


Rocky Flats, Colorado, Site

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

Third Quarter Calendar Year 2014

October 2014



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
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 third quarter of calendar year (CY) 2014 is provided in accordance with Section 5.0, "Reporting," in the AMP. Section 3.0 provides the third quarter data summary tables, which include all validated analytical data available as of September 30, 2014. 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: Third Quarter CY 2014

- Four 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).
- Four informal emails were transmitted to AMP participants providing notification of Geospatial Environmental Mapping System postings of validated analytical results for the downstream-most POCs.
- During the quarter, 62 samples were collected in support of AMP monitoring objectives.

3.0 Analytical Data: Third Quarter CY 2014

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

Table 2, “Water Sampling Events: Third Quarter CY 2014,” 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
BSINFLOW	SL	4/16/2014	14056169	07440-61-1	Uranium	N001	13.4	ug/L	(blank)	F	0.067		valid	C	GEN
BSINFLOW	SL	5/12/2014	14056206	07440-61-1	Uranium	N001	16.1	ug/L	(blank)	F	0.067		valid	C	GEN
BSINFLOW	SL	5/20/2014	14066259	07440-61-1	Uranium	N001	12	ug/L	(blank)	F	0.067		valid	C	GEN
BSINFLOW	SL	6/4/2014	14086393	07440-61-1	Uranium	N001	8.19	ug/L	(blank)	F	0.067		valid	C	GEN
BSINFLOW	SL	6/12/2014	14066276	07440-61-1	Uranium	N001	8.8	ug/L	(blank)	F	0.05		valid	G	STD
BSINFLOW	SL	6/23/2014	14066291	07440-61-1	Uranium	N001	11	ug/L	(blank)	F	0.05		valid	G	STD
GS01	SL	4/22/2014	14056190	AM-241	Americium-241	N001	0.00144	pCi/L	U	F	0.0277	0.00748	valid	C	GEN
GS01	SL	4/22/2014	14056190	PU-239,240	Plutonium-239, 240	N001	0.0104	pCi/L	U	F	0.0157	0.00884	valid	C	GEN
GS01	SL	4/22/2014	14056190	07440-61-1	Uranium	N001	4.43	ug/L	(blank)	F	0.067		valid	C	GEN
GS01	SL	5/14/2014	14056206	AM-241	Americium-241	N001	0.00482	pCi/L	U	F	0.016	0.00669	valid	C	GEN
GS01	SL	5/14/2014	14056206	PU-239,240	Plutonium-239, 240	N001	0.00356	pCi/L	U	F	0.0166	0.00616	valid	C	GEN
GS01	SL	5/14/2014	14056206	07440-61-1	Uranium	N001	1.84	ug/L	(blank)	F	0.067		valid	C	GEN
GS01	SL	5/21/2014	14056206	AM-241	Americium-241	N001	0.00276	pCi/L	U	F	0.0184	0.00663	valid	C	GEN
GS01	SL	5/21/2014	14056206	PU-239,240	Plutonium-239, 240	N001	-0.00228	pCi/L	U	F	0.0159	0.00705	valid	C	GEN
GS01	SL	5/21/2014	14056206	07440-61-1	Uranium	N001	3.63	ug/L	(blank)	F	0.067		valid	C	GEN
GS01	SL	5/22/2014	14066259	AM-241	Americium-241	N001	0.00417	pCi/L	U	F	0.0185	0.00721	valid	C	GEN
GS01	SL	5/22/2014	14066259	PU-239,240	Plutonium-239, 240	N001	0.00759	pCi/L	U	F	0.0176	0.00782	valid	C	GEN
GS01	SL	5/22/2014	14066259	07440-61-1	Uranium	N001	2.1	ug/L	(blank)	F	0.067		valid	C	GEN
GS03	SL	4/17/2014	14056169	AM-241	Americium-241	N002	0.00295	pCi/L	U	F	0.0284	0.0108	valid	C	GEN
GS03	SL	4/17/2014	14056169	PU-239,240	Plutonium-239, 240	N002	0.00932	pCi/L	U	F	0.0181	0.00869	valid	C	GEN
GS03	SL	4/17/2014	14056169	07440-61-1	Uranium	N002	16.9	ug/L	(blank)	F	0.067		valid	C	GEN
GS03	SL	5/12/2014	14056190	AM-241	Americium-241	N002	0	pCi/L	U	F	0.0241	0.00603	valid	C	GEN
GS03	SL	5/12/2014	14056190	PU-239,240	Plutonium-239, 240	N002	0.00121	pCi/L	U	F	0.0164	0.0103	valid	C	GEN
GS03	SL	5/12/2014	14056190	07440-61-1	Uranium	N002	11.4	ug/L	(blank)	F	0.067		valid	C	GEN
GS03	SL	5/14/2014	14056197	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	2.9	mg/L	(blank)	F	0.019		valid	G	STD
GS03	SL	5/14/2014	14056206	AM-241	Americium-241	N002	0.00309	pCi/L	U	F	0.0205	0.00856	valid	C	GEN
GS03	SL	5/14/2014	14056206	PU-239,240	Plutonium-239, 240	N002	0.00566	pCi/L	U	F	0.0158	0.00588	valid	C	GEN
GS03	SL	5/14/2014	14056206	07440-61-1	Uranium	N002	10.6	ug/L	(blank)	F	0.067		valid	C	GEN
GS03	SL	5/21/2014	14076353	AM-241	Americium-241	N002	0.00392	pCi/L	U	F	0.0189	0.00849	valid	C	GEN
GS03	SL	5/21/2014	14076353	PU-239,240	Plutonium-239, 240	N002	0.00119	pCi/L	U	F	0.0178	0.00772	valid	C	GEN
GS03	SL	5/21/2014	14076353	07440-61-1	Uranium	N002	10.4	ug/L	(blank)	F	0.067		valid	C	GEN
GS08	SL	5/20/2014	14066300	AM-241	Americium-241	N001	0.0119	pCi/L	U	F	0.043	0.0143	valid	C	GEN
GS08	SL	5/20/2014	14066300	PU-239,240	Plutonium-239, 240	N001	0.0257	pCi/L	U	F	0.0276	0.0192	valid	C	GEN
GS08	SL	5/20/2014	14066300	07440-61-1	Uranium	N001	13.9	ug/L	(blank)	F	0.067		valid	C	GEN
GS10	SL	5/20/2014	14066265	AM-241	Americium-241	N001	-0.00144	pCi/L	U	F	0.0191	0.00845	valid	C	GEN
GS10	SL	5/20/2014	14066265	PU-239,240	Plutonium-239, 240	N001	0.00129	pCi/L	U	F	0.0181	0.00914	valid	C	GEN
GS10	SL	5/20/2014	14066265	07440-61-1	Uranium	N001	15.3	ug/L	(blank)	F	0.067		valid	C	GEN
GS10	SL	6/10/2014	14076352	AM-241	Americium-241	N001	0.00172	pCi/L	U	F	0.0249	0.00893	valid	C	GEN
GS10	SL	6/10/2014	14076352	PU-239,240	Plutonium-239, 240	N001	0.00478	pCi/L	U	F	0.0179	0.00742	valid	C	GEN
GS10	SL	6/10/2014	14076352	07440-61-1	Uranium	N001	9.27	ug/L	(blank)	F	0.067		valid	C	GEN
GS10	SL	6/12/2014	14066276	07440-61-1	Uranium	N001	11	ug/L	(blank)	F	0.05		valid	G	STD
GS10	SL	6/23/2014	14066291	07440-61-1	Uranium	N001	9.7	ug/L	(blank)	F	0.05		valid	G	STD
GS10	SL	7/7/2014	14076338	07440-61-1	Uranium	N001	9	ug/L	(blank)	F	0.05		valid	G	STD
GS10	SL	7/21/2014	14076366	07440-61-1	Uranium	N001	7.4	ug/L	(blank)	F	0.05		valid	G	STD
GS10	SL	7/30/2014	14086403	AM-241	Americium-241	N001	0.00383	pCi/L	U	F	0.012	0.0115	valid	C	GEN
GS10	SL	7/30/2014	14086403	PU-239,240	Plutonium-239, 240	N001	0.00127	pCi/L	U	F	0.0203	0.00557	valid	C	GEN
GS10	SL	7/30/2014	14086403	07440-61-1	Uranium	N001	5.29	ug/L	(blank)	F	0.067		valid	C	GEN
GS11	SL	4/16/2014	14056169	AM-241	Americium-241	N002	0	pCi/L	U	F	0.0375	0.00764	valid	C	GEN
GS11	SL	4/16/2014	14056169	PU-239,240	Plutonium-239, 240	N002	0.0137	pCi/L	U	F	0.0267	0.0128	valid	C	GEN
GS11	SL	4/16/2014	14056169	07440-61-1	Uranium	N002	24.5	ug/L	(blank)	F	0.067		valid	C	GEN
GS11	SL	5/12/2014	14056206	AM-241	Americium-241	N002	0.0149	pCi/L	U	F	0.022	0.0126	valid	C	GEN
GS11	SL	5/12/2014	14056206	PU-239,240	Plutonium-239, 240	N002	0.0051	pCi/L	U	F	0.0178	0.00936	valid	C	GEN
GS11	SL	5/12/2014	14056206	07440-61-1	Uranium	N002	18.6	ug/L	(blank)	F	0.067		valid	C	GEN
GS11	SL	5/20/2014	14056197	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	11	mg/L	(blank)	F	0.038		valid	G	STD
GS12	SL	4/16/2014	14056169	07440-61-1	Uranium	N001	15.9	ug/L	(blank)	F	0.067		valid	C	GEN
GS12	SL	5/12/2014	14056206	07440-61-1	Uranium	N001	12.2	ug/L	(blank)	F	0.067		valid	C	GEN
GS12	SL	5/20/2014	14066259	07440-61-1	Uranium	N001	17.5	ug/L	(blank)	F	0.067		valid	C	GEN
GS12	SL	6/3/2014	14076353	07440-61-1	Uranium	N001	20	ug/L	(blank)	F	0.067		valid	C	GEN
GS13	SL	4/15/2014	14046120	07440-61-1	Uranium	N001	11.9	ug/L	(blank)	F	0.067		valid	C	GEN
GS13	SL	4/15/2014	14056156	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N002	50	mg/L	(blank)	F	0.19		valid	C	STD
GS13	SL	4/28/2014	14056168	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	0.97	mg/L	(blank)	F	0.019		valid	C	STD
GS13	SL	4/28/2014	14056171	07440-61-1	Uranium	N002	8.38	ug/L	(blank)	F	0.067		valid	C	GEN
GS13	SL	5/12/2014	14056207	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	11	mg/L	H	F	0.038		valid	C	STD
GS13	SL	5/12/2014	14056215	07440-61-1	Uranium	N002	7.44	ug/L	(blank)	F	0.067		valid	C	GEN
GS13	SL	5/15/2014	14056197	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N002	18	mg/L	(blank)	F	0.038		valid	G	STD
GS13	SL	5/20/2014	14066257	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	27	mg/L	(blank)	F	0.19		valid	C	STD
GS13	SL	5/20/2014	14066257	07440-61-1	Uranium	N001	9.7	ug/L	(blank)	F	0.05		valid	C	STD
GS13	SL	6/3/2014	14086393	07440-61-1	Uranium	N001	8.87	ug/L	(blank)	F	0.067		valid	C	GEN
GS13	SL	6/12/2014	14066276	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	26	mg/L	(blank)	F	0.19		valid	G	STD
GS13	SL	6/12/2014	14066276	07440-61-1	Uranium	N001	15	ug/L	(blank)	F	0.05		valid	G	STD
GS13	SL	6/23/2014	14066291	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	9.6	mg/L	(blank)	F	0.038		valid	G	STD
GS13	SL	6/23/2014	14066291	07440-61-1	Uranium	N001	21	ug/L	(blank)	F	0.05		valid	G	STD
GS13	SL	7/7/2014	14076338	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	9.5	mg/L	(blank)	F	0.038		valid	G	STD
GS13	SL	7/7/2014	14076338	07440-61-1	Uranium	N001	25	ug/L	(blank)	F	0.05		valid	G	STD
GS13	SL	7/21/2014	14076366	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	29	mg/L	(blank)	F	0.19		J	G	STD
GS13	SL	7/21/2014	14076366	07440-61-1	Uranium	N001	28	ug/L	(blank)	F	0.05		valid	G	STD
GS31	SL	4/17/2014	14056206	AM-241	Americium-241	N001	0.00343	pCi/L	U	F	0.0228	0.0126	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
GS31	SL	4/17/2014	14056206	PU-239,240	Plutonium-239, 240	N001	0.00594	pCi/L	U	F	0.0166	0.00904	valid	C	GEN
GS31	SL	4/17/2014	14056206	07440-61-1	Uranium	N001	9.16	ug/L	(blank)	F	0.067		valid	C	GEN
GS31	SL	5/22/2014	14086403	AM-241	Americium-241	N001	0.00723	pCi/L	U	F	0.0113	0.0082	valid	C	GEN
GS31	SL	5/22/2014	14086403	PU-239,240	Plutonium-239, 240	N001	0.0157	pCi/L	U	F	0.0227	0.0129	valid	C	GEN
GS31	SL	5/22/2014	14086403	07440-61-1	Uranium	N001	6.69	ug/L	(blank)	F	0.067		valid	C	GEN
SPOUT	TS	5/15/2014	14056197	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	330	mg/L	(blank)	F	1.9		valid	G	STD
SPOUT	TS	5/15/2014	14056197	07440-61-1	Uranium	N001	55	ug/L	(blank)	F	0.05		valid	G	STD
SPOUT	TS	6/12/2014	14066276	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	280	mg/L	(blank)	F	0.95		valid	G	STD
SPOUT	TS	6/12/2014	14066276	07440-61-1	Uranium	N001	65	ug/L	(blank)	F	0.05		valid	G	STD
SPOUT	TS	6/23/2014	14066291	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	570	mg/L	(blank)	F	1.9		valid	G	STD
SPOUT	TS	6/23/2014	14066291	07440-61-1	Uranium	N001	73	ug/L	(blank)	F	0.05		valid	G	STD
SPOUT	TS	7/7/2014	14076338	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	200	mg/L	(blank)	F	1.9		valid	G	STD
SPOUT	TS	7/7/2014	14076338	07440-61-1	Uranium	N001	69	ug/L	(blank)	F	0.05		valid	G	STD
SPOUT	TS	7/21/2014	14076366	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	190	mg/L	(blank)	F	0.38	J	valid	G	STD
SPOUT	TS	7/21/2014	14076366	07440-61-1	Uranium	N001	89	ug/L	(blank)	F	0.05		valid	G	STD
SW093	SL	4/2/2014	14048098	AM-241	Americium-241	N002	0.00558	pCi/L	U	F	0.0167	0.00672	valid	C	GEN
SW093	SL	4/2/2014	14048098	PU-239,240	Plutonium-239, 240	N002	-0.00093	pCi/L	U	F	0.0135	0.00645	valid	C	GEN
SW093	SL	4/2/2014	14048098	07440-61-1	Uranium	N002	9.4	ug/L	(blank)	F	0.067		valid	C	GEN
SW093	SL	4/15/2014	14046120	AM-241	Americium-241	N001	0.0015	pCi/L	U	F	0.0289	0.0078	valid	C	GEN
SW093	SL	4/15/2014	14046120	PU-239,240	Plutonium-239, 240	N001	-0.00379	pCi/L	U	F	0.0172	0.00893	valid	C	GEN
SW093	SL	4/15/2014	14046120	07440-61-1	Uranium	N001	6.67	ug/L	(blank)	F	0.067		valid	C	GEN
SW093	SL	4/28/2014	14056171	AM-241	Americium-241	N001	0.00155	pCi/L	U	F	0.0297	0.00525	valid	C	GEN
SW093	SL	4/28/2014	14056171	PU-239,240	Plutonium-239, 240	N001	-0.0015	pCi/L	U	F	0.0204	0.00779	valid	C	GEN
SW093	SL	4/28/2014	14056171	07440-61-1	Uranium	N001	6.22	ug/L	(blank)	F	0.067		valid	C	GEN
SW093	SL	5/12/2014	14056215	AM-241	Americium-241	N001	0.0218	pCi/L	U	F	0.0264	0.0179	valid	C	GEN
SW093	SL	5/12/2014	14056215	PU-239,240	Plutonium-239, 240	N001	-0.0117	pCi/L	U	F	0.0204	0.0107	valid	C	GEN
SW093	SL	5/12/2014	14056215	07440-61-1	Uranium	N001	6.82	ug/L	(blank)	F	0.067		valid	C	GEN
SW093	SL	5/15/2014	14056197	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N002	11	mg/L	(blank)	F	0.38		valid	G	STD
SW093	SL	5/20/2014	14066277	AM-241	Americium-241	N001	-0.00391	pCi/L	U	F	0.0173	0.00847	valid	C	GEN
SW093	SL	5/20/2014	14066277	PU-239,240	Plutonium-239, 240	N001	0.0148	pCi/L	U	F	0.0173	0.0103	valid	C	GEN
SW093	SL	5/20/2014	14066277	07440-61-1	Uranium	N001	7.11	ug/L	(blank)	F	0.067		valid	C	GEN
SW093	SL	6/12/2014	14066276	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	1.5	mg/L	(blank)	F	0.019		valid	G	STD
SW093	SL	6/12/2014	14066276	07440-61-1	Uranium	N001	5.3	ug/L	(blank)	F	0.05		valid	G	STD
SW093	SL	6/12/2014	14086393	AM-241	Americium-241	N002	-0.0017	pCi/L	U	F	0.0159	0.00746	valid	C	GEN
SW093	SL	6/12/2014	14086393	PU-239,240	Plutonium-239, 240	N002	0.00358	pCi/L	U	F	0.0143	0.00497	valid	C	GEN
SW093	SL	6/12/2014	14086393	07440-61-1	Uranium	N002	4.35	ug/L	(blank)	F	0.067		valid	C	GEN
SW093	SL	6/23/2014	14066291	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	2.6	mg/L	(blank)	F	0.095		valid	G	STD
SW093	SL	6/23/2014	14066291	07440-61-1	Uranium	N001	7	ug/L	(blank)	F	0.05		valid	G	STD
SW093	SL	7/7/2014	14076338	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	3.6	mg/L	(blank)	F	0.019		valid	G	STD
SW093	SL	7/7/2014	14076338	07440-61-1	Uranium	N001	8.1	ug/L	(blank)	F	0.05		valid	G	STD
SW093	SL	7/21/2014	14076366	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	1.8	mg/L	(blank)	F	0.019	J	valid	G	STD
SW093	SL	7/21/2014	14076366	07440-61-1	Uranium	N001	6.1	ug/L	(blank)	F	0.05		valid	G	STD
WALPOC	SL	5/12/2014	14056173	TSS	Total Suspended Solids	N002	11	mg/L	(blank)	F	1.1		valid	G	STD
WALPOC	SL	5/14/2014	14056197	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	5.1	mg/L	(blank)	F	0.019		valid	G	STD
WALPOC	SL	5/15/2014	14056186	07440-61-1	Uranium	N001	15	ug/L	(blank)	F	0.05		valid	G	STD
WALPOC	SL	5/21/2014	14066258	AM-241	Americium-241	N002	0.00448	pCi/L	U	F	0.0199	0.00879	valid	C	GEN
WALPOC	SL	5/21/2014	14066258	PU-239,240	Plutonium-239, 240	N002	-0.00113	pCi/L	U	F	0.0157	0.00584	valid	C	GEN
WALPOC	SL	5/21/2014	14066258	07440-61-1	Uranium	N002	14.6	ug/L	(blank)	F	0.067		valid	C	GEN
WALPOC	SL	6/4/2014	14066257	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N001	0.19	mg/L	(blank)	F	0.019		valid	G	STD
WALPOC	SL	6/4/2014	14086418	AM-241	Americium-241	N002	0	pCi/L	U	F	0.0142	0.00839	valid	C	GEN
WALPOC	SL	6/4/2014	14086418	PU-239,240	Plutonium-239, 240	N002	0.0015	pCi/L	U	F	0.024	0.0106	valid	C	GEN
WALPOC	SL	6/4/2014	14086418	07440-61-1	Uranium	N002	6.86	ug/L	(blank)	F	0.067		valid	C	GEN
WOMPOC	SL	5/12/2014	14056173	TSS	Total Suspended Solids	N001	22	mg/L	(blank)	F	1.1		valid	G	STD
WOMPOC	SL	5/29/2014	14066300	AM-241	Americium-241	N001	0.00169	pCi/L	U	F	0.0244	0.0074	valid	C	GEN
WOMPOC	SL	5/29/2014	14066300	PU-239,240	Plutonium-239, 240	N001	0.00287	pCi/L	U	F	0.0215	0.00563	valid	C	GEN
WOMPOC	SL	5/29/2014	14066300	07440-61-1	Uranium	N001	3.3	ug/L	(blank)	F	0.067		valid	C	GEN
WOMPOC	SL	6/24/2014	14086403	AM-241	Americium-241	N001	-0.00611	pCi/L	U	F	0.0115	0.00928	valid	C	GEN
WOMPOC	SL	6/24/2014	14086403	PU-239,240	Plutonium-239, 240	N001	0.00342	pCi/L	U	F	0.0182	0.00806	valid	C	GEN
WOMPOC	SL	6/24/2014	14086403	07440-61-1	Uranium	N001	2.54	ug/L	(blank)	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

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

LAB_CODE

GEN Gel Laboratories
STD Test America

COLLECTION_METHOD

G Grab
C Composite

Table 2. Water Sampling Events: Third Quarter CY 2014

Location Code	Sampling Dates		Sample Info			Analytes					Sample Tracking Info	
	Start	End	Collection Method	Type	Filtered	VOC	D	Nitrate	Pu/Am	TSS	Ticket	RIN #
B5INFLOW	4/16/2014 11:27	5/12/2014 12:06	composite	F	No		X				MGR 563	14056169
GS11	4/16/2014 11:59	5/12/2014 12:28	composite	F	No		X		X		MGR 562	14056169
GS12	4/16/2014 13:17	5/12/2014 13:07	composite	F	No		X				MGR 564	14056169
GS31	4/17/2014 11:26	5/22/2014 10:59	composite	F	No		X		X		MGT 122	14056206
GS03	4/17/2014 12:21	5/12/2014 15:47	composite	F	No		X		X		MGR 561	14056169
GS01	4/22/2014 15:16	5/14/2014 10:59	composite	F	No		X		X		MGS 081	14056190
B5INFLOW	5/12/2014 12:06	5/20/2014 11:23	composite	F	No		X				MGT 118	14056206
GS11	5/12/2014 12:28	5/20/2014 10:08	composite	F	No		X		X		MGT 117	14056206
GS12	5/12/2014 13:07	5/20/2014 10:54	composite	F	No		X				MGT 119	14056206
GS03	5/12/2014 15:47	5/14/2014 10:38	composite	F	No		X		X		MGS 082	14056190
GS03	5/14/2014 10:36	5/14/2014 10:36	grab	F	No			X			MGS 803	14056197
GS03	5/14/2014 10:38	5/21/2014 14:10	composite	F	No		X		X		MGT 116	14056206
GS01	5/14/2014 10:59	5/21/2014 13:55	composite	F	No		X		X		MGT 120	14056206
WALPOC	5/14/2014 12:50	5/14/2014 12:50	grab	F	No			X			MGS 804	14056197
SW093	5/15/2014 10:28	5/15/2014 10:28	grab	F	No			X			MGS 794	14056197
SPOUT	5/15/2014 10:42	5/15/2014 10:42	grab	F	No		X	X			MGS 795	14056197
GS13	5/15/2014 10:49	5/15/2014 10:49	grab	F	No			X			MGS 797	14056197
A1EFF	5/15/2014 11:06	5/15/2014 11:06	grab	F	No		X	X			MGS 799	14056197
A2EFF	5/15/2014 11:14	5/15/2014 11:14	grab	F	No		X	X			MGS 800	14056197
A3EFF	5/15/2014 11:18	5/15/2014 11:18	grab	F	No			X			MGS 801	14056197
A4 POND	5/15/2014 12:25	5/15/2014 12:25	grab	F	No			X			MGS 802	14056197
GS08	5/20/2014 10:22	6/24/2014 11:40	composite	F	No		X		X		MHV 157	14066300
GS12	5/20/2014 10:54	6/3/2014 9:31	composite	F	No		X				MHT 730	14066259
B5INFLOW	5/20/2014 11:23	6/4/2014 11:09	composite	F	No		X				MHT 731	14066259
GS11	5/20/2014 12:30	5/20/2014 12:30	grab	F	No			X			MGS 798	14056197
GS10	5/20/2014 13:17	6/10/2014 11:25	composite	F	No		X		X		MHU 299	14066265
WALPOC	5/21/2014 12:32	6/4/2014 10:45	composite	F	No		X		X		MHT 728	14066258
GS01	5/21/2014 13:55	5/22/2014 12:56	composite	F	No		X		X		MGT 121	14056206
GS03	5/21/2014 14:10	7/10/2014 11:57	composite	F	No		X		X		MIZ 465	14076353
GS01	5/22/2014 12:56	6/3/2014 12:47	composite	F	No		X		X		MHT 729	14066259
11104	5/27/2014 15:05	5/27/2014 15:05	grab	F	No	X					MGT 080	14056202
11104	5/27/2014 15:05	5/27/2014 15:05	grab	F	Yes		X				MGT 080	14056202
WOMPOC	5/29/2014 13:24	6/24/2014 11:12	composite	F	No		X		X		MHV 156	14066300
GS12	6/3/2014 9:31	7/10/2014 11:14	composite	F	No		X				MIZ 466	14076353
4087	6/3/2014 13:10	6/3/2014 13:10	grab	F	No	X		X			MHT 363	14066227
4087	6/3/2014 13:10	6/3/2014 13:10	grab	F	Yes		X				MHT 363	14066227
B206989	6/3/2014 13:55	6/3/2014 13:55	grab	F	No	X		X			MHT 367	14066227
B206989	6/3/2014 13:55	6/3/2014 13:55	grab	F	Yes		X				MHT 367	14066227
WALPOC	6/4/2014 10:38	6/4/2014 10:38	grab	F	No			X			MHT 726	14066257
11104	6/5/2014 12:15	6/5/2014 12:15	grab	F	No	X					MHT 574	14066227
GS10	6/10/2014 11:25	7/10/2014 10:49	composite	F	No		X		X		MIZ 464	14076352
SPOUT	6/12/2014 10:15	6/12/2014 10:15	grab	F	No		X	X			MHU 592	14066276
SW093	6/12/2014 10:20	6/12/2014 10:20	grab	F	No		X	X			MHU 590	14066276
GS13	6/12/2014 10:26	6/12/2014 10:26	grab	F	No		X	X			MHU 593	14066276

Table 2. Water Sampling Events: Third Quarter CY 2014

Location Code	Sampling Dates		Sample Info			Analytes					Sample Tracking Info	
	Start	End	Collection Method	Type	Filtered	VOC	U	Nitrate	Pu/Am	TSS	Ticket	RIN #
A1EFF	6/12/2014 10:44	6/12/2014 10:44	grab	F	No		X	X			MHU 595	14066276
A2EFF	6/12/2014 10:49	6/12/2014 10:49	grab	F	No		X	X			MHU 596	14066276
A3EFF	6/12/2014 11:11	6/12/2014 11:11	grab	F	No		X	X			MHU 597	14066276
A4 POND	6/12/2014 11:25	6/12/2014 11:25	grab	F	No		X	X			MHU 598	14066276
B5 POND	6/12/2014 11:30	6/12/2014 11:30	grab	F	No		X				MHU 591	14066276
B5INFLOW	6/12/2014 11:37	6/12/2014 11:37	grab	F	No		X				MHU 589	14066276
B3OUTFLOW	6/12/2014 12:15	6/12/2014 12:15	grab	F	No		X				MHU 588	14066276
GS10	6/12/2014 12:19	6/12/2014 12:19	grab	F	No		X				MHU 587	14066276
B3OUTFLOW	6/23/2014 11:09	6/23/2014 11:09	grab	F	No		X				MHV 059	14066291
GS10	6/23/2014 11:15	6/23/2014 11:15	grab	F	No		X				MHV 064	14066291
SPOUT	6/23/2014 11:45	6/23/2014 11:45	grab	F	No		X	X			MHV 055	14066291
SW093	6/23/2014 11:56	6/23/2014 11:56	grab	F	No		X	X			MHV 054	14066291
GS13	6/23/2014 12:01	6/23/2014 12:01	grab	F	No		X	X			MHV 056	14066291
A2EFF	6/23/2014 12:21	6/23/2014 12:21	grab	D	No		X	X			MHV 067	14066291
A2EFF	6/23/2014 12:21	6/23/2014 12:21	grab	F	No		X	X			MHV 060	14066291
A3EFF	6/23/2014 12:52	6/23/2014 12:52	grab	F	No		X	X			MHV 061	14066291
A4 POND	6/23/2014 13:07	6/23/2014 13:07	grab	F	No		X	X			MHV 062	14066291
B5 POND	6/23/2014 13:11	6/23/2014 13:11	grab	F	No		X				MHV 068	14066291
B5INFLOW	6/23/2014 13:16	6/23/2014 13:16	grab	F	No		X				MHV 057	14066291
SPOUT	7/7/2014 10:39	7/7/2014 10:39	grab	F	No		X	X			MIX 484	14076338
SW093	7/7/2014 10:44	7/7/2014 10:44	grab	F	No		X	X			MIX 482	14076338
GS13	7/7/2014 10:54	7/7/2014 10:54	grab	F	No		X	X			MIX 485	14076338
A4 POND	7/7/2014 11:13	7/7/2014 11:13	grab	D	No		X	X			MIX 492	14076338
A4 POND	7/7/2014 11:13	7/7/2014 11:13	grab	F	No		X	X			MIX 490	14076338
B5 POND	7/7/2014 11:17	7/7/2014 11:17	grab	F	No		X				MIX 483	14076338
GS10	7/7/2014 11:56	7/7/2014 11:56	grab	F	No		X				MIX 479	14076338
A4 POND	7/21/2014 12:50	7/21/2014 12:50	grab	F	No		X	X			MIZ 953	14076366
B5 POND	7/21/2014 12:55	7/21/2014 12:55	grab	F	No		X				MIZ 948	14076366
GS10	7/21/2014 10:20	7/21/2014 10:20	grab	F	No		X				MIZ 955	14076366
GS13	7/21/2014 12:19	7/21/2014 12:19	grab	F	No		X	X			MIZ 950	14076366
SPOUT	7/21/2014 11:13	7/21/2014 11:13	grab	F	No		X	X			MIZ 949	14076366
SW093	7/21/2014 11:33	7/21/2014 11:33	grab	F	No		X	X			MIZ 947	14076366
B5INFLOW	6/4/2014 11:09	7/30/2014 15:29	composite	F	No		X				MJS 090	14086393
GS31	5/22/2014 10:59	8/6/2014 15:25	composite	F	No		X		X		MJS 296	14086403
WOMPOC	6/24/2014 11:12	8/6/2014 14:57	composite	F	No		X		X		MJS 294	14086403
WALPOC	6/4/2014 10:45	8/12/2014 11:06	composite	F	No		X		X		MJS 659	14086418

Table 2. Water Sampling Events: Third Quarter CY 2014

Location Code	Sampling Dates		Sample Info			Analytes					Sample Tracking Info	
	Start	End	Collection Method	Type	Filtered	VOC	U	Nitrate	Pu/Am	TSS	Ticket	RIN #

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