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**Certified Mail - Return Receipt Requested**

January 28, 2022

Colonel Terence G. Taylor  
Commander, 27th Special Operations Wing  
100 Air Commando Way, Suite 100  
Cannon Air Force Base  
New Mexico 88103-5214

**RE: SECOND DISAPPROVAL  
FACILITY-WIDE LONG-TERM GROUNDWATER MONITORING PLAN  
CANNON AIR FORCE BASE, NEW MEXICO  
EPA ID #NM7572124454  
HWB-CAFB-19-003**

Dear Colonel Taylor:

The New Mexico Environment Department (NMED) is in receipt of the Cannon Air Force Base (Permittee) *Facility-Wide Long-Term Groundwater Monitoring Plan (FLGMP)* dated October 19, 2021. NMED hereby issues this second Disapproval. The Permittee must address the following comments.

**GENERAL COMMENTS**

**1. Required Permittee Certification Statement**

**NMED Comment:** NMED's December 2, 2020, *Disapproval Work Plan Addendum Facility-Wide Long-Term Monitoring, Maintenance, and Inspections at Multiple Sites (Disapproval)* letter Attachment Comment 2 required the Permittee to include the 40 Code of Federal Regulation (CFR) Section 270.11(d)(1) statement for signatories for all documents submitted to NMED. The Permittee did not include the required certification statement on the signed cover letter of the FLGMP. This requirement is also specified in the December 2018 *Cannon Air Force Base Resource Conservation and Recovery Act Permit (Permit)*, Section 1.16, Signatory Requirements. The revised FLGMP must be submitted with a signature page signed by the Permittee, without exception, that includes the following 270.11(d)(1) certification statement:

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Hazardous Waste Bureau - 2905 Rodeo Park Drive East, Building 1, Santa Fe, New Mexico 87505-6313  
Telephone (505) 476-6000 - [www.env.nm.gov](http://www.env.nm.gov)

*"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

Failure to follow NMED direction is considered non-compliance and may result in an enforcement action pursuant to Permit Section 1.7, Enforcement.

## **2. Redline-Strikeout Version of the Revised Work Plan**

**NMED Comment:** It appears that the Permittee edited the previously submitted and disapproved 2019 *Work Plan Addendum Facility-Wide Long-Term Monitoring, Maintenance, and Inspections at Multiple Sites* document to meet the requirements of NMED's Disapproval of the work plan, then submitted it as the updated Facility-Wide Long-Term Groundwater Monitoring Plan. However, the Permittee did not provide the required redline-strikeout version of the work plan documenting where NMED's comments were addressed. A redline-strikeout version of a revised document must always be provided to NMED in response to NMED's disapproval or approval with modifications to a document. This ensures that any changes made to a revised document are clearly documented and readily reviewable. This long-established requirement is specified in all NMED disapproval and approval with modification correspondence and has not changed.

An electronic copy of the redline-strikeout version of the revised FLGMP must be provided with the revised clean-version of the FLGMP. Failure to follow NMED direction constitutes noncompliance and may result in an enforcement action pursuant to Permit Section 1.7.

## **3. Permittee's Response to NMED Comment Matrix**

**NMED Comment:** All Permittee responses in the comment matrix provided with a revised document must include references to the specific sections, tables, figures, or appendices that were revised to meet the requirements of NMED's comments on a prior submittal. A generalized Permittee response to an NMED comment is not appropriate. The Permittee must ensure that the comments response matrix, which must be provided with all revised documents, is formatted accordingly. Failure to follow NMED direction constitutes noncompliance and may result in an enforcement action pursuant to Permit Section 1.7.

## **SPECIFIC COMMENTS**

### **4. Section 1.4.11, Extent and Distribution of Contaminants, Pages 1-9 through 1-11**

**Permittee Statement:** “PFAS [per-and polyfluoroalkyl substances] is an emerging contaminant that the United States Air Force (USAF) is addressing under the CERCLA [Comprehensive Environmental Response, Compensation, and Liability Act] process. Therefore, PFAS will not be included in this FWLTGMP [Facility-wide Long-term Groundwater Monitoring Plan].”

**NMED Comment:** NMED does not agree that PFAS contamination at CAFB is subject to the CERCLA-like process used by non-RCRA-permitted Department of Defense facilities. CAFB and PFAS are subject to regulation under the New Mexico Hazardous Waste Act (HWA) and the December 2018 *CAFB RCRA Hazardous Waste Permit* (Permit). PFAS compounds meet the statutory definition for hazardous waste as defined in HWA Section 74-4-3(K) and RCRA 42 U.S.C. 6903(5) and are defined as such along with other contaminants of concern (COCs) in Permit Section 1.12, Definitions, as required by 40 CFR 270.32(b)(2) for protection of human health and the environment. Furthermore, use of aqueous film forming foam (AFFF) containing PFAS compounds at CAFB and the release of PFAS COCs to the environment at and around CAFB were documented in the 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* and the March 2019 *Addendum 01 to the Final Site Inspection Report Cannon Air Force Base, NM, Site Inspection of Aqueous Film Forming Foam (AFFF) Release Areas Environmental Programs Worldwide*. Additional information provided in the May 2021 *Draft Aqueous Film-Forming Foam Release Areas Phase I Remedial Investigation Work Plan* indicates that AFFF containing PFAS compounds are still in use at CAFB.

NMED’s requirement for development of an updated conceptual site model specified in Disapproval Attachment Comment 1 was to identify any historic and newly identified release of COCs to the environment due to past and current CAFB operations, establish a generalized fate and transport model for the identified contaminants, and identify all COCs to be addressed by the FLGMP scope of work for groundwater monitoring at CAFB. The use of AFFF containing PFAS and the release of associated contaminants to the environment must be further evaluated and documented and additional groundwater data collected as originally required by the Disapproval. Furthermore, various RCRA solid waste management units (SWMUs), areas of concern (AOCs), and other sites have been identified as potential source areas for PFAS contamination in groundwater at CAFB and the surrounding area. The Permittee must address the following requirements in the revised FLGMP as follows:

- a. All information pertinent to development of an updated, accurate, and complete conceptual site model for the release of PFAS contaminants to the environment at

CAFB and the surrounding area must be discussed and appropriately referenced in the revised FLGMP. Referenced reports, work plans, and other documents must be listed in Section 7, References, of the revised FLGMP. All referenced documents that have not previously been submitted to NMED must be provided as separate submittals with the revised FLGMP and will be included in the CAFB administrative record following receipt.

- b. The FLGMP must be revised to include groundwater sample analysis for all PFAS COCs at CAFB groundwater monitoring well locations for contaminant plume characterization in accordance with the requirements of Permit Section 3.1, Corrective Action from Releases and other applicable Permit specifications, applicable guidance provided in NMED's updated November 2021 *Risk Assessment Guidance for Site Investigations and Remediation* (RA Guidance) (e.g., Section 5.4, PFAS), and any established United States Environmental Protection Agency and industry accepted protocols for the collection of representative data for evaluation of PFAS COCs in groundwater. The FLGMP must be revised accordingly.

As clarification, any groundwater monitoring or corrective action investigations conducted in the absence of an NMED-approved work plan may result in the invalidation of respective data and the NMED directive to conduct different and/or additional work beyond that conducted by the Permittee. Failure to follow NMED direction constitutes noncompliance and may result in an enforcement action pursuant to Permit Section 1.7.

#### 5. Section 2.8.9, 2020 Biennial Sampling Event, Pages 2-14 and 2-15

**Permittee Statement:** "During sampling activities on 29 June 2020 at MW-Ga and MW-Ua, and on 30 June 2020 at MW-Ta high groundwater turbidity conditions were encountered. The initial groundwater turbidity reading collected from the wells was 2,300, 1,690, and 703 nephelometric turbidity unit (NTUs) at MW-Ga, MW-Ta, and MW-Ua, respectively. Samples were not collected due to pump failures as a result of elevated turbidity. These wells were recommended to be developed to address the turbidity issues."

**NMED Comment:** Information provided in the January 2021, *2020 Biennial Groundwater Monitoring and Annual Landfill Inspection Report* (2020 Biennial Groundwater Monitoring Report) Executive Summary indicated MW-Ga, MW-Ta, and MW-Ua would be redeveloped in the summer or fall of 2021. If the monitoring wells identified as having turbidity issues have not been redeveloped, the Permittee must do so before the next scheduled groundwater monitoring event. No revisions to the FLGMP are required in response to this comment.

**6. Section 2.8.10, Summary, Pages 2-15 and 2-16**

**Permittee Statement:** "This summary excludes PFAS as an emerging contaminant, as the USAF is addressing this comment under the CERCLA process."

**NMED Comment:** Any SWMUs, AOCs, or other sites potentially associated with the release of PFAS contamination at CAFB must be identified and discussed in Section 2 of the revised FLGMP. The release of PFAS contaminants have resulted in impacts to groundwater at and around the Facility that will require long-term monitoring. Furthermore, the CERCLA process cited by the Permittee does not apply to PFAS investigation at CAFB as clarified in Comment 4 of this letter, and all references to CERCLA must be removed from the revised FLGMP. Failure to follow NMED direction constitutes noncompliance and may result in an enforcement action.

**7. Section 3.1, Groundwater Monitoring Sampling Plan, Page 3-1**

**NMED Comment:** The following issues must be addressed as follows:

- a. As required by Disapproval Attachment Comment 7b, new monitoring well MW-Y must be included in the groundwater sampling and level gauging schedule proposed in the revised FLGMP. Monitoring well MW-Y is in proximity to sites proposed for long-term management and monitoring and other sites that are potential source areas for PFAS groundwater contamination. Therefore, it is imperative that monitoring well MW-Y be incorporated into the sampling and groundwater level gauging schedule as previously required by NMED. As clarification, the Permittee's assertion that the monitoring well is only used for PFAS monitoring outside of the scope of the work plan is incorrect (See Comment 4). Any such assertion is not acceptable as justification for not including MW-Y in the groundwater sampling and gauging schedule. The FLGMP must be revised accordingly.
- b. As required by Disapproval Attachment Comment 7c, groundwater samples collected from all monitoring wells scheduled for sampling in the revised FLGMP must also be analyzed for all PFAS COCs. The FLGMP must be revised accordingly.

Failure to revise the FLGMP as required by NMED will be considered noncompliance with the Permit and may result in an enforcement action pursuant to Permit Section 1.7.

**8. Section 3.2, Water Level Measurement, Page 3-1**

**NMED Comment:** The following issues must be addressed accordingly:

- a. As previously required by Disapproval Attachment Comment 8, the section discussion must be revised to specifically propose the use of a groundwater level

gauging probe capable of measuring groundwater levels and non-aqueous phase liquids. The FLGMP must be revised accordingly.

- b. Information reported in the 2020 Biennial Groundwater Monitoring Report indicated that monitoring well MW-Ca has dropped to 9.44 feet of water column. As a result, MW-C was sampled during the 2020 groundwater monitoring event. The section and FLGMP must be revised to address the identified issue and the groundwater level gauging and sampling schedule adjusted as necessary. Revise the FLGMP accordingly.
- c. If MW-C will be sampled in lieu of MW-Ca, the Permittee must continue to collect groundwater level gauging data at monitoring well MW-Ca during future scheduled gauging events until the well has gone dry. If groundwater level gauging data and well evaluation indicates that the monitoring well has gone dry the well must be abandoned in accordance with State of New Mexico regulations and the Permit. Revise the FLGMP accordingly.

#### **9. Section 3.3, Groundwater Sample Collection, Pages 3-2 and 3-3**

**Permittee Statement:** "Equipment blanks will be collected from sampling equipment in accordance with the Cannon AFB RCRA Permit."

**NMED Comment:** As required by Permit Section 4.3.5, Groundwater Sample Types, the statement must be revised to specify that equipment rinsate blanks must be collected at the rate of 10 percent or a minimum of one equipment rinsate blank per sampling day. General reference to the Permit is not sufficient to propose a scope of work. Reference to Permit requirements in the FLGMP must be followed by a discussion that addresses the methods and procedures proposed to be implemented as specified by the Permit. Revise the FLGMP accordingly.

#### **10. Section 3.4, Investigation-Derived Waste [IDW], Page 3-3**

**NMED Comment:** A representative sample of IDW that accounts for all identified CAFB contaminants of concern including PFAS compounds must be used to initially characterize the IDW. Based on results of the representative IDW sample(s), the IDW must be further evaluated and characterized for disposal as hazardous or non-hazardous waste, as applicable, at an off-site facility. The results of the complete waste determination must be reported in each groundwater monitoring report. The FLGMP must be revised to propose all necessary sampling to meet this requirement.

**11. Table 3-1, Groundwater Level Measurement and Sampling Summary, Page 1 of 1**

**NMED Comment:** The following Table 3-1 issues must be addressed as follows:

- a. Monitoring well MW-F is shown as scheduled for sampling for all contaminants of concern listed on the table, which is not accurate. Monitoring well MW-Fa is the well currently sampled at that location, as indicated on the table. Revise the table to indicate that MW-F will only be gauged for water levels.
- b. As previously required by NMED in Disapproval Attachment Comment 7a, monitoring well MW-H must be scheduled for groundwater sampling and analyses for all identified CAFB COCs. Revise Table 3-1 accordingly.

**12. Section 4, Investigative Derived Waste, Pages 4-1 through 4-2**

**NMED Comment:** The page headers identify Section 4 as Investigative Derived Waste, while the section describes field operations documentation. Correct the page headers for Section 4 in the revised FLGMP.

**13. Section 6.1, Groundwater Monitoring and Landfill Inspection Report Requirements, Pages 6-1 and 6-2**

**NMED Comment:** The proposed annual groundwater monitoring and landfill inspection report must conform to the minimum format requirements specified in Permit Section 6.4, Periodic Monitoring Report and NMED's August 2020 *General Reporting Guidelines for Corrective Action Reporting*. Review and revise the section as necessary to meet the Permit requirements for periodic monitoring reporting.

**14. Section 6.5.1, Data Evaluation, Page 6-3**

**Permittee Statement:** "Data evaluation will be completed in accordance with Section 4.5 of the Cannon AFB RCRA permit."

**NMED Comment:** The reference to Permit Section 4.5, Sample Analysis, is not sufficient to address and propose the evaluation of project data. At a minimum, and as required by the Permit, the FLGMP must be revised to propose and discuss data evaluation as follows:

- a. The FLGMP must propose and discuss the type and collection frequency of field quality control samples required by Permit Sections 4.3.5, Groundwater Sample Types, and the sample evaluation required by Permit Section 4.5.7., Blanks, Duplicates, Reporting Limits and Holding Times. The FLGMP must be revised accordingly.

- b. The FLGMP must propose and discuss the type, collection frequency, and evaluation of laboratory control samples required by Permit Section 4.5.4, Laboratory QA/QC Samples and Section 4.5.7. The FLGMP must be revised accordingly.
- c. The FLGMP must propose and discuss the data quality indicators for evaluation of data representativeness and comparability required by Permit Section 4.5.8. The data quality indicators must include the proposed evaluation of sample precision, accuracy, representativeness, completeness, comparability, sensitivity, and evaluation of bias. Reference to the Permit or applicable guidance documents is not sufficient for proposing the data quality evaluation in the revised FLGMP. The FLGMP must be revised accordingly.
- d. As required by Permit Section 4.5, Chemical Analysis, and to ensure that analytical laboratories meet NMED's quality assurance and control standards for reporting and detection limits, the FLGMP must propose target detection and reporting limits for each analytical method that must be less than applicable background, screening, and regulatory cleanup levels. The preferred method reporting (practical quantitation) limits are a maximum of 20 percent of the cleanup, screening, or background levels for each COC. Analyses conducted with detection limits that are greater than applicable background, screening, and regulatory cleanup levels shall be considered data quality exceptions, must be flagged as such, and the reasons for the elevated detection limits shall be reported in the revised FLGMP and/or during required annual groundwater monitoring reporting. The FLGMP must also be revised to include tables that list all COCs, their preferred method detection and reporting limits per Permit requirements, and the proposed analytical method for each COC. The additional tables must be included in an appendix in the revised FLGMP with appropriate references in the work plan, as necessary. Revise the FLGMP accordingly.
- e. Any other data evaluation methods and procedures proposed for use in the revised FLGMP must be discussed in their entirety. General references to the Permit or applicable guidance documents are not acceptable. Ensure that the FLGMP is revised accordingly.

**15. Section 6.5.2, Comparison to Regulation, Page 6-3**

**NMED Comment:** As clarification, PFAS constituents perfluorooctanoic acid (PFOA), perfluorooctane sulfonate (PFOS), and perfluorohexane sulfonic acid (PFHxS) are listed as toxic pollutants in 20.6.2.7(T)(2) New Mexico Administrative Code and must be evaluated in accordance with the requirements of Permit Section 3.3.1, Groundwater Cleanup Levels as previously directed in Disapproval Attachment Comment 17. Additional screening level



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criteria for the PFAS COCs perfluorononanoic acid (PFNA), and perfluorobutane sulfonate (PFBS) are listed in updated RA Guidance Table A-1, NMED Soil Screening Levels for tap water and Section 5.4, PFAS. Therefore, the revised FLGMP must propose sample analysis for PFAS COCs and evaluation of the results in accordance with the Permit and RA Guidance, as applicable. The FLGMP must be revised accordingly.

Failure to revise the FLGMP as required by NMED will be considered noncompliance with the Permit and may result in an enforcement action pursuant to Permit Section 1.7.

The Permittee must submit a revised FLGMP that addresses all comments contained in this Disapproval. In addition, the Permittee must include a response letter that cross-references where NMED's numbered comments were addressed. The Permittee must also submit an electronic redline-strikeout version of the revised FLGMP showing all changes made to the FLGMP. The revised FLGMP must be submitted to NMED no later than **April 29, 2022**.

If you have any questions regarding this letter, please contact Gabriel Acevedo at (505) 690-5760.

Sincerely,

**Rick Shean**

Digitally signed by Rick  
Shean  
Date: 2022.01.28  
09:10:23 -07'00'

Rick Shean  
Chief  
Hazardous Waste Bureau

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