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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

March 8, 2021

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: APPROVAL WITH MODIFICATIONS
REVISED FINAL 2022 INTERIM NORTHERN AREA GROUNDWATER MONITORING PLAN
FORT WINGATE DEPOT ACTIVITY
MCKINLEY COUNTY, NEW MEXICO
EPA ID# NM6213820974
HWB-FWDA-20-004**

Dear Mr. Cushman:

The New Mexico Environment Department (NMED) is in receipt of the Fort Wingate Depot Activity (Permittee) *Revised Final 2022 Interim Northern Area Groundwater Monitoring Plan* (Plan), dated December 2020. NMED has reviewed the Plan, and hereby issues this Approval with Modifications with the attached comments. The Permittee must address all comments in the attachment to this letter and submit a response letter, replacement pages, and an electronic copy of the revised Plan no later than **May 28, 2021**.

This approval is based on the information presented in the document as it relates to the objectives of the work identified by NMED at the time of review. Approval of this document does not constitute agreement with all information or every statement presented in the document.

Mr. Cushman
March 8, 2021
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Should you have any questions or wish to discuss this matter, please contact me at (505) 476-6035, or Michiya Suzuki of my staff at (505) 476-6046.

Sincerely,

Kevin Pierard

Digitally signed by Kevin
Pierard
Date: 2021.03.08 09:05:19
-07'00'

Kevin M. Pierard, Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
B. Wear, NMED HWB
M. Suzuki, NMED HWB
L. McKinney, EPA Region 6 (6LCRRC)
L. Rodgers, Navajo Nation
S. Begay-Platero, Navajo Nation
M. Harrington, Pueblo of Zuni
C. Seoutewa, Southwest Region BIA
A. Whitehair, Southwest Region BIA
G. Padilla, Navajo BIA
J. Wilson, BIA
B. Howerton, BIA
R. White, BIA
C. Esler, Sundance Consulting, Inc.
M. Falcone, USACE

File: FWDA 2021 and Reading

Attachment

SPECIFIC COMMENTS

1. Permittee's Response to NMED's Disapproval Comment 3, dated July 27, 2020

Permittee Statement: "The Army has confirmed that firefighting foam was not used at the facility as part of the installation activities."

NMED Comment: The Permittee states, "[f]ire training ground (SWMU 7, Parcel 21) had suspected releases of DROs due to historical firefighting operations." DRO were presumably released when fuel was lit for the firefighting operations. Explain what chemical fire retardants were used to extinguish fires during the operations in a response letter. Provide a list of the types of fuels (e.g., diesel, munitions constituents) and fire suppressants used at the facility fire training ground.

2. Permittee's Response to NMED's Disapproval Comment 12, dated July 27, 2020

Permittee Statement: "The sampling program will continue with analysis of 1,4-dioxane per NMED's approval to the deviation from the letter, dated August 15, 2019, comment number 3."

NMED Comment: Comment 3 in NMED's *Response to April 16, 2019 Approval with Modification Letter Final Revision 1 Groundwater Periodic Monitoring Report July through December 2017*, dated August 15, 2019, states, "[t]he Permittee must analyze groundwater samples collected from all monitoring wells where chlorinated solvents have been detected within the past ten years for 1,4-dioxane using EPA Method 8270 Selective Ion Monitoring (SIM). Propose to analyze for 1,4-dioxane for two consecutive events in the upcoming revision of the Interim Facility-Wide Groundwater Monitoring Plan."

The proposed deviation states, "[t]o better assess the presence of 1,4-dioxane onsite, all wells will be sampled for 1,4-dioxane during the first sampling event; then for the second event, only wells that have a history of detection for chlorinated solvents in the last ten years will be sampled. The first of the two consecutive sampling events will start in April 2020, and the second will be in October 2020."

The Permittee's *Final Groundwater Periodic Monitoring Report July through December 2019*, dated December 2020, states, "[m]onitoring activities for the new 35 wells are scheduled to begin in year 2020 by sampling the new wells for only 1,4-dioxane for two consecutive events." It appears that the intent of the approval was misunderstood. The new wells should have been sampled for the full analytical suite.

To clarify, the deviation approval does not preclude any required analyses that are listed in Table 5-2, *Northern Area Groundwater Sampling Matrix*. In the response letter, clarify

whether only 1,4-dioxane was sampled during the April 2020 sampling event. In this case, the Permittee must conduct 1,4-dioxane analysis in addition to the analyses required for each well during the April 2021 sampling event and revise the Plan accordingly; otherwise, no revision is required.

3. Permittee's Response to NMED's Disapproval Comment 18, dated July 27, 2020

Permittee Statements: "[G]roundwater flow in the shallow bedrock is generally to the north and west in the Workshop Area (Figure 3-2). Anomalously steep horizontal gradients from east to west (between wells TMW38 and TMW40D, and between wells TMW17 and TMW37) may indicate a geologic structural feature (i.e., fault or fracture zone) that impedes groundwater flow."

NMED Comment: Figure 3-2, *Groundwater Elevations Bedrock Wells*, does not depict groundwater flow direction as directed by NMED's Disapproval Comment 15. In addition, the general flow direction is not conclusively to the north and west based on the bedrock groundwater elevation data presented in Figure 3-2. Explain the basis for stating that groundwater flow in the shallow bedrock is generally to the north and west in the Workshop Area in the response letter. Furthermore, the presence of a geological structural feature was not confirmed during the previous investigations. Remove the statement of "geologic structural feature" from the Plan, revise the statement, and provide replacement pages or provide the evidence that the geologic structure is present.

4. Permittee's Response to NMED's Disapproval Comment 24, dated July 27, 2020

Permittee Statement: "It is improbable that soil contaminants will migrate to the underlying San Andres-Glorieta aquifer. The alluvial and upper bedrock aquifers are not potable without significant treatment and low yield will limit any future use."

NMED Comment: The New Mexico Water Quality Control Commission Regulations require that all groundwater that contains total dissolved solids (TDS) less than 10,000 mg/L meet cleanup standards. Whether or not the groundwater extracted from the alluvial and upper bedrock aquifers is potable, the Permittee must clean up the groundwater contaminated by the Facility's previous operations, in order to attain a corrective action complete without controls status and transfer the property to the Department of the Interior.

5. Permittee's Response to NMED's Disapproval Comment 26, dated July 27, 2020

Permittee Statement: "Stabilization is typically used for traditional low flow wells only."

NMED Comment: Explain whether different stabilization criteria are used for sampling methods other than traditional low flow sampling method (e.g., ZIST, hand bail, submersible

and Bennett pumps) in the response letter. If different stabilization criteria are used, they must be discussed in the revised Plan. If stabilization criteria for other sampling methods are not established, they must be established and discussed in the revised Plan to demonstrate that formation water is sampled. Include the discussion in the revised Plan and provide replacement pages.

6. Permittee's Response to NMED's Disapproval Comment 26, dated July 27, 2020

Permittee Statement: "The last three water quality parameters collected from well BGMW07 are not considered stable because the parameters are not within 10%, but this well is also not considered a traditional low flow well... The field team returned the following day to collect the formation water that had entered the well during recharge. This water sample is representative of the formation water."

NMED Comment: The water entering the well is representative of the formation water; however, the water sample would not be representative of the formation water unless the sampling techniques are appropriate. In order to demonstrate that the sampling technique is appropriate, different stabilization criteria or equivalent must be established (see Comment 5). Provide a discussion in the response letter.

7. Permittee's Response to NMED's Disapproval Comment 26, dated July 27, 2020

Permittee Statement: "The elevated DO readings in well BGMW08 are a result of purging the well dry with a disposable hand bail. Readings are taken by pouring the water into a receiving cup and lowering the sensor into the cup, versus traditional low flow that is not exposed to the open air. This process can result in numerous air bubbles or other opportunities for user error. Field staff will be instructed to re-check the readings and calibrate or switch instruments if necessary, for future sampling events. This well was purged dry. The team returned the following day to collect formation water that had entered the well during recharge. This water sample is representative of the formation water."

NMED Comment: Since the Permittee has seemingly identified the possible cause of inaccurate DO readings in well BGMW08, discuss the appropriate measures that will be taken to resolve the issue in the response letter and implement the measures for future sampling events.

8. Permittee's Response to NMED's Disapproval Comment 32, dated July 27, 2020

Permittee Statement: "The full suite of analytical proposed for these wells is presented in Table 5-2 and are listed below:

- Volatile organic compounds (VOCs) by EPA Method 8260
- Total explosives by EPA Method 8330/8332
- Major anions by EPA Method 9056
 - o Nitrate/ Nitrite
 - o Chloride
 - o Fluoride
 - o Bromide
 - o Sulfate
 - o Phosphate
- Total metals by EPA Method 6020
- Dissolved metals by EPA Method 6020
- Perchlorate by EPA Method 6850
- Semi-volatile organic compounds (SVOCs) by EPA 8270
- 1,4-Dioxane by EPA Method 8270 selected ion monitoring (SIM) (for 2 consecutive events, and only for the 3 wells installed in 2020)
- Pesticides by EPA Method 8081
- TPH-GRO by EPA Method 8015
- TPH-DRO by EPA Method 8015
- Polychlorinated biphenols (PCBs) by EPA Method 8082
- Herbicides by EPA Method 8151”

NMED Comment: The analysis of 1,4-Dioxane by EPA Method 8270 selected ion monitoring (SIM) was only proposed for new wells MW37, MW38, and MW39; however, 1,4-dioxane analysis was not proposed for other new wells and existing wells where chlorinated solvents were previously detected according to Table 5-2, *Northern Area Groundwater Sampling Matrix*. Although Comment 3 in NMED’s *Response to April 16, 2019 Approval with Modification Letter Final Revision 1 Groundwater Periodic Monitoring Report July through December 2017*, dated August 15, 2019, required 1,4-dioxane using EPA Method 8270 SIM from all monitoring wells where chlorinated solvents have been detected within the past ten years for two consecutive sampling events (see Comment 2), it is not clear whether the direction was followed. Previous groundwater monitoring reports indicate that chlorinated compounds were detected from groundwater samples collected from wells MW01, MW18D, MW20, MW22D, MW23, TMW11, TMW33, TMW35, TMW40S, TMW47, TMW17, TMW31D and TMW48 at a minimum. Clarify whether 1,4-dioxane analysis was previously conducted for two consecutive events for the above listed wells and analysis was discontinued because 1,4-dioxane was not detected. Otherwise, evaluate past ten years of VOCs and SVOCs analytical data and propose to analyze 1,4-dioxane using EPA Method 8270 SIM from all monitoring wells where chlorinated solvents have previously been detected. Revise the Plan accordingly and provide replacement pages.

9. Permittee's Response to NMED's Disapproval Comment 34, dated July 27, 2020

Permittee Statement: "The alluvial aquifer explosives plume extends northward across the Workshop Area (Figure 3-5) even though alluvial groundwater flows west to northwest. Additional wells installed in 2019 and 2020 may help delineate the alluvial aquifer explosives plume."

NMED Comment: The discrepancy between the groundwater flow direction and the plume as mapped must be further discussed. More specifically, present the locations of the new wells in the revised figure and explain how the new wells better delineate the extent of the plume in the response letter.

10. Permittee's Response to NMED's Disapproval Comment 36, dated July 27, 2020

Permittee Statement: "Additional wells were installed in 2019 to better delineate the perchlorate plume."

NMED Comment: Present the location of the new wells in the revised figure and explain how the new wells better delineate the extent of the plume in the response letter.

11. Permittee's Response to NMED's Disapproval Comment 37, dated July 27, 2020

Permittee Statement: "The Army has confirmed that this compound [carbon disulfide] was not used at the facility, thus introduction has been attributed to laboratory contamination."

NMED Comment: In order to demonstrate that the detection of carbon disulfide has been attributed to laboratory contamination, provide an electronic copy of the laboratory reports that include the analytical results of equipment blanks in the response letter.

12. Permittee's Response to NMED's Disapproval Comment 45, dated July 27, 2020

Permittee Statement: "Constituents where the method of detection limit, reporting detection limit, or practical quantitation limit exceed the screening level were considered data quality exceptions and are identified as such in the text."

NMED Comment: The February 1, 2021 email from Mr. Wear of NMED to Mr. Cushman of FWDA provides a clarification and direction regarding the analytes where LOQ exceeds the applicable screening levels. The email requests specific information be provided for NMED's evaluation of this recurring issue. In the response letter, provide an anticipated date when the requested information will be submitted to NMED.