloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	106-93-4	1,2-Dibromoethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	95-50-1	1,2-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	107-06-2	1,2-Dichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	78-87-5	1,2-Dichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	108-67-8	1,3,5-Trimethylbenzene	No	0.667	ug/L	U	F	0.667		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	541-73-1	1,3-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	142-28-9	1,3-Dichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	106-46-7	1,4-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	594-20-7	2,2-Dichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	78-93-3	2-Butanone	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	95-49-8	2-Chlorotoluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	591-78-6	2-Hexanone	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	106-43-4	4-Chlorotoluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	108-10-1	4-Methyl-2-Pentanone	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	67-64-1	Acetone	No	1.74	ug/L	U	F	1.74		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	71-43-2	Benzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	108-86-1	Bromobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	74-97-5	Bromochloromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	75-27-4	Bromodichloromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	75-25-2	Bromoform	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	74-83-9	Bromomethane	No	0.337	ug/L	U	F	0.337		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	75-15-0	Carbon Disulfide	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	56-23-5	Carbon tetrachloride	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	108-90-7	Chlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	124-48-1	Chlorodibromomethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	75-00-3	Chloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	67-66-3	Chloroform	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	74-87-3	Chloromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	156-59-2	cis-1,2-Dichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	10061-01-5	cis-1,3-Dichloropropene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	74-95-3	Dibromomethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	75-71-8	Dichlorodifluoromethane	No	0.355	ug/L	U	F	0.355		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	100-41-4	Ethylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	87-68-3	Hexachlorobutadiene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	98-82-8	Isopropylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	75-09-2	Methylene chloride	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	91-20-3	Naphthalene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN

Table 12. Analytical Results for Water Samples

LOCATION CODE	LOCATION TYPE	DATE SAMPLED	SAMPLE CODE	CAS	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCER-TAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
00193	WL	10/9/2018	RFS01-10.1810009-013	104-51-8	n-Butylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	103-65-1	n-Propylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	99-87-6	p-Isopropyltoluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	135-98-8	sec-Butylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	100-42-5	Styrene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	98-06-6	tert-Butylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	127-18-4	Tetrachloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	108-88-3	Toluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	1330-20-7	Total Xylenes	No	1	ug/L	U	F	1.00		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	156-60-5	trans-1,2-Dichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	10061-02-6	trans-1,3-dichloropropene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	79-01-6	Trichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	75-69-4	Trichlorofluoromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	7440-61-1	Uranium	Y	83.7	ug/L		F	0.067		FQ	N	GEN
00193	WL	10/9/2018	RFS01-10.1810009-013	75-01-4	Vinyl chloride	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
00997	WL	6/6/2018	RFS01-10.1806006-017	630-20-6	1,1,1,2-Tetrachloroethane	No	0.21	ug/L	U	F	0.21		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	71-55-6	1,1,1-Trichloroethane	No	0.16	ug/L	U	F	0.16		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	79-34-5	1,1,2,2-Tetrachloroethane	No	0.21	ug/L	U	F	0.21		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	79-00-5	1,1,2-Trichloroethane	No	0.27	ug/L	U	F	0.27		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	75-34-3	1,1-Dichloroethane	No	0.22	ug/L	U	F	0.22		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	75-35-4	1,1-Dichloroethene	No	0.23	ug/L	U	F	0.23		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	563-58-6	1,1-Dichloropropene	No	0.19	ug/L	U	F	0.19		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	87-61-6	1,2,3-Trichlorobenzene	No	0.21	ug/L	U	F	0.21		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	96-18-4	1,2,3-Trichloropropane	No	0.33	ug/L	U	F	0.33		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	120-82-1	1,2,4-Trichlorobenzene	No	0.21	ug/L	U	F	0.21		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	95-63-6	1,2,4-Trimethylbenzene	No	0.15	ug/L	U	F	0.15		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	96-12-8	1,2-Dibromo-3-chloropropane	No	0.47	ug/L	U	F	0.47		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	106-93-4	1,2-Dibromoethane	No	0.18	ug/L	U	F	0.18		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	95-50-1	1,2-Dichlorobenzene	No	0.15	ug/L	U	F	0.15		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	107-06-2	1,2-Dichloroethane	No	0.13	ug/L	U	F	0.13		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	78-87-5	1,2-Dichloropropane	No	0.18	ug/L	U	F	0.18		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	108-67-8	1,3,5-Trimethylbenzene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	541-73-1	1,3-Dichlorobenzene	No	0.28	ug/L	J	F	0.13		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	142-28-9	1,3-Dichloropropane	No	0.22	ug/L	U	F	0.22		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	106-46-7	1,4-Dichlorobenzene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	594-20-7	2,2-Dichloropropane	No	0.18	ug/L	U	F	0.18		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	78-93-3	2-Butanone	No	2	ug/L	U	F	2.0		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	95-49-8	2-Chlorotoluene	No	0.17	ug/L	U	F	0.17		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	591-78-6	2-Hexanone	No	1.7	ug/L	U	F	1.7		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	106-43-4	4-Chlorotoluene	No	0.21	ug/L	U	F	0.21		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	108-10-1	4-Methyl-2-Pentanone	No	0.98	ug/L	U	F	0.98		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	67-64-1	Acetone	No	1.9	ug/L	U	F	1.9		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	71-43-2	Benzene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	108-86-1	Bromobenzene	No	0.17	ug/L	U	F	0.17		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	74-97-5	Bromochloromethane	No	0.1	ug/L	U	F	0.10		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	75-27-4	Bromodichloromethane	No	0.17	ug/L	U	F	0.17		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	75-25-2	Bromoform	No	0.19	ug/L	U	F	0.19		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	74-83-9	Bromomethane	No	0.21	ug/L	U	F	0.21		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	75-15-0	Carbon Disulfide	No	0.45	ug/L	U	F	0.45		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	56-23-5	Carbon tetrachloride	No	0.19	ug/L	U	F	0.19		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	108-90-7	Chlorobenzene	No	0.17	ug/L	U	F	0.17		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	124-48-1	Chlorodibromomethane	No	0.17	ug/L	U	F	0.17		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	75-00-3	Chloroethane	No	0.41	ug/L	U	F	0.41		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	67-66-3	Chloroform	No	0.16	ug/L	U	F	0.16		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	74-87-3	Chloromethane	No	0.3	ug/L	U	F	0.30		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	156-59-2	cis-1,2-Dichloroethene	No	0.15	ug/L	U	F	0.15		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	10061-01-5	cis-1,3-Dichloropropene	No	0.16	ug/L	U	F	0.16		FQ	N	STD

Table 12. Analytical Results for Water Samples

LOCATION CODE	LOCATION TYPE	DATE SAMPLED	SAMPLE CODE	CAS	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCER-TAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
00997	WL	6/6/2018	RFS01-10.1806006-017	74-95-3	Dibromomethane	No	0.17	ug/L	U	F	0.17		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	75-71-8	Dichlorodifluoromethane	No	0.31	ug/L	U	F	0.31		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	100-41-4	Ethylbenzene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	87-68-3	Hexachlorobutadiene	No	0.36	ug/L	U	F	0.36		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	98-82-8	Isopropylbenzene	No	0.19	ug/L	U	F	0.19		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	75-09-2	Methylene chloride	No	0.32	ug/L	U	F	0.32		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	91-20-3	Naphthalene	No	0.22	ug/L	U	F	0.22		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	104-51-8	n-Butylbenzene	No	0.32	ug/L	U	F	0.32		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.16	mg/L		F	0.019		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	103-65-1	n-Propylbenzene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	99-87-6	p-Isopropyltoluene	No	0.2	ug/L	U	F	0.20		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	135-98-8	sec-Butylbenzene	No	0.17	ug/L	U	F	0.17		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	100-42-5	Styrene	No	0.17	ug/L	U	F	0.17		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	98-06-6	tert-Butylbenzene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	127-18-4	Tetrachloroethene	No	0.2	ug/L	U	F	0.20		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	108-88-3	Toluene	No	0.17	ug/L	U	F	0.17		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	1330-20-7	Total Xylenes	No	0.19	ug/L	U	F	0.19		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	156-60-5	trans-1,2-Dichloroethene	No	0.15	ug/L	U	F	0.15		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	10061-02-6	trans-1,3-dichloropropene	No	0.19	ug/L	U	F	0.19		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	79-01-6	Trichloroethene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	75-69-4	Trichlorofluoromethane	No	0.29	ug/L	U	F	0.29		FQ	N	STD
00997	WL	6/6/2018	RFS01-10.1806006-017	75-01-4	Vinyl chloride	No	0.1	ug/L	U	F	0.10		FQ	N	STD
4087	WL	10/17/2018	RFS01-10.1810009-027	630-20-6	1,1,1,2-Tetrachloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	71-55-6	1,1,1-Trichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	79-34-5	1,1,2,2-Tetrachloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	79-00-5	1,1,2-Trichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	75-34-3	1,1-Dichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	75-35-4	1,1-Dichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	563-58-6	1,1-Dichloropropene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	87-61-6	1,2,3-Trichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	96-18-4	1,2,3-Trichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	120-82-1	1,2,4-Trichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	95-63-6	1,2,4-Trimethylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	96-12-8	1,2-Dibromo-3-chloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	106-93-4	1,2-Dibromoethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	95-50-1	1,2-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	107-06-2	1,2-Dichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	78-87-5	1,2-Dichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	108-67-8	1,3,5-Trimethylbenzene	No	0.667	ug/L	U	F	0.667		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	541-73-1	1,3-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	142-28-9	1,3-Dichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	106-46-7	1,4-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	594-20-7	2,2-Dichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	78-93-3	2-Butanone	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	95-49-8	2-Chlorotoluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	591-78-6	2-Hexanone	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	106-43-4	4-Chlorotoluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	108-10-1	4-Methyl-2-Pentanone	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	67-64-1	Acetone	No	1.74	ug/L	U	F	1.74		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	71-43-2	Benzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	108-86-1	Bromobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	74-97-5	Bromochloromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	75-27-4	Bromodichloromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	75-25-2	Bromoform	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	74-83-9	Bromomethane	No	0.337	ug/L	U	F	0.337		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	75-15-0	Carbon Disulfide	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	56-23-5	Carbon tetrachloride	No	0.333	ug/L	U	F	0.333		FQ	N	GEN

Table 12. Analytical Results for Water Samples

LOCATION CODE	LOCATION TYPE	DATE SAMPLED	SAMPLE CODE	CAS	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCER-TAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
4087	WL	10/17/2018	RFS01-10.1810009-027	108-90-7	Chlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	124-48-1	Chlorodibromomethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	75-00-3	Chloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	67-66-3	Chloroform	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	74-87-3	Chloromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	156-59-2	cis-1,2-Dichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	10061-01-5	cis-1,3-Dichloropropene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	74-95-3	Dibromomethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	75-71-8	Dichlorodifluoromethane	No	0.355	ug/L	U	F	0.355		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	100-41-4	Ethylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	87-68-3	Hexachlorobutadiene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	98-82-8	Isopropylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	75-09-2	Methylene chloride	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	91-20-3	Naphthalene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	104-51-8	n-Butylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.138	mg/L		F	0.017		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	103-65-1	n-Propylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	99-87-6	p-Isopropyltoluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	135-98-8	sec-Butylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	100-42-5	Styrene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	98-06-6	tert-Butylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	127-18-4	Tetrachloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	108-88-3	Toluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	1330-20-7	Total Xylenes	No	1	ug/L	U	F	1.00		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	156-60-5	trans-1,2-Dichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	10061-02-6	trans-1,3-dichloropropene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	79-01-6	Trichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	75-69-4	Trichlorofluoromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	7440-61-1	Uranium	Y	18	ug/L		F	0.067		FQ	N	GEN
4087	WL	10/17/2018	RFS01-10.1810009-027	75-01-4	Vinyl chloride	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
10304	WL	6/5/2018	RFS01-10.1806006-043	630-20-6	1,1,1,2-Tetrachloroethane	No	0.21	ug/L	U	F	0.21		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	71-55-6	1,1,1-Trichloroethane	No	0.16	ug/L	U	F	0.16		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	79-34-5	1,1,2,2-Tetrachloroethane	No	0.21	ug/L	U	F	0.21		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	79-00-5	1,1,2-Trichloroethane	No	0.27	ug/L	U	F	0.27		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	75-34-3	1,1-Dichloroethane	No	0.22	ug/L	U	F	0.22		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	75-35-4	1,1-Dichloroethene	No	0.23	ug/L	U	F	0.23		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	563-58-6	1,1-Dichloropropene	No	0.19	ug/L	U	F	0.19		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	87-61-6	1,2,3-Trichlorobenzene	No	0.21	ug/L	U	F	0.21		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	96-18-4	1,2,3-Trichloropropane	No	0.33	ug/L	U	F	0.33		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	120-82-1	1,2,4-Trichlorobenzene	No	0.21	ug/L	U	F	0.21		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	95-63-6	1,2,4-Trimethylbenzene	No	0.15	ug/L	U	F	0.15		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	96-12-8	1,2-Dibromo-3-chloropropane	No	0.47	ug/L	U	F	0.47		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	106-93-4	1,2-Dibromoethane	No	0.18	ug/L	U	F	0.18		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	95-50-1	1,2-Dichlorobenzene	No	0.15	ug/L	U	F	0.15		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	107-06-2	1,2-Dichloroethane	No	0.13	ug/L	U	F	0.13		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	78-87-5	1,2-Dichloropropane	No	0.18	ug/L	U	F	0.18		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	108-67-8	1,3,5-Trimethylbenzene	No	0.16	ug/L	U	F	0.16		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	541-73-1	1,3-Dichlorobenzene	No	0.13	ug/L	U	F	0.13		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	142-28-9	1,3-Dichloropropane	No	0.22	ug/L	U	F	0.22		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	106-46-7	1,4-Dichlorobenzene	No	0.16	ug/L	U	F	0.16		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	594-20-7	2,2-Dichloropropane	No	0.18	ug/L	U	F	0.18		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	78-93-3	2-Butanone	No	2	ug/L	U	F	2.0		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	95-49-8	2-Chlorotoluene	No	0.17	ug/L	U	F	0.17		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	591-78-6	2-Hexanone	No	1.7	ug/L	U	F	1.7		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	106-43-4	4-Chlorotoluene	No	0.21	ug/L	U	F	0.21		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	108-10-1	4-Methyl-2-Pentanone	No	0.98	ug/L	U	F	0.98		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	67-64-1	Acetone	No	2.3	ug/L	J	F	1.9		F	N	STD

Table 12. Analytical Results for Water Samples

LOCATION CODE	LOCATION TYPE	DATE SAMPLED	SAMPLE CODE	CAS	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCER-TAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
10304	WL	6/5/2018	RFS01-10.1806006-043	71-43-2	Benzene	No	0.16	ug/L	U	F	0.16		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	108-86-1	Bromobenzene	No	0.17	ug/L	U	F	0.17		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	74-97-5	Bromochloromethane	No	0.1	ug/L	U	F	0.10		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	75-27-4	Bromodichloromethane	No	0.17	ug/L	U	F	0.17		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	75-25-2	Bromoform	No	0.19	ug/L	U	F	0.19		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	74-83-9	Bromomethane	No	0.21	ug/L	U	F	0.21		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	75-15-0	Carbon Disulfide	No	0.45	ug/L	U	F	0.45		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	56-23-5	Carbon tetrachloride	No	0.19	ug/L	U	F	0.19		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	108-90-7	Chlorobenzene	No	0.17	ug/L	U	F	0.17		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	124-48-1	Chlorodibromomethane	No	0.17	ug/L	U	F	0.17		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	75-00-3	Chloroethane	No	0.41	ug/L	U	F	0.41		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	67-66-3	Chloroform	No	0.22	ug/L	J	F	0.16		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	74-87-3	Chloromethane	No	0.3	ug/L	U	F	0.30		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	156-59-2	cis-1,2-Dichloroethene	No	18	ug/L		F	0.15		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	10061-01-5	cis-1,3-Dichloropropene	No	0.16	ug/L	U	F	0.16		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	74-95-3	Dibromomethane	No	0.17	ug/L	U	F	0.17		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	75-71-8	Dichlorodifluoromethane	No	0.31	ug/L	U	F	0.31		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	100-41-4	Ethylbenzene	No	0.16	ug/L	U	F	0.16		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	87-68-3	Hexachlorobutadiene	No	0.36	ug/L	U	F	0.36		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	98-82-8	Isopropylbenzene	No	0.19	ug/L	U	F	0.19		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	75-09-2	Methylene chloride	No	0.32	ug/L	U	F	0.32		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	91-20-3	Naphthalene	No	0.22	ug/L	U	F	0.22		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	104-51-8	n-Butylbenzene	No	0.32	ug/L	U	F	0.32		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.019	mg/L	U	F	0.019		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	103-65-1	n-Propylbenzene	No	0.16	ug/L	U	F	0.16		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	99-87-6	p-Isopropyltoluene	No	0.2	ug/L	U	F	0.20		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	135-98-8	sec-Butylbenzene	No	0.17	ug/L	U	F	0.17		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	100-42-5	Styrene	No	0.17	ug/L	U	F	0.17		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	98-06-6	tert-Butylbenzene	No	0.16	ug/L	U	F	0.16		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	127-18-4	Tetrachloroethene	No	0.2	ug/L	U	F	0.20		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	108-88-3	Toluene	No	0.17	ug/L	U	F	0.17		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	1330-20-7	Total Xylenes	No	0.19	ug/L	U	F	0.19		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	156-60-5	trans-1,2-Dichloroethene	No	0.15	ug/L	U	F	0.15		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	10061-02-6	trans-1,3-dichloropropene	No	0.19	ug/L	U	F	0.19		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	79-01-6	Trichloroethene	No	26	ug/L		F	0.16		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	75-69-4	Trichlorofluoromethane	No	0.29	ug/L	U	F	0.29		F	N	STD
10304	WL	6/5/2018	RFS01-10.1806006-043	75-01-4	Vinyl chloride	No	0.1	ug/L	U	F	0.10		F	N	STD
10304	WL	10/11/2018	RFS01-10.1810009-017	630-20-6	1,1,1,2-Tetrachloroethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	71-55-6	1,1,1-Trichloroethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	79-34-5	1,1,2,2-Tetrachloroethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	79-00-5	1,1,2-Trichloroethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	75-34-3	1,1-Dichloroethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	75-35-4	1,1-Dichloroethene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	563-58-6	1,1-Dichloropropene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	87-61-6	1,2,3-Trichlorobenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	96-18-4	1,2,3-Trichloropropane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	120-82-1	1,2,4-Trichlorobenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	95-63-6	1,2,4-Trimethylbenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	96-12-8	1,2-Dibromo-3-chloropropane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	106-93-4	1,2-Dibromoethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	95-50-1	1,2-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	107-06-2	1,2-Dichloroethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	78-87-5	1,2-Dichloropropane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	108-67-8	1,3,5-Trimethylbenzene	No	0.667	ug/L	U	F	0.667		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	541-73-1	1,3-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	142-28-9	1,3-Dichloropropane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	106-46-7	1,4-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN

Table 12. Analytical Results for Water Samples

LOCATION CODE	LOCATION TYPE	DATE SAMPLED	SAMPLE CODE	CAS	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCER-TAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
10304	WL	10/11/2018	RFS01-10.1810009-017	594-20-7	2,2-Dichloropropane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	78-93-3	2-Butanone	No	1.67	ug/L	U	F	1.67		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	95-49-8	2-Chlorotoluene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	591-78-6	2-Hexanone	No	1.67	ug/L	U	F	1.67		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	106-43-4	4-Chlorotoluene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	108-10-1	4-Methyl-2-Pentanone	No	1.67	ug/L	U	F	1.67		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	67-64-1	Acetone	No	1.74	ug/L	U	F	1.74		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	71-43-2	Benzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	108-86-1	Bromobenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	74-97-5	Bromochloromethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	75-27-4	Bromodichloromethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	75-25-2	Bromoform	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	74-83-9	Bromomethane	No	0.337	ug/L	U	F	0.337		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	75-15-0	Carbon Disulfide	No	1.67	ug/L	U	F	1.67		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	56-23-5	Carbon tetrachloride	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	108-90-7	Chlorobenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	124-48-1	Chlorodibromomethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	75-00-3	Chloroethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	67-66-3	Chloroform	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	74-87-3	Chloromethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	156-59-2	cis-1,2-Dichloroethene	No	2	ug/L		F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	10061-01-5	cis-1,3-Dichloropropene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	74-95-3	Dibromomethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	75-71-8	Dichlorodifluoromethane	No	0.355	ug/L	U	F	0.355		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	100-41-4	Ethylbenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	87-68-3	Hexachlorobutadiene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	98-82-8	Isopropylbenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	75-09-2	Methylene chloride	No	1.67	ug/L	U	F	1.67		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	91-20-3	Naphthalene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	104-51-8	n-Butylbenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.017	mg/L	U	F	0.017		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	103-65-1	n-Propylbenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	99-87-6	p-Isopropyltoluene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	135-98-8	sec-Butylbenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	100-42-5	Styrene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	98-06-6	tert-Butylbenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	127-18-4	Tetrachloroethene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	108-88-3	Toluene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	1330-20-7	Total Xylenes	No	1	ug/L	U	F	1.00		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	156-60-5	trans-1,2-Dichloroethene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	10061-02-6	trans-1,3-dichloropropene	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	79-01-6	Trichloroethene	No	5.43	ug/L		F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	75-69-4	Trichlorofluoromethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	7440-61-1	Uranium	Y	33.3	ug/L		F	0.067		F	N	GEN
10304	WL	10/11/2018	RFS01-10.1810009-017	75-01-4	Vinyl chloride	No	0.333	ug/L	U	F	0.333		F	N	GEN
10594	WL	6/6/2018	RFS01-10.1806006-016	630-20-6	1,1,1,2-Tetrachloroethane	No	0.21	ug/L	U	F	0.21		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	71-55-6	1,1,1-Trichloroethane	No	0.16	ug/L	U	F	0.16		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	79-34-5	1,1,2,2-Tetrachloroethane	No	0.21	ug/L	U	F	0.21		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	79-00-5	1,1,2-Trichloroethane	No	0.27	ug/L	U	F	0.27		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	75-34-3	1,1-Dichloroethane	No	0.22	ug/L	U	F	0.22		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	75-35-4	1,1-Dichloroethene	No	0.23	ug/L	U	F	0.23		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	563-58-6	1,1-Dichloropropene	No	0.19	ug/L	U	F	0.19		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	87-61-6	1,2,3-Trichlorobenzene	No	0.21	ug/L	U	F	0.21		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	96-18-4	1,2,3-Trichloropropane	No	0.33	ug/L	U	F	0.33		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	120-82-1	1,2,4-Trichlorobenzene	No	0.21	ug/L	U	F	0.21		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	95-63-6	1,2,4-Trimethylbenzene	No	0.15	ug/L	U	F	0.15		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	96-12-8	1,2-Dibromo-3-chloropropane	No	0.47	ug/L	U	F	0.47		FQ	N	STD

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LOCATION CODE	LOCATION TYPE	DATE SAMPLED	SAMPLE CODE	CAS	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCER-TAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
10594	WL	6/6/2018	RFS01-10.1806006-016	106-93-4	1,2-Dibromoethane	No	0.18	ug/L	U	F	0.18		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	95-50-1	1,2-Dichlorobenzene	No	0.15	ug/L	U	F	0.15		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	107-06-2	1,2-Dichloroethane	No	0.13	ug/L	U	F	0.13		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	78-87-5	1,2-Dichloropropane	No	0.18	ug/L	U	F	0.18		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	108-67-8	1,3,5-Trimethylbenzene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	541-73-1	1,3-Dichlorobenzene	No	0.13	ug/L	U	F	0.13		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	142-28-9	1,3-Dichloropropane	No	0.22	ug/L	U	F	0.22		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	106-46-7	1,4-Dichlorobenzene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	594-20-7	2,2-Dichloropropane	No	0.18	ug/L	U	F	0.18		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	78-93-3	2-Butanone	No	2	ug/L	U	F	2.0		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	95-49-8	2-Chlorotoluene	No	0.17	ug/L	U	F	0.17		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	591-78-6	2-Hexanone	No	1.7	ug/L	U	F	1.7		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	106-43-4	4-Chlorotoluene	No	0.21	ug/L	U	F	0.21		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	108-10-1	4-Methyl-2-Pentanone	No	0.98	ug/L	U	F	0.98		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	67-64-1	Acetone	No	1.9	ug/L	U	F	1.9		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	71-43-2	Benzene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	108-86-1	Bromobenzene	No	0.17	ug/L	U	F	0.17		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	74-97-5	Bromochloromethane	No	0.1	ug/L	U	F	0.10		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	75-27-4	Bromodichloromethane	No	0.17	ug/L	U	F	0.17		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	75-25-2	Bromoform	No	0.19	ug/L	U	F	0.19		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	74-83-9	Bromomethane	No	0.21	ug/L	U	F	0.21		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	75-15-0	Carbon Disulfide	No	0.45	ug/L	U	F	0.45		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	56-23-5	Carbon tetrachloride	No	0.19	ug/L	U	F	0.19		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	108-90-7	Chlorobenzene	No	0.17	ug/L	U	F	0.17		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	124-48-1	Chlorodibromomethane	No	0.17	ug/L	U	F	0.17		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	75-00-3	Chloroethane	No	0.41	ug/L	U	F	0.41		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	67-66-3	Chloroform	No	0.16	ug/L	U	F	0.16		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	74-87-3	Chloromethane	No	0.3	ug/L	U	F	0.30		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	156-59-2	cis-1,2-Dichloroethene	No	0.15	ug/L	U	F	0.15		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	10061-01-5	cis-1,3-Dichloropropene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	74-95-3	Dibromomethane	No	0.17	ug/L	U	F	0.17		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	75-71-8	Dichlorodifluoromethane	No	0.31	ug/L	U	F	0.31		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	100-41-4	Ethylbenzene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	87-68-3	Hexachlorobutadiene	No	0.36	ug/L	U	F	0.36		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	98-82-8	Isopropylbenzene	No	0.19	ug/L	U	F	0.19		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	75-09-2	Methylene chloride	No	0.32	ug/L	U	F	0.32		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	91-20-3	Naphthalene	No	0.22	ug/L	U	F	0.22		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	104-51-8	n-Butylbenzene	No	0.32	ug/L	U	F	0.32		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.019	mg/L	U	F	0.019		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	103-65-1	n-Propylbenzene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	99-87-6	p-Isopropyltoluene	No	0.2	ug/L	U	F	0.20		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	135-98-8	sec-Butylbenzene	No	0.17	ug/L	U	F	0.17		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	100-42-5	Styrene	No	0.17	ug/L	U	F	0.17		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	98-06-6	tert-Butylbenzene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	127-18-4	Tetrachloroethene	No	0.2	ug/L	U	F	0.20		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	108-88-3	Toluene	No	0.17	ug/L	U	F	0.17		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	1330-20-7	Total Xylenes	No	0.19	ug/L	U	F	0.19		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	156-60-5	trans-1,2-Dichloroethene	No	0.15	ug/L	U	F	0.15		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	10061-02-6	trans-1,3-dichloropropene	No	0.19	ug/L	U	F	0.19		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	79-01-6	Trichloroethene	No	0.16	ug/L	U	F	0.16		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	75-69-4	Trichlorofluoromethane	No	0.29	ug/L	U	F	0.29		FQ	N	STD
10594	WL	6/6/2018	RFS01-10.1806006-016	75-01-4	Vinyl chloride	No	0.1	ug/L	U	F	0.10		FQ	N	STD
11104	WL	10/11/2018	RFS01-10.1810009-019	630-20-6	1,1,1,2-Tetrachloroethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	71-55-6	1,1,1-Trichloroethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	79-34-5	1,1,2,2-Tetrachloroethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	79-00-5	1,1,2-Trichloroethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	75-34-3	1,1-Dichloroethane	No	0.333	ug/L	U	F	0.333		F	N	GEN

Table 12. Analytical Results for Water Samples

LOCATION CODE	LOCATION TYPE	DATE SAMPLED	SAMPLE CODE	CAS	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCER-TAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
11104	WL	10/11/2018	RFS01-10.1810009-019	75-35-4	1,1-Dichloroethene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	563-58-6	1,1-Dichloropropene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	87-61-6	1,2,3-Trichlorobenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	96-18-4	1,2,3-Trichloropropane	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	120-82-1	1,2,4-Trichlorobenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	95-63-6	1,2,4-Trimethylbenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	96-12-8	1,2-Dibromo-3-chloropropane	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	106-93-4	1,2-Dibromoethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	95-50-1	1,2-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	107-06-2	1,2-Dichloroethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	78-87-5	1,2-Dichloropropane	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	108-67-8	1,3,5-Trimethylbenzene	No	0.667	ug/L	U	F	0.667		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	541-73-1	1,3-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	142-28-9	1,3-Dichloropropane	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	106-46-7	1,4-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	594-20-7	2,2-Dichloropropane	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	78-93-3	2-Butanone	No	1.67	ug/L	U	F	1.67		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	95-49-8	2-Chlorotoluene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	591-78-6	2-Hexanone	No	1.67	ug/L	U	F	1.67		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	106-43-4	4-Chlorotoluene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	108-10-1	4-Methyl-2-Pentanone	No	1.67	ug/L	U	F	1.67		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	67-64-1	Acetone	No	1.74	ug/L	U	F	1.74		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	71-43-2	Benzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	108-86-1	Bromobenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	74-97-5	Bromochloromethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	75-27-4	Bromodichloromethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	75-25-2	Bromoform	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	74-83-9	Bromomethane	No	0.337	ug/L	U	F	0.337		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	75-15-0	Carbon Disulfide	No	1.67	ug/L	U	F	1.67		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	56-23-5	Carbon tetrachloride	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	108-90-7	Chlorobenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	124-48-1	Chlorodibromomethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	75-00-3	Chloroethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	67-66-3	Chloroform	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	74-87-3	Chloromethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	156-59-2	cis-1,2-Dichloroethene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	10061-01-5	cis-1,3-Dichloropropene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	74-95-3	Dibromomethane	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	75-71-8	Dichlorodifluoromethane	No	0.355	ug/L	U	F	0.355		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	100-41-4	Ethylbenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	87-68-3	Hexachlorobutadiene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	98-82-8	Isopropylbenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	75-09-2	Methylene chloride	No	1.67	ug/L	U	F	1.67		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	91-20-3	Naphthalene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	104-51-8	n-Butylbenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	103-65-1	n-Propylbenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	99-87-6	p-Isopropyltoluene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	135-98-8	sec-Butylbenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	100-42-5	Styrene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	98-06-6	tert-Butylbenzene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	127-18-4	Tetrachloroethene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	108-88-3	Toluene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	1330-20-7	Total Xylenes	No	1	ug/L	U	F	1.00		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	156-60-5	trans-1,2-Dichloroethene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	10061-02-6	trans-1,3-dichloropropene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	79-01-6	Trichloroethene	No	0.333	ug/L	U	F	0.333		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	75-69-4	Trichlorofluoromethane	No	0.333	ug/L	U	F	0.333		F	N	GEN

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LOCATION CODE	LOCATION TYPE	DATE SAMPLED	SAMPLE CODE	CAS	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCER-TAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
11104	WL	10/11/2018	RFS01-10.1810009-019	7440-61-1	Uranium	Y	26.4	ug/L		F	0.067		F	N	GEN
11104	WL	10/11/2018	RFS01-10.1810009-019	75-01-4	Vinyl chloride	No	0.333	ug/L	U	F	0.333		F	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	630-20-6	1,1,1,2-Tetrachloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	71-55-6	1,1,1-Trichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	79-34-5	1,1,2,2-Tetrachloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	79-00-5	1,1,2-Trichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	75-34-3	1,1-Dichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	75-35-4	1,1-Dichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	563-58-6	1,1-Dichloropropene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	87-61-6	1,2,3-Trichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	96-18-4	1,2,3-Trichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	120-82-1	1,2,4-Trichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	95-63-6	1,2,4-Trimethylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	96-12-8	1,2-Dibromo-3-chloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	106-93-4	1,2-Dibromoethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	95-50-1	1,2-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	107-06-2	1,2-Dichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	78-87-5	1,2-Dichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	108-67-8	1,3,5-Trimethylbenzene	No	0.667	ug/L	U	F	0.667		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	541-73-1	1,3-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	142-28-9	1,3-Dichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	106-46-7	1,4-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	594-20-7	2,2-Dichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	78-93-3	2-Butanone	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	95-49-8	2-Chlorotoluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	591-78-6	2-Hexanone	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	106-43-4	4-Chlorotoluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	108-10-1	4-Methyl-2-Pentanone	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	67-64-1	Acetone	No	1.74	ug/L	U	F	1.74		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	71-43-2	Benzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	108-86-1	Bromobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	74-97-5	Bromochloromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	75-27-4	Bromodichloromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	75-25-2	Bromoform	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	74-83-9	Bromomethane	No	0.337	ug/L	U	F	0.337		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	75-15-0	Carbon Disulfide	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	56-23-5	Carbon tetrachloride	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	108-90-7	Chlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	124-48-1	Chlorodibromomethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	75-00-3	Chloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	67-66-3	Chloroform	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	74-87-3	Chloromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	156-59-2	cis-1,2-Dichloroethene	No	0.8	ug/L	J	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	10061-01-5	cis-1,3-Dichloropropene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	74-95-3	Dibromomethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	75-71-8	Dichlorodifluoromethane	No	0.355	ug/L	U	F	0.355		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	100-41-4	Ethylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	87-68-3	Hexachlorobutadiene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	98-82-8	Isopropylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	75-09-2	Methylene chloride	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	91-20-3	Naphthalene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	104-51-8	n-Butylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	103-65-1	n-Propylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	99-87-6	p-Isopropyltoluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	135-98-8	sec-Butylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	100-42-5	Styrene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	98-06-6	tert-Butylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN

Table 12. Analytical Results for Water Samples

LOCATION CODE	LOCATION TYPE	DATE SAMPLED	SAMPLE CODE	CAS	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCER-TAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
42505	WL	10/11/2018	RFS01-10.1810009-028	127-18-4	Tetrachloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	108-88-3	Toluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	1330-20-7	Total Xylenes	No	1	ug/L	U	F	1.00		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	156-60-5	trans-1,2-Dichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	10061-02-6	trans-1,3-dichloropropene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	79-01-6	Trichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	75-69-4	Trichlorofluoromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
42505	WL	10/11/2018	RFS01-10.1810009-028	75-01-4	Vinyl chloride	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	630-20-6	1,1,1,2-Tetrachloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	71-55-6	1,1,1-Trichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	79-34-5	1,1,2,2-Tetrachloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	79-00-5	1,1,2-Trichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	75-34-3	1,1-Dichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	75-35-4	1,1-Dichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	563-58-6	1,1-Dichloropropene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	87-61-6	1,2,3-Trichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	96-18-4	1,2,3-Trichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	120-82-1	1,2,4-Trichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	95-63-6	1,2,4-Trimethylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	96-12-8	1,2-Dibromo-3-chloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	106-93-4	1,2-Dibromoethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	95-50-1	1,2-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	107-06-2	1,2-Dichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	78-87-5	1,2-Dichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	108-67-8	1,3,5-Trimethylbenzene	No	0.667	ug/L	U	F	0.667		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	541-73-1	1,3-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	142-28-9	1,3-Dichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	106-46-7	1,4-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	594-20-7	2,2-Dichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	78-93-3	2-Butanone	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	95-49-8	2-Chlorotoluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	591-78-6	2-Hexanone	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	106-43-4	4-Chlorotoluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	108-10-1	4-Methyl-2-Pentanone	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	67-64-1	Acetone	No	1.74	ug/L	U	F	1.74		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	71-43-2	Benzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	108-86-1	Bromobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	74-97-5	Bromochloromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	75-27-4	Bromodichloromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	75-25-2	Bromoform	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	74-83-9	Bromomethane	No	0.337	ug/L	U	F	0.337		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	75-15-0	Carbon Disulfide	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	56-23-5	Carbon tetrachloride	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	108-90-7	Chlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	124-48-1	Chlorodibromomethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	75-00-3	Chloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	67-66-3	Chloroform	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	74-87-3	Chloromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	156-59-2	cis-1,2-Dichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	10061-01-5	cis-1,3-Dichloropropene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	74-95-3	Dibromomethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	75-71-8	Dichlorodifluoromethane	No	0.355	ug/L	U	F	0.355		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	100-41-4	Ethylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	87-68-3	Hexachlorobutadiene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	98-82-8	Isopropylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	75-09-2	Methylene chloride	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	91-20-3	Naphthalene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN

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LOCATION CODE	LOCATION TYPE	DATE SAMPLED	SAMPLE CODE	CAS	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCER-TAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
89104	WL	10/11/2018	RFS01-10.1810009-032	104-51-8	n-Butylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	103-65-1	n-Propylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	99-87-6	p-Isopropyltoluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	135-98-8	sec-Butylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	100-42-5	Styrene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	98-06-6	tert-Butylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	127-18-4	Tetrachloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	108-88-3	Toluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	1330-20-7	Total Xylenes	No	1	ug/L	U	F	1.00		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	156-60-5	trans-1,2-Dichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	10061-02-6	trans-1,3-dichloropropene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	79-01-6	Trichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	75-69-4	Trichlorofluoromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
89104	WL	10/11/2018	RFS01-10.1810009-032	75-01-4	Vinyl chloride	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
A1EFF	SL	6/11/2018	RFS01-04.1806005-011	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.019	mg/L	U	F	0.019		valid	N	STD
A1EFF	SL	6/11/2018	RFS01-04.1806005-015	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.019	mg/L	U	D	0.019		valid	N	STD
A1EFF	SL	6/11/2018	RFS01-04.1806005-011	7440-61-1	Uranium	No	4.3	ug/L		F	0.05		valid	N	STD
A1EFF	SL	6/11/2018	RFS01-04.1806005-015	7440-61-1	Uranium	No	4.3	ug/L		D	0.05		valid	N	STD
B206989	WL	10/17/2018	RFS01-10.1810009-042	630-20-6	1,1,1,2-Tetrachloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	71-55-6	1,1,1-Trichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	79-34-5	1,1,2,2-Tetrachloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	79-00-5	1,1,2-Trichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	75-34-3	1,1-Dichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	75-35-4	1,1-Dichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	563-58-6	1,1-Dichloropropene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	87-61-6	1,2,3-Trichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	96-18-4	1,2,3-Trichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	120-82-1	1,2,4-Trichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	95-63-6	1,2,4-Trimethylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	96-12-8	1,2-Dibromo-3-chloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	106-93-4	1,2-Dibromoethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	95-50-1	1,2-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	107-06-2	1,2-Dichloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	78-87-5	1,2-Dichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	108-67-8	1,3,5-Trimethylbenzene	No	0.667	ug/L	U	F	0.667		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	541-73-1	1,3-Dichlorobenzene	No	0.42	ug/L	J	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	142-28-9	1,3-Dichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	106-46-7	1,4-Dichlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	594-20-7	2,2-Dichloropropane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	78-93-3	2-Butanone	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	95-49-8	2-Chlorotoluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	591-78-6	2-Hexanone	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	106-43-4	4-Chlorotoluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	108-10-1	4-Methyl-2-Pentanone	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	67-64-1	Acetone	No	1.74	ug/L	U	F	1.74		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	71-43-2	Benzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	108-86-1	Bromobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	74-97-5	Bromochloromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	75-27-4	Bromodichloromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	75-25-2	Bromoform	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	74-83-9	Bromomethane	No	0.337	ug/L	U	F	0.337		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	75-15-0	Carbon Disulfide	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	56-23-5	Carbon tetrachloride	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	108-90-7	Chlorobenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	124-48-1	Chlorodibromomethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	75-00-3	Chloroethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	67-66-3	Chloroform	No	0.333	ug/L	U	F	0.333		FQ	N	GEN

Table 12. Analytical Results for Water Samples

LOCATION CODE	LOCATION TYPE	DATE SAMPLED	SAMPLE CODE	CAS	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCER-TAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
B206989	WL	10/17/2018	RFS01-10.1810009-042	74-87-3	Chloromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	156-59-2	cis-1,2-Dichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	10061-01-5	cis-1,3-Dichloropropene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	74-95-3	Dibromomethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	75-71-8	Dichlorodifluoromethane	No	0.355	ug/L	U	F	0.355		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	100-41-4	Ethylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	87-68-3	Hexachlorobutadiene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	98-82-8	Isopropylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	75-09-2	Methylene chloride	No	1.67	ug/L	U	F	1.67		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	91-20-3	Naphthalene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	104-51-8	n-Butylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	6.67	mg/L		F	0.170		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	103-65-1	n-Propylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	99-87-6	p-Isopropyltoluene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	135-98-8	sec-Butylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	100-42-5	Styrene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	98-06-6	tert-Butylbenzene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	127-18-4	Tetrachloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	108-88-3	Toluene	No	0.35	ug/L	J	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	1330-20-7	Total Xylenes	No	1	ug/L	U	F	1.00		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	156-60-5	trans-1,2-Dichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	10061-02-6	trans-1,3-dichloropropene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	79-01-6	Trichloroethene	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	75-69-4	Trichlorofluoromethane	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	7440-61-1	Uranium	Y	94.4	ug/L		F	0.067		FQ	N	GEN
B206989	WL	10/17/2018	RFS01-10.1810009-042	75-01-4	Vinyl chloride	No	0.333	ug/L	U	F	0.333		FQ	N	GEN
B3OUTFLOW	SL	6/11/2018	RFS01-04.1806005-002	7440-61-1	Uranium	No	6.3	ug/L		F	0.05		valid	N	STD
GS10	SL	6/11/2018	RFS01-04.1806005-001	7440-61-1	Uranium	No	10	ug/L		F	0.05		valid	N	STD
GS10	SL	6/11/2018	RFS01-13.1811012-001	14596-10-2	Americium-241	No	0.0598	pCi/L	U	F			valid	Y	GEN
GS10	SL	6/11/2018	RFS01-13.1811012-001	7440-41-7	Beryllium	No	0.001	mg/L	U	F	0.001		valid	Y	GEN
GS10	SL	6/11/2018	RFS01-13.1811012-001	7440-43-9	Cadmium	Y	0.0003	mg/L	U	F	0.0003		valid	Y	GEN
GS10	SL	6/11/2018	RFS01-13.1811012-001	7440-47-3	Chromium	No	0.001	mg/L	U	F	0.001		valid	Y	GEN
GS10	SL	6/11/2018	RFS01-13.1811012-001	HARD-CACO3	Hardness As CaCO3	No	791	mg/L		F	1.67		valid	Y	GEN
GS10	SL	6/11/2018	RFS01-13.1811012-001	13981-16-3	Plutonium-238	No	-0.00649	pCi/L	U	F			J	Y	GEN
GS10	SL	6/11/2018	RFS01-13.1811012-001	PU-239,240	Plutonium-239, 240	No	0.0349	pCi/L		F			J	Y	GEN
GS10	SL	6/11/2018	RFS01-13.1811012-001	7440-22-4	Silver	Y	0.0003	mg/L	U	F	0.0003		valid	Y	GEN
GS10	SL	6/11/2018	RFS01-13.1811012-001	7440-61-1	Uranium	No	19.5	ug/L		F	0.067		valid	Y	GEN
GS10	SL	6/28/2018	RFS01-06.1806007-004	7440-61-1	Uranium	No	7.4	ug/L		F	0.05		valid	N	STD
GS10	SL	7/16/2018	RFS01-04.1807007-001	7440-61-1	Uranium	No	18	ug/L		F	0.05		valid	N	STD
GS10	SL	7/31/2018	RFS01-06.1807008-004	7440-61-1	Uranium	No	10	ug/L		F	0.05		valid	N	STD
GS10	SL	10/17/2018	RFS01-04.1810011-001	7440-61-1	Uranium	No	26	ug/L		F	0.05		valid	N	STD
GS10	SL	10/29/2018	RFS01-06.1810011-004	7440-61-1	Uranium	No	26	ug/L		F	0.05		valid	N	STD
GS10	SL	11/14/2018	RFS01-04.1811012-001	7440-61-1	Uranium	No	28	ug/L		F	0.05		valid	N	STD
GS10	SL	11/20/2018	RFS01-13.1812013-001	14596-10-2	Americium-241	No	0.00527	pCi/L	U	F			valid	Y	GEN
GS10	SL	11/20/2018	RFS01-13.1812013-001	7440-41-7	Beryllium	No	0.001	mg/L	U	F	0.001		valid	Y	GEN
GS10	SL	11/20/2018	RFS01-13.1812013-001	7440-43-9	Cadmium	Y	0.0003	mg/L	U	F	0.0003		valid	Y	GEN
GS10	SL	11/20/2018	RFS01-13.1812013-001	7440-47-3	Chromium	No	0.001	mg/L	U	F	0.001		valid	Y	GEN
GS10	SL	11/20/2018	RFS01-13.1812013-001	HARD-CACO3	Hardness As CaCO3	No	644	mg/L		F	1.00		valid	Y	GEN
GS10	SL	11/20/2018	RFS01-13.1812013-001	13981-16-3	Plutonium-238	No	-0.0011	pCi/L	U	F			valid	Y	GEN
GS10	SL	11/20/2018	RFS01-13.1812013-001	PU-239,240	Plutonium-239, 240	No	0.00551	pCi/L	U	F			valid	Y	GEN
GS10	SL	11/20/2018	RFS01-13.1812013-001	7440-22-4	Silver	Y	0.0003	mg/L	U	F	0.0003		valid	Y	GEN
GS10	SL	11/20/2018	RFS01-13.1812013-001	7440-61-1	Uranium	No	31.6	ug/L		F	0.067		valid	Y	GEN
GS10	SL	11/28/2018	RFS01-06.1811012-004	7440-61-1	Uranium	No	28	ug/L		F	0.05		valid	N	STD
GS10	SL	12/13/2018	RFS01-04.1812014-001	7440-61-1	Uranium	No	32	ug/L		F	0.05		valid	N	STD
GS10	SL	1/14/2019	RFS01-04.1901015-001	7440-61-1	Uranium	No	24	ug/L		F	0.05		valid	N	STD
GS13	SL	6/11/2018	RFS01-04.1806005-007	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.019	mg/L	U	F	0.019		valid	N	STD
GS13	SL	6/11/2018	RFS01-04.1806005-007	7440-61-1	Uranium	No	19	ug/L		F	0.05		valid	N	STD

Table 12. Analytical Results for Water Samples

LOCATION CODE	LOCATION TYPE	DATE SAMPLED	SAMPLE CODE	CAS	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCER-TAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
GS13	SL	1/14/2019	RFS01-04.1901015-007	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	24	mg/L		F	0.095		valid	N	STD
GS13	SL	1/14/2019	RFS01-04.1901015-007	7440-61-1	Uranium	No	57	ug/L		F	0.05		valid	N	STD
SPOUT	TS	6/11/2018	RFS01-04.1806005-006	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.022	mg/L	J	F	0.019		valid	N	STD
SPOUT	TS	6/11/2018	RFS01-04.1806005-006	7440-61-1	Uranium	No	68	ug/L		F	0.05		valid	N	STD
SPOUT	TS	6/28/2018	RFS01-06.1806007-007	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.019	mg/L	U	F	0.019		J	N	STD
SPOUT	TS	6/28/2018	RFS01-06.1806007-007	7727-37-9	Nitrogen, Total	No	33	mg/L		F	0.042		valid	N	STD
SPOUT	TS	6/28/2018	RFS01-06.1806007-007	7723-14-0	Phosphorus	No	11	mg/L	N	F	0.10		valid	N	STD
SPOUT	TS	6/28/2018	RFS01-06.1806007-007	TKN	Total Kjeldahl Nitrogen	No	33	mg/L	H	F	4.5		J	N	STD
SPOUT	TS	6/28/2018	RFS01-06.1806007-007	7440-61-1	Uranium	No	68	ug/L		F	0.05		valid	N	STD
SPOUT	TS	7/16/2018	RFS01-04.1807007-006	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.019	mg/L	U	F	0.019		valid	N	STD
SPOUT	TS	7/16/2018	RFS01-04.1807007-006	7440-61-1	Uranium	No	66	ug/L		F	0.05		valid	N	STD
SPOUT	TS	7/31/2018	RFS01-06.1807008-007	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.031	mg/L	J	F	0.019		valid	N	STD
SPOUT	TS	7/31/2018	RFS01-06.1807008-007	7727-37-9	Nitrogen, Total	No	23	mg/L		F	0.042		valid	N	STD
SPOUT	TS	7/31/2018	RFS01-06.1807008-007	7723-14-0	Phosphorus	No	13	mg/L		F	0.50		valid	N	STD
SPOUT	TS	7/31/2018	RFS01-06.1807008-007	TKN	Total Kjeldahl Nitrogen	No	23	mg/L	J	F	4.5		J	N	STD
SPOUT	TS	7/31/2018	RFS01-06.1807008-007	7440-61-1	Uranium	No	61	ug/L		F	0.05		valid	N	STD
SPOUT	TS	8/15/2018	RFS01-04.1808008-006	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.32	mg/L		F	0.019		valid	N	STD
SPOUT	TS	8/15/2018	RFS01-04.1808008-006	7440-61-1	Uranium	No	54	ug/L		F	0.05		valid	N	STD
SPOUT	TS	8/30/2018	RFS01-06.1808009-007	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.041	mg/L	J B	F	0.019		U	N	STD
SPOUT	TS	8/30/2018	RFS01-06.1808009-016	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.043	mg/L	J B	D	0.019		U	N	STD
SPOUT	TS	8/30/2018	RFS01-06.1808009-007	7727-37-9	Nitrogen, Total	No	17	mg/L		F	0.042		J	N	STD
SPOUT	TS	8/30/2018	RFS01-06.1808009-016	7727-37-9	Nitrogen, Total	No	23	mg/L		D	0.042		J	N	STD
SPOUT	TS	8/30/2018	RFS01-06.1808009-007	7723-14-0	Phosphorus	No	8.3	mg/L	B N	F	0.050		valid	N	STD
SPOUT	TS	8/30/2018	RFS01-06.1808009-016	7723-14-0	Phosphorus	No	9	mg/L	B	D	0.050		valid	N	STD
SPOUT	TS	8/30/2018	RFS01-06.1808009-007	TKN	Total Kjeldahl Nitrogen	No	17	mg/L	J	F	4.5		J	N	STD
SPOUT	TS	8/30/2018	RFS01-06.1808009-016	TKN	Total Kjeldahl Nitrogen	No	23	mg/L	J	D	4.5		J	N	STD
SPOUT	TS	8/30/2018	RFS01-06.1808009-007	7440-61-1	Uranium	No	44	ug/L		F	0.05		valid	N	STD
SPOUT	TS	8/30/2018	RFS01-06.1808009-016	7440-61-1	Uranium	No	50	ug/L		D	0.05		valid	N	STD
SPOUT	TS	9/12/2018	RFS01-04.1809010-006	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.036	mg/L	J	F	0.019		valid	N	STD
SPOUT	TS	9/12/2018	RFS01-04.1809010-006	7440-61-1	Uranium	No	51	ug/L		F	0.05		valid	N	STD
SPOUT	TS	10/2/2018	RFS01-06.1810010-007	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.027	mg/L	J B	F	0.019		U	N	STD
SPOUT	TS	10/2/2018	RFS01-06.1810010-007	7727-37-9	Nitrogen, Total	No	27	mg/L		F	0.042		valid	N	STD
SPOUT	TS	10/2/2018	RFS01-06.1810010-007	7723-14-0	Phosphorus	No	8.1	mg/L		F	0.050		valid	N	STD
SPOUT	TS	10/2/2018	RFS01-06.1810010-007	TKN	Total Kjeldahl Nitrogen	No	27	mg/L		F	4.5		JU	N	STD
SPOUT	TS	10/2/2018	RFS01-06.1810010-007	7440-61-1	Uranium	No	57	ug/L		F	0.05		valid	N	STD
SPOUT	TS	10/17/2018	RFS01-04.1810011-006	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.019	mg/L	U	F	0.019		valid	N	STD
SPOUT	TS	10/17/2018	RFS01-04.1810011-006	7440-61-1	Uranium	No	28	ug/L		F	0.05		valid	N	STD
SPOUT	TS	10/29/2018	RFS01-06.1810011-007	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.019	mg/L	U	F	0.019		valid	N	STD
SPOUT	TS	10/29/2018	RFS01-06.1810011-007	7727-37-9	Nitrogen, Total	No	29	mg/L		F	0.042		valid	N	STD
SPOUT	TS	10/29/2018	RFS01-06.1810011-007	7723-14-0	Phosphorus	No	8	mg/L	J	F	1.0		J	N	STD
SPOUT	TS	10/29/2018	RFS01-06.1810011-007	TKN	Total Kjeldahl Nitrogen	No	29	mg/L		F	11		J	N	STD
SPOUT	TS	10/29/2018	RFS01-06.1810011-007	7440-61-1	Uranium	No	27	ug/L		F	0.05		valid	N	STD
SPOUT	TS	12/13/2018	RFS01-04.1812014-006	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.028	mg/L	J	F	0.019		valid	N	STD
SPOUT	TS	12/13/2018	RFS01-04.1812014-006	7440-61-1	Uranium	No	68	ug/L		F	0.05		valid	N	STD
SPOUT	TS	12/31/2018	RFS01-06.1812013-007	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.037	mg/L	J	F	0.019		U	N	STD
SPOUT	TS	12/31/2018	RFS01-06.1812013-007	7727-37-9	Nitrogen, Total	No	22	mg/L		F	0.042		valid	N	STD
SPOUT	TS	12/31/2018	RFS01-06.1812013-007	7723-14-0	Phosphorus	No	11	mg/L		F	0.50		valid	N	STD
SPOUT	TS	12/31/2018	RFS01-06.1812013-007	TKN	Total Kjeldahl Nitrogen	No	22	mg/L		F	0.45		J	N	STD
SPOUT	TS	12/31/2018	RFS01-06.1812013-007	7440-61-1	Uranium	No	61	ug/L		F	0.05		valid	N	STD
SPOUT	TS	1/14/2019	RFS01-04.1901015-006	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	2.4	mg/L		F	0.019		valid	N	STD
SPOUT	TS	1/14/2019	RFS01-04.1901015-006	7440-61-1	Uranium	No	61	ug/L		F	0.05		valid	N	STD
SW093	SL	6/11/2018	RFS01-04.1806005-004	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	1.1	mg/L		F	0.019		valid	N	STD
SW093	SL	6/11/2018	RFS01-04.1806005-004	7440-61-1	Uranium	No	5.4	ug/L		F	0.05		valid	N	STD
SW093	SL	6/28/2018	RFS01-06.1806007-008	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.37	mg/L		F	0.019		valid	N	STD
SW093	SL	6/28/2018	RFS01-06.1806007-016	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.42	mg/L		D	0.019		valid	N	STD
SW093	SL	6/28/2018	RFS01-06.1806007-008	7440-61-1	Uranium	No	6.1	ug/L		F	0.05		valid	N	STD
SW093	SL	6/28/2018	RFS01-06.1806007-016	7440-61-1	Uranium	No	6	ug/L		D	0.05		valid	N	STD

Table 12. Analytical Results for Water Samples

LOCATION CODE	LOCATION TYPE	DATE SAMPLED	SAMPLE CODE	CAS	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCER-TAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
SW093	SL	7/16/2018	RFS01-04.1807007-004	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	1.2	mg/L		F	0.019		valid	N	STD
SW093	SL	7/16/2018	RFS01-04.1807007-004	7440-61-1	Uranium	No	5.8	ug/L		F	0.05		valid	N	STD
SW093	SL	7/31/2018	RFS01-06.1807008-008	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.41	mg/L		F	0.019		valid	N	STD
SW093	SL	7/31/2018	RFS01-06.1807008-008	7440-61-1	Uranium	No	6	ug/L		F	0.05		valid	N	STD
SW093	SL	8/15/2018	RFS01-04.1808008-004	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.019	mg/L	U	F	0.019		valid	N	STD
SW093	SL	8/15/2018	RFS01-04.1808008-004	7440-61-1	Uranium	No	7.1	ug/L		F	0.05		valid	N	STD
SW093	SL	8/30/2018	RFS01-06.1808009-008	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.067	mg/L	B	F	0.019		U	N	STD
SW093	SL	8/30/2018	RFS01-06.1808009-008	7440-61-1	Uranium	No	7.5	ug/L		F	0.05		valid	N	STD
SW093	SL	10/17/2018	RFS01-04.1810011-004	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	1.8	mg/L		F	0.019		valid	N	STD
SW093	SL	10/17/2018	RFS01-04.1810011-004	7440-61-1	Uranium	No	7.7	ug/L	W	F	0.05		valid	N	STD
SW093	SL	10/29/2018	RFS01-06.1810011-008	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	1.5	mg/L		F	0.019		valid	N	STD
SW093	SL	10/29/2018	RFS01-06.1810011-016	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	1.6	mg/L		D	0.019		valid	N	STD
SW093	SL	10/29/2018	RFS01-06.1810011-008	7440-61-1	Uranium	No	8	ug/L		F	0.05		valid	N	STD
SW093	SL	10/29/2018	RFS01-06.1810011-016	7440-61-1	Uranium	No	8.1	ug/L		D	0.05		valid	N	STD
SW093	SL	11/14/2018	RFS01-04.1811012-004	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	2.2	mg/L		F	0.019		J	N	STD
SW093	SL	11/14/2018	RFS01-04.1811012-004	7440-61-1	Uranium	No	8.4	ug/L		F	0.05		valid	N	STD
SW093	SL	11/28/2018	RFS01-06.1811012-008	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	2.1	mg/L		F	0.019		valid	N	STD
SW093	SL	11/28/2018	RFS01-06.1811012-016	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	2	mg/L		D	0.019		valid	N	STD
SW093	SL	11/28/2018	RFS01-06.1811012-008	7440-61-1	Uranium	No	9.4	ug/L		F	0.05		J	N	STD
SW093	SL	11/28/2018	RFS01-06.1811012-016	7440-61-1	Uranium	No	10	ug/L		D	0.05		J	N	STD
SW093	SL	12/13/2018	RFS01-04.1812014-004	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	2.8	mg/L		F	0.019		valid	N	STD
SW093	SL	12/13/2018	RFS01-04.1812014-004	7440-61-1	Uranium	No	14	ug/L		F	0.05		valid	N	STD
SW093	SL	12/31/2018	RFS01-06.1812013-008	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	3.3	mg/L		F	0.019		valid	N	STD
SW093	SL	12/31/2018	RFS01-06.1812013-008	7440-61-1	Uranium	No	14	ug/L		F	0.05		valid	N	STD
SW093	SL	1/14/2019	RFS01-04.1901015-004	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	1.8	mg/L		F	0.019		valid	N	STD
SW093	SL	1/14/2019	RFS01-04.1901015-015	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	1.6	mg/L		D	0.019		valid	N	STD
SW093	SL	1/14/2019	RFS01-04.1901015-004	7440-61-1	Uranium	No	11	ug/L		F	0.05		valid	N	STD
SW093	SL	1/14/2019	RFS01-04.1901015-015	7440-61-1	Uranium	No	11	ug/L		D	0.05		valid	N	STD
WOMPOC	SL	7/2/2018	RFS01-01.1901011-005	14596-10-2	Americium-241	No	0.00224	pCi/L	HU	F			valid	Y	GEN
WOMPOC	SL	7/2/2018	RFS01-01.1901011-005	13981-16-3	Plutonium-238	No	0.00179	pCi/L	HU	F			valid	Y	GEN
WOMPOC	SL	7/2/2018	RFS01-01.1901011-005	PU-239,240	Plutonium-239, 240	No	0.00892	pCi/L	HU	F			valid	Y	GEN
WOMPOC	SL	7/2/2018	RFS01-01.1901011-005	7440-61-1	Uranium	No	4.29	ug/L		F	0.067		valid	Y	GEN
WOMPOC	SL	11/28/2018	RFS01-06.1811012-009	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	No	0.019	mg/L	U	F	0.019		valid	N	STD

Table 12. Analytical Results for Water Samples

LOCATION CODE	LOCATION TYPE	DATE SAMPLED	SAMPLE CODE	CAS	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCER-TAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
WOMPOC	SL	11/28/2018	RFS01-06.1811012-009	7727-37-9	Nitrogen, Total	No	0.68	mg/L		F	0.042		valid	N	STD
WOMPOC	SL	11/28/2018	RFS01-06.1811012-009	7723-14-0	Phosphorus	No	0.011	mg/L	J	F	0.0050		valid	N	STD
WOMPOC	SL	11/28/2018	RFS01-06.1811012-009	TKN	Total Kjeldahl Nitrogen	No	0.68	mg/L	J B N	F	0.18		U	N	STD

EXPLANATION

FILTRATION STATUS

N = Sample was not filtered.
Y = Sample was filtered.

UNITS

mg/L; ppm = milligrams per liter
pCi/L = picocuries per liter
ug/L = micrograms per liter
C = degrees celsius
mS/cm = milliSiemens per centimeter
NTU = normal turbidity units
s.u. = standard pH units
uS/cm = microSiemens per centimeter
umhos/cm = microSiemens per centimeter

SAMPLE_TYPE

F = Field Sample
D = Duplicate

DATA_VALIDATION_QUALIFIERS

valid	Result is valid.
F	Low flow sampling method used.
G	Possible grout contamination, pH > 9.
J	Estimated value.
L	Less than 3 bore volumes purged prior to sampling.
Q	Qualitative result due to sampling technique
R	Unusable result.
U	Parameter analyzed for but was not detected.
X	Location is undefined.
999	Validation not complete

LAB_QUALIFIERS

*	Replicate analysis not within control limits.
+	Correlation coefficient for MSA < 0.995.
>	Result above upper detection limit.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic & Radiochemistry: Analyte also found in method blank.
C	Pesticide result confirmed by GC-MS.
D	Analyte determined in diluted sample.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
J	Estimated
M	GFAA duplicate injection precision not met.
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compund (TIC).
P	> 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
S	Result determined by method of standard addition (MSA).
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
Y	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
Z	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.

LOCATION_TYPE

SL	SURFACE LOCATION
TS	TREATMENT SYSTEM
WL	WELL

COLLECTION_METHOD

G	Grab
C	Composite

LAB_CODE

GEN	Gel Laboratories
STD	Test America

Table 13. Water Sampling Events: Fourth Quarter CY 2018

	Sampling Dates		Sample Info			Analytes					Sample Tracking Info
Location Code	**Start**	**End**	**Collection Method**	**Type**	**Filtered**	**VOC**	**U**	**Nitrate**	**Pu/Am**	**TSS**	**Sample ID**
SPOUT	10/2/2018 10:27	10/2/2018 10:27	grab	F	No		X	X			RFS01-06.1810010-007
00193	10/9/2018 14:50	10/9/2018 14:50	grab	F	Yes		X				RFS01-10.1810009-013
00193	10/9/2018 14:50	10/9/2018 14:50	grab	F	No	X					RFS01-10.1810009-013
10304	10/11/2018 9:35	10/11/2018 9:35	grab	F	Yes		X				RFS01-10.1810009-017
10304	10/11/2018 9:35	10/11/2018 9:35	grab	F	No	X		X			RFS01-10.1810009-017
89104	10/11/2018 10:05	10/11/2018 10:05	grab	F	No	X					RFS01-10.1810009-032
11104	10/11/2018 11:10	10/11/2018 11:10	grab	F	Yes		X				RFS01-10.1810009-019
11104	10/11/2018 11:10	10/11/2018 11:10	grab	F	No	X					RFS01-10.1810009-019
42505	10/11/2018 13:35	10/11/2018 13:35	grab	F	No	X					RFS01-10.1810009-028
4087	10/17/2018 11:05	10/17/2018 11:05	grab	F	Yes		X				RFS01-10.1810009-027
4087	10/17/2018 11:05	10/17/2018 11:05	grab	F	No	X		X			RFS01-10.1810009-027
B206989	10/17/2018 11:45	10/17/2018 11:45	grab	F	Yes		X				RFS01-10.1810009-042
B206989	10/17/2018 11:45	10/17/2018 11:45	grab	F	No	X		X			RFS01-10.1810009-042
GS10	10/17/2018 13:00	10/17/2018 13:00	grab	F	No		X				RFS01-04.1810011-001
SPOUT	10/17/2018 13:55	10/17/2018 13:55	grab	F	No		X	X			RFS01-04.1810011-006
SW093	10/17/2018 14:00	10/17/2018 14:00	grab	F	No		X	X			RFS01-04.1810011-004
GS10	10/29/2018 11:50	10/29/2018 11:50	grab	F	No		X				RFS01-06.1810011-004
SPOUT	10/29/2018 13:05	10/29/2018 13:05	grab	F	No		X	X			RFS01-06.1810011-007
SW093	10/29/2018 13:25	10/29/2018 13:25	grab	F	No		X	X			RFS01-06.1810011-008

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