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Symbol: EPC-DO: 23-136

Date: April 28, 2023

LA-UR: 23-23738

Locates Action No.: U2200542

Justin Ball, Chief
 Ground Water Quality Bureau
 New Mexico Environment Department
 Harold Runnels Building, Room N2261
 Santa Fe, NM 87502

Subject: DP-1132, Monitoring Report, Radioactive Liquid Waste Treatment Facility, First Quarter 2023

Dear Mr. Ball:

On May 5, 2022, the New Mexico Environment Department (NMED) issued Discharge Permit DP-1132 to the U.S. Department of Energy, National Nuclear Security Administration (NNSA) and Triad National Security, LLC (Triad) for discharges of treated effluent from the Technical Area 50 Radioactive Liquid Waste Treatment Facility (RLWTF). Pursuant to Permit Condition Number (No.) 24, NNSA and Triad are required to submit a quarterly monitoring report by May 1, 2023. The following permit conditions are addressed in Attachment 1 through 6 of this report.

- Condition No.13: Maintenance and Repair
- Condition Nos. 25 and 26: RLWTF Influent Volumes
- Condition No. 27: Discharge Volumes
- Condition No. 29: Effluent Sampling
- Condition No. 30: Soil Moisture Monitoring System for the Solar Evaporation Tank System
- Condition No. 36: Groundwater Monitoring
- Condition No. 41: Stabilization of Specific Units and Systems that have Ceased

Please contact Karen E. Armijo at (505) 665-7314 or karen.armijo@nnsa.doe.gov or contact Brian M. Iacona at (505) 500-6038 or biacona@lanl.gov if you have questions regarding this monitoring report submission.

Sincerely,
**STEVEN
STORY
(Affiliate)**
Steve Story
Group Leader
Environmental Compliance Programs
Triad National Security, LLC

Digitally signed by
STEVEN STORY
(Affiliate)
Date: 2023.04.20
08:33:14 -06'00'

Sincerely,
**KAREN
ARMIJO**
Karen E. Armijo
Permitting and Compliance Program Manager
National Nuclear Security Administration
U.S. Department of Energy

Digitally signed by
KAREN ARMIJO
Date: 2023.04.28
07:30:12 -06'00'

Attachments: Attachment 1 RLWTF Monitoring Report – First Quarter 2023
Attachment 2 Quarterly Summary of Maintenance and Repair Activities Conducted at the RLWTF
Attachment 3 RLWTF Daily Influent and Effluent Volumes
Attachment 4 Treated Effluent Sampling Results
Attachment 5 Groundwater Monitoring Report – First Quarter 2023
Attachment 6 Monitoring Well Location Map

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Attachment 1

RLWTF Monitoring Report – First Quarter 2023

EPC-DO: 23-136

LA-UR-23-23738

Date: _____ 4/28/2023 _____

Condition No. 24: Monitoring Reports

Pursuant to Permit Condition Number (No.) 24, the U.S. Department of Energy, National Nuclear Security Administration (NNSA) and Triad National Security, LLC (Triad) are required to submit a quarterly monitoring report by May 1, 2023, for the monitoring period of January 1, 2023, through March 31, 2023 (first quarter). The following permit conditions are addressed in Attachments 1 through 6 of this report.

- Quarterly Monitoring Report
 - Condition No.13 : Maintenance and Repair
 - Condition Nos. 25 and 26: RLWTF Influent Volumes
 - Condition No. 27: Discharge Volumes
 - Condition No. 29: Effluent Sampling
 - Condition No. 30: Soil Moisture Monitoring System for the Solar Evaporation Tank System
 - Condition No. 36: Groundwater Monitoring
 - Condition No. 41: Stabilization of Specific Units and Systems that have Ceased

Condition No. 13: Maintenance and Repair

The Permittees shall submit to NMED a summary and description of the maintenance and repair activities performed on the Facility as part of the quarterly monitoring reports.

- **Attachment 2** provides a summary of the maintenance and repair activities conducted at the Radioactive Liquid Waste Treatment Facility (RLWTF) during the first quarter 2023 monitoring period.

Condition No. 25: Influent Volumes: Low-Level Radioactive Waste Water

The total daily and monthly volumes of RLW influent conveyed to the Facility shall be submitted to NMED in the quarterly monitoring reports.

- **Attachment 3** provides the total daily and monthly volumes of low-level radioactive wastewater (RLW) received by the RLWTF during the first quarter 2023 monitoring period.

Condition No. 26: Influent Volumes: Transuranic Waste Water

The total daily and monthly volumes of TRU influent received by the Facility shall be submitted to NMED in the quarterly monitoring reports.

- **Attachment 3** provides the total daily and monthly volumes of transuranic (TRU) influent wastewater received by the RLWTF during the first quarter 2023 monitoring period.

Condition No. 27: Discharge Volumes

The Permittees shall measure and record the volume of treated wastewater discharged to the SET, MES, and Outfall 051 on a daily basis.

- **Attachment 3** provides the daily volume of treated effluent discharged to National Pollutant Discharge Elimination System (NPDES) Outfall 051 and the Mechanical Evaporator System (MES) during the first quarter 2023 monitoring period.
 - No treated effluent was discharged to the Solar Evaporative Tank System (SET) during the first quarter 2023 monitoring period.
-

Condition No. 29: Effluent Sampling

The Permittees shall sample and analyze effluent waste streams discharged to Outfall 051, the SET, and the MES.

- **NPDES Outfall 051 Sampling.** Treated effluent from the RLWTF was discharged to NPDES Outfall 051 this quarter on the following dates:
 - January 12th
 - February 2nd and 22nd
 - March 8th

Monthly sampling for all water contaminants listed in 20.6.2.3103 NMAC and all toxic pollutants as defined in 20.6.2.7.T(2) NMAC was completed on January 12th, February 2nd, and March 8th, 2023. These analytical results are provided in **Attachment 4, Tables 1, 2, and 3**. All sample results from NPDES Outfall 051 this quarter were either not detected or less than 20.6.2.3103 NMAC standards and tap water screening levels for 20.6.2.7.T(2) NMAC analytes.

- **MES Sampling.** Treated effluent from the RLWTF was discharged to the MES this quarter during the month of March. Quarterly sampling for all water contaminants listed in 20.6.2.3103 NMAC and all toxic pollutants as defined in 20.6.2.7.T(2) NMAC was completed on March 16th, 2023. These analytical results are provided in **Attachment 4, Table 4**. All sample results from the MES this quarter were either not detected or less than 20.6.2.3103 NMAC standards and tap water screening levels for 20.6.2.7.T(2) NMAC analytes.
 - **SET Sampling.** No treated effluent was discharged to the SET during the reporting period. Therefore, no effluent sampling from the SET was completed during the first quarter 2023 monitoring period.
-

Condition No. 30: Soil Moisture Monitoring System for the SET

The permittees shall perform quarterly soil moisture monitoring in the moisture monitoring boreholes and shall provide this information in the quarterly reports.

- No treated effluent was discharged to the SET during the first quarter 2023 monitoring period.
 - In accordance with Permit Condition No. 30, the SET-Soil Moisture Monitoring System Completion Report (EPC-DO: 22-132) was submitted to NMED on June 29, 2022, for review.
 - Baseline monitoring of all SET moisture monitoring boreholes continued in the first quarter with quarterly monitoring completed in January 2023.
-

Condition No. 36: Ground Water Monitoring

The Permittees shall collect ground water samples from the following ground water monitoring wells: MCA-RLW-1, MCA-RLW-2, and MCOI-6 on a quarterly basis and analyze the samples for TKN, NO₃-N, TDS, Cl, F, and perchlorate.

- **Attachment 5** provides the complete ground water monitoring report from the quarterly sampling of perched/intermediate ground water monitoring well MCOI-6 on March 14, 2023.

Sample results from MCOI-6 for TKN, NO₃+NO₂-N, TDS, Cl, F, and ClO₄ are provided in **Attachment 5, Table 1**. These samples were submitted to GEL Laboratories, LLC for analysis. All results from the March 14, 2023, sampling event at MCOI-6 were below 20.6.2.3103 NMAC standards and 20.6.2.7.T NMAC guidance, with the exception of the following:

- NO₃+NO₂-N was detected at a concentration of 14.2 mg/L. The 20.6.2.3103 NMAC standard for NO₃-N is 10 mg/L. The average NO₃+NO₂-N concentration at MCOI-6 during the 5-yr period from 2017 through 2022 was 12.37 mg/L with multiple exceedances of the 10 mg/L standard. Detections of NO₃+NO₂-N at MCOI-6 at concentrations greater than the ground water standard were previously identified and reported to NMED. Monitoring well MCOI-6 will continue to be routinely sampled for NO₃+NO₂-N in accordance with DP-1132 and pursuant to the Compliance Order on Consent, June 2016 (Consent Order).
- ClO₄ was detected at a concentration of 116 µg/L. The 20.6.2.7.T NMAC guidance for ClO₄ is 13.8 µg/L. The average ClO₄ concentration at MCOI-6 during the 5-yr period from 2017 through 2022 was 93.4 µg/L. Detections of ClO₄ at MCOI-6 at concentrations greater than the 20.6.2.7.T NMAC guidance screening levels were previously identified and reported to NMED. Monitoring well MCOI-6 will continue to be routinely sampled for ClO₄ in accordance with DP-1132 and pursuant to the Consent Order.

A quarterly sample was not collected from alluvial monitoring wells MCA-RLW-1 or MCA-RLW-2 during this period due to insufficient water in the wells. **Attachment 5** provides the

complete ground water monitoring report for these alluvial wells collected on January 12, 2023.

A map showing the location of ground water monitoring wells MCA-RLW-1, MCA-RLW-2, MCOI-6, R-1, R-14, R-46 and R-60 is provided in **Attachment 6**.

Condition No. 41: Stabilization of Specific Units and Systems That Have Ceased

The Permittees shall provide NMED quarterly progress reports describing stabilization activities for each quarter in accordance with the time periods and submittal dates required for monitoring reports in Condition 24.

The current status of each unit and system listed in Permit Condition No. 41 is listed below.

Clarifier #1

- Stabilization activities for Clarifier #1 are being completed under the Stabilization Plan for the Low-Level Clarifier #1 submitted to NMED on December 4, 2018 (EPC-DO: 18-428). This workplan was approved by NMED on December 27, 2018.
- Removal of excess chemicals and process solids was completed in 2019.
- The chemical feed system was dismantled in May 2021.
- A Request for an Extension of Time to complete stabilization activities at Clarifier #1 was submitted to NMED on July 28, 2022 (EPC-DO: 22-193). NMED approved the request for extension on August 22, 2022.
- No additional stabilization milestones were due during the reporting period for this unit.

Clarifier #2

- Stabilization activities for Clarifier #2 are being completed under the Stabilization Plan for Low-Level Clarifier #2 Tank submitted to NMED on January 25, 2019 (EPC-DO: 19-007). This workplan was approved by NMED on April 25, 2019.
- Removal of excess chemicals was completed in 2019.
- The chemical feed system was dismantled in May 2021.
- No additional stabilization milestones were due during the reporting period for this unit.

75K Tank

- Stabilization activities for the 75K Tank are being completed under the Stabilization Plan for 75K Tank submitted to NMED on January 25, 2019 (EPC-DO: 19-007). This workplan was approved by NMED on April 25, 2019.
- The 75K Tank was operationally emptied during the fourth quarter 2019 reporting period.
- The 75K Tank will remain available for use as emergency storage.
- A Request for an Extension of Time to complete stabilization activities was submitted to NMED on September 28, 2020 (EPC-DO: 20-255). Details related to the extension request were provided in that submittal. NMED approved the request for extension on November 13, 2020.
- No additional stabilization milestones were due during the reporting period for this unit.

100K Tank

- Stabilization activities for the 100K Tank are being completed under the Stabilization Plan for the 100K Tank submitted to NMED on December 4, 2018 (EPC-DO: 18-428). This workplan was approved by NMED on December 27, 2018. Requests for Extensions of Time to complete mobilization for 100K Tank Stabilization (EPC-DO: 19-372 and EPC-DO: 19-470) were previously submitted to and approved by NMED as previously reported.
- The 100K Tank was emptied of all process liquids during the fourth quarter 2019 reporting period.
- A Request for an Extension of Time to complete stabilization activities was submitted to NMED on September 28, 2020 (EPC-DO: 20-255). Details related to the extension request were provided in that submittal. NMED approved the request for extension on November 13, 2020.
- No additional stabilization milestones were due during the reporting period for this unit.

Gravity Filter

- Stabilization activities for the Gravity Filter are being completed under the Stabilization Plan for Gravity Filter Tank submitted to NMED on January 25, 2019 (EPC-DO: 19-007). This workplan was approved by NMED on April 25, 2019.

- A Request for an Extension of Time to complete stabilization activities was submitted to NMED on September 28, 2020 (EPC-DO: 20-255). NMED approved the request for extension on November 13, 2020.
- Stabilization of the Gravity Filter has been initiated with the removal of unused chemicals and the chemical feed system.
- No additional stabilization milestones were due during the reporting period for this unit.

WM2-North/South Tanks

- Stabilization activities for the WM2-North/South Tanks are being completed under the Stabilization Plan for the Low-Level WM2-North/South Tanks submitted to NMED on January 25, 2019 (EPC-DO: 19-007). This workplan was approved by NMED on April 25, 2019.
 - A Request for an Extension of Time to complete stabilization activities was submitted to NMED on September 28, 2020 (EPC-DO: 20-255). Details related to the extension request were provided in that submittal. NMED approved the request for extension on November 13, 2020.
 - Stabilization activities were initiated for the WM2-North/South Tanks on October 12, 2020.
 - No additional stabilization milestones were due during the reporting period for this unit.
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Attachment 2

Quarterly Summary of Maintenance and Repair Activities Conducted at the RLWTF

EPC-DO: 23-136

LA-UR-23-23738

Date: _____ 4/28/2023 _____

DP-1132 Report: First Quarter 2023 RLWTF Maintenance

| Structures | Description | Built | Task Type | | | | | Total |
|---------------|---------------------------------|-------|-----------|----|----|----|----|-------|
| | | | PM | CO | MD | SR | UP | |
| Building 1 | Original treatment bldg. | 1963 | 44 | 0 | 6 | 0 | 0 | 50 |
| Building 2 | Original influent storage bldg. | 1963 | 2 | 0 | 0 | 0 | 0 | 2 |
| Building 66 | TRU influent storage | 1982 | | | | | | 0 |
| Building 90 | 100K Influent Storage tank | 1982 | | | | | | 0 |
| Building 248 | Low-level bottoms storage | 1996 | 3 | 0 | 0 | 0 | 0 | 3 |
| Building 250 | Low-level influent storage | 2009 | 16 | 0 | 0 | 0 | 0 | 16 |
| Building 257 | Mechanical Evaporator System | 2010 | 2 | 0 | 0 | 0 | 0 | 2 |
| TA52 | Solar Evaporation Tank | 2011 | 11 | 0 | 0 | 0 | 0 | 11 |
| Totals | | | 78 | 0 | 6 | 0 | 0 | 84 |

Task Types: PM - preventive maintenance
 CO - corrective maintenance
 MD - modification
 SR - service request
 UP= Unplanned

DP-1132 Report: First Quarter 2023 RLWTF Maintenance**TA-50-0001 Work Completion Report (01-01-2023 to 03-31-2023)**

| Unit | Work Order | WO | WO Type | Task Title |
|--------|------------|----|---------|--|
| 500001 | 00721713 | 01 | MD | 500001 MODIFICATION OF SAMPLE PORT NEAR 60-TEL-V32 FOR RM 60 |
| 500001 | 00689890 | 01 | MD | 500001 RM60: EFFLUENT DISPOSITION |
| 500001 | 00719634 | 01 | MD | 500001 CL-1 REMOVE HIGH LEVEL ALARMS |
| 500001 | 00683530 | 01 | MD | 500001 COMPLETE FALL PROTECTION ON ROOF AT RLWTF |
| 500001 | 00721959 | 01 | MD | 500001 MODIFY ROOM 2 ELECTRICAL TO SUPPORT NEW WORKING SPACE |
| 500001 | 00719101 | 01 | MD | 500001 REPLACE ROOM 16 FIRE ALARM CHECK VALVE AND TRIM |
| 500001 | 00736385 | 01 | PM | 50-0001 BHW 1MO PM (2 EA) |
| 500001 | 00736378 | 01 | PM | 500001 PERFORM WEEKLY EYEWASH/ SAFETY SHOWER TESTING |
| 500001 | 00736262 | 01 | PM | 50-1 SPW/SPH (Q) FIRE SUPPRRESSION SYSTEMS PM |
| 500001 | 00736261 | 01 | PM | 500001 FEXT 1YR PM |
| 500001 | 00736360 | 01 | PM | 50-1 FEXT (1M) PM |
| 500001 | 00739029 | 01 | PM | 50-1 FEXT (1M) PM |
| 500001 | 00738994 | 01 | PM | 500001 MICROFILTER 3 MONTH PUMP MAINTENANCE |
| 500001 | 00738978 | 01 | PM | 500001 LUBE 6MO PM, HEATING & VENTILATION (MECHANICAL) 5 EA |
| 500001 | 00738971 | 01 | PM | 50-1 PDI (A) CAL VERIFICATION |
| 500001 | 00739065 | 01 | PM | 50-1 TRITIUM EXIT LIGHTS (M) PM |
| 500001 | 00739040 | 01 | PM | 50-0001 BHW 1MO PM (2 EA) |
| 500001 | 00738982 | 01 | PM | 50-1 T-21 PH TRANSMITTERS (6 MO) CALIBRATION |
| 500001 | 00738974 | 01 | PM | 500001 LTE 1YR PM |
| 500001 | 00738602 | 01 | PM | 500001 RM 24 (6M) SRO, AIT(2EA) ANALYZER VERIFICATION PM |
| 500001 | 00739033 | 01 | PM | 500001 PERFORM WEEKLY EYEWASH/ SAFETY SHOWER TESTING |
| 500001 | 00740816 | 01 | PM | 50-1 EMERGENCY LIGHTS (M) PM |
| 500001 | 00740814 | 01 | PM | 50-1 TRITIUM EXIT LIGHTS (M) PM |
| 500001 | 00740784 | 01 | PM | 500001 ASE 3MO PM, EXHAUST STACK PUMP (3 EA) |
| 500001 | 00740780 | 01 | PM | 500001 CA-4 (3 MONTH) AIR COMPRESSOR PM |
| 500001 | 00740855 | 01 | PM | 50-1 FEXT (1M) PM |
| 500001 | 00740760 | 01 | PM | 50-1 FIRE DOORS: 1-YR PM |
| 500001 | 00740759 | 01 | PM | 500001 HWG 1YR PM, HOT WATER HEATERS, 3 EA |
| 500001 | 00740471 | 01 | PM | 50-1 RM 36 ANNUAL PRO/HWE CIRCULATION HEATER |
| 500001 | 00719749 | 01 | PM | TA-50 FCP 1YR PM, FUNCTIONALITY TESTING PM |
| 500001 | 00740872 | 01 | PM | 50-0001 BHW 1MO PM (2 EA) |
| 500001 | 00740468 | 01 | PM | 500001 (A) MANLIFT JGL/GENIE INSPECTION |
| 500001 | 00736255 | 01 | PM | 500001 EH-001 1YR PM, ELEVATOR MECH/ELECT THYSSEN-KRUPP |
| 500001 | 00740877 | 01 | PM | 500001 PERFORM WEEKLY EYEWASH/ SAFETY SHOWER TESTING |
| 500001 | 00742635 | 01 | PM | 50-1 RIGGING EQUIPMENT/HARDWARE: 1-YR PM (CERTIFICATION) |

DP-1132 Report: First Quarter 2023 RLWTF Maintenance**TA-50-0001 Work Completion Report (01-01-2023 to 03-31-2023)**

| Unit | Work Order | WO | WO Type | Task Title |
|--------|------------|----|---------|--|
| 500001 | 00744381 | 01 | PM | 50-1 LTE EMERGENCY LIGHTS (M) PM |
| 500001 | 00744379 | 01 | PM | 50-1 LTET (M) TRITIUM EXIT LIGHTS PM |
| 500001 | 00744368 | 01 | PM | 50-1 FEXT (1M) PM |
| 500001 | 00720973 | 01 | PM | 500001 TK 3YR PM, PRESS GAUGE CAL/REPLACE |
| 500001 | 00639096 | 01 | PM | 50-1 T-21 PH TRANSMITTERS (6 MO) CALIBRATION |
| 500001 | 00636846 | 01 | PM | 50-1 PRESS GAUGE 3YR CAL/REPLACE |
| 500001 | 00631604 | 01 | PM | 50-1 TCA (6M) AUTO DUMP |
| 500001 | 00551038 | 01 | PM | 50-1 EYEWASH (A) PM |
| 500001 | 00744321 | 01 | PM | 50-0001 BHW 1MO PM (2 EA) |
| 500001 | 00744258 | 01 | PM | 500001 PV-008 6MO PM, (MECHANICAL) |
| 500001 | 00744250 | 01 | PM | 50-1 SPW/SPH (6M) FIRE SUPPRRESSION SYSTEMS PM |
| 500001 | 00733370 | 01 | PM | 500001 PERFORM WEEKLY EYEWASH/ SAFETY SHOWER TESTING |
| 500001 | 00744251 | 01 | PM | 500001 FRKLFT 1YR PM, FORKLIFT (INSPECTIONS) |
| 500001 | 00744274 | 01 | PM | 500001 3MO ELEVATOR ELECT/MECH MAINT, THYSSEN-KRUPP |
| 500001 | 00744326 | 01 | PM | 500001 PERFORM WEEKLY EYEWASH/ SAFETY SHOWER TESTING |

DP-1132 Report: First Quarter 2023 RLWTF Maintenance**TA-50-0250 Work Completion Report (01-01-2023 to 03-31-2023)**

| Unit | Work Order | WO | WO Type | Task Title |
|--------|------------|----|---------|--|
| 500250 | 00739024 | 01 | PM | 500250 FEXT (M), FIRE EXTINGUISHERS PM |
| 500250 | 00738992 | 01 | PM | 500250 SHS 3MO PM, SAFETY SHOWER |
| 500250 | 00736265 | 01 | PM | 50-250 SPW (3M) PM |
| 500250 | 00739077 | 01 | PM | 500250 LTE (M) PM, EMERGENCY WALL MOUNTED LIGHTING UNITS |
| 500250 | 00739075 | 01 | PM | 500250 LTET (M) PM, TRITIUM EMERGENCY EXIT LIGHT |
| 500250 | 00739005 | 01 | PM | 500250 LTNT (M) PM, NON-TRITIUM EMERGENCY EXIT LIGHT |
| 500250 | 00738976 | 01 | PM | 50-250 GFCI (6M) SERVICE INSPECTIONS |
| 500250 | 00740851 | 01 | PM | 500250 FEXT (M), FIRE EXTINGUISHERS PM |
| 500250 | 00740834 | 01 | PM | 500250 LTNT (M) PM, NON-TRITIUM EMERGENCY EXIT LIGHT |
| 500250 | 00740824 | 01 | PM | 500250 LTE (M) PM, EMERGENCY WALL MOUNTED LIGHTING UNITS |
| 500250 | 00740822 | 01 | PM | 500250 LTET (M) PM, TRITIUM EMERGENCY EXIT LIGHT |
| 500250 | 00744386 | 01 | PM | 500250 LTE (M) PM, EMERGENCY WALL MOUNTED LIGHTING UNITS |
| 500250 | 00744384 | 01 | PM | 500250 LTET (M) PM, TRITIUM EMERGENCY EXIT LIGHT |
| 500250 | 00744358 | 01 | PM | 500250 FEXT (M), FIRE EXTINGUISHERS PM |
| 500250 | 00744347 | 01 | PM | 500250 LTNT (M) PM, NON-TRITIUM EMERGENCY EXIT LIGHT |
| 500250 | 00744248 | 01 | PM | 50-250 SPW (6M) PM |

DP-1132 Report: First Quarter 2023 RLWTF Maintenance**TA-52-0181 Work Completion Report (01-01-2023 to 03-31-2023)**

| Unit | Work Order | WO | WO Type | Task Title |
|------|------------|----|---------|--|
| | | | | *** NO DATA TO REPORT FOR LISTED PERIOD. |

TA-52-0182 Work Completion Report (01-01-2023 to 03-31-2023)

| Unit | Work Order | WO | WO Type | Task Title |
|--------|------------|----|---------|---|
| 520182 | 00739032 | 01 | PM | 520182 (M) FEXT PM |
| 520182 | 00739055 | 01 | PM | 520182 (M) NON TRITIUM LIGHTS PM |
| 520182 | 00739053 | 01 | PM | 520182 (M) EMERGENCY LIGHTS PM |
| 520182 | 00740876 | 01 | PM | 520182 (M) EMERGENCY LIGHTS PM |
| 520182 | 00740869 | 01 | PM | 520182 (M) NON TRITIUM LIGHTS PM |
| 520182 | 00740868 | 01 | PM | 520182 (M) FEXT PM |
| 520182 | 00740792 | 01 | PM | 520182 (3M) SIGNAGE VERIFICATION FOR FENCE LINE |
| 520182 | 00740791 | 01 | PM | 520182 (3M) FENCE LINE VERIFICATION |
| 520182 | 00744325 | 01 | PM | 520182 (M) EMERGENCY LIGHTS PM |
| 520182 | 00744318 | 01 | PM | 520182 (M) NON TRITIUM LIGHTS PM |
| 520182 | 00744317 | 01 | PM | 520182 (M) FEXT PM |

TA-52-0183 Work Completion Report (01-01-2023 to 03-31-2023)

| Unit | Work Order | WO | WO Type | Task Title |
|------|------------|----|---------|--|
| | | | | *** NO DATA TO REPORT FOR LISTED PERIOD. |

DP-1132 Report: First Quarter 2023 RLWTF Maintenance**TA-50-0002 Work Completion Report (01-01-2023 to 03-31-2023)**

| Unit | Work Order | WO | WO Type | Task Title |
|--------|------------|----|---------|----------------------------|
| 500002 | 00740770 | 01 | PM | 50-2 TCA (6M) AUTO DUMP PM |
| 500002 | 00740765 | 01 | PM | 50-2 CA (6M) MECHANICAL PM |

TA-50-0090 Work Completion Report (01-01-2023 to 03-31-2023)

| Unit | Work Order | WO | WO Type | Task Title |
|------|------------|----|---------|--|
| | | | | *** NO DATA TO REPORT FOR LISTED PERIOD. |

TA-50-0066 Work Completion Report (01-01-2023 to 03-31-2023)

| Unit | Work Order | WO | WO Type | Task Title |
|------|------------|----|---------|--|
| | | | | *** NO DATA TO REPORT FOR LISTED PERIOD. |

TA-50-0201 Work Completion Report (01-01-2023 to 03-31-2023)

| Unit | Work Order | WO | WO Type | Task Title |
|------|------------|----|---------|--|
| | | | | *** NO DATA TO REPORT FOR LISTED PERIOD. |

TA-50-0248 Work Completion Report (01-01-2023 to 03-31-2023)

| Unit | Work Order | WO | WO Type | Task Title |
|--------|------------|----|---------|--|
| 500248 | 00738975 | 01 | PM | 50-248 MIXERS: 6-MO PM (LUBRICATION) |
| 500248 | 00740778 | 01 | PM | 500248 PUMPS 3MO PM |
| 500248 | 00744253 | 01 | PM | 50-248 TK-3: 1-YR PM (VISUAL INSPECTION) |

TA-50-0257 Work Completion Report (01-01-2023 to 03-31-2023)

| Unit | Work Order | WO | WO Type | Task Title |
|--------|------------|----|---------|----------------------------|
| 500257 | 00736282 | 01 | PM | 50-257 EVAP BOILER (3M) PM |
| 500257 | 00744293 | 01 | PM | 50-257 EVAP BOILER (3M) PM |

DP-1132 Report: First Quarter 2023 RLWTF Maintenance

Acronyms used by LANL Maintenance:

| | | | |
|------|---------------------------------|------|----------------------------|
| ASE | air sampler, exhaust | LPT | lightning protection |
| BHW | boiler, hot water | LTE | lights, emergency |
| CA | compressed air | LTET | lights, emergency, tritium |
| DAD | desiccant air dryer | LTNT | lights, non-tritium |
| EB | exhaust bank | PRV | pressure reducing valve |
| EH | exhaust heater | PV | pump, vacuum |
| FAR | filter, air replaceable | RCA | radiological control area |
| FE | fan, exhaust | SHS | shower, safety |
| FEXT | fire extinguisher | SPH | sprinkler pipe, dry |
| HEPA | high-efficiency particulate air | SPW | sprinkler pipe, wet |
| HUE | heater unit, electric | TCA | tank, compressed air |

Attachment 3

RLWTF Daily Influent and Effluent Volumes

EPC-DO: 23-136

LA-UR-23-23738

Date: _____ 4/28/2023 _____

DP-1132 Report: First Quarter 2023
RLWTF Daily Influent and Effluent

| Date | Low-level Influent | Effluent MES | Effluent Outfall 051 | Effluent SET | Transuranic Influent |
|-----------------|--------------------|--------------|----------------------|--------------|----------------------|
| Totals, 2023-Q1 | 367,243 | 25,428 | 245,559 | 0 | 233 |
| Sub-total, Jan. | 117,093 | 0 | 60,076 | 0 | 146 |
| Sub-total, Feb. | 101,173 | 0 | 123,024 | 0 | 0 |
| Sub-total, Mar. | 148,978 | 25,428 | 62,460 | 0 | 87 |

All flows are in Liters.

| | | | | | |
|--------|-------|---|--------|---|-----|
| 1-Jan | 3,164 | 0 | 0 | 0 | 0 |
| 2-Jan | 2,612 | 0 | 0 | 0 | 0 |
| 3-Jan | 5,072 | 0 | 0 | 0 | 0 |
| 4-Jan | 2,877 | 0 | 0 | 0 | 0 |
| 5-Jan | 8,441 | 0 | 0 | 0 | 0 |
| 6-Jan | 3,671 | 0 | 0 | 0 | 0 |
| 7-Jan | 2,687 | 0 | 0 | 0 | 0 |
| 8-Jan | 2,082 | 0 | 0 | 0 | 0 |
| 9-Jan | 3,142 | 0 | 0 | 0 | 0 |
| 10-Jan | 6,132 | 0 | 0 | 0 | 0 |
| 11-Jan | 3,520 | 0 | 0 | 0 | 146 |
| 12-Jan | 4,315 | 0 | 60,076 | 0 | 0 |
| 13-Jan | 4,012 | 0 | 0 | 0 | 0 |
| 14-Jan | 2,309 | 0 | 0 | 0 | 0 |
| 15-Jan | 2,157 | 0 | 0 | 0 | 0 |
| 16-Jan | 2,460 | 0 | 0 | 0 | 0 |
| 17-Jan | 2,271 | 0 | 0 | 0 | 0 |
| 18-Jan | 7,305 | 0 | 0 | 0 | 0 |
| 19-Jan | 3,596 | 0 | 0 | 0 | 0 |
| 20-Jan | 3,899 | 0 | 0 | 0 | 0 |
| 21-Jan | 3,255 | 0 | 0 | 0 | 0 |
| 22-Jan | 1,968 | 0 | 0 | 0 | 0 |
| 23-Jan | 3,331 | 0 | 0 | 0 | 0 |
| 24-Jan | 7,267 | 0 | 0 | 0 | 0 |
| 25-Jan | 3,899 | 0 | 0 | 0 | 0 |
| 26-Jan | 3,482 | 0 | 0 | 0 | 0 |
| 27-Jan | 4,088 | 0 | 0 | 0 | 0 |
| 28-Jan | 2,082 | 0 | 0 | 0 | 0 |
| 29-Jan | 2,044 | 0 | 0 | 0 | 0 |
| 30-Jan | 3,558 | 0 | 0 | 0 | 0 |
| 31-Jan | 6,397 | 0 | 0 | 0 | 0 |

DP-1132 Report: First Quarter 2023
RLWTF Daily Influent and Effluent

| Date | Low-level Influent | Effluent MES | Effluent Outfall 051 | Effluent SET | Transuranic Influent |
|--------|--------------------|--------------|----------------------|--------------|----------------------|
| 1-Feb | 4,428 | 0 | 0 | 0 | 0 |
| 2-Feb | 3,444 | 0 | 62,400 | 0 | 0 |
| 3-Feb | 3,142 | 0 | 0 | 0 | 0 |
| 4-Feb | 2,120 | 0 | 0 | 0 | 0 |
| 5-Feb | 2,120 | 0 | 0 | 0 | 0 |
| 6-Feb | 3,179 | 0 | 0 | 0 | 0 |
| 7-Feb | 4,391 | 0 | 0 | 0 | 0 |
| 8-Feb | 4,845 | 0 | 0 | 0 | 0 |
| 9-Feb | 3,066 | 0 | 0 | 0 | 0 |
| 10-Feb | 3,066 | 0 | 0 | 0 | 0 |
| 11-Feb | 2,498 | 0 | 0 | 0 | 0 |
| 12-Feb | 2,574 | 0 | 0 | 0 | 0 |
| 13-Feb | 3,936 | 0 | 0 | 0 | 0 |
| 14-Feb | 4,731 | 0 | 0 | 0 | 0 |
| 15-Feb | 2,612 | 0 | 0 | 0 | 0 |
| 16-Feb | 5,185 | 0 | 0 | 0 | 0 |
| 17-Feb | 3,482 | 0 | 0 | 0 | 0 |
| 18-Feb | 4,088 | 0 | 0 | 0 | 0 |
| 19-Feb | 2,309 | 0 | 0 | 0 | 0 |
| 20-Feb | 2,801 | 0 | 0 | 0 | 0 |
| 21-Feb | 4,693 | 0 | 0 | 0 | 0 |
| 22-Feb | 5,299 | 0 | 60,624 | 0 | 0 |
| 23-Feb | 4,239 | 0 | 0 | 0 | 0 |
| 24-Feb | 3,936 | 0 | 0 | 0 | 0 |
| 25-Feb | 2,498 | 0 | 0 | 0 | 0 |
| 26-Feb | 2,309 | 0 | 0 | 0 | 0 |
| 27-Feb | 4,542 | 0 | 0 | 0 | 0 |
| 28-Feb | 5,640 | 0 | 0 | 0 | 0 |

DP-1132 Report: First Quarter 2023
RLWTF Daily Influent and Effluent

| Date | Low-level Influent | Effluent MES | Effluent Outfall 051 | Effluent SET | Transuranic Influent |
|--------|-----------------------|-----------------|-------------------------|-----------------|-------------------------|
| 1-Mar | 6,056 | 0 | 0 | 0 | 87 |
| 2-Mar | 4,958 | 0 | 0 | 0 | 0 |
| 3-Mar | 3,634 | 0 | 0 | 0 | 0 |
| 4-Mar | 2,763 | 0 | 0 | 0 | 0 |
| 5-Mar | 2,309 | 0 | 0 | 0 | 0 |
| 6-Mar | 3,709 | 0 | 0 | 0 | 0 |
| 7-Mar | 4,201 | 0 | 0 | 0 | 0 |
| 8-Mar | 4,126 | 0 | 62,460 | 0 | 0 |
| 9-Mar | 4,353 | 0 | 0 | 0 | 0 |
| 10-Mar | 3,104 | 0 | | 0 | 0 |
| 11-Mar | 2,952 | 0 | 0 | 0 | 0 |
| 12-Mar | 2,195 | 0 | 0 | 0 | 0 |
| 13-Mar | 4,126 | 0 | 0 | 0 | 0 |
| 14-Mar | 4,239 | 0 | 0 | 0 | 0 |
| 15-Mar | 3,861 | 0 | 0 | 0 | 0 |
| 16-Mar | 5,488 | 5,765 | 0 | 0 | 0 |
| 17-Mar | 4,656 | 14,031 | 0 | 0 | 0 |
| 18-Mar | 3,255 | 4,868 | 0 | 0 | 0 |
| 19-Mar | 2,990 | 0 | 0 | 0 | 0 |
| 20-Mar | 9,198 | 0 | 0 | 0 | 0 |
| 21-Mar | 7,305 | 765 | 0 | 0 | 0 |
| 22-Mar | 3,899 | 0 | 0 | 0 | 0 |
| 23-Mar | 4,845 | 0 | 0 | 0 | 0 |
| 24-Mar | 5,829 | 0 | 0 | 0 | 0 |
| 25-Mar | 6,775 | 0 | 0 | 0 | 0 |
| 26-Mar | 5,715 | 0 | 0 | 0 | 0 |
| 27-Mar | 5,564 | 0 | 0 | 0 | 0 |
| 28-Mar | 4,693 | 0 | 0 | 0 | 0 |
| 29-Mar | 7,154 | 0 | 0 | 0 | 0 |
| 30-Mar | 7,873 | 0 | 0 | 0 | 0 |
| 31-Mar | 7,154 | 0 | 0 | 0 | 0 |

Attachment 4

Treated Effluent Sampling Results

EPC-DO: 23-136

LA-UR-23-23738

Date: _____ 4/28/2023 _____

Attachment 4

Table 2. Analytical Results from the Monthly Sampling of RLWTF Treated Effluent Discharged to NPDES Outfall 051 on February 2, 2023. Permit Condition No. 29.

| Field Sample ID | Location ID | Sample Date | Parameter Code | Parameter Name | Report Result | Report Units ¹ | Validation Qualifier ² | Detected ³ | Field Preparation Code ⁴ | COC # | Sample Purpose ⁵ | Lab Method | Report Method Detection Limit ⁶ | Groundwater Limit ⁷ |
|-----------------|-------------|-------------|----------------|----------------|---------------|---------------------------|-----------------------------------|-----------------------|-------------------------------------|-------|-----------------------------|------------|--|--------------------------------|
|-----------------|-------------|-------------|----------------|----------------|---------------|---------------------------|-----------------------------------|-----------------------|-------------------------------------|-------|-----------------------------|------------|--|--------------------------------|

UJ - The analyte is classified as not detected, with an expectation that the reported result is more uncertain than usual

J - The analyte is classified as detected but the reported concentration value is expected to be more uncertain than usual

³N - In the Detected column means the analyte was not detected.

Y - In the Detected column means the analyte was detected.

⁴UF - In the Field Preparation Code column means the sample was unfiltered.

F - In the Field Preparation Code column means the sample was filtered.

⁵REG - In the sample purpose column means the sample was a regular sample.

FD - In the sample purpose column means the sample was a field duplicate.

⁶ There is not a Report Method Detection Limit for Radium-226 and Radium-228 since this result is calculated.

⁷ Groundwater Limit represents standards for groundwater as identified in NMAC 20.6.2.3103 where available, otherwise the value represents NMED Risk Assessment Guidance, Table A-1, Tap Water Limit.

Groundwater Limit for N-nitrosodiphenylamine reported as diphenylamine, which represents NMED Risk Assessment Guidance, Table A-1, Tap Water Limit.

Groundwater Limit for combined Endosulfan I and Endosulfan II is 98.7 µg/L, which represents NMED Risk Assessment Guidance, Table A-1, Tap Water Limit.

Total Kjeldahl Nitrogen does not contain either a NMAC 20.6.2.3103 standard or NMED Risk Assessment Guidance, Table A-1, Tap Water Limit.

Attachment 4

Table 3. Analytical Results from the Monthly Sampling of RLWTF Treated Effluent Discharged to NPDES Outfall 051 on March 8, 2023. Permit Condition No. 29.

| Field Sample ID | Location ID | Sample Date | Parameter Code | Parameter Name | Report Result | Report Units ¹ | Validation Qualifier ² | Detected ³ | Field Preparation Code ⁴ | COC # | Sample Purpose ⁵ | Lab Method | Report Method Detection Limit ⁶ | Groundwater Limit ⁷ |
|-----------------|-------------------|-------------|----------------|-----------------------------|---------------|---------------------------|-----------------------------------|-----------------------|-------------------------------------|----------|-----------------------------|--------------|--|--------------------------------|
| NP051-23-260505 | NPDES Outfall 051 | 3/8/2023 | Tl | Thallium | 0.6 | ug/L | U | N | F | 2023-465 | REG | EPA:200.8 | 0.6 | 2 |
| NP051-23-260479 | NPDES Outfall 051 | 3/8/2023 | 108-88-3 | Toluene | 0.33 | ug/L | U | N | UF | 2023-465 | REG | SW-846:8260D | 0.33 | 1,000 |
| NP051-23-260505 | NPDES Outfall 051 | 3/8/2023 | TDS | Total Dissolved Solids | 136 | mg/L | NQ | Y | F | 2023-465 | REG | EPA:160.1 | 2.38 | 1,000 |
| NP051-23-260505 | NPDES Outfall 051 | 3/8/2023 | TKN | Total Kjeldahl Nitrogen | 0.55 | mg/L | NQ | Y | F | 2023-465 | REG | EPA:351.2 | 0.03 | - |
| NP051-23-260479 | NPDES Outfall 051 | 3/8/2023 | 8001-35-2 | Toxaphene (Technical Grade) | 0.15 | ug/L | U | N | UF | 2023-465 | REG | SW-846:8081B | 0.15 | 0.16 |
| NP051-23-260479 | NPDES Outfall 051 | 3/8/2023 | 120-82-1 | Trichlorobenzene[1,2,4-] | 0.33 | ug/L | U | N | UF | 2023-465 | REG | SW-846:8260D | 0.33 | 70 |
| NP051-23-260479 | NPDES Outfall 051 | 3/8/2023 | 71-55-6 | Trichloroethane[1,1,1-] | 0.33 | ug/L | U | N | UF | 2023-465 | REG | SW-846:8260D | 0.33 | 200 |
| NP051-23-260479 | NPDES Outfall 051 | 3/8/2023 | 79-00-5 | Trichloroethane[1,1,2-] | 0.33 | ug/L | U | N | UF | 2023-465 | REG | SW-846:8260D | 0.33 | 5 |
| NP051-23-260479 | NPDES Outfall 051 | 3/8/2023 | 79-01-6 | Trichloroethene | 0.33 | ug/L | U | N | UF | 2023-465 | REG | SW-846:8260D | 0.33 | 5 |
| NP051-23-260479 | NPDES Outfall 051 | 3/8/2023 | 75-69-4 | Trichlorofluoromethane | 0.33 | ug/L | U | N | UF | 2023-465 | REG | SW-846:8260D | 0.33 | 1,137 |
| NP051-23-260479 | NPDES Outfall 051 | 3/8/2023 | 95-95-4 | Trichlorophenol[2,4,5-] | 3 | ug/L | UJ | N | UF | 2023-465 | REG | SW-846:8270E | 3 | 1,166 |
| NP051-23-260479 | NPDES Outfall 051 | 3/8/2023 | 95-95-4 | Trichlorophenol[2,4,5-] | 3.03 | ug/L | UJ | N | UF | 2023-465 | REG | SW-846:8270E | 3.03 | 1,166 |
| NP051-23-260479 | NPDES Outfall 051 | 3/8/2023 | 88-06-2 | Trichlorophenol[2,4,6-] | 3 | ug/L | UJ | N | UF | 2023-465 | REG | SW-846:8270E | 3 | 11.88 |
| NP051-23-260479 | NPDES Outfall 051 | 3/8/2023 | 88-06-2 | Trichlorophenol[2,4,6-] | 3.03 | ug/L | UJ | N | UF | 2023-465 | REG | SW-846:8270E | 3.03 | 11.88 |
| NP051-23-260479 | NPDES Outfall 051 | 3/8/2023 | 118-96-7 | Trinitrotoluene[2,4,6-] | 0.08 | ug/L | U | N | UF | 2023-465 | REG | SW-846:8330B | 0.08 | 9.8 |
| NP051-23-260505 | NPDES Outfall 051 | 3/8/2023 | U | Uranium | 0.07 | ug/L | U | N | F | 2023-465 | REG | EPA:200.8 | 0.07 | 30 |
| NP051-23-260479 | NPDES Outfall 051 | 3/8/2023 | 75-01-4 | Vinyl Chloride | 0.33 | ug/L | U | N | UF | 2023-465 | REG | SW-846:8260D | 0.33 | 2 |
| NP051-23-260479 | NPDES Outfall 051 | 3/8/2023 | 1330-20-7 | Xylene (Total) | 1 | ug/L | U | N | UF | 2023-465 | REG | SW-846:8260D | 1 | 620 |
| NP051-23-260479 | NPDES Outfall 051 | 3/8/2023 | 95-47-6 | Xylene[1,2-] | 0.33 | ug/L | U | N | UF | 2023-465 | REG | SW-846:8260D | 0.33 | 193 |
| NP051-23-260479 | NPDES Outfall 051 | 3/8/2023 | Xylene[m+p] | Xylene[1,3-]-Xylene[1,4-] | 0.5 | ug/L | U | N | UF | 2023-465 | REG | SW-846:8260D | 0.5 | 396 |
| NP051-23-260505 | NPDES Outfall 051 | 3/8/2023 | Zn | Zinc | 3.3 | ug/L | U | N | F | 2023-465 | REG | EPA:200.7 | 3.3 | 10,000 |

Notes:

¹ug/L - micrograms per liter.

mg/L - milligrams per liter.

ng/L - nanograms per liter.

SU - standard units.

pCi/L - picocuries per liter.

²U - The analyte is classified as not detected.

UJ - The analyte is classified as not detected, with an expectation that the reported result is more uncertain than usual.

NQ - No validation qualifier flag is associated with this result, and the analyte is classified as detected.

J - The analyte is classified as detected but the reported concentration value is expected to be more uncertain than usual.

³N - In the Detected column means the analyte was not detected.

Y - In the Detected column means the analyte was detected.

⁴F - In the Field Preparation Code column means the sample was unfiltered.

F - In the Field Preparation Code column means the sample was filtered.

⁵REG - In the sample purpose column means the sample was a regular sample.

FD - In the sample purpose column means the sample was a field duplicate.

⁶ There is not a Report Method Detection Limit for Radium-226 and Radium-228 since this result is calculated.

⁷ Groundwater Limit represents standards for groundwater as identified in NMAC 20.6.2.3103 where available, otherwise the value represents NMED Risk Assessment Guidance, Table A-1, Tap Water Limit.

Groundwater Limit for N-nitrosodiphenylamine reported as diphenylamine, which represents NMED Risk Assessment Guidance, Table A-1, Tap Water Limit.

Groundwater Limit for combined Endosulfan I and Endosulfan II is 98.7 µg/L, which represents NMED Risk Assessment Guidance, Table A-1, Tap Water Limit.

Total Kjeldahl Nitrogen does not contain either a NMAC 20.6.2.3103 standard or NMED Risk Assessment Guidance, Table A-1, Tap Water Limit.

Attachment 4

Table 4. Analytical Results from the Quarterly Sampling of RLWTF Treated Effluent Discharged to the Mechanical Evaporator System on March 16, 2023. Permit Condition No. 29.

| Field Sample ID | Location ID | Sample Date | Parameter Code | Parameter Name | Report Result | Report Units ¹ | Validation Qualifier ² | Detected ³ | Field Preparation Code ⁴ | COC # | Sample Purpose ⁵ | Lab Method | Report Method Detection Limit ⁶ | Groundwater Limit ⁷ |
|-----------------|-------------|-------------|----------------|----------------|---------------|---------------------------|-----------------------------------|-----------------------|-------------------------------------|-------|-----------------------------|------------|--|--------------------------------|
|-----------------|-------------|-------------|----------------|----------------|---------------|---------------------------|-----------------------------------|-----------------------|-------------------------------------|-------|-----------------------------|------------|--|--------------------------------|

⁵REG - In the sample purpose column means the sample was a regular sample.

FD - In the sample purpose column means the sample was a field duplicate.

⁶ There is not a Report Method Detection Limit for Radium-226 and Radium-228 since this result is calculated.

⁷ Groundwater Limit represents standards for groundwater as identified in NMAC 20.6.2.3103 where available, otherwise the value represents NMED Risk Assessment Guidance, Table A-1, Tap Water Limit.

Groundwater Limit for N-nitrosodiphenylamine reported as diphenylamine, which represents NMED Risk Assessment Guidance, Table A-1, Tap Water Limit.

Groundwater Limit for combined Endosulfan I and Endosulfan II is 98.7 µg/L, which represents NMED Risk Assessment Guidance, Table A-1, Tap Water Limit.

Total Kjeldahl Nitrogen does not contain either a NMAC 20.6.2.3103 standard or NMED Risk Assessment Guidance, Table A-1, Tap Water Limit.

Attachment 5

Groundwater Monitoring Report -

First Quarter 2023

EPC-DO: 23-136

LA-UR-23-23738

Date: _____ 4/28/2023 _____

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| MCA-RLW-1, First Quarter 2023 | 2 |
| MCA-RLW-2, First Quarter 2023 | 3 |
| MCOI-6, First Quarter 2023 | 4 |

Quarterly Groundwater Monitoring Report – First Quarter 2023

ATTACHMENT 5

MCA-RLW-1, First Quarter 2023

| | | |
|---|--|---|
| a | Sample Date | 1/12/2023 |
| b | Sample Time | 1141 |
| c | Individuals collecting sample | N3B Staff |
| d | Monitoring well identification | MCA-RLW-1 |
| e | Physical description of monitoring well location | See Location Map, Attachment 6 |
| f | Ground-water surface elevation (ft above mean sea level (msl)) | 6,864.4 |
| g | Total depth of the well (ft below ground surface (bgs)) | 22.2 |
| h | Total volume of water in the monitoring well prior to sample collection (gal) | N/A |
| i | Total volume of water purged prior to sample collection (gal) | N/A |
| j | Physical parameters including temperature, conductivity, pH, oxidation/reduction potential | DO (mg/L): N/A Oxidation/Reduction Potential (MV): N/A Temp (deg C): N/A pH (SU): N/A Turbidity (NTU): N/A Specific Conductance (μ S/cm): N/A |
| k | Description of sample methods | N/A |
| l | Chain-of-Custody | N/A |
| m | Location Map | Attachment 6 |
| | Analytical Results | N/A |

Notes:

N/A – Not applicable. Well was not sampled when visited on January 12, 2023, due to insufficient water in the well. The well contained 0.12 ft of standing water.

MCA-RLW-2, First Quarter 2023

| | | |
|---|--|---|
| a | Sample Date | 1/12/2023 |
| b | Sample Time | 1206 |
| c | Individuals collecting sample | N3B Staff |
| d | Monitoring well identification | MCA-RLW-2 |
| e | Physical description of monitoring well location | See Location Map, Attachment 6 |
| f | Ground-water surface elevation (ft above mean sea level (msl)) | 6,807.04 |
| g | Total depth of the well (ft below ground surface (bgs)) | 40.4 |
| h | Total volume of water in the monitoring well prior to sample collection (gal) | N/A |
| i | Total volume of water purged prior to sample collection (gal) | N/A |
| j | Physical parameters including temperature, conductivity, pH, oxidation/reduction potential | DO (mg/L): N/A Oxidation/Reduction Potential (MV): N/A Temp (deg C): N/A pH (SU): N/A Turbidity (NTU): N/A Specific Conductance (μ S/cm): N/A |
| k | Description of sample methods | N/A |
| l | Chain-of-Custody | N/A |
| m | Location Map | Attachment 6 |
| | Analytical Results | N/A |

Notes:

N/A – Not applicable. Well was not sampled when visited on January 12, 2023, due to insufficient water in the well. The well contained 0.13 ft of standing water.

MCOI-6, First Quarter 2023

| | | |
|---|--|---|
| a | Sample Date | 3/14/2023 |
| b | Sample Time | 1344 |
| c | Individuals collecting sample | N3B Staff |
| d | Monitoring well identification | MCOI-6 |
| e | Physical description of monitoring well location | See Location Map, Attachment 6 |
| f | Ground-water surface elevation (ft above mean sea level (msl)) | 6,138.62 |
| g | Total depth of the well (ft below ground surface (bgs)) | 712.6 |
| h | Total volume of water in the monitoring well prior to sample collection (gal) | 33.56 |
| i | Total volume of water purged prior to sample collection (gal) | 101.76 |
| j | Physical parameters including temperature, conductivity, pH, oxidation/reduction potential | DO (mg/L): 7.49 Oxidation/Reduction Potential (MV): 146.7 Temp (deg C): 16.5 pH (SU): 7.26 Turbidity (NTU): 0.44 Specific Conductance (μ S/cm): 520 |
| k | Description of sample methods | Attachment 5 Page 5 |
| l | Chain-of-Custody | Attachment 5 Page 5 |
| m | Location Map | Attachment 6 |
| | Analytical Results | Attachment 5 Page 6, Table 1 |

1014451

Page:

General Engineering Laboratories,
Inc., Charleston, SC.
Charleston
SC
HPP

COC/Lab Request#:
2023-494

Page 1 of 1

Chain of Custody/Analysis Request

| | | | | | | | | | | | | | | |
|--|--|---------------------------------------|---------------------------------|---|--|---|--|--|--|--|--|--|--|--|
| Client Contact: DOO 00-23-136 SDG Event ID: 14798 2023-494 | Lab Agreement #: 620266 Project Number: LANL Analysis Turnaround Time: 24 Hour - <input type="checkbox"/> Other - <input checked="" type="checkbox"/> 7 Days - <input checked="" type="checkbox"/> 14 Days - <input type="checkbox"/> 21 Days - <input type="checkbox"/> 28 Days - <input type="checkbox"/> | | | | | | | | | | Site Name: Los Alamos National Laboratory | | | |
| | | | | | | | | | | | Rad Screening Info: Acceptable knowledge identifies no DOT hazard classification Lab Reporting Limit Type: Method Detection Limit | | | |
| Field Sample ID | Sample Date | Sample Time | Sample Matrix | DP-CIO4 DP-NO3NO2+TKN DP-TDS+Cl+F | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| CAMO-23-270635 CAMO-23-270640 | 03/14/2023 03/14/2023 | 13:44 13:44 | W W | 1 1 1 | | | | | | | | | | |
| Specified Instructions: LA-UR | | | | | | | | | | | | | | |
| Relinquished by: 2023-494 | Print Name: <i>Matt</i> | Date/Time: <i>3/10/23 1500</i> | Received by: <i>Matt</i> | Print Name: <i>Matt</i> Date/Time: <i>3/10/23 1500</i> | | Print Name: <i>Matt</i> Date/Time: <i>3/10/23 1500</i> | | | | | | | | |
| Relinquished by: 2023-494 | Print Name: | Date/Time: | Received by: | Print Name: | | Date/Time: | | | | | | | | |
| Relinquished by: 2023-494 | Print Name: | Date/Time: | Received by: | Print Name: | | Date/Time: | | | | | | | | |

Quarterly Groundwater Monitoring Report - First Quarter 2023 - Attachment 5

Table 1. Analytical Results from First Quarter Groundwater Sampling of Perched/Intermediate Aquifer Monitoring Well MCOI-6.

| Field Sample ID | Location ID | Sample Date | Parameter Code | Parameter Name | Report Result | Report Units ¹ | Validation Qualifier ² | Detected ³ | Field Preparation Code ⁴ | COC # | Sample Purpose | Lab Method | Report Method Detection Limit ⁵ | Groundwater Limit ⁶ |
|-----------------|-------------|-------------|----------------|-----------------------------|---------------|---------------------------|-----------------------------------|-----------------------|-------------------------------------|----------|----------------|-------------|--|--------------------------------|
| CAMO-23-270635 | MCOI-6 | 03/14/2023 | Cl(-1) | Chloride | 45.3 | mg/L | NQ | Y | F | 2023-494 | REG | EPA:300.0 | 0.67 | 250 |
| CAMO-23-270635 | MCOI-6 | 03/14/2023 | F(-1) | Fluoride | 0.486 | mg/L | NQ | Y | F | 2023-494 | REG | EPA:300.0 | 0.033 | 1.6 |
| CAMO-23-270635 | MCOI-6 | 03/14/2023 | NO3+NO2-N | Nitrate-Nitrite as Nitrogen | 14.2 | mg/L | NQ | Y | F | 2023-494 | REG | EPA:353.2 | 0.85 | 10 |
| CAMO-23-270640 | MCOI-6 | 03/14/2023 | ClO4 | Perchlorate | 116 | ug/L | NQ | Y | UF | 2023-494 | REG | SW-846:6850 | 1 | 13.8 |
| CAMO-23-270635 | MCOI-6 | 03/14/2023 | TDS | Total Dissolved Solids | 342 | mg/L | NQ | Y | F | 2023-494 | REG | EPA:160.1 | 2.38 | 1,000 |
| CAMO-23-270635 | MCOI-6 | 03/14/2023 | TKN | Total Kjeldahl Nitrogen | 0.0706 | mg/L | J- | Y | F | 2023-494 | REG | EPA:351.2 | 0.033 | N/A |

Notes:

¹ mg/L - milligrams per liter.

² ug/L - microgram per liter.

² NQ - No validation qualifier flag is associated with this result, and the analyte is classified as detected.

³ J - in the validation qualifier column means analyte is classified as detected but the reported concentration value is expected to be more uncertain than usual with a potential negative bias.

³ Y - in the detected column means the analyte was detected.

⁴ F - in the field preparation code column means the sample was filtered.

UF - in the field preparation code column means the sample was not filtered.

⁵ REG - in the sample purpose column means the sample was a regular sample.

⁶ Groundwater Limit represents standards for groundwater as identified NMAC 20.6.2.3103 except perchlorate which represents NMED Risk Assessment Guidance, Table A-1, Tap Water Limit.

N/A = not applicable. Total Kjeldahl Nitrogen does not contain either a NMAC 20.6.2.3103 standard or NMED Risk Assessment Guidance, Table A-1, Tap Water Limit.

Attachment 6

Monitoring Well Location Map

EPC-DO: 23-136

LA-UR-23-23738

Date:

_____ 4/28/2023 _____

ATTACHMENT 6

