



DEPARTMENT OF THE ARMY
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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, Final Revision 1 Groundwater Periodic Monitoring Report, January through June 2018, Fort Wingate Depot Activity, McKinley County, New Mexico, EPA# NM6213820974

Dear Mr. Pierard:

This letter is in response to the New Mexico Environment Department (NMED) Letter, titled: Response to Approval with Modifications, Final Revision 1 Groundwater Periodic Monitoring Report, January through June 2018, Fort Wingate Depot Activity (FWDA), Gallup, New Mexico, dated March 8, 2021. The referenced number is HWB-FWDA-19-001. 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 3, dated January 20, 2020

Permittee Statements: "The Army will then prepare an abbreviated groundwater monitoring plan [for Parcel 3] after the installation and development of the background/replacement wells."
and,

"The eight proposed sampling events will then generate eight consecutive quarters of the complete well network."

NMED Comment: The Permittee continues to avoid addressing to failure to submit the Parcel 3 groundwater monitoring plan to NMED no later than April 2, 2019, as required. The Permittee received a Notice of Violation on June 20, 2019 that included the lack of submittal of the groundwater monitoring plan as a violation. Facility groundwater monitoring plans are required to be updated annually for any changes to the program, including addition or removal of wells from the list of active wells. Proposing to wait until all abandoned monitoring wells are replaced is not acceptable. The groundwater monitoring plan is over a year past due, and the Permittee is liable for penalties that continue to accrue every day that the Permittee does not submit the document.

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

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

Due to circumstances involving BRAC funding that are beyond the Army's control, the Army apologizes for continuing delays.

Please note the nature of this comment applies to the Parcel 3, January through June 2018 periodic monitoring report, which reports the northern area groundwater monitoring results. The Army respectfully requests to separate this comment from the approval of the document.

**NMED Comment # 2: Permittee's Response to NMED's Approval with Modifications
Comment 7, dated January 30, 2020**

Permittee Statement: "Utilizing an ampoule as suggested by NMED can provide accurate results for DO with limited sample; however, the means to retrieve the sample, from these low recharge low yield wells, will allow the sample to be compromised by interaction with surface air. This will void the accuracy of the ampoule test method. If approved by NMED, the use of passive sampling technology previously proposed by the Army would allow for collection of a groundwater sample from a low recharge well and prevent the sample from being compromised."

NMED Comment: Air space in well casing may be purged with carbon dioxide or equivalent anoxic gases where its vapor density is heavier than oxygen prior to bailing groundwater samples. If an exposure to oxygen is minimized while retrieving samples, accuracy of the ampoule test will unlikely be compromised. Evaluate the feasibility of purging well casing with anoxic gases for accurate DO measurement in groundwater samples collected from the wells where groundwater levels are insufficient. Provide a discussion in a response letter.

The results obtained from passive sampling must be comparable to those of the current sampling methods (e.g., low-flow and bailer). It should be noted that passive sampling techniques are not appropriate if the ambient groundwater flow through the screened interval is less than one liter per minute. The Permittee may submit a work plan to demonstrate a comparability between passive sampling and the current sampling technologies.

Army Response: Comment noted. The Army respectfully disagrees with NMED's suggestion to use anoxic gas to displace air from wells prior to retrieving DO samples at low recharge monitoring wells. These wells have been sampled using a bailer, or are purged dry and allowed to recharge just before sampling. Both of these methods inevitably have detrimental effects on sample representativeness for DO. Downhole probes/sondes are available to measure DO and many other in situ water quality parameters. In situ measurement is a much more effective alternative to displacing air from multiple wells. Displacing air from the head space of wells is unnecessary and a needless expense.

The FWDA monitoring procedures are an interim measure until the corrective measures study is initiated, where NMED's proposal would be useful to confirm the DO data collected at wells containing dedicated sampling equipment for the determination of remedial alternatives.

In response to NMED's last paragraph, please note the Army proposed the Passive sampling method, so that the samples obtained would be more representative of formation water from a very low yield well. A Snap Sampler will provide a groundwater sample unexposed to air, which

provides more reliable DO and ORP-sensitive metals, and no loss of VOCs by volatilization. The Snap Sampler is the preferred method for obtaining representative samples from very low yield wells.

The Army respectfully declines to conduct a comparative study between the two methods, knowing in advance that the methods will yield different results, and that the methods currently selected are the most appropriate for obtaining representative samples from each well, because they are based upon specific well characteristics.

QED, the licensed distributor of the Snap Sampler, offers webinars on the Snap Sampler device and other sampling methods. See <https://www.qedenv.com/en-us/education/webinars/>.

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

Sincerely,



George H. Cushman IV
BRAC Environmental Coordinator
Fort Wingate Depot Activity
BRAC Operations Branch
Environmental Division

Enclosures

CF:

Kevin Pierard, NMED, HWB
Dave Cobrain, NMED, HWB
Ben Wear NMED, HWB
Michiya Suzuki, NMED, HWB
Lucas McKinnley, U.S. EPA Region 6
Ian Thomas, BRACD
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David Becker, USACE
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George Padilla, BIA, NRO
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