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**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**



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Cabinet Secretary

**Jennifer J. Pruett**  
Deputy Secretary

February 5, 2020

Mark Patterson  
BRAC Environmental Coordinator  
Fort Wingate Depot Activity  
13497 Elton Road  
Lima, OH 44452

**RE: DISAPPROVAL  
FINAL PARCEL 3 GROUNDWATER BACKGROUND WELLS AND REPLACEMENT  
MONITORING WELLS INSTALLATION WORK PLAN  
FORT WINGATE DEPOT ACTIVITY  
MCKINLEY COUNTY, NEW MEXICO  
EPA ID# NM6213820974  
HWB-FWDA-19-005**

Dear Mr. Patterson:

The New Mexico Environment Department (NMED) is in receipt of the Fort Wingate Depot Activity (Permittee) *Final Parcel 3 Groundwater Background Wells and Replacement Monitoring Wells Installation Work Plan* (Work Plan), dated December 2019. NMED has reviewed the Report and hereby issues this Disapproval. The Permittee must address the following comments.

**1. Section 1.1, Purpose and Scope, lines 36-39, page 1-1**

**Permittee Statement:** "Install One Background Well in Parcel 2. Drill one soil boring and install a background well in a water-bearing unit adjacent to an identified arroyo in Parcel 2 approximately 2,500 feet northeast of dry background monitoring well BGMW05 (comment

7, NMED 2019).”

**NMED Comment:** Comment 7 in the NMED’s *Approval with Modifications Final Revision 1 Parcel 3 Groundwater RCRA Facility Investigation Report*, dated June 14, 2019 states, “Figure 2-10, Geologic Cross Section Transect Location Map, indicates that an arroyo is present approximately 1,500 feet east of well BGMW05 and the arroyo appears to be accessible from an unnamed road extending eastward from AOC 91. Evaluate accessibility in the vicinity of the arroyo and, if found accessible, submit a work plan to install a background monitoring well in the vicinity of the arroyo.” Although the proposed background well is located along the same arroyo and appears to be accessible from AOC 92 according to Figure 3-1, *Proposed Background Well Locations*, the location to be evaluated is more than 2,500 feet upgradient (south) of the proposed location. Explain the basis for the discrepancy in a response letter. If the location approximately 1,500 feet east of well BGMW05 is accessible, change the proposed location because groundwater at this location is less likely to be affected by potential contaminants. Revise the Work Plan accordingly, as appropriate. If the upgradient location is not accessible, the Permittee may proceed to install the well at the proposed location, and in that case, no revision is necessary to the Work Plan.

**2. Section 1.1, Purpose and Scope, lines 3-6, page 1-2**

**Permittee Statement:** “Install 11 Replacement Wells in Parcel 3. Drill 11 soil borings proximal to abandoned wells within the HWMU of Parcel 3 and install 11 replacement wells screened to the specifications of the abandoned wells each new well will replace (comment 14, NMED 2019; response to comment 4, BRACD, 2019).”

**NMED Comment:** Comment 14 in the June 14, 2019 NMED’s *Approval with Modifications* states, “[t]he Permittee must propose to install a replacement well for CMW18 in a location outside of the HWMU operations.” Accordingly, abandoned well CMW18 is proposed to be replaced with proposed well CMW42. It is appropriate to propose to replace abandoned well CMW18. However, in addition to CMW18, wells CMW06, CMW07, CMW10, CMW14, CMW17, CMW19, CMW20, CMW-21, CMW33B, and FW38 are also proposed to be replaced. The replacement wells will be designated as wells CMW37, CMW38, CMW39, CMW40, CMW41, CMW43, CMW44, CMW45, CMW46, and CMW47, respectively, at approximately the same locations. The Permittee must submit documentation to NMED demonstrating that a work plan for well abandonment has been submitted and approved by the New Mexico Office of the State Engineer (NMOSE). Provide copies of the Permittee’s work plan and NMOSE’s approval letters for the well abandonment.

In addition, Section 2.0, *Installation and Site Background*, lines 20-24, page 2-1, states, “[t]he HWMU soil excavation operations have encroached on existing groundwater

monitoring wells and required these wells to be abandoned before excavating surrounding soil. Eleven groundwater monitoring wells within the HWMU have been abandoned as a result of the soil excavation operations.” Abandoned wells CMW19 and CMW21 were located more than 500 and 2,000 feet, respectively, from the HWMU boundary according to Figure 3-2, *Proposed Replacement Well Locations*. It is unclear why these wells were abandoned. Provide an explanation in the revised Work Plan.

**3. Section 1.1, Purpose and Scope, pages 1-1 and 1-2**

**NMED Comment:** The field activities proposed within the Work Plan include the installation, development, and survey of background and replacement wells. However, the Permittee must also include soil and groundwater sampling in the scope of this Work Plan. The collection of soil samples for laboratory analyses is necessary for every boring because soils in the vicinity of HWMU may be contaminated. In addition, once the wells are developed, groundwater samples must be collected from each well. Include these tasks in the revised Work Plan.

**4. Section 2.2.7, Hydrogeologic Conceptual Model, lines 12-15, page 2-5**

**Permittee Statement:** “As observed and presented in the Parcel 3 RFI report, groundwater monitoring wells located along the north–south trending arroyo east of the Nutria Monocline have sufficient groundwater for sampling and include CMW36A, CMW36B, CMW28B, CMW27B, and CMW26 (Sundance, 2019; Figure 2-8).”

**NMED Comment:** Wells CMW27B and CMW26 are not depicted in the figures included in the Work Plan. Identify the locations of these wells and all existing and abandoned wells in Parcels 2 and 3 in the appropriate figures in the revised Work Plan.

**5. Section 2.2.7, Hydrogeologic Conceptual Model, lines 18-23, page 2-5**

**Permittee Statement:** “Figure 2-8 shows an inferred dry line east and west of the main arroyo. This line represents a boundary between water producing wells within close proximity of the arroyo and wells that do not produce sufficient volume to sample or are dry. The dry line exhibits an approximate distance away from the arroyo where groundwater is generally not encountered. The locations of groundwater-producing monitoring wells provide evidence that groundwater recharge is correlated to surface infiltration from arroyos (Sundance, 2019).”

**NMED Comment:** NMED agrees that the groundwater producing zones are in close proximity of the arroyos. However, there are no groundwater monitoring wells west of the inferred dry line to confirm the boundary. Accordingly, the water-producing boundary

cannot be estimated, and it is not appropriate to speculate such boundary. Remove the line from Figure 2-8 and revise the text in the Work Plan.

**6. Section 3.0, Field Methodology, lines 5-6, page 3-1, Section 3.4, lines 5-7, page 3-3, and Section 3.6, Well Survey, lines 12-14, page 3-6**

**Permittee Statements:** "The replacement wells will be designed and located according to the specifications of the abandoned wells they are replacing."

and,

"These replacement wells are to be installed approximately to the same specifications as the abandoned well being replaced."

and,

"Once the ground elevation at each replacement well is verified, the total well depth can be calculated and adjusted to allow placing the screened interval consistent with the abandoned well's screened interval."

**NMED Comment:** Accommodate the decreasing trend in groundwater elevations in recent years in the design of replacement wells, as necessary. Ensure that all new wells produce sufficient groundwater. Include the provision in the revised Work Plan.

**7. Section 3.4, Monitoring Well Installation, line 42, page 3-2 and lines 1-3, page 3-3**

**Permittee Statement:** "The total depths and screened intervals for the background wells may vary based on observed subsurface lithology, observed saturated zones, and the field geologist's professional judgment. The screened interval will be placed to capture first water, thus will not drill through multiple water-bearing zones."

**NMED Comment:** In order to avoid installing a dry permanent well, unless the presence of the saturated zone is clearly identified, propose to install a temporary well or leave the borehole open to evaluate for presence or absence of groundwater. If appropriate, convert the temporary well/borehole to a permanent groundwater monitoring well. Otherwise, abandon the temporary well/borehole and contact NMED to evaluate an alternative well location. Include the provision in the revised Work Plan.

**8. Section 3.4.1, Drilling and Well Construction, lines 27-28, page 3-3**

**Permittee Statement:** "Sonic drilling technology also generates continuous soil and rock cores from the subsurface."

**NMED Comment:** In addition to a record of soil and rock cores, soil samples must be collected from near surface, saturation, and termination depths in every boring (see Comment 3). Include the provision in the Work Plan. In addition, include an appropriate analytical suite for the soil samples in the revised Work Plan. At a minimum, the Permittee must submit the soil samples to an analytical laboratory for chemical analysis of semi-volatile organic compounds, metals, explosive compounds, perchlorate, nitrate, cyanide, PCBs, dioxins, and furans.

**9. Section 3.4.1, Drilling and Well Construction, lines 28-29, page 3-3, and Section 4.0, Investigation-Derived Waste Management, lines 9-11, page 4-1**

**Permittee Statements:** "Soil and rock cores will be contained in boxes and maintained on-site, thus eliminating soil IDW."

and,

"Note that it is anticipated that no soil and rock IDW will be generated because all recovered material will be contained in boxes and maintained on-site, thus eliminating soil and rock IDW."

**NMED Comment:** Soil and rock cores must be removed from the site as an investigation derived waste once the investigation is complete. They cannot be kept on-site unless they are proven to be clean by waste characterization analysis. The analytical suite for soil IDW characterization must be provided in the revised Work Plan.

**10. Section 4.1, IDW Segregation, line 37, page 4-1**

**Permittee Statement:** "Sample analysis [for liquid waste] will include flash point, reactivity, corrosivity, and toxicity tests."

**NMED Comment:** In addition to the above analyses, include analyses for constituents that are potentially present at the site for characterization of liquid waste. Since groundwater samples are to be collected from all newly installed wells (see Comment 3), the analytical suite for liquid waste must be consistent with that of groundwater samples. Include the provision and revise the Work Plan accordingly.

**11. Section 4.2, IDW Containerization and Labeling, lines 6-8, page 4-2**

**Permittee Statement:** "The collected water will be disposed of in the evaporation pond, unless analytical data indicate that an alternate disposal method is appropriate."

**NMED Comment:** Provide information regarding the evaporation pond (e.g., location, size, and construction details) in the revised Work Plan.

**12. Section 4.3, Temporary Storage, lines 1-2, page 4-3**

**Permittee Statement:** "Characterization sampling will be composite samples of waste generated from like areas that were generated during the same timeframe."

**NMED Comment:** Provide more detailed explanation for the composite sampling procedure (e.g., number of subsamples, volume of waste to be represented) in the revised Work Plan.

**13. Section 4.4.1, IDW Sampling, lines 16-17, page 4-3**

**Permittee Statement:** "Accumulated wash and rinse water will be left within the decontamination pad and allowed to evaporate."

**NMED Comment:** If it rains during the process, the waste may overflow from the pad. If the ambient temperature is too low, the water may not evaporate in a timely manner. The waste management practice does not appear to be viable under some circumstances. Address the issue and revise the Work Plan accordingly.

**14. Figure 3-1, Proposed Background Well Locations and Figure 3-2, Proposed Replacement Well Locations**

**NMED Comment:** The presentation of existing and abandoned wells is not consistent between the figures. For example, wells CMW02, CMW16, CMW22, CMW24, KMW09, KMW10, KMW11, KMW12, KMW13 and KMW16 are depicted as existing wells in Figure 3-1 while these wells are not depicted in Figure 3-2. Include all existing wells in Figure 3-1 in the revised Work Plan. Additionally, two abandoned wells labeled CMW33B are depicted in Figure 3-1 while only one abandoned well CMW33B is depicted in Figure 3-2. Provide a clarification. Furthermore, abandoned well CMW21 is depicted in Figure 3-2 while the well is not depicted in Figure 3-1. Resolve the discrepancies in the revised Work Plan.

**15. Table 3-2, Replacement Monitoring Well Construction Detail**

**NMED Comment:** Abandoned wells CMW06, CMW20, and FW38 are highlighted on the table to indicate that the replacement for these abandoned wells will likely be dry due to shallow intervals of the abandoned wells. It does not make sense to install replacement wells that do not produce any groundwater. Propose to move the boring locations or install

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the wells with deeper screened interval to allow for sufficient groundwater production.  
Include the provision in the revised Work Plan.

The Permittee must submit a revised Work Plan that addresses all comments contained in this Disapproval. 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 with a response letter that details where all revisions have been made, cross-referencing NMED's numbered comments. The Revised Work Plan must be submitted to NMED no later than **June 30, 2020**.

Should you have any questions, please contact Michiya Suzuki of my staff at (505) 476-6059.

Sincerely,



Kevin Pierard  
Chief  
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB  
B. Wear, NMED HWB  
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