LMS/RFS/45045

Rocky Flats Site, Colorado, Surface Water Configuration Adaptive Management Plan Quarterly Report

Second Quarter Calendar Year 2023

July 2023

U.S. DEPARTMENT OF ENERGY | Legacy Management

This document has been designed for online viewing.

Contents

Tables

Abbreviations

AMP	Adaptive Management Plan
COU	Central Operable Unit
CY	calendar year
DOE	U.S. Department of Energy
EA	Environmental Assessment
POC	Point of Compliance

1.0 Introduction

The Proposed Action assessed in the *Rocky Flats Site, Colorado, Surface Water Configuration Environmental Assessment* (DOE 2011), hereafter referred to as the Environmental Assessment (EA), is to breach the remaining retention pond dams at the Rocky Flats Site, Colorado, 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 should be collected before implementing the final steps of the Proposed Action to help reduce uncertainty about whether completion of the Proposed Action will adversely impact the quality of water flowing from the Site into downstream community watersheds. 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, the *Surface Water Configuration Adaptive Management Plan for the Rocky Flats Site, Colorado* (DOE 2021b), first published in 2011, reflects DOE's long-term commitment to implementing the activities presented in the AMP.

The AMP provides for a monitoring and data evaluation program to assist in deciding when to implement the final steps of the Proposed Action, which include breaching the terminal dams. The terminal dams will be operated in a flow-through condition until the completion of the Proposed Action, which will provide data similar to what can be expected postbreach. In addition to the monitoring program, the AMP identifies certain performance indicators that DOE will consider in deciding whether to adjust the time frame for completing the Proposed Action.

This AMP Quarterly Report for the second quarter of calendar year (CY) 2023 is provided in accordance with Section 5.0, "Reporting," of the AMP. Section 3.0 of this report describes the second quarter data summary tables, which include all validated analytical data for the AMP monitoring objectives that were available as of June 30, 2023. 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 *Additional Field Implementation Detail for Selected Monitoring Objectives at the Rocky Flats Site, Colorado* (DOE 2021a).

This report routinely includes analytical data for the following AMP monitoring objectives:

- Predischarge 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 nitrogen in North Walnut Creek (Item 8, AMP Table 2)

2.0 AMP Highlights: Second Quarter CY 2023

- Seven informal emails were transmitted to AMP participants providing notification that composite samples had been retrieved from the Points of Compliance (POCs): Woman Creek at the Central Operable Unit (COU) boundary and Walnut Creek at the COU boundary.
- Three informal emails were transmitted to AMP participants providing notification that recent analytical data from the POCs had been validated and would soon be available through the Geospatial Environmental Mapping System (GEMS).
- Two informal emails were transmitted to AMP participants providing notification of individual analytical results from POCs and Points of Evaluation that were above the applicable surface water standard in Attachment 2, Table 1 in the *Rocky Flats Legacy Management Agreement* (CDPHE et al. 2007), which was revised in 2018.
- During the quarter, 99 samples were collected in support of AMP monitoring objectives.

3.0 Analytical Data: Second Quarter CY 2023

Analytical data for the second quarter of CY 2023 are provided in Tables 1 and 2 (at the end of this report). Table 1 provides the analytical results, and Table 2 lists the water sampling events during the quarter.

4.0 References

CDPHE (Colorado Department of Public Health and Environment), DOE (U.S. Department of Energy), and EPA (U.S. Environmental Protection Agency), 2007. *Rocky Flats Legacy Management Agreement*, executed on March 14, Attachment 2 updated December 2018.

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

DOE (U.S. Department of Energy), 2021a. *Additional Field Implementation Detail for Selected Monitoring Objectives at the Rocky Flats Site, Colorado*, LMS/RFS/S08202, Office of Legacy Management, July.

DOE (U.S. Department of Energy), 2021b. *Surface Water Configuration Adaptive Management Plan for the Rocky Flats Site, Colorado*, LMS/RFS/S07698, Office of Legacy Management, December.

Table 1. Analytical Results for Water Samples

LOCATION CODE	LOCATION TYPE	DATE SAMPLED	SAMPLE CODE	CAS Registry Number	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCER-TAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
A1EFF	SL	3/2/23	RFS01-05.2302048-005	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	8.8	mg/L		F	0.044			G	STD
A1EFF	SL	3/2/23	RFS01-05.2302048-005	7440-61-1	Uranium	N	26	ug/L		F	0.03			G	STD
A1EFF	SL	3/2/23	RFS01-05.2302048-010	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	8.5	mg/L		D	0.044			G	STD
A1EFF	SL	3/2/23	RFS01-05.2302048-010	7440-61-1	Uranium	N	24	ug/L		D	0.03			G	STD
A1EFF	SL	3/15/23	RFS01-05.2303049-005	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	8	mg/L		F	0.85			G	GEN
A1EFF	SL	3/30/23	RFS01-04.2303107-003	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	3.3	mg/L		F	0.044			G	STD
A1EFF	SL	3/30/23	RFS01-04.2303107-003	7440-61-1	Uranium	N	59	ug/L		F	0.03			G	STD
A1EFF	SL	4/13/23	RFS01-04.2304108-003	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.38	mg/L		F	0.044			G	STD
A1EFF	SL	5/1/23	RFS01-04.2304109-003	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	1.7	mg/L		F	0.044		J	G	STD
A1EFF	SL	5/1/23	RFS01-04.2304109-003	7440-61-1	Uranium	N	18	ug/L		F	0.03			G	STD
A2EFF	SL	3/2/23	RFS01-05.2302048-006	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	19	mg/L		F	0.22			G	STD
A2EFF	SL	3/2/23	RFS01-05.2302048-006	7440-61-1	Uranium	N	54	ug/L		F	0.03			G	STD
A2EFF	SL	3/15/23	RFS01-05.2303049-006	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	9.25	mg/L		F	0.85			G	GEN
A2EFF	SL	3/30/23	RFS01-04.2303107-004	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.22	mg/L		F	0.044			G	STD
A2EFF	SL	3/30/23	RFS01-04.2303107-004	7440-61-1	Uranium	N	38	ug/L		F	0.03			G	STD
A2EFF	SL	4/13/23	RFS01-04.2304108-004	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.044	mg/L	U	F	0.044			G	STD
A2EFF	SL	5/1/23	RFS01-04.2304109-002	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.71	mg/L		D	0.044		J	G	STD
A2EFF	SL	5/1/23	RFS01-04.2304109-004	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.65	mg/L		F	0.044		J	G	STD
A2EFF	SL	5/1/23	RFS01-04.2304109-002	7440-61-1	Uranium	N	22	ug/L		D	0.03			G	STD
A2EFF	SL	5/1/23	RFS01-04.2304109-004	7440-61-1	Uranium	N	22	ug/L		F	0.03			G	STD
A3EFF	SL	5/1/23	RFS01-04.2304109-005	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.044	mg/L	U	F	0.044		J	G	STD
A3EFF	SL	5/1/23	RFS01-04.2304109-005	7440-61-1	Uranium	N	24	ug/L		F	0.03			G	STD
B3OUTFLOW	SL	3/2/23	RFS01-05.2302048-008	7440-61-1	Uranium	N	28	ug/L		F	0.03			G	STD
B3OUTFLOW	SL	3/30/23	RFS01-04.2303107-006	7440-61-1	Uranium	N	35	ug/L		F	0.03			G	STD
B3OUTFLOW	SL	5/1/23	RFS01-04.2304109-006	7440-61-1	Uranium	N	20	ug/L		F	0.03			G	STD
B5INFLOW	SL	6/7/22	RFS01-04.2304109-016	7440-61-1	Uranium	N	20	ug/L	H	F	0.03			C	STD
B5INFLOW	SL	5/1/23	RFS01-04.2304109-007	7440-61-1	Uranium	N	24	ug/L		F	0.03			G	STD
GS10	SL	3/2/23	RFS01-05.2302048-007	7440-61-1	Uranium	N	21	ug/L		F	0.03			G	STD
GS10	SL	3/30/23	RFS01-04.2303107-010	7440-61-1	Uranium	N	27	ug/L		F	0.03			G	STD
GS13	SL	3/2/23	RFS01-05.2302048-004	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	13	mg/L		F	0.088			G	STD
GS13	SL	3/2/23	RFS01-05.2302048-004	7440-61-1	Uranium	N	30	ug/L		F	0.03			G	STD
GS13	SL	3/15/23	RFS01-05.2303049-004	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	15.2	mg/L		F	0.85			G	GEN
GS13	SL	3/30/23	RFS01-04.2303107-012	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	20	mg/L		F	0.22			G	STD
GS13	SL	3/30/23	RFS01-04.2303107-012	7440-61-1	Uranium	N	34	ug/L		F	0.03			G	STD
GS13	SL	4/13/23	RFS01-04.2304108-012	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	11	mg/L		F	0.44			G	STD
GS13	SL	5/1/23	RFS01-04.2304109-012	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	2.4	mg/L		F	0.044		J	G	STD
GS13	SL	5/1/23	RFS01-04.2304109-012	7440-61-1	Uranium	N	9.1	ug/L		F	0.03			G	STD
GS31	SL	3/20/22	RFS01-05.2303049-007	14596-10-2	Americium-241	N	0.00602	pCi/L	U	F		0.00935		C	GEN
GS31	SL	3/20/22	RFS01-05.2303049-007	PU-239,240	Plutonium-239, 240	N	0.0113	pCi/L	U	F		0.0138		C	GEN
GS31	SL	3/20/22	RFS01-05.2303049-007	7440-61-1	Uranium	N	11	ug/L		F	0.067			C	GEN
GS31	SL	3/10/23	RFS01-13.2305093-001	14596-10-2	Americium-241	N	0.00581	pCi/L	U	F		0.00901		C	GEN
GS31	SL	3/10/23	RFS01-13.2305093-001	PU-239,240	Plutonium-239, 240	N	0.00515	pCi/L	U	F		0.00875		C	GEN
GS31	SL	3/10/23	RFS01-13.2305093-001	7440-61-1	Uranium	N	10.2	ug/L		F	0.067			C	GEN
SPOUT	TS	3/2/23	RFS01-05.2302048-002	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.16	mg/L		F	0.044			G	STD
SPOUT	TS	3/2/23	RFS01-05.2302048-002	7440-61-1	Uranium	N	26	ug/L	W	F	0.03			G	STD
SPOUT	TS	3/15/23	RFS01-05.2303049-001	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.017	mg/L	U	F	0.017			G	GEN
SPOUT	TS	3/30/23	RFS01-04.2303107-014	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.2	mg/L		F	0.044			G	STD
SPOUT	TS	3/30/23	RFS01-04.2303107-014	7440-61-1	Uranium	N	21	ug/L		F	0.03			G	STD
SPOUT	TS	4/13/23	RFS01-04.2304108-014	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.068	mg/L		F	0.044			G	STD
SPOUT	TS	5/1/23	RFS01-04.2304109-014	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.068	mg/L		F	0.044		J	G	STD
SPOUT	TS	5/1/23	RFS01-04.2304109-014	7440-61-1	Uranium	N	19	ug/L		F	0.03			G	STD
SW093	SL	3/2/23	RFS01-05.2302048-003	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.12	mg/L		F	0.044			G	STD
SW093	SL	3/2/23	RFS01-05.2302048-003	7440-61-1	Uranium	N	5.8	ug/L		F	0.03			G	STD
SW093	SL	3/15/23	RFS01-05.2303049-003	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.149	mg/L		F	0.017			G	GEN
SW093	SL	3/30/23	RFS01-04.2303107-015	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.13	mg/L		F	0.044			G	STD
SW093	SL	3/30/23	RFS01-04.2303107-015	7440-61-1	Uranium	N	7.6	ug/L		F	0.03			G	STD
SW093	SL	4/13/23	RFS01-04.2304108-015	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.053	mg/L		F	0.044			G	STD
SW093	SL	5/1/23	RFS01-04.2304109-015	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.044	mg/L	U	F	0.044		J	G	STD
SW093	SL	5/1/23	RFS01-04.2304109-015	7440-61-1	Uranium	N	3	ug/L		F	0.03			G	STD
WALPOC	SL	1/17/23	RFS01-13.2306094-001	14596-10-2	Americium-241	N	0.0299	pCi/L		F		0.0168	J	C	GEN
WALPOC	SL	1/17/23	RFS01-13.2306094-003	14596-10-2	Americium-241	N	0.0382	pCi/L		D		0.0162	J	C	GEN
WALPOC	SL	1/17/23	RFS01-13.2306094-001	PU-239,240	Plutonium-239, 240	N	0.0395	pCi/L		F		0.0251	J	C	GEN
WALPOC	SL	1/17/23	RFS01-13.2306094-003	PU-239,240	Plutonium-239, 240	N	0.0657	pCi/L		D		0.0234	J	C	GEN
WALPOC	SL	1/17/23	RFS01-13.2306094-001	7440-61-1	Uranium	N	5.25	ug/L		F	0.067			C	GEN
WALPOC	SL	1/17/23	RFS01-13.2306094-003	7440-61-1	Uranium	N	5.41	ug/L		D	0.067			C	GEN
WALPOC	SL	4/28/23	RFS01-04.2304109-017	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.044	mg/L	U	F	0.044		J	G	STD
WALPOC	SL	5/12/23	RFS01-13.2306094-002	14596-10-2	Americium-241	N	0.0181	pCi/L	U	F		0.0173		C	GEN

Table 1. Analytical Results for Water Samples

LOCATION CODE	LOCATION TYPE	DATE SAMPLED	SAMPLE CODE	CAS Registry Number	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCER-TAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
WALPOC	SL	5/12/23	RFS01-13.2306094-002	PU-239,240	Plutonium-239, 240	N	0.0243	pCi/L	U	F		0.016		C	GEN
WALPOC	SL	5/12/23	RFS01-13.2306094-002	7440-61-1	Uranium	N	4.51	ug/L		F	0.067			C	GEN
WOMPOC	SL	1/17/23	RFS01-13.2302088-015	14596-10-2	Americium-241	N	0.00129	pCi/L	U	F		0.00983		C	GEN
WOMPOC	SL	1/17/23	RFS01-13.2302088-015	PU-239,240	Plutonium-239, 240	N	0.00143	pCi/L	U	F		0.0128		C	GEN
WOMPOC	SL	1/17/23	RFS01-13.2302088-015	7440-61-1	Uranium	N	2.14	ug/L		F	0.067			C	GEN
WOMPOC	SL	2/21/23	RFS01-13.2303089-015	14596-10-2	Americium-241	N	0.00142	pCi/L	U	F		0.00833		C	GEN
WOMPOC	SL	2/21/23	RFS01-13.2303089-015	PU-239,240	Plutonium-239, 240	N	0.0142	pCi/L	U	F		0.0128		C	GEN
WOMPOC	SL	2/21/23	RFS01-13.2303089-015	7440-61-1	Uranium	N	2.27	ug/L		F	0.067			C	GEN
WOMPOC	SL	3/20/23	RFS01-13.2304090-015	14596-10-2	Americium-241	N	0.0025	pCi/L	U	F		0.00599		C	GEN
WOMPOC	SL	3/20/23	RFS01-13.2304090-015	PU-239,240	Plutonium-239, 240	N	-0.00533	pCi/L	U	F		0.00906		C	GEN
WOMPOC	SL	3/20/23	RFS01-13.2304090-015	7440-61-1	Uranium	N	3.29	ug/L		F	0.067			C	GEN
WOMPOC	SL	4/24/23	RFS01-13.2305092-015	14596-10-2	Americium-241	N	0.00267	pCi/L	U	F		0.00827		C	GEN
WOMPOC	SL	4/24/23	RFS01-13.2305092-015	PU-239,240	Plutonium-239, 240	N	-0.00164	pCi/L	U	F		0.0107		C	GEN
WOMPOC	SL	4/24/23	RFS01-13.2305092-015	7440-61-1	Uranium	N	1.78	ug/L		F	0.067			C	GEN
WOMPOC	SL	5/1/23	RFS01-13.2306094-004	14596-10-2	Americium-241	N	-0.00163	pCi/L	U	F		0.0106		C	GEN
WOMPOC	SL	5/1/23	RFS01-13.2306094-004	PU-239,240	Plutonium-239, 240	N	0.0123	pCi/L	U	F		0.0162		C	GEN
WOMPOC	SL	5/1/23	RFS01-13.2306094-004	7440-61-1	Uranium	N	1.78	ug/L		F	0.067			C	GEN
WOMPOC	SL	5/11/23	RFS01-13.2306094-005	14596-10-2	Americium-241	N	0.00456	pCi/L	U	F		0.0155		C	GEN
WOMPOC	SL	5/11/23	RFS01-13.2306094-005	PU-239,240	Plutonium-239, 240	N	0.0405	pCi/L		F		0.0155	J	C	GEN
WOMPOC	SL	5/11/23	RFS01-13.2306094-005	7440-61-1	Uranium	N	1.22	ug/L		F	0.067			C	GEN
WOMPOC	SL	5/12/23	RFS01-13.2306094-006	14596-10-2	Americium-241	N	0.00214	pCi/L	U	F		0.0139		C	GEN
WOMPOC	SL	5/12/23	RFS01-13.2306094-006	PU-239,240	Plutonium-239, 240	N	0.0105	pCi/L	U	F		0.0121		C	GEN
WOMPOC	SL	5/12/23	RFS01-13.2306094-006	7440-61-1	Uranium	N	0.691	ug/L		F	0.067			C	GEN

EXPLANATION

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

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

SAMPLE_TYPE
F = Field Sample
D = Duplicate

DATA_VALIDATION_QUALIFIERS

<blank>	No qualifiers needed for result.
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

<blank>	No qualifiers needed for result.
*	Replicate analysis not within control limits.
+	Correlation coefficient for MSA < 0.995.
>	Result above upper detection limit.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic & Radiochemistry: Analyte also found in method blank.
C	Pesticide result confirmed by GC-MS.
D	Analyte determined in diluted sample.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
J	Estimated
M	GFAA duplicate injection precision not met.
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compund (TIC).
P	> 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
S	Result determined by method of standard addition (MSA).
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
Y	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
Z	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.

LOCATION_TYPE

SL	SURFACE LOCATION
TS	TREATMENT SYSTEM
WL	WELL

LAB_CODE

GEN	Gel Laboratories
STD	Test America

COLLECTION_METHOD

G	Grab
C	Composite

Table 2. Water Sampling Events: Second Quarter CY 2023

	Sampling Dates		Sample Info			Analytes					Sample Tracking Info
Location Code	**Start**	**End**	**Collection Method**	**Type**	**Filtered**	**VOC**	**U**	**Nitrate**	**Pu/Am**	**TSS**	**Sample ID**
WOMPOC	3/20/2023 12:39	4/6/2023 14:52	composite	F	No		X		X		RFS01-13.2304090-015
00193	4/11/2023 13:15	4/11/2023 13:15	grab	F	Yes		X				RFS01-10.2304056-001
00193	4/11/2023 13:15	4/11/2023 13:15	grab	F	No	X					RFS01-10.2304056-001
89104	4/13/2023 10:20	4/13/2023 10:20	grab	F	No	X					RFS01-10.2304056-046
10304	4/13/2023 10:55	4/13/2023 10:55	grab	F	Yes		X				RFS01-10.2304056-010
10304	4/13/2023 10:55	4/13/2023 10:55	grab	F	No	X		X			RFS01-10.2304056-010
A1EFF	4/13/2023 14:20	4/13/2023 14:20	grab	F	No			X			RFS01-04.2304108-003
A2EFF	4/13/2023 14:25	4/13/2023 14:25	grab	F	No			X			RFS01-04.2304108-004
SW093	4/13/2023 14:37	4/13/2023 14:37	grab	F	No			X			RFS01-04.2304108-015
SPOUT	4/13/2023 14:43	4/13/2023 14:43	grab	F	No			X			RFS01-04.2304108-014
GS13	4/13/2023 14:48	4/13/2023 14:48	grab	F	No			X			RFS01-04.2304108-012
00997	4/19/2023 10:35	4/19/2023 10:35	grab	F	Yes		X				RFS01-10.2304060-005
00997	4/19/2023 10:35	4/19/2023 10:35	grab	F	No	X		X			RFS01-10.2304060-005
WOMPOC	4/6/2023 14:52	4/24/2023 12:25	composite	F	No		X		X		RFS01-13.2304091-015
11104	4/25/2023 11:45	4/25/2023 11:45	grab	F	No	X					RFS01-10.2304058-012
11104	4/25/2023 11:45	4/25/2023 11:45	grab	F	Yes		X				RFS01-10.2304058-012
WALPOC	4/28/2023 11:19	4/28/2023 11:19	grab	F	No			X			RFS01-04.2304109-017
GS31	3/10/2023 15:27	5/1/2023 11:38	composite	F	No		X		X		RFS01-13.2305093-001
WOMPOC	4/24/2023 12:25	5/1/2023 12:00	composite	F	No		X		X		RFS01-13.2305092-015
A3EFF	5/1/2023 13:09	5/1/2023 13:09	grab	F	No		X	X			RFS01-04.2304109-005
SPOUT	5/1/2023 14:08	5/1/2023 14:08	grab	F	No		X	X			RFS01-04.2304109-014
SW093	5/1/2023 14:23	5/1/2023 14:23	grab	F	No		X	X			RFS01-04.2304109-015
GS13	5/1/2023 14:44	5/1/2023 14:44	grab	F	No		X	X			RFS01-04.2304109-012
A1EFF	5/1/2023 14:55	5/1/2023 14:55	grab	F	No		X	X			RFS01-04.2304109-003
A2EFF	5/1/2023 15:00	5/1/2023 15:00	grab	D	No		X	X			RFS01-04.2304109-002
A2EFF	5/1/2023 15:00	5/1/2023 15:00	grab	F	No		X	X			RFS01-04.2304109-004
B5INFLOW	5/1/2023 15:15	5/1/2023 15:15	grab	F	No		X				RFS01-04.2304109-007
B3OUTFLOW	5/1/2023 15:46	5/1/2023 15:46	grab	F	No		X				RFS01-04.2304109-006
GS10	5/1/2023 15:55	5/1/2023 15:55	grab	F	No		X				RFS01-04.2304109-010
4087	5/9/2023 9:45	5/9/2023 9:45	grab	F	Yes		X				RFS01-10.2305062-027
4087	5/9/2023 9:45	5/9/2023 9:45	grab	F	No	X		X			RFS01-10.2305062-027
B206989	5/9/2023 10:10	5/9/2023 10:10	grab	F	Yes		X				RFS01-10.2305062-059
B206989	5/9/2023 10:10	5/9/2023 10:10	grab	F	No	X		X			RFS01-10.2305062-059
WOMPOC	5/1/2023 12:00	5/11/2023 16:19	composite	F	No		X		X		RFS01-13.2306094-004
B5INFLOW	4/27/2023 12:01	5/11/2023 18:29	composite	F	No		X				RFS01-04.2305111-001
GS31	5/12/2023 2:32	5/12/2023 9:32	composite	F	No		X		X		RFS01-05.2305050-007
GS31	5/12/2023 2:32	5/12/2023 9:32	composite	F	No					X	RFS01-02.2305047-004
WALPOC	5/12/2023 11:15	5/12/2023 11:15	grab	F	No			X			RFS01-02.2305049-001
WALPOC	1/17/2023 12:38	5/12/2023 11:20	composite	F	No		X		X		RFS01-13.2306094-001
WALPOC	1/17/2023 12:38	5/12/2023 11:20	composite	D	No		X		X		RFS01-13.2306094-003
GS11	5/12/2023 11:45	5/12/2023 11:45	grab	F	No			X			RFS01-04.2305111-004
GS11	1/18/2022 11:09	5/12/2023 11:50	composite	F	No		X		X		RFS01-05.2305050-003
GS08	4/4/2022 11:58	5/12/2023 12:03	composite	F	No		X		X		RFS01-05.2305050-001
GS12	6/25/2022 11:16	5/12/2023 12:23	composite	F	No		X				RFS01-04.2305111-006
B5INFLOW	5/11/2023 18:28	5/12/2023 12:40	composite	F	No		X				RFS01-04.2305111-002
WOMPOC	5/11/2023 16:19	5/12/2023 14:01	composite	F	No		X		X		RFS01-13.2306094-005

Table 2. Water Sampling Events: Second Quarter CY 2023

	Sampling Dates		Sample Info			Analytes					Sample Tracking Info
Location Code	Start	End	Collection Method	Type	Filtered	VOC	U	Nitrate	Pu/Am	TSS	Sample ID
GS31	5/1/2023 11:38	5/12/2023 14:10	composite	F	No		X		X		RFS01-05.2305050-005
WALPOC	5/12/2023 11:20	5/16/2023 12:59	composite	F	No		X		X		RFS01-13.2306094-002
WALPOC	5/16/2023 13:05	5/16/2023 13:05	grab	F	No			X			RFS01-02.2305049-002
GS11	5/12/2023 11:50	5/16/2023 13:33	composite	F	No		X		X		RFS01-05.2305050-004
GS11	5/16/2023 13:40	5/16/2023 13:40	grab	F	No			X			RFS01-04.2305111-005
GS08	5/12/2023 12:03	5/16/2023 13:44	composite	F	No		X		X		RFS01-05.2305050-002
GS31	5/12/2023 14:10	5/16/2023 14:45	composite	F	No		X		X		RFS01-05.2305050-006
GS31	5/12/2023 14:10	5/16/2023 14:45	composite	D	No		X		X		RFS01-05.2305050-008
WOMPOC	5/12/2023 14:01	5/16/2023 15:06	composite	F	No		X		X		RFS01-13.2306094-006
GS12	5/12/2023 12:23	5/17/2023 13:50	composite	F	No		X				RFS01-04.2305111-007
B5INFLOW	5/12/2023 12:40	5/17/2023 14:12	composite	F	No		X				RFS01-04.2305111-003
SW093	5/23/2023 12:20	5/23/2023 12:20	grab	F	No			X			RFS01-04.2305112-004
SPOUT	5/23/2023 12:25	5/23/2023 12:25	grab	F	No			X			RFS01-04.2305112-006
GS13	5/23/2023 12:30	5/23/2023 12:30	grab	F	No			X			RFS01-04.2305112-007
A3EFF	5/23/2023 12:45	5/23/2023 12:45	grab	F	No			X			RFS01-04.2305112-009
A2EFF	5/23/2023 12:55	5/23/2023 12:55	grab	F	No			X			RFS01-04.2305112-010
A1EFF	5/23/2023 13:00	5/23/2023 13:00	grab	F	No			X			RFS01-04.2305112-011
GS11	5/23/2023 13:10	5/23/2023 13:10	grab	F	No			X			RFS01-04.2305112-013
WALPOC	5/30/2023 11:08	5/30/2023 11:08	grab	F	No			X			RFS01-04.2305113-016
WALPOC	5/16/2023 14:27	5/30/2023 11:11	composite	F	No		X		X		RFS01-13.2306095-002
GS11	5/30/2023 11:30	5/30/2023 11:30	grab	F	No			X			RFS01-04.2305113-017
GS11	5/16/2023 13:33	5/30/2023 11:35	composite	F	No		X		X		RFS01-13.2306096-003
GS08	5/16/2023 13:44	5/30/2023 11:55	composite	F	No		X		X		RFS01-13.2306096-006
42505	5/30/2023 12:25	5/30/2023 12:25	grab	F	No	X					RFS01-10.2305063-003
WOMPOC	5/16/2023 12:59	5/30/2023 12:47	composite	F	No		X		X		RFS01-13.2306095-002
GS31	5/16/2023 14:45	5/30/2023 12:57	composite	F	No		X		X		RFS01-13.2306096-004
GS13	6/1/2023 10:30	6/1/2023 10:30	grab	F	No		X	X			RFS01-10.2305063-012
GS13	6/1/2023 10:30	6/1/2023 10:30	grab	D	No		X	X			RFS01-10.2305063-018
SPOUT	6/1/2023 11:15	6/1/2023 11:15	grab	F	No		X	X			RFS01-10.2305063-010
10594	6/5/2023 9:40	6/5/2023 9:40	grab	F	No	X		X			RFS01-10.2305063-008
10594	6/5/2023 9:40	6/5/2023 9:40	grab	F	Yes		X				RFS01-10.2305063-008
SPOUT	6/5/2023 10:25	6/5/2023 10:25	grab	F	No		X	X			RFS01-04.2305113-006
SW093	6/5/2023 10:35	6/5/2023 10:35	grab	F	No		X	X			RFS01-04.2305113-004
GS13	6/5/2023 10:50	6/5/2023 10:50	grab	F	No		X	X			RFS01-04.2305113-007
GS13	6/5/2023 10:50	6/5/2023 10:50	grab	D	No		X	X			RFS01-04.2305113-009
A2EFF	6/5/2023 11:05	6/5/2023 11:05	grab	F	No		X	X			RFS01-04.2305113-011
A1EFF	6/5/2023 11:10	6/5/2023 11:10	grab	F	No		X	X			RFS01-04.2305113-012
GS11	6/5/2023 11:20	6/5/2023 11:20	grab	F	No		X	X			RFS01-04.2305113-015
GS08	6/5/2023 11:30	6/5/2023 11:30	grab	F	No		X				RFS01-04.2305113-013
A3EFF	6/5/2023 11:45	6/5/2023 11:45	grab	F	No		X	X			RFS01-04.2305113-010
B5INFLOW	6/5/2023 12:05	6/5/2023 12:05	grab	F	No		X				RFS01-04.2305113-003
B3OUTFLOW	6/5/2023 12:25	6/5/2023 12:25	grab	F	No		X				RFS01-04.2305113-002
GS10	6/5/2023 12:30	6/5/2023 12:30	grab	F	No		X				RFS01-04.2305113-001
GS12	5/17/2023 13:50	6/7/2023 13:04	composite	F	No		X				RFS01-13.2306097-015
B5INFLOW	5/17/2023 14:12	6/7/2023 13:29	composite	F	No		X				RFS01-13.2306097-002
WOMPOC	5/30/2023 12:47	6/15/2023 10:26	composite	F	No		X		X		RFS01-13.2306098-016
SW093	6/15/2023 12:25	6/15/2023 12:25	grab	F	No			X			RFS01-04.2306114-015
SPOUT	6/15/2023 12:30	6/15/2023 12:30	grab	F	No			X			RFS01-04.2306114-014

Table 2. Water Sampling Events: Second Quarter CY 2023

	Sampling Dates		Sample Info			Analytes					Sample Tracking Info
Location Code	Start	End	Collection Method	Type	Filtered	VOC	U	Nitrate	Pu/Am	TSS	Sample ID
GS13	6/15/2023 12:35	6/15/2023 12:35	grab	F	No			X			RFS01-04.2306114-012
A1EFF	6/15/2023 12:45	6/15/2023 12:45	grab	F	No			X			RFS01-04.2306114-003
A2EFF	6/15/2023 12:50	6/15/2023 12:50	grab	F	No			X			RFS01-04.2306114-004
A3EFF	6/15/2023 13:00	6/15/2023 13:00	grab	F	No			X			RFS01-04.2306114-005
GS11	6/15/2023 13:25	6/15/2023 13:25	grab	F	No			X			RFS01-04.2306114-011
WOMPOC	6/15/2023 10:26	6/21/2023 11:12	composite	F	No		X		X		RFS01-13.2306098-015
GS12	6/7/2023 13:04	6/21/2023 11:57	composite	F	No		X				RFS01-13.2306098-009
B5INFLOW	6/7/2023 13:29	6/21/2023 12:12	composite	F	No		X				RFS01-13.2306098-002
SW093	6/28/2023 9:40	6/28/2023 9:40	grab	F	No		X	X			RFS01-04.2306115-015
SPOUT	6/28/2023 9:45	6/28/2023 9:45	grab	F	No		X	X			RFS01-04.2306115-014
GS13	6/28/2023 9:55	6/28/2023 9:55	grab	D	No		X	X			RFS01-04.2306115-002
GS13	6/28/2023 9:55	6/28/2023 9:55	grab	F	No		X	X			RFS01-04.2306115-012
B3OUTFLOW	6/28/2023 11:20	6/28/2023 11:20	grab	F	No		X				RFS01-04.2306115-006
GS10	6/28/2023 11:40	6/28/2023 11:40	grab	F	No		X				RFS01-04.2306115-010
WALPOC	5/30/2023 11:11	6/29/2023 9:42	composite	F	No		X		X		RFS01-13.2306099-013
GS11	5/30/2023 11:35	6/29/2023 9:50	composite	F	No		X		X		RFS01-05.2306051-004
GS11	6/29/2023 9:54	6/29/2023 9:54	grab	F	No			X			RFS01-05.2306051-005
GS08	5/30/2023 11:55	6/29/2023 10:03	composite	F	No		X		X		RFS01-05.2306051-003
GS31	5/30/2023 12:57	6/29/2023 10:51	composite	F	No		X		X		RFS01-05.2306051-007

FILTRATION STATUS

No = Sample was not filtered.
Yes = Sample was filtered.

SAMPLE_TYPE

F = Field Sample
D = Duplicate

ANALYTES

VOC = volatile organic compound
U = uranium
Pu/Am = plutonium and americium
TSS = total suspended solids