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WASHINGTON, DC 20310-0600

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Base Realignment and Closure Operations Branch

Mr. Ricardo Maestas
Chief, Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

RE: Final Interim Northern Area Groundwater Monitoring Plan, Revision 2, Army's Response, Fort Wingate Depot Activity, McKinley County, New Mexico. EPA# NM6213820974

Dear Mr. Maestas:

This letter provides responses to the comments issued in the Approval with Modifications, Final Interim Northern Area Groundwater Monitoring Plan Revision 2 from the New Mexico Department (NMED), dated August 3, 2021 (HWB-FWDA-20-004).

COMMENTS

Permittee's Response to NMED's Approval with Modifications Comment 1, dated March 8, 2021

Permittee Statement: "Please note that the Army has no knowledge of the firefighting chemicals used at the facility as part of the installation activities. Our search of historic documentation did not reveal any information regarding fire suppressants, or the type of fuels used at the facility fire training grounds."

NMED Comment: Since it is not known whether firefighting chemicals were used at the facility, it is possible that aqueous film foaming foam (AFFF) was used during firefighting training. AFFF is known to yield per- and polyfluoroalkyl substances (PFAS). PFAS compounds are known to cause adverse human health effects and EPA considers PFAS to be an emerging contaminant. Requirements for the evaluation of PFAS are included in NMED's Risk Assessment Guidance for Site Investigation and Remediation {2019}. The groundwater in the vicinity of the training area (SWMU 7, Parcel 21) may be affected by PFAS. There are several alluvial and bedrock wells already located in the vicinity of the training area that can be evaluated for the presence of PFAS in the groundwater. Propose to conduct PFAS analysis for the groundwater samples collected from the pertinent wells in the next groundwater monitoring plan update.

Permittee's Response: Comment Noted. Please note that PFAS Preliminary Assessment is being conducted at various facilities including FWDA under a separate contract vehicle, which will identify the need for further investigation. The conclusion of the findings will be shared with NMED as appropriate.

Permittee's Response to NMED's Approval with Modifications Comment 2, dated March 8, 2021

Permittee Statement: "Please see the clarification below:

- a) In year 2019, as part of the RFI work, 32 new groundwater monitoring wells were installed at the installation.
- b) In year 2020, all wells at FWDA were sampled for the required analysis as listed in Table 5.2, Northern Area Groundwater Sampling Matrix GWMP Version 10.
- c) In year 2020, all wells at FWDA (including the new 32 wells) were also sampled for 1,4- dioxane for two (2) consecutive events (April and October 2020).
- d) During this period, one (1) well (MW-27) had trace levels of 1,4-dioxane and will be sampled again for two consecutive events (April and October 2021).
- e) In year 2020, three (3) additional wells (MW37, MW38, and MW39) were installed as part of the RFI work.
- f) A total of four (4) wells (MW-27, MW37, MW-38, and MW39) will be sampled for 1,4-dioxane during year 2021 for two (2) consecutive events.
- g) In addition to the four (4) wells being sampled for 1,4-dioxane, all 35 newly installed wells from 2019 and 2020 will begin to be sampled for the full suite of analytical for four (4) consecutive events (April and October 2021 and 2022).
- h) To clarify that 1,4-dioxane was sampled for all wells in 2020 the following paragraph was added to Section 5.2, Page 60, Lines 16-21 (RLSO PDF: Page 62, Lines 19-24):

"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, NMED requested that all wells with a detection of a chlorinated solvent in the last ten years be sampled for 1,4-Dioxane using EPA Method 8270 Selective Ion Monitoring (SIM). In 2020 all existing wells were sampled for 1,4-Dioxane for two consecutive events (April 2020 and October 2020)."

NMED Comment: Comment 2 requests the Permittee to provide a clarification for whether only 1,4-dioxane was analyzed for during the April 2020 sampling event. Although a detailed explanation is provided, it is still not clear whether only 1,4-dioxane analysis was conducted during the April 2020 sampling event. The Permittee states that all wells were sampled for the required analysis as listed in Table 5.2, Northern Area Groundwater Sampling Matrix GWMP Version 10; however, the document was submitted in 2017, which was approximately two years prior to the time when the 32 groundwater monitoring wells were installed. The statement is unclear. Provide more clear and concise explanation that directly addresses the NMED's comments in future correspondence.

In addition, Comment 2 states, "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." NMED presumes that the 32 new wells were only sampled for 1,4-dioxane analysis in April 2020 based on the statement. The wells should have been sampled for the full analytical suite in 2020. If chlorinated solvents are detected in 2021 and 2022, the Permittee must conduct 1,4-dioxane analysis again in 2023, even if 1,4-dioxane was already analyzed and not detected in 2020. The 1,4-dioxane data collected in 2020 for the 32 wells are not usable for any decision-making purpose.

Furthermore, the Final Groundwater Periodic Monitoring Report January through June 2020, dated March 2021, indicates that the screening level of 1,4-dioxane is slightly lower than its limit of Detection (LOD). Unless this issue is resolved, the presence/absence of 1,4-dioxane remains unknown. NMED may require additional 1,4-dioxane analysis in the future unless this issue is resolved. No response required.

Permittee's Response: Comment Noted. Please note that the Army has included the newly installed wells in the GWMP and will be sampled for full suite. 1,4 dioxane has been detected only in MW-27 at a trace level of 1.2J µg/L. The Army is collecting additional samples to verify the presence and absence of 1,4 dioxane from all new wells and if detected, above the NMED SL, it will be monitored.

Permittee's Response to NMED's Approval with Modifications Comment 7, dated March 8, 2021

Permittee Statement: "the field staff have received additional training on how to avoid air bubbles while collecting water quality parameters.

NMED Comment: The [Response to] Approval with Modifications, Final Revision 1 Groundwater Periodic Monitoring Report, January through June 2018, dated April 19, 2021, states that downhole probes/sondes are available to measure DO and many other in situ water quality parameters and in situ measurement is a much more effective alternative to displacing air from multiple wells." NMED agrees that in-situ DO measurement using downhole probes is more effective and accurate. Propose to use downhole probes for water quality measurements, where applicable, in future groundwater monitoring plan update. No response required.

Permittee's Response: Comment Noted. The Army is evaluating the use of downhole probes for water quality measurement. For normal groundwater monitoring, the water quality parameters such as DO via field instruments is a standard industry practice. The detailed DO measurement is usually required during the implementation of an in-situ remedy. The Army will implement those tools during the Corrective Measure Study (CMS). As NMED is aware that the current data will not be representative of the conditions at the time the study begins.

Please also note that the issue of DO readings is limited to few wells and is not a widespread issue at Wingate. Readings from the majority of the wells indicate an aerobic environment in the Northern Area GW regime. Therefore, the Army is respectfully requesting NMED to waive this requirement at this time.

Permittee's Response to NMED's Approval with Modifications Comment 8, dated March 8, 2021

NMED Comment: The Permittee provided the same response for Comment 2. However, the response is not relevant to Comment 8. The Permittee does not appear to be reading the comment thoroughly. Comment 8 states, "previous groundwater monitoring reports indicate that chlorinated compounds were detected from groundwater samples collected from wells MW0I, 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 the 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." Since this comment was not addressed in the Response, the Permittee must propose to analyze for 1,4-dioxane using EPA Method 8270 SIM in samples collected from all monitoring wells where chlorinated solvents have been detected past ten years in the next groundwater monitoring plan update. Failure to follow NMED direction constitutes noncompliance and may result in an enforcement action.

Permittee's Response: Comment Noted: The Army is evaluating data relating to 1,4-dioxane and will utilize EPA method 8270 SIM for samples collected from wells where chlorinated solvents have been detected.

Permittee's Response to NMED's Approval with Modifications Comment 9, dated March 8, 2021

Permittee Statements: "The perceived discrepancy in the plume configuration verses the flow direction is due to the 10-foot contour interval used for the groundwater contour map. While the overall flow direction between the 6,650 and 6,640 contours is towards the west, the gradient direction between wells TMW03, TMW44, TMW22, and TMW45 is towards the north (a total of 3 feet of drop to the north over these 4 well locations)." and, "The additional wells to the monitoring network effectively reduce the distance between data points and increases the percentage of the area covered for collecting data for both groundwater elevation and for groundwater analytical data."

NMED Comment: In order to resolve the discrepancy between the groundwater flow direction and the plume as mapped, the groundwater elevation maps must be revised with an appropriate contour interval in future groundwater monitoring reports. Address this comment in future groundwater periodic monitoring reports.

Permittee's Response: Concur: For the January - June 2021 PMR, and for all future PMR's, the Army will utilize 5-ft contours on groundwater elevation maps.

Permittee's Responses to NMED's Approval with Modifications Comments 9 and 10, dated March 8, 2021

Permittee Statement: "The new monitoring wells are presented in Figure 2-4 with a different symbol compared to existing wells, in order to demonstrate where the additional coverage of these wells is and how these areas will contribute to better resolution of plume delineation."

NMED Comment: Comments 9 and 10 request the Permittee to explain how the new wells better delineate the extent of the plumes. Although Figure 2-4 depicts the location of new monitoring wells, it does not explain how these wells better delineate the extent of the plumes. Figures that show both new monitoring wells and the extent of the plumes should have been prepared to explain how the new wells better delineate the extent of the plumes. Address this comment in future groundwater periodic monitoring reports. Failure to follow NMED direction constitutes noncompliance and may result in an enforcement action.

Permittee's Response: Comment Noted: The location and rationale for the newly installed wells were provided in the NMED-approved RFI Work Plan. These new wells were installed to fill the data gap and to further define the horizontal and vertical extent of nitrate and other plumes and to delineate the downgradient end of the plumes. The results were tabulated in the RFI report that was submitted to NMED recently.

Please note that the main purpose of the Periodic GW Monitoring Plans and Reports is to monitor and report the groundwater sampling data showing the contaminant concentration of COCs in groundwater for that particular time period, and to monitor the increase or decrease in chemical concentrations over time. NMED's request to justify the location of NMED-approved wells location is beyond the scope of the monitoring plans and reports.

Permittee's Response to NMED's Approval with Modifications Comment 12, dated March 8, 2021

Permittee Statement: " The Army and its subcontractor have been evaluating the LOD and LOQ screening level detection limit issue per Mr. Wear's request. Mr. Wear's request is being processed and is awaiting BRAC headquarters approval and guidance."

NMED Comment: Comment 12 requests the Permittee to provide an anticipated date when the requested information will be submitted to NMED. The response does not provide the information NMED requested. Provide a more clear and concise explanation that directly addresses the NMED's comments in future correspondence.

Permittee's Response: Comment Noted: The Army is formalizing its research in a presentable format for NMED input. The research will show the number of labs that can meet the screening levels for the compounds in question. The Army also received specific questions from NMED via email dated October 19, 2021 and is preparing responses to those questions. The Army is also working on developing a strategy to utilize some of those labs. The Army is working on presenting a workable solution that is achievable and is accepted to both parties. We sincerely apologize for the delay.

If you have questions or require further information, please contact me at George.h.cushman.civ@army.mil, 703-455-3234 (Temporary Home Office, preferred) or 703-608-2245 (Mobile).

Sincerely,



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