



**DEPARTMENT OF THE ARMY**  
**OFFICE OF THE DEPUTY CHIEF OF STAFF, G-9**  
**600 ARMY PENTAGON**  
**WASHINGTON, DC 20310-0600**

April 19, 2021

Base Realignment and Closure Operations Branch

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

RE: Approval with Modifications, Second Response to the Approval with Modifications Response to Approval with Modifications, Final Revision 1, Groundwater Periodic Monitoring Report, July through December 2018, Fort Wingate Depot Activity, McKinley County, New Mexico, EPA# NM6213820974; HWB-FWDA-19-004.

Dear Mr. Pierard:

This letter is in response to the New Mexico Environmental Division (NMED) Letter, titled: Response to Approval with Modifications, Final Revision 1 Groundwater Periodic Monitoring Report, July through December 2018 Fort Wingate Depot Activity (FWDA) Gallup, New Mexico, dated March 29, 2021. The referenced number is HWB-FWDA-19-004. The following are Army's response to NMED comments, detailing where each comment was addressed and cross referencing the numbered NMED comments where needed.

**Comments:**

**NMED Comment # 1: Permittee's Response to NMED's Approval with Modifications Comment 1, dated November 5, 2020**

**Permittee Statement:** "Regarding the requested southern area monitoring report, the Army did not submit the data because they had been collected without a work plan, and based on previous NMED responses to other site deliverables at FWDA, the Army did not believe that either the data collected or the report for these data would have been admissible or approved."

**NMED Comment:** Comment 1 in the NMED's Disapproval Final Parcel 3 Groundwater RCRA Facility Investigation Report, dated October 17, 2018, required a submittal of the Parcel 3 groundwater investigation report; NMED, in 2018, directed the Permittee to provide the data collected. NMED requires submission of this data. In addition, the Permittee was required to submit a work plan for the Southern Area Groundwater monitoring approximately two years ago; NMED has not received the document to date. Failure to provide the Southern Area Groundwater Report, as well as the work plan, constitutes noncompliance and may result in an enforcement action

**Army Response:** Comment noted. The Army has requested funding for the installation of replacement and background monitoring wells for Parcel 3, in order to gain additional understanding of groundwater in this Parcel, and will use this information to prepare an abbreviated groundwater monitoring work plan for 8 quarters of groundwater monitoring, as instructed by Dave Cobrain during a conference call held during September 2018. The Army is

working towards awarding a contract, as directed by NMED in the Approval letter dated January 29, 2021.

This approach is necessary due to circumstances involving BRAC funding that are beyond the Army's control; the Army apologizes for continuing delays.

Since the nature of this comment applies to Parcel 3 and not to this report, which covers the July through December 2018 periodic monitoring events, the Army respectfully requests to separate this comment and the respective data from the approval of the current document.

**NMED Comment # 2: Permittee's Response to NMED's Approval with Modifications  
Comment 1, dated November 5, 2020**

**Permittee Statements:** "As an interim measure, the Army is now respectfully submitting both data tables and an electronic searchable database for the groundwater samples collected in 2018 for NMED's files. The Army will also present these data in the first southern area monitoring report, in addition to the proposed eight (8) quarterly sampling events." and, "The abbreviated groundwater monitoring plan will be developed for NMED's approval following the installation of the additional monitoring wells, per the approved work plan."

**NMED Comment:** The data tables and an electronic searchable database for the groundwater samples collected in 2018 were not included in the Response.

Comment 1 of NMED's October 17, 2018 Disapproval of the Parcel 3 Groundwater RCRA Facility Investigation Report states, "In Section 3.5.1, Groundwater Sampling, page 3-1, the Permittee states, "[a]s part of this [RCRA Facility Investigation] RFI, groundwater sampling was first performed from February to April 2017 (Event 1) on the newly installed monitoring wells following installation and development activities. During the second groundwater sampling in May 2017 (Event 2), all Study Area monitoring wells were sampled."

On March 12, 2018, Mr. Saqib Khan of the U.S. Army Corps of Engineers (USACE) sent an email to NMED requesting to delay submittal of the Report until after four rounds of sampling had been completed. On the same day, Mr. Ben Wear of the NMED responded to Mr. Khan stating that the request was not acceptable. In addition, Mr. Wear's response stated, "the purpose of the RFI report is to provide information on the advancement of borings, geophysics, and the installation, development, and first round of sampling of the new wells. Further monitoring will be reported in future periodic monitoring reports."

This direction was not followed by the Permittee. Based on the noted problems with data reporting, a separate groundwater investigation report summarizing the Parcel 3 groundwater monitoring conducted between May and December 2018 must be provided to the NMED. Provide a detailed monitoring report for the 2018 sampling events no later than April 2, 2019. In addition, 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.

NMED does not approve the data collected outside of the scope of work presented in the Final Rev 1 Parcel 3 Groundwater RCRA Facility Investigation Work Plan (Work Plan), dated September 15, 2016. Tables 3-1 and 3-2 of the Work Plan present the sampling locations and methods for the newly installed wells. The tables list all proposed potential wells and borings pertinent to this investigation. The only pre-existing groundwater monitoring well included as a

part of this investigation is well CMW02, which is utilized as a background well. The data collected during the second groundwater sampling event (Event 2) includes data for several other pre-existing wells. The data collected in Event 2 must be presented in the separate groundwater investigation report. Remove all data and discussion that are not included in the scope of the Work Plan. The Report must be revised to summarize the outcome of field activities outlined in Section 4.4 of the Work Plan. Also, note that future approval of this Report does not constitute approval of the data that are not included in the scope of the Work Plan. In addition, the groundwater monitoring designated as Event 2 is actually the first full monitoring event that includes all Parcel 3 monitoring wells. Title the Event 2 and subsequent 2018 periodic monitoring as the Parcel 3 Groundwater Monitoring Investigation Report (Parcel 3 GMIR) with the dates of occurrence rather than as "Event 2".

The Parcel 3 GMIR was required to be submitted to NMED no later than April 2, 2019; the Permittee has failed to submit the revised Report for almost two years. The work plan for quarterly monitoring was also required to be submitted to NMED no later than April 2, 2019; the Permittee has failed to submit the work plan for almost two years. The Permittee was required to conduct quarterly monitoring on all Parcel 3 wells and submit quarterly reports; the Permittee has failed to do so for approximately three years.

The Permittee must follow NMED's direction for submittal of the appropriate documents. NMED does not approve of combining reports. Continued failure to submit the required documents for the investigation and monitoring of groundwater in Parcel 3 constitutes noncompliance and may result in an enforcement action.

**Army Response:** Comment noted. The Army submitted two hard copies of the response letter, each containing an attachment of data tables and an electronic copy of laboratory reports, validation reports, and a searchable access database included in the electronic DVD. The Army is submitting another electronic copy of the previously submitted data for NMED's records.

NMED's comment 1 of NMED's October 17, 2018, Disapproval of the Parcel 3 Groundwater RCRA Facility Investigation Report applies to Parcel 3, and not the July to December 2018 periodic monitoring report, which reported the northern area groundwater monitoring results. The Army will address NMED's comments in a separate letter outside of this comment response letter concerning the July-December 2018 northern area periodic groundwater monitoring report.

The Army is addressing the funding issues with BRAC and will notify NMED as soon as a contract is secured. The Army once again apologizes for the delay.

The reasons why the GW monitoring cannot resume until after UXO removal actions are completed are:

- 1) The GW RFI work and few rounds of sampling in 2017 and 2018 were arranged on a one-time exception from the UXO removal contractor. The UXO removal operations have to be shut down and secured while samplers are within the area due to safety concerns and creates extensive delays in the UXO removal operations.
- 2) GW samplers would be exposed to UXO hazards. UXO removal being performed by trained professionals utilizing remote-controlled equipment. Samplers would be physically proximal to UXO. Army will face financial liability for contractor if safety incident were to happen.

3) RFI and groundwater samples during 2017 and 2018 were collected with extensive UXO oversight and surface screening for UXO avoidance. The sampling was also meant to support background and risk screening analysis, as the historic Parcel 3 data were four years out of date by the time the RFI was conducted.

The purpose for Mr. Khan's e-mail in 2018 was to request NMED to allow the Army to include the additional sample data for a background and risk analysis prior to submitting the final parcel 3 groundwater RFI report. Typical RFIs analyze previous data, as well as at least four rounds of current data, to build a dataset on the whole site for proper statistical analysis. RFIs usually do not focus only on the data collected from the initial activities performed, which in this case is only analyzing the data from the newly installed wells.

The data collected in 2018 was intended to support the background and risk screening portion of the RFI. The Army received NMED's directive to not perform any risk screening in NMED's October 17, 2018, Disapproval of the Parcel 3 Groundwater RCRA Facility Investigation Report, after the 2018 sample data was collected. That sample collection was not intended for monitoring.

The RFI report determined localized COPCs within the HWMU of Parcel 3. The UXO removal actions currently underway have caused multiple wells within the area to be abandoned. The abandoned wells are critical to the groundwater monitoring program and must be replaced prior to sampling to obtain a complete southern area data set.

The Army has an approved well replacement work plan in hand and intends to perform the well replacements as directed by NMED; however, the area where the wells will be installed is within medium to low permeable, poor water producing strata. The abbreviated monitoring work plan for 8 consecutive quarters of sampling will need additional data to properly guide the monitoring activities, which is why we have proposed an initial round of well installation. Using the data from these wells, the Army has proposed submitting the abbreviated monitoring plan on the heels of the well installation, in order to capture the newly replaced wells construction data, location, and production performance to best recommend the appropriate purging and sampling method to use in the groundwater RFI for Parcel 3.

The Army is attempting to provide the best path forward to achieve the most progress on the project, in order to alleviate NMED's burden of reviewing multiple documents on a single issue and having to cross-reference between these multiple documents to obtain a total analysis of the project.

**NMED Comment 3: Permittee's Response to NMED's Approval with Modifications  
Comment 2, dated November 5, 2020**

**Permittee Statement:** "The Army plans to provide an abandonment work plan to NMOSE in the second quarter of 2021."

**NMED Comment:** Provide a copy of the well abandonment work plan to NMED at the time it is submitted to the New Mexico Office of the State Engineer (NMOSE).

**Army Response:** Comment Acknowledged. The Army will provide a copy of the well abandonment work plan to NMED upon submission to NMOSE.

**NMED Comment 4: Permittee's Response to NMED's Approval with Modifications  
Comment 3, dated November 5, 2020**

**Permittee's Statement:** "TMW02 has a probability to be a conduit between the alluvial and bedrock aquifers. There are several wells within the vicinity of TMW02 that would provide coverage if TMW02 is abandoned. The Army is also proposing to install two additional wells to replace TMW40S and TMW40D to ensure well network coverage."

**NMED Comment:** Wells TMW02, TMW40S, and TMW40D are located in close proximity and screened in three different depth intervals. Wells TMW02, TMW40S, and TMW40D are screened from 67.9 to 81.9, 50 to 60, and 135 to 155 feet below ground surface (bgs), respectively. These wells provide valuable information regarding vertical distribution of contaminants in the aquifers and must not be abandoned.

Regarding the Permittee's concern of TMW02 being a conduit between the alluvial and bedrock aquifers, the data demonstrates otherwise. For example, the nitrate concentrations in groundwater samples collected in alluvial wells TMW02 and TMW40S were recorded as 160 and 90 mg/L, respectively, while in bedrock well TMW40D were recorded as 1.9 mg/L during the April 2019 sampling event. The alluvial groundwater samples exhibit elevated nitrate concentrations while the bedrock groundwater sample does not. Similarly, the perchlorate concentrations in groundwater samples collected in alluvial wells TMW02 and TMW40S were recorded as 2.29 and 4.08 µg/L, respectively, while the concentration in the sample collected from the bedrock well TMW40D was recorded as 260 µg/L during the April 2019 sampling event. The bedrock groundwater sample exhibits elevated perchlorate concentration while the alluvial groundwater samples do not.

Although each aquifer appears to be isolated and unaffected and well TMW02 does not appear to be a conduit, the Permittee may propose to submit a work plan to install a duplicate well within ten feet from the original location for verification purposes. However, the Permittee must not abandon well TMW02 unless well TMW02 is confirmed to be a conduit.

In addition, the Permittee proposes to replace wells TMW40S and TMW40D to ensure well network coverage. However, wells TMW40S and TMW40D are functional and groundwater samples have been collected from these wells. The purpose of replacement is not clear. Provide a clarification in the response letter.

**Army Response:** Comment Noted. Army respectfully disagrees with NMED's understanding of TMW02; however, Army will retain the TMW02 monitoring well. The Army will include an asterisk/footnote in future reporting of this well as the screen is set across the alluvial and bedrock interface.

The Army requests to abandon TMW40S and TMW40D to pre-emptively improve the monitoring well network. The two wells are nested within a single boring, and the well could degrade over time and be a conduit for future cross-contamination. The Army proposes to abandon the two wells within the single boring and install two replacement monitoring wells at the same intervals adjacent to the existing boring.

**NMED Comment 5: Permittee's Response to NMED's Approval with Modifications  
Comment 3, dated November 5, 2020**

**Permittee's Statement:** "Army is requesting concurrence in installing a new bedrock background monitoring well in the vicinity of BGMW08 and is again proposing to decommission and replace BGMW08 due to consistent high turbidity, high matrix interference, and lack of water. Additionally, the very low recharge rate of BGMW08 does not produce sufficient volume to support collecting the analytical suite required by the monitoring program."

**NMED Comment:** The Permittee may propose to submit a work plan to install a new background monitoring well in the vicinity of BGMW08. However, the Permittee must not abandon well BGMW08 at this time. Retain well BGMW08 as a bedrock groundwater monitoring well and continue to monitor groundwater quality, as previously directed. If groundwater samples cannot be collected due to insufficient recharge, describe the sampling efforts in future groundwater monitoring reports.

**Army Response:** The Army will retain BGMW08 as a monitoring well for the monitoring and recording of groundwater quality as directed. Also, efforts to collect sample volume will be detailed in future monitoring reports; however, extraordinary efforts to acquire a full suite from this slow recharge well will not be attempted. The Army will conduct reasonable attempts to sample the well during each semi-annual monitoring event.

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

Sincerely,



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Fort Wingate Depot Activity  
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Environmental Division

Enclosures

CF:

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Dave Cobrain, NMED, HWB  
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Michiya Suzuki, NMED, HWB  
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