

**Rocky Flats, Colorado, Site**

**Surface Water Configuration  
Adaptive Management Plan  
Quarterly Report**

**First Quarter Calendar Year 2015**

**April 2015**



U.S. DEPARTMENT OF  
**ENERGY**

Legacy  
Management

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## Abbreviations

AMP	Adaptive Management Plan
CY	calendar year
DOE	U.S. Department of Energy
EA	<i>Rocky Flats Surface Water Configuration Environmental Assessment</i>
POC	Point of Compliance
RFLMA	<i>Rocky Flats Legacy Management Agreement</i>
Site	Rocky Flats Site

## 1.0 Introduction

The Proposed Action assessed in the *Rocky Flats Surface Water Configuration Environmental Assessment* (EA) is to breach the remaining retention pond dams at the Rocky Flats, Colorado, Site (the Site) to allow surface water flow to return to the approximate conditions that prevailed before the retention ponds were constructed. As stated in the EA, based on extensive water quality monitoring data and a thorough environmental review, the U.S. Department of Energy (DOE) Office of Legacy Management has determined that the Proposed Action does not present a significant impact on the environment under the National Environmental Policy Act evaluation criteria.

Some members of the public have commented that additional information must be collected prior to implementing the final steps of the Proposed Action to help reduce uncertainty as to whether completion of the Proposed Action will adversely impact the quality of water flowing from the Site into downstream communities. In response to the requests, DOE initiated a cooperative effort with neighboring community representatives and other interested stakeholders to develop and implement an Adaptive Management Plan (AMP) to provide additional information. The AMP group is composed of these representatives and stakeholders. The resulting AMP reflects DOE's long-term commitment to implementing the activities that the AMP describes.

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

This AMP Quarterly Report for the first quarter of calendar year (CY) 2015 is provided in accordance with Section 5.0, "Reporting," in the AMP. Section 3.0 provides the first quarter data summary tables, which include all validated analytical data available as of March 31, 2015. Subsequent AMP reports will include data that were not tabulated in previous AMP reports.

AMP monitoring objectives, locations, and sampling criteria are itemized in Table 2 of the AMP. Additional field implementation for the AMP monitoring objectives can be found in the *Rocky Flats Site Operations Guide*, Appendix I, "Rocky Flats Site, Colorado, Additional Field Implementation Detail for Selected Monitoring Objectives." Analytical data for the following AMP monitoring objectives are included in this report:

- Pre-discharge sampling (Item 1, AMP Table 2)
- Targeted groundwater monitoring (Item 2, AMP Table 2)
- Monitoring to evaluate flow-through operations at Terminal Ponds A-4, B-5, and C-2 (Item 4, AMP Table 2)
- Storm-event monitoring (Item 5, AMP Table 2)
- Continuous flow-paced composite sampling to evaluate uranium transport (Item 6, AMP Table 2)

- Grab sampling for uranium in North and South Walnut Creeks (Item 7, AMP Table 2)
- Grab sampling for nitrate + nitrite as N in Walnut Creek (Item 8, AMP Table 2)

## **2.0 AMP Highlights: First Quarter CY 2015**

- Six informal emails were transmitted to AMP participants providing notification that composite samples from the downstream-most Points of Compliance (POCs) had been retrieved from the field (WOMPOC—Woman Creek at COU boundary and WALPOC—Walnut Creek at COU boundary).
- Three informal emails were transmitted to AMP participants providing notification of individual analytical results from POCs and/or Points of Evaluation that were above the applicable *Rocky Flats Legacy Management Agreement* (RFLMA) surface-water standard (RFLMA Attachment 2, Table 1).
- During the quarter, 136 samples were collected in support of AMP monitoring objectives.

## **3.0 Analytical Data: First Quarter CY 2015**

Table 1, “Analytical Results for Water Samples,” is available at the end of this report.

Table 2, “Water Sampling Events: First Quarter CY 2015,” is available at the end of this report.









Table 1. Analytical Results for Water Samples

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
A1EFF	SL	12/15/2014	14126673	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	20	mg/L		F	0.038		valid	G	STD
A1EFF	SL	12/15/2014	14126673	07440-61-1	Uranium	N001	21	ug/L		F	0.095		valid	G	STD
A1EFF	SL	1/8/2015	15016723	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	19	mg/L		F	0.038		valid	G	STD
A1EFF	SL	1/8/2015	15016723	07440-61-1	Uranium	N001	15	ug/L		F	0.05		valid	G	STD
A1EFF	SL	1/22/2015	15016747	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	21	mg/L		F	0.095		valid	G	STD
A1EFF	SL	1/22/2015	15016747	07440-61-1	Uranium	N001	15	ug/L		F	0.05		valid	G	STD
A1EFF	SL	2/3/2015	15026768	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	25	mg/L		F	0.095		valid	G	STD
A1EFF	SL	2/3/2015	15026768	07440-61-1	Uranium	N001	17	ug/L		F	0.05		valid	G	STD
A1EFF	SL	2/19/2015	15026807	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	13	mg/L		F	0.038		valid	G	STD
A1EFF	SL	2/19/2015	15026807	07440-61-1	Uranium	N001	9.6	ug/L		F	0.05		valid	G	STD
A2EFF	SL	12/1/2014	14126650	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	18	mg/L		F	0.095		valid	G	STD
A2EFF	SL	12/1/2014	14126650	07440-61-1	Uranium	N001	33	ug/L		F	0.05		valid	G	STD
A2EFF	SL	12/15/2014	14126673	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	15	mg/L		F	0.038		valid	G	STD
A2EFF	SL	12/15/2014	14126673	07440-61-1	Uranium	N001	31	ug/L		F	0.05		valid	G	STD
A2EFF	SL	1/8/2015	15016723	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	15	mg/L		F	0.038		valid	G	STD
A2EFF	SL	1/8/2015	15016723	07440-61-1	Uranium	N001	21	ug/L		F	0.05		valid	G	STD
A2EFF	SL	1/22/2015	15016747	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	17	mg/L		F	0.095		J	G	STD
A2EFF	SL	1/22/2015	15016747	07440-61-1	Uranium	N001	27	ug/L		F	0.05		valid	G	STD
A2EFF	SL	2/3/2015	15026768	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	21	mg/L		F	0.095		valid	G	STD
A2EFF	SL	2/3/2015	15026768	07440-61-1	Uranium	N001	24	ug/L		F	0.05		valid	G	STD
A2EFF	SL	2/19/2015	15026807	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	15	mg/L		F	0.038		valid	G	STD
A2EFF	SL	2/19/2015	15026807	07440-61-1	Uranium	N001	15	ug/L		F	0.05		valid	G	STD
A3EFF	SL	12/1/2014	14126650	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	7.5	mg/L		F	0.019		valid	G	STD
A3EFF	SL	12/1/2014	14126650	07440-61-1	Uranium	N001	30	ug/L		F	0.05		valid	G	STD
A3EFF	SL	12/15/2014	14126673	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	6.3	mg/L		F	0.019		valid	G	STD
A3EFF	SL	12/15/2014	14126673	07440-61-1	Uranium	N001	31	ug/L		F	0.05		valid	G	STD
A3EFF	SL	1/8/2015	15016723	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	13	mg/L		F	0.038		valid	G	STD
A3EFF	SL	1/8/2015	15016723	07440-61-1	Uranium	N001	23	ug/L		F	0.05		valid	G	STD
A3EFF	SL	1/22/2015	15016747	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	11	mg/L		F	0.038		J	G	STD
A3EFF	SL	1/22/2015	15016747	07440-61-1	Uranium	N001	28	ug/L		F	0.05		valid	G	STD
A3EFF	SL	2/3/2015	15026768	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	9.4	mg/L		F	0.038		valid	G	STD
A3EFF	SL	2/3/2015	15026768	07440-61-1	Uranium	N001	30	ug/L		F	0.05		valid	G	STD
A3EFF	SL	2/19/2015	15026807	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	18	mg/L		F	0.038		valid	G	STD
A3EFF	SL	2/19/2015	15026807	07440-61-1	Uranium	N001	23	ug/L		F	0.05		valid	G	STD
A4 POND	SL	12/1/2014	14126650	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	0.019	mg/L	U	F	0.019		valid	G	STD
A4 POND	SL	12/1/2014	14126650	07440-61-1	Uranium	N001	7.1	ug/L		F	0.05		valid	G	STD
A4 POND	SL	12/15/2014	14126673	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	0.019	mg/L	U	F	0.019		valid	G	STD
A4 POND	SL	12/15/2014	14126673	07440-61-1	Uranium	N001	9.5	ug/L		F	0.05		valid	G	STD
A4 POND	SL	1/8/2015	15016723	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	3.2	mg/L		F	0.019		valid	G	STD
A4 POND	SL	1/8/2015	15016723	07440-61-1	Uranium	N001	9.8	ug/L		F	0.05		valid	G	STD
A4 POND	SL	1/22/2015	15016747	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	0.019	mg/L	U	F	0.019		J	G	STD
A4 POND	SL	1/22/2015	15016747	07440-61-1	Uranium	N001	4.8	ug/L		F	0.05		valid	G	STD
A4 POND	SL	2/3/2015	15026768	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	2.5	mg/L		F	0.019		valid	G	STD
A4 POND	SL	2/3/2015	15026768	07440-61-1	Uranium	N001	17	ug/L		F	0.05		valid	G	STD
A4 POND	SL	2/19/2015	15026807	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	2.6	mg/L		F	0.019		valid	G	STD
A4 POND	SL	2/19/2015	15026807	07440-61-1	Uranium	N001	18	ug/L		F	0.05		valid	G	STD
B3OUTFLOW	SL	12/1/2014	14126650	07440-61-1	Uranium	N001	15	ug/L		F	0.05		valid	G	STD
B3OUTFLOW	SL	12/15/2014	14126673	07440-61-1	Uranium	N001	14	ug/L		F	0.05		valid	G	STD
B3OUTFLOW	SL	1/8/2015	15016723	07440-61-1	Uranium	N001	18	ug/L		F	0.05		valid	G	STD
B3OUTFLOW	SL	1/22/2015	15016747	07440-61-1	Uranium	N001	14	ug/L		F	0.05		valid	G	STD
B3OUTFLOW	SL	2/3/2015	15026768	07440-61-1	Uranium	N001	15	ug/L		F	0.05		valid	G	STD
B3OUTFLOW	SL	2/19/2015	15026807	07440-61-1	Uranium	N001	16	ug/L		F	0.05		valid	G	STD
B5 POND	SL	12/1/2014	14126650	07440-61-1	Uranium	N001	4.8	ug/L		F	0.05		valid	G	STD
B5 POND	SL	12/15/2014	14126673	07440-61-1	Uranium	N001	6.1	ug/L		F	0.05		valid	G	STD
B5 POND	SL	1/8/2015	15016723	07440-61-1	Uranium	N001	5.6	ug/L		F	0.05		valid	G	STD
B5 POND	SL	1/22/2015	15016747	07440-61-1	Uranium	N001	4.7	ug/L		F	0.05		valid	G	STD
B5 POND	SL	2/3/2015	15026768	07440-61-1	Uranium	N001	6.5	ug/L		F	0.05		valid	G	STD
B5 POND	SL	2/19/2015	15026807	07440-61-1	Uranium	N001	7.6	ug/L		F	0.05		valid	G	STD
B5INFLOW	SL	9/16/2014	14106550	07440-61-1	Uranium	N001	7.54	ug/L		F	0.067		valid	C	GEN
B5INFLOW	SL	10/15/2014	14126651	07440-61-1	Uranium	N001	9.9	ug/L		F	0.05		J	C	STD
B5INFLOW	SL	12/1/2014	14126650	07440-61-1	Uranium	N001	13	ug/L		F	0.05		valid	G	STD
B5INFLOW	SL	12/1/2014	15026810	07440-61-1	Uranium	N002	12	ug/L		F	0.05		valid	G	STD
B5INFLOW	SL	12/15/2014	14126673	07440-61-1	Uranium	N001	12	ug/L		F	0.05		valid	G	STD
B5INFLOW	SL	1/8/2015	15016723	07440-61-1	Uranium	N001	14	ug/L		F	0.05		valid	G	STD
B5INFLOW	SL	1/22/2015	15016747	07440-61-1	Uranium	N001	14	ug/L		F	0.05		valid	G	STD
B5INFLOW	SL	2/3/2015	15026768	07440-61-1	Uranium	N001	13	ug/L		F	0.05		valid	G	STD
B5INFLOW	SL	2/19/2015	15026807	07440-61-1	Uranium	N001	12	ug/L		F	0.05		valid	G	STD
GS01	SL	10/23/2014	14126669	AM-241	Americium-241	N001	0.00803	pCi/L	U	F	0.0212	0.0105	valid	C	GEN
GS01	SL	10/23/2014	14126669	PU-239,240	Plutonium-239, 240	N001	0.00769	pCi/L	U	F	0.0193	0.00713	valid	C	GEN
GS01	SL	10/23/2014	14126669	07440-61-1	Uranium	N001	3.5	ug/L		F	0.067		valid	C	GEN
GS01	SL	12/10/2014	15016722	AM-241	Americium-241	N001	0.00362	pCi/L	U	F	0.0157	0.00976	valid	C	GEN
GS01	SL	12/10/2014	15016722	PU-239,240	Plutonium-239, 240	N001	-0.00116	pCi/L	U	F	0.0182	0.0068	valid	C	GEN
GS01	SL	12/10/2014	15016722	07440-61-1	Uranium	N001	2.92	ug/L		F	0.067		valid	C	GEN
GS01	SL	1/8/2015	15026770	AM-241	Americium-241	N001	0.02082	pCi/L	U	F	0.0148	0.0103	valid	G	GEN
GS01	SL	1/8/2015	15026770	PU-239,240	Plutonium-239, 240	N001	0.00378	pCi/L	U	F	0.019	0.0128	valid	G	GEN
GS01	SL	1/8/2015	15026770	07440-61-1	Uranium	N001	2.63	ug/L		F	0.067		valid	G	GEN
GS03	SL	1/8/2015	15016730	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	0.18	mg/L		F	0.019		valid	G	STD
GS08	SL	10/15/2014	14126674	AM-241	Americium-241	N001	0.0192	pCi/L	U	F	0.0218	0.0148	valid	C	GEN
GS08	SL	10/15/2014	14126674	PU-239,240	Plutonium-239, 240	N001	0.0222	pCi/L	U	F	0.0258	0.014	valid	C	GEN
GS08	SL	10/15/2014	14126674	07440-61-1	Uranium	N001	6.29	ug/L		F	0.067		valid	C	GEN
GS08	SL	12/11/2014	15026781	AM-241	Americium-241	N001	0.0179	pCi/L		F	0.0154	0.0112	valid	C	GEN
GS08	SL	12/11/2014	15026781	PU-239,240	Plutonium-239, 240	N001	0.0153	pCi/L	U	F	0.02	0.0123	valid	C	GEN
GS08	SL	12/11/2014	15026781	07440-61-1	Uranium	N001	6.38	ug/L		F	0.067		valid	C	GEN
GS10	SL	12/1/2014	14126650	07440-61-1	Uranium	N001	16	ug/L		F	0.05		valid	G	STD
GS10	SL	12/15/2014	14126673	07440-61-1	Uranium	N001	17	ug/L		F	0.05		valid	G	STD
GS10	SL	1/8/2015	15016723	07440-61-1	Uranium	N001	20	ug/L		F	0.05		valid	G	STD

Table 1. Analytical Results for Water Samples

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	1/22/2015	15016747	07440-61-1	Uranium	N001	16	ug/L		F	0.05		valid	G	STD
GS10	SL	2/3/2015	15026768	07440-61-1	Uranium	N001	19	ug/L		F	0.05		valid	G	STD
GS10	SL	2/19/2015	15026807	07440-61-1	Uranium	N001	19	ug/L		F	0.05		valid	G	STD
GS11	SL	8/18/2014	15016761	AM-241	Americium-241	N001	0.00883	pCi/L	U	F	0.0137	0.00874	valid	C	GEN
GS11	SL	8/18/2014	15016761	PU-239,240	Plutonium-239, 240	N001	0.00138	pCi/L	U	F	0.0208	0.0112	valid	C	GEN
GS11	SL	8/18/2014	15016761	07440-61-1	Uranium	N001	10.4	ug/L		F	0.067		valid	C	GEN
GS11	SL	12/8/2014	14126663	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	0.019	mg/L	U	F	0.019		valid	G	STD
GS11	SL	1/29/2015	15016761	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	2.48	mg/L		F	0.085		J	G	GEN
GS12	SL	10/30/2014	14126669	07440-61-1	Uranium	N001	27.1	ug/L		F	0.067		valid	C	GEN
GS12	SL	12/10/2014	15016722	07440-61-1	Uranium	N001	29.6	ug/L		F	0.067		valid	C	GEN
GS12	SL	1/8/2015	15026770	07440-61-1	Uranium	N001	28.7	ug/L		F	0.067		valid	G	GEN
GS13	SL	12/11/2014	14126650	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	28	mg/L		F	0.095		valid	G	STD
GS13	SL	12/11/2014	14126650	07440-61-1	Uranium	N001	21	ug/L		F	0.05		valid	G	STD
GS13	SL	12/15/2014	14126673	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	18	mg/L		F	0.038		valid	G	STD
GS13	SL	12/15/2014	14126673	07440-61-1	Uranium	N001	16	ug/L		F	0.05		valid	G	STD
GS13	SL	1/8/2015	15016723	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	19	mg/L		F	0.038		J	G	STD
GS13	SL	1/8/2015	15016723	07440-61-1	Uranium	N001	13	ug/L		F	0.05		valid	G	STD
GS13	SL	1/22/2015	15016747	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	27	mg/L		F	0.095		J	G	STD
GS13	SL	1/22/2015	15016747	07440-61-1	Uranium	N001	16	ug/L		F	0.05		valid	G	STD
GS13	SL	2/3/2015	15026768	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	23	mg/L		F	0.095		valid	G	STD
GS13	SL	2/3/2015	15026768	07440-61-1	Uranium	N001	14	ug/L		F	0.05		valid	G	STD
GS13	SL	2/19/2015	15026807	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	19	mg/L		F	0.038		valid	G	STD
GS13	SL	2/19/2015	15026807	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N002	17	mg/L		D	0.038		valid	G	STD
GS13	SL	2/19/2015	15026807	07440-61-1	Uranium	N001	10	ug/L		F	0.05		valid	G	STD
GS13	SL	2/19/2015	15026807	07440-61-1	Uranium	N002	10	ug/L		D	0.05		valid	G	STD
GS31	SL	10/13/2014	14116639	AM-241	Americium-241	N001	0.00999	pCi/L	U	F	0.0176	0.00725	valid	C	GEN
GS31	SL	10/13/2014	14116639	PU-239,240	Plutonium-239, 240	N001	0.0155	pCi/L	U	F	0.0233	0.0129	valid	C	GEN
GS31	SL	10/13/2014	14116639	07440-61-1	Uranium	N001	7.06	ug/L		F	0.067		valid	C	GEN
GS31	SL	11/24/2014	15016708	AM-241	Americium-241	N001	0.00121	pCi/L	U	F	0.0157	0.0127	valid	C	GEN
GS31	SL	11/24/2014	15016708	PU-239,240	Plutonium-239, 240	N001	0.0145	pCi/L	U	F	0.0162	0.00913	valid	C	GEN
GS31	SL	11/24/2014	15016708	07440-61-1	Uranium	N001	7.45	ug/L		F	0.067		valid	C	GEN
GS31	SL	1/8/2015	15016761	AM-241	Americium-241	N001	0.00889	pCi/L	U	F	0.0122	0.00837	valid	C	GEN
GS31	SL	1/8/2015	15016761	PU-239,240	Plutonium-239, 240	N001	0.00733	pCi/L	U	F	0.0156	0.00848	valid	C	GEN
GS31	SL	1/8/2015	15016761	07440-61-1	Uranium	N001	7.75	ug/L		F	0.067		valid	C	GEN
SPOUT	TS	12/11/2014	14126650	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N002	9.9	mg/L		F	0.019		valid	G	STD
SPOUT	TS	12/11/2014	14126650	07440-61-1	Uranium	N002	36	ug/L		F	0.05		valid	G	STD
SPOUT	TS	12/15/2014	14126673	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	14	mg/L		F	0.038		valid	G	STD
SPOUT	TS	12/15/2014	14126673	07440-61-1	Uranium	N001	38	ug/L		F	0.05		valid	G	STD
SPOUT	TS	1/8/2015	15016723	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	190	mg/L		F	1.9		valid	G	STD
SPOUT	TS	1/8/2015	15016723	07440-61-1	Uranium	N001	46	ug/L		F	0.05		valid	G	STD
SPOUT	TS	1/22/2015	15016747	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	250	mg/L		F	1.9		J	G	STD
SPOUT	TS	1/22/2015	15016747	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N002	240	mg/L		D	1.9		J	G	STD
SPOUT	TS	1/22/2015	15016747	07440-61-1	Uranium	N001	37	ug/L		F	0.05		valid	G	STD
SPOUT	TS	1/22/2015	15016747	07440-61-1	Uranium	N002	41	ug/L		D	0.05		J	G	STD
SPOUT	TS	2/3/2015	15026768	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	310	mg/L		F	1.9		valid	G	STD
SPOUT	TS	2/3/2015	15026768	07440-61-1	Uranium	N001	50	ug/L		F	0.05		valid	G	STD
SPOUT	TS	2/19/2015	15026807	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	370	mg/L		F	1.9		valid	G	STD
SPOUT	TS	2/19/2015	15026807	07440-61-1	Uranium	N001	57	ug/L		F	0.05		valid	G	STD
SW093	SL	12/1/2014	14126650	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	0.78	mg/L		F	0.019		valid	G	STD
SW093	SL	12/1/2014	14126650	07440-61-1	Uranium	N001	4.8	ug/L		F	0.05		valid	G	STD
SW093	SL	12/15/2014	14126673	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	1.1	mg/L		F	0.019		valid	G	STD
SW093	SL	12/15/2014	14126673	07440-61-1	Uranium	N001	5.1	ug/L		F	0.05		valid	G	STD
SW093	SL	1/8/2015	15016723	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	3.5	mg/L		F	0.019		valid	G	STD
SW093	SL	1/8/2015	15016723	07440-61-1	Uranium	N001	4.5	ug/L		F	0.05		valid	G	STD
SW093	SL	1/22/2015	15016747	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	1.5	mg/L		F	0.019		J	G	STD
SW093	SL	1/22/2015	15016747	07440-61-1	Uranium	N001	4.6	ug/L		F	0.05		valid	G	STD
SW093	SL	2/3/2015	15026768	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	2.1	mg/L		F	0.019		valid	G	STD
SW093	SL	2/3/2015	15026768	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N002	1.9	mg/L		D	0.019		valid	G	STD
SW093	SL	2/3/2015	15026768	07440-61-1	Uranium	N001	15	ug/L		F	0.05		J	G	STD
SW093	SL	2/3/2015	15026768	07440-61-1	Uranium	N002	5.3	ug/L		D	0.05		J	G	STD
SW093	SL	2/19/2015	15026807	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	1.5	mg/L		F	0.019		valid	G	STD
SW093	SL	2/19/2015	15026807	07440-61-1	Uranium	N001	3	ug/L		F	0.05		valid	G	STD
WALPOC	SL	10/23/2014	15016707	AM-241	Americium-241	N002	0.00912	pCi/L	U	F	0.0237	0.0129	valid	C	GEN
WALPOC	SL	10/23/2014	15016707	PU-239,240	Plutonium-239, 240	N002	0.0134	pCi/L	U	F	0.0176	0.00883	valid	C	GEN
WALPOC	SL	10/23/2014	15016707	07440-61-1	Uranium	N002	13.3	ug/L		F	0.067		valid	C	GEN
WALPOC	SL	1/6/2015	15016760	AM-241	Americium-241	N002	-0.0044	pCi/L	U	F	0.0163	0.0111	valid	C	GEN
WALPOC	SL	1/6/2015	15016707	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	0.0738	mg/L		F	0.017		valid	G	GEN
WALPOC	SL	1/6/2015	15016760	PU-239,240	Plutonium-239, 240	N002	0.00314	pCi/L	U	F	0.0158	0.00681	valid	C	GEN
WALPOC	SL	1/6/2015	15016760	07440-61-1	Uranium	N002	11.6	ug/L		F	0.067		valid	C	GEN
WALPOC	SL	1/29/2015	15026804	AM-241	Americium-241	N001	-0.00422	pCi/L	U	F	0.0235	0.0131	valid	C	GEN
WALPOC	SL	1/29/2015	15016760	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N002	0.524	mg/L		F	0.017		valid	G	GEN
WALPOC	SL	1/29/2015	15026804	PU-239,240	Plutonium-239, 240	N001	0.0128	pCi/L	U	F	0.0321	0.0133	valid	C	GEN
WALPOC	SL	1/29/2015	15026804	07440-61-1	Uranium	N001	14.4	ug/L		F	0.067		valid	C	GEN
WALPOC	SL	2/17/2015	15026804	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	1.23	ug/L		F	0.085		valid	C	GEN
WOMPOC	SL	11/19/2014	14126668	AM-241	Americium-241	N001	0.00425	pCi/L	U	F	0.0225	0.00834	valid	C	GEN
WOMPOC	SL	11/19/2014	14126668	PU-239,240	Plutonium-239, 240	N001	0	pCi/L	U	F	0.0181	0.0105	valid	C	GEN
WOMPOC	SL	11/19/2014	14126668	07440-61-1	Uranium	N001	1.72	ug/L		F	0.067		valid	C	GEN
WOMPOC	SL	12/10/2014	15016707	AM-241	Americium-241	N001	0.00722	pCi/L	U	F	0.0157	0.00982	valid	C	GEN
WOMPOC	SL	12/10/2014	15016707	PU-239,240	Plutonium-239, 240	N001	-0.0104	pCi/L	U	F	0.0163	0.00995	valid	C	GEN
WOMPOC	SL	12/10/2014	15016707	07440-61-1	Uranium	N001	1.06	ug/L		F	0.067		valid	C	GEN
WOMPOC	SL	1/6/2015	15016760	AM-241	Americium-241	N001	0.00234	pCi/L	U	F	0.013	0.00917	valid	C	GEN
WOMPOC	SL	1/6/2015	15016760	PU-239,240	Plutonium-239, 240	N001	0.0148	pCi/L	U	F	0.0186	0.0145	valid	C	GEN
WOMPOC	SL	1/6/2015	15016760	07440-61-1	Uranium	N001	1.24	ug/L		F	0.067		valid	C	GEN
WOMPOC	SL	1/29/2015	15026804	AM-241	Americium-241	N001	-0.00147	pCi/L	U	F	0.0163	0.00761	valid	C	GEN
WOMPOC	SL	1/29/2015	15026804	PU-239,240	Plutonium-239, 240	N001	-0.0173	pCi/L	U	F	0.0289	0.0146	valid	C	GEN
WOMPOC	SL	1/29/2015	15026804	07440-61-1	Uranium	N001	1.67	ug/L		F	0.067		valid	C	GEN

Table 1. Analytical Results for Water Samples

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
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**EXPLANATION**

**SAMPLE\_ID**

= Sample was not filtered  
 x = Sample was filtered

**UNIT\_OF\_MEASURE**

ppm = milligrams per liter  
 /L = picocuries per liter  
 µ = micrograms per liter  
 C = degrees celsius  
 mSiemens per centimete  
 l = normal turbidity units  
 µ = standard pH units  
 microSiemens per centimete  
 = microSiemens per centimete

**SAMPLE\_TYPE**

F = Field Sample  
 D = Duplicate

**VALIDATION\_QUALIFIERS**

valid Result is valid.  
 F  
 G  
 J  
 L  
 Q  
 R  
 U  
 X  
 999 idation 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

**LAB\_CODE**

GEN Gel Laboratories  
 STD Test America

**COLLECTION\_METHOD**

G Grab  
 C Composite

Table 2. Water Sampling Events: First Quarter CY 2015

Location Code	Sampling Dates		Sample Info			Analytes					Sample Tracking Info	
	Start	End	Collection Method	Type	Filtered	VOC	U	Nitrate	Pu/Am	TSS	Ticket	RIN #
GS11	8/18/2014 11:58	1/29/2015 11:38	composite	F	No		X		X		NCQ 551	15016761
B5INFLOW	9/16/2014 14:11	10/15/2014 13:13	composite	F	No		X				MLW 372	14106550
GS31	10/13/2014 12:00	11/24/2014 13:52	composite	F	No		X		X		MMS 541	14116639
GS08	10/15/2014 10:19	12/11/2014 12:03	composite	F	No		X		X		MNT 194	14126674
B5INFLOW	10/15/2014 13:13	12/1/2014 15:15	composite	F	No		X				MNS 728	14126651
WALPOC	10/23/2014 12:31	1/6/2015 13:19	composite	F	No		X		X		NCY 805	15016707
GS01	10/23/2014 13:52	12/10/2014 14:55	composite	F	No		X		X		MNT 137	14126669
GS12	10/30/2014 12:47	12/10/2014 13:18	composite	F	No		X				MNT 139	14126669
WOMPOC	11/19/2014 12:15	12/10/2014 14:21	composite	F	No		X		X		MNT 136	14126668
GS31	11/24/2014 13:52	1/6/2015 14:33	composite	F	No		X		X		NCY 817	15016708
SPOUT	12/1/2014 11:20	12/1/2014 11:20	grab	F	No		X	X			MNS 714	14126650
10594	12/1/2014 12:05	12/1/2014 12:05	grab	F	No	X		X			MNS 581	14126642
10594	12/1/2014 12:05	12/1/2014 12:05	grab	F	Yes		X				MNS 581	14126642
10594	12/1/2014 12:05	12/1/2014 12:05	grab	D	No	X		X			MNS 583	14126642
10594	12/1/2014 12:05	12/1/2014 12:05	grab	D	Yes		X				MNS 583	14126642
SW093	12/1/2014 12:32	12/1/2014 12:32	grab	F	No		X	X			MNS 713	14126650
GS13	12/1/2014 12:52	12/1/2014 12:52	grab	F	No		X	X			MNS 715	14126650
A1EFF	12/1/2014 13:02	12/1/2014 13:02	grab	F	No		X	X			MNS 725	14126650
A2EFF	12/1/2014 13:08	12/1/2014 13:08	grab	F	No		X	X			MNS 726	14126650
B3OUTFLOW	12/1/2014 13:51	12/1/2014 13:51	grab	F	No		X				MNS 718	14126650
GS10	12/1/2014 14:01	12/1/2014 14:01	grab	F	No		X				MNS 721	14126650
A3EFF	12/1/2014 14:32	12/1/2014 14:32	grab	F	No		X	X			MNS 727	14126650
A4 POND	12/1/2014 14:55	12/1/2014 14:55	grab	F	No		X	X			MNS 719	14126650
B5 POND	12/1/2014 15:00	12/1/2014 15:00	grab	F	No		X				MNS 724	14126650
B5INFLOW	12/1/2014 15:05	12/1/2014 15:05	grab	F	No		X				MNS 716	14126650
B5INFLOW	12/1/2014 15:15	12/1/2014 15:15	grab	F	No		X				NDR 616	15026810
00997	12/8/2014 12:50	12/8/2014 12:50	grab	F	No	X		X			MNS 973	14126660
00997	12/8/2014 12:50	12/8/2014 12:50	grab	F	Yes		X				MNS 973	14126660
00997	12/8/2014 12:50	12/8/2014 12:50	grab	D	No	X		X			MNS 974	14126660
00997	12/8/2014 12:50	12/8/2014 12:50	grab	D	Yes		X				MNS 974	14126660
GS11	12/8/2014 14:00	12/8/2014 14:00	grab	F	No			X			MNT 054	14126663
GS12	12/10/2014 13:18	1/8/2015 12:39	composite	F	No		X				NCZ 807	15016722
WOMPOC	12/10/2014 14:21	1/6/2015 11:00	composite	F	No		X		X		NCY 807	15016707
GS01	12/10/2014 14:55	1/8/2015 16:00	composite	F	No		X		X		NCZ 806	15016722
GS08	12/11/2014 12:03	2/9/2015 12:49	composite	F	No		X		X		NDR 227	15026781
SPOUT	12/15/2014 12:00	12/15/2014 12:00	grab	F	No		X	X			MNT 180	14126673
SW093	12/15/2014 12:50	12/15/2014 12:50	grab	F	No		X	X			MNT 179	14126673
GS13	12/15/2014 12:58	12/15/2014 12:58	grab	F	No		X	X			MNT 181	14126673
A1EFF	12/15/2014 13:04	12/15/2014 13:04	grab	F	No		X	X			MNT 189	14126673
A2EFF	12/15/2014 13:10	12/15/2014 13:10	grab	F	No		X	X			MNT 190	14126673
A3EFF	12/15/2014 13:25	12/15/2014 13:25	grab	F	No		X	X			MNT 191	14126673
B5INFLOW	12/15/2014 13:34	12/15/2014 13:34	grab	F	No		X				MNT 182	14126673
A4 POND	12/15/2014 13:35	12/15/2014 13:35	grab	F	No		X	X			MNT 184	14126673
B5 POND	12/15/2014 13:40	12/15/2014 13:40	grab	F	No		X				MNT 188	14126673

Table 2. Water Sampling Events: First Quarter CY 2015

Location Code	Sampling Dates		Sample Info			Analytes					Sample Tracking Info	
	Start	End	Collection Method	Type	Filtered	VOC	U	Nitrate	Pu/Am	TSS	Ticket	RIN #
B3OUTFLOW	12/15/2014 14:10	12/15/2014 14:10	grab	F	No		X				MNT 183	14126673
GS10	12/15/2014 14:14	12/15/2014 14:14	grab	F	No		X				MNT 186	14126673
WOMPOC	1/6/2015 11:00	1/29/2015 12:39	composite	F	No		X		X		NCQ 547	15016760
WALPOC	1/6/2015 13:19	1/29/2015 11:24	composite	F	No		X		X		NCQ 548	15016760
WALPOC	1/6/2015 13:20	1/6/2015 13:20	grab	F	No			X			NCZ 066	15016707
GS31	1/6/2015 14:33	1/29/2015 12:24	composite	F	No		X		X		NCQ 550	15016761
B3OUTFLOW	1/8/2015 10:08	1/8/2015 10:08	grab	F	No		X				NCZ 809	15016723
GS10	1/8/2015 10:13	1/8/2015 10:13	grab	F	No		X				NCZ 808	15016723
A4 POND	1/8/2015 12:05	1/8/2015 12:05	grab	F	No		X	X			NCZ 818	15016723
B5 POND	1/8/2015 12:12	1/8/2015 12:12	grab	F	No		X				NCZ 811	15016723
SW093	1/8/2015 12:15	1/8/2015 12:15	grab	F	No		X	X			NCZ 810	15016723
A3EFF	1/8/2015 12:38	1/8/2015 12:38	grab	F	No		X	X			NCZ 817	15016723
GS12	1/8/2015 12:39	2/3/2015 13:32	composite	F	No		X				NDQ 608	15026770
B5INFLOW	1/8/2015 12:54	1/8/2015 12:54	grab	F	No		X				NCZ 820	15016723
SPOUT	1/8/2015 14:08	1/8/2015 14:08	grab	F	No		X	X			NCZ 812	15016723
GS13	1/8/2015 14:28	1/8/2015 14:28	grab	F	No		X	X			NCZ 813	15016723
A1EFF	1/8/2015 14:30	1/8/2015 14:30	grab	F	No		X	X			NCZ 815	15016723
A2EFF	1/8/2015 14:34	1/8/2015 14:34	grab	F	No		X	X			NCZ 816	15016723
GS01	1/8/2015 16:00	2/3/2015 15:13	composite	F	No		X		X		NDQ 607	15026770
GS03	1/8/2015 16:10	1/8/2015 16:10	grab	F	No			X			NCZ 924	15016730
SPOUT	1/22/2015 11:20	1/22/2015 11:20	grab	D	No		X	X			NCQ 256	15016747
SPOUT	1/22/2015 11:20	1/22/2015 11:20	grab	F	No		X	X			NCQ 247	15016747
SW093	1/22/2015 11:30	1/22/2015 11:30	grab	F	No		X	X			NCQ 245	15016747
GS13	1/22/2015 11:36	1/22/2015 11:36	grab	F	No		X	X			NCQ 248	15016747
A1EFF	1/22/2015 11:45	1/22/2015 11:45	grab	F	No		X	X			NCQ 250	15016747
A2EFF	1/22/2015 11:50	1/22/2015 11:50	grab	F	No		X	X			NCQ 251	15016747
A3EFF	1/22/2015 11:58	1/22/2015 11:58	grab	F	No		X	X			NCQ 252	15016747
A4 POND	1/22/2015 12:15	1/22/2015 12:15	grab	F	No		X	X			NCQ 253	15016747
B5 POND	1/22/2015 12:22	1/22/2015 12:22	grab	F	No		X				NCQ 246	15016747
B5INFLOW	1/22/2015 12:30	1/22/2015 12:30	grab	F	No		X				NCQ 255	15016747
B3OUTFLOW	1/22/2015 12:50	1/22/2015 12:50	grab	F	No		X				NCQ 244	15016747
GS10	1/22/2015 12:56	1/22/2015 12:56	grab	F	No		X				NCQ 243	15016747
WALPOC	1/29/2015 11:15	1/29/2015 11:15	grab	F	No			X			NCQ 549	15016760
WALPOC	1/29/2015 11:24	2/17/2015 12:13	composite	F	No		X		X		NDR 551	15026804
GS11	1/29/2015 11:34	1/29/2015 11:34	grab	F	No			X			NCQ 552	15016761
WOMPOC	1/29/2015 12:39	2/17/2015 13:42	composite	F	No		X		X		NDR 553	15026804
B3OUTFLOW	2/3/2015 11:03	2/3/2015 11:03	grab	F	No		X				NDQ 590	15026768
GS10	2/3/2015 11:35	2/3/2015 11:35	grab	F	No		X				NDQ 589	15026768
SPOUT	2/3/2015 12:04	2/3/2015 12:04	grab	F	No		X	X			NDQ 593	15026768
SW093	2/3/2015 12:30	2/3/2015 12:30	grab	F	No		X	X			NDQ 591	15026768
SW093	2/3/2015 12:30	2/3/2015 12:30	grab	D	No		X	X			NDQ 602	15026768
GS13	2/3/2015 12:45	2/3/2015 12:45	grab	F	No		X	X			NDQ 594	15026768
A1EFF	2/3/2015 13:00	2/3/2015 13:00	grab	F	No		X	X			NDQ 596	15026768
A2EFF	2/3/2015 13:06	2/3/2015 13:06	grab	F	No		X	X			NDQ 597	15026768
A3EFF	2/3/2015 13:33	2/3/2015 13:33	grab	F	No		X	X			NDQ 598	15026768
A4 POND	2/3/2015 13:46	2/3/2015 13:46	grab	F	No		X	X			NDQ 599	15026768
B5 POND	2/3/2015 13:50	2/3/2015 13:50	grab	F	No		X				NDQ 592	15026768
B5INFLOW	2/3/2015 13:55	2/3/2015 13:55	grab	F	No		X				NDQ 601	15026768

Table 2. Water Sampling Events: First Quarter CY 2015

Location Code	Sampling Dates		Sample Info			Analytes					Sample Tracking Info	
	Start	End	Collection Method	Type	Filtered	VOC	U	Nitrate	Pu/Am	TSS	Ticket	RIN #
WALPOC	2/17/2015 12:10	2/17/2015 12:10	grab	F	No			X			NDR 552	15026804
SPOUT	2/19/2015 11:52	2/19/2015 11:52	grab	F	No		X	X			NDR 563	15026807
SW093	2/19/2015 11:58	2/19/2015 11:58	grab	F	No		X	X			NDR 561	15026807
GS13	2/19/2015 12:06	2/19/2015 12:06	grab	D	No		X	X			NDR 572	15026807
GS13	2/19/2015 12:06	2/19/2015 12:06	grab	F	No		X	X			NDR 564	15026807
B3OUTFLOW	2/19/2015 12:21	2/19/2015 12:21	grab	F	No		X				NDR 560	15026807
GS10	2/19/2015 12:32	2/19/2015 12:32	grab	F	No		X				NDR 559	15026807
A1EFF	2/19/2015 12:50	2/19/2015 12:50	grab	F	No		X	X			NDR 566	15026807
A2EFF	2/19/2015 12:53	2/19/2015 12:53	grab	F	No		X	X			NDR 567	15026807
A3EFF	2/19/2015 13:01	2/19/2015 13:01	grab	F	No		X	X			NDR 568	15026807
A4 POND	2/19/2015 13:32	2/19/2015 13:32	grab	F	No		X	X			NDR 569	15026807
B5 POND	2/19/2015 13:35	2/19/2015 13:35	grab	F	No		X				NDR 562	15026807
B5INFLOW	2/19/2015 13:40	2/19/2015 13:40	grab	F	No		X				NDR 571	15026807

**EXPLANATION**

**Sample Info: Type**

F = Field Sample  
D = Duplicate

**Analytes**

VOC = volatile organic compounds  
U = uranium  
Nitrate = nitrate + nitrite as N  
Pu/Am = plutonium-239,240 and americium-241  
SVOC = semi-volatile organic compounds  
TSS = total suspended solids

**Sample Tracking Info: Ticket**

- tracking identifier

**Sample Tracking Info: RIN#**

- lab requisition number

**Sample Tracking Info: COC Date**

- Chain of Custody date