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October 25, 2023

George H. Cushman
Headquarters, Department of the Army
Office of the DCS, G-9
Army Environmental Office, Room 5C140
600 Army Pentagon
Washington, DC 20310-0600

**RE: DISAPPROVAL
FINAL PARCEL 3 GROUNDWATER RCRA FACILITY INVESTIGATION SUPPLEMENTAL
SAMPLING WORK PLAN
FORT WINGATE DEPOT ACTIVITY
MCKINLEY COUNTY, NEW MEXICO
EPA ID# NM6213820974
HWB-FWDA-23-004**

Dear Mr. Cushman,

The New Mexico Environment Department (NMED) is in receipt of the Fort Wingate Depot Activity (Permittee) *Final Parcel 3 Groundwater RCRA Facility Investigation Supplemental Sampling Work Plan* (Work Plan), dated April 2022. NMED has reviewed the Work Plan and hereby issues this Disapproval with the following comments.

GERERAL COMMENT

1. Failure to Submit in a Timely Manner

NMED Comment: NMED's October 17, 2018 *Disapproval Final Parcel 3 Groundwater RCRA Facility Investigation Report* states, "provide a groundwater monitoring plan separate from the Interim Facility-wide Groundwater Monitoring Plan (IFGMP) proposing eight quarterly monitoring events to be conducted at Parcel 3 no later than **April 2, 2019.**" Subsequently, NMED issued the June 14, 2019 *Approval with Modifications* that states, "NMED's Disapproval Comment 1 states that the Permittee must submit the first periodic monitoring report and the Parcel 3 groundwater monitoring plan by April 2, 2019. Neither submittal was received. This constitutes noncompliance. It is incumbent upon the Permittee to provide appropriate funding to meet the requirements of the FWDA RCRA Permit." NMED also issued the February 3, 2023 *Response to Status Update Concerning FWDA NOV's and*

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On-going Remedial Actions that states, “[t]his initial submittal was required to be submitted no later than April 2, 2019. FWDA provided no reason for not completing this task on time. The Permittee failed to submit the document per the required schedule and, after almost four years, has not provided a date for submittal of the document of [as] March 2023 to return to compliance. NMED does not have evidence that any action has been taken in the past four years to address this violation.” NMED acknowledges that the required document was submitted to NMED on April 21, 2023. However, it was submitted more than four years after the required submission due date of April 2, 2019, as stated. The Permittee must submit all documents required by NMED by the specified due date in the future.

SPECIFIC COMMENTS

2. Section 1.0, Introduction, lines 10-12, page 1-1, and Section 1.1, Purpose, lines 16-17, page 1-1

Permittee Statements: “Proposed monitoring includes semiannual water-elevation measurements and quarterly sampling for newly installed and existing monitoring wells.” and,

“Conduct quarterly groundwater water-level measurements to determine if seasonal trends exist.”

NMED Comment: The former statement states that groundwater level measurements will be obtained on a semiannual basis while the latter statement states that the measurements will be obtained on a quarterly basis. Groundwater levels must be measured on a quarterly basis. Resolve the discrepancy in the revised Work Plan.

3. Section 1.1, Purpose, lines 20-23, page 1-1

Permittee Statement: “Collect and analyze groundwater from newly installed and existing wells for metals, volatile organic compounds (VOCs), explosives, and perchlorate to evaluate contaminant concentrations to supplement data from the first mobilization in the Final Parcel 3 Groundwater RCRA Facility Investigation (Sundance Consulting, Inc. [Sundance], 2019).”

NMED Comment: Address the following comments in the revised Work Plan:

- a) NMED’s November 2022 *Risk Assessment Guidance for Investigations and Remediation* (RAG) provides screening levels for per- and polyfluorinated substances (PFAS). PFAS may potentially be detected in groundwater samples collected from the wells located in the vicinity of the Open Burn/Open Detonation Unit. The Permittee must propose to conduct PFAS analysis for the groundwater

samples collected from all pertinent wells during this investigation.

- b) Degradation products of explosive compounds may potentially be detected in groundwater samples collected from the wells located in Parcel 3. The Permittee must propose to conduct semi-volatile organic compounds (SVOCs) analysis for the groundwater samples collected from all pertinent wells during this investigation.
- c) Elevated anion (e.g., nitrate) concentrations may potentially be detected in groundwater samples collected from the wells located in Parcel 3. The Permittee must propose to conduct anion analyses for the groundwater samples collected from all pertinent wells during this investigation.

4. Section 1.2, Regulatory Background, lines 35-38, page 1-1

Permittee Statement: “Following submission of the initial Final RFI report, a conference call between NMED and the Army in September 2018 was held. NMED and the Army agreed to conduct eight consecutive rounds of quarterly groundwater monitoring to provide data to expand on the findings from the 2017 RFI Report.”

NMED Comment: The statement is inaccurate and does not reflect actual communication between two parties. The Permittee’s March 31, 2019 *Final Revision 1 Parcel 3 Groundwater RCRA Facility investigation Report* states, “[t]aking data across 4 quarters is expected to demonstrate seasonal [groundwater] variation... It is for this reason that the Army proposed four additional rounds of data.” Subsequently, NMED’s June 14, 2019 *Approval with Modifications* directed the Permittee to evaluate seasonal groundwater elevation variations through eight rounds of data rather than four rounds of data. The Permittee appears to have disregarded the direction to collect eight rounds of data in September 2018 because the Permittee’s March 31, 2019 letter proposed four rounds of data collection. Revise the Work Plan to include collection of data for eight rounds as directed.

5. Section 2.2.1.2, Stratigraphy, lines 7-10, page 2-3

Permittee Statement: “[T]he Glorieta Sandstone Formation does crop out south of the installation where a thrust fault juxtaposes Permian strata against the Cretaceous Dakota Sandstone. These two formations comprise the San Andres-Glorieta aquifer, which is the principal source of drinking water in the area (Anderson et al., 2003).”

NMED Comment: Confirm that the Glorieta Sandstone Formation is not exposed within the Facility boundary where operations affected the environment since the exposed sandstone formation may facilitate contaminant transport directly from the surface to the San Andres-Glorieta aquifer. Note that the northern area groundwater contamination associated with the perchlorate and nitrate plumes in the bedrock aquifer may have originated from releases to the bedrock outcrops south of the Building 528 Complex. If there are other such areas where the Glorieta Sandstone Formation crops out within the facility boundary or the areas where contamination was previously identified, a figure depicting the locations must be provided in the revised Work Plan and additional investigation may be warranted for the San Andres-Glorieta aquifer. It is NMED's opinion that the Glorieta Sandstone is not exposed at the Facility where operations were conducted.

6. Section 2.2.2, Hydrogeologic Conceptual Model, lines 4-8, page 2-4

Permittee Statement: “[m]onitoring wells BGMW14 and BGMW16 are new wells installed in 2022 to add to the background monitoring well network. Monitoring wells CMW43 and CMW45 are new wells installed in 2022 to replace wells CMW19 and CMW21, which were damaged during flooding events. The installation details, data, and reporting for these four wells will be presented under separate cover.”

NMED Comment: The installation details for the four wells BGMW14, BGMW16, CMW43, and CMW45 will presumably be provided in separate cover at a time when installation of all the proposed replacement monitoring and background wells (i.e., BGMW15, CMW37 through CMW42, CMW44, CMW46 through 47) is completed. According to Table 2-1, *Monitoring Well Construction Details*, the proposed wells are scheduled to be completed in the spring of 2023. Provide a submittal date when the referenced document is to be submitted to NMED for review in the revised Work Plan.

7. Section 3.0, Field Methodology, lines 5-8, page 3-1

Permittee Statement: “Table 3-2 presents the list of analytes with screening values and laboratory limits from the laboratory contracted to perform analyses under this Work Plan. Table 3-3 contains the sample analysis matrix, and Table 3-4 presents the sample containers, preservation, and hold times.”

NMED Comment: Comment 3 above requires PFAS, SVOCs, and anions analyses in addition to the listed analytes in the tables. Revise all relevant tables and sections of the Work Plan accordingly.

8. Section 3.2, Groundwater Elevation Survey, lines 12-17, page 3-2

Permittee Statement: “[s]tatic water elevation data will be collected prior to well purging activities to provide representative data. Current measurements will be compared to recently collected measurements and assessed for accuracy. In the event the difference between the current measured elevation and the last event measurement is greater than 1 foot, the water elevation will be remeasured by either another field team member or the FTL. If the difference is accurate, the second reading will be recorded and documented in the day’s field notes.”

NMED Comment: Although NMED concurs that the second readings will be recorded under such circumstances, such inconsistencies must also be documented within the text of the investigation report. State this provision in the revised Work Plan.

9. Section 3.2.1, Groundwater Elevation Transducers, lines 29-34, page 3-2

Permittee Statement: “Several of the groundwater monitoring wells within the FWDA boundary, specifically Parcel 3, have been identified as dry wells (Figure 3-1) based on previous water level measurements. Water level transducers will be installed into the groundwater monitoring wells identified as dry to assess seasonal variability throughout the year. Two monitoring wells that contain measurable groundwater, with a water column of greater than 5 feet, will be selected as a control for transducer operation.”

NMED Comment: According to Figure 3-1, *Monitoring Well Locations*, wells CMW32, CMW35, KMW13, KMW15B, and BGMW05 are depicted as dry. However, well BGMW16 is also recorded as dry in Table 2-1, *Monitoring Well Construction Details*. Resolve the discrepancy in the revised Work Plan. In addition, propose to check for the presence of water in all the dry wells on a quarterly basis and identify the designations of the wells where water level transducers are installed in the revised Work Plan. Furthermore, identify which wells with a water column of greater than 5 feet will be selected as a control for transducer operation in the revised Work Plan.

10. Section 3.3.3, Low-Flow Pump Purging and Sampling Methods, lines 14-15, page 3-4

Permittee Statement: “Dedicated pumps and associated tubing are constructed of stainless steel and polyethylene and are Teflon™ lined.”

NMED Comment: Comment 3a above requires the Permittee to conduct PFAS analysis. Accordingly, the Permittee must select sampling devices that do not interfere with PFAS

analysis. Some materials used in sampling devices and containers (e.g., Teflon™) are known to interfere with PFAS analysis and must be avoided. Include a discussion of the proposed groundwater sampling method that is specific to PFAS analysis in the revised Work Plan.

11. Section 3.5, Analytical Method, lines 16-20, page 3-10

Permittee Statement: “Five analytes in Table 3-2 have screening values that are lower than the limit of quantitation (LOQ) (highlighted in blue), including four VOCs and one explosive. None of these analytes have been previously detected in groundwater within the Parcel 3 southern groundwater area at concentrations above the limit of detection (LOD) as reported in the southern groundwater RFI work plan (Sundance, 2016).”

NMED Comment: If the LODs for the five analytes were all above their respective screening levels, the Permittee cannot claim that the analytes were not detected. As previous NMED direction has stated, if the Permittee can utilize an analytical laboratory and method that can produce an LOQ or LOD below the screening level, the Permittee must utilize that analytical laboratory and method that demonstrates that the contaminants are not present at the site at or above the screening level. Propose to use an analytical laboratory and method whose LOQ or LOD can meet the screening level in the revised Work Plan. If no laboratory/method can meet the requirement, then the Permittee will need to provide other lines of evidence to support their assertions that these chemicals do not pose a risk at the site. Revise the Work Plan accordingly.

12. Section 4.0, Reporting, lines 10-12, page 4-1, and Section 5.0, Schedule, lines 2-4, page 5-1

Permittee Statements: “Seven of the quarterly monitoring events will be reported as Interim Quarterly Data Summaries with the eighth quarter presented in the Final Report.” and,

“Groundwater elevation data and groundwater samples will be collected on a quarterly basis in March, June, September, and December for eight consecutive quarters beginning after the approval of this Work Plan.”

NMED Comment: Table 3-1, *Monitoring Well Purging/Sampling Equipment* lists the existing wells and the proposed wells yet to be installed. Depending on the timing of installation of the proposed wells, the time it will take to complete quarterly monitoring events may be different between the existing and proposed wells.

Similarly, based on the optimal sampling schedule determined from the water level measurements as discussed in Section 3.2.1, some low yield/dry wells may only be available for sampling in a limited time (e.g., wet season, days after heavy rain events). As a result,

the frequency of sampling for the wells may not be quarterly; rather, it may need to be conducted at varied frequencies.

If the timing of each sampling event for a certain well set (e.g., dry wells) differs from the other (e.g., high yield wells), multiple interim data summary reports for each well set may need to be submitted separately to NMED for timely review. State this provision in the revised Work Plan.

13. Section 4.0, Reporting, lines 16-17, page 4-1

Permittee Statement: “Report will be prepared IAW General Reporting Requirements for Routine Groundwater Monitoring at RCRA Sites (NMED, 2003).”

NMED Comment: The Permittee must prepare the final report in accordance with Permit Section VI.A.2 and NMED’s General Reporting Guidelines for Corrective Action Documents (8-2020), as updated, found at <https://www.env.nm.gov/hazardous-waste/guidance-documents/>. Reference Permit Section VI.A.2 and NMED’s General Reporting Guidelines for Corrective Action Documents (8-2020) in the revised Work Plan.

14. Section 5.0, Schedule, lines 4-6, page 5-1

Permittee Statement: “The selected months for quarterly sampling were selected to have two sampling events within the monsoon months of New Mexico, from June 15 through September 30 (National Oceanic and Atmospheric Administration, 2022).”

NMED Comment: Note that some wells may still be dry even if sampling events are conducted during the monsoon months. If water level measurements indicate that groundwater sampling is plausible for dry wells when certain conditions are met (e.g., days after heavy rain events), groundwater samples must be collected at, rather than on predetermined dates. Propose to include this provision in the revised Work Plan. Also, refer to Comment 12.

15. Section 5.0, Schedule, lines 10-12, page 5-1

Permittee Statement: “Monitoring wells not sampled due to the delayed installation will be integrated and sampled as soon as installation, development, and sampling under the installation work plan are complete at each proposed well location.”

NMED Comment: Eight rounds of data must be collected from all the wells listed in Table 3-1 to complete this investigation (see Comment 14 above), if possible. The delayed

installation of the proposed wells does not preclude collection of eight rounds of data.
Revise all sections and tables of the Work Plan to incorporate this provision.

16. Section 5.0, Schedule, line 13, page 5-1

Permittee Statement: "The following is the proposed schedule for activities covered under this Work Plan."

NMED Comment: The initial proposed activity recorded in the table indicates that the transducer measurement begins in the selected quarterly month following receipt of NMED Approval. However, water level measurement must be conducted during the entire monsoon season months from June 15 through September 30 after significant storm events, at a minimum, to determine if or when groundwater sampling is plausible in dry wells. Revise the Work Plan to include this provision.

The Permittee must submit a revised Work Plan that addresses all comments contained in this letter. Two hard copies and an electronic version of the revised Work Plan must be submitted to the NMED. The Permittee must also include a redline-strikeout version in electronic format showing where all revisions to the Work Plan have been made. The revised Work Plan must be accompanied by a response letter that details where all revisions have been made to the Work Plan, cross-referencing NMED's numbered comments. The revised Work Plan must be submitted to NMED no later than **December 2, 2024**.

Should you have any questions, please contact Michiya Suzuki of my staff at (505) 690-6930.

Sincerely,

Ricardo Maestas
Acting Chief
Hazardous Waste Bureau

cc: N. Dhawan, NMED HWB
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Mr. Cushman
October 25, 2023
Page 9

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