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CERTIFIED MAIL - RETURN RECEIPT REQUESTED



James C. Kenney
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January 30, 2020

Colonel Robert A. Masaitis
Commander, 27th Special Operations Wing
100 Air Commando Way, Suite 100
Cannon Air Force Base
New Mexico 88103-5214

**RE: APPROVAL WITH MODIFICATIONS
2018 BIENNIAL GROUNDWATER MONITORING
AND ANNUAL LANDFILL INSPECTION REPORT
CANNON AIR FORCE BASE, NEW MEXICO
EPA ID #NM7572124454
HWB-CAFB-19-001**

Dear Colonel Masaitis:

The New Mexico Environment Department (NMED) is in receipt of the Cannon Air Force Base (Permittee) *2018 Biennial Groundwater Monitoring and Annual Landfill Inspection Report* (Report) dated January 5, 2019. NMED has reviewed the Report and hereby issues this Approval with the following modifications.

MODIFICATIONS

1. Section 2.1.1, 2017 Inspection and Maintenance Activities, Page 2-1

Permittee Statement: "All repairs for problems observed at LF002 were in discussion during 2017 and 2018."

NMED Comment: The Permittee must address the subsidence and exposed waste issues reported at Landfill 002 (Solid Waste Management Unit (SWMU) 82) during the 2017 and 2018 landfills inspection and maintenance activities. Necessary repairs to SWMU 82 must

be completed in accordance with the NMED approved June 2014 *Final Work Plan Addendum for Landfills and Institutional Controls Inspection Sites* (Interim Measures Monitoring Plan). Any work plans and reports pertaining to planned SWMU 82 maintenance activities must be submitted to NMED for review and approval. Provide additional information in a response letter that clarifies how the Permittee intends to resolve the issues identified and provide replacement pages.

2. Section 3.2.5, Issues Encountered, Page 3-4

NMED Comment: The following comments must be addressed:

- a. **Monitoring Well-MW-Oa:** The Permittee must inspect the monitoring well, remove any encountered well obstruction, and reset the dedicated sampling pump at the appropriate depth for continued sampling within the screened interval of the well prior to the next scheduled sampling event. Address the comment in the response letter and provide replacement pages.
- b. **Monitoring Well-MW-Pa:** The reported shortened sampling system air line tubing may prevent sampling of the well during future sampling events. Therefore, monitoring well MW-Pa must be repaired to facilitate continued collection of groundwater samples for the foreseeable future. Address the comment in the response letter and provide replacement pages.

3. Section 3.3, Analytical Results, Page 3-6

Permittee Statement: "NMED requested that hexavalent chromium be screened against the NMGWQS [New Mexico Groundwater Quality Standard] for chromium (5.00E+01) and the NMED Tap Water cancer screening level (5.01E-01)."

NMED Comment: Provide the concentration units (micrograms per liter ($\mu\text{g/L}$)) for the NMGWQS and the NMED Tap Water cancer screening levels. Revise the statement accordingly and provide the respective replacement page.

4. Section 3.3, Analytical Results, Pages 3-6 through 3-7

Permittee Statement: "All ten groundwater samples exceeded the NMED Tap Water cancer screening level for hexavalent chromium, but did not exceed the NMGWQS for chromium. The distribution of reported concentrations does not indicate any distinct trends or patterns indicating a point source or a release. Additionally, historical hexavalent chromium exceedances in MW-X indicate that hexavalent chromium is naturally occurring. Hexavalent chromium has been identified as naturally occurring in groundwater in California, Nevada, New Mexico, Arizona (Independent Environmental Technical Evaluation Group 2004)."

NMED Comment: Reference to the cited Independent Environmental Technical Evaluation Group (IETEG) study is insufficient to support the conclusion that hexavalent chromium concentrations reported at Cannon Air Force Base (CAFB) groundwater monitoring wells are a result of natural aquifer conditions. Additionally, insufficient groundwater concentration data is presented in the Report for upgradient perimeter groundwater monitoring wells to support this conclusion. The presence of hexavalent chromium in the environment is typically attributable to anthropogenic contamination sources associated with the discharge of waste containing chromic acid used in metal plating operations, chromium-based dyes and pigments, and chromate and dichromate-based corrosion inhibitors. In support of the statement, provide the following additional information:

- a. address the potential for release of hexavalent chromium to the environment at CAFB as a result of historical and current installation operations;
- b. provide supporting information from the cited IETEG study and any other pertinent chemical of concern background or groundwater quality studies or investigations to substantiate the claim that hexavalent chromium is naturally occurring in the regional aquifer;
- c. discuss applicable geochemical conditions that would allow for the natural occurrence of hexavalent chromium in the regional aquifer at CAFB and the surrounding area.
- d. Provide all background hexavalent chromium data from wells located appropriately for use as background monitoring wells.

Provide the information in the response letter and provide replacement pages.

5. Figure 3-2, Potentiometric Surface Map-May 2018

NMED Comment: The groundwater elevation provided for monitoring well MW-D (3979.84 feet above mean sea level (amsl)) on Figure 3-2 does not match the potentiometric elevation provided on Table 3-1, Water Levels-April 2017 and May 2018 for the well (3937.38 feet amsl), nor does it correlate with the groundwater contour intervals depicted on the map at the well location. Correct the groundwater elevation figure discrepancy and provide a corrected replacement figure.

6. Figure 3-3, Groundwater Results Exceeding Applicable Standards May/June 2018

NMED Comment: Include a description for the monitoring well symbols depicted on Figure 3-3 in the figure legend. Monitoring wells no longer used for sampling and/or abandoned must also be distinctly labeled on the figure. Revise the figure and provide a replacement.

7. Section 5.1, Conclusions, Page 5-1

Permittee Statement: "Groundwater sampling analytical results from May/June 2018 indicated that there are no new contaminant releases to groundwater. Furthermore, new or current base activities do not pose a threat to groundwater."

NMED Comment: The Permittee's August 2018 *Final Site Inspection Report Cannon Air Force Base, NM [New Mexico] Site Inspection of Aqueous Film Forming Foam (AFFF) Release Areas Environmental Programs Worldwide* (AFFF Site Inspection Report) provides documentation of reported concentrations of per and poly-fluoroalkyl substances (PFAS) at various CAFB groundwater monitoring wells sampled during the AFFF site inspection. Specifically, perfluorooctonic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were detected in ten groundwater monitoring wells at CAFB. Reported concentrations of PFOA and PFOS exceeded the established United States Environmental Protection Agency Lifetime Health Advisory of 0.07 µg/L at six of the sampled monitoring wells at the eastern and southeastern portion of the Facility. Although sample analysis for PFAS is not currently included in the approved Interim Measures Monitoring Plan, additional investigation of PFAS groundwater contamination reported by the Permittee will be required in the future to address this issue. Revise the Report to acknowledge the presence of PFAS in groundwater at CAFB and provide replacement pages.

8. Section 5.2, Recommendations, Pages 5-1 through 5-2

NMED Comment: Section 5.2 comments must be addressed as follows:

- a. The Permittee must ensure that further damage to required landfill fencing, signage, and monitoring wells does not occur as a result of any future CAFB landfill maintenance activities. Address the comment in the response letter and provide replacement pages.
- b. The Permittee must ensure that all contractors conducting groundwater monitoring at CAFB monitoring wells do not damage the wells or dedicated sampling systems. If damage to a monitoring well or sampling system is encountered or reported, the Permittee must make a timely effort to repair the well and return it to the sampling schedule prior to the next sampling event. Address the comment in the response letter and provide replacement pages.
- c. To address groundwater turbidity issues reported by the Permittee during the May 2018 groundwater sampling event at newly installed replacement monitoring wells MW-Fa, MW-Ga, MW-Sa, MW-Ta, and MW-Ua, the Permittee must either properly reset the sampling systems and tubing in the wells to limit any further turbidity issues, rehabilitate the monitoring wells in accordance with Interim Measures

Monitoring Plan, Section 4.6.2, Monitoring Well Rehabilitation, or replace any damaged monitoring wells. A work plan for any necessary monitoring well abandonment and replacement must be submitted to NMED for review and approval prior to initiation of any respective project work. Address the comment in the response letter and provide replacement pages.

The Permittee must provide replacement pages that address NMED's modifications. In addition, a response letter that cross-references where NMED's modifications were addressed, an electronic redline-strikeout version of the Report, and a revised electronic copy of the Report must be submitted to NMED no later than **March 23, 2020**.

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.

If you have any questions regarding this letter, please contact Gabriel Acevedo at (505) 476-6043.

Sincerely,



Kevin Pierard
Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
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