

**Rocky Flats Site, Colorado,  
Quarterly Report of  
Site Surveillance and  
Maintenance Activities  
First Quarter  
Calendar Year 2017**

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U.S. DEPARTMENT OF  
**ENERGY**

Legacy  
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## Abbreviations

Am	americium
AOC	Area of Concern
CAD/ROD	Corrective Action Decision/Record of Decision
CDPHE	Colorado Department of Public Health and Environment
COU	Central Operable Unit
CR	Contact Record
CY	calendar year
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
EPC	East Perimeter Channel
ESSD	East Subsurface Drain
ETPTS	East Trenches Plume Treatment System
IC	institutional control
LM	Office of Legacy Management
µg/L	micrograms per liter (sometimes expressed as ug/L)
mg/L	milligrams per liter
MSPCS	Mound Site Plume Collection System
MSPTS	Mound Site Plume Treatment System
N	nitrogen
OLF	Original Landfill
pCi/L	picocuries per liter
PLF	Present Landfill
PLFTS	Present Landfill Treatment System
POC	Point of Compliance
POE	Point of Evaluation
Pu	plutonium
RCRA	Resource Conservation and Recovery Act
RFLMA	<i>Rocky Flats Legacy Management Agreement</i>
RFSOG	<i>Rocky Flats, Colorado, Site, Site Operations Guide</i>
SID	South Interceptor Ditch
Site	Rocky Flats Site
SPPTS	Solar Ponds Plume Treatment System
VOCs	volatile organic compounds
ZVI	zero-valent iron

## Executive Summary

This quarterly report for the first quarter (January 1 through March 31) of calendar year (CY) 2017 includes information on the remedy-related surveillance, monitoring, and maintenance activities conducted at the Rocky Flats Site, Colorado. This report summarizes the maintenance and inspection of the two site landfills and four groundwater collection or treatment systems, inspection of the perimeter signs of the Central Operable Unit (COU), erosion control and revegetation activities, and routine water monitoring.

The annual inspection, performed in accordance with the *Rocky Flats Legacy Management Agreement* (RFLMA), was conducted on March 16, 2017. Debris or trash encountered on the surface was picked up, and several minor depressions were noted. The depressions were surveyed for further observation. The minor depression observed in the vicinity of former Building 771 will be filled when appropriate equipment is on site as part of another project in CY 2017.

The routine quarterly inspection of the Present Landfill was performed on March 13, 2017. No issues were identified.

At the Present Landfill Treatment System, routine maintenance during the first quarter of CY 2017 generally consisted of inspecting the system for potential problems.

The Original Landfill (OLF) is inspected monthly, and the first quarter inspections were conducted on January 23, February 22, and March 22. There were no notable changes observed during the first quarter of CY 2017.

In response to slumping observed at the OLF over the past couple of years, construction of a temporary groundwater intercept project was initiated in March 2017. The purpose of the project was to install two groundwater wells to intercept groundwater flowing beneath the landfill and pump it to the East Subsurface Drain.

Routine maintenance was performed at the East Trenches Plume Treatment System (ETPTS) and associated Mound Site Plume Collection System in the first quarter of CY 2017. A generator was used at the ETPTS in early January to help recharge the batteries, and the solar power electrical components were checked, reprogrammed, and adjusted to reduce the potential for power lapses due to extended cloudy and snowy periods.

Routine maintenance was also performed at the Solar Ponds Plume Treatment System in the first quarter of CY 2017. Testing of uranium treatment using microcells continued.

During the first quarter of CY 2017, the water monitoring met the targeted monitoring objectives established for the site. During the quarter, 17 flow-paced composite samples, 11 surface-water grab samples, 16 treatment-system samples, and 10 groundwater samples were collected and submitted for analysis.

Groundwater monitoring results will be evaluated as part of the annual report for CY 2017.

Reportable conditions for americium and plutonium were observed at RFLMA Point of Evaluation (POE) SW027 starting in CY 2015 and extending through May 31, 2016, and March 31, 2017, respectively. The 12-month rolling average values for 2017 include water samples back 12 months into 2016. Because of the fact that there has been no flow and, therefore, no samples collected at SW027 since June 2, 2016, the 12-month rolling averages in the first quarter of CY 2017 reflect conditions in 2016. As of March 31, 2017, the 12-month rolling average for plutonium remained reportable at 0.18 picocuries per liter and americium was no longer reportable. All other analytes were not reportable through the first quarter of CY 2017.

All analyte evaluation concentrations at RFLMA POE locations GS10 and SW093 remained below the applicable water-quality standards throughout the first quarter of CY 2017.

Monitoring at RFLMA Point of Compliance location WALPOC, which is located on Walnut Creek at the eastern COU boundary, showed 30-day averages for uranium that exceeded the RFLMA standard of 16.8 micrograms per liter during the first quarter, triggering a reportable condition and consultation with the regulatory agencies under the RFLMA. As of April 4, 2017, the 30-day average for uranium at WALPOC is no longer reportable. The 12-month rolling average remains below the RFLMA water-quality standard for uranium.

## 1.0 Introduction

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) is responsible for implementing the final response action selected in the *Corrective Action Decision/Record of Decision for Rocky Flats Plant (USDOE) Peripheral Operable Unit and Central Operable Unit (CAD/ROD)* (DOE, EPA, and CDPHE 2006), issued on September 29, 2006, and amended on September 21, 2011 (DOE, EPA, and CDPHE 2011), for the Rocky Flats Site, Colorado (the Site). DOE, the U.S. Environmental Protection Agency (EPA), and the Colorado Department of Public Health and Environment (CDPHE) are implementing the monitoring and maintenance requirements of the CAD/ROD as described in the *Rocky Flats Legacy Management Agreement (RFLMA)* (DOE, EPA, and CDPHE 2012). Attachment 2 of the RFLMA (DOE 2012a) defines the surveillance and maintenance requirements of the Central Operable Unit (COU) remedy, the frequency for each required activity, and the monitoring and maintenance locations. The requirements include environmental monitoring; maintenance of the erosion controls, access controls (signs), landfill covers, and groundwater treatment systems; and operation of the groundwater treatment systems. The RFLMA also requires that the institutional controls (ICs), in the form of use restrictions as established in the CAD/ROD, be maintained.

This report is required in accordance with Section 7.0, “Periodic Reporting Requirements,” of RFLMA Attachment 2 (DOE 2012a). The purpose of this report is to inform the regulatory agencies and stakeholders of the remedy-related surveillance, monitoring, and maintenance activities conducted at the Site during the first quarter (January 1 through March 31) of calendar year (CY) 2017. LM provides periodic communications through several means, such as this report, web-based tools, and public meetings.

LM prepared the *Rocky Flats, Colorado, Site, Site Operations Guide (RFSOG)* (DOE 2013) to serve as the primary internal document to guide work to satisfy the requirements of the RFLMA and to implement best management practices at the Site.

Several other site-specific documents provide additional detail regarding the requirements described in RFLMA Attachment 2 (DOE 2012a), including all aspects of surveillance, monitoring, and maintenance activities, as well as data evaluation protocols.

Monitoring data and summaries of surveillance and maintenance activities for past quarters are available in the quarterly reports. Extensive discussion and evaluation of surveillance, monitoring, and maintenance activities are presented each calendar year in the annual report of Site surveillance and maintenance activities.

This report addresses remedy-related surveillance, monitoring, and operations and maintenance activities conducted at the Site during the first quarter of CY 2017. This report summarizes the following activities:

- Maintenance and inspection of the Original Landfill (OLF) and the Present Landfill (PLF)
- Maintenance and inspection of the groundwater treatment systems
- Inspection of signs posted at the perimeter of the COU as physical controls
- Erosion control and revegetation activities
- Routine water monitoring (in accordance with the RFLMA and the RFSOG)

## 2.0 Site Operations and Maintenance

### 2.1 Annual Site Inspection

Annual inspection and monitoring of evidence of significant erosion and violation of ICs is required in accordance with RFLMA Attachment 2, Sections 5.3.4 and 5.3.6. The inspection was conducted on March 16, 2017.

The items listed below were monitored during the inspection:

- Evidence of significant erosion in the COU, and the proximity of any erosion to the subsurface features identified in RFLMA Attachment 2, Figures 3 and 4. This monitoring included observation for precursor evidence of significant erosion, such as cracks, rills, slumping, subsidence, and sediment deposition.
- The effectiveness of ICs as determined by evidence of violation of the controls.
- Evidence of adverse biological conditions, such as unexpected morbidity or mortality.

As part of the IC inspection, annual verification that the Environmental Covenant remains in the Administrative Record and on file in Jefferson County records was conducted on March 16, 2017. In addition, it was verified that physical controls (i.e., signs placed along the COU fence) were in place.

The annual inspection was scheduled so that surface features could be observed after snow cover had melted, once the surface was dry, and before vegetation growth could obscure land surface features.

To conduct this work, knowledgeable DOE, CDPHE, EPA, and Legacy Management Support contractor members (the inspection team) walked down the COU surface to observe the conditions. These areas are designated as Areas A–E and are shown on the maps included in Appendix A. These areas generally coincide with the location of the subsurface features in RFLMA Attachment 2, Figures 3 and 4, or they afforded adequate viewing of the surface at these locations (e.g., sloping areas). Areas F and G were inspected as a best management practice (Appendix A). Inspection team members were given maps and assigned areas to inspect. Reference points, such as monitoring wells and roads, were used to orient the inspection team members within designated inspection areas.

Appendix A of this report also includes the completed inspection checklists.

Team members used marker flags to identify areas where conditions showed evidence of the three categories listed above to make their location available for follow-up by site subject matter experts. Areas that required evaluation were documented in the Site Observation Log for evaluation and follow-up.

Debris or trash on the surface was either picked up during the inspection or subsequently removed. Several areas showed minor depressions around former building areas. Site field operations subject matter experts evaluated those areas, and none appeared to be significant. The areas were surveyed using a global positioning system unit, and the information was added to the Site's geographic information system database for further observation. The minor depression

associated with former Building 771, although not urgent, will be filled when appropriate equipment is onsite as part of another project during CY 2017.

No evidence of violations of institutional or physical controls was observed, and no adverse biological conditions were noted during the inspection.

## **2.2 Landfills**

### **2.2.1 Present Landfill**

The PLF is inspected quarterly in accordance with the requirements of the *Present Landfill Monitoring and Maintenance Plan and Post-Closure Plan* (DOE 2014b) and Attachment 2 of the RFLMA (DOE 2012a). Settlement monuments are surveyed annually in December, and results are reported in the annual report.

#### **2.2.1.1 Inspection Results**

The routine PLF inspection for the first quarter of CY 2017 was performed on March 13, 2017. Copies of the landfill inspection forms are presented in Appendix B.

#### **2.2.1.2 Settlement Monuments**

The 2016 annual survey of the PLF settlement monuments was performed on December 12, 2016. Survey data indicate that vertical settling at each monument is within the limits specified in the *Present Landfill Monitoring and Maintenance Plan and Post-Closure Plan* (DOE 2014b).

### **2.2.2 Original Landfill**

The OLF is inspected monthly in accordance with the requirements in the *Rocky Flats Site Original Landfill Monitoring and Maintenance Plan* (DOE 2009) and the RFLMA. It was expected that after the first year the inspection frequency might be reduced to quarterly for an additional 4 years. However, because localized slumping and seep areas have been observed, and because of the investigation of and subsequent repairs to the OLF cover completed in 2009, no change to the frequency of inspections was recommended in the *Third Five-Year Review Report for the Rocky Flats Site, Jefferson and Boulder Counties, Colorado* (DOE 2012b).

#### **2.2.2.1 Inspection Results**

Routine OLF inspections during the first quarter of CY 2017 were performed on January 23, February 22, and March 22, 2017. The National Renewable Energy Laboratory reported 3.08 inches of precipitation for the first quarter of CY 2017. There were no notable changes observed during the quarter. The completed inspection forms are presented in Appendix B.

### **2.2.2.2 Settlement Monuments**

The OLF settlement monuments were surveyed on March 13, 2017. Survey data indicate that vertical settling at each monument is within the limits specified in the *Rocky Flats Site Original Landfill Monitoring and Maintenance Plan* (DOE 2009). The survey results are presented in Appendix B.

### **2.2.2.3 Inclinerometers**

All inclinometer monitoring at the OLF has been discontinued.

### **2.2.2.4 Stabilization Activities**

Given the significant precipitation observed at the Site during 2016 and the resulting movement (e.g., slumping) at the OLF, actions were taken to improve the diversion of groundwater away from the East Perimeter Channel (EPC), the location of the majority of slumping. These actions included the repair and upgrade of the East Subsurface Drain (ESSD) in the northeast corner of the OLF so that it functions as intended and is less likely to clog. The ESSD is upgradient of the area that exhibited the most significant slumping in 2016, and did not operate as installed. The ESSD was originally constructed as an open-graded rock drain with no geotextile filter fabric to reduce the potential for clogging. It is not known when the ESSD stopped working, but it was noted that very little water, if any, flowed out of the drain. The excavation of portions of the ESSD in the summer of 2015 (performed under Contact Record [CR] 2015-06) failed to provide an outlet for water that might have been collecting in the buried rock drain.

Based on the information above, the ESSD was repaired and upgraded so that it properly functions and is less likely to clog. This action began on November 29, 2016, and was completed January 6, 2017. Contact Record 2016-04 describes this effort.

Groundwater modeling for the OLF indicates that groundwater is entering from the north and is likely a major cause of slumping at the landfill. The modeling indicated that the pipe bedding from the abandoned storm-water lines from former Buildings 460 and 440/444 may be a preferential pathway for groundwater to enter the OLF. As such, in early March 2017, a geophysical survey of the OLF was conducted to locate buried utility lines, specifically, the storm-drain lines associated with former Buildings 440/444 and 460 and the connecting 36-inch corrugated metal pipe. In addition, the geophysical survey attempted to identify, for the purpose of modeling the subsurface topography, the top of weathered and unweathered bedrock.

Using the results of the geophysical survey, construction of a temporary groundwater intercept project was initiated on March 14, 2017. Contact Record 2017-01 describes this effort. The purpose of the project was to install two wells to intercept preferential groundwater flows that follow the abandoned culvert line bedding corridors from former Buildings 460 and 440/444. Intercepted groundwater is pumped via aboveground lines to the ESSD. The system is powered by a propane generator.

### **2.2.2.5 Seeps**

Seeps at the OLF were evaluated during the monthly inspections. Estimates for individual seep flow rates are given in the monthly OLF inspection reports.

## **2.3 Subsidence Observed Near Former Buildings**

Former building areas, including those for Buildings 371, 771, 881, and 991, are routinely inspected (i.e., quarterly and as part of weather-related inspections) for evidence of subsidence. The quarterly inspection performed on January 26, 2017, indicated no new subsidence. As noted in Section 2.1, a minor depression associated with former Building 771 was observed during the annual site inspection conducted on March 16. Although not urgent, this depression will be filled when appropriate equipment is on site as part of another project during CY 2017.

## **2.4 North Walnut Creek Slump**

Additional slumping was noted on the hillside east of the Solar Ponds Plume Treatment System (SPPTS) after the heavy precipitation events of 2015. The toe of the slump encroached on the road leading to the SPPTS discharge gallery. During the spring precipitation of 2016, the slumping became more pronounced. Site staff determined that if additional movement occurred in the future, a groundwater monitoring well, the SPPTS Interceptor Trench System Sump, and/or the SPPTS trench could potentially be impacted. A statement of work was prepared, and a geotechnical engineering firm was hired to evaluate the North Walnut Creek Slump and the potential effect on SPPTS components.

The final report from the geotechnical engineers was completed in December 2016. This report indicates that continued movement is likely and that further movement would likely impact SPPTS components. The final report includes recommendations; however, additional investigation such as borings to evaluate soil types and groundwater levels will be required to support the design of the stabilization effort.

To promote positive drainage and regrade material encroaching on the groundwater monitoring well and SPPTS Interceptor Trench System Sump, an interim effort for regrading the North Walnut Creek Slump will be implemented in the second quarter of CY 2017. Contact Record 2017-03 covers this work.

To support the regrading project, two field tasks were completed during first quarter of CY 2017 to facilitate the work. In March 2017, a geophysical survey of the North Walnut Creek Slump was conducted to locate buried drain lines, specifically, the drain lines associated with the interceptor trench system. This was conducted in an effort to minimize damage to the drain lines during the regrading project. In late March, the grading area was mowed to enhance visibility of the ground surface for the grading subcontractor and to discourage spring nesting by birds and other wildlife.

## **2.5 Site Road Maintenance**

Filling of minor ruts was the only routine maintenance on site roads during the first quarter of CY 2017.

## **2.6 Groundwater Treatment Systems**

Four groundwater collection and three treatment systems are monitored, operated, and maintained in accordance with requirements defined in the RFLMA and the RFSOG.

Three of these systems (the Mound Site Plume Collection System [MSPCS], the East Trenches Plume Treatment System [ETPTS], and the SPPTS) include a groundwater intercept trench (collection trench), which is similar to a French drain with an impermeable membrane on the downgradient side. The fourth system, the PLF Treatment System (PLFTS), passively treats water from the northern and southern components of the Groundwater Intercept System and water that flows from the PLF seep.

### **2.6.1 Mound Site Plume Collection System**

The MSPCS resulted from the reconfiguration of the Mound Site Plume Treatment System (MSPTS) in 2016. The MSPTS was installed in 1998 to treat groundwater contaminated with low concentrations of volatile organic compounds (VOCs). Groundwater that was intercepted by the collection trench was routed to treatment cells that were filled with zero-valent iron (ZVI), which treated dissolved VOCs. The treated water then flowed to an effluent manhole, which was equipped with a small air stripper from 2011 through mid-2016, and was subsequently discharged to the subsurface. Refer to the annual reports for 2011 (DOE 2012c) and 2013 (DOE 2014a) for details on that air stripper.

In the third quarter of 2016, the MSPTS Reconfiguration Project was completed, eliminating the treatment capability at the MSPTS. The collection of impacted groundwater was not affected by the Reconfiguration Project; this collected water is now routed to the ETPTS for treatment. As a result, henceforth the MSPTS is referred to as the MSPCS because of this change in function. The Reconfiguration Project is discussed in the annual report for 2016 (DOE 2017).

Routine maintenance performed at the MSPCS during the first quarter of CY 2017 included checking the batteries and other power components, checking water levels in and flow rates to and from the collection trench and lift station, exercising valves, and checking operation of the transfer pump in the lift station. Accumulations of snow were brushed off the solar panels as needed.

Refer to Section 3.1.9.1 for information on water-quality monitoring.

### **2.6.2 East Trenches Plume Treatment System**

The ETPTS was installed in 1999 to treat groundwater contaminated with low concentrations of VOCs and was based on the design of the MSPTS. In its original configuration, groundwater that was intercepted by the ETPTS collection trench was routed to treatment cells filled with ZVI. Dissolved VOCs were treated by the ZVI in these cells, and the treated effluent then flowed to an effluent manhole and was subsequently discharged to the subsurface. Following tests at the MSPTS that began in 2011, a small air stripper designed and built by site staff was installed in the ETPTS influent manhole in 2013. This pretreated water (i.e., the water from which some of the VOCs were removed) was then routed to the ZVI-filled treatment cells. A reconfiguration project was undertaken in 2014–2015, and since that project was completed, the ETPTS no longer relies on ZVI for treatment. Instead, a full-scale, commercial air stripper using only solar and battery power treats the VOCs in collected groundwater. This reconfiguration project made no changes to the groundwater intercept trench, effluent manhole, or discharge gallery. Reconfiguration of the ETPTS was completed in January 2015. Refer to the annual reports for 2014 (DOE 2015a) and 2015 (DOE 2016) for more information on the reconfiguration project.

As part of the MSPTS Reconfiguration Project (see Section 2.6.1 above), additional power components (batteries and solar panels) were installed at the ETPTS, and the effluent pump was replaced with a higher-flow unit. These upgrades were made in response to the additional water the ETPTS air stripper was to treat following completion of that project. Routine maintenance activities at the ETPTS were not significantly affected by these changes.

Routine maintenance at the ETPTS in the first quarter of CY 2017 included checking the batteries and other power components, adjusting valves and settings to modify flow rates and maintain air-stripper operation, exercising valves, greasing the blower motor, and cleaning the influent air filter for the blower. In addition, accumulations of snow were brushed off the solar panels as needed. Clearing the snow was particularly important early in January, as snow on the panels combined with cloudy conditions to prevent the air stripper from automatically starting on January 4 and 5. A backup generator was used to recharge the batteries, and a subcontracted solar-power expert adjusted power-control device programming and connections to reduce the potential for future outage.

In addition to these routine activities, a protective cage was constructed for the backup generator that is kept at the power facility for the air stripper.

Refer to Section 3.1.9.2 for information on water-quality monitoring.

### **2.6.3 Solar Ponds Plume Treatment System**

The SPPTS was installed in 1999 to treat groundwater contaminated with nitrate and uranium and is based on the design of the MSPTS and ETPTS. In its original configuration, groundwater that was intercepted by the SPPTS collection trench was routed to a larger treatment cell filled with sawdust and a small percentage of ZVI, and then to a smaller treatment cell filled with gravel and ZVI. Nitrate was treated in the first cell and uranium in the second. Effluent from the treatment cells is routed to an effluent manhole, from which it is piped to a subsurface discharge gallery. Several upgrades to the SPPTS have been installed and modified over the years, and numerous treatability studies have been conducted to improve its effectiveness. Additional treatment cells were installed, as was a pilot-scale nitrate treatment system that uses a lagoon approach.

The SPPTS Interim Reconfiguration Project, completed in mid-2016, converted the original treatment cells and associated concrete structure into a full-scale, test lagoon for nitrate treatment and installed a new vault for uranium treatment testing. This project is discussed in the associated annual report (DOE 2017).

Routine maintenance during the first quarter of CY 2017 at the SPPTS included checking the batteries and other power components; adjusting valves and settings to maintain water levels, modify flow rates, and maintain nutrient dose rates; flushing lines to clear clogs and maintain flows; and monitoring temperatures in the recently completed full-scale, test lagoon. In addition, accumulations of snow were brushed off the solar panels as needed. Testing of uranium treatment using microcells continued in the sidecar vault. Extensive sampling was also conducted throughout the quarter to evaluate the effectiveness of the new lagoon during winter conditions.

Refer to Section 3.1.9.3 for information on water-quality monitoring.

#### **2.6.4 Present Landfill Treatment System**

Routine maintenance activities continued at the PLFTS through the first quarter of CY 2017. These activities generally consisted of inspecting the system for potential problems. No deficiencies were noted.

Refer to Section 3.1.9.4 for information on water-quality monitoring.

#### **2.7 Sign Inspection**

It is required that “U.S. Department of Energy – No Trespassing” signs be posted at defined intervals around the perimeter of the COU to notify persons that they are at the boundary of the COU. It is also required that signs listing the ICs and providing contact information be posted at access points to the COU. The signs are required by the remedy as physical controls, are inspected quarterly, and are maintained through repair or replacement as needed. Physical controls protect the engineered components of the remedy, including landfill covers, groundwater treatment systems, and monitoring equipment, which are also inspected routinely during monitoring and maintenance activities.

The signs were inspected on January 31, 2017. No problems were observed during the inspection. On March 23, 2017, one of the signs was observed to be hanging sideways. One of the wires holding it had broken, and it was repaired.

#### **2.8 Erosion Control and Revegetation**

Maintenance of the Site’s erosion-control features required continued effort throughout the first quarter of CY 2017, especially following high-wind or precipitation events. Erosion wattles and matting loosened and displaced by high winds or snow were repaired. Erosion controls were installed and maintained for the various projects that were ongoing during the first quarter of CY 2017.

### **3.0 Environmental Monitoring**

This section summarizes the environmental monitoring conducted in accordance with the RFLMA Attachment 2 (DOE 2012). RFLMA Attachment 2, Table 1, “Surface Water Standards,” establishes the concentrations that determine reportable conditions in accordance with RFLMA Attachment 2, Section 6.0, “Action Determinations.” Reportable conditions require DOE to consult with CDHPE and EPA to determine the appropriate actions.

## 3.1 Water Monitoring

This section includes:

- A discussion of analytical results for the Point of Compliance (POC), Point of Evaluation (POE), PLF, and OLF surface-water monitoring objectives.
- Summaries of groundwater monitoring at the Area of Concern (AOC) wells, the Sentinel wells, the Evaluation wells, and the Resource Conservation and Recovery Act (RCRA) wells; treatment-system monitoring; and Surface Water Support monitoring at the Site.

RFLMA Attachment 2 and the RFSOG offer details about the monitoring locations, sampling criteria, and evaluation protocols for the water monitoring objectives mentioned in the following sections. Appendix C provides analytical water-quality data for the first quarter of CY 2017. The annual report for CY 2017 will provide a more detailed interpretation and discussion of the water-quality data.

### 3.1.1 Water Monitoring Highlights

During the first quarter of CY 2017, the water monitoring met the targeted monitoring objectives required by the RFLMA and was in conformance with RFSOG implementation guidance. The routine RFLMA network consists of 8 automated gaging stations, 11 surface-water grab-sampling locations, 8 treatment-system locations, and 88 monitoring wells (DOE 2015a). Additional locations are occasionally sampled in support of investigations in response to reportable conditions. During the quarter, 17 flow-paced composite samples, 11 surface-water grab samples, 16 treatment-system samples, and 10 groundwater samples were collected (in accordance with RFLMA protocols) and submitted for analysis.<sup>1</sup>

Groundwater monitoring results will be evaluated as part of the annual report for CY 2017.

Reportable conditions for americium (Am) and plutonium (Pu) were observed at RFLMA POE SW027 (Figure 1) starting in CY 2015 and extending through May 31, 2016 and March 31, 2017, respectively. The 12-month rolling average values for 2017 include water samples back 12 months into 2016. Due to the fact that there has been no flow, and therefore no samples collected, at SW027 since June 2, 2016, the 12-month rolling averages in the first quarter of CY 2017 reflect conditions in 2016. As of March 31, 2017, the 12 month rolling average for plutonium remained reportable at 0.18 picocuries per liter (pCi/L) and americium was no longer reportable. SW027 data are presented and discussed further in Section 3.1.3.2. All other analytes were not reportable through the first quarter of CY 2017.

All analyte concentrations at RFLMA POE locations GS10 and SW093 remained below reportable levels throughout the first quarter of CY 2017.

Monitoring at RFLMA POC location WALPOC, which is located on Walnut Creek at the eastern COU boundary, showed 30-day averages for uranium that exceeded the RFLMA standard of

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<sup>1</sup> Composite samples consist of multiple aliquots (“grabs”) of identical volume. Each grab is delivered by the automatic sampler to the composite container at each predetermined flow volume or time interval. During the first quarter of CY 2017, the 17 flow-paced composites comprised 566 individual grabs.

16.8 micrograms per liter ( $\mu\text{g/L}$ ) during the first quarter, triggering a reportable condition and consultation with the regulatory agencies under the RFLMA. As of April 4, 2017, the 30-day average for uranium at WALPOC is no longer reportable.<sup>2</sup> The 12-month rolling average remains below the RFLMA water-quality standard for uranium.

All other RFLMA POC analyte concentrations remained below reportable levels throughout the first quarter of CY 2017.

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<sup>2</sup> This evaluation uses both validated and unvalidated analytical results. Unvalidated results are considered preliminary and subject to revision.



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### 3.1.2 POC Monitoring

The following sections include summary tables and plots showing the applicable 30-day and 12-month rolling averages for the POC analytes.

#### 3.1.2.1 Monitoring Location WALPOC

Monitoring location WALPOC is on Walnut Creek at the eastern COU boundary. Figure 2 through Figure 5 show no occurrences of reportable 12-month rolling or 30-day averages during the quarter for americium, plutonium, or nitrate + nitrite as nitrogen (N) (in milligrams per liter [mg/L]). The methods for calculating the 30-day and 12-month rolling averages are detailed in the annual report.

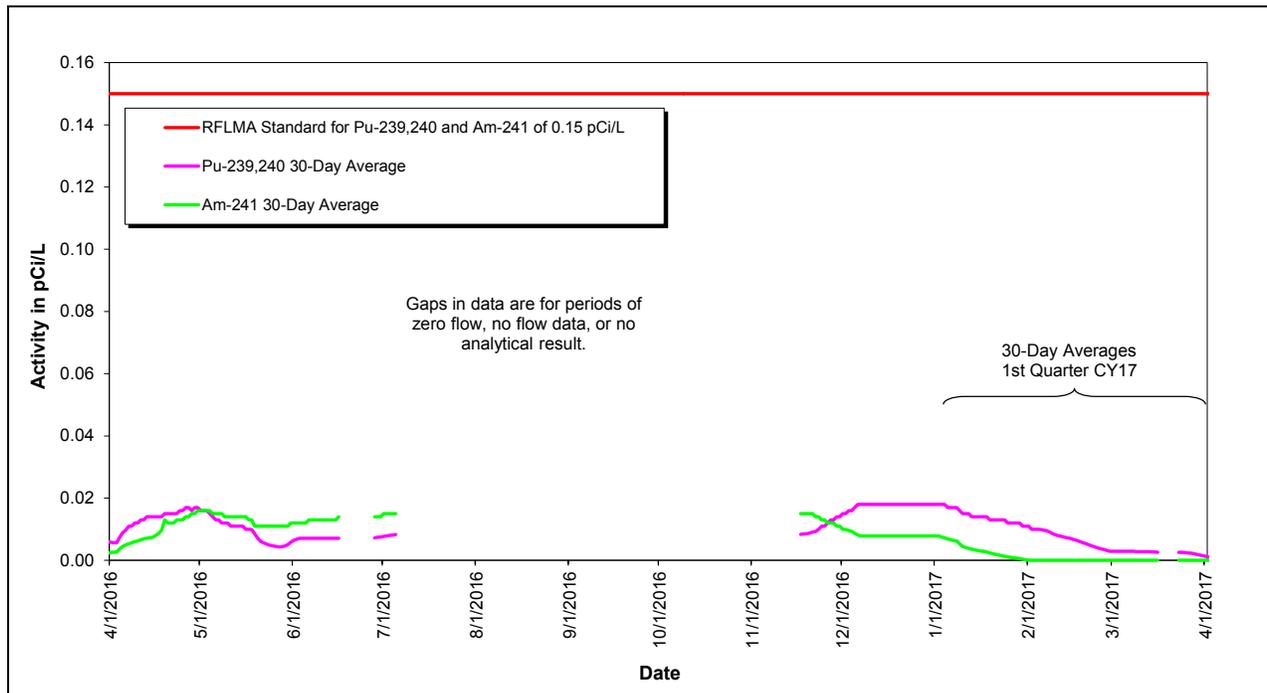


Figure 2. Volume-Weighted 30-Day Average Plutonium and Americium Activities at WALPOC: Year Ending First Quarter CY 2017

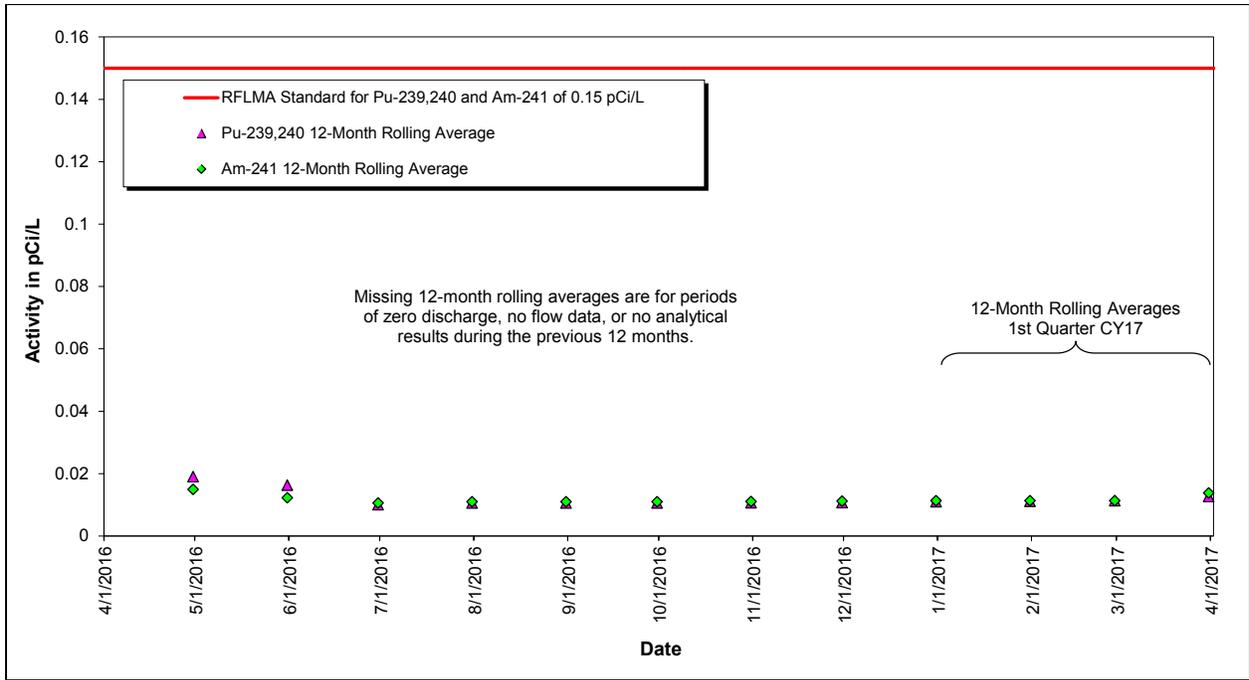


Figure 3. Volume-Weighted 12-Month Rolling Average Plutonium and Americium Activities at WALPOC: Year Ending First Quarter CY 2017

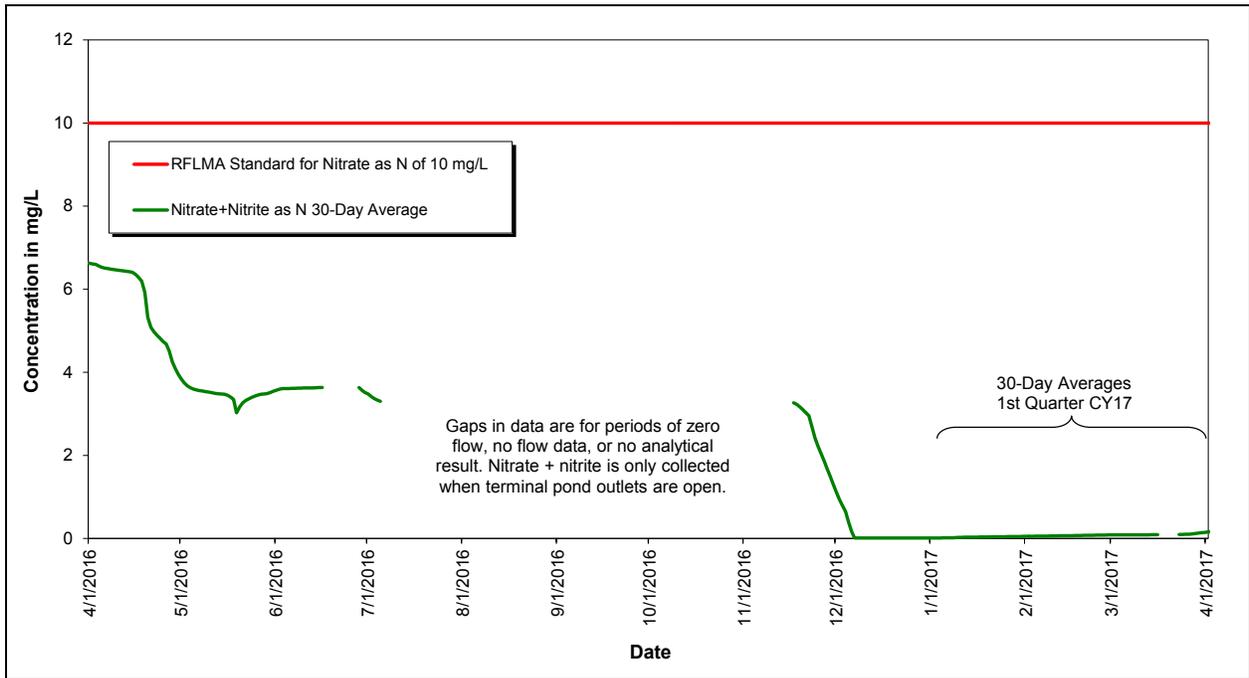
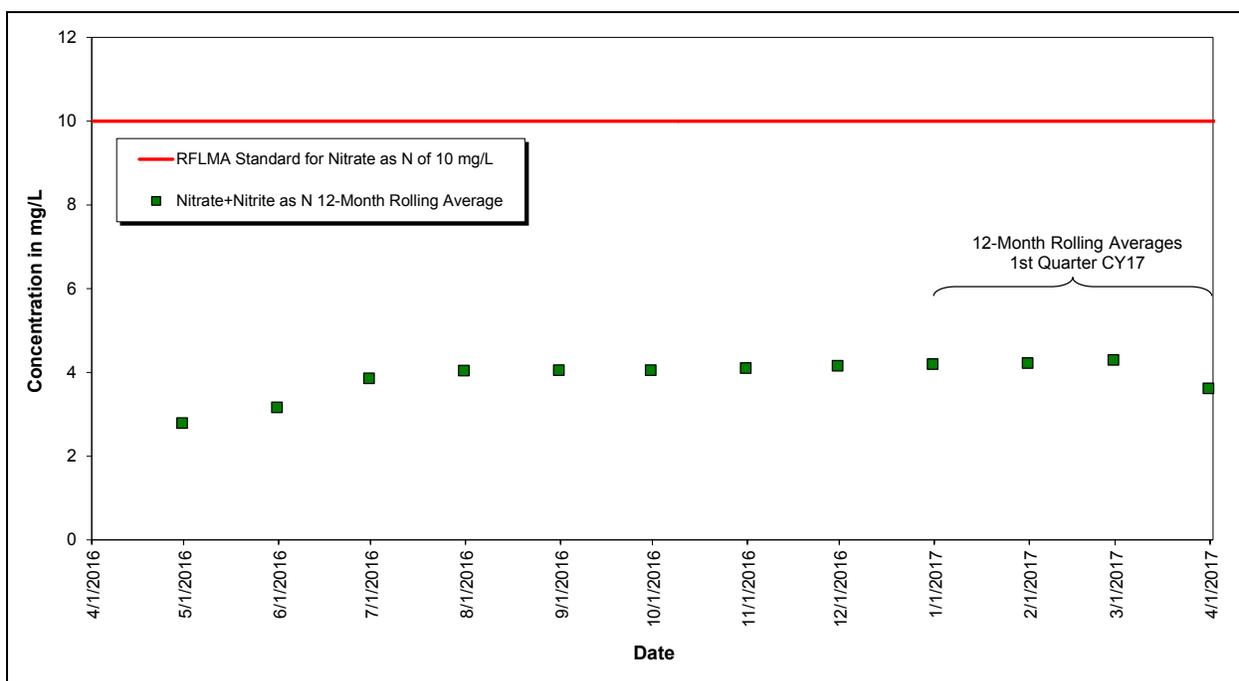


Figure 4. Volume-Weighted 30-Day Average Nitrate + Nitrite as Nitrogen Concentrations at WALPOC: Year Ending First Quarter CY 2017



**Note:** Nitrate + nitrite as nitrogen 12-month averages are conservatively compared to the nitrate standard only.

*Figure 5. Volume-Weighted 12-Month Rolling Average Nitrate + Nitrite as Nitrogen Concentrations at WALPOC: Year Ending First Quarter CY 2017*

Figure 6 shows that the 30-day average for uranium exceeded the RFLMA standard of 16.8  $\mu\text{g/L}$  during the first quarter, triggering a reportable condition and consultation with the regulatory agencies under the RFLMA. As of April 4, 2017, the 30-day average for uranium at WALPOC is no longer reportable.<sup>3</sup> The 12-month rolling average remains below the RFLMA water-quality standard for uranium (Figure 7).

The evaluation of the WALPOC uranium data was performed in accordance with RFLMA Attachment 2, Figure 5, “Points of Compliance,” and resulted in a calculated 30-day average concentration for uranium of 16.9  $\mu\text{g/L}$  on December 8, 2016. This value exceeds the RFLMA Attachment 2, Table 1, standard of 16.8  $\mu\text{g/L}$ . Validated results were received on January 30, 2017, and formal notification to the regulatory agencies and the public<sup>4</sup>—in accordance with RFLMA Attachment 2, Figure 5—was made by email on February 3, 2017.

<sup>3</sup> This evaluation uses both validated and unvalidated analytical results. Unvalidated results are considered preliminary and subject to revision.

<sup>4</sup> RFLMA Attachment 2, Figure 5 defines the public as the Rocky Flats Stewardship Council and the cities of Broomfield, Northglenn, Thornton, and Westminster.

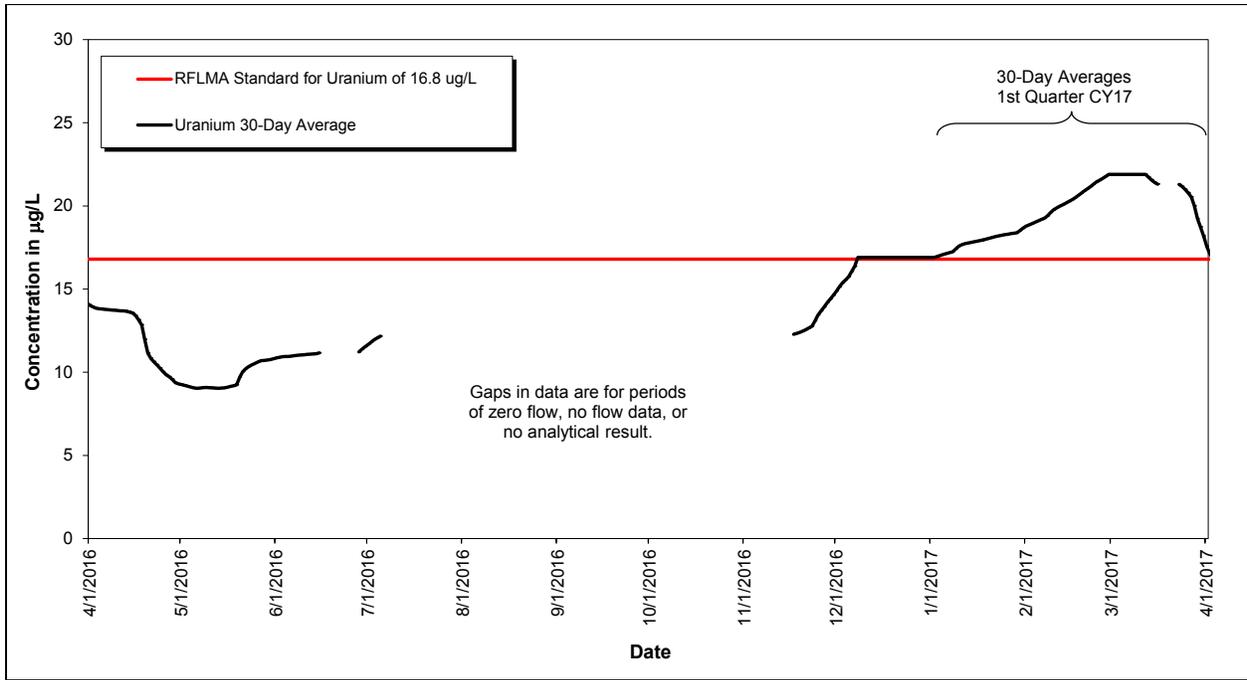


Figure 6. Volume-Weighted 30-Day Average Uranium Concentrations at WALPOC: Year Ending First Quarter CY 2017

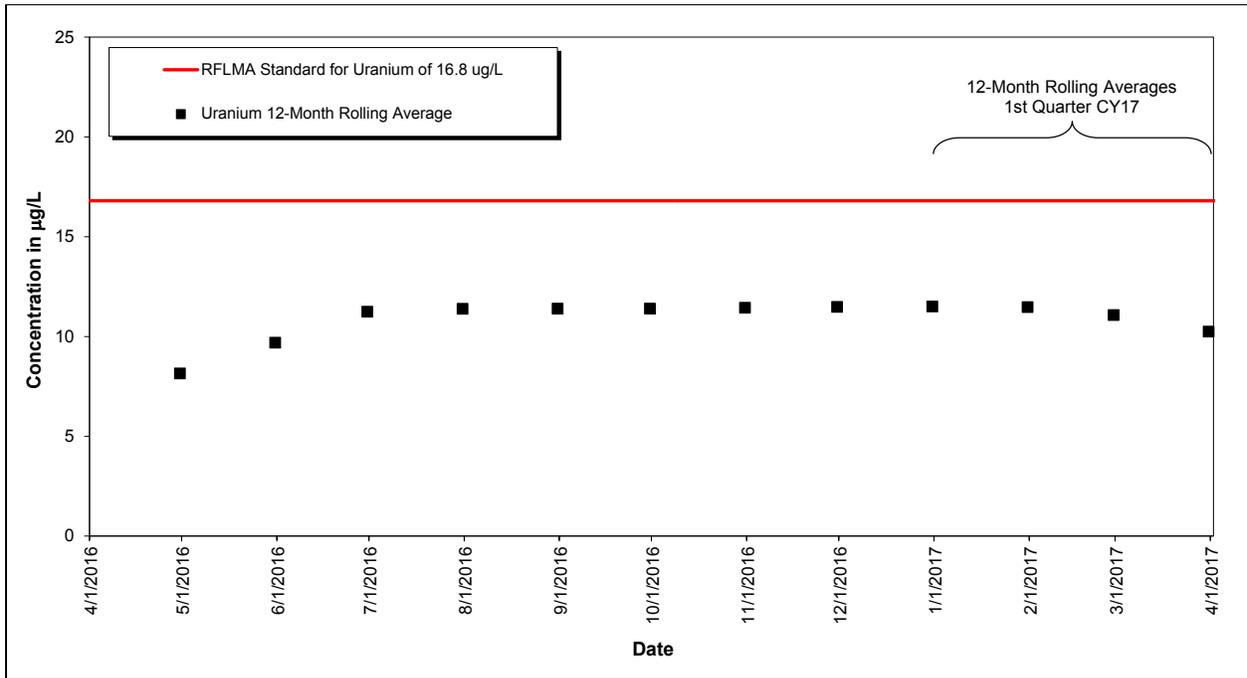


Figure 7. Volume-Weighted 12-Month Rolling Average Uranium Concentrations at WALPOC: Year Ending First Quarter CY 2017

In accordance with RLFMA Attachment 2, Figure 5, “Points of Compliance,” the method to determine compliance with the remedy performance standard is the 12-month rolling average.

The 12-month rolling average uranium concentration for March 31, 2017, is 10.2 µg/L (Figure 7). High-resolution isotopic uranium analyses for samples recently collected at WALPOC are underway. Previous high-resolution isotopic uranium analyses for WALPOC show signatures that are between 68% and 87% natural uranium. Past reports for high-resolution isotopic uranium analyses can be found in the appendixes of previous annual reports. Results for CY 2016 high-resolution isotopic uranium analyses are included in Appendix E of the CY 2016 Annual Report.

Pursuant to RFLMA Attachment 2, Section 6.0, “Action Determinations,” for a reportable condition:

- DOE must submit a plan and schedule for an evaluation to address the condition within 30 days of receiving the validated data for the reportable condition.
- DOE will consult with CDPHE and EPA to determine if mitigating actions are necessary.
- The objective of the consultation will be to determine a course of action (if necessary) to address the reportable condition and ensure that the remedy remains protective.
- The results of the consultation will be documented in contact records, written correspondence, or both.

Representatives of CDPHE and DOE discussed this reportable condition on January 31, 2017, and developed a path forward. Contact Record 2017-02 documents DOE’s January 31 and February 28, 2017, consultations with CDPHE.

The RFLMA Parties agreed on the evaluation steps described below and that no mitigating actions are necessary at this time, for the following reasons:

- The remedy remains protective. The remedy standard for uranium at the WALPOC sampling location is the calculated 12-month rolling average. Using the most recent validated data, the calculated 12-month rolling average at WALPOC for uranium on March 31, 2017, is 10.2 µg/L (Figure 7), well below the 16.8 µg/L remedy performance standard.
- WALPOC has been a RFLMA monitoring location for nearly 6 years. During that period, the Site experienced one of its driest years (2012), its wettest month (September 2013), and one of its wettest springs (2015), according to precipitation data collected since 1990. Because uranium concentrations are influenced by changing environmental conditions, varying uranium concentrations at WALPOC are to be expected. While significant uranium concentration variability can be seen in both individual sample results and in the 30-day averages, the observed variability is not outside of anticipated ranges and remains well below the 30 µg/L drinking water standard (i.e., the maximum contaminant level [MCL]).
- Measured concentrations of uranium at WALPOC include both naturally occurring and anthropogenic uranium. Previous high-resolution isotopic uranium analyses for WALPOC show signatures that are between 68% and 87% naturally occurring uranium.
- The variability of the uranium concentration influenced by environmental conditions was detailed in a study conducted by a qualified geochemistry subcontractor, the results of which were published in the *Evaluation of Water Quality Variability for Uranium and Other*

*Selected Parameters in Walnut Creek at the Rocky Flats Site* (September 2015). This report can be found at [https://www.lm.doe.gov/Rocky\\_Flats/Documents.aspx](https://www.lm.doe.gov/Rocky_Flats/Documents.aspx).

- Although recent results were above the 16.8 µg/L Site standard, they remain well below the 30 µg/L drinking water standard. The 16.8 µg/L standard is a level at which there is no known or anticipated adverse effects on the health of a person and is based on an adult weighing 70 kilograms consuming 2 liters of water per day for a lifetime. Because WALPOC has an intermittent flow of water and Walnut Creek is not a source of drinking water, there remains an adequate margin of safety. Therefore, the remedy remains protective of human health and the environment.

**Plan and Schedule to Address the Reportable Condition:** The RFLMA Parties agreed that steps described in CR 2017-02 shall serve as the plan and schedule for the evaluation.

The following steps have been or are being taken and will be utilized during the evaluation:

- Flow-paced composite samples routinely collected at WALPOC will continue to be analyzed on a 2-week turnaround.
- High-resolution isotopic uranium analysis on the most recent WALPOC samples will be conducted to determine the percentages of natural and anthropogenic uranium for comparison to historical data.
- DOE will provide CDPHE with a sample split from the next composite sample collected at WALPOC. That composite sample was started on January 30, 2017. This split sample will be analyzed for uranium by the State. As of the publication of this report, CDPHE has received several other sample splits.

DOE will report the results of this monitoring and of the subsequent evaluation in RFLMA quarterly and annual reports of surveillance and monitoring activities. This plan and schedule may be modified based on the outcome of RFLMA party consultation related to the evaluation.

To keep the public informed, the outcome of continuing RFLMA party consultation regarding the evaluation will be reported in RFLMA quarterly and annual reports of surveillance and monitoring activities or in subsequent contact records.

### **3.1.2.2 Monitoring Location WOMPOC**

Monitoring location WOMPOC is on Woman Creek at the eastern COU boundary. Figure 8 through Figure 11 show no occurrences of reportable 12-month rolling or 30-day averages for the quarter. The methods for calculating the 30-day and 12-month rolling averages are detailed in the annual report.

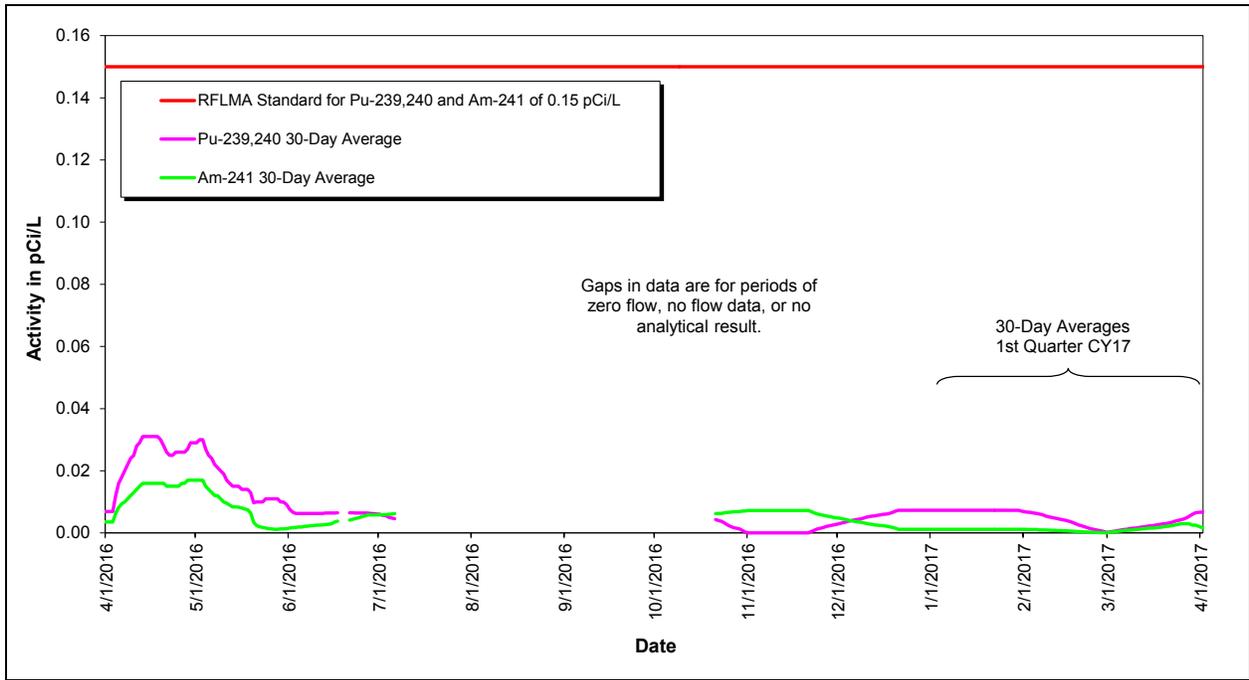


Figure 8. Volume-Weighted 30-Day Average Plutonium and Americium Activities at WOMPOC: Year Ending First Quarter CY 2017

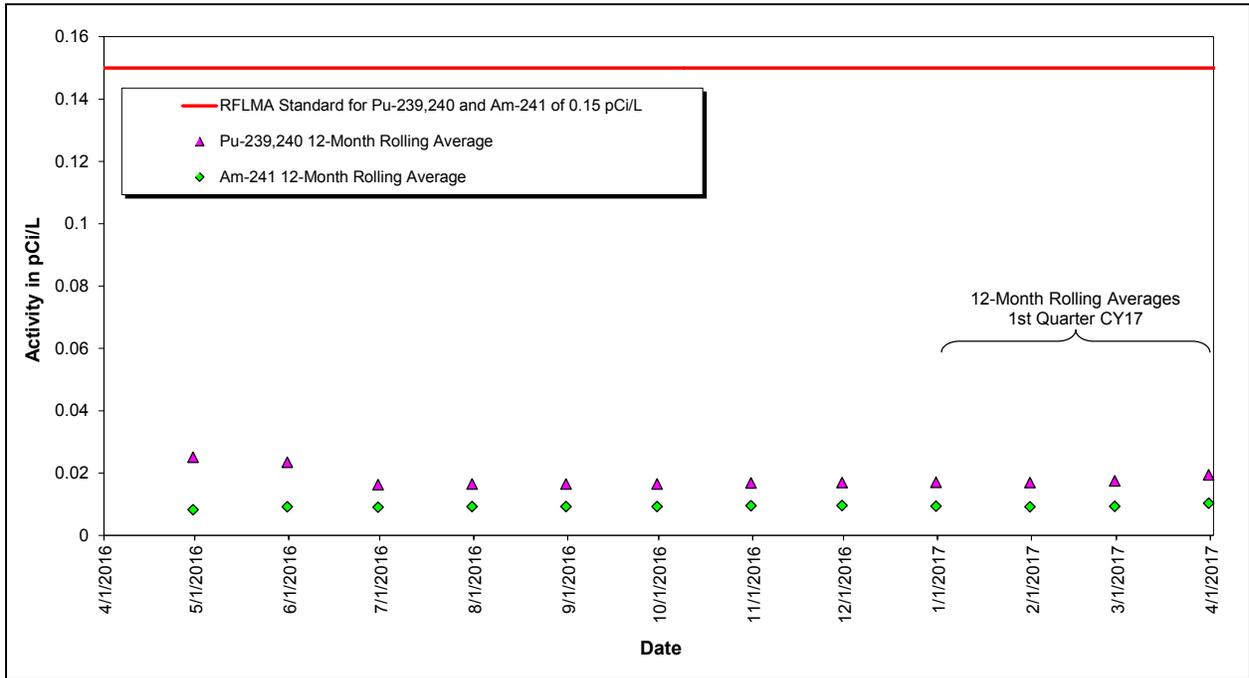


Figure 9. Volume-Weighted 12-Month Rolling Average Plutonium and Americium Activities at WOMPOC: Year Ending First Quarter CY 2017

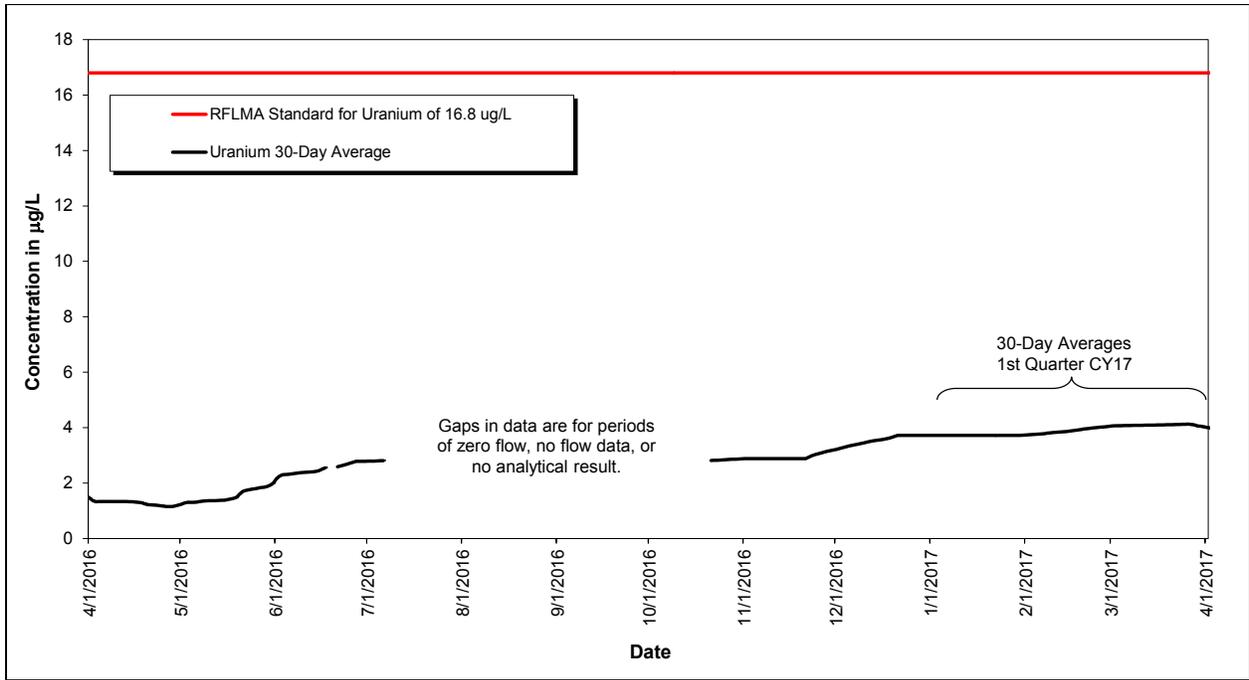


Figure 10. Volume-Weighted 30-Day Average Uranium Concentrations at WOMPOC: Year Ending First Quarter CY 2017

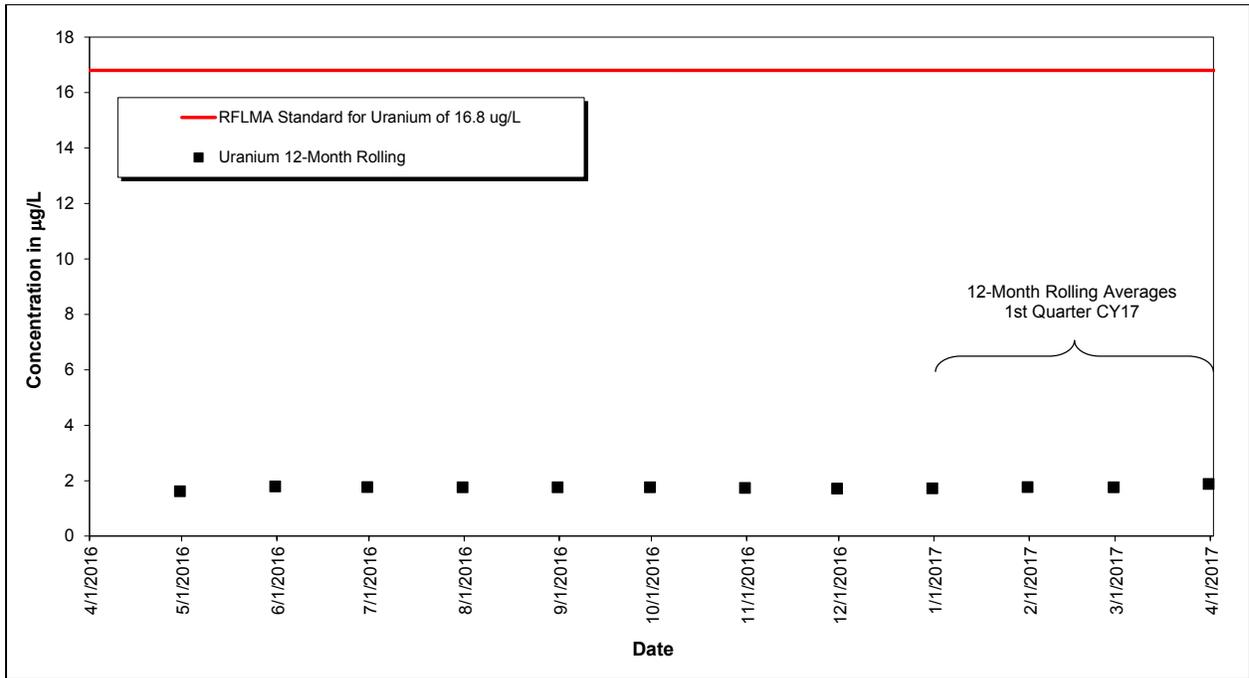


Figure 11. Volume-Weighted 12-Month Rolling Average Uranium Concentrations at WOMPOC: Year Ending First Quarter CY 2017

### 3.1.3 POE Monitoring

The following sections include summary plots showing the applicable 12-month rolling averages for the POE analytes.

#### 3.1.3.1 Monitoring Location GS10

Monitoring location GS10 is on South Walnut Creek just upstream of the B-Series ponds. Figure 12 and Figure 13 show no occurrences of reportable 12-month rolling averages for plutonium, americium, or uranium values during the quarter. The method for calculating the 12-month rolling averages is detailed in the annual report.

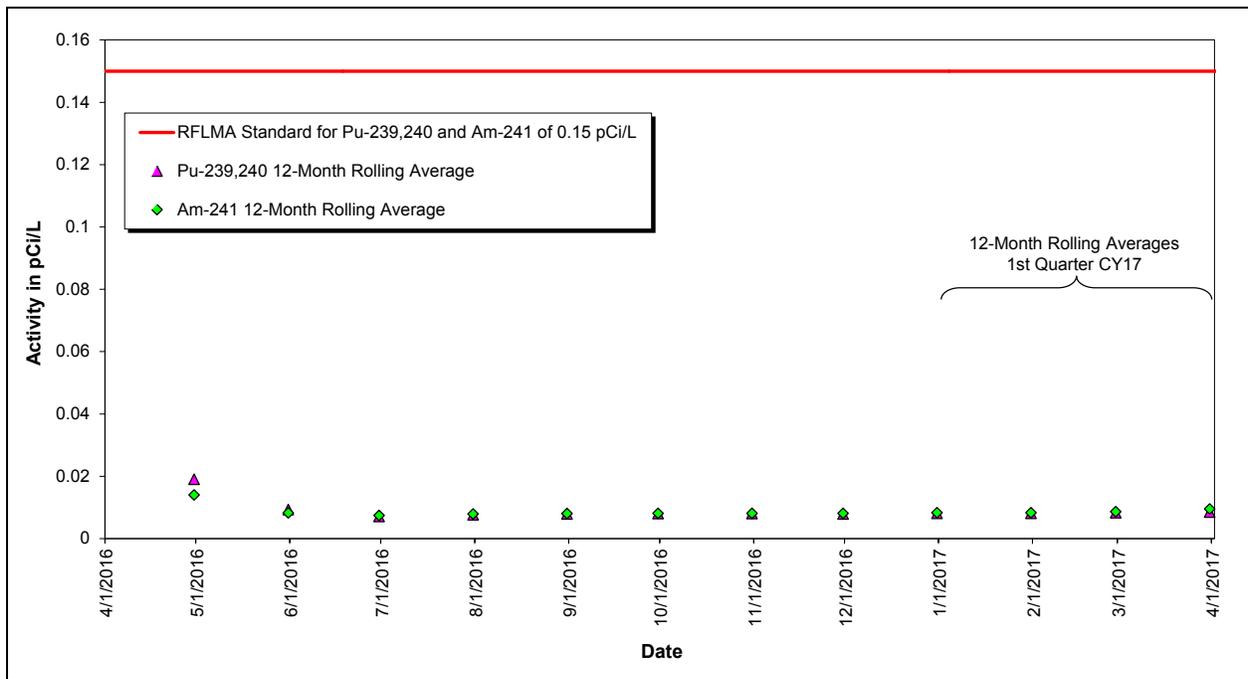


Figure 12. Volume-Weighted 12-Month Rolling Average Plutonium and Americium Activities at GS10: Year Ending First Quarter CY 2017

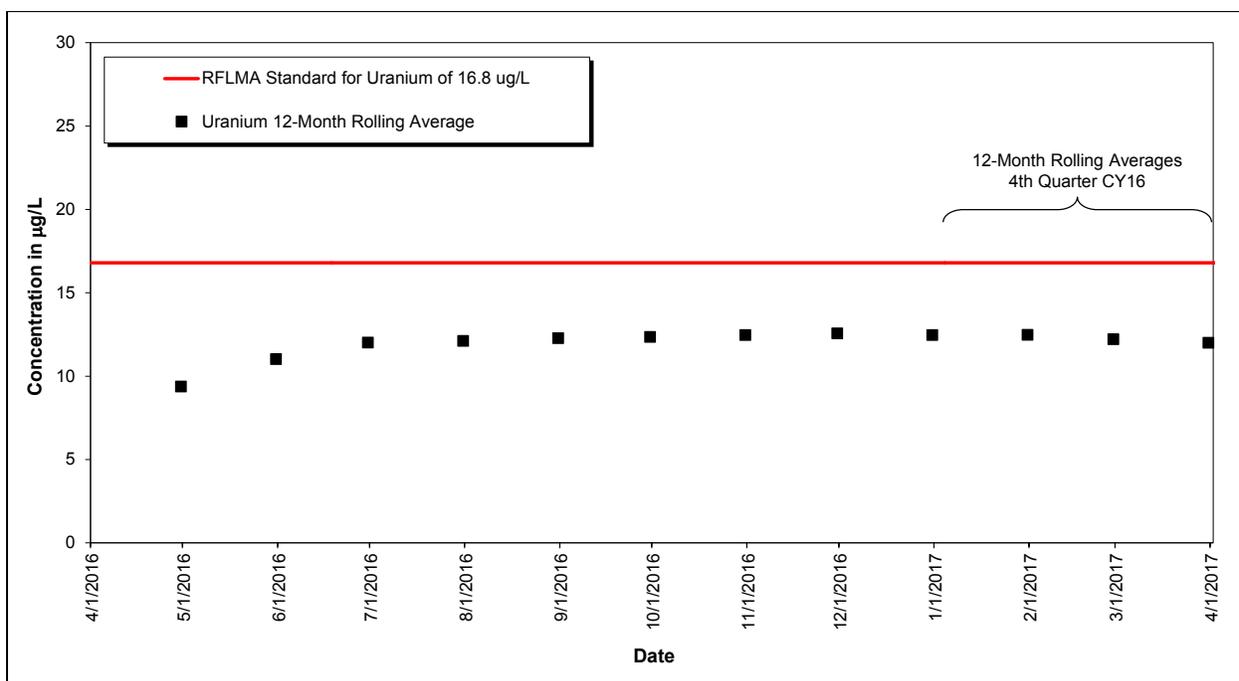


Figure 13. Volume-Weighted 12-Month Rolling Average Uranium Concentrations at GS10: Year Ending First Quarter CY 2017

### 3.1.3.2 Monitoring Location SW027

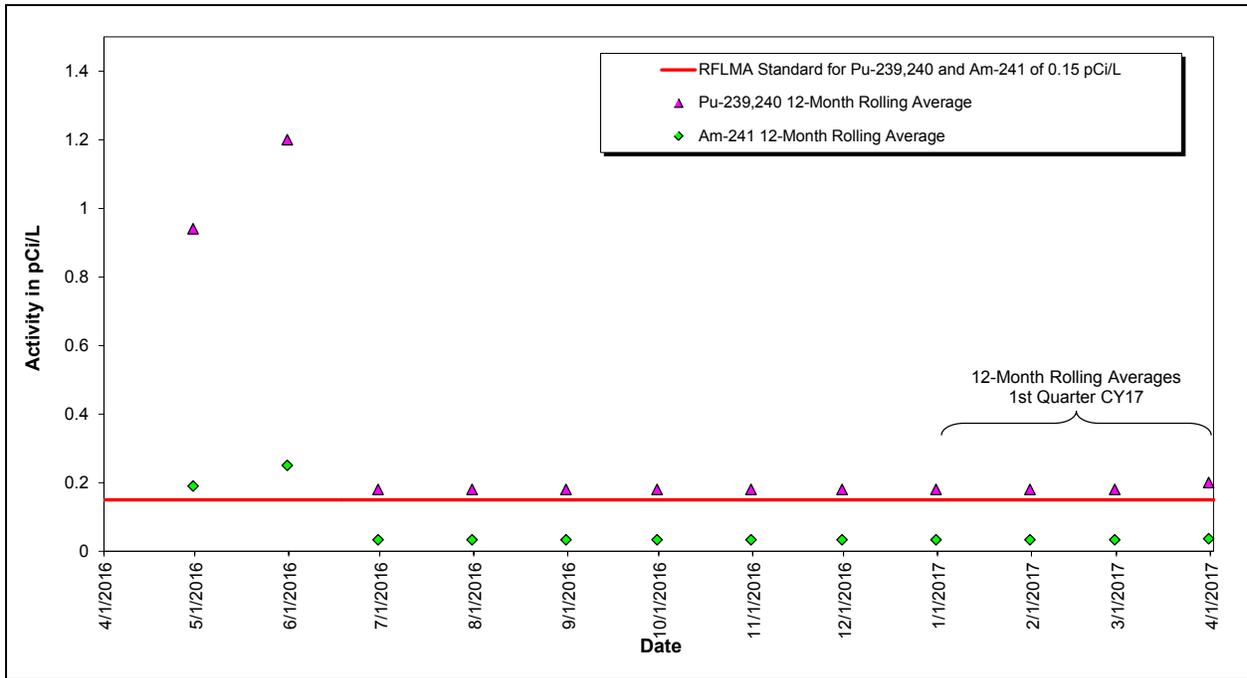
Monitoring location SW027 is at the end of the South Interceptor Ditch at the inlet to Pond C-2. Figure 14 and Figure 16 show the 12-month rolling averages for plutonium, americium, and uranium values during the quarter. The method for calculating the 12-month rolling averages is detailed in the annual report.

Figure 14 shows that the 12-month rolling average for americium and plutonium exceeded the RFLMA standard of 0.15 pCi/L through May 31, 2016, and March 31, 2017, respectively. The 12-month rolling average values for 2017 include water samples back 12 months into 2016. Due to the fact that there has been no flow, and therefore no samples collected, at SW027 since June 2, 2016, the 12-month rolling averages in the first quarter of CY 2017 reflect conditions in 2016. As of March 31, 2017, the 12-month rolling average for plutonium remained reportable at 0.18 pCi/L and americium was no longer reportable. All other analytes were not reportable through the first quarter of CY 2017.

Additional details regarding the 2015–2016 reportable conditions for plutonium and americium at SW027 can be found in RFLMA CR 2015-05, quarterly reports, and annual reports.

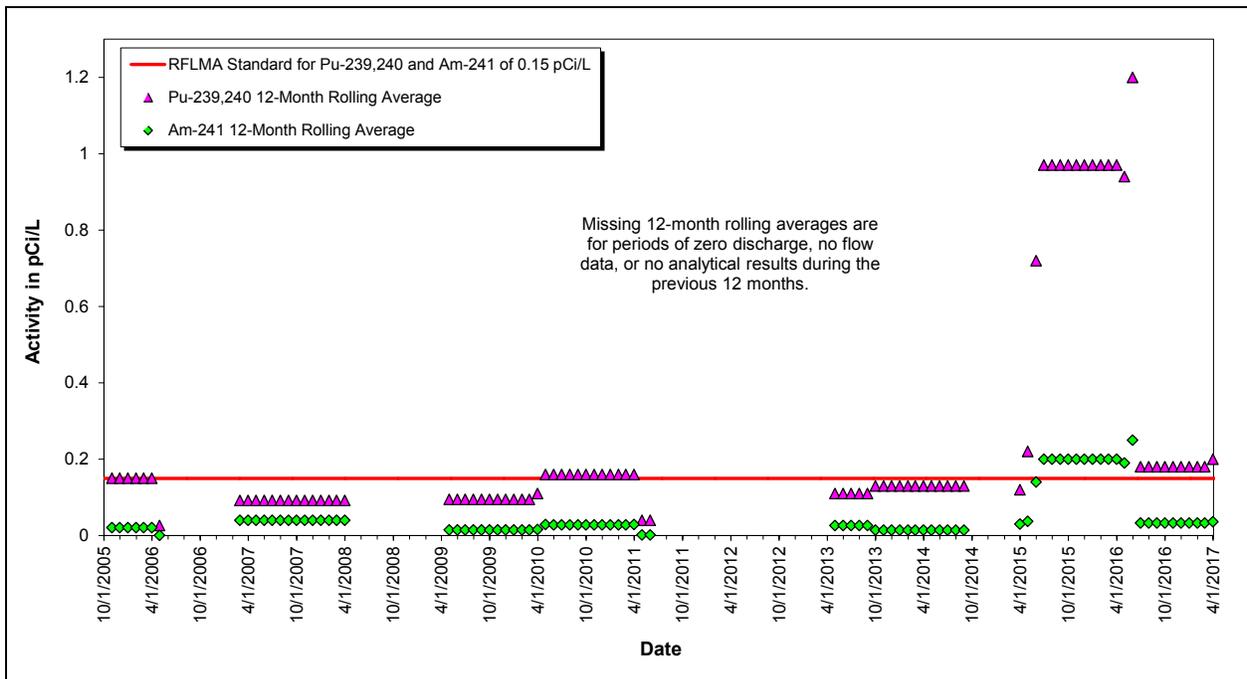
Figure 15 shows water-quality data for plutonium and americium from CY 2005 through the first quarter of CY 2017. This figure shows the recent reportable values in comparison to the entire post-closure period.

Table 1 lists the americium, plutonium, and uranium results for composite samples collected during CY 2016 and 2017.

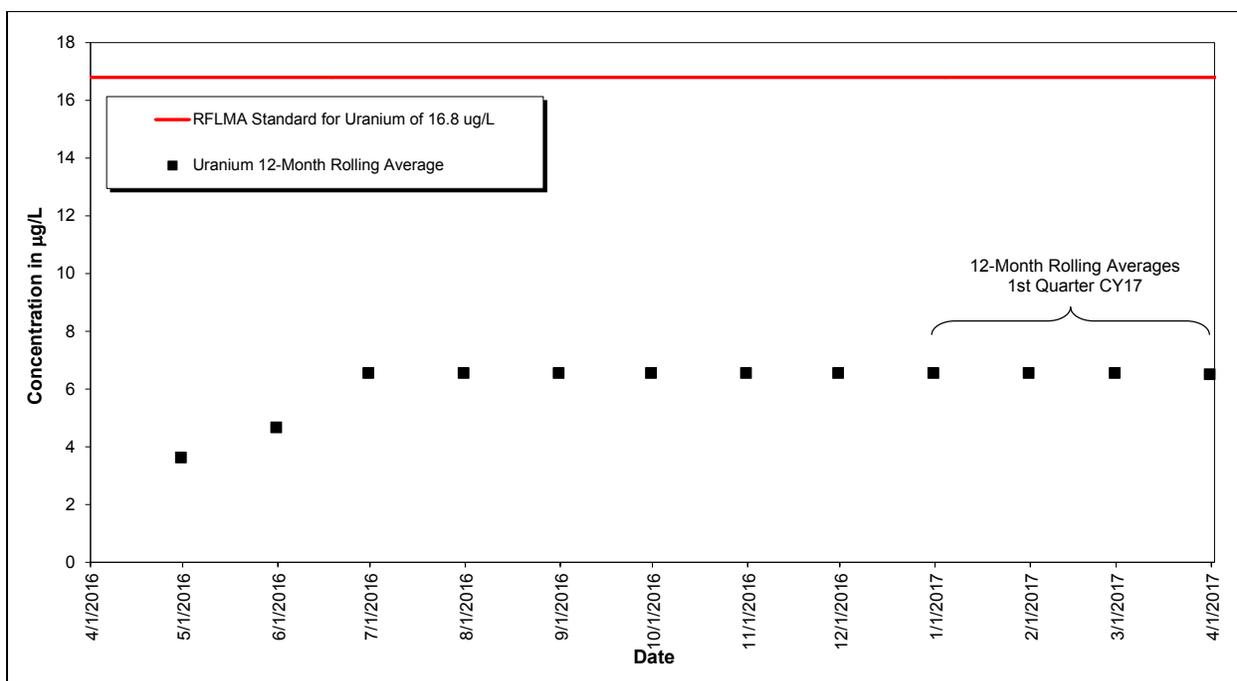


**Note:** There has been no flow at SW027 since 6/2/2016.

*Figure 14. Volume-Weighted 12-Month Rolling Average Plutonium and Americium Activities at SW027: Year Ending First Quarter CY 2017*



*Figure 15. Volume-Weighted 12-Month Rolling Average Plutonium and Americium Activities at SW027: Post-Closure Period Ending First Quarter CY 2017*



**Note:** There has been no flow at SW027 since 6/2/2016.

Figure 16. Volume-Weighted 12-Month Rolling Average Uranium Concentrations at SW027: Year Ending First Quarter CY 2017

Table 1. CY 2016–2017 Composite Sampling Results at SW027

Start Date and Time	End Date and Time	Am-241 (pCi/L)	Pu-239,240 (pCi/L)	U (µg/L)
6/12/2015 14:51	1/05/2016 12:40	NSQ <sup>a</sup>	NSQ <sup>a</sup>	NSQ <sup>a</sup>
1/05/2016 12:40	3/30/2016 11:30	0.007	0.041	7.24
3/30/2016 11:30	4/20/2016 11:30	0.027	0.161	5.61
4/20/2016 11:30	4/21/2016 12:36	0.072	0.393	5.27
4/21/2016 12:36	6/03/2016 11:00	0.012	0.061	9.21
6/03/2016 11:00	1/17/2017 15:19	NSQ <sup>b</sup>	NSQ <sup>b</sup>	NSQ <sup>b</sup>
1/17/2017 15:19	5/23/2017 14:59	c	c	c
5/23/2017 14:59	In progress	d	d	d

**Notes:**

- <sup>a</sup> There was very little flow during the sampling period, and too few samples were collected for complete analysis.
- <sup>b</sup> There was no flow during the entire sampling period, and no samples were collected.
- <sup>c</sup> Analysis pending. There was no flow from 1/17/2017 15:19 to 4/5/2017 17:15.
- <sup>d</sup> Sample in progress.

**Abbreviations:**

NSQ = nonsufficient quantity for analysis  
 U = uranium

Downstream monitoring at WOMPOC continues to show 30-day and 12-month average plutonium and americium concentrations below 0.15 pCi/L. Recent analytical results from WOMPOC are given in Table 2. The latest available 30-day average and 12-month rolling

plutonium and americium concentrations at WOMPOC calculated from flow-paced composite samples are shown in Figure 8 and Figure 9, respectively.

Table 2. CY 2016–2017 Composite Sampling Results at WOMPOC

Start Date and Time	End Date and Time	Americium Result (pCi/L)	Plutonium Result (pCi/L)	Uranium Result (µg/L)
11/16/2015 14:02	1/05/2016 13:11	0.008	0.007	3.25
1/05/2016 13:11	2/16/2016 13:27	0.004	0.006	2.83
2/16/2016 13:27	3/03/2016 11:47	0.005	0.001	2.63
3/03/2016 11:47	3/21/2016 11:30	0.000	0.006	2.84
3/21/2016 11:30	3/28/2016 13:51	0.004	0.003	2.01
3/28/2016 13:51	3/30/2016 11:48	0.005	0.011	1.24
3/30/2016 11:48	4/04/2016 14:32	0.003	0.007	0.89
4/04/2016 14:32	4/14/2016 10:14	0.085	0.165	1.73
4/14/2016 10:14	4/21/2016 12:17	0.015	0.022	1.16
4/21/2016 12:17	4/28/2016 10:04	0.008	0.007	1.21
4/28/2016 10:04	5/05/2016 16:09	0.001	0.015	1.49
5/05/2016 16:09	5/26/2016 12:42	0.001	0.006	2.21
5/26/2016 12:42	6/16/2016 12:17	0.006	0.007	2.78
6/16/2016 12:17	11/22/2016 11:26	0.007	0.000	2.88
11/22/2016 11:26	1/03/2017 13:57	0.001	0.007	3.72
1/03/2017 13:57	1/31/2017 11:54	0.006	0.000	3.50
1/31/2017 11:54	3/01/2017 13:11	0.000	0.000	4.06
3/01/2017 13:11	3/27/2017 11:02	0.004	0.006	4.15
3/27/2017 11:02	4/03/2017 11:17	0.000	0.007	3.89
4/03/2017 11:17	4/06/2017 11:11	0.000	0.003	3.23
4/06/2017 11:11	4/19/2017 11:48	0.003	0.000	3.00
4/19/2017 11:48	5/04/2017 14:12	0.006	0.000	3.08
5/04/2017 14:12	5/11/2017 15:11	0.002	0.004	1.29
5/11/2017 15:11	5/17/2017 14:43	0.005	0.004	1.30
5/17/2017 14:43	5/19/2017 16:05	a	a	a
5/19/2017 16:05	5/23/2017 15:14	a	a	a
5/23/2017 15:14	5/31/2017 9:58	a	a	a
5/31/2017 9:58	In progress	b	b	b

**Notes:**

Some recent results are preliminary and not yet validated and may be subject to revision.

<sup>a</sup> Results pending.

<sup>b</sup> Sample in progress.

### 3.1.3.3 Monitoring Location SW093

Monitoring location SW093 is on North Walnut Creek, 1300 feet upstream of former Pond A-1. Figure 17 and Figure 19 show no occurrences of reportable 12-month rolling averages for plutonium, americium, or uranium values during the quarter. Figure 18 and Figure 20 show

sampling data from 2005 through the first quarter of CY 2017. The method for calculating the 12-month rolling averages is detailed in the annual report.

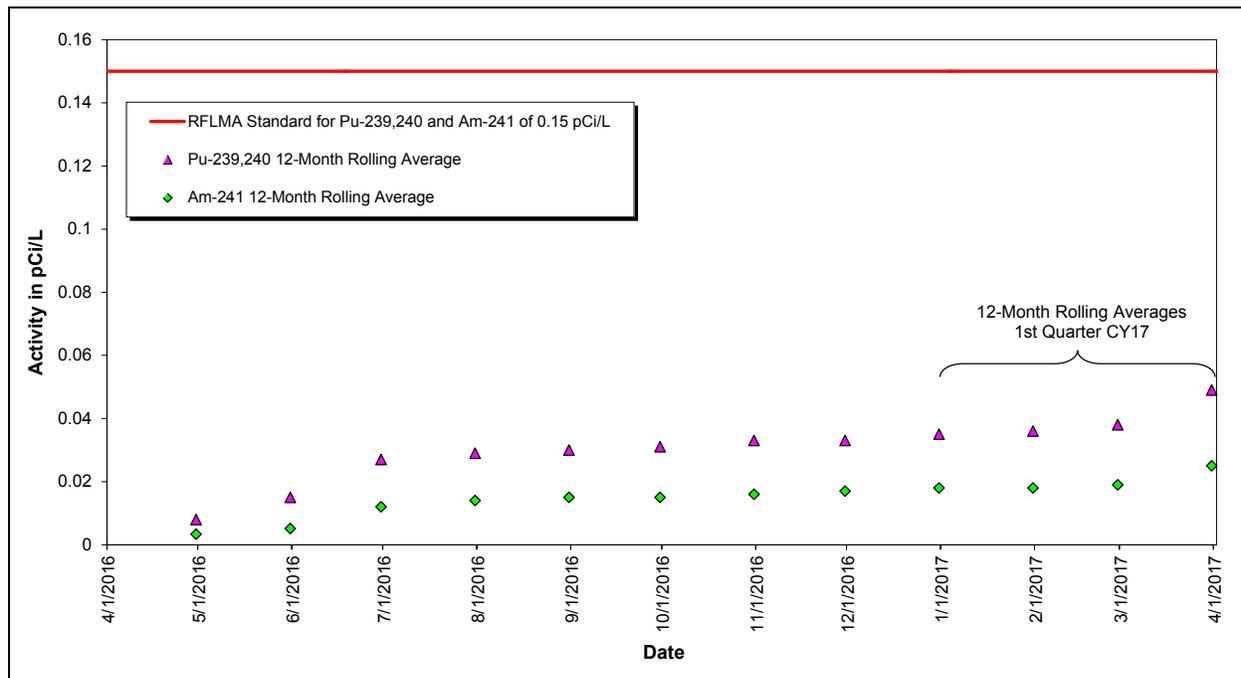


Figure 17. Volume-Weighted 12-Month Rolling Average Plutonium and Americium Activities at SW093: Year Ending First Quarter CY 2017

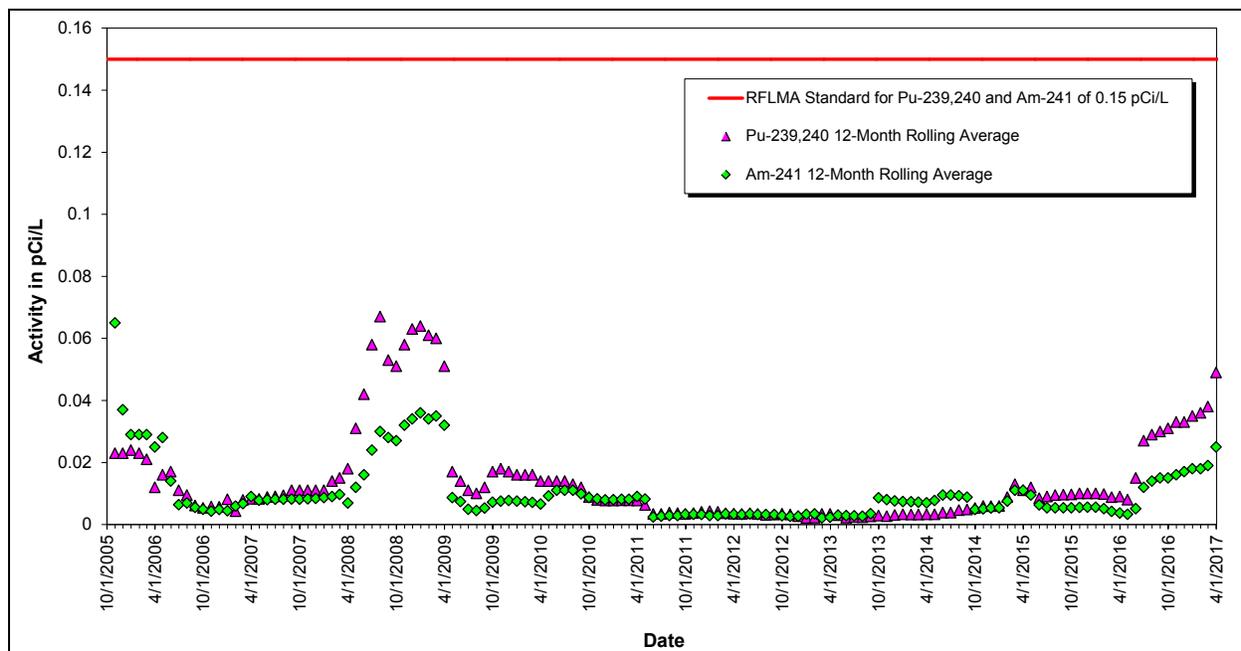


Figure 18. Volume-Weighted 12-Month Rolling Average Plutonium and Americium Activities at SW093: Post-Closure Period Ending First Quarter CY 2017

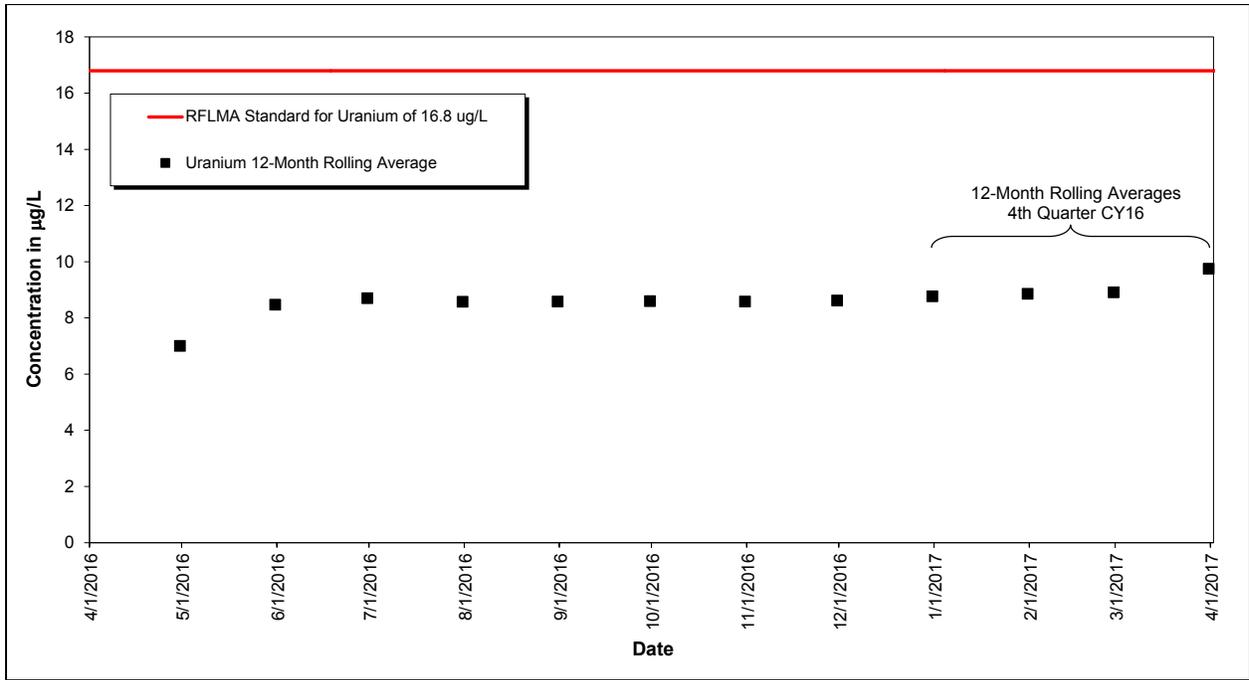


Figure 19. Volume-Weighted 12-Month Rolling Average Uranium Concentrations at SW093: Year Ending First Quarter CY 2017

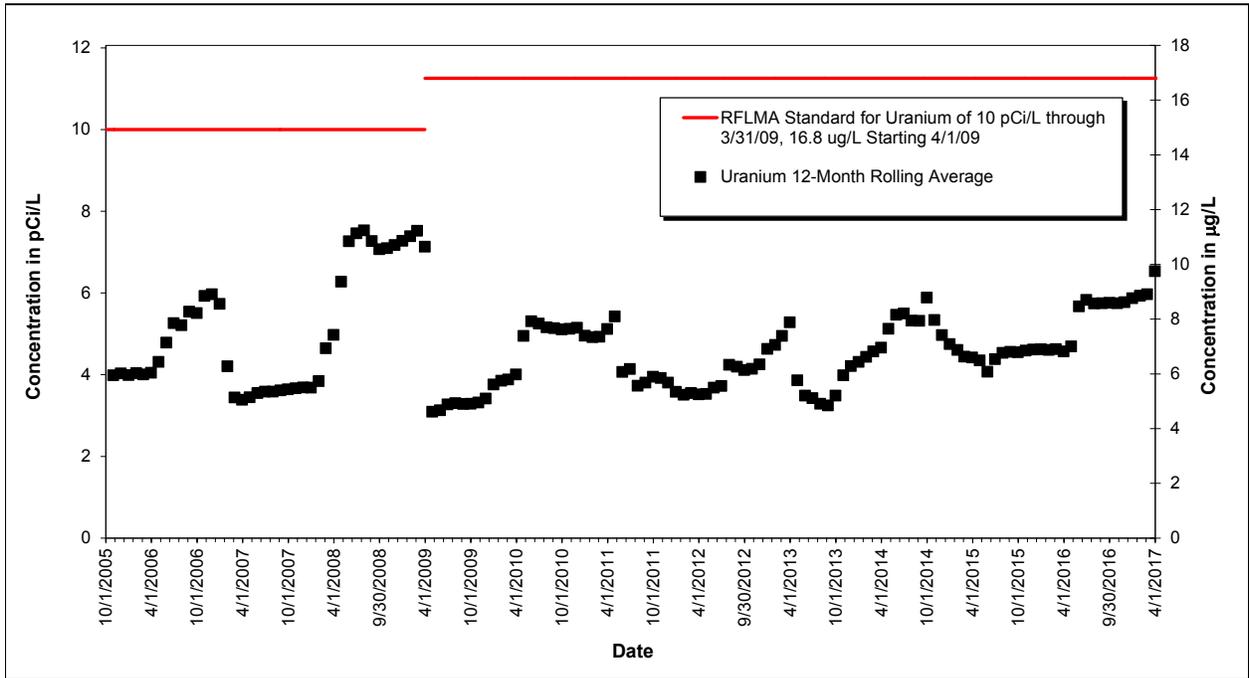


Figure 20. Volume-Weighted 12-Month Rolling Average Uranium Concentrations at SW093: Post-Closure Period Ending First Quarter CY 2017

### **3.1.4 AOC Wells and Surface Water Support Location SW018**

Neither the AOC wells nor the Surface Water Support location SW018 were scheduled for RFLMA monitoring in the first quarter of CY 2017.

### **3.1.5 Sentinel Wells**

None of the Sentinel wells were scheduled for RFLMA monitoring in the first quarter of CY 2017.

### **3.1.6 Evaluation Wells**

None of the Evaluation wells were scheduled for RFLMA monitoring in the first quarter of CY 2017.

### **3.1.7 PLF Monitoring**

All RCRA groundwater monitoring wells at the PLF were sampled during the first quarter of CY 2017. Analytical results (Appendix C) were generally consistent with those of past samples and will be discussed and statistically evaluated as part of the annual report for CY 2017. Section 3.1.9.4 discusses monitoring the PLFTS.

### **3.1.8 OLF Monitoring**

All RCRA groundwater monitoring wells at the OLF were sampled during the first quarter of CY 2017. Analytical results (Appendix C) were generally consistent with those of past samples and will be discussed and statistically evaluated as part of the annual report for CY 2017.

During the first quarter of CY 2017, when routine surface-water sampling was performed in Woman Creek downstream of the OLF (GS59), the mean concentrations for all analytes were below the applicable surface-water standards.

### **3.1.9 Groundwater Treatment System Monitoring**

As described in Section 2.6, contaminated groundwater is intercepted and treated at several treatment systems. The MSPCS (which is discussed in this section for consistency and convenience, even though treatment is no longer performed here), ETPTS, and SPPTS all include a groundwater intercept trench. The PLFTS treats water from the northern and southern components of the Groundwater Intercept System and water that flows from the PLF seep.

#### ***3.1.9.1 Mound Site Plume Collection System***

The MSPCS monitoring locations, which were revised following the Reconfiguration Project completed in 2016, were not scheduled for routine RFLMA sampling in the first quarter of CY 2017.

The annual report for 2017 will provide a detailed discussion of water quality at the MSPCS.

### ***3.1.9.2 East Trenches Plume Treatment System***

The ETPTS monitoring locations were not scheduled for routine RFLMA sampling in the first quarter of CY 2017.

The annual report for 2017 will provide more detailed discussion of water quality at the ETPTS.

### ***3.1.9.3 Solar Ponds Plume Treatment System***

The SPPTS monitoring locations were not scheduled for routine RFLMA sampling in the first quarter of CY 2017. Nonroutine samples were collected to support the SPPTS Interim Reconfiguration Project, uranium treatment testing, and the Adaptive Management Plan (DOE 2015b).

The annual report for 2017 will provide more detailed discussion of water quality at the SPPTS.

### ***3.1.9.4 PLF Treatment System***

Breaching of the PLF dam was completed in June 2012, and since then any PLFTS effluent flows through the remaining wetland area. This flow configuration is now essentially equivalent to the historical open-valve configuration.

During collection of the January 11, 2017, sample at the system influent (monitoring location PLFSEEPINF), the flow rate was 1.52 gallons per minute. The routine quarterly effluent sample from the PLFTS (monitoring location PLFSYSEFF) collected on January 11, 2017, showed concentrations for all analytes that were below the applicable surface-water standards from RFLMA Attachment 2, Table 1, “Surface Water Standards.”

### **3.1.10 Predischarge Monitoring**

Predischarge samples are collected prior to opening the valves to initiate a discharge period at Ponds A-4, B-5, and C-2 on North Walnut Creek, South Walnut Creek, and Woman Creek, respectively.

No predischarge samples were collected at Ponds A-4, B-5, or C-2 during the first quarter of CY 2017. All three ponds have been operated in a flow-through configuration since September 2011.

## **4.0 Adverse Biological Conditions**

No evidence of adverse biological conditions (e.g., unexpected mortality or morbidity) was observed during monitoring and maintenance activities in the first quarter of CY 2017.

## 5.0 Ecological Monitoring

During the first quarter of CY 2017, very few ecological field activities were conducted because it was winter. Most of the time was spent analyzing data and writing various reports. Observations of prairie dog towns on the Rocky Flats National Wildlife Refuge and in the COU continued to document that no active prairie dog towns are present within the COU.

## 6.0 References

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DOE (U.S. Department of Energy), 2016. *Annual Report of Site Surveillance and Maintenance Activities at the Rocky Flats, Colorado, Site, Calendar Year 2015*, LMS/RFS/S13696, Office of Legacy Management, April.

DOE (U.S. Department of Energy), 2017. *Annual Report of Site Surveillance and Maintenance Activities at the Rocky Flats, Colorado, Site, Calendar Year 2016*, LMS/RFS/S15402, Office of Legacy Management, April.

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DOE, EPA, and CDPHE (U.S. Department of Energy, U.S. Environmental Protection Agency, and Colorado Department of Public Health and Environment), 2011. *Corrective Action Decision/Record of Decision Amendment for Rocky Flats Plant (USDOE) Central Operable Unit*, September 21.

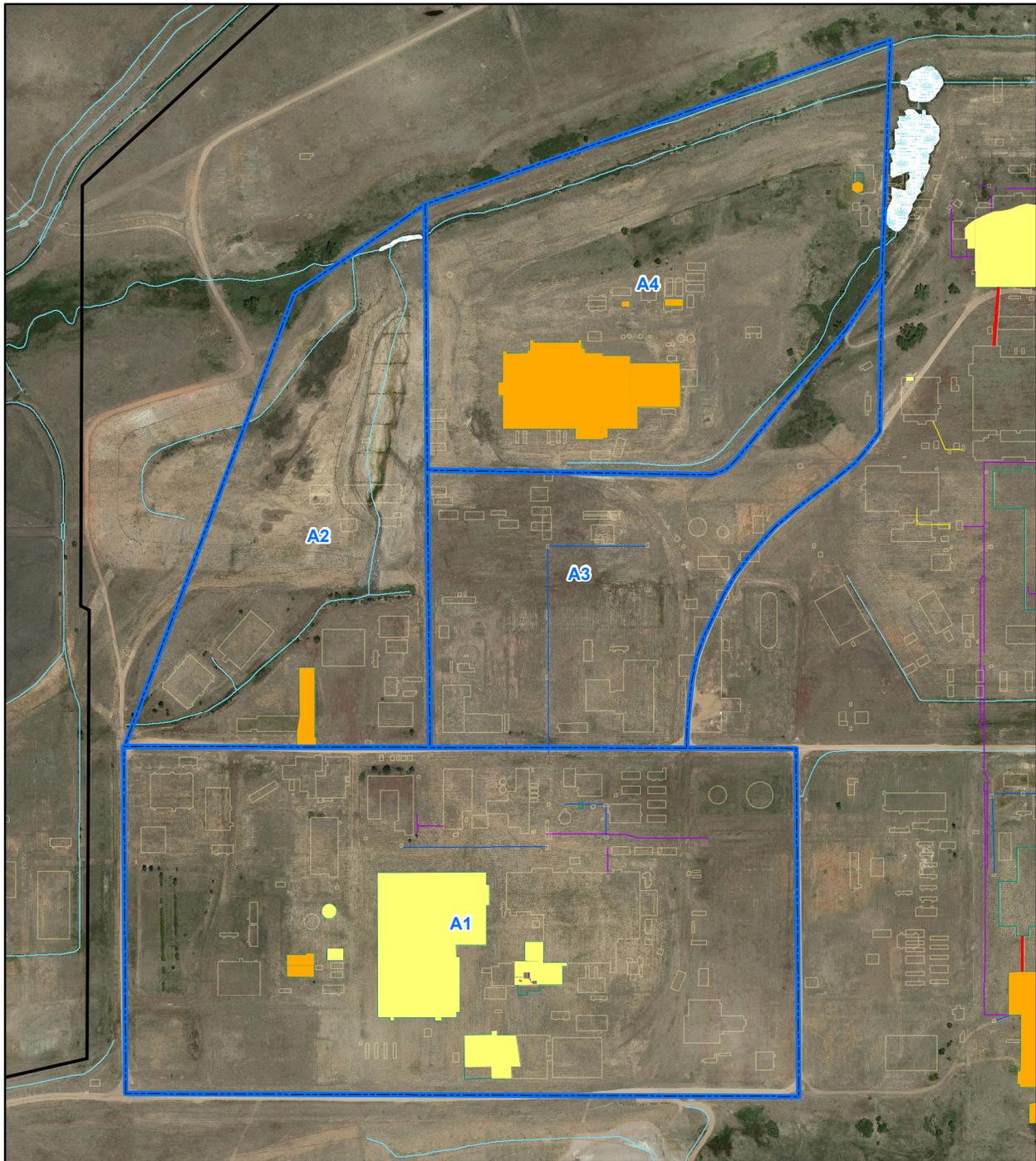
DOE, EPA, and CDPHE (DOE (U.S. Department of Energy, U.S. Environmental Protection Agency, and Colorado Department of Public Health and Environment), 2012. *Rocky Flats Legacy Management Agreement*, as revised, including Attachment 2 modifications, December. Available at [http://www.lm.doe.gov/Rocky\\_Flats/RFLMA.pdf](http://www.lm.doe.gov/Rocky_Flats/RFLMA.pdf).

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## **Appendix A**

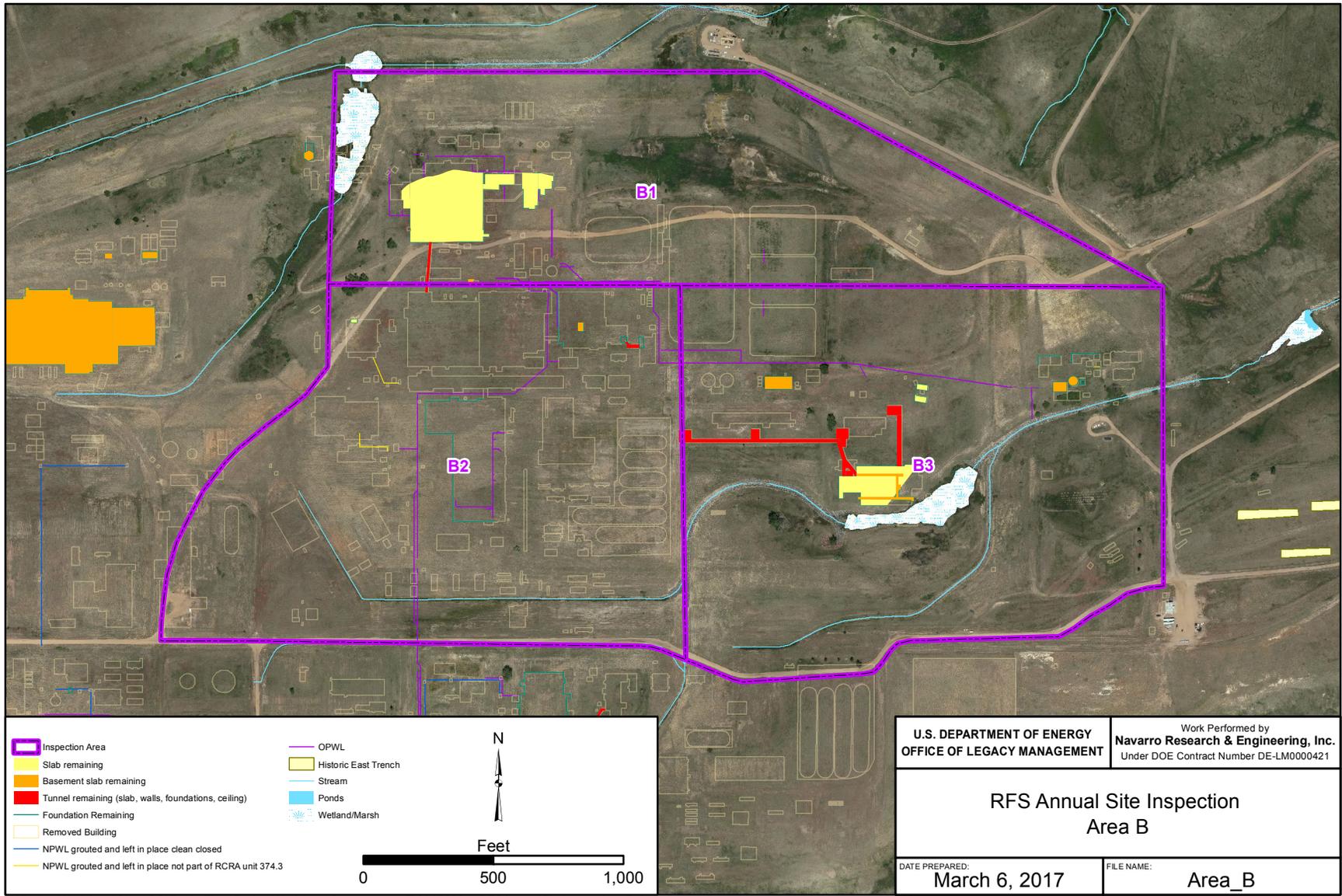
### **Annual Inspection Maps and Checklists**

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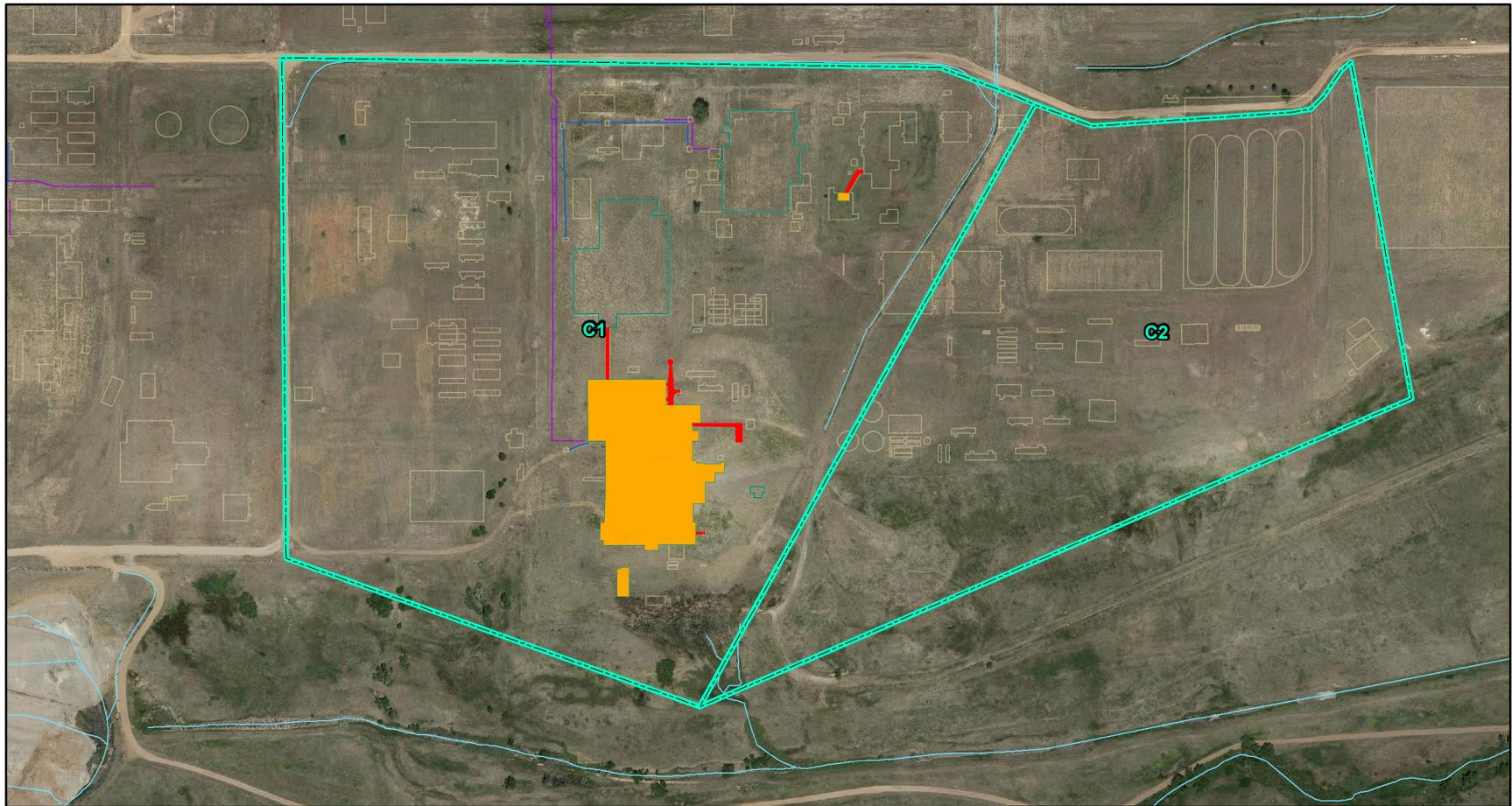


<ul style="list-style-type: none"> <li> Central Operable Unit boundary</li> <li> Inspection Area</li> <li> Slab remaining</li> <li> Basement slab remaining</li> <li> Tunnel remaining (slab, walls, foundations, ceiling)</li> <li> Foundation Remaining</li> <li> Removed Building</li> <li> NPWL grouted and left in place clean closed</li> <li> NPWL grouted and left in place not part of RCRA unit 374.3</li> <li> OPWL</li> <li> Stream</li> <li> Ponds</li> <li> Wetland/Marsh</li> </ul>	<p>N</p>	<p><b>U.S. DEPARTMENT OF ENERGY</b>  <b>OFFICE OF LEGACY MANAGEMENT</b></p>	<p>Work Performed by  <b>Navarro Research &amp; Engineering, Inc.</b>          Under DOE Contract Number DE-LM0000421</p>
	<p><b>RFS Annual Site Inspection</b>  <b>Area A</b></p>	<p>DATE PREPARED:  <b>March 6, 2017</b></p>	<p>FILE NAME:  <b>AreaA_Portrait</b></p>

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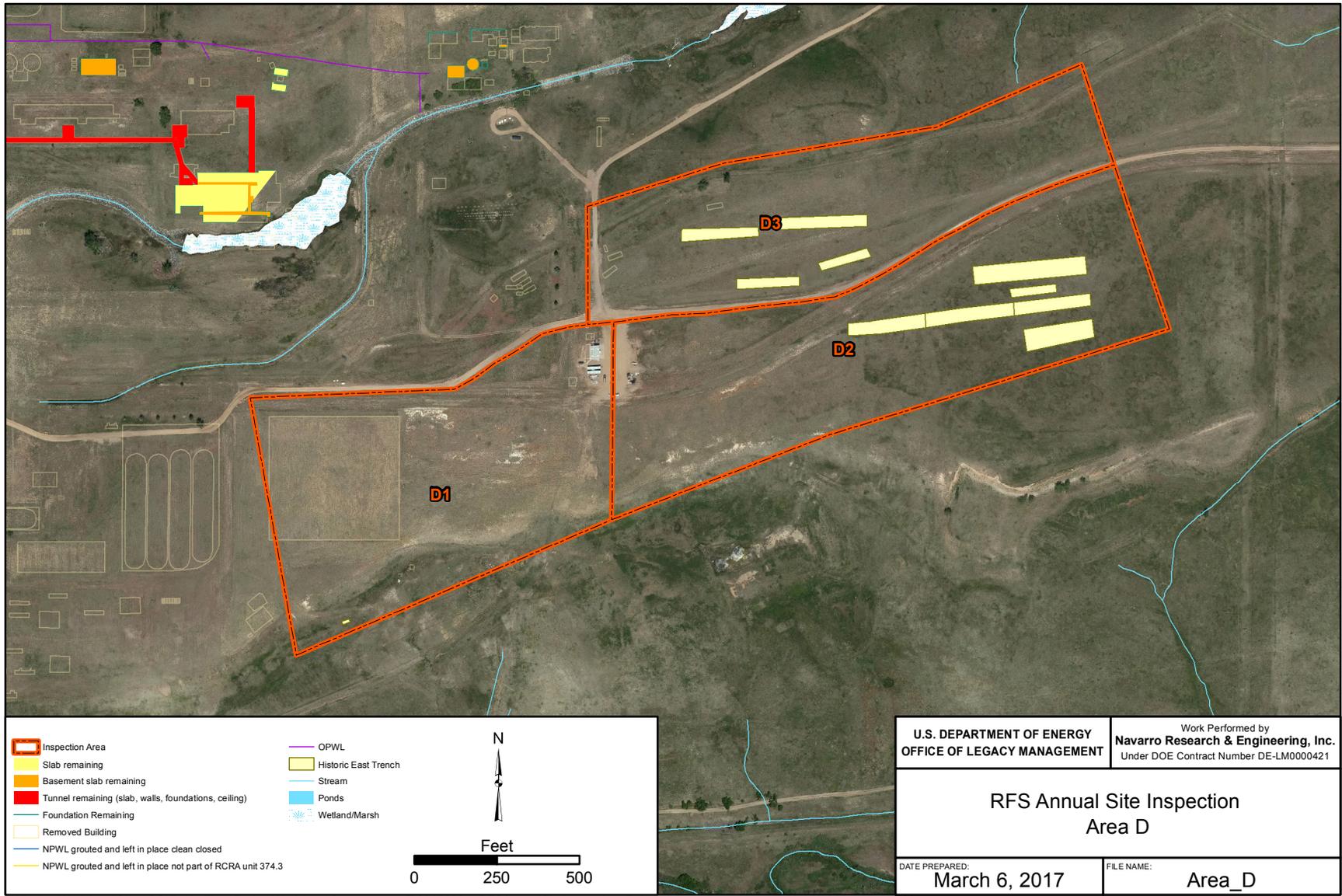
Inspection Area	OPWL
Slab remaining	Stream
Basement slab remaining	Ponds
Tunnel remaining (slab, walls, foundations, ceiling)	Wetland/Marsh
Foundation Remaining	
Removed Building	
NPWL grouted and left in place clean closed	
NPWL grouted and left in place not part of RCRA unit 374.3	

Feet

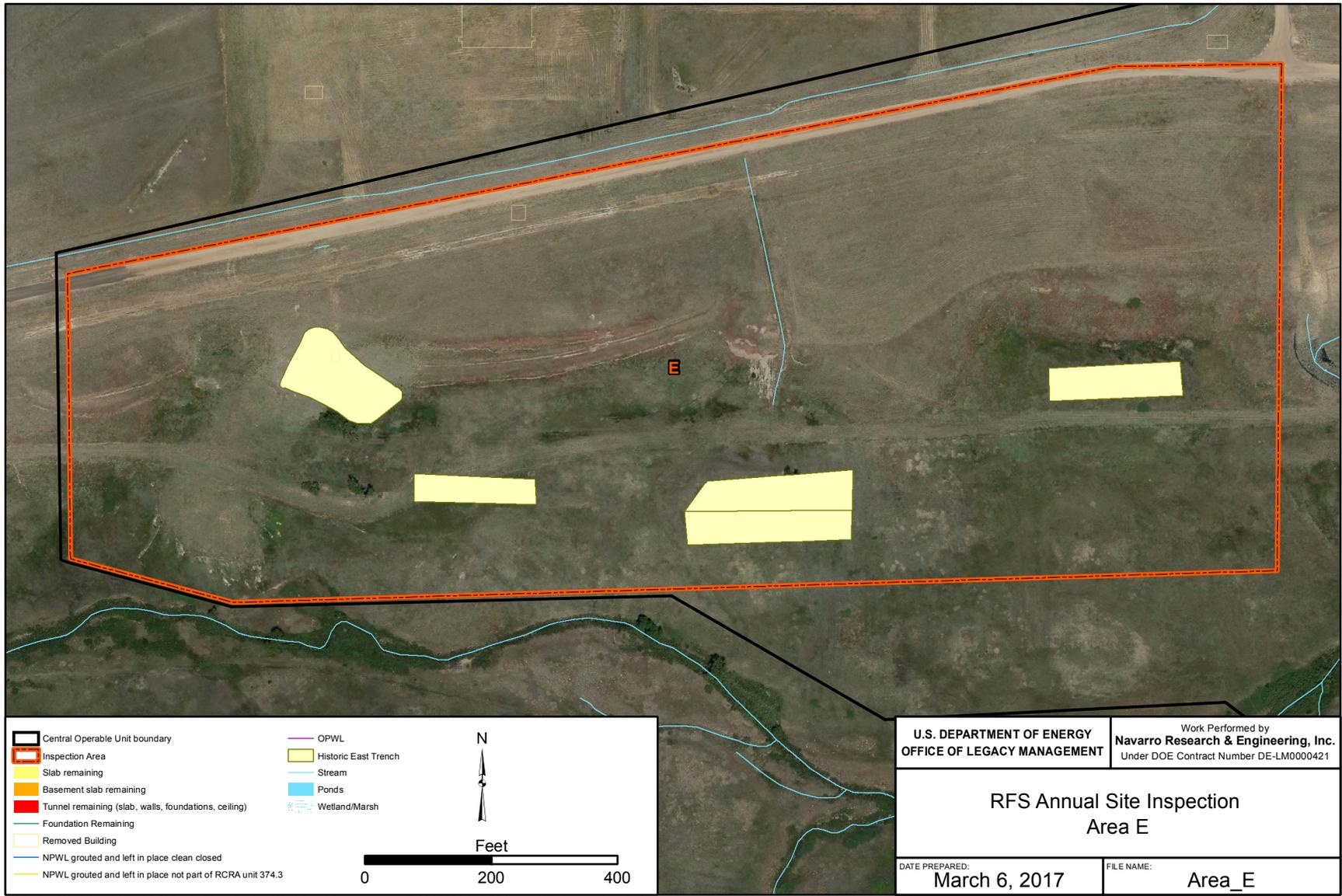
0 250 500

<b>U.S. DEPARTMENT OF ENERGY</b> <b>OFFICE OF LEGACY MANAGEMENT</b>	Work Performed by <b>Navarro Research &amp; Engineering, Inc.</b> <small>Under DOE Contract Number DE-LM0000421</small>
<h3>RFS Annual Site Inspection</h3> <h3>Area C</h3>	
DATE PREPARED: <b>March 6, 2017</b>	FILE NAME: <b>Area_C</b>

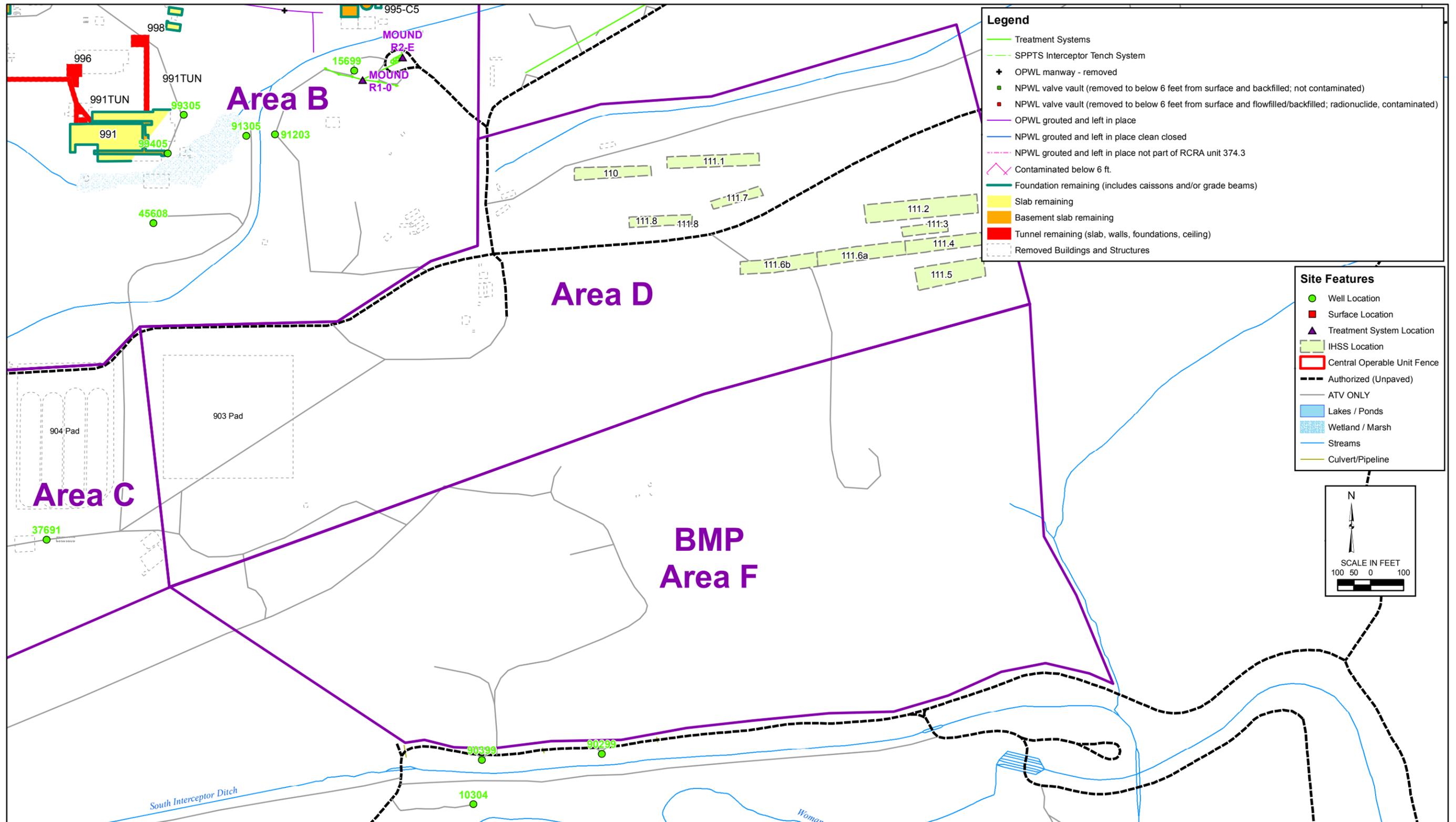
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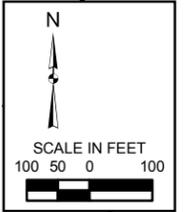


**Legend**

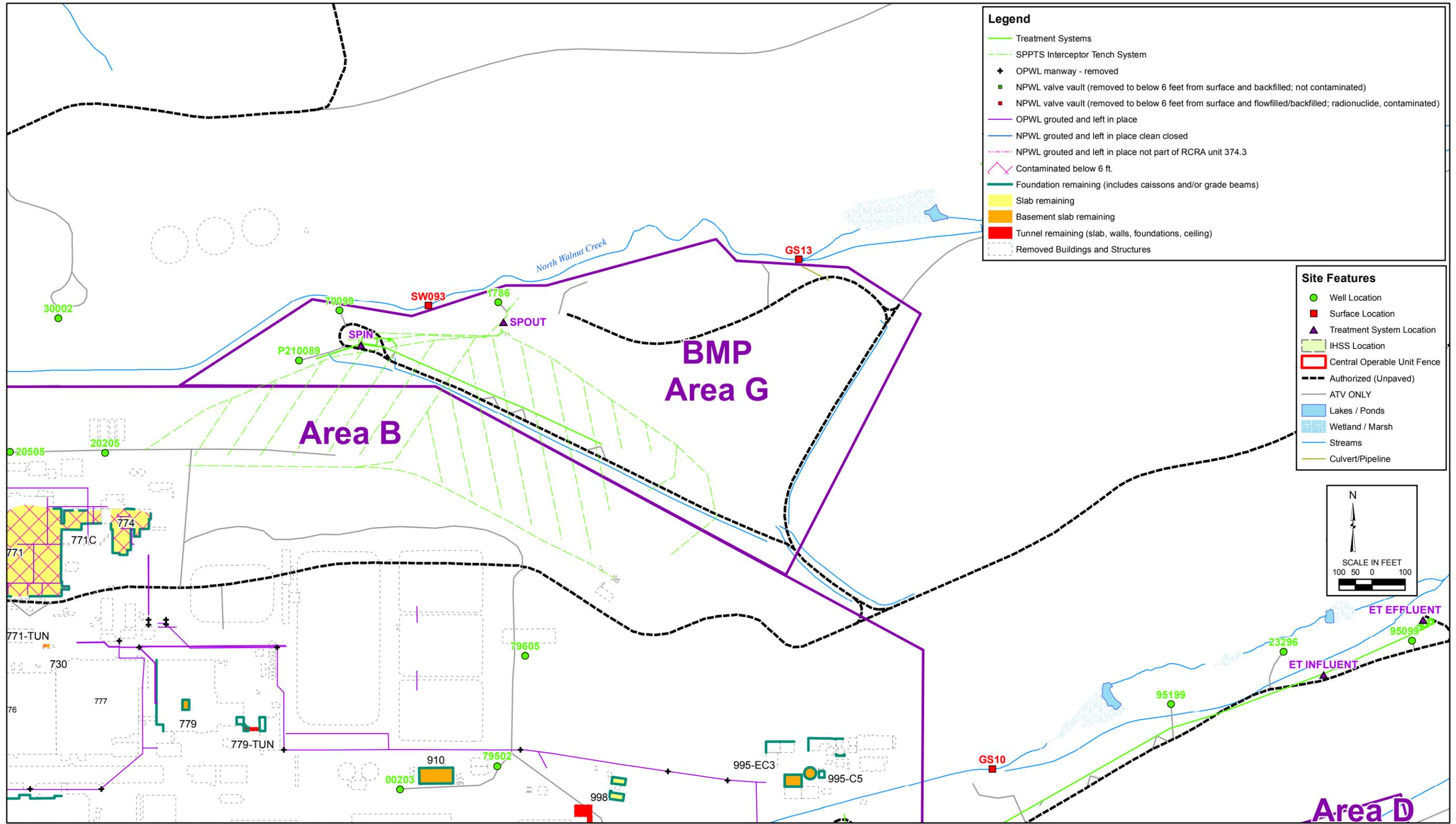
- Treatment Systems
- - - SPPTS Interceptor Trench System
- + OPWL manway - removed
- NPWL valve vault (removed to below 6 feet from surface and backfilled; not contaminated)
- NPWL valve vault (removed to below 6 feet from surface and flowfilled/backfilled; radionuclide, contaminated)
- OPWL grouted and left in place
- NPWL grouted and left in place clean closed
- - - NPWL grouted and left in place not part of RCRA unit 374.3
- ◇ Contaminated below 6 ft.
- Foundation remaining (includes caissons and/or grade beams)
- ▭ Slab remaining
- ▭ Basement slab remaining
- ▭ Tunnel remaining (slab, walls, foundations, ceiling)
- ▭ Removed Buildings and Structures

**Site Features**

- Well Location
- Surface Location
- ▲ Treatment System Location
- ▭ IHSS Location
- ▭ Central Operable Unit Fence
- Authorized (Unpaved)
- ATV ONLY
- ▭ Lakes / Ponds
- ▭ Wetland / Marsh
- Streams
- Culvert/Pipeline



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**Annual Site Inspection Check List (see RFLMA Attachment 2, Sections 5.3.4, 5.3.6, and 5.4.3)**

Date 3/16/17

Inspection Area: A

Inspection performed by (print each name): CHUCK BROWN, LINDA KAISER, DANA SANTI, SCOTT SURDCHAK

Check all boxes that apply, put ID# on flag and place flag marker in location of observation for follow up.								
Flag ID#	Evidence of Soil Erosion or Deposition	Evidence of Cracks, Rills, Gullies	Evidence of Sink Holes or Burrows	Evidence of Depressions or Subsidence	Evidence of Institutional Control Violation <sup>1</sup>	Problem with signs or other physical controls <sup>2</sup>	Adverse biological condition	Photo(s) taken? <sup>3</sup>
A2-1								Y
A3-1				✓				Y
A4-1				✓				Y
A4-2								Y

Notes (Reference Flag ID#):

A2-1 - BURIED METAL NEAR FUNCTIONAL CHANNEL

A3-1 - DEPRESSION SW OF BLDG 371 2 FT DIA BY 6-8 INCHES DEEP

A4-1 - DEPRESSION SE OF BLDG 371/374 2 FT-4 FT DIA BY APPROX. 1 FT DEEP.

A4-2 - STEEL PIPE AND CONDUIT IN GROUND WEST OF 371

<sup>1</sup> Indicate the RFLMA IC# (RFLMA Attachment 2, Table 1-7) for which violation is indicated.

<sup>2</sup> These are required to be inspected quarterly per RFLMA Attachment 2 Section 5.3.5, and completion is documented separately—documented here if problem noted during Annual Inspection.

<sup>3</sup> If photo taken, show location and orientation of photo on Area map.

Area B 2017 Annual Site Inspection

Location	Item	Comment	Northing	Easting
B1	Trash	b-1 trash	750259.82822100000	2083336.83082000000
B2	Rebar	b-2 rebar	749880.47957100000	2083470.18718000000
B2a	Trash ~20 ft east of B2	east of b-2 trash 20 ft	749888.85192900000	2083495.58936000000
B3	Possible subsidence S end of Solar Ponds area	b-3 possible subsidence s end of	750407.21769000000	2084994.10867000000
B4	Wire sticking out of ground	b-4 wire	750309.79629700000	2085719.08163000000
B5	Conduit	b-5 conduit	750029.79423300000	2085895.06652000000
B5	Gray plastic pipe	b-5a gray plastic pipe	749998.94816600000	2085836.33173000000
B6	Plastic sheeting buried in ground by trees	b-6 plastic sheeting	750173.92911500000	2085242.35227000000
B7	Wire sticking out of ground		750222.58715400000	2084595.37194000000
B8	Multiple rebars sticking out of grd		749477.87670100000	2084590.00253000000
B9	Grounding rod sticking out of grd	b-9 grd rod	751122.23102400000	2085599.24854000000
B10	Conduit sticking out of grd	b-10 conduit	751213.89061800000	2084989.57128000000
B11	771 area - depression/subsidence	slight depression 771 b-12	751138.61517800000	2084078.94581000000
B12	Rebar sticking out of grd in trees		750675.51931900000	2083420.63610000000
B13	771 area - N/S linear subsidence	b-13 771 n-s depression	750977.54693000000	2083907.00783000000
B14	771 area - circular depression	b-14 depression	750907.68552100000	2083643.37614000000
B15	Wire sticking out of ground		749526.92844000000	2085367.02099000000
B16	Llinear depression		750292.88983500000	2083170.94270000000

Annual Site Inspection Check List (see RFLMA Attachment 2, Sections 5.3.4, 5.3.6, and 5.4.3)

Date 3/16/17

Inspection Area: C1

Inspection performed by (print each name): Ryan Uzdrenski, Carl Spreng, Michelle Hanson, Jeff Muir, Steve Merritt

Check all boxes that apply, put ID# on flag and place flag marker in location of observation for follow up.								
Flag ID#	Evidence of Soil Erosion or Deposition	Evidence of Cracks, Rills, Gullies	Evidence of Sink Holes or Burrows	Evidence of Depressions or Subsidence	Evidence of Institutional Control Violation <sup>1</sup>	Problem with signs or other physical controls <sup>2</sup>	Adverse biological condition	Photo(s) taken? <sup>3</sup>
C-1								✓
C-2								✓
C-3								✓
C-4								✓
C-5								✓
C-6								✓
C-7								✓

Notes (Reference Flag ID#): C1 - line of old fence posts > metal flush w/ground  
 C2 - line of old fence posts  
 C3 - electrical wire stuck in ground (old)  
 C4 - Conduit stuck in ground  
 C5 - wire  
 C6 - post sticking ground + wire  
 C7 - more fence line posts in ground

<sup>1</sup> Indicate the RFLMA IC# (RFLMA Attachment 2, Table 1-7) for which violation is indicated.

<sup>2</sup> These are required to be inspected quarterly per RFLMA Attachment 2 Section 5.3.5, and completion is documented separately—documented here if problem noted during Annual Inspection.

<sup>3</sup> If photo taken, show location and orientation of photo on Area map.

Annual Site Inspection Check List (see RFLMA Attachment 2, Sections 5.3.4, 5.3.6, and 5.4.3)

Date 3/16/17

Inspection Area: C2

Inspection performed by (print each name): Ryan Dzidzinski, Carl Spreng, Michelle Hanson, Jeff Mull, Steve Merritt

Check all boxes that apply, put ID# on flag and place flag marker in location of observation for follow up.								
Flag ID#	Evidence of Soil Erosion or Deposition	Evidence of Cracks, Rills, Gullies	Evidence of Sink Holes or Burrows	Evidence of Depressions or Subsidence	Evidence of Institutional Control Violation <sup>1</sup>	Problem with signs or other physical controls <sup>2</sup>	Adverse biological condition	Photo(s) taken? <sup>3</sup>
C-8								✓
C-9								✓
C-10								✓
C-11		✓		✓				✓
C-12		✓						✓

Notes (Reference Flag ID#):  
 C-8 - metal debris  
 C-9 - concrete gutter drain  
 C-10 - metal debris  
 C-11 - crack, ~45 ft long < 2 in wide  
 C-12 - crack, slump, highest 1 ft tall, 100 ft long, 2-3 in wide

<sup>1</sup> Indicate the RFLMA IC# (RFLMA Attachment 2, Table 1-7) for which violation is indicated.  
<sup>2</sup> These are required to be inspected quarterly per RFLMA Attachment 2 Section 5.3.5, and completion is documented separately—documented here if problem noted during Annual Inspection.  
<sup>3</sup> If photo taken, show location and orientation of photo on Area map.

**Annual Site Inspection Check List (see RFLMA Attachment 2, Sections 5.3.4, 5.3.6, and 5.4.3)**

Date 3/16/17

Inspection Area: D1

Inspection performed by (print each name): Anya Palmieri, David Ward, Jeremy Wehner, Jayce Chavez

Check all boxes that apply, put ID# on flag and place flag marker in location of observation for follow up.								
Flag ID#	Evidence of Soil Erosion or Deposition	Evidence of Cracks, Rills, Gullies	Evidence of Sink Holes or Burrows	Evidence of Depressions or Subsidence	Evidence of Institutional Control Violation <sup>1</sup>	Problem with signs or other physical controls <sup>2</sup>	Adverse biological condition	Photo(s) taken? <sup>3</sup>
D-1	concrete chunk							yes
D-2	interesting metal					electrical		yes
D-3	concrete	lots of pieces around						yes
D-4	concrete							yes
D-5	metal support bar			stuck deep				yes
D-6	open culvert							
D-7	cable			bar on 1 end				

Notes (Reference Flag ID#):

<sup>1</sup> Indicate the RFLMA IC# (RFLMA Attachment 2, Table 1-7) for which violation is indicated.

<sup>2</sup> These are required to be inspected quarterly per RFLMA Attachment 2 Section 5.3.5, and completion is documented separately—documented here if problem noted during Annual Inspection.

<sup>3</sup> If photo taken, show location and orientation of photo on Area map.

Annual Site Inspection Check List (see RFLMA Attachment 2, Sections 5.3.4, 5.3.6, and 5.4.3)

Date 3/16/17

Inspection Area: DZ-D3

Inspection performed by (print each name): Anya Palmieri, David Ward, Jeremy Whener,  
Joyce Chavez

Check all boxes that apply, put ID# on flag and place flag marker in location of observation for follow up.								
Flag ID#	Evidence of Soil Erosion or Deposition	Evidence of Cracks, Rills, Gullies	Evidence of Sink Holes or Burrows	Evidence of Depressions or Subsidence	Evidence of Institutional Control Violation <sup>1</sup>	Problem with signs or other physical controls <sup>2</sup>	Adverse biological condition	Photo(s) <sup>3</sup> taken?
D-8	depressions							
D-9	depressions							
D-10	metal							
D-11	erosion?	over settling over east trench						
D-12	cable							
D-13	depression	w/ large concrete in it						

Notes (Reference Flag ID#):

<sup>1</sup> Indicate the RFLMA IC# (RFLMA Attachment 2, Table 1-7) for which violation is indicated.

<sup>2</sup> These are required to be inspected quarterly per RFLMA Attachment 2 Section 5.3.5, and completion is documented separately—documented here if problem noted during Annual Inspection.

<sup>3</sup> If photo taken, show location and orientation of photo on Area map.

Annual Site Inspection Check List (see RFLMA Attachment 2, Sections 5.3.4, 5.3.6, and 5.4.3)

Date 3/6/17

Inspection Area: E

Inspection performed by (print each name): Ryan U, Anya Palmieri

Check all boxes that apply, put ID# on flag and place flag marker in location of observation for follow up.								
Flag ID#	Evidence of Soil Erosion or Deposition	Evidence of Cracks, Rills, Gullies	Evidence of Sink Holes or Burrows	Evidence of Depressions or Subsidence	Evidence of Institutional Control Violation <sup>1</sup>	Problem with signs or other physical controls <sup>2</sup>	Adverse biological condition	Photo(s) taken? <sup>3</sup>

Notes (Reference Flag ID#):

**No Findings**

<sup>1</sup> Indicate the RFLMA IC# (RFLMA Attachment 2, Table 1-7) for which violation is indicated.  
<sup>2</sup> These are required to be inspected quarterly per RFLMA Attachment 2 Section 5.3.5, and completion is documented separately—documented here if problem noted during Annual Inspection.  
<sup>3</sup> If photo taken, show location and orientation of photo on Area map.

**Annual Site Inspection Check List (see RFLMA Attachment 2, Sections 5.3.4, 5.3.6, and 5.4.3)**

Date 3/23/17

Inspection Area: F

Inspection performed by (print each name): Jody Nelson

Check all boxes that apply, put ID# on flag and place flag marker in location of observation for follow up.								
Flag ID#	Evidence of Soil Erosion or Deposition	Evidence of Cracks, Rills, Gullies	Evidence of Sink Holes or Burrows	Evidence of Depressions or Subsidence	Evidence of Institutional Control Violation <sup>1</sup>	Problem with signs or other physical controls <sup>2</sup>	Adverse biological condition	Photo(s) taken? <sup>3</sup>
<u>NO</u>	<u>Findings</u>							

Notes (Reference Flag ID#):

<sup>1</sup> Indicate the RFLMA IC# (RFLMA Attachment 2, Table 1-7) for which violation is indicated.

<sup>2</sup> These are required to be inspected quarterly per RFLMA Attachment 2 Section 5.3.5, and completion is documented separately—documented here if problem noted during Annual Inspection.

<sup>3</sup> If photo taken, show location and orientation of photo on Area map.

Annual Site Inspection Check List (see RFLMA Attachment 2, Sections 5.3.4, 5.3.6, and 5.4.3)

Date 3/15/17

Inspection Area: G

Inspection performed by (print each name): Dana Santi, Jeremy Whener, Jody Nelson

Check all boxes that apply, put ID# on flag and place flag marker in location of observation for follow up.								
Flag ID#	Evidence of Soil Erosion or Deposition	Evidence of Cracks, Rills, Gullies	Evidence of Sink Holes or Burrows	Evidence of Depressions or Subsidence	Evidence of Institutional Control Violation <sup>1</sup>	Problem with signs or other physical controls <sup>2</sup>	Adverse biological condition	Photo(s) taken? <sup>3</sup>
<u>G1</u>	<u>no Metal duct sticking out</u>							
<u>G2</u>	<u>Pump</u>							

Notes (Reference Flag ID#):

G2. pump picked up & disposed of 3/23/17

<sup>1</sup> Indicate the RFLMA IC# (RFLMA Attachment 2, Table 1-7) for which violation is indicated.

<sup>2</sup> These are required to be inspected quarterly per RFLMA Attachment 2 Section 5.3.5, and completion is documented separately—documented here if problem noted during Annual Inspection.

<sup>3</sup> If photo taken, show location and orientation of photo on Area map.

## **Appendix B**

### **Landfill Inspection Forms and Survey Data**

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## Original Landfill – Monitoring and Maintenance Plan Inspection Form

Inspector: Patrick Boulas Date: 01/23/2017 Time: 11:30 Reviewed by: Jeremy Wehner

Temperature: 47 deg F Weather conditions: Partly Cloudy Review date: 2/15/2017

Subsidence/Consolidation					
Region	Evidence of cracks	Evidence of depressions	Evidence of sink holes	Evidence of ponding	Other (Describe below)
Top cover–West	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Top cover– East	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Buttress fill	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Diversion Berm 1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Diversion Berm 2	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Diversion Berm 3	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Diversion Berm 4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Salt staining
Diversion Berm 5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Salt staining
Diversion Berm 6	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Diversion Berm 7	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				

Settlement plates—inspection integrity. Intact  Yes  No

Maintenance required, comments, and/or photo log: No new movement observed at the Original Landfill (OLF). 1.1 inches of precipitation reported in the last month. No new cracks were observed and all preexisting cracks have been backfilled. Reconstruction of the East Subsurface Drain (ESSD) was completed on January 6, 2017. Berms 4 through 7 and top covers east and west have been downgraded to no evidence of cracks or depressions as there were only backfilled cracks and repaired depressions present.

**Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)**

Slope Stability				
Region	Evidence of cracks	Evidence of seeps	Evidence of block or circular failure	Other (Describe below)
Cover– West	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Cover– East	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Buttress fill side slope	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
West perimeter channel side slopes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
East perimeter channel side slopes	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Cover seeps (if present)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Maintenance required, comments, and/or photo log: East Perimeter Channel (EPC) had no visible flow but mud was present at the outfall. Seep 8A had the highest flow of the seeps at approximately 2-3 gpm. Snow was actively melting near this seep and is most likely the reason for the increased flow rate. Seep 2/3 was flowing at approximately 1-2 gpm and seep 8C was flowing at less than 1 gpm. Seeps 4 and 8B were damp at the time of inspection with no flow visible. The EPC and West Perimeter Channel (WPC) have evidence of movement from the spring of 2016 but no new movement is reported. The east bank of the EPC has evidence of movement experienced in the spring of 2016; however, the movement was not on the cover and did not seem to adversely affect either the EPC or WPC functionality. Therefore the EPC side slope has been downgraded to no evidence of cracks. The WPC side slope has a large scarp that still exists from the spring 2016 movement. It will be repaired as part of the erosion control and water diversion system reconfiguration as described in the OLF Path Forward Report. The cover - west region has been downgraded to no evidence of cracks. All preexisting cracks have been backfilled and no new movement was observed.

**Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)**

Soil Cover				
Region	Evidence of deposition or erosion	Evidence of erosion rills or gullies	Evidence of burrowing animals	Other (Describe below)
Cover– West	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Cover– East	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Buttress fill	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Buttress fill side slope	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Maintenance required, comments, and/or photo log: N/A

**Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)**

Vegetation				
Region	Condition of grass	Unwanted vegetation present*	Percentage of grass versus bare ground	Percentage of unwanted vegetation
Cover– West	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Cover– East	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 1	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 2	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 3	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 4	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 5	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 6	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 7	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
West perimeter channel	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
East perimeter channel	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Upper buttress fill side slope	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Lower buttress fill side slope	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		

\*Unwanted vegetation includes weeds and “woody vegetation.” Woody vegetation within the OLF waste footprint must be removed. Other locations must be evaluated per section 3.5 of the Original Landfill Monitoring and Maintenance Plan.

Maintenance required, comments, and/or photo log: Vegetation inspection is no longer required by the Rocky Flats Legacy Management Agreement. New areas of disturbance are addressed under the sitewide revegetation plan, “Erosion Control Plan for Rocky Flats Property Central Operable Unit.”

**Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)**

Stormwater Management Structures										
Channels										
Structure	Evidence of excessive erosion, gullyng, scour, or undermining		Evidence of settlement, subsidence, or depressions		Evidence of breaching or bank failure		Evidence of burrowing animals		Evidence of sediment build-up or other blockage	
Diversion Berm 1	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Diversion Berm 2	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Diversion Berm 3	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Diversion Berm 4	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Diversion Berm 5	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Diversion Berm 6	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Diversion Berm 7	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Temporary check dams*	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
West perimeter channel	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
East perimeter channel	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

\*Check dams may be removed after vegetation is established.

Other deficiencies: Corrugated drainage pipe behind berm 4 was damaged and will be repaired when supplies arrive. No water flows through the damaged corrugated drainage pipe at this time.

Maintenance required, comments, and/or photo log: The corrugated drainage pipe behind berms 5,6, and 7 has been replaced and repaired. Evidence of minor erosion exists behind berm 7, as noted in the April 2016 inspection report, and will be repaired with hand tools later this month.

**Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)**

**Stormwater Management Structures (continued)**

**Outfalls**

Check each structure for excessive erosion and sediment depth. If sediment depth is compromising the design characteristics, remove sediment.

Structure	Condition and sediment depth
Diversion Berm Outfall 1	No issues
Diversion Berm Outfall 2	No issues
Diversion Berm Outfall 3	No issues
Diversion Berm Outfall 4	No issues
Diversion Berm Outfall 5	No issues
Diversion Berm Outfall 6	No issues
Diversion Berm Outfall 7	No issues
West perimeter channel outfall	No issues
East perimeter channel outfall	Muddy, no visible flow
French drain outfall (SID)	Dry, no flow

Other deficiencies: None

Maintenance required, comments, and/or photo log: No new erosion or sediment buildup. Mud was present at the EPC outfall. The ESSD construction project is now complete. There was no visible flow at the ESSD outfall at the time of inspection but some pockets of water and mud exist.

**Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)**

“Run-On” Control	
Area	Adversely affecting OLF
North of the original landfill	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:
West of the west perimeter channel	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:
East of the east perimeter channel	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:
North of Woman Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:

Maintenance required: N/A

**Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)**

Institutional Controls		
Item		
Evidence of excavation(s) of cover and immediate vicinity of cover?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Comment:
Evidence of construction of roads, trails, or buildings on cover?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Comment:
Evidence of drilling of wells or use of groundwater?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Comment:
Damage or removal of any signage or groundwater monitoring wells?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Comment:

Other deficiencies and/or photo log: N/A

Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)

Action Items				
Deficiency	Date noted	Action	Date completed	Comments
Corrugated drainage pipe damaged behind berms 5, 6, and 7	12/22/16	New corrugated drainage pipe and couplers installed	1/11/17	
Erosion control mat disturbed	1/11/17	Restaked erosion control mat	1/11/17	
Corrugated drainage pipe disturbed behind berm 4	1/11/17	New corrugated drainage pipe ordered		No water flowing through damaged pipe

Inspector signature: 

Date: 2/15/17

Reviewer signature: 

Date: 2/15/17

Attachment 1: January 2017  
Monthly Report of the Original Landfill Inspection at the Rocky Flats Site

The monthly inspection of the Original Landfill (OLF) at the Rocky Flats Site, Colorado, was completed on January 23, 2017. The weather was partly cloudy but calm during the inspection. The Rocky Flats Site meteorological tower recorded 1.1 inches of precipitation at the site between this inspection and the prior inspection of December 22, 2016.

Figure 1 provides the approximate locations where each of the inspection photographs were taken on the OLF (as shown on Figures 2–7).

No new signs of movement were observed on the east or west side of the OLF (Figures 2 and 3, respectively). No new cracks since the time of the previous report have been observed. Regions that show cracks that were backfilled are no longer check-marked on the inspection form. Regions that are check-marked are from either new cracking or existing cracking (cracks that cannot be backfilled). A description will coincide with information about the check-marked region. The most notable cracks in 2016, southeast of berm 5 starting just below seep 2/3, were repaired during the September 2016 minor regrading (Figure 4), and since then no signs of cracking or movement have been observed.

The reconstruction of the East Subsurface Drain (ESSD), above the East Perimeter Channel (EPC) and to the east of berm 4, was completed on January 6, 2017 (Figures 2 and 5). Since its completion, no flow has been visible upon weekly inspections of the outfall and riser pipes; however, there is approximately 1 inch of water in the corrugated 8-inch drain pipe just upstream of the outfall. The ESSD outfall is damp with pockets of standing water and has no flow. Erosion-control matting is in good condition and most of the minor damage occurring from wildlife and high winds has been repaired. The corrugated drainage pipes behind berms 5, 6, and 7 have been repaired (Figures 6 and 7). The drainage pipe behind berm 4 was disturbed but there was no water present; it will likely not carry water until the spring and early summer months when more precipitation is expected. New drainage pipe and couplings have been ordered and will be installed prior to the annual snowmelt runoff. Staking the drainage pipe at more frequent intervals should reduce movement caused by high winds and increase the life of the drainage pipe. The revegetation of recently disturbed areas on the OLF is managed and monitored under the *Erosion Control Plan for Rocky Flats Property Central Operable Unit* (DOE 2007)<sup>1</sup> and under the sitewide vegetation and revegetation plans.

Seep 8A had the highest flow of the seeps at approximately 2-3 gallons per minute (gpm). Seep 2/3 was flowing at 1-2 gpm, and seep 8C was flowing at less than 1 gpm. Seeps 4 and 8B were

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<sup>1</sup> DOE (U.S. Department of Energy), 2007. *Erosion Control Plan for Rocky Flats Property Central Operable Unit*, DOE-LM/1497-2007, Office of Legacy Management, Rocky Flats Environmental Technology Site, July.

damp at the surface and there was no visible flow. The rest of the seeps on the OLF were dry at the time of inspection.

Summary

The reconstruction of the ESSD was completed on January 6, 2017. No new ground movement of the OLF cover was observed during the inspection. The inspection forms (handwritten and electronic) are filled out to represent current or existing cracks and movement at the OLF. Backfilled cracks will no longer be indicated as evidence of cracks. The EPC and EPC outfall continue to operate correctly and without movement. Minor corrugated drainage pipe damage, just behind berm 4, is scheduled for repair after more supplies are ordered and received.

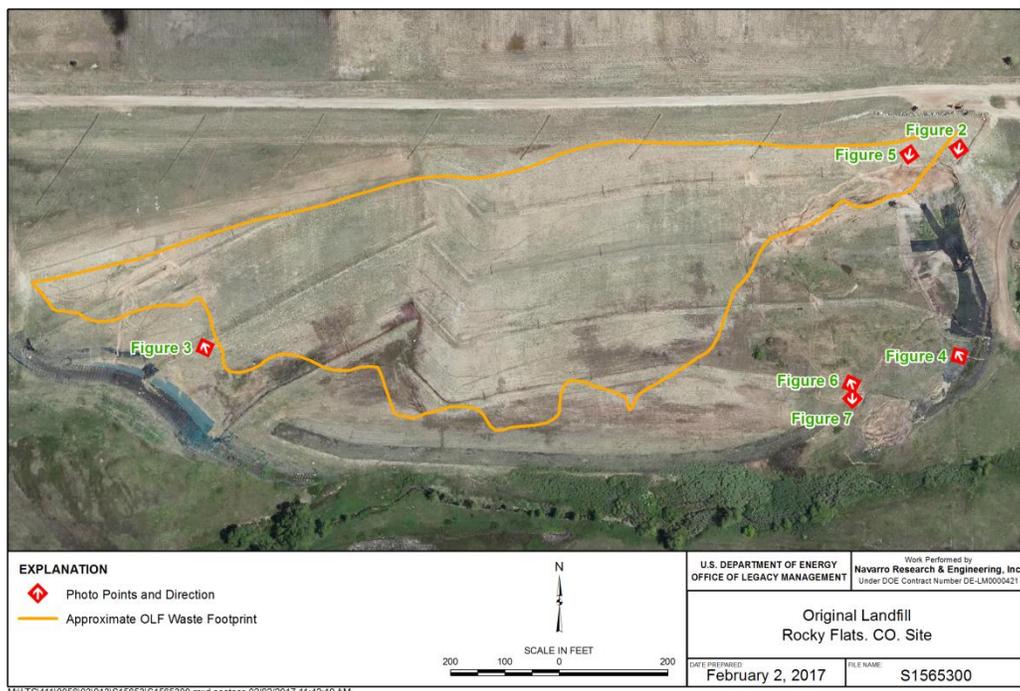


Figure 1. Rocky Flats Site OLF. Location and direction of each of the photographs referred to in this report (Figures 2–7).



Figure 2. Rocky Flats Site OLF. Looking south at the top of the EPC at berm 4 and the ESSD that was installed.

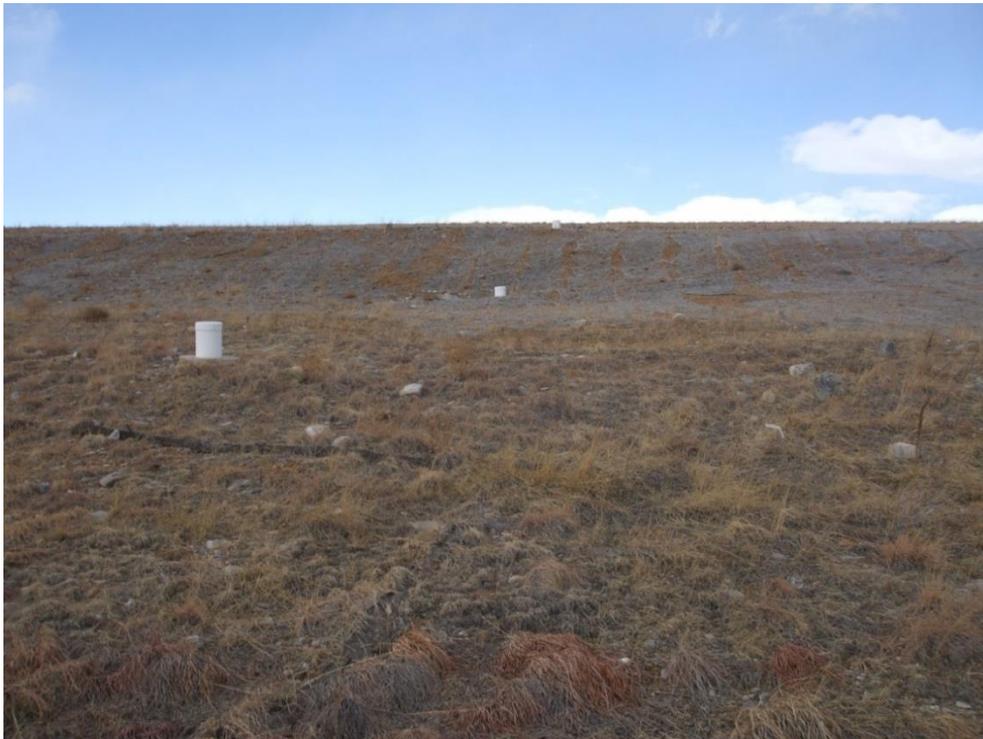


Figure 3. Rocky Flats Site OLF. Looking north at berm 1.



Figure 4. Rocky Flats Site OLF. Looking north, just south of berm 6 (located in center of picture).



Figure 5. Rocky Flats Site OLF. Looking south, at berm 4 and the completed construction of the East Subsurface Drain.



Figure 6. Rocky Flats Site OLF. Standing on berm 7 looking north at berms 5 and 6 where corrugated drainage pipe was replaced.



Figure 7. Rocky Flats Site OLF. Standing on berm 7 looking south where corrugated drainage pipe was replaced.

## Original Landfill – Monitoring and Maintenance Plan Inspection Form

Inspector: Patrick Boulas Date: 2/22/2017 Time: 11:30 AM Reviewed by: Jeremy Wehner

Temperature: 51 deg F Weather conditions: Sunny Review date: 3/6/2017

Subsidence/Consolidation					
Region	Evidence of cracks	Evidence of depressions	Evidence of sink holes	Evidence of ponding	Other (Describe below)
Top cover–West	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Top cover– East	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Buttress fill	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Diversion Berm 1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Diversion Berm 2	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Diversion Berm 3	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Diversion Berm 4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Salt stain
Diversion Berm 5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Salt stain
Diversion Berm 6	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Diversion Berm 7	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				

Settlement plates—inspection integrity. Intact  Yes  No

Maintenance required, comments, and/or photo log: No new movement observed at the Original Landfill (OLF). Less than 0.1 inches of precipitation was reported in the last month. No new cracks were observed, and all preexisting cracks have been backfilled.

Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)

Slope Stability				
Region	Evidence of cracks	Evidence of seeps	Evidence of block or circular failure	Other (Describe below)
Cover– West	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Cover– East	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Buttress fill side slope	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
West perimeter channel side slopes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
East perimeter channel side slopes	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Cover seeps (if present)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Maintenance required, comments, and/or photo log: East Perimeter Channel (EPC) had no visible flow, but mud and pockets of water were present at the outfall. Seep 8A had the highest flow of the seeps at 2–3 gpm. Seep 2/3 was flowing at approximately 1–2 gpm, and seep 9 was flowing at less than 1 gpm. The east bank of the EPC has evidence of movement experienced in the spring of 2016; however, the movement was not on the cover and did not seem to adversely affect the EPC or EPC outfall functionality. The West Perimeter Channel (WPC) side slope has a large scarp that still exists from the spring of 2016 movement. It will be repaired as part of the erosion control and water diversion system future maintenance.

Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)

Soil Cover				
Region	Evidence of deposition or erosion	Evidence of erosion rills or gullies	Evidence of burrowing animals	Other (Describe below)
Cover– West	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Cover– East	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Buttress fill	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Buttress fill side slope	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Maintenance required, comments, and/or photo log: N/A

Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)

Vegetation				
Region	Condition of grass	Unwanted vegetation present*	Percentage of grass versus bare ground	Percentage of unwanted vegetation
Cover– West	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Cover– East	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 1	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 2	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 3	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 4	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 5	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 6	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 7	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
West perimeter channel	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
East perimeter channel	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Upper buttress fill side slope	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Lower buttress fill side slope	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		

\*Unwanted vegetation includes weeds and “woody vegetation.” Woody vegetation within the OLF waste footprint must be removed. Other locations must be evaluated per section 3.5 of the Original Landfill Monitoring and Maintenance Plan.

Maintenance required, comments, and/or photo log: Vegetation inspection is no longer required by the Rocky Flats Legacy Management Agreement. New areas of disturbance are addressed under the sitewide revegetation plan, “Erosion Control Plan for Rocky Flats Property Central Operable Unit.”

Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)

Stormwater Management Structures										
Channels										
Structure	Evidence of excessive erosion, gully, scour, or undermining		Evidence of settlement, subsidence, or depressions		Evidence of breaching or bank failure		Evidence of burrowing animals		Evidence of sediment build-up or other blockage	
Diversion Berm 1	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Diversion Berm 2	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Diversion Berm 3	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Diversion Berm 4	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Diversion Berm 5	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Diversion Berm 6	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Diversion Berm 7	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Temporary check dams*	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
West perimeter channel	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
East perimeter channel	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

\*Check dams may be removed after vegetation is established.

Other deficiencies: None

Maintenance required, comments, and/or photo log: The corrugated drainage pipe behind berm 4 has been replaced and repaired. Evidence of minor erosion behind berm 7 was repaired with hand tools. Berms 3 through 7 have been regraded but evidence still exists from previous movement events. No additional work is required at this time.

Stormwater Management Structures (continued)

Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)

**Outfalls**

Check each structure for excessive erosion and sediment depth. If sediment depth is compromising the design characteristics, remove sediment.

Structure	Condition and sediment depth
Diversion Berm Outfall 1	No issues
Diversion Berm Outfall 2	No issues
Diversion Berm Outfall 3	No issues
Diversion Berm Outfall 4	No issues
Diversion Berm Outfall 5	No issues
Diversion Berm Outfall 6	No issues
Diversion Berm Outfall 7	No issues
West perimeter channel outfall	No issues
East perimeter channel outfall	Muddy with pockets of water. No visible flow.
French drain outfall (SID)	Dry, no flow

Other deficiencies: None

Maintenance required, comments, and/or photo log: No new erosion or sediment buildup. Mud and pockets of water were present at the EPC outfall. The east subsurface drain outfall was dry at the time of inspection.

Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)

**“Run-On” Control**

Area	Adversely affecting OLF
North of the original landfill	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:
West of the west perimeter channel	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:
East of the east perimeter channel	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:
North of Woman Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:

Maintenance required: N/A

Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)

Institutional Controls		
Item		
Evidence of excavation(s) of cover and immediate vicinity of cover?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Comment:
Evidence of construction of roads, trails, or buildings on cover?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Comment:
Evidence of drilling of wells or use of groundwater?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Comment:
Damage or removal of any signage or groundwater monitoring wells?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Comment:

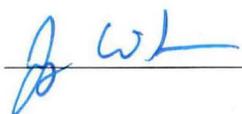
Other deficiencies and/or photo log: N/A

Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)

Action Items				
Deficiency	Date noted	Action	Date completed	Comments
Corrugated drainage pipe disturbed behind berm 4	1/11/17	New corrugated drainage pipe was replaced and repaired	2/22/17	
Erosion-control mat disturbed	2/22/17	Restaked erosion-control mat	2/22/17	
Minor erosion behind berm 7	1/23/17	Regraded with hand tools	2/22/17	

Inspector signature: 

Date: 3/6/17

Reviewer signature: 

Date: 3/7/17

Attachment 1: February 2017  
Monthly Report of the Original Landfill Inspection at the Rocky Flats Site

The monthly inspection of the Original Landfill (OLF) at the Rocky Flats Site, Colorado, was completed on February 22, 2017. The weather was sunny and cool during the inspection. The National Renewable Energy Laboratory M2 tower recorded less than 0.1 inches of precipitation at the site between this inspection and the prior inspection of January 23, 2016.

Figure 1 provides the approximate locations where each of the inspection photographs were taken on the OLF (as shown in Figures 2–7).

No new signs of movement were observed on the east or west side of the OLF (Figures 2 and 3, respectively). No new cracks since the time of the previous report have been observed. Regions that show cracks that were backfilled are no longer check-marked on the inspection form. Regions that are check-marked are from either new cracking or existing cracking (cracks that cannot be backfilled). A description will coincide with information about the check-marked region. The most notable cracks in 2016, southeast of berm 5 starting just below seep 2/3, were repaired during the September 2016 minor regrading (Figure 4), and since then no signs of cracking or movement have been observed.

The reconstruction of the East Subsurface Drain (ESSD), above the East Perimeter Channel (EPC) and to the east of berm 4, was completed on January 6, 2017 (Figure 5). Since its completion, no flow has been visible upon weekly inspections of the outfall and riser pipes; however, there is approximately 1 inch of water in the corrugated 8-inch drain pipe just upstream of the outfall. The ESSD outfall is dry and has no flow. The evidence of minor erosion behind berm 7 was repaired with hand tools (Figure 6). Erosion-control matting is in good condition, and most of the minor damage occurring from wildlife and high winds has been repaired (Figure 7). The damaged corrugated drainage pipe behind berm 4 was replaced with new corrugated drainage piping. Staking the drainage pipe at more frequent intervals has reduced movement caused by high winds and is expected to increase the life of the drainage pipe. The revegetation of recently disturbed areas on the OLF is managed and monitored under the *Erosion Control Plan for Rocky Flats Property Central Operable Unit* (DOE 2007)<sup>1</sup> and under the sitewide vegetation and revegetation plans.

Seep 8A had the highest flow of the seeps at approximately 2–3 gallons per minute (gpm). Seep 2/3 was flowing at 1–2 gpm, and seep 9 had pockets of water flowing less than 1 gpm. The rest of the seeps on the OLF were dry at the time of inspection.

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<sup>1</sup> DOE (U.S. Department of Energy), 2007. *Erosion Control Plan for Rocky Flats Property Central Operable Unit*, DOE-LM/1497-2007, Office of Legacy Management, Rocky Flats Environmental Technology Site, July.

Summary

No new ground movement of the OLF cover was observed during the inspection. Minor corrugated drainage pipe damage behind berm 4 was replaced and repaired. The inspection forms (handwritten and electronic) are filled out to represent current or existing cracks and movement at the OLF. Backfilled cracks will no longer be indicated as evidence of cracks.

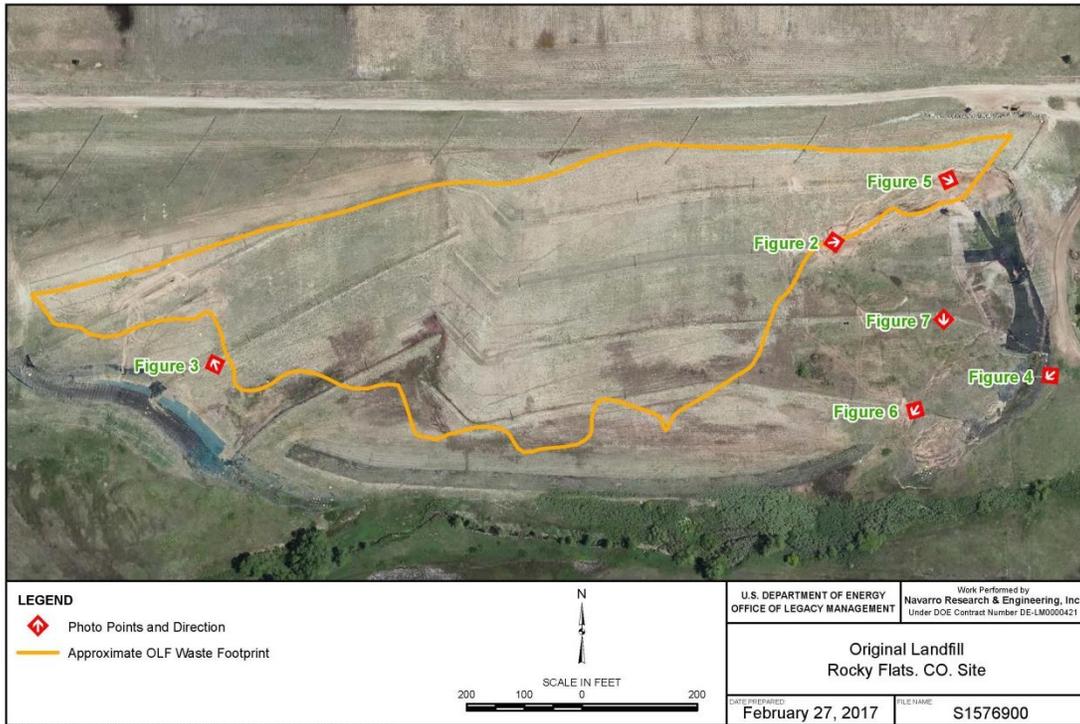


Figure 1. Rocky Flats Site OLF. Location and direction of each of the photographs referred to in this report (Figures 2–7).



Figure 2. Rocky Flats Site OLF. Looking east between berms 4 and 5.

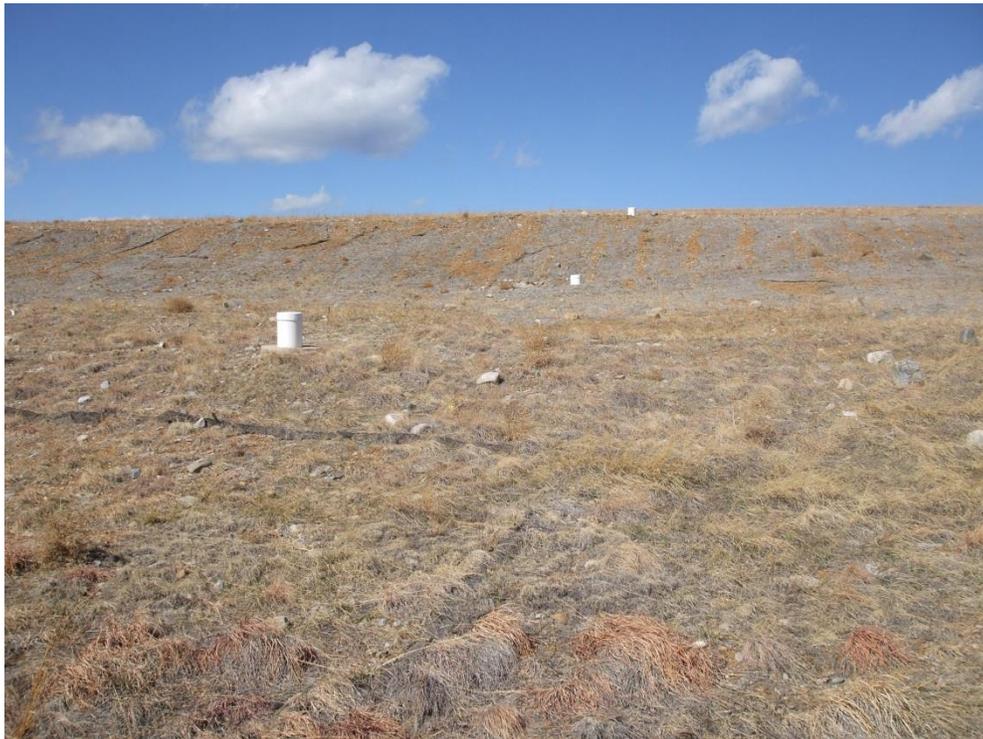


Figure 3. Rocky Flats Site OLF. Looking north at berm 1.



Figure 4. Rocky Flats Site OLF. Looking southwest, just east of the EPC and west of berm 6.



Figure 5. Rocky Flats Site OLF. Looking east, at berm 5 and the completed construction of the ESSD.



Figure 6. Rocky Flats Site OLF. Standing on berm 7 looking southwest at the minor erosion that was repaired with hand tools.



Figure 7. Rocky Flats Site OLF. Standing on berm 6 looking south at berm 7.

## Original Landfill – Monitoring and Maintenance Plan Inspection Form

Inspector: Patrick Boulas Date: 3/22/17 Time: 11:30 AM Reviewed by: Jeremy Wehner

Temperature: 56 DEG F Weather conditions: Sunny Review date: 4/3/2017

### Subsidence/Consolidation

Region	Evidence of cracks	Evidence of depressions	Evidence of sink holes	Evidence of ponding	Other (Describe below)
Top cover–West	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Top cover– East	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Buttress fill	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Diversion Berm 1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Diversion Berm 2	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Diversion Berm 3	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Diversion Berm 4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Salt stain
Diversion Berm 5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Salt stain
Diversion Berm 6	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Diversion Berm 7	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				

Settlement plates—inspection integrity. Intact  Yes  No

Maintenance required, comments, and/or photo log: No new movement observed at the Original Landfill (OLF). The Rocky Flats Site Meteorological Tower recorded 0.08 inches of precipitation since the last monthly report. The National Renewable Energy Laboratory M2 tower, adjacent to the northwest corner of the site, recorded 0.30 inches during the same time period using a heated rain gauge. No new cracks were observed.

Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)

Slope Stability				
Region	Evidence of cracks	Evidence of seeps	Evidence of block or circular failure	Other (Describe below)
Cover– West	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Cover– East	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Buttress fill side slope	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
West perimeter channel side slopes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
East perimeter channel side slopes	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Wet area found near Seep 2/3 drainage outfall
Cover seeps (if present)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Maintenance required, comments, and/or photo log: East Perimeter Channel (EPC) had no visible flow, but mud and pockets of water were present throughout the channel. Seep 8A had the highest flow of the seeps at approximately 2 gallons per minute (gpm). Seep 2/3 was flowing at less than 1 gpm and Seep 7 was damp. Seep 9 and Seep 4 had pockets of water but no visible flow. A wet area was discovered about 30 feet north of the Seep 2/3 drainage outfall. The source of the wet area is not clear at this time. The wet area is running south along the Seep 2/3 drainage pipe and has pockets of water and damp soil leading to Woman Creek. No ground movement has been observed in this area since the discovery of the wet area. The Seep 2/3 drainage pipe was moved to the EPC and the wet area will be monitored to determine if it is being fed by surface or subsurface sources, and any effects will be recorded.

Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)

Soil Cover

Region	Evidence of deposition or erosion	Evidence of erosion rills or gullies	Evidence of burrowing animals	Other (Describe below)
Cover– West	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Cover– East	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Buttress fill	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Buttress fill side slope	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Maintenance required, comments, and/or photo log: N/A

Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)

Vegetation				
Region	Condition of grass	Unwanted vegetation present*	Percentage of grass versus bare ground	Percentage of unwanted vegetation
Cover– West	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Cover– East	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 1	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 2	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 3	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 4	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 5	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 6	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Diversion Berm 7	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
West perimeter channel	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
East perimeter channel	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Upper buttress fill side slope	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Lower buttress fill side slope	See Comments	<input type="checkbox"/> Yes <input type="checkbox"/> No		

\*Unwanted vegetation includes weeds and “woody vegetation.” Woody vegetation within the original landfill (OLF) waste footprint must be removed. Other locations must be evaluated per section 3.5 of the Original Landfill Monitoring and Maintenance Plan.

Maintenance required, comments, and/or photo log: Vegetation inspection is no longer required by Rocky Flats Legacy Management Agreement. New areas of disturbance are addressed under the site wide revegetation plan, “Erosion Control Plan for Rocky Flats Property Central Operable Unit.”

Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)

Stormwater Management Structures										
Channels										
Structure	Evidence of excessive erosion, gully, scour, or undermining		Evidence of settlement, subsidence, or depressions		Evidence of breaching or bank failure		Evidence of burrowing animals		Evidence of sediment build-up or other blockage	
Diversion Berm 1	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Diversion Berm 2	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Diversion Berm 3	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Diversion Berm 4	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Diversion Berm 5	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Diversion Berm 6	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Diversion Berm 7	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Temporary check dams*	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
West perimeter channel	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
East perimeter channel	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

\*Check dams may be removed after vegetation is established.

Other deficiencies: None

Maintenance required, comments, and/or photo log: The damaged corrugated drainage pipe behind Berm 7 was repaired.

**Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)**

**Stormwater Management Structures (continued)**

**Outfalls**

Check each structure for excessive erosion and sediment depth. If sediment depth is compromising the design characteristics, remove sediment.

Structure	Condition and sediment depth
Diversion Berm Outfall 1	No issues
Diversion Berm Outfall 2	No issues
Diversion Berm Outfall 3	No issues
Diversion Berm Outfall 4	No issues
Diversion Berm Outfall 5	No issues
Diversion Berm Outfall 6	No issues
Diversion Berm Outfall 7	No issues
West perimeter channel outfall	No issues, dry, no flow
East perimeter channel outfall	Muddy with pockets of water, no visible flow
French drain outfall (SID)	Dry, no flow

Other deficiencies: None

Maintenance required, comments, and/or photo log: No new erosion or sediment buildup. There were mud and pockets of water at the EPC outfall. The East Subsurface Drain (ESSD) outfall had no flow but the ESSD outfall channel was damp in the weekly inspections leading up to the monthly inspection. At the time of the monthly inspection, the ESSD lines were being flushed with water per the subcontractor's punch list and water was observed at the outfall.

Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)

**“Run-On” Control**

Area	Adversely affecting OLF
North of the original landfill	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:
West of the west perimeter channel	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:
East of the east perimeter channel	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:
North of Woman Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:

Maintenance required: N/A

Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)

Institutional Controls		
Item		
Evidence of excavation(s) of cover and immediate vicinity of cover?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Comment:
Evidence of construction of roads, trails, or buildings on cover?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Comment:
Evidence of drilling of wells or use of groundwater?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Comment:
Damage or removal of any signage or groundwater monitoring wells?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Comment:

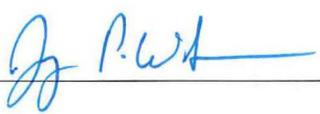
Other deficiencies and/or photo log: The 2017 OLF Temporary Groundwater Intercept System described in CR 2017-01 has two wells that have been drilled just upgradient of the OLF cover and outside the OLF boundary.

Original Landfill – Monitoring And Maintenance Plan Inspection Form (continued)

Action Items				
Deficiency	Date noted	Action	Date completed	Comments
Drainage pipe behind Berm 7 was damaged	3/22/17	Drainage pipe was repaired with new coupler and taped	3/22/17	
Erosion-control mat disturbed south of berm 7	3/22/17	Restaked erosion control mat, ecologist was notified	3/22/17	

Inspector signature: 

Date: 4/12/2017

Reviewer signature: 

Date: 4/12/2017

Attachment 1: March 2017  
Monthly Report of the Original Landfill Inspection at the Rocky Flats Site

The monthly inspection of the Original Landfill (OLF) at the Rocky Flats Site, Colorado, was completed on March 22, 2017. The weather was sunny and clear during the inspection. The Rocky Flats Site Meteorological Tower recorded 0.08 inches of precipitation at the site between this inspection and the prior inspection of February 22, 2017. The National Renewable Energy Laboratory M2 tower, adjacent to the northwest corner of the site, recorded 0.30 inches during the same time period using a heated rain gauge.

Figure 1 provides the approximate locations where each of the inspection photographs were taken on the OLF (as shown in Figures 2–7).

No new signs of movement were observed on the OLF (Figure 2). No new cracks since the time of the previous inspection have been observed. Regions that show cracks that were backfilled are no longer checkmarked on the inspection form. Items that are checkmarked are from previous cracks that cannot be backfilled with hand tools. A description is included with information about the checkmarked items. The most notable cracks in 2016, southeast of Berm 5 starting just below Seep 2/3, were repaired during the September 2016 minor regrading (Figure 3), and since then, no signs of cracking or movement have been observed.

The construction of the OLF temporary groundwater intercept system started on March 14, 2017. At the time of inspection, the gravity drain line was in place and connected to the East Subsurface Drain (ESSD) (Figure 4). During the inspection, a subcontractor was flushing water through the ESSD lines and repairing the erosion control mat near the ESSD that had blown away. Weekly inspection of the ESSD and ESSD outfall has not resulted in the discovery of any visible water flowing out of the pipes; however, the ESSD outfall was damp. Erosion-control is in good condition, and most of the minor damage occurring from wildlife and high winds has been repaired (Figure 5). Staking the drainage pipe at more frequent intervals has reduced movement caused by high winds and is expected to increase the life of the drainage pipe. The revegetation of recently disturbed areas on the OLF is managed and monitored under the *Erosion Control Plan for Rocky Flats Property Central Operable Unit* (DOE 2007)<sup>1</sup> and under the sitewide vegetation and revegetation plans.

Seep 8A had the highest flow of the seeps at approximately 2 gallons per minute (gpm). Seep 2/3 was flowing less than 1 gpm and Seep 7 was damp. Seep 9 and Seep 4 had pockets of water with no visible flow. A wet area was discovered, about 30 feet north of the Seep 2/3 drainage outfall, flowing at approximately 1 gpm (Figure 6). The wet area appears to be from water in the East Perimeter Channel (EPC) that percolates through the EPC side slope instead of

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<sup>1</sup> DOE (U.S. Department of Energy), 2007. *Erosion Control Plan for Rocky Flats Property Central Operable Unit*, DOE-LM/1497-2007, Office of Legacy Management, Rocky Flats Environmental Technology Site, July.

towards the EPC outfall. This water then continues to run south along the Seep 2/3 drainage pipe, creating pockets of water and damp soil running to Woman Creek (Figure 7). The Seep 2/3 drainage pipe was moved so that the drainage outfall would discharge in the EPC, in an effort to reduce the amount of water at the wet area. The wet area will be monitored to determine the effects of moving the Seep 2/3 drainage pipe, and to observe whether it is being fed by surface or subsurface sources. No ground movement has been observed in this area since the previous inspection. The rest of the historic seep locations on the OLF were dry at the time of inspection.

Summary

No new ground movement of the OLF cover was observed during the inspection. Minor corrugated drainage pipe damage behind Berm 7 was repaired. A wet area was discovered that appears to shortcut the EPC outfall to Woman Creek. The inspection forms are filled out to represent current conditions at the OLF. Repaired items will no longer be checkmarked as evidence unless further action is warranted.

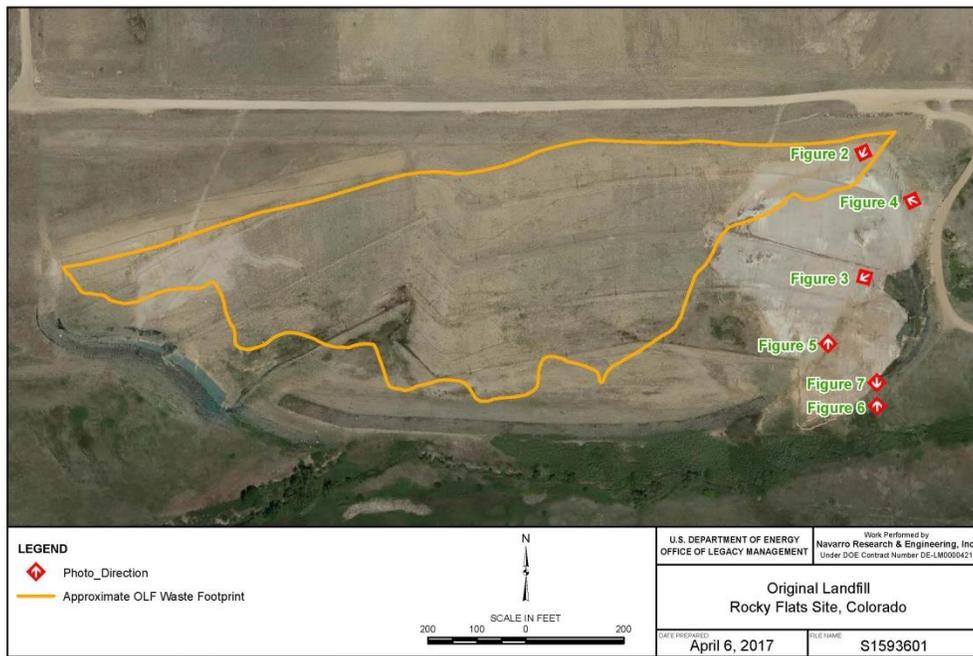


Figure 1. Location and Direction of Each of the Photographs Referred to in this Report (Figures 2–7), Rocky Flats Site OLF



Figure 2. Looking South at Berm 4 and the New Above-Ground Drain Pipe Running from the OLF Groundwater Intercept System to the ESSD



Figure 3. Looking West, Just East of Berm 6



Figure 4. Looking West, at Berm 4 and the Gravity Drain Line Connection to the ESDD



Figure 5. Standing on Berm 7 Looking North to Berm 6



Figure 6. Standing Below the Seep 2/3 Drainage Outfall Looking North at the Wet Area Discovered (estimated outline in blue)



Figure 7. Standing Above the Seep 2/3 Drainage Outfall Looking South at the Wet Area Discovered

Rocky Flats Site  
Original Landfill - Settlement Plates Monitoring  
Quarterly Survey March 13, 2017 Comparison to Previous December 12, 2016

03-13-17 OBSERVATIONS					DELTA	DELTA	DELTA	12-12-16 OBSERVATIONS				
POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION	NORTHING	EASTING	ELEVATION	POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
64361	747913.41	2082234.03	6005.01	N RIM PIPE AA	0.01	0.02	0.00	64301	747913.42	2082234.05	6005.01	N RIM PIPE AA
64362	747644.86	2081851.20	5975.32	N RIM PIPE BB	0.00	0.02	0.00	64302	747644.86	2081851.21	5975.32	N RIM PIPE BB
64364	747883.21	2081665.98	6019.55	N RIM PIPE CC	-0.01	0.00	0.01	64303	747883.20	2081665.98	6019.56	N RIM PIPE CC
64365	747803.32	2081642.35	6006.07	N RIM PIPE DD	0.00	-0.02	0.02	64304	747803.31	2081642.33	6006.08	N RIM PIPE DD
64366	747700.69	2081620.53	5988.54	N RIM PIPE EE	0.00	-0.01	0.02	64305	747700.69	2081620.52	5988.55	N RIM PIPE EE
64368	747703.30	2081407.62	5997.15	N RIM PIPE FF	0.02	-0.02	0.00	64307	747703.32	2081407.60	5997.16	N RIM PIPE FF
64367	747563.08	2081656.28	5974.13	N RIM PIPE GG	-0.01	-0.02	0.03	64306	747563.07	2081656.27	5974.16	N RIM PIPE GG
64369	747738.31	2081227.51	6012.58	N RIM PIPE HH	0.03	-0.02	0.01	64308	747738.34	2081227.50	6012.59	N RIM PIPE HH

DELTAS ARE CALCULATED AS THE DIFFERENCE BETWEEN THE 03-13-17 OBSERVATION AND THE 12-12-16 OBSERVATION

POINTS ARE GRID BASED COLORADO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NAD 27, NGVD 29

## Present Landfill– Monitoring and Maintenance Plan Inspection Form

Inspector: Patrick Boulas Date: 3/13/17 Time: 13:30 Reviewed by: Jeremy Wehner

Temperature: 50 deg F Weather conditions: Partly Cloudy Review date: 3/27/17

Meteorological station location: Rocky Flats Meteorological Station

Subsidence/Consolidation					
Region	Evidence of cracks	Evidence of depressions	Evidence of sinkholes	Evidence of ponding	Other (Describe below)
Top cover– West	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Top cover– East	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Cover side slope– North	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Cover side slope– South	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
East face slope– North	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
East face slope– South	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
East face slope– Central	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
East face slope– North Seep*	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Settlement plates and side slope monitoring points to be inspected for integrity. During year 1, they will be surveyed quarterly, and annually thereafter.			Integrity intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

\*Area of seep is outside of landfill cover and east of the cover anchor trench.

Maintenance required, comments, photo log: No maintenance necessary.

**Present Landfill – Monitoring and Maintenance Plan Inspection Form (continued)**

Slope Stability				
Region	Evidence of cracks	Evidence of block or circular failure	Evidence of seeps	Other (Describe below)
Cover side slope– North	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Cover side slope– South	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Perimeter channel outer slope– North	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Perimeter channel outer slope– South	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
East face slope– North	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
East face slope– South	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
East face slope–Central	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
East face slope–North seep*	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

\*Area of seep is outside of landfill cover and east of the cover anchor trench

Maintenance required, comments, photo log: The soil was damp but no flow was visible in the east face slope - north seep.

Present Landfill – Monitoring and Maintenance Plan Inspection Form (continued)

Soil Cover							
Region	Evidence of deposition or erosion		Evidence of erosion rills or gullies		Evidence of burrowing animals		Other (Describe below)
Top of cover–West	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Top of cover–East	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Cover side slope–North	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Cover side slope–South	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
East face slope–North	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
East face slope–South	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
East face slope–Central	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Area where east slope central meets east slope–North	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Area where east slope central meets east slope–South	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	<b>Vent caps in place and secure</b>		<b>Standpipes in good condition</b>		<b>Birds or insects in vent caps</b>		
Cover–barometric vents	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

Maintenance required, comments, photo log: No maintenance necessary.

Present Landfill – Monitoring and Maintenance Plan Inspection Form (continued)

Seep Treatment System			
Region	Evidence of plugging, obstructions, or excess debris	Evidence of cracks or deterioration	Other (describe below)
GWIS inlet pipes	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Strip drain inlet pipe	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
North manhole outlet pipe	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
South manhole outlet pipe	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Treatment unit	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Treatment unit outlet pipe	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
North manhole	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
South manhole	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Treatment unit grating	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Maintenance required, comments, photo log: No maintenance necessary. The new grout at the north and south manholes is in good condition.

Present Landfill – Monitoring and Maintenance Plan Inspection Form (continued)

Stormwater Management Structures							
Structure	Evidence of excessive erosion, gullyng, scour, or undermining	Evidence of settlement subsidence or depressions	Evidence of breaching or bank failure	Evidence of burrowing animals	Evidence of sediment build-up or other blockage	Evidence of lining deterioration holes, rips, or separations	Evidence of lining displacement
Diversion berm	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Vegetation lines perimeter channel–North	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Vegetation lined perimeter channel–South	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Riprap lined perimeter channel	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
C350 lined east face	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
East face riprap channel–North	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
East face riprap channel–South	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						

Other deficiencies: N/A

Maintenance required, comments, photo log: No maintenance necessary.

Present Landfill – Monitoring and Maintenance Plan Inspection Form (continued)

**Stormwater Management Structures (continued)**

**OUTFALLS**

Check each structure for excessive erosion and sediment depth. If sediment depth is compromising the design characteristics, remove sediment.

Structure	Condition and sediment depth
Diversion Berm Outfall–North	No issue
Diversion Berm Outfall–South	No issue
Culvert 1 outfall	No issue
Culvert 2 outfall	No issue
South culvert outfall	No issue

**CULVERTS**

Check each structure for blockage, surrounding conditions, breaching, sediment build-up, and inlet/outlet conditions.

Structure	Condition
Culvert 1	No issue
Culvert 2	No issue
South Culvert	No issue

Maintenance required, comments, photo log: No maintenance necessary.

**Contractor to U.S. Department of Energy Office of Legacy Management**

**Present Landfill – Monitoring and Maintenance Plan Inspection Form (continued)**

"Run-On" Erosion Control	
Area	Adversely affecting PLF
Run-on into perimeter channel–North	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:
Run-on into perimeter channel–South	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:
Natural drainage fed by culvert 1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:
Natural drainage fed by northeast perimeter channel	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:
Natural drainage fed by riprap	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:

Maintenance required, comments, photo log: No maintenance necessary.

**Present Landfill – Monitoring and Maintenance Plan Inspection Form (continued)**

**Institutional Controls**

Item	
Evidence of excavation(s) of cover and immediate vicinity of cover?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:
Evidence of construction of roads, trails, on cover or buildings?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:
Evidence of unauthorized entry?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:
Evidence of drilling, wells or use of groundwater?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:
Disruption or damage of seep treatment system?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:
Damage or removal of any signage or groundwater monitoring wells?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Comment:

Other deficiencies, photo log: N/A

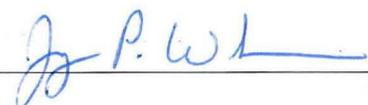
Contractor to U.S. Department of Energy Office of Legacy Management

Present Landfill – Monitoring and Maintenance Plan Inspection Form (continued)

Action Items				
Deficiency	Date noted	Action	Date completed	Comments
No Deficiencies	3/13/2017			

Inspector signature: 

Date: 3/14/17

Reviewer signature: 

Date: 3/27/2017

## **Appendix C**

### **Analytical Results for Water Samples–First Quarter CY 2017**

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Appendix C  
Analytical Results for Water Samples—First Quarter CY 2017  
RFLMA Data

LOCATION CODE	LOCATION TYPE	DATE SAMPLED	LAB REQUISITION NUMBER	CAS	ANALYTE	SAMPLE ID	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCERTAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
70193	WL	2/6/2017	17028266	71-55-6	1,1,1-Trichloroethane	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
70193	WL	2/6/2017	17028266	71-55-6	1,1,1-Trichloroethane	N002	0.16	ug/L	U	D	0.16		FQ	G	STD
70193	WL	2/6/2017	17028266	79-34-5	1,1,2,2-Tetrachloroethane	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
70193	WL	2/6/2017	17028266	79-34-5	1,1,2,2-Tetrachloroethane	N002	0.21	ug/L	U	D	0.21		FQ	G	STD
70193	WL	2/6/2017	17028266	79-00-5	1,1,2-Trichloroethane	N001	0.27	ug/L	U	F	0.27		FQ	G	STD
70193	WL	2/6/2017	17028266	79-00-5	1,1,2-Trichloroethane	N002	0.27	ug/L	U	D	0.27		FQ	G	STD
70193	WL	2/6/2017	17028266	75-35-4	1,1-Dichloroethene	N001	0.23	ug/L	U	F	0.23		FQ	G	STD
70193	WL	2/6/2017	17028266	75-35-4	1,1-Dichloroethene	N002	0.23	ug/L	U	D	0.23		FQ	G	STD
70193	WL	2/6/2017	17028266	120-82-1	1,2,4-Trichlorobenzene	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
70193	WL	2/6/2017	17028266	120-82-1	1,2,4-Trichlorobenzene	N002	0.21	ug/L	U	D	0.21		FQ	G	STD
70193	WL	2/6/2017	17028266	96-12-8	1,2-Dibromo-3-chloropropane	N001	0.47	ug/L	U	F	0.47		FQ	G	STD
70193	WL	2/6/2017	17028266	96-12-8	1,2-Dibromo-3-chloropropane	N002	0.47	ug/L	U	D	0.47		FQ	G	STD
70193	WL	2/6/2017	17028266	106-93-4	1,2-Dibromoethane	N001	0.18	ug/L	U	F	0.18		FQ	G	STD
70193	WL	2/6/2017	17028266	106-93-4	1,2-Dibromoethane	N002	0.18	ug/L	U	D	0.18		FQ	G	STD
70193	WL	2/6/2017	17028266	95-50-1	1,2-Dichlorobenzene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
70193	WL	2/6/2017	17028266	95-50-1	1,2-Dichlorobenzene	N002	0.15	ug/L	U	D	0.15		FQ	G	STD
70193	WL	2/6/2017	17028266	107-06-2	1,2-Dichloroethane	N001	0.13	ug/L	U	F	0.13		FQ	G	STD
70193	WL	2/6/2017	17028266	107-06-2	1,2-Dichloroethane	N002	0.13	ug/L	U	D	0.13		FQ	G	STD
70193	WL	2/6/2017	17028266	78-87-5	1,2-Dichloropropane	N001	0.18	ug/L	U	F	0.18		FQ	G	STD
70193	WL	2/6/2017	17028266	78-87-5	1,2-Dichloropropane	N002	0.18	ug/L	U	D	0.18		FQ	G	STD
70193	WL	2/6/2017	17028266	541-73-1	1,3-Dichlorobenzene	N001	0.13	ug/L	U	F	0.13		FQ	G	STD
70193	WL	2/6/2017	17028266	541-73-1	1,3-Dichlorobenzene	N002	0.13	ug/L	U	D	0.13		FQ	G	STD
70193	WL	2/6/2017	17028266	106-46-7	1,4-Dichlorobenzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
70193	WL	2/6/2017	17028266	106-46-7	1,4-Dichlorobenzene	N002	0.16	ug/L	U	D	0.16		FQ	G	STD
70193	WL	2/6/2017	17028266	7440-38-2	Arsenic	0001	4.4	ug/L	U	F	4.4		FQ	G	STD
70193	WL	2/6/2017	17028266	7440-38-2	Arsenic	0002	4.4	ug/L	U	D	4.4		FQ	G	STD
70193	WL	2/6/2017	17028266	71-43-2	Benzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
70193	WL	2/6/2017	17028266	71-43-2	Benzene	N002	0.16	ug/L	U	D	0.16		FQ	G	STD
70193	WL	2/6/2017	17028266	7440-41-7	Beryllium	0001	0.47	ug/L	U	F	0.47		FQ	G	STD
70193	WL	2/6/2017	17028266	7440-41-7	Beryllium	0002	0.47	ug/L	U	D	0.47		FQ	G	STD
70193	WL	2/6/2017	17028266	7440-42-8	Boron	0001	28	ug/L	JB	F	4.4		UFQ	G	STD
70193	WL	2/6/2017	17028266	7440-42-8	Boron	0002	34	ug/L	B	D	4.4		UFQ	G	STD
70193	WL	2/6/2017	17028266	75-27-4	Bromodichloromethane	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
70193	WL	2/6/2017	17028266	75-27-4	Bromodichloromethane	N002	0.17	ug/L	U	D	0.17		FQ	G	STD
70193	WL	2/6/2017	17028266	75-25-2	Bromoform	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
70193	WL	2/6/2017	17028266	75-25-2	Bromoform	N002	0.19	ug/L	U	D	0.19		FQ	G	STD
70193	WL	2/6/2017	17028266	74-83-9	Bromomethane	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
70193	WL	2/6/2017	17028266	74-83-9	Bromomethane	N002	0.21	ug/L	U	D	0.21		FQ	G	STD
70193	WL	2/6/2017	17028266	7440-43-9	Cadmium	0001	0.45	ug/L	U	F	0.45		FQ	G	STD
70193	WL	2/6/2017	17028266	7440-43-9	Cadmium	0002	0.45	ug/L	U	D	0.45		FQ	G	STD
70193	WL	2/6/2017	17028266	56-23-5	Carbon tetrachloride	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
70193	WL	2/6/2017	17028266	56-23-5	Carbon tetrachloride	N002	0.19	ug/L	U	D	0.19		FQ	G	STD
70193	WL	2/6/2017	17028266	108-90-7	Chlorobenzene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
70193	WL	2/6/2017	17028266	108-90-7	Chlorobenzene	N002	0.17	ug/L	U	D	0.17		FQ	G	STD
70193	WL	2/6/2017	17028266	124-48-1	Chlorodibromomethane	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
70193	WL	2/6/2017	17028266	124-48-1	Chlorodibromomethane	N002	0.17	ug/L	U	D	0.17		FQ	G	STD
70193	WL	2/6/2017	17028266	67-66-3	Chloroform	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
70193	WL	2/6/2017	17028266	67-66-3	Chloroform	N002	0.16	ug/L	U	D	0.16		FQ	G	STD
70193	WL	2/6/2017	17028266	74-87-3	Chloromethane	N001	0.3	ug/L	U	F	0.3		FQ	G	STD
70193	WL	2/6/2017	17028266	74-87-3	Chloromethane	N002	0.3	ug/L	U	D	0.3		FQ	G	STD
70193	WL	2/6/2017	17028266	7440-47-3	Chromium	0001	1	ug/L	JB	F	0.66		UFQ	G	STD
70193	WL	2/6/2017	17028266	7440-47-3	Chromium	0002	0.95	ug/L	JB	D	0.66		UFQ	G	STD
70193	WL	2/6/2017	17028266	156-59-2	cis-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
70193	WL	2/6/2017	17028266	156-59-2	cis-1,2-Dichloroethene	N002	0.15	ug/L	U	D	0.15		FQ	G	STD
70193	WL	2/6/2017	17028266	7440-50-8	Copper	0001	4.2	ug/L	U	F	4.2		FQ	G	STD

Appendix C  
Analytical Results for Water Samples—First Quarter CY 2017  
RFLMA Data

LOCATION CODE	LOCATION TYPE	DATE SAMPLED	LAB REQUISITION NUMBER	CAS	ANALYTE	SAMPLE ID	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCERTAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
70193	WL	2/6/2017	17028266	7440-50-8	Copper	0002	4.2	ug/L	U	D	4.2		FQ	G	STD
70193	WL	2/6/2017	17028266	100-41-4	Ethylbenzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
70193	WL	2/6/2017	17028266	100-41-4	Ethylbenzene	N002	0.16	ug/L	U	D	0.16		FQ	G	STD
70193	WL	2/6/2017	17028266	87-68-3	Hexachlorobutadiene	N001	0.36	ug/L	U	F	0.36		FQ	G	STD
70193	WL	2/6/2017	17028266	87-68-3	Hexachlorobutadiene	N002	0.36	ug/L	U	D	0.36		FQ	G	STD
70193	WL	2/6/2017	17028266	7439-92-1	Lead	0001	2.7	ug/L	U	F	2.7		FQ	G	STD
70193	WL	2/6/2017	17028266	7439-92-1	Lead	0002	2.7	ug/L	U	D	2.7		FQ	G	STD
70193	WL	2/6/2017	17028266	7439-97-6	Mercury	0001	0.027	ug/L	U	F	0.027		FQ	G	STD
70193	WL	2/6/2017	17028266	7439-97-6	Mercury	0002	0.027	ug/L	U	D	0.027		FQ	G	STD
70193	WL	2/6/2017	17028266	75-09-2	Methylene chloride	N001	0.32	ug/L	U	F	0.32		FQ	G	STD
70193	WL	2/6/2017	17028266	75-09-2	Methylene chloride	N002	0.32	ug/L	U	D	0.32		FQ	G	STD
70193	WL	2/6/2017	17028266	91-20-3	Naphthalene	N001	0.22	ug/L	U	F	0.22		FQ	G	STD
70193	WL	2/6/2017	17028266	91-20-3	Naphthalene	N002	0.22	ug/L	U	D	0.22		FQ	G	STD
70193	WL	2/6/2017	17028266	7440-02-0	Nickel	0001	2.6	ug/L	U	F	2.6		FQ	G	STD
70193	WL	2/6/2017	17028266	7440-02-0	Nickel	0002	2.6	ug/L	U	D	2.6		FQ	G	STD
70193	WL	2/6/2017	17028266	7782-49-2	Selenium	0001	4.9	ug/L	U	F	4.9		FQJ	G	STD
70193	WL	2/6/2017	17028266	7782-49-2	Selenium	0002	6.1	ug/L	J	D	4.9		FQJ	G	STD
70193	WL	2/6/2017	17028266	7440-22-4	Silver	0001	0.93	ug/L	U*	F	0.93		FQ	G	STD
70193	WL	2/6/2017	17028266	7440-22-4	Silver	0002	1	ug/L	J*	D	0.93		FQJ	G	STD
70193	WL	2/6/2017	17028266	100-42-5	Styrene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
70193	WL	2/6/2017	17028266	100-42-5	Styrene	N002	0.17	ug/L	U	D	0.17		FQ	G	STD
70193	WL	2/6/2017	17028266	127-18-4	Tetrachloroethene	N001	0.2	ug/L	U	F	0.2		FQ	G	STD
70193	WL	2/6/2017	17028266	127-18-4	Tetrachloroethene	N002	0.2	ug/L	U	D	0.2		FQ	G	STD
70193	WL	2/6/2017	17028266	108-88-3	Toluene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
70193	WL	2/6/2017	17028266	108-88-3	Toluene	N002	0.17	ug/L	U	D	0.17		FQ	G	STD
70193	WL	2/6/2017	17028266	1330-20-7	Total xylenes	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
70193	WL	2/6/2017	17028266	1330-20-7	Total xylenes	N002	0.19	ug/L	U	D	0.19		FQ	G	STD
70193	WL	2/6/2017	17028266	156-60-5	trans-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
70193	WL	2/6/2017	17028266	156-60-5	trans-1,2-Dichloroethene	N002	0.15	ug/L	U	D	0.15		FQ	G	STD
70193	WL	2/6/2017	17028266	10061-02-6	trans-1,3-Dichloropropene	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
70193	WL	2/6/2017	17028266	10061-02-6	trans-1,3-Dichloropropene	N002	0.19	ug/L	U	D	0.19		FQ	G	STD
70193	WL	2/6/2017	17028266	79-01-6	Trichloroethene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
70193	WL	2/6/2017	17028266	79-01-6	Trichloroethene	N002	0.16	ug/L	U	D	0.16		FQ	G	STD
70193	WL	2/6/2017	17028266	7440-61-1	Uranium	0001	0.058	ug/L	J	F	0.05		FQ	G	STD
70193	WL	2/6/2017	17028266	7440-61-1	Uranium	0002	0.07	ug/L	J	D	0.05		FQ	G	STD
70193	WL	2/6/2017	17028266	75-01-4	Vinyl chloride	N001	0.1	ug/L	U	F	0.1		FQ	G	STD
70193	WL	2/6/2017	17028266	75-01-4	Vinyl chloride	N002	0.1	ug/L	U	D	0.1		FQ	G	STD
70193	WL	2/6/2017	17028266	7440-66-6	Zinc	0001	4.5	ug/L	U	F	4.5		FQ	G	STD
70193	WL	2/6/2017	17028266	7440-66-6	Zinc	0002	4.5	ug/L	U	D	4.5		FQ	G	STD
70393	WL	2/7/2017	17028266	71-55-6	1,1,1-Trichloroethane	N001	0.69	ug/L	J	F	0.16		F	G	STD
70393	WL	2/7/2017	17028266	79-34-5	1,1,2,2-Tetrachloroethane	N001	0.21	ug/L	U	F	0.21		F	G	STD
70393	WL	2/7/2017	17028266	79-00-5	1,1,2-Trichloroethane	N001	0.27	ug/L	U	F	0.27		F	G	STD
70393	WL	2/7/2017	17028266	75-35-4	1,1-Dichloroethene	N001	1.4	ug/L	U	F	0.23		F	G	STD
70393	WL	2/7/2017	17028266	120-82-1	1,2,4-Trichlorobenzene	N001	0.21	ug/L	U	F	0.21		F	G	STD
70393	WL	2/7/2017	17028266	96-12-8	1,2-Dibromo-3-chloropropane	N001	0.47	ug/L	U	F	0.47		F	G	STD
70393	WL	2/7/2017	17028266	106-93-4	1,2-Dibromoethane	N001	0.18	ug/L	U	F	0.18		F	G	STD
70393	WL	2/7/2017	17028266	95-50-1	1,2-Dichlorobenzene	N001	0.15	ug/L	U	F	0.15		F	G	STD
70393	WL	2/7/2017	17028266	107-06-2	1,2-Dichloroethane	N001	0.13	ug/L	U	F	0.13		F	G	STD
70393	WL	2/7/2017	17028266	78-87-5	1,2-Dichloropropane	N001	0.18	ug/L	U	F	0.18		F	G	STD
70393	WL	2/7/2017	17028266	541-73-1	1,3-Dichlorobenzene	N001	0.13	ug/L	U	F	0.13		F	G	STD
70393	WL	2/7/2017	17028266	106-46-7	1,4-Dichlorobenzene	N001	0.16	ug/L	U	F	0.16		F	G	STD
70393	WL	2/7/2017	17028266	7440-38-2	Arsenic	0001	4.4	ug/L	U	F	4.4		F	G	STD
70393	WL	2/7/2017	17028266	71-43-2	Benzene	N001	0.16	ug/L	U	F	0.16		F	G	STD
70393	WL	2/7/2017	17028266	7440-41-7	Beryllium	0001	0.47	ug/L	U	F	0.47		F	G	STD
70393	WL	2/7/2017	17028266	7440-42-8	Boron	0001	18	ug/L	JB	F	4.4		UF	G	STD

Appendix C  
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LOCATION CODE	LOCATION TYPE	DATE SAMPLED	LAB REQUISITION NUMBER	CAS	ANALYTE	SAMPLE ID	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCERTAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
70393	WL	2/7/2017	17028266	75-27-4	Bromodichloromethane	N001	0.17	ug/L	U	F	0.17		F	G	STD
70393	WL	2/7/2017	17028266	75-25-2	Bromoform	N001	0.19	ug/L	U	F	0.19		F	G	STD
70393	WL	2/7/2017	17028266	74-83-9	Bromomethane	N001	0.21	ug/L	U	F	0.21		F	G	STD
70393	WL	2/7/2017	17028266	7440-43-9	Cadmium	0001	0.48	ug/L	J	F	0.45		F	G	STD
70393	WL	2/7/2017	17028266	56-23-5	Carbon tetrachloride	N001	0.19	ug/L	U	F	0.19		F	G	STD
70393	WL	2/7/2017	17028266	108-90-7	Chlorobenzene	N001	0.17	ug/L	U	F	0.17		F	G	STD
70393	WL	2/7/2017	17028266	124-48-1	Chlorodibromomethane	N001	0.17	ug/L	U	F	0.17		F	G	STD
70393	WL	2/7/2017	17028266	67-66-3	Chloroform	N001	0.16	ug/L	U	F	0.16		F	G	STD
70393	WL	2/7/2017	17028266	74-87-3	Chloromethane	N001	0.3	ug/L	U	F	0.3		F	G	STD
70393	WL	2/7/2017	17028266	7440-47-3	Chromium	0001	0.84	ug/L	JB	F	0.66		UF	G	STD
70393	WL	2/7/2017	17028266	156-59-2	cis-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		F	G	STD
70393	WL	2/7/2017	17028266	7440-50-8	Copper	0001	4.2	ug/L	U	F	4.2		F	G	STD
70393	WL	2/7/2017	17028266	100-41-4	Ethylbenzene	N001	0.16	ug/L	U	F	0.16		F	G	STD
70393	WL	2/7/2017	17028266	87-68-3	Hexachlorobutadiene	N001	0.36	ug/L	U	F	0.36		F	G	STD
70393	WL	2/7/2017	17028266	7439-92-1	Lead	0001	2.7	ug/L	U	F	2.7		F	G	STD
70393	WL	2/7/2017	17028266	7439-97-6	Mercury	0001	0.027	ug/L	U	F	0.027		F	G	STD
70393	WL	2/7/2017	17028266	75-09-2	Methylene chloride	N001	0.32	ug/L	U	F	0.32		F	G	STD
70393	WL	2/7/2017	17028266	91-20-3	Naphthalene	N001	0.22	ug/L	U	F	0.22		F	G	STD
70393	WL	2/7/2017	17028266	7440-02-0	Nickel	0001	2.6	ug/L	U	F	2.6		F	G	STD
70393	WL	2/7/2017	17028266	7782-49-2	Selenium	0001	4.9	ug/L	U	F	4.9		FJ	G	STD
70393	WL	2/7/2017	17028266	7440-22-4	Silver	0001	1	ug/L	J*	F	0.93		UF	G	STD
70393	WL	2/7/2017	17028266	100-42-5	Styrene	N001	0.17	ug/L	U	F	0.17		F	G	STD
70393	WL	2/7/2017	17028266	127-18-4	Tetrachloroethene	N001	1.2	ug/L		F	0.2		F	G	STD
70393	WL	2/7/2017	17028266	108-88-3	Toluene	N001	0.17	ug/L	U	F	0.17		F	G	STD
70393	WL	2/7/2017	17028266	1330-20-7	Total xylenes	N001	0.19	ug/L	U	F	0.19		F	G	STD
70393	WL	2/7/2017	17028266	156-60-5	trans-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		F	G	STD
70393	WL	2/7/2017	17028266	10061-02-6	trans-1,3-Dichloropropene	N001	0.19	ug/L	U	F	0.19		F	G	STD
70393	WL	2/7/2017	17028266	79-01-6	Trichloroethene	N001	7.1	ug/L		F	0.16		F	G	STD
70393	WL	2/7/2017	17028266	7440-61-1	Uranium	0001	0.05	ug/L	U	F	0.05		F	G	STD
70393	WL	2/7/2017	17028266	75-01-4	Vinyl chloride	N001	0.1	ug/L	U	F	0.1		F	G	STD
70393	WL	2/7/2017	17028266	7440-66-6	Zinc	0001	4.5	ug/L	U	F	4.5		F	G	STD
70693	WL	2/7/2017	17028266	71-55-6	1,1,1-Trichloroethane	N001	0.78	ug/L	J	F	0.16		FQ	G	STD
70693	WL	2/7/2017	17028266	79-34-5	1,1,2,2-Tetrachloroethane	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
70693	WL	2/7/2017	17028266	79-00-5	1,1,2-Trichloroethane	N001	0.27	ug/L	U	F	0.27		FQ	G	STD
70693	WL	2/7/2017	17028266	75-35-4	1,1-Dichloroethene	N001	1.4	ug/L		F	0.23		FQ	G	STD
70693	WL	2/7/2017	17028266	120-82-1	1,2,4-Trichlorobenzene	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
70693	WL	2/7/2017	17028266	96-12-8	1,2-Dibromo-3-chloropropane	N001	0.47	ug/L	U	F	0.47		FQ	G	STD
70693	WL	2/7/2017	17028266	106-93-4	1,2-Dibromoethane	N001	0.18	ug/L	U	F	0.18		FQ	G	STD
70693	WL	2/7/2017	17028266	95-50-1	1,2-Dichlorobenzene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
70693	WL	2/7/2017	17028266	107-06-2	1,2-Dichloroethane	N001	0.13	ug/L	U	F	0.13		FQ	G	STD
70693	WL	2/7/2017	17028266	78-87-5	1,2-Dichloropropane	N001	0.18	ug/L	U	F	0.18		FQ	G	STD
70693	WL	2/7/2017	17028266	541-73-1	1,3-Dichlorobenzene	N001	0.13	ug/L	U	F	0.13		FQ	G	STD
70693	WL	2/7/2017	17028266	106-46-7	1,4-Dichlorobenzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
70693	WL	2/7/2017	17028266	7440-38-2	Arsenic	0001	4.4	ug/L	U	F	4.4		FQ	G	STD
70693	WL	2/7/2017	17028266	71-43-2	Benzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
70693	WL	2/7/2017	17028266	7440-41-7	Beryllium	0001	0.47	ug/L	U	F	0.47		FQ	G	STD
70693	WL	2/7/2017	17028266	7440-42-8	Boron	0001	37	ug/L	B	F	4.4		UFQ	G	STD
70693	WL	2/7/2017	17028266	75-27-4	Bromodichloromethane	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
70693	WL	2/7/2017	17028266	75-25-2	Bromoform	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
70693	WL	2/7/2017	17028266	74-83-9	Bromomethane	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
70693	WL	2/7/2017	17028266	7440-43-9	Cadmium	0001	0.45	ug/L	U	F	0.45		FQ	G	STD
70693	WL	2/7/2017	17028266	56-23-5	Carbon tetrachloride	N001	0.69	ug/L	J	F	0.19		FQ	G	STD
70693	WL	2/7/2017	17028266	108-90-7	Chlorobenzene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
70693	WL	2/7/2017	17028266	124-48-1	Chlorodibromomethane	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
70693	WL	2/7/2017	17028266	67-66-3	Chloroform	N001	0.16	ug/L	U	F	0.16		FQ	G	STD

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LOCATION CODE	LOCATION TYPE	DATE SAMPLED	LAB REQUISITION NUMBER	CAS	ANALYTE	SAMPLE ID	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCERTAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
70693	WL	2/7/2017	17028266	74-87-3	Chloromethane	N001	0.3	ug/L	U	F	0.3		FQ	G	STD
70693	WL	2/7/2017	17028266	7440-47-3	Chromium	0001	0.66	ug/L	U	F	0.66		FQ	G	STD
70693	WL	2/7/2017	17028266	156-59-2	cis-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
70693	WL	2/7/2017	17028266	7440-50-8	Copper	0001	4.2	ug/L	U	F	4.2		FQ	G	STD
70693	WL	2/7/2017	17028266	100-41-4	Ethylbenzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
70693	WL	2/7/2017	17028266	87-68-3	Hexachlorobutadiene	N001	0.36	ug/L	U	F	0.36		FQ	G	STD
70693	WL	2/7/2017	17028266	7439-92-1	Lead	0001	2.7	ug/L	U	F	2.7		FQ	G	STD
70693	WL	2/7/2017	17028266	7439-97-6	Mercury	0001	0.027	ug/L	U	F	0.027		FQ	G	STD
70693	WL	2/7/2017	17028266	75-09-2	Methylene chloride	N001	0.32	ug/L	U	F	0.32		FQ	G	STD
70693	WL	2/7/2017	17028266	91-20-3	Naphthalene	N001	0.22	ug/L	U	F	0.22		FQ	G	STD
70693	WL	2/7/2017	17028266	7440-02-0	Nickel	0001	2.6	ug/L	U	F	2.6		FQ	G	STD
70693	WL	2/7/2017	17028266	7782-49-2	Selenium	0001	4.9	ug/L	U	F	4.9		FQJ	G	STD
70693	WL	2/7/2017	17028266	7440-22-4	Silver	0001	0.93	ug/L	U*	F	0.93		FQ	G	STD
70693	WL	2/7/2017	17028266	100-42-5	Styrene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
70693	WL	2/7/2017	17028266	127-18-4	Tetrachloroethene	N001	0.59	ug/L	J	F	0.2		FQ	G	STD
70693	WL	2/7/2017	17028266	108-88-3	Toluene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
70693	WL	2/7/2017	17028266	1330-20-7	Total xylenes	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
70693	WL	2/7/2017	17028266	156-60-5	trans-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
70693	WL	2/7/2017	17028266	10061-02-6	trans-1,3-Dichloropropene	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
70693	WL	2/7/2017	17028266	79-01-6	Trichloroethene	N001	2.6	ug/L		F	0.16		FQ	G	STD
70693	WL	2/7/2017	17028266	7440-61-1	Uranium	0001	0.05	ug/L	U	F	0.05		FQ	G	STD
70693	WL	2/7/2017	17028266	75-01-4	Vinyl chloride	N001	0.1	ug/L	U	F	0.1		FQ	G	STD
70693	WL	2/7/2017	17028266	7440-66-6	Zinc	0001	4.5	ug/L	U	F	4.5		FQ	G	STD
73005	WL	2/8/2017	17028266	71-55-6	1,1,1-Trichloroethane	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
73005	WL	2/8/2017	17028266	79-34-5	1,1,2,2-Tetrachloroethane	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
73005	WL	2/8/2017	17028266	79-00-5	1,1,2-Trichloroethane	N001	0.27	ug/L	U	F	0.27		FQ	G	STD
73005	WL	2/8/2017	17028266	75-35-4	1,1-Dichloroethene	N001	0.23	ug/L	U	F	0.23		FQ	G	STD
73005	WL	2/8/2017	17028266	120-82-1	1,2,4-Trichlorobenzene	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
73005	WL	2/8/2017	17028266	96-12-8	1,2-Dibromo-3-chloropropane	N001	0.47	ug/L	U	F	0.47		FQ	G	STD
73005	WL	2/8/2017	17028266	106-93-4	1,2-Dibromoethane	N001	0.18	ug/L	U	F	0.18		FQ	G	STD
73005	WL	2/8/2017	17028266	95-50-1	1,2-Dichlorobenzene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
73005	WL	2/8/2017	17028266	107-06-2	1,2-Dichloroethane	N001	0.13	ug/L	U	F	0.13		FQ	G	STD
73005	WL	2/8/2017	17028266	78-87-5	1,2-Dichloropropane	N001	0.18	ug/L	U	F	0.18		FQ	G	STD
73005	WL	2/8/2017	17028266	541-73-1	1,3-Dichlorobenzene	N001	0.13	ug/L	U	F	0.13		FQ	G	STD
73005	WL	2/8/2017	17028266	106-46-7	1,4-Dichlorobenzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
73005	WL	2/8/2017	17028266	7440-38-2	Arsenic	0001	4.4	ug/L	U	F	4.4		FQ	G	STD
73005	WL	2/8/2017	17028266	71-43-2	Benzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
73005	WL	2/8/2017	17028266	7440-41-7	Beryllium	0001	0.47	ug/L	U	F	0.47		FQ	G	STD
73005	WL	2/8/2017	17028266	7440-42-8	Boron	0001	45	ug/L	B	F	4.4		UFQ	G	STD
73005	WL	2/8/2017	17028266	75-27-4	Bromodichloromethane	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
73005	WL	2/8/2017	17028266	75-25-2	Bromoform	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
73005	WL	2/8/2017	17028266	74-83-9	Bromomethane	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
73005	WL	2/8/2017	17028266	7440-43-9	Cadmium	0001	0.58	ug/L	J	F	0.45		FQ	G	STD
73005	WL	2/8/2017	17028266	56-23-5	Carbon tetrachloride	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
73005	WL	2/8/2017	17028266	108-90-7	Chlorobenzene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
73005	WL	2/8/2017	17028266	124-48-1	Chlorodibromomethane	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
73005	WL	2/8/2017	17028266	67-66-3	Chloroform	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
73005	WL	2/8/2017	17028266	74-87-3	Chloromethane	N001	0.3	ug/L	U	F	0.3		FQ	G	STD
73005	WL	2/8/2017	17028266	7440-47-3	Chromium	0001	2.4	ug/L	JB	F	0.66		UFQ	G	STD
73005	WL	2/8/2017	17028266	156-59-2	cis-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
73005	WL	2/8/2017	17028266	7440-50-8	Copper	0001	4.2	ug/L	U	F	4.2		FQ	G	STD
73005	WL	2/8/2017	17028266	100-41-4	Ethylbenzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
73005	WL	2/8/2017	17028266	87-68-3	Hexachlorobutadiene	N001	0.36	ug/L	U	F	0.36		FQ	G	STD
73005	WL	2/8/2017	17028266	7439-92-1	Lead	0001	2.7	ug/L	U	F	2.7		FQ	G	STD
73005	WL	2/8/2017	17028266	7439-97-6	Mercury	0001	0.027	ug/L	U	F	0.027		FQ	G	STD

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73005	WL	2/8/2017	17028266	75-09-2	Methylene chloride	N001	0.32	ug/L	U	F	0.32		FQ	G	STD
73005	WL	2/8/2017	17028266	91-20-3	Naphthalene	N001	0.22	ug/L	U	F	0.22		FQ	G	STD
73005	WL	2/8/2017	17028266	7440-02-0	Nickel	0001	2.6	ug/L	U	F	2.6		FQ	G	STD
73005	WL	2/8/2017	17028266	7782-49-2	Selenium	0001	4.9	ug/L	U	F	4.9		FQJ	G	STD
73005	WL	2/8/2017	17028266	7440-22-4	Silver	0001	0.98	ug/L	J*	F	0.93		UFQ	G	STD
73005	WL	2/8/2017	17028266	100-42-5	Styrene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
73005	WL	2/8/2017	17028266	127-18-4	Tetrachloroethene	N001	0.2	ug/L	U	F	0.2		FQ	G	STD
73005	WL	2/8/2017	17028266	108-88-3	Toluene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
73005	WL	2/8/2017	17028266	1330-20-7	Total xylenes	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
73005	WL	2/8/2017	17028266	156-60-5	trans-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
73005	WL	2/8/2017	17028266	10061-02-6	trans-1,3-Dichloropropene	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
73005	WL	2/8/2017	17028266	79-01-6	Trichloroethene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
73005	WL	2/8/2017	17028266	7440-61-1	Uranium	0001	41	ug/L		F	0.05		FQ	G	STD
73005	WL	2/8/2017	17028266	75-01-4	Vinyl chloride	N001	0.1	ug/L	U	F	0.1		FQ	G	STD
73005	WL	2/8/2017	17028266	7440-66-6	Zinc	0001	11	ug/L	J	F	4.5		FQ	G	STD
73105	WL	2/8/2017	17028266	71-55-6	1,1,1-Trichloroethane	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
73105	WL	2/8/2017	17028266	79-34-5	1,1,2,2-Tetrachloroethane	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
73105	WL	2/8/2017	17028266	79-00-5	1,1,2-Trichloroethane	N001	0.27	ug/L	U	F	0.27		FQ	G	STD
73105	WL	2/8/2017	17028266	75-35-4	1,1-Dichloroethene	N001	0.23	ug/L	U	F	0.23		FQ	G	STD
73105	WL	2/8/2017	17028266	120-82-1	1,2,4-Trichlorobenzene	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
73105	WL	2/8/2017	17028266	96-12-8	1,2-Dibromo-3-chloropropane	N001	0.47	ug/L	U	F	0.47		FQ	G	STD
73105	WL	2/8/2017	17028266	106-93-4	1,2-Dibromoethane	N001	0.18	ug/L	U	F	0.18		FQ	G	STD
73105	WL	2/8/2017	17028266	95-50-1	1,2-Dichlorobenzene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
73105	WL	2/8/2017	17028266	107-06-2	1,2-Dichloroethane	N001	0.13	ug/L	U	F	0.13		FQ	G	STD
73105	WL	2/8/2017	17028266	78-87-5	1,2-Dichloropropane	N001	0.18	ug/L	U	F	0.18		FQ	G	STD
73105	WL	2/8/2017	17028266	541-73-1	1,3-Dichlorobenzene	N001	0.13	ug/L	U	F	0.13		FQ	G	STD
73105	WL	2/8/2017	17028266	106-46-7	1,4-Dichlorobenzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
73105	WL	2/8/2017	17028266	7440-38-2	Arsenic	0001	4.4	ug/L	U	F	4.4		FQ	G	STD
73105	WL	2/8/2017	17028266	71-43-2	Benzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
73105	WL	2/8/2017	17028266	7440-41-7	Beryllium	0001	0.47	ug/L	U	F	0.47		FQ	G	STD
73105	WL	2/8/2017	17028266	7440-42-8	Boron	0001	140	ug/L	B	F	4.4		FQ	G	STD
73105	WL	2/8/2017	17028266	75-27-4	Bromodichloromethane	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
73105	WL	2/8/2017	17028266	75-25-2	Bromoform	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
73105	WL	2/8/2017	17028266	74-83-9	Bromomethane	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
73105	WL	2/8/2017	17028266	7440-43-9	Cadmium	0001	0.59	ug/L	J	F	0.45		FQ	G	STD
73105	WL	2/8/2017	17028266	56-23-5	Carbon tetrachloride	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
73105	WL	2/8/2017	17028266	108-90-7	Chlorobenzene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
73105	WL	2/8/2017	17028266	124-48-1	Chlorodibromomethane	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
73105	WL	2/8/2017	17028266	67-66-3	Chloroform	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
73105	WL	2/8/2017	17028266	74-87-3	Chloromethane	N001	0.3	ug/L	U	F	0.3		FQ	G	STD
73105	WL	2/8/2017	17028266	7440-47-3	Chromium	0001	0.73	ug/L	JB	F	0.66		UFQ	G	STD
73105	WL	2/8/2017	17028266	156-59-2	cis-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
73105	WL	2/8/2017	17028266	7440-50-8	Copper	0001	4.2	ug/L	U	F	4.2		FQ	G	STD
73105	WL	2/8/2017	17028266	100-41-4	Ethylbenzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
73105	WL	2/8/2017	17028266	87-68-3	Hexachlorobutadiene	N001	0.36	ug/L	U	F	0.36		FQ	G	STD
73105	WL	2/8/2017	17028266	7439-92-1	Lead	0001	2.7	ug/L	U	F	2.7		FQ	G	STD
73105	WL	2/8/2017	17028266	7439-97-6	Mercury	0001	0.027	ug/L	U	F	0.027		FQ	G	STD
73105	WL	2/8/2017	17028266	75-09-2	Methylene chloride	N001	0.32	ug/L	U	F	0.32		FQ	G	STD
73105	WL	2/8/2017	17028266	91-20-3	Naphthalene	N001	0.22	ug/L	U	F	0.22		FQ	G	STD
73105	WL	2/8/2017	17028266	7440-02-0	Nickel	0001	3.2	ug/L	J	F	2.6		FQ	G	STD
73105	WL	2/8/2017	17028266	7782-49-2	Selenium	0001	4.9	ug/L	U	F	4.9		FQJ	G	STD
73105	WL	2/8/2017	17028266	7440-22-4	Silver	0001	1	ug/L	J*	F	0.93		UFQ	G	STD
73105	WL	2/8/2017	17028266	100-42-5	Styrene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
73105	WL	2/8/2017	17028266	127-18-4	Tetrachloroethene	N001	0.2	ug/L	U	F	0.2		FQ	G	STD
73105	WL	2/8/2017	17028266	108-88-3	Toluene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD

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LOCATION CODE	LOCATION TYPE	DATE SAMPLED	LAB REQUISITION NUMBER	CAS	ANALYTE	SAMPLE ID	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCERTAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
73105	WL	2/8/2017	17028266	1330-20-7	Total xylenes	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
73105	WL	2/8/2017	17028266	156-60-5	trans -1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
73105	WL	2/8/2017	17028266	10061-02-6	trans -1,3-Dichloropropene	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
73105	WL	2/8/2017	17028266	79-01-6	Trichloroethene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
73105	WL	2/8/2017	17028266	7440-61-1	Uranium	0001	21	ug/L		F	0.05		FQ	G	STD
73105	WL	2/8/2017	17028266	75-01-4	Vinyl chloride	N001	0.1	ug/L	U	F	0.1		FQ	G	STD
73105	WL	2/8/2017	17028266	7440-66-6	Zinc	0001	8.1	ug/L	J	F	4.5		FQ	G	STD
73205	WL	2/7/2017	17028266	71-55-6	1,1,1-Trichloroethane	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
73205	WL	2/7/2017	17028266	79-34-5	1,1,2,2-Tetrachloroethane	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
73205	WL	2/7/2017	17028266	79-00-5	1,1,2-Trichloroethane	N001	0.27	ug/L	U	F	0.27		FQ	G	STD
73205	WL	2/7/2017	17028266	75-35-4	1,1-Dichloroethene	N001	0.23	ug/L	U	F	0.23		FQ	G	STD
73205	WL	2/7/2017	17028266	120-82-1	1,2,4-Trichlorobenzene	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
73205	WL	2/7/2017	17028266	96-12-8	1,2-Dibromo-3-chloropropane	N001	0.47	ug/L	U	F	0.47		FQ	G	STD
73205	WL	2/7/2017	17028266	106-93-4	1,2-Dibromoethane	N001	0.18	ug/L	U	F	0.18		FQ	G	STD
73205	WL	2/7/2017	17028266	95-50-1	1,2-Dichlorobenzene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
73205	WL	2/7/2017	17028266	107-06-2	1,2-Dichloroethane	N001	0.13	ug/L	U	F	0.13		FQ	G	STD
73205	WL	2/7/2017	17028266	78-87-5	1,2-Dichloropropane	N001	0.18	ug/L	U	F	0.18		FQ	G	STD
73205	WL	2/7/2017	17028266	541-73-1	1,3-Dichlorobenzene	N001	0.13	ug/L	U	F	0.13		FQ	G	STD
73205	WL	2/7/2017	17028266	106-46-7	1,4-Dichlorobenzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
73205	WL	2/7/2017	17028266	7440-38-2	Arsenic	0001	4.4	ug/L	U	F	4.4		FQ	G	STD
73205	WL	2/7/2017	17028266	71-43-2	Benzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
73205	WL	2/7/2017	17028266	7440-41-7	Beryllium	0001	0.47	ug/L	U	F	0.47		FQ	G	STD
73205	WL	2/7/2017	17028266	7440-42-8	Boron	0001	74	ug/L	B	F	4.4		FQ	G	STD
73205	WL	2/7/2017	17028266	75-27-4	Bromodichloromethane	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
73205	WL	2/7/2017	17028266	75-25-2	Bromoform	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
73205	WL	2/7/2017	17028266	74-83-9	Bromomethane	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
73205	WL	2/7/2017	17028266	7440-43-9	Cadmium	0001	0.54	ug/L	J	F	0.45		FQ	G	STD
73205	WL	2/7/2017	17028266	56-23-5	Carbon tetrachloride	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
73205	WL	2/7/2017	17028266	108-90-7	Chlorobenzene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
73205	WL	2/7/2017	17028266	124-48-1	Chlorodibromomethane	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
73205	WL	2/7/2017	17028266	67-66-3	Chloroform	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
73205	WL	2/7/2017	17028266	74-87-3	Chloromethane	N001	0.3	ug/L	U	F	0.3		FQ	G	STD
73205	WL	2/7/2017	17028266	7440-47-3	Chromium	0001	1.2	ug/L	JB	F	0.66		UFQ	G	STD
73205	WL	2/7/2017	17028266	156-59-2	cis -1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
73205	WL	2/7/2017	17028266	7440-50-8	Copper	0001	4.2	ug/L	U	F	4.2		FQ	G	STD
73205	WL	2/7/2017	17028266	100-41-4	Ethylbenzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
73205	WL	2/7/2017	17028266	87-68-3	Hexachlorobutadiene	N001	0.36	ug/L	U	F	0.36		FQ	G	STD
73205	WL	2/7/2017	17028266	7439-92-1	Lead	0001	2.7	ug/L	U	F	2.7		FQ	G	STD
73205	WL	2/7/2017	17028266	7439-97-6	Mercury	0001	0.027	ug/L	U	F	0.027		FQ	G	STD
73205	WL	2/7/2017	17028266	75-09-2	Methylene chloride	N001	0.32	ug/L	U	F	0.32		FQ	G	STD
73205	WL	2/7/2017	17028266	91-20-3	Naphthalene	N001	0.22	ug/L	U	F	0.22		FQ	G	STD
73205	WL	2/7/2017	17028266	7440-02-0	Nickel	0001	2.6	ug/L	U	F	2.6		FQ	G	STD
73205	WL	2/7/2017	17028266	7782-49-2	Selenium	0001	340	ug/L		F	4.9		FQ	G	STD
73205	WL	2/7/2017	17028266	7440-22-4	Silver	0001	0.93	ug/L	U*	F	0.93		FQ	G	STD
73205	WL	2/7/2017	17028266	100-42-5	Styrene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
73205	WL	2/7/2017	17028266	127-18-4	Tetrachloroethene	N001	0.2	ug/L	U	F	0.2		FQ	G	STD
73205	WL	2/7/2017	17028266	108-88-3	Toluene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
73205	WL	2/7/2017	17028266	1330-20-7	Total xylenes	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
73205	WL	2/7/2017	17028266	156-60-5	trans -1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
73205	WL	2/7/2017	17028266	10061-02-6	trans -1,3-Dichloropropene	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
73205	WL	2/7/2017	17028266	79-01-6	Trichloroethene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
73205	WL	2/7/2017	17028266	7440-61-1	Uranium	0001	100	ug/L		F	0.05		FQ	G	STD
73205	WL	2/7/2017	17028266	75-01-4	Vinyl chloride	N001	0.1	ug/L	U	F	0.1		FQ	G	STD
73205	WL	2/7/2017	17028266	7440-66-6	Zinc	0001	4.5	ug/L	U	F	4.5		FQ	G	STD
80005	WL	2/9/2017	17028266	71-55-6	1,1,1-Trichloroethane	N001	0.16	ug/L	U	F	0.16		FQ	G	STD

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LOCATION CODE	LOCATION TYPE	DATE SAMPLED	LAB REQUISITION NUMBER	CAS	ANALYTE	SAMPLE ID	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCERTAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
80005	WL	2/9/2017	17028266	79-34-5	1,1,2,2-Tetrachloroethane	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
80005	WL	2/9/2017	17028266	79-00-5	1,1,2-Trichloroethane	N001	0.27	ug/L	U	F	0.27		FQ	G	STD
80005	WL	2/9/2017	17028266	75-35-4	1,1-Dichloroethene	N001	0.23	ug/L	U	F	0.23		FQ	G	STD
80005	WL	2/9/2017	17028266	120-82-1	1,2,4-Trichlorobenzene	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
80005	WL	2/9/2017	17028266	96-12-8	1,2-Dibromo-3-chloropropane	N001	0.47	ug/L	U	F	0.47		FQ	G	STD
80005	WL	2/9/2017	17028266	106-93-4	1,2-Dibromoethane	N001	0.18	ug/L	U	F	0.18		FQ	G	STD
80005	WL	2/9/2017	17028266	95-50-1	1,2-Dichlorobenzene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
80005	WL	2/9/2017	17028266	107-06-2	1,2-Dichloroethane	N001	0.13	ug/L	U	F	0.13		FQ	G	STD
80005	WL	2/9/2017	17028266	78-87-5	1,2-Dichloropropane	N001	0.18	ug/L	U	F	0.18		FQ	G	STD
80005	WL	2/9/2017	17028266	541-73-1	1,3-Dichlorobenzene	N001	0.13	ug/L	U	F	0.13		FQ	G	STD
80005	WL	2/9/2017	17028266	106-46-7	1,4-Dichlorobenzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
80005	WL	2/9/2017	17028266	105-67-9	2,4-Dimethylphenol	N001	0.55	ug/L	U	F	0.55		FQ	G	STD
80005	WL	2/9/2017	17028266	95-95-4	2,4,5-Trichlorophenol	N001	0.43	ug/L	U	F	0.43		FQ	G	STD
80005	WL	2/9/2017	17028266	88-06-2	2,4,6-Trichlorophenol	N001	0.28	ug/L	U	F	0.28		FQ	G	STD
80005	WL	2/9/2017	17028266	120-83-2	2,4-Dichlorophenol	N001	0.61	ug/L	U	F	0.61		FQ	G	STD
80005	WL	2/9/2017	17028266	51-28-5	2,4-Dinitrophenol	N001	9.5	ug/L	U	F	9.5		FQ	G	STD
80005	WL	2/9/2017	17028266	121-14-2	2,4-Dinitrotoluene	N001	1.6	ug/L	U	F	1.6		FQ	G	STD
80005	WL	2/9/2017	17028266	606-20-2	2,6-Dinitrotoluene	N001	1.8	ug/L	U	F	1.8		FQ	G	STD
80005	WL	2/9/2017	17028266	91-58-7	2-Chloronaphthalene	N001	0.25	ug/L	U	F	0.25		FQ	G	STD
80005	WL	2/9/2017	17028266	95-57-8	2-Chlorophenol	N001	1.9	ug/L	U	F	1.9		FQ	G	STD
80005	WL	2/9/2017	17028266	91-94-1	3,3'-Dichlorobenzidine	N001	1.9	ug/L	U	F	1.9		FQ	G	STD
80005	WL	2/9/2017	17028266	534-52-1	4,6-Dinitro-2-methyl phenol	N001	3.8	ug/L	U	F	3.8		FQ	G	STD
80005	WL	2/9/2017	17028266	59-50-7	4-Chloro-3-methylphenol	N001	2.3	ug/L	U	F	2.3		FQ	G	STD
80005	WL	2/9/2017	17028266	100-02-7	4-Nitrophenol	N001	1.2	ug/L	U	F	1.2		FQ	G	STD
80005	WL	2/9/2017	17028266	83-32-9	Acenaphthene	N001	0.27	ug/L	U	F	0.27		FQ	G	STD
80005	WL	2/9/2017	17028266	120-12-7	Anthracene	N001	0.4	ug/L	U	F	0.4		FQ	G	STD
80005	WL	2/9/2017	17028266	7440-38-2	Arsenic	0001	4.5	ug/L	J	F	4.4		FQ	G	STD
80005	WL	2/9/2017	17028266	56-55-3	Benz(a)anthracene	N001	0.33	ug/L	U	F	0.33		FQ	G	STD
80005	WL	2/9/2017	17028266	71-43-2	Benzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
80005	WL	2/9/2017	17028266	50-32-8	Benzo(a)pyrene	N001	0.29	ug/L	U	F	0.29		FQ	G	STD
80005	WL	2/9/2017	17028266	205-99-2	Benzo(b)fluoranthene	N001	0.5	ug/L	U	F	0.5		FQ	G	STD
80005	WL	2/9/2017	17028266	191-24-2	Benzo(g,h,i)Perylene	N001	0.47	ug/L	U	F	0.47		FQ	G	STD
80005	WL	2/9/2017	17028266	207-08-9	Benzo(k)fluoranthene	N001	0.44	ug/L	U	F	0.44		FQ	G	STD
80005	WL	2/9/2017	17028266	7440-41-7	Beryllium	0001	0.47	ug/L	U	F	0.47		FQ	G	STD
80005	WL	2/9/2017	17028266	111-44-4	Bis(2-chloroethyl) ether	N001	0.39	ug/L	U	F	0.39		FQ	G	STD
80005	WL	2/9/2017	17028266	108-60-1	Bis(2-chloroisopropyl) ether	N001	0.27	ug/L	U	F	0.27		FQ	G	STD
80005	WL	2/9/2017	17028266	117-81-7	Bis(2-ethylhexyl) phthalate	N001	0.53	ug/L	U	F	0.53		FQ	G	STD
80005	WL	2/9/2017	17028266	7440-42-8	Boron	0001	59	ug/L	B	F	4.4		FQ	G	STD
80005	WL	2/9/2017	17028266	75-27-4	Bromodichloromethane	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
80005	WL	2/9/2017	17028266	75-25-2	Bromoform	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
80005	WL	2/9/2017	17028266	74-83-9	Bromomethane	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
80005	WL	2/9/2017	17028266	85-68-7	Butyl benzyl phthalate	N001	0.95	ug/L	U	F	0.95		FQ	G	STD
80005	WL	2/9/2017	17028266	7440-43-9	Cadmium	0001	0.52	ug/L	J	F	0.45		FQ	G	STD
80005	WL	2/9/2017	17028266	56-23-5	Carbon tetrachloride	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
80005	WL	2/9/2017	17028266	108-90-7	Chlorobenzene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
80005	WL	2/9/2017	17028266	124-48-1	Chlorodibromomethane	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
80005	WL	2/9/2017	17028266	67-66-3	Chloroform	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
80005	WL	2/9/2017	17028266	74-87-3	Chloromethane	N001	0.3	ug/L	U	F	0.3		FQ	G	STD
80005	WL	2/9/2017	17028266	7440-47-3	Chromium	0001	0.66	ug/L	JB	F	0.66		UFQ	G	STD
80005	WL	2/9/2017	17028266	218-01-9	Chrysene	N001	0.51	ug/L	U	F	0.51		FQ	G	STD
80005	WL	2/9/2017	17028266	156-59-2	cis-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
80005	WL	2/9/2017	17028266	7440-50-8	Copper	0001	4.2	ug/L	U	F	4.2		FQ	G	STD
80005	WL	2/9/2017	17028266	53-70-3	Dibenz(a,h)anthracene	N001	0.48	ug/L	U	F	0.48		FQ	G	STD
80005	WL	2/9/2017	17028266	84-66-2	Diethyl phthalate	N001	0.36	ug/L	U	F	0.36		FQ	G	STD
80005	WL	2/9/2017	17028266	131-11-3	Dimethyl phthalate	N001	0.2	ug/L	U	F	0.2		FQ	G	STD

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LOCATION CODE	LOCATION TYPE	DATE SAMPLED	LAB REQUISITION NUMBER	CAS	ANALYTE	SAMPLE ID	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCERTAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
80005	WL	2/9/2017	17028266	84-74-2	Di-n-butyl phthalate	N001	1.1	ug/L	U	F	1.1		FQ	G	STD
80005	WL	2/9/2017	17028266	100-41-4	Ethylbenzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
80005	WL	2/9/2017	17028266	206-44-0	Fluoranthene	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
80005	WL	2/9/2017	17028266	86-73-7	Fluorene	N001	0.29	ug/L	U	F	0.29		FQ	G	STD
80005	WL	2/9/2017	17028266	118-74-1	Hexachlorobenzene	N001	0.63	ug/L	U	F	0.63		FQ	G	STD
80005	WL	2/9/2017	17028266	87-68-3	Hexachlorobutadiene	N001	0.36	ug/L	U	F	0.36		FQ	G	STD
80005	WL	2/9/2017	17028266	77-47-4	Hexachlorocyclopentadiene	N001	9.5	ug/L	U*	F	9.5		FQ	G	STD
80005	WL	2/9/2017	17028266	67-72-1	Hexachloroethane	N001	2	ug/L	U	F	2		FQ	G	STD
80005	WL	2/9/2017	17028266	193-39-5	Indeno(1,2,3-cd)pyrene	N001	0.62	ug/L	U	F	0.62		FQ	G	STD
80005	WL	2/9/2017	17028266	78-59-1	Isophorone	N001	0.2	ug/L	U	F	0.2		FQ	G	STD
80005	WL	2/9/2017	17028266	7439-92-1	Lead	0001	2.7	ug/L	U	F	2.7		FQ	G	STD
80005	WL	2/9/2017	17028266	7439-97-6	Mercury	0001	0.027	ug/L	U	F	0.027		FQ	G	STD
80005	WL	2/9/2017	17028266	75-09-2	Methylene chloride	N001	0.32	ug/L	U	F	0.32		FQ	G	STD
80005	WL	2/9/2017	17028266	91-20-3	Naphthalene	N001	0.22	ug/L	U	F	0.22		FQ	G	STD
80005	WL	2/9/2017	17028266	7440-02-0	Nickel	0001	2.6	ug/L	U	F	2.6		FQ	G	STD
80005	WL	2/9/2017	17028266	98-95-3	Nitrobenzene	N001	0.77	ug/L	U	F	0.77		FQ	G	STD
80005	WL	2/9/2017	17028266	621-64-7	N-Nitrosodi-n-propylamine	N001	0.33	ug/L	U	F	0.33		FQ	G	STD
80005	WL	2/9/2017	17028266	86-30-6	N-Nitrosodiphenylamine	N001	0.42	ug/L	U	F	0.42		FQ	G	STD
80005	WL	2/9/2017	17028266	87-86-5	Pentachlorophenol	N001	19	ug/L	U	F	19		FQ	G	STD
80005	WL	2/9/2017	17028266	108-95-2	Phenol	N001	1.9	ug/L	U	F	1.9		FQ	G	STD
80005	WL	2/9/2017	17028266	129-00-0	Pyrene	N001	0.35	ug/L	U	F	0.35		FQ	G	STD
80005	WL	2/9/2017	17028266	7782-49-2	Selenium	0001	4.9	ug/L	U	F	4.9		FQJ	G	STD
80005	WL	2/9/2017	17028266	7440-22-4	Silver	0001	1.2	ug/L	J*	F	0.93		UFQ	G	STD
80005	WL	2/9/2017	17028266	100-42-5	Styrene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
80005	WL	2/9/2017	17028266	127-18-4	Tetrachloroethene	N001	0.2	ug/L	U	F	0.2		FQ	G	STD
80005	WL	2/9/2017	17028266	108-88-3	Toluene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
80005	WL	2/9/2017	17028266	1330-20-7	Total xylenes	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
80005	WL	2/9/2017	17028266	156-60-5	trans-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
80005	WL	2/9/2017	17028266	10061-02-6	trans-1,3-Dichloropropene	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
80005	WL	2/9/2017	17028266	79-01-6	Trichloroethene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
80005	WL	2/9/2017	17028266	7440-61-1	Uranium	0001	7.1	ug/L		F	0.05		FQ	G	STD
80005	WL	2/9/2017	17028266	75-01-4	Vinyl chloride	N001	0.1	ug/L	U	F	0.1		FQ	G	STD
80005	WL	2/9/2017	17028266	7440-66-6	Zinc	0001	4.5	ug/L	U	F	4.5		FQ	G	STD
80105	WL	2/9/2017	17028266	71-55-6	1,1,1-Trichloroethane	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
80105	WL	2/9/2017	17028266	79-34-5	1,1,2,2-Tetrachloroethane	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
80105	WL	2/9/2017	17028266	79-00-5	1,1,2-Trichloroethane	N001	0.27	ug/L	U	F	0.27		FQ	G	STD
80105	WL	2/9/2017	17028266	75-35-4	1,1-Dichloroethene	N001	0.23	ug/L	U	F	0.23		FQ	G	STD
80105	WL	2/9/2017	17028266	120-82-1	1,2,4-Trichlorobenzene	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
80105	WL	2/9/2017	17028266	96-12-8	1,2-Dibromo-3-chloropropane	N001	0.47	ug/L	U	F	0.47		FQ	G	STD
80105	WL	2/9/2017	17028266	106-93-4	1,2-Dibromoethane	N001	0.18	ug/L	U	F	0.18		FQ	G	STD
80105	WL	2/9/2017	17028266	95-50-1	1,2-Dichlorobenzene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
80105	WL	2/9/2017	17028266	107-06-2	1,2-Dichloroethane	N001	0.13	ug/L	U	F	0.13		FQ	G	STD
80105	WL	2/9/2017	17028266	78-87-5	1,2-Dichloropropane	N001	0.18	ug/L	U	F	0.18		FQ	G	STD
80105	WL	2/9/2017	17028266	541-73-1	1,3-Dichlorobenzene	N001	0.13	ug/L	U	F	0.13		FQ	G	STD
80105	WL	2/9/2017	17028266	106-46-7	1,4-Dichlorobenzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
80105	WL	2/9/2017	17028266	105-67-9	2,4-Dimethylphenol	N001	0.55	ug/L	U	F	0.55		FQ	G	STD
80105	WL	2/9/2017	17028266	95-95-4	2,4,5-Trichlorophenol	N001	0.43	ug/L	U	F	0.43		FQ	G	STD
80105	WL	2/9/2017	17028266	88-06-2	2,4,6-Trichlorophenol	N001	0.28	ug/L	U	F	0.28		FQ	G	STD
80105	WL	2/9/2017	17028266	120-83-2	2,4-Dichlorophenol	N001	0.61	ug/L	U	F	0.61		FQ	G	STD
80105	WL	2/9/2017	17028266	51-28-5	2,4-Dinitrophenol	N001	9.5	ug/L	U	F	9.5		FQ	G	STD
80105	WL	2/9/2017	17028266	121-14-2	2,4-Dinitrotoluene	N001	1.6	ug/L	U	F	1.6		FQ	G	STD
80105	WL	2/9/2017	17028266	606-20-2	2,6-Dinitrotoluene	N001	1.8	ug/L	U	F	1.8		FQ	G	STD
80105	WL	2/9/2017	17028266	91-58-7	2-Chloronaphthalene	N001	0.25	ug/L	U	F	0.25		FQ	G	STD
80105	WL	2/9/2017	17028266	95-57-8	2-Chlorophenol	N001	1.9	ug/L	U	F	1.9		FQ	G	STD
80105	WL	2/9/2017	17028266	91-94-1	3,3'-Dichlorobenzidine	N001	1.9	ug/L	U	F	1.9		FQ	G	STD

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80105	WL	2/9/2017	17028266	534-52-1	4,6-Dinitro-2-methyl phenol	N001	3.8	ug/L	U	F	3.8		FQ	G	STD
80105	WL	2/9/2017	17028266	59-50-7	4-Chloro-3-methylphenol	N001	2.3	ug/L	U	F	2.3		FQ	G	STD
80105	WL	2/9/2017	17028266	100-02-7	4-Nitrophenol	N001	1.2	ug/L	U	F	1.2		FQ	G	STD
80105	WL	2/9/2017	17028266	83-32-9	Acenaphthene	N001	0.27	ug/L	U	F	0.27		FQ	G	STD
80105	WL	2/9/2017	17028266	120-12-7	Anthracene	N001	0.4	ug/L	U	F	0.4		FQ	G	STD
80105	WL	2/9/2017	17028266	7440-38-2	Arsenic	0001	4.4	ug/L	U	F	4.4		FQ	G	STD
80105	WL	2/9/2017	17028266	56-55-3	Benz(a)anthracene	N001	0.33	ug/L	U	F	0.33		FQ	G	STD
80105	WL	2/9/2017	17028266	71-43-2	Benzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
80105	WL	2/9/2017	17028266	50-32-8	Benzo(a)pyrene	N001	0.29	ug/L	U	F	0.29		FQ	G	STD
80105	WL	2/9/2017	17028266	205-99-2	Benzo(b)fluoranthene	N001	0.5	ug/L	U	F	0.5		FQ	G	STD
80105	WL	2/9/2017	17028266	191-24-2	Benzo(g,h,i)Perylene	N001	0.48	ug/L	U	F	0.48		FQ	G	STD
80105	WL	2/9/2017	17028266	207-08-9	Benzo(k)fluoranthene	N001	0.44	ug/L	U	F	0.44		FQ	G	STD
80105	WL	2/9/2017	17028266	7440-41-7	Beryllium	0001	0.47	ug/L	U	F	0.47		FQ	G	STD
80105	WL	2/9/2017	17028266	111-44-4	Bis(2-chloroethyl) ether	N001	0.39	ug/L	U	F	0.39		FQ	G	STD
80105	WL	2/9/2017	17028266	108-60-1	Bis(2-chloroisopropyl) ether	N001	0.27	ug/L	U	F	0.27		FQ	G	STD
80105	WL	2/9/2017	17028266	117-81-7	Bis(2-ethylhexyl) phthalate	N001	0.53	ug/L	U	F	0.53		FQ	G	STD
80105	WL	2/9/2017	17028266	7440-42-8	Boron	0001	150	ug/L	B	F	4.4		FQ	G	STD
80105	WL	2/9/2017	17028266	75-27-4	Bromodichloromethane	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
80105	WL	2/9/2017	17028266	75-25-2	Bromoform	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
80105	WL	2/9/2017	17028266	74-83-9	Bromomethane	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
80105	WL	2/9/2017	17028266	85-68-7	Butyl benzyl phthalate	N001	0.95	ug/L	U	F	0.95		FQ	G	STD
80105	WL	2/9/2017	17028266	7440-43-9	Cadmium	0001	0.45	ug/L	U	F	0.45		FQ	G	STD
80105	WL	2/9/2017	17028266	56-23-5	Carbon tetrachloride	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
80105	WL	2/9/2017	17028266	108-90-7	Chlorobenzene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
80105	WL	2/9/2017	17028266	124-48-1	Chlorodibromomethane	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
80105	WL	2/9/2017	17028266	67-66-3	Chloroform	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
80105	WL	2/9/2017	17028266	74-87-3	Chloromethane	N001	0.3	ug/L	U	F	0.3		FQ	G	STD
80105	WL	2/9/2017	17028266	7440-47-3	Chromium	0001	0.66	ug/L	U	F	0.66		FQ	G	STD
80105	WL	2/9/2017	17028266	218-01-9	Chrysene	N001	0.51	ug/L	U	F	0.51		FQ	G	STD
80105	WL	2/9/2017	17028266	156-59-2	cis-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
80105	WL	2/9/2017	17028266	7440-50-8	Copper	0001	4.2	ug/L	U	F	4.2		FQ	G	STD
80105	WL	2/9/2017	17028266	53-70-3	Dibenz(a,h)anthracene	N001	0.48	ug/L	U	F	0.48		FQ	G	STD
80105	WL	2/9/2017	17028266	84-66-2	Diethyl phthalate	N001	0.36	ug/L	U	F	0.36		FQ	G	STD
80105	WL	2/9/2017	17028266	131-11-3	Dimethyl phthalate	N001	0.2	ug/L	U	F	0.2		FQ	G	STD
80105	WL	2/9/2017	17028266	84-74-2	Di-n-butyl phthalate	N001	1.1	ug/L	U	F	1.1		FQ	G	STD
80105	WL	2/9/2017	17028266	100-41-4	Ethylbenzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
80105	WL	2/9/2017	17028266	206-44-0	Fluoranthene	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
80105	WL	2/9/2017	17028266	86-73-7	Fluorene	N001	0.29	ug/L	U	F	0.29		FQ	G	STD
80105	WL	2/9/2017	17028266	118-74-1	Hexachlorobenzene	N001	0.63	ug/L	U	F	0.63		FQ	G	STD
80105	WL	2/9/2017	17028266	87-68-3	Hexachlorobutadiene	N001	0.36	ug/L	U	F	0.36		FQ	G	STD
80105	WL	2/9/2017	17028266	77-47-4	Hexachlorocyclopentadiene	N001	9.5	ug/L	U*	F	9.5		FQ	G	STD
80105	WL	2/9/2017	17028266	67-72-1	Hexachloroethane	N001	2	ug/L	U	F	2		FQ	G	STD
80105	WL	2/9/2017	17028266	193-39-5	Indeno(1,2,3-cd)pyrene	N001	0.62	ug/L	U	F	0.62		FQ	G	STD
80105	WL	2/9/2017	17028266	78-59-1	Isophorone	N001	0.2	ug/L	U	F	0.2		FQ	G	STD
80105	WL	2/9/2017	17028266	7439-92-1	Lead	0001	2.7	ug/L	U	F	2.7		FQ	G	STD
80105	WL	2/9/2017	17028266	7439-97-6	Mercury	0001	0.027	ug/L	U	F	0.027		FQ	G	STD
80105	WL	2/9/2017	17028266	75-09-2	Methylene chloride	N001	0.32	ug/L	U	F	0.32		FQ	G	STD
80105	WL	2/9/2017	17028266	91-20-3	Naphthalene	N001	0.22	ug/L	U	F	0.22		FQ	G	STD
80105	WL	2/9/2017	17028266	7440-02-0	Nickel	0001	2.6	ug/L	U	F	2.6		FQ	G	STD
80105	WL	2/9/2017	17028266	98-95-3	Nitrobenzene	N001	0.77	ug/L	U	F	0.77		FQ	G	STD
80105	WL	2/9/2017	17028266	621-64-7	N-Nitrosodi-n-propylamine	N001	0.33	ug/L	U	F	0.33		FQ	G	STD
80105	WL	2/9/2017	17028266	86-30-6	N-Nitrosodiphenylamine	N001	0.42	ug/L	U	F	0.42		FQ	G	STD
80105	WL	2/9/2017	17028266	87-86-5	Pentachlorophenol	N001	19	ug/L	U	F	19		FQ	G	STD
80105	WL	2/9/2017	17028266	108-95-2	Phenol	N001	1.9	ug/L	U	F	1.9		FQ	G	STD
80105	WL	2/9/2017	17028266	129-00-0	Pyrene	N001	0.35	ug/L	U	F	0.35		FQ	G	STD

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80105	WL	2/9/2017	17028266	7782-49-2	Selenium	0001	4.9	ug/L	U	F	4.9		FQJ	G	STD
80105	WL	2/9/2017	17028266	7440-22-4	Silver	0001	0.93	ug/L	U*	F	0.93		FQ	G	STD
80105	WL	2/9/2017	17028266	100-42-5	Styrene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
80105	WL	2/9/2017	17028266	127-18-4	Tetrachloroethene	N001	0.2	ug/L	U	F	0.2		FQ	G	STD
80105	WL	2/9/2017	17028266	108-88-3	Toluene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
80105	WL	2/9/2017	17028266	1330-20-7	Total xylenes	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
80105	WL	2/9/2017	17028266	156-60-5	trans-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
80105	WL	2/9/2017	17028266	10061-02-6	trans-1,3-Dichloropropene	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
80105	WL	2/9/2017	17028266	79-01-6	Trichloroethene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
80105	WL	2/9/2017	17028266	7440-61-1	Uranium	0001	8.6	ug/L		F	0.05		FQ	G	STD
80105	WL	2/9/2017	17028266	75-01-4	Vinyl chloride	N001	0.1	ug/L	U	F	0.1		FQ	G	STD
80105	WL	2/9/2017	17028266	7440-66-6	Zinc	0001	4.5	ug/L	U	F	4.5		FQ	G	STD
80205	WL	2/9/2017	17028266	71-55-6	1,1,1-Trichloroethane	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
80205	WL	2/9/2017	17028266	79-34-5	1,1,2,2-Tetrachloroethane	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
80205	WL	2/9/2017	17028266	79-00-5	1,1,2-Trichloroethane	N001	0.27	ug/L	U	F	0.27		FQ	G	STD
80205	WL	2/9/2017	17028266	75-35-4	1,1-Dichloroethene	N001	0.23	ug/L	U	F	0.23		FQ	G	STD
80205	WL	2/9/2017	17028266	120-82-1	1,2,4-Trichlorobenzene	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
80205	WL	2/9/2017	17028266	96-12-8	1,2-Dibromo-3-chloropropane	N001	0.47	ug/L	U	F	0.47		FQ	G	STD
80205	WL	2/9/2017	17028266	106-93-4	1,2-Dibromoethane	N001	0.18	ug/L	U	F	0.18		FQ	G	STD
80205	WL	2/9/2017	17028266	95-50-1	1,2-Dichlorobenzene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
80205	WL	2/9/2017	17028266	107-06-2	1,2-Dichloroethane	N001	0.13	ug/L	U	F	0.13		FQ	G	STD
80205	WL	2/9/2017	17028266	78-87-5	1,2-Dichloropropane	N001	0.18	ug/L	U	F	0.18		FQ	G	STD
80205	WL	2/9/2017	17028266	541-73-1	1,3-Dichlorobenzene	N001	0.13	ug/L	U	F	0.13		FQ	G	STD
80205	WL	2/9/2017	17028266	106-46-7	1,4-Dichlorobenzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
80205	WL	2/9/2017	17028266	105-67-9	2,4-Dimethylphenol	N001	0.55	ug/L	U	F	0.55		FQ	G	STD
80205	WL	2/9/2017	17028266	95-95-4	2,4,5-Trichlorophenol	N001	0.43	ug/L	U	F	0.43		FQ	G	STD
80205	WL	2/9/2017	17028266	88-06-2	2,4,6-Trichlorophenol	N001	0.28	ug/L	U	F	0.28		FQ	G	STD
80205	WL	2/9/2017	17028266	120-83-2	2,4-Dichlorophenol	N001	0.61	ug/L	U	F	0.61		FQ	G	STD
80205	WL	2/9/2017	17028266	51-28-5	2,4-Dinitrophenol	N001	9.6	ug/L	U	F	9.6		FQ	G	STD
80205	WL	2/9/2017	17028266	121-14-2	2,4-Dinitrotoluene	N001	1.6	ug/L	U	F	1.6		FQ	G	STD
80205	WL	2/9/2017	17028266	606-20-2	2,6-Dinitrotoluene	N001	1.8	ug/L	U	F	1.8		FQ	G	STD
80205	WL	2/9/2017	17028266	91-58-7	2-Chloronaphthalene	N001	0.25	ug/L	U	F	0.25		FQ	G	STD
80205	WL	2/9/2017	17028266	95-57-8	2-Chlorophenol	N001	1.9	ug/L	U	F	1.9		FQ	G	STD
80205	WL	2/9/2017	17028266	91-94-1	3,3'-Dichlorobenzidine	N001	1.9	ug/L	U	F	1.9		FQ	G	STD
80205	WL	2/9/2017	17028266	534-52-1	4,6-Dinitro-2-methyl phenol	N001	3.8	ug/L	U	F	3.8		FQ	G	STD
80205	WL	2/9/2017	17028266	59-50-7	4-Chloro-3-methylphenol	N001	2.3	ug/L	U	F	2.3		FQ	G	STD
80205	WL	2/9/2017	17028266	100-02-7	4-Nitrophenol	N001	1.2	ug/L	U	F	1.2		FQ	G	STD
80205	WL	2/9/2017	17028266	83-32-9	Acenaphthene	N001	0.27	ug/L	U	F	0.27		FQ	G	STD
80205	WL	2/9/2017	17028266	120-12-7	Anthracene	N001	0.4	ug/L	U	F	0.4		FQ	G	STD
80205	WL	2/9/2017	17028266	7440-38-2	Arsenic	0001	4.4	ug/L	U	F	4.4		FQ	G	STD
80205	WL	2/9/2017	17028266	56-55-3	Benz(a)anthracene	N001	0.33	ug/L	U	F	0.33		FQ	G	STD
80205	WL	2/9/2017	17028266	71-43-2	Benzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
80205	WL	2/9/2017	17028266	50-32-8	Benzo(a)pyrene	N001	0.3	ug/L	U	F	0.3		FQ	G	STD
80205	WL	2/9/2017	17028266	205-99-2	Benzo(b)fluoranthene	N001	0.51	ug/L	U	F	0.51		FQ	G	STD
80205	WL	2/9/2017	17028266	191-24-2	Benzo(g,h,i)Perylene	N001	0.48	ug/L	U	F	0.48		FQ	G	STD
80205	WL	2/9/2017	17028266	207-08-9	Benzo(k)fluoranthene	N001	0.44	ug/L	U	F	0.44		FQ	G	STD
80205	WL	2/9/2017	17028266	7440-41-7	Beryllium	0001	0.47	ug/L	U	F	0.47		FQ	G	STD
80205	WL	2/9/2017	17028266	111-44-4	Bis(2-chloroethyl) ether	N001	0.39	ug/L	U	F	0.39		FQ	G	STD
80205	WL	2/9/2017	17028266	108-60-1	Bis(2-chloroisopropyl) ether	N001	0.27	ug/L	U	F	0.27		FQ	G	STD
80205	WL	2/9/2017	17028266	117-81-7	Bis(2-ethylhexyl) phthalate	N001	3	ug/L	J	F	0.54		FQ	G	STD
80205	WL	2/9/2017	17028266	7440-42-8	Boron	0001	83	ug/L	B	F	4.4		FQ	G	STD
80205	WL	2/9/2017	17028266	75-27-4	Bromodichloromethane	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
80205	WL	2/9/2017	17028266	75-25-2	Bromoform	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
80205	WL	2/9/2017	17028266	74-83-9	Bromomethane	N001	0.21	ug/L	U	F	0.21		FQ	G	STD
80205	WL	2/9/2017	17028266	85-68-7	Butyl benzyl phthalate	N001	0.96	ug/L	U	F	0.96		FQ	G	STD

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80205	WL	2/9/2017	17028266	7440-43-9	Cadmium	0001	0.84	ug/L	J	F	0.45		FQ	G	STD
80205	WL	2/9/2017	17028266	56-23-5	Carbon tetrachloride	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
80205	WL	2/9/2017	17028266	108-90-7	Chlorobenzene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
80205	WL	2/9/2017	17028266	124-48-1	Chlorodibromomethane	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
80205	WL	2/9/2017	17028266	67-66-3	Chloroform	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
80205	WL	2/9/2017	17028266	74-87-3	Chloromethane	N001	0.3	ug/L	U	F	0.3		FQ	G	STD
80205	WL	2/9/2017	17028266	7440-47-3	Chromium	0001	0.9	ug/L	JB	F	0.66		UFQ	G	STD
80205	WL	2/9/2017	17028266	218-01-9	Chrysene	N001	0.52	ug/L	U	F	0.52		FQ	G	STD
80205	WL	2/9/2017	17028266	156-59-2	cis-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
80205	WL	2/9/2017	17028266	7440-50-8	Copper	0001	4.2	ug/L	U	F	4.2		FQ	G	STD
80205	WL	2/9/2017	17028266	53-70-3	Dibenz(a,h)anthracene	N001	0.49	ug/L	U	F	0.49		FQ	G	STD
80205	WL	2/9/2017	17028266	84-66-2	Diethyl phthalate	N001	0.36	ug/L	U	F	0.36		FQ	G	STD
80205	WL	2/9/2017	17028266	131-11-3	Dimethyl phthalate	N001	0.2	ug/L	U	F	0.2		FQ	G	STD
80205	WL	2/9/2017	17028266	84-74-2	Di-n-butyl phthalate	N001	1.1	ug/L	U	F	1.1		FQ	G	STD
80205	WL	2/9/2017	17028266	100-41-4	Ethylbenzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
80205	WL	2/9/2017	17028266	206-44-0	Fluoranthene	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
80205	WL	2/9/2017	17028266	86-73-7	Fluorene	N001	0.3	ug/L	U	F	0.3		FQ	G	STD
80205	WL	2/9/2017	17028266	118-74-1	Hexachlorobenzene	N001	0.63	ug/L	U	F	0.63		FQ	G	STD
80205	WL	2/9/2017	17028266	87-68-3	Hexachlorobutadiene	N001	0.36	ug/L	U	F	0.36		FQ	G	STD
80205	WL	2/9/2017	17028266	77-47-4	Hexachlorocyclopentadiene	N001	9.6	ug/L	U*	F	9.6		FQ	G	STD
80205	WL	2/9/2017	17028266	67-72-1	Hexachloroethane	N001	2	ug/L	U	F	2		FQ	G	STD
80205	WL	2/9/2017	17028266	193-39-5	Indeno(1,2,3-cd)pyrene	N001	0.62	ug/L	U	F	0.62		FQ	G	STD
80205	WL	2/9/2017	17028266	78-59-1	Isophorone	N001	0.2	ug/L	U	F	0.2		FQ	G	STD
80205	WL	2/9/2017	17028266	7439-92-1	Lead	0001	2.7	ug/L	U	F	2.7		FQ	G	STD
80205	WL	2/9/2017	17028266	7439-97-6	Mercury	0001	0.027	ug/L	U	F	0.027		FQ	G	STD
80205	WL	2/9/2017	17028266	75-09-2	Methylene chloride	N001	0.32	ug/L	U	F	0.32		FQ	G	STD
80205	WL	2/9/2017	17028266	91-20-3	Naphthalene	N001	0.22	ug/L	U	F	0.22		FQ	G	STD
80205	WL	2/9/2017	17028266	7440-02-0	Nickel	0001	12	ug/L	J	F	2.6		FQ	G	STD
80205	WL	2/9/2017	17028266	98-95-3	Nitrobenzene	N001	0.77	ug/L	U	F	0.77		FQ	G	STD
80205	WL	2/9/2017	17028266	621-64-7	N-Nitrosodi-n-propylamine	N001	0.33	ug/L	U	F	0.33		FQ	G	STD
80205	WL	2/9/2017	17028266	86-30-6	N-Nitrosodiphenylamine	N001	0.42	ug/L	U	F	0.42		FQ	G	STD
80205	WL	2/9/2017	17028266	87-86-5	Pentachlorophenol	N001	19	ug/L	U	F	19		FQ	G	STD
80205	WL	2/9/2017	17028266	108-95-2	Phenol	N001	1.9	ug/L	U	F	1.9		FQ	G	STD
80205	WL	2/9/2017	17028266	129-00-0	Pyrene	N001	0.35	ug/L	U	F	0.35		FQ	G	STD
80205	WL	2/9/2017	17028266	7782-49-2	Selenium	0001	4.9	ug/L	U	F	4.9		FQJ	G	STD
80205	WL	2/9/2017	17028266	7440-22-4	Silver	0001	1.4	ug/L	J*	F	0.93		UFQ	G	STD
80205	WL	2/9/2017	17028266	100-42-5	Styrene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
80205	WL	2/9/2017	17028266	127-18-4	Tetrachloroethene	N001	0.2	ug/L	U	F	0.2		FQ	G	STD
80205	WL	2/9/2017	17028266	108-88-3	Toluene	N001	0.17	ug/L	U	F	0.17		FQ	G	STD
80205	WL	2/9/2017	17028266	1330-20-7	Total xylenes	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
80205	WL	2/9/2017	17028266	156-60-5	trans-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		FQ	G	STD
80205	WL	2/9/2017	17028266	10061-02-6	trans-1,3-Dichloropropene	N001	0.19	ug/L	U	F	0.19		FQ	G	STD
80205	WL	2/9/2017	17028266	79-01-6	Trichloroethene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
80205	WL	2/9/2017	17028266	7440-61-1	Uranium	0001	54	ug/L		F	0.05		FQ	G	STD
80205	WL	2/9/2017	17028266	75-01-4	Vinyl chloride	N001	0.1	ug/L	U	F	0.1		FQ	G	STD
80205	WL	2/9/2017	17028266	7440-66-6	Zinc	0001	4.6	ug/L	J	F	4.5		FQ	G	STD
GS05	SL	1/3/2017	17028304	7440-38-2	Arsenic	N001	4.4	ug/L	U	F	4.4		valid	C	STD
GS05	SL	1/3/2017	17028304	7440-41-7	Beryllium	N001	0.47	ug/L	U	F	0.47		valid	C	STD
GS05	SL	1/3/2017	17028304	7440-42-8	Boron	N001	8.6	ug/L	J	F	4.4		valid	C	STD
GS05	SL	1/3/2017	17028304	7440-43-9	Cadmium	0001	0.45	ug/L	U	F	0.45		valid	C	STD
GS05	SL	1/3/2017	17028304	7440-47-3	Chromium	N001	0.66	ug/L	U	F	0.66		valid	C	STD
GS05	SL	1/3/2017	17028304	7440-50-8	Copper	0001	4.2	ug/L	U	F	4.2		valid	C	STD
GS05	SL	1/3/2017	17028304	7439-92-1	Lead	0001	2.7	ug/L	U	F	2.7		valid	C	STD
GS05	SL	1/3/2017	17028304	7439-97-6	Mercury	N001	0.027	ug/L	UH	F	0.027		J	C	STD
GS05	SL	1/3/2017	17028304	7440-02-0	Nickel	0001	2.6	ug/L	U	F	2.6		valid	C	STD

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GS05	SL	1/3/2017	17028304	7782-49-2	Selenium	N001	4.9	ug/L	U	F	4.9		valid	C	STD
GS05	SL	1/3/2017	17028304	7440-22-4	Silver	0001	0.93	ug/L	U	F	0.93		valid	C	STD
GS05	SL	1/3/2017	17028304	7440-61-1	Uranium	N001	0.36	ug/L	J	F	0.05		valid	C	STD
GS05	SL	1/3/2017	17028304	7440-61-1	Uranium	N002	0.36	ug/L		F	0.05		valid	C	STD
GS05	SL	1/3/2017	17028304	7440-66-6	Zinc	0001	4.5	ug/L	U	F	4.5		valid	C	STD
GS05	SL	1/11/2017	17018231	71-55-6	1,1,1-Trichloroethane	N001	0.16	ug/L	U	F	0.16		valid	G	STD
GS05	SL	1/11/2017	17018231	79-34-5	1,1,2,2-Tetrachloroethane	N001	0.21	ug/L	U	F	0.21		valid	G	STD
GS05	SL	1/11/2017	17018231	79-00-5	1,1,2-Trichloroethane	N001	0.27	ug/L	U	F	0.27		valid	G	STD
GS05	SL	1/11/2017	17018231	75-35-4	1,1-Dichloroethene	N001	0.23	ug/L	U	F	0.23		valid	G	STD
GS05	SL	1/11/2017	17018231	120-82-1	1,2,4-Trichlorobenzene	N001	0.21	ug/L	U	F	0.21		valid	G	STD
GS05	SL	1/11/2017	17018231	96-12-8	1,2-Dibromo-3-chloropropane	N001	0.47	ug/L	U	F	0.47		valid	G	STD
GS05	SL	1/11/2017	17018231	106-93-4	1,2-Dibromoethane	N001	0.18	ug/L	U	F	0.18		valid	G	STD
GS05	SL	1/11/2017	17018231	95-50-1	1,2-Dichlorobenzene	N001	0.15	ug/L	U	F	0.15		valid	G	STD
GS05	SL	1/11/2017	17018231	107-06-2	1,2-Dichloroethane	N001	0.13	ug/L	U	F	0.13		valid	G	STD
GS05	SL	1/11/2017	17018231	78-87-5	1,2-Dichloropropane	N001	0.18	ug/L	U	F	0.18		valid	G	STD
GS05	SL	1/11/2017	17018231	541-73-1	1,3-Dichlorobenzene	N001	0.13	ug/L	U	F	0.13		valid	G	STD
GS05	SL	1/11/2017	17018231	106-46-7	1,4-Dichlorobenzene	N001	0.16	ug/L	U	F	0.16		valid	G	STD
GS05	SL	1/11/2017	17018231	71-43-2	Benzene	N001	0.16	ug/L	U	F	0.16		valid	G	STD
GS05	SL	1/11/2017	17018231	75-27-4	Bromodichloromethane	N001	0.17	ug/L	U	F	0.17		valid	G	STD
GS05	SL	1/11/2017	17018231	75-25-2	Bromoform	N001	0.19	ug/L	U	F	0.19		valid	G	STD
GS05	SL	1/11/2017	17018231	74-83-9	Bromomethane	N001	0.21	ug/L	U	F	0.21		valid	G	STD
GS05	SL	1/11/2017	17018231	56-23-5	Carbon tetrachloride	N001	0.19	ug/L	U	F	0.19		valid	G	STD
GS05	SL	1/11/2017	17018231	108-90-7	Chlorobenzene	N001	0.17	ug/L	U	F	0.17		valid	G	STD
GS05	SL	1/11/2017	17018231	124-48-1	Chlorodibromomethane	N001	0.17	ug/L	U	F	0.17		valid	G	STD
GS05	SL	1/11/2017	17018231	67-66-3	Chloroform	N001	0.16	ug/L	U	F	0.16		valid	G	STD
GS05	SL	1/11/2017	17018231	74-87-3	Chloromethane	N001	0.3	ug/L	U	F	0.3		valid	G	STD
GS05	SL	1/11/2017	17018231	156-59-2	cis-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		valid	G	STD
GS05	SL	1/11/2017	17018231	100-41-4	Ethylbenzene	N001	0.16	ug/L	U	F	0.16		valid	G	STD
GS05	SL	1/11/2017	17018231	87-68-3	Hexachlorobutadiene	N001	0.36	ug/L	U	F	0.36		valid	G	STD
GS05	SL	1/11/2017	17018231	7439-97-6	Mercury	N001	0.027	ug/L	U	F	0.027		J	G	STD
GS05	SL	1/11/2017	17018231	75-09-2	Methylene chloride	N001	0.32	ug/L	U	F	0.32		valid	G	STD
GS05	SL	1/11/2017	17018231	91-20-3	Naphthalene	N001	0.22	ug/L	U	F	0.22		valid	G	STD
GS05	SL	1/11/2017	17018231	100-42-5	Styrene	N001	0.17	ug/L	U	F	0.17		valid	G	STD
GS05	SL	1/11/2017	17018231	127-18-4	Tetrachloroethene	N001	0.2	ug/L	U	F	0.2		valid	G	STD
GS05	SL	1/11/2017	17018231	108-88-3	Toluene	N001	0.17	ug/L	U	F	0.17		valid	G	STD
GS05	SL	1/11/2017	17018231	1330-20-7	Total xylenes	N001	0.19	ug/L	U	F	0.19		valid	G	STD
GS05	SL	1/11/2017	17018231	156-60-5	trans-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		valid	G	STD
GS05	SL	1/11/2017	17018231	10061-02-6	trans-1,3-Dichloropropene	N001	0.19	ug/L	U	F	0.19		valid	G	STD
GS05	SL	1/11/2017	17018231	79-01-6	Trichloroethene	N001	0.16	ug/L	U	F	0.16		valid	G	STD
GS05	SL	1/11/2017	17018231	75-01-4	Vinyl chloride	N001	0.1	ug/L	U	F	0.1		valid	G	STD
GS05	SL	2/27/2017	17048424	7440-38-2	Arsenic	N001	5.1	ug/L	J	F	4.4		U	C	STD
GS05	SL	2/27/2017	17048424	7440-41-7	Beryllium	N001	0.47	ug/L	U	F	0.47		valid	C	STD
GS05	SL	2/27/2017	17048424	7440-42-8	Boron	N001	13	ug/L	J	F	4.4		valid	C	STD
GS05	SL	2/27/2017	17048424	7440-43-9	Cadmium	0001	0.47	ug/L	J	F	0.45		valid	C	STD
GS05	SL	2/27/2017	17048424	7440-47-3	Chromium	N001	0.66	ug/L	U	F	0.66		valid	C	STD
GS05	SL	2/27/2017	17048424	7440-50-8	Copper	0001	4.2	ug/L	U	F	4.2		valid	C	STD
GS05	SL	2/27/2017	17048424	7439-92-1	Lead	0001	2.7	ug/L	U	F	2.7		valid	C	STD
GS05	SL	2/27/2017	17048424	7439-97-6	Mercury	N001	0.027	ug/L	UH	F	0.027		J	C	STD
GS05	SL	2/27/2017	17048424	7440-02-0	Nickel	0001	2.6	ug/L	U	F	2.6		valid	C	STD
GS05	SL	2/27/2017	17048424	7782-49-2	Selenium	N001	4.9	ug/L	U	F	4.9		valid	C	STD
GS05	SL	2/27/2017	17048424	7440-22-4	Silver	0001	0.93	ug/L	U	F	0.93		valid	C	STD
GS05	SL	2/27/2017	17048424	7440-61-1	Uranium	N001	0.76	ug/L	J	F	0.05		valid	C	STD
GS05	SL	2/27/2017	17048424	7440-61-1	Uranium	N002	0.75	ug/L		F	0.05		valid	C	STD
GS05	SL	2/27/2017	17048424	7440-66-6	Zinc	0001	4.5	ug/L	U	F	4.5		valid	C	STD
GS10	SL	1/9/2017	17028276	AM-241	Americium-241	N001	0.00114	pCi/L	U	F	0.016	0.00668	valid	C	GEN

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LOCATION CODE	LOCATION TYPE	DATE SAMPLED	LAB REQUISITION NUMBER	CAS	ANALYTE	SAMPLE ID	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCERTAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
GS10	SL	1/9/2017	17028276	7440-41-7	Beryllium	N001	1	ug/L	U	F	1		valid	C	GEN
GS10	SL	1/9/2017	17028276	7440-43-9	Cadmium	0001	0.3	ug/L	U	F	0.3		valid	C	GEN
GS10	SL	1/9/2017	17028276	7440-47-3	Chromium	N001	1	ug/L	U	F	1		valid	C	GEN
GS10	SL	1/9/2017	17028276	HARDNESS	Hardness	N001	510	mg/L		F	1		valid	C	GEN
GS10	SL	1/9/2017	17028276	PU-239,240	Plutonium-239, 240	N001	0	pCi/L	U	F	0.0314	0.0116	valid	C	GEN
GS10	SL	1/9/2017	17028276	7440-22-4	Silver	0001	0.4	ug/L	U	F	0.4		valid	C	GEN
GS10	SL	1/9/2017	17028276	7440-61-1	Uranium	N001	17.2	ug/L		F	0.067		valid	C	GEN
GS10	SL	2/9/2017	17038334	AM-241	Americium-241	N001	-0.0119	pCi/L	U	F	0.0417	0.0181	valid	C	GEN
GS10	SL	2/9/2017	17038334	7440-41-7	Beryllium	N001	1	ug/L	U	F	1		valid	C	GEN
GS10	SL	2/9/2017	17038334	7440-43-9	Cadmium	0001	0.3	ug/L	U	F	0.3		valid	C	GEN
GS10	SL	2/9/2017	17038334	7440-47-3	Chromium	N001	1	ug/L	U	F	1		valid	C	GEN
GS10	SL	2/9/2017	17038334	HARDNESS	Hardness	N001	560	mg/L		F	1		valid	C	GEN
GS10	SL	2/9/2017	17038334	PU-239,240	Plutonium-239, 240	N001	0.00256	pCi/L	U	F	0.015	0.00616	valid	C	GEN
GS10	SL	2/9/2017	17038334	7440-22-4	Silver	0001	0.4	ug/L	U	F	0.4		valid	C	GEN
GS10	SL	2/9/2017	17038334	7440-61-1	Uranium	N001	18.7	ug/L		F	0.067		valid	C	GEN
GS10	SL	3/13/2017	17048387	AM-241	Americium-241	N001	-0.00188	pCi/L	U	F	0.0352	0.0133	valid	C	GEN
GS10	SL	3/13/2017	17048387	7440-41-7	Beryllium	N001	1	ug/L	U	F	1		valid	C	GEN
GS10	SL	3/13/2017	17048387	7440-43-9	Cadmium	0001	0.3	ug/L	U	F	0.3		valid	C	GEN
GS10	SL	3/13/2017	17048387	7440-47-3	Chromium	N001	1	ug/L	U	F	1		valid	C	GEN
GS10	SL	3/13/2017	17048387	HARDNESS	Hardness	N001	499	mg/L		F	1		valid	C	GEN
GS10	SL	3/13/2017	17048387	PU-239,240	Plutonium-239, 240	N001	-0.00187	pCi/L	U	F	0.0281	0.0151	valid	C	GEN
GS10	SL	3/13/2017	17048387	7440-22-4	Silver	0001	0.4	ug/L	U	F	0.4		valid	C	GEN
GS10	SL	3/13/2017	17048387	7440-61-1	Uranium	N001	18	ug/L		F	0.067		valid	C	GEN
GS13	SL	1/3/2017	17038334	7440-61-1	Uranium	N001	37.6	ug/L		F	0.067		valid	C	GEN
GS13	SL	1/12/2017	17018236	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	23	mg/L		F	0.095		valid	G	STD
GS13	SL	1/25/2017	17018252	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	21	mg/L		F	0.095		valid	G	STD
GS13	SL	2/6/2017	17028269	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	19	mg/L		F	0.095		valid	G	STD
GS13	SL	2/22/2017	17028299	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	19	mg/L		F	0.038		valid	G	STD
GS13	SL	3/9/2017	17038323	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	19	mg/L		F	0.038		valid	G	STD
GS13	SL	3/13/2017	17048396	7440-61-1	Uranium	N001	17.2	ug/L		F	0.067		valid	C	GEN
GS13	SL	3/20/2017	17038344	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	18	mg/L		F	0.038		valid	G	STD
GS51	SL	5/5/2016	17018234	AM-241	Americium-241	N001	0.452	pCi/L	H	F	0.0885	0.122	valid	C	GEN
GS51	SL	5/5/2016	17018234	PU-239,240	Plutonium-239, 240	N001	1.53	pCi/L	H	F	0.0254	0.179	J	C	GEN
GS51	SL	5/5/2016	17018234	7440-61-1	Uranium	N001	5.46	ug/L		F	0.067		valid	C	GEN
GS59	SL	1/3/2017	17018258	7440-38-2	Arsenic	N002	5	ug/L	U	F	5		valid	C	GEN
GS59	SL	1/3/2017	17018258	7440-41-7	Beryllium	N002	1	ug/L	U	F	1		valid	C	GEN
GS59	SL	1/3/2017	17018258	7440-42-8	Boron	N002	19.3	ug/L	B	F	15		valid	C	GEN
GS59	SL	1/3/2017	17018258	7440-43-9	Cadmium	0001	1	ug/L	U	F	1		valid	C	GEN
GS59	SL	1/3/2017	17018258	7440-47-3	Chromium	N002	3.31	ug/L	B	F	1		valid	C	GEN
GS59	SL	1/3/2017	17018258	7440-50-8	Copper	0001	12.6	ug/L	B	F	3		valid	C	GEN
GS59	SL	1/3/2017	17018258	7439-92-1	Lead	0001	3.3	ug/L	U	F	3.3		valid	C	GEN
GS59	SL	1/3/2017	17018258	7439-97-6	Mercury	N002	0.067	ug/L	U	F	0.067		valid	C	GEN
GS59	SL	1/3/2017	17018258	7440-02-0	Nickel	0001	16.3	ug/L	B	F	1.5		valid	C	GEN
GS59	SL	1/3/2017	17018258	7782-49-2	Selenium	N002	6.52	ug/L	B	F	6		valid	C	GEN
GS59	SL	1/3/2017	17018258	7440-22-4	Silver	0001	1	ug/L	U	F	1		valid	C	GEN
GS59	SL	1/3/2017	17018258	7440-61-1	Uranium	N001	3.12	ug/L		F	0.067		valid	C	GEN
GS59	SL	1/3/2017	17018258	7440-66-6	Zinc	0001	109	ug/L		F	3.3		valid	C	GEN
GS59	SL	1/11/2017	17018231	71-55-6	1,1,1-Trichloroethane	N001	0.16	ug/L	U	F	0.16		valid	G	STD
GS59	SL	1/11/2017	17018231	79-34-5	1,1,2,2-Tetrachloroethane	N001	0.21	ug/L	U	F	0.21		valid	G	STD
GS59	SL	1/11/2017	17018231	79-00-5	1,1,2-Trichloroethane	N001	0.27	ug/L	U	F	0.27		valid	G	STD
GS59	SL	1/11/2017	17018231	75-35-4	1,1-Dichloroethene	N001	0.23	ug/L	U	F	0.23		valid	G	STD
GS59	SL	1/11/2017	17018231	120-82-1	1,2,4-Trichlorobenzene	N001	0.21	ug/L	U	F	0.21		valid	G	STD
GS59	SL	1/11/2017	17018231	96-12-8	1,2-Dibromo-3-chloropropane	N001	0.47	ug/L	U	F	0.47		valid	G	STD
GS59	SL	1/11/2017	17018231	106-93-4	1,2-Dibromoethane	N001	0.18	ug/L	U	F	0.18		valid	G	STD
GS59	SL	1/11/2017	17018231	95-50-1	1,2-Dichlorobenzene	N001	0.15	ug/L	U	F	0.15		valid	G	STD

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GS59	SL	1/11/2017	17018231	107-06-2	1,2-Dichloroethane	N001	0.13	ug/L	U	F	0.13		valid	G	STD
GS59	SL	1/11/2017	17018231	78-87-5	1,2-Dichloropropane	N001	0.18	ug/L	U	F	0.18		valid	G	STD
GS59	SL	1/11/2017	17018231	541-73-1	1,3-Dichlorobenzene	N001	0.13	ug/L	U	F	0.13		valid	G	STD
GS59	SL	1/11/2017	17018231	106-46-7	1,4-Dichlorobenzene	N001	0.16	ug/L	U	F	0.16		valid	G	STD
GS59	SL	1/11/2017	17018231	71-43-2	Benzene	N001	0.16	ug/L	U	F	0.16		valid	G	STD
GS59	SL	1/11/2017	17018231	75-27-4	Bromodichloromethane	N001	0.17	ug/L	U	F	0.17		valid	G	STD
GS59	SL	1/11/2017	17018231	75-25-2	Bromoform	N001	0.19	ug/L	U	F	0.19		valid	G	STD
GS59	SL	1/11/2017	17018231	74-83-9	Bromomethane	N001	0.21	ug/L	U	F	0.21		valid	G	STD
GS59	SL	1/11/2017	17018231	56-23-5	Carbon tetrachloride	N001	0.19	ug/L	U	F	0.19		valid	G	STD
GS59	SL	1/11/2017	17018231	108-90-7	Chlorobenzene	N001	0.17	ug/L	U	F	0.17		valid	G	STD
GS59	SL	1/11/2017	17018231	124-48-1	Chlorodibromomethane	N001	0.17	ug/L	U	F	0.17		valid	G	STD
GS59	SL	1/11/2017	17018231	67-66-3	Chloroform	N001	0.16	ug/L	U	F	0.16		valid	G	STD
GS59	SL	1/11/2017	17018231	74-87-3	Chloromethane	N001	0.3	ug/L	U	F	0.3		valid	G	STD
GS59	SL	1/11/2017	17018231	156-59-2	cis-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		valid	G	STD
GS59	SL	1/11/2017	17018231	100-41-4	Ethylbenzene	N001	0.16	ug/L	U	F	0.16		valid	G	STD
GS59	SL	1/11/2017	17018231	87-68-3	Hexachlorobutadiene	N001	0.36	ug/L	U	F	0.36		valid	G	STD
GS59	SL	1/11/2017	17018231	7439-97-6	Mercury	N001	0.027	ug/L	U	F	0.027		J	G	STD
GS59	SL	1/11/2017	17018231	75-09-2	Methylene chloride	N001	0.32	ug/L	U	F	0.32		valid	G	STD
GS59	SL	1/11/2017	17018231	91-20-3	Naphthalene	N001	0.22	ug/L	U	F	0.22		valid	G	STD
GS59	SL	1/11/2017	17018231	100-42-5	Styrene	N001	0.17	ug/L	U	F	0.17		valid	G	STD
GS59	SL	1/11/2017	17018231	127-18-4	Tetrachloroethene	N001	0.2	ug/L	U	F	0.2		valid	G	STD
GS59	SL	1/11/2017	17018231	108-88-3	Toluene	N001	0.17	ug/L	U	F	0.17		valid	G	STD
GS59	SL	1/11/2017	17018231	1330-20-7	Total xylenes	N001	0.19	ug/L	U	F	0.19		valid	G	STD
GS59	SL	1/11/2017	17018231	156-60-5	trans-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		valid	G	STD
GS59	SL	1/11/2017	17018231	10061-02-6	trans-1,3-Dichloropropene	N001	0.19	ug/L	U	F	0.19		valid	G	STD
GS59	SL	1/11/2017	17018231	79-01-6	Trichloroethene	N001	0.16	ug/L	U	F	0.16		valid	G	STD
GS59	SL	1/11/2017	17018231	75-01-4	Vinyl chloride	N001	0.1	ug/L	U	F	0.1		valid	G	STD
GS59	SL	1/30/2017	17028304	7440-38-2	Arsenic	N001	4.4	ug/L	U	F	4.4		valid	C	STD
GS59	SL	1/30/2017	17028304	7440-41-7	Beryllium	N001	0.47	ug/L	U	F	0.47		valid	C	STD
GS59	SL	1/30/2017	17028304	7440-42-8	Boron	N001	12	ug/L	J	F	4.4		valid	C	STD
GS59	SL	1/30/2017	17028304	7440-43-9	Cadmium	0001	0.45	ug/L	U	F	0.45		valid	C	STD
GS59	SL	1/30/2017	17028304	7440-47-3	Chromium	N001	2	ug/L	J	F	0.66		valid	C	STD
GS59	SL	1/30/2017	17028304	7440-50-8	Copper	0001	4.2	ug/L	U	F	4.2		valid	C	STD
GS59	SL	1/30/2017	17028304	7439-92-1	Lead	0001	2.7	ug/L	U	F	2.7		valid	C	STD
GS59	SL	1/30/2017	17028304	7439-97-6	Mercury	N001	0.027	ug/L	UH	F	0.027		J	C	STD
GS59	SL	1/30/2017	17028304	7440-02-0	Nickel	0001	2.6	ug/L	U	F	2.6		valid	C	STD
GS59	SL	1/30/2017	17028304	7782-49-2	Selenium	N001	4.9	ug/L	U	F	4.9		valid	C	STD
GS59	SL	1/30/2017	17028304	7440-22-4	Silver	0001	0.93	ug/L	U	F	0.93		valid	C	STD
GS59	SL	1/30/2017	17028304	7440-61-1	Uranium	N001	2.6	ug/L		F	0.05		valid	C	STD
GS59	SL	1/30/2017	17028304	7440-61-1	Uranium	N002	2.4	ug/L		F	0.05		valid	C	STD
GS59	SL	1/30/2017	17028304	7440-66-6	Zinc	0001	4.5	ug/L	U	F	4.5		valid	C	STD
GS59	SL	2/27/2017	17048424	7440-38-2	Arsenic	N001	4.4	ug/L	J	F	4.4		U	C	STD
GS59	SL	2/27/2017	17048424	7440-41-7	Beryllium	N001	0.93	ug/L		F	0.47		valid	C	STD
GS59	SL	2/27/2017	17048424	7440-42-8	Boron	N001	23	ug/L	J	F	4.4		valid	C	STD
GS59	SL	2/27/2017	17048424	7440-43-9	Cadmium	0001	0.45	ug/L	U	F	0.45		valid	C	STD
GS59	SL	2/27/2017	17048424	7440-47-3	Chromium	N001	3.9	ug/L	J	F	0.66		valid	C	STD
GS59	SL	2/27/2017	17048424	7440-50-8	Copper	0001	4.2	ug/L	U	F	4.2		valid	C	STD
GS59	SL	2/27/2017	17048424	7439-92-1	Lead	0001	2.7	ug/L	U	F	2.7		valid	C	STD
GS59	SL	2/27/2017	17048424	7439-97-6	Mercury	N001	0.027	ug/L	UH	F	0.027		J	C	STD
GS59	SL	2/27/2017	17048424	7440-02-0	Nickel	0001	2.6	ug/L	U	F	2.6		valid	C	STD
GS59	SL	2/27/2017	17048424	7782-49-2	Selenium	N001	4.9	ug/L	U	F	4.9		valid	C	STD
GS59	SL	2/27/2017	17048424	7440-22-4	Silver	0001	0.93	ug/L	U	F	0.93		valid	C	STD
GS59	SL	2/27/2017	17048424	7440-61-1	Uranium	N001	3.6	ug/L		F	0.05		valid	C	STD
GS59	SL	2/27/2017	17048424	7440-61-1	Uranium	N002	3.5	ug/L		F	0.05		valid	C	STD
GS59	SL	2/27/2017	17048424	7440-66-6	Zinc	0001	4.5	ug/L	U	F	4.5		valid	C	STD

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P416589	WL	2/9/2017	17028266	71-55-6	1,1,1-Trichloroethane	N001	0.16	ug/L	U	F	0.16		FQJ	G	STD
P416589	WL	2/9/2017	17028266	79-34-5	1,1,2,2-Tetrachloroethane	N001	0.21	ug/L	U	F	0.21		FQJ	G	STD
P416589	WL	2/9/2017	17028266	79-00-5	1,1,2-Trichloroethane	N001	0.27	ug/L	U	F	0.27		FQJ	G	STD
P416589	WL	2/9/2017	17028266	75-35-4	1,1-Dichloroethene	N001	0.23	ug/L	U	F	0.23		FQJ	G	STD
P416589	WL	2/9/2017	17028266	120-82-1	1,2,4-Trichlorobenzene	N001	0.21	ug/L	U	F	0.21		FQJ	G	STD
P416589	WL	2/9/2017	17028266	96-12-8	1,2-Dibromo-3-chloropropane	N001	0.47	ug/L	U	F	0.47		FQJ	G	STD
P416589	WL	2/9/2017	17028266	106-93-4	1,2-Dibromoethane	N001	0.18	ug/L	U	F	0.18		FQJ	G	STD
P416589	WL	2/9/2017	17028266	95-50-1	1,2-Dichlorobenzene	N001	0.15	ug/L	U	F	0.15		FQJ	G	STD
P416589	WL	2/9/2017	17028266	107-06-2	1,2-Dichloroethane	N001	0.13	ug/L	U	F	0.13		FQJ	G	STD
P416589	WL	2/9/2017	17028266	78-87-5	1,2-Dichloropropane	N001	0.18	ug/L	U	F	0.18		FQJ	G	STD
P416589	WL	2/9/2017	17028266	541-73-1	1,3-Dichlorobenzene	N001	0.13	ug/L	U	F	0.13		FQJ	G	STD
P416589	WL	2/9/2017	17028266	106-46-7	1,4-Dichlorobenzene	N001	0.16	ug/L	U	F	0.16		FQ	G	STD
P416589	WL	2/9/2017	17028266	105-67-9	2, 4-Dimethylphenol	N001	0.55	ug/L	U	F	0.55		FQJ	G	STD
P416589	WL	2/9/2017	17028266	95-95-4	2,4,5-Trichlorophenol	N001	0.43	ug/L	U	F	0.43		FQJ	G	STD
P416589	WL	2/9/2017	17028266	88-06-2	2,4,6-Trichlorophenol	N001	0.28	ug/L	U	F	0.28		FQJ	G	STD
P416589	WL	2/9/2017	17028266	120-83-2	2,4-Dichlorophenol	N001	0.61	ug/L	U	F	0.61		FQJ	G	STD
P416589	WL	2/9/2017	17028266	51-28-5	2,4-Dinitrophenol	N001	9.5	ug/L	U	F	9.5		FQJ	G	STD
P416589	WL	2/9/2017	17028266	121-14-2	2,4-Dinitrotoluene	N001	1.6	ug/L	U	F	1.6		FQJ	G	STD
P416589	WL	2/9/2017	17028266	606-20-2	2,6-Dinitrotoluene	N001	1.8	ug/L	U	F	1.8		FQJ	G	STD
P416589	WL	2/9/2017	17028266	91-58-7	2-Chloronaphthalene	N001	0.25	ug/L	U	F	0.25		FQJ	G	STD
P416589	WL	2/9/2017	17028266	95-57-8	2-Chlorophenol	N001	1.9	ug/L	U	F	1.9		FQJ	G	STD
P416589	WL	2/9/2017	17028266	91-94-1	3,3'-Dichlorobenzidine	N001	1.9	ug/L	U	F	1.9		FQJ	G	STD
P416589	WL	2/9/2017	17028266	534-52-1	4,6-Dinitro-2-methyl phenol	N001	3.8	ug/L	U	F	3.8		FQJ	G	STD
P416589	WL	2/9/2017	17028266	59-50-7	4-Chloro-3-methylphenol	N001	2.3	ug/L	U	F	2.3		FQJ	G	STD
P416589	WL	2/9/2017	17028266	100-02-7	4-Nitrophenol	N001	1.2	ug/L	U	F	1.2		FQJ	G	STD
P416589	WL	2/9/2017	17028266	83-32-9	Acenaphthene	N001	0.27	ug/L	U	F	0.27		FQJ	G	STD
P416589	WL	2/9/2017	17028266	120-12-7	Anthracene	N001	0.4	ug/L	U	F	0.4		FQJ	G	STD
P416589	WL	2/9/2017	17028266	7440-38-2	Arsenic	0001	4.4	ug/L	U	F	4.4		FQJ	G	STD
P416589	WL	2/9/2017	17028266	56-55-3	Benz(a)anthracene	N001	0.33	ug/L	U	F	0.33		FQJ	G	STD
P416589	WL	2/9/2017	17028266	71-43-2	Benzene	N001	0.16	ug/L	U	F	0.16		FQJ	G	STD
P416589	WL	2/9/2017	17028266	50-32-8	Benzo(a)pyrene	N001	0.29	ug/L	U	F	0.29		FQJ	G	STD
P416589	WL	2/9/2017	17028266	205-99-2	Benzo(b)fluoranthene	N001	0.5	ug/L	U	F	0.5		FQJ	G	STD
P416589	WL	2/9/2017	17028266	191-24-2	Benzo(g,h,i)Perylene	N001	0.48	ug/L	U	F	0.48		FQJ	G	STD
P416589	WL	2/9/2017	17028266	207-08-9	Benzo(k)fluoranthene	N001	0.44	ug/L	U	F	0.44		FQJ	G	STD
P416589	WL	2/9/2017	17028266	7440-41-7	Beryllium	0001	0.47	ug/L	U	F	0.47		FQJ	G	STD
P416589	WL	2/9/2017	17028266	111-44-4	Bis(2-chloroethyl) ether	N001	0.39	ug/L	U	F	0.39		FQJ	G	STD
P416589	WL	2/9/2017	17028266	108-60-1	Bis(2-chloroisopropyl) ether	N001	0.27	ug/L	U	F	0.27		FQJ	G	STD
P416589	WL	2/9/2017	17028266	117-81-7	Bis(2-ethylhexyl) phthalate	N001	0.53	ug/L	U	F	0.53		FQJ	G	STD
P416589	WL	2/9/2017	17028266	7440-42-8	Boron	0001	13	ug/L	JB	F	4.4		UFQJ	G	STD
P416589	WL	2/9/2017	17028266	75-27-4	Bromodichloromethane	N001	0.17	ug/L	U	F	0.17		FQJ	G	STD
P416589	WL	2/9/2017	17028266	75-25-2	Bromoform	N001	0.19	ug/L	U	F	0.19		FQJ	G	STD
P416589	WL	2/9/2017	17028266	74-83-9	Bromomethane	N001	0.21	ug/L	U	F	0.21		FQJ	G	STD
P416589	WL	2/9/2017	17028266	85-68-7	Butyl benzyl phthalate	N001	0.95	ug/L	U	F	0.95		FQJ	G	STD
P416589	WL	2/9/2017	17028266	7440-43-9	Cadmium	0001	0.52	ug/L	J	F	0.45		FQJ	G	STD
P416589	WL	2/9/2017	17028266	56-23-5	Carbon tetrachloride	N001	0.19	ug/L	U	F	0.19		FQJ	G	STD
P416589	WL	2/9/2017	17028266	108-90-7	Chlorobenzene	N001	0.17	ug/L	U	F	0.17		FQJ	G	STD
P416589	WL	2/9/2017	17028266	124-48-1	Chlorodibromomethane	N001	0.17	ug/L	U	F	0.17		FQJ	G	STD
P416589	WL	2/9/2017	17028266	67-66-3	Chloroform	N001	0.16	ug/L	U	F	0.16		FQJ	G	STD
P416589	WL	2/9/2017	17028266	74-87-3	Chloromethane	N001	0.3	ug/L	U	F	0.3		FQJ	G	STD
P416589	WL	2/9/2017	17028266	7440-47-3	Chromium	0001	0.7	ug/L	JB	F	0.66		UFQJ	G	STD
P416589	WL	2/9/2017	17028266	218-01-9	Chrysene	N001	0.51	ug/L	U	F	0.51		FQJ	G	STD
P416589	WL	2/9/2017	17028266	156-59-2	cis-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		FQJ	G	STD
P416589	WL	2/9/2017	17028266	7440-50-8	Copper	0001	4.2	ug/L	U	F	4.2		FQJ	G	STD
P416589	WL	2/9/2017	17028266	53-70-3	Dibenz(a,h)anthracene	N001	0.48	ug/L	U	F	0.48		FQJ	G	STD
P416589	WL	2/9/2017	17028266	84-66-2	Diethyl phthalate	N001	0.36	ug/L	U	F	0.36		FQJ	G	STD

Appendix C  
Analytical Results for Water Samples—First Quarter CY 2017

RFLMA Data

LOCATION CODE	LOCATION TYPE	DATE SAMPLED	LAB REQUISITION NUMBER	CAS	ANALYTE	SAMPLE ID	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCERTAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
P416589	WL	2/9/2017	17028266	131-11-3	Dimethyl phthalate	N001	0.2	ug/L	U	F	0.2		FQJ	G	STD
P416589	WL	2/9/2017	17028266	84-74-2	Di-n-butyl phthalate	N001	1.1	ug/L	U	F	1.1		FQJ	G	STD
P416589	WL	2/9/2017	17028266	100-41-4	Ethylbenzene	N001	0.16	ug/L	U	F	0.16		FQJ	G	STD
P416589	WL	2/9/2017	17028266	206-44-0	Fluoranthene	N001	0.19	ug/L	U	F	0.19		FQJ	G	STD
P416589	WL	2/9/2017	17028266	86-73-7	Fluorene	N001	0.29	ug/L	U	F	0.29		FQJ	G	STD
P416589	WL	2/9/2017	17028266	118-74-1	Hexachlorobenzene	N001	0.63	ug/L	U	F	0.63		FQJ	G	STD
P416589	WL	2/9/2017	17028266	87-68-3	Hexachlorobutadiene	N001	0.36	ug/L	U	F	0.36		FQJ	G	STD
P416589	WL	2/9/2017	17028266	77-47-4	Hexachlorocyclopentadiene	N001	9.5	ug/L	U*	F	9.5		FQJ	G	STD
P416589	WL	2/9/2017	17028266	67-72-1	Hexachloroethane	N001	2	ug/L	U	F	2		FQJ	G	STD
P416589	WL	2/9/2017	17028266	193-39-5	Indeno(1,2,3-cd)pyrene	N001	0.62	ug/L	U	F	0.62		FQJ	G	STD
P416589	WL	2/9/2017	17028266	78-59-1	Isophorone	N001	0.2	ug/L	U	F	0.2		FQJ	G	STD
P416589	WL	2/9/2017	17028266	7439-92-1	Lead	0001	2.7	ug/L	U	F	2.7		FQJ	G	STD
P416589	WL	2/9/2017	17028266	7439-97-6	Mercury	0001	0.06	ug/L	J	F	0.027		FQJ	G	STD
P416589	WL	2/9/2017	17028266	75-09-2	Methylene chloride	N001	0.32	ug/L	U	F	0.32		FQJ	G	STD
P416589	WL	2/9/2017	17028266	91-20-3	Naphthalene	N001	0.22	ug/L	U	F	0.22		FQJ	G	STD
P416589	WL	2/9/2017	17028266	7440-02-0	Nickel	0001	4.8	ug/L	J	F	2.6		FQJ	G	STD
P416589	WL	2/9/2017	17028266	98-95-3	Nitrobenzene	N001	0.77	ug/L	U	F	0.77		FQJ	G	STD
P416589	WL	2/9/2017	17028266	621-64-7	N-Nitrosodi-n-propylamine	N001	0.33	ug/L	U	F	0.33		FQJ	G	STD
P416589	WL	2/9/2017	17028266	86-30-6	N-Nitrosodiphenylamine	N001	0.42	ug/L	U	F	0.42		FQJ	G	STD
P416589	WL	2/9/2017	17028266	87-86-5	Pentachlorophenol	N001	19	ug/L	U	F	19		FQJ	G	STD
P416589	WL	2/9/2017	17028266	108-95-2	Phenol	N001	1.9	ug/L	U	F	1.9		FQJ	G	STD
P416589	WL	2/9/2017	17028266	129-00-0	Pyrene	N001	0.35	ug/L	U	F	0.35		FQJ	G	STD
P416589	WL	2/9/2017	17028266	7782-49-2	Selenium	0001	4.9	ug/L	U	F	4.9		FQJ	G	STD
P416589	WL	2/9/2017	17028266	7440-22-4	Silver	0001	1.5	ug/L	J*	F	0.93		UFQJ	G	STD
P416589	WL	2/9/2017	17028266	100-42-5	Styrene	N001	0.17	ug/L	U	F	0.17		FQJ	G	STD
P416589	WL	2/9/2017	17028266	127-18-4	Tetrachloroethene	N001	0.2	ug/L	U	F	0.2		FQJ	G	STD
P416589	WL	2/9/2017	17028266	108-88-3	Toluene	N001	0.17	ug/L	U	F	0.17		FQJ	G	STD
P416589	WL	2/9/2017	17028266	1330-20-7	Total xylenes	N001	0.19	ug/L	U	F	0.19		FQJ	G	STD
P416589	WL	2/9/2017	17028266	156-60-5	trans-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		FQJ	G	STD
P416589	WL	2/9/2017	17028266	10061-02-6	trans-1,3-Dichloropropene	N001	0.19	ug/L	U	F	0.19		FQJ	G	STD
P416589	WL	2/9/2017	17028266	79-01-6	Trichloroethene	N001	0.16	ug/L	U	F	0.16		FQJ	G	STD
P416589	WL	2/9/2017	17028266	7440-61-1	Uranium	0001	1.4	ug/L		F	0.05		FQJ	G	STD
P416589	WL	2/9/2017	17028266	75-01-4	Vinyl chloride	N001	0.1	ug/L	U	F	0.1		FQJ	G	STD
P416589	WL	2/9/2017	17028266	7440-66-6	Zinc	0001	4.5	ug/L	U	F	4.5		FQJ	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	71-55-6	1,1,1-Trichloroethane	N002	0.16	ug/L	U	F	0.16		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	79-34-5	1,1,2,2-Tetrachloroethane	N002	0.21	ug/L	U	F	0.21		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	79-00-5	1,1,2-Trichloroethane	N002	0.27	ug/L	U	F	0.27		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	75-35-4	1,1-Dichloroethene	N002	0.23	ug/L	U	F	0.23		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	120-82-1	1,2,4-Trichlorobenzene	N002	0.21	ug/L	U	F	0.21		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	96-12-8	1,2-Dibromo-3-chloropropane	N002	0.47	ug/L	U	F	0.47		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	106-93-4	1,2-Dibromoethane	N002	0.18	ug/L	U	F	0.18		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	95-50-1	1,2-Dichlorobenzene	N002	0.27	ug/L	J	F	0.15		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	107-06-2	1,2-Dichloroethane	N002	0.13	ug/L	U	F	0.13		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	78-87-5	1,2-Dichloropropane	N002	0.18	ug/L	U	F	0.18		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	541-73-1	1,3-Dichlorobenzene	N002	0.13	ug/L	U	F	0.13		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	106-46-7	1,4-Dichlorobenzene	N002	0.37	ug/L	J	F	0.16		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	7440-38-2	Arsenic	N001	4.4	ug/L	U	F	4.4		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	71-43-2	Benzene	N002	2.2	ug/L		F	0.16		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	7440-41-7	Beryllium	N001	0.47	ug/L	U	F	0.47		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	7440-42-8	Boron	N001	1200	ug/L	B	F	4.4		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	75-27-4	Bromodichloromethane	N002	0.17	ug/L	U	F	0.17		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	75-25-2	Bromoform	N002	0.19	ug/L	U	F	0.19		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	74-83-9	Bromomethane	N002	0.21	ug/L	U	F	0.21		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	7440-43-9	Cadmium	0001	0.45	ug/L	U	F	0.45		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	56-23-5	Carbon tetrachloride	N002	0.19	ug/L	U	F	0.19		valid	G	STD

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LOCATION CODE	LOCATION TYPE	DATE SAMPLED	LAB REQUISITION NUMBER	CAS	ANALYTE	SAMPLE ID	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCERTAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
PLFSEEPINF	TS	1/11/2017	17018231	108-90-7	Chlorobenzene	N002	0.71	ug/L	J	F	0.17		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	124-48-1	Chlorodibromomethane	N002	0.17	ug/L	U	F	0.17		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	67-66-3	Chloroform	N002	0.16	ug/L	U	F	0.16		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	74-87-3	Chloromethane	N002	0.3	ug/L	U	F	0.3		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	7440-47-3	Chromium	N001	1.4	ug/L	J	F	0.66		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	156-59-2	cis-1,2-Dichloroethene	N002	0.15	ug/L	U	F	0.15		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	7440-50-8	Copper	0001	4.2	ug/L	U	F	4.2		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	100-41-4	Ethylbenzene	N002	0.16	ug/L	U	F	0.16		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	87-68-3	Hexachlorobutadiene	N002	0.36	ug/L	U	F	0.36		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	7439-92-1	Lead	0001	2.7	ug/L	U	F	2.7		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	7439-97-6	Mercury	N001	0.027	ug/L	U	F	0.027		J	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	75-09-2	Methylene chloride	N002	0.32	ug/L	U	F	0.32		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	91-20-3	Naphthalene	N002	28	ug/L		F	0.22		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	7440-02-0	Nickel	0001	6.8	ug/L	J	F	2.6		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	7782-49-2	Selenium	N001	4.9	ug/L	U	F	4.9		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	7440-22-4	Silver	0001	0.93	ug/L	U	F	0.93		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	100-42-5	Styrene	N002	0.17	ug/L	U	F	0.17		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	127-18-4	Tetrachloroethene	N002	0.2	ug/L	U	F	0.2		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	108-88-3	Toluene	N002	0.21	ug/L	J	F	0.17		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	1330-20-7	Total xylenes	N002	1.3	ug/L		F	0.19		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	156-60-5	trans-1,2-Dichloroethene	N002	0.15	ug/L	U	F	0.15		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	10061-02-6	trans-1,3-Dichloropropene	N002	0.19	ug/L	U	F	0.19		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	79-01-6	Trichloroethene	N002	0.16	ug/L	U	F	0.16		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	7440-61-1	Uranium	N001	0.078	ug/L	J	F	0.05		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	7440-61-1	Uranium	N002	0.062	ug/L	J	F	0.05		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	75-01-4	Vinyl chloride	N002	0.48	ug/L	J	F	0.1		valid	G	STD
PLFSEEPINF	TS	1/11/2017	17018231	7440-66-6	Zinc	0001	69	ug/L		F	4.5		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	71-55-6	1,1,1-Trichloroethane	N001	0.16	ug/L	U	F	0.16		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	79-34-5	1,1,2,2-Tetrachloroethane	N001	0.21	ug/L	U	F	0.21		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	79-00-5	1,1,2-Trichloroethane	N001	0.27	ug/L	U	F	0.27		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	75-35-4	1,1-Dichloroethene	N001	0.23	ug/L	U	F	0.23		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	120-82-1	1,2,4-Trichlorobenzene	N001	0.21	ug/L	U	F	0.21		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	96-12-8	1,2-Dibromo-3-chloropropane	N001	0.47	ug/L	U	F	0.47		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	106-93-4	1,2-Dibromoethane	N001	0.18	ug/L	U	F	0.18		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	95-50-1	1,2-Dichlorobenzene	N001	0.15	ug/L	U	F	0.15		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	107-06-2	1,2-Dichloroethane	N001	0.13	ug/L	U	F	0.13		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	78-87-5	1,2-Dichloropropane	N001	0.18	ug/L	U	F	0.18		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	541-73-1	1,3-Dichlorobenzene	N001	0.13	ug/L	U	F	0.13		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	106-46-7	1,4-Dichlorobenzene	N001	0.19	ug/L	J	F	0.16		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	105-67-9	2, 4-Dimethylphenol	N001	0.55	ug/L	U	F	0.55		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	95-95-4	2,4,5-Trichlorophenol	N001	0.43	ug/L	U	F	0.43		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	88-06-2	2,4,6-Trichlorophenol	N001	0.28	ug/L	U	F	0.28		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	120-83-2	2,4-Dichlorophenol	N001	0.61	ug/L	U	F	0.61		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	51-28-5	2,4-Dinitrophenol	N001	9.5	ug/L	U	F	9.5		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	121-14-2	2,4-Dinitrotoluene	N001	1.6	ug/L	U	F	1.6		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	606-20-2	2,6-Dinitrotoluene	N001	1.8	ug/L	U	F	1.8		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	91-58-7	2-Chloronaphthalene	N001	0.25	ug/L	U	F	0.25		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	95-57-8	2-Chlorophenol	N001	1.9	ug/L	U	F	1.9		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	91-94-1	3,3'-Dichlorobenzidine	N001	1.9	ug/L	U	F	1.9		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	534-52-1	4,6-Dinitro-2-methyl phenol	N001	3.8	ug/L	U	F	3.8		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	59-50-7	4-Chloro-3-methylphenol	N001	2.3	ug/L	U	F	2.3		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	100-02-7	4-Nitrophenol	N001	1.2	ug/L	U	F	1.2		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	83-32-9	Acenaphthene	N001	2.1	ug/L	J	F	0.27		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	120-12-7	Anthracene	N001	0.4	ug/L	U	F	0.4		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	7440-38-2	Arsenic	N001	13	ug/L	J	F	4.4		U	G	STD

Appendix C  
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LOCATION CODE	LOCATION TYPE	DATE SAMPLED	LAB REQUISITION NUMBER	CAS	ANALYTE	SAMPLE ID	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCERTAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
PLFSYSEFF	TS	1/11/2017	17018231	56-55-3	Benz(a)anthracene	N001	0.33	ug/L	U	F	0.33		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	71-43-2	Benzene	N001	1	ug/L		F	0.16		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	50-32-8	Benzo(a)pyrene	N001	0.3	ug/L	U	F	0.3		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	205-99-2	Benzo(b)fluoranthene	N001	0.51	ug/L	U	F	0.51		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	191-24-2	Benzo(g,h,i)Perylene	N001	0.48	ug/L	U	F	0.48		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	207-08-9	Benzo(k)fluoranthene	N001	0.44	ug/L	U	F	0.44		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	7440-41-7	Beryllium	N001	0.47	ug/L	U	F	0.47		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	111-44-4	Bis(2-chloroethyl) ether	N001	0.39	ug/L	U	F	0.39		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	108-60-1	Bis(2-chloroisopropyl) ether	N001	0.27	ug/L	U	F	0.27		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	117-81-7	Bis(2-ethylhexyl) phthalate	N001	0.53	ug/L	U	F	0.53		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	7440-42-8	Boron	N001	950	ug/L	B	F	4.4		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	75-27-4	Bromodichloromethane	N001	0.17	ug/L	U	F	0.17		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	75-25-2	Bromoform	N001	0.19	ug/L	U	F	0.19		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	74-83-9	Bromomethane	N001	0.21	ug/L	U	F	0.21		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	85-68-7	Butyl benzyl phthalate	N001	0.95	ug/L	U	F	0.95		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	7440-43-9	Cadmium	0001	0.45	ug/L	U	F	0.45		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	56-23-5	Carbon tetrachloride	N001	0.19	ug/L	U	F	0.19		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	108-90-7	Chlorobenzene	N001	0.37	ug/L	J	F	0.17		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	124-48-1	Chlorodibromomethane	N001	0.17	ug/L	U	F	0.17		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	67-66-3	Chloroform	N001	0.16	ug/L	U	F	0.16		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	74-87-3	Chloromethane	N001	0.3	ug/L	U	F	0.3		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	7440-47-3	Chromium	N001	1.4	ug/L	J	F	0.66		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	218-01-9	Chrysene	N001	0.52	ug/L	U	F	0.52		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	156-59-2	cis-1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	7440-50-8	Copper	0001	4.2	ug/L	U	F	4.2		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	53-70-3	Dibenz(a,h)anthracene	N001	0.49	ug/L	U	F	0.49		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	84-66-2	Diethyl phthalate	N001	0.36	ug/L	U	F	0.36		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	131-11-3	Dimethyl phthalate	N001	0.2	ug/L	U	F	0.2		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	84-74-2	Di-n-butyl phthalate	N001	1.1	ug/L	U	F	1.1		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	100-41-4	Ethylbenzene	N001	0.16	ug/L	U	F	0.16		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	206-44-0	Fluoranthene	N001	0.42	ug/L	J	F	0.19		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	86-73-7	Fluorene	N001	1.6	ug/L	J	F	0.3		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	118-74-1	Hexachlorobenzene	N001	0.63	ug/L	U	F	0.63		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	87-68-3	Hexachlorobutadiene	N001	0.36	ug/L	U	F	0.36		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	77-47-4	Hexachlorocyclopentadiene	N001	9.5	ug/L	U	F	9.5		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	67-72-1	Hexachloroethane	N001	2	ug/L	U	F	2		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	193-39-5	Indeno(1,2,3-cd)pyrene	N001	0.62	ug/L	U	F	0.62		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	78-59-1	Isophorone	N001	0.2	ug/L	U	F	0.2		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	7439-92-1	Lead	0001	2.7	ug/L	U	F	2.7		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	7439-97-6	Mercury	N001	0.027	ug/L	U	F	0.027		J	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	75-09-2	Methylene chloride	N001	0.32	ug/L	U	F	0.32		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	91-20-3	Naphthalene	N001	12	ug/L		F	0.22		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	7440-02-0	Nickel	0001	6.6	ug/L	J	F	2.6		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	98-95-3	Nitrobenzene	N001	0.77	ug/L	U	F	0.77		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	621-64-7	N-Nitrosodi-n-propylamine	N001	0.33	ug/L	U	F	0.33		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	86-30-6	N-Nitrosodiphenylamine	N001	0.42	ug/L	U	F	0.42		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	87-86-5	Pentachlorophenol	N001	19	ug/L	U	F	19		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	108-95-2	Phenol	N001	1.9	ug/L	U	F	1.9		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	129-00-0	Pyrene	N001	0.35	ug/L	U	F	0.35		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	7782-49-2	Selenium	N001	4.9	ug/L	U	F	4.9		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	7440-22-4	Silver	0001	0.93	ug/L	U	F	0.93		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	100-42-5	Styrene	N001	0.17	ug/L	U	F	0.17		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	127-18-4	Tetrachloroethene	N001	0.2	ug/L	U	F	0.2		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	108-88-3	Toluene	N001	0.17	ug/L	U	F	0.17		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	1330-20-7	Total xylenes	N001	0.44	ug/L	J	F	0.19		valid	G	STD

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PLFSYSEFF	TS	1/11/2017	17018231	156-60-5	trans -1,2-Dichloroethene	N001	0.15	ug/L	U	F	0.15		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	10061-02-6	trans -1,3-Dichloropropene	N001	0.19	ug/L	U	F	0.19		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	79-01-6	Trichloroethene	N001	0.16	ug/L	U	F	0.16		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	7440-61-1	Uranium	N001	0.67	ug/L	J	F	0.05		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	7440-61-1	Uranium	N002	0.65	ug/L		F	0.05		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	75-01-4	Vinyl chloride	N001	0.1	ug/L	U	F	0.1		valid	G	STD
PLFSYSEFF	TS	1/11/2017	17018231	7440-66-6	Zinc	0001	40	ug/L		F	4.5		valid	G	STD
PLFSYSEFF	TS	2/6/2017	17028270	7440-38-2	Arsenic	N001	11	ug/L	J	F	4.4		valid	G	STD
PLFSYSEFF	TS	2/6/2017	17028270	7440-41-7	Beryllium	N001	0.47	ug/L	U	F	0.47		valid	G	STD
PLFSYSEFF	TS	2/6/2017	17028270	7440-42-8	Boron	N001	1000	ug/L	B	F	4.4		valid	G	STD
PLFSYSEFF	TS	2/6/2017	17028270	7440-43-9	Cadmium	0001	0.45	ug/L	U	F	0.45		valid	G	STD
PLFSYSEFF	TS	2/6/2017	17028270	7440-47-3	Chromium	N001	0.66	ug/L	U	F	0.66		valid	G	STD
PLFSYSEFF	TS	2/6/2017	17028270	7440-50-8	Copper	0001	4.2	ug/L	U	F	4.2		valid	G	STD
PLFSYSEFF	TS	2/6/2017	17028270	7439-92-1	Lead	0001	2.7	ug/L	U	F	2.7		valid	G	STD
PLFSYSEFF	TS	2/6/2017	17028270	7439-97-6	Mercury	N001	0.027	ug/L	U	F	0.027		J	G	STD
PLFSYSEFF	TS	2/6/2017	17028270	7440-02-0	Nickel	0001	7.6	ug/L	J	F	2.6		valid	G	STD
PLFSYSEFF	TS	2/6/2017	17028270	7782-49-2	Selenium	N001	4.9	ug/L	U	F	4.9		valid	G	STD
PLFSYSEFF	TS	2/6/2017	17028270	7440-22-4	Silver	0001	0.93	ug/L	U*	F	0.93		valid	G	STD
PLFSYSEFF	TS	2/6/2017	17028270	7440-61-1	Uranium	N001	0.61	ug/L	J	F	0.05		valid	G	STD
PLFSYSEFF	TS	2/6/2017	17028270	7440-66-6	Zinc	0001	38	ug/L		F	4.5		valid	G	STD
PLFSYSEFF	TS	3/13/2017	17038334	7440-38-2	Arsenic	N001	4.43	ug/L	B	F	1.7		valid	G	GEN
SPIN	TS	1/12/2017	17018236	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	580	mg/L		F	1.9		valid	G	STD
SPIN	TS	1/12/2017	17018236	7440-61-1	Uranium	N001	70	ug/L		F	0.05		valid	G	STD
SPIN	TS	1/25/2017	17018252	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	630	mg/L		F	1.9		valid	G	STD
SPIN	TS	1/25/2017	17018252	7440-61-1	Uranium	N001	71	ug/L		F	0.05		valid	G	STD
SPIN	TS	2/6/2017	17028269	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	620	mg/L		F	1.9		valid	G	STD
SPIN	TS	2/6/2017	17028269	7440-61-1	Uranium	N001	74	ug/L		F	0.05		valid	G	STD
SPIN	TS	2/22/2017	17028299	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	580	mg/L		F	1.9		valid	G	STD
SPIN	TS	2/22/2017	17028299	7440-61-1	Uranium	N001	68	ug/L		F	0.05		valid	G	STD
SPIN	TS	3/9/2017	17038323	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	700	mg/L		F	1.9		valid	G	STD
SPIN	TS	3/9/2017	17038323	7440-61-1	Uranium	N001	77	ug/L		F	0.05		valid	G	STD
SPIN	TS	3/20/2017	17038344	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	620	mg/L		F	1.9		valid	G	STD
SPIN	TS	3/20/2017	17038344	7440-61-1	Uranium	N001	72	ug/L		F	0.05		valid	G	STD
SPOUT	TS	1/12/2017	17018236	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	0.019	mg/L	U	F	0.019		valid	G	STD
SPOUT	TS	1/12/2017	17018236	7440-61-1	Uranium	N001	76	ug/L		F	0.05		valid	G	STD
SPOUT	TS	1/25/2017	17018252	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	0.019	mg/L	U	F	0.019		valid	G	STD
SPOUT	TS	1/25/2017	17018252	7440-61-1	Uranium	N001	62	ug/L		F	0.05		valid	G	STD
SPOUT	TS	2/6/2017	17028269	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	0.019	mg/L	U	F	0.019		valid	G	STD
SPOUT	TS	2/6/2017	17028269	7440-61-1	Uranium	N001	34	ug/L		F	0.05		valid	G	STD
SPOUT	TS	2/22/2017	17028299	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	0.084	mg/L		F	0.019		valid	G	STD
SPOUT	TS	2/22/2017	17028299	7440-61-1	Uranium	N001	61	ug/L		F	0.05		valid	G	STD
SPOUT	TS	3/9/2017	17038323	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	0.16	mg/L		F	0.019		valid	G	STD
SPOUT	TS	3/9/2017	17038323	7440-61-1	Uranium	N001	48	ug/L		F	0.05		valid	G	STD
SPOUT	TS	3/20/2017	17038344	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	0.019	mg/L	U	F	0.019		valid	G	STD
SPOUT	TS	3/20/2017	17038344	7440-61-1	Uranium	N001	47	ug/L		F	0.05		valid	G	STD
SW093	SL	1/12/2017	17048387	AM-241	Americium-241	N002	0.0103	pCi/L	U	F	0.0643	0.0261	valid	C	GEN
SW093	SL	1/12/2017	17048387	7440-41-7	Beryllium	N002	1	ug/L	U	F	1		valid	C	GEN
SW093	SL	1/12/2017	17048387	7440-43-9	Cadmium	0002	0.3	ug/L	U	F	0.3		valid	C	GEN
SW093	SL	1/12/2017	17048387	7440-47-3	Chromium	N002	1	ug/L	U	F	1		valid	C	GEN
SW093	SL	1/12/2017	17048387	HARDNESS	Hardness	N002	531	mg/L		F	1.25		valid	C	GEN
SW093	SL	1/12/2017	17048387	PU-239,240	Plutonium-239, 240	N002	0.0177	pCi/L	U	F	0.0242	0.0131	valid	C	GEN
SW093	SL	1/12/2017	17048387	7440-22-4	Silver	0002	0.4	ug/L	U	F	0.4		valid	C	GEN
SW093	SL	1/12/2017	17048387	7440-61-1	Uranium	N002	8.86	ug/L		F	0.067		valid	C	GEN
WALPOC	SL	1/3/2017	17018258	AM-241	Americium-241	N002	-0.00386	pCi/L	U	F	0.0181	0.00976	valid	C	GEN
WALPOC	SL	1/3/2017	17018220	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	0.0499	mg/L	J	F	0.017		valid	G	GEN

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WALPOC	SL	1/3/2017	17018258	PU-239,240	Plutonium-239, 240	N002	0.0114	pCi/L	U	F	0.0245	0.0154	valid	C	GEN
WALPOC	SL	1/3/2017	17018258	7440-61-1	Uranium	N002	18.5	ug/L		F	0.067		valid	C	GEN
WALPOC	SL	1/30/2017	17038334	AM-241	Americium-241	N002	-0.0052	pCi/L	U	F	0.0454	0.0125	valid	C	GEN
WALPOC	SL	1/30/2017	17018258	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	0.0852	mg/L		F	0.017		valid	G	GEN
WALPOC	SL	1/30/2017	17038334	PU-239,240	Plutonium-239, 240	N002	0.00285	pCi/L	U	F	0.0167	0.00969	valid	C	GEN
WALPOC	SL	1/30/2017	17038334	7440-61-1	Uranium	N002	21.9	ug/L		F	0.067		valid	C	GEN
WALPOC	SL	3/13/2017	17048396	AM-241	Americium-241	N002	-0.00669	pCi/L	U	F	0.0418	0.0131	valid	C	GEN
WALPOC	SL	3/13/2017	17038334	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	0.211	mg/L		F	0.017		valid	G	GEN
WALPOC	SL	3/13/2017	17048396	PU-239,240	Plutonium-239, 240	N002	-0.00366	pCi/L	U	F	0.0275	0.0113	valid	C	GEN
WALPOC	SL	3/13/2017	17048396	7440-61-1	Uranium	N002	14.1	ug/L		F	0.067		valid	C	GEN
WOMPOC	SL	1/3/2017	17028259	AM-241	Americium-241	N001	0.00614	pCi/L	U	F	0.0217	0.0135	valid	C	GEN
WOMPOC	SL	1/3/2017	17028259	PU-239,240	Plutonium-239, 240	N001	1.2E-09	pCi/L	U	F	0.0216	0.00977	valid	C	GEN
WOMPOC	SL	1/3/2017	17028259	7440-61-1	Uranium	N001	3.5	ug/L		F	0.067		valid	C	GEN
WOMPOC	SL	1/31/2017	17038306	AM-241	Americium-241	N001	0	pCi/L	U	F	0.0308	0.00855	valid	C	GEN
WOMPOC	SL	1/31/2017	17038306	PU-239,240	Plutonium-239, 240	N001	-0.00338	pCi/L	U	F	0.0253	0.0132	valid	C	GEN
WOMPOC	SL	1/31/2017	17038306	7440-61-1	Uranium	N001	4.06	ug/L		F	0.067		valid	C	GEN
WOMPOC	SL	3/1/2017	17038378	AM-241	Americium-241	N001	0.00402	pCi/L	U	F	0.0234	0.0151	valid	C	GEN
WOMPOC	SL	3/1/2017	17038378	PU-239,240	Plutonium-239, 240	N001	0.00594	pCi/L	U	F	0.0139	0.00841	valid	C	GEN
WOMPOC	SL	3/1/2017	17038378	7440-61-1	Uranium	N001	4.15	ug/L		F	0.067		valid	C	GEN
WOMPOC	SL	3/27/2017	17048387	AM-241	Americium-241	N001	-0.00104	pCi/L	U	F	0.0195	0.0079	valid	C	GEN
WOMPOC	SL	3/27/2017	17048387	PU-239,240	Plutonium-239, 240	N001	0.00741	pCi/L	U	F	0.0186	0.00841	valid	C	GEN
WOMPOC	SL	3/27/2017	17048387	7440-61-1	Uranium	N001	3.89	ug/L		F	0.067		J	C	GEN

## EXPLANATION

### SAMPLE\_ID

N00x = Sample was not filtered.

000x = Sample was filtered.

### WATER\_UNIT\_OF\_MEASURE

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 compound (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

Appendix C  
Information for RFLMA Composite Samples with Unavailable Data

Location	Sample Dates*	Status
SW027	1/17/2017 15:19 - 5/23/2017 14:59	Results Pending

**Abbreviation:**

\* Analytical results are reported with the start date of the composite sampling period

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