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**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

January 7, 2016

Ms. DeAnna Rothhaupt  
Chief, Holloman AFB Environmental  
49 CES/CEIE  
550 Tabosa Avenue  
Holloman AFB, NM 88330-8261

**RE: DISAPPROVAL  
RESPONSE TO AUGUST 21, 2015 NOTICE OF DISAPPROVAL OF FINAL  
NITRATE CHARACTERIZATION STUDY REPORT, NOVEMBER 7, 2015  
HOLLOMAN AIR FORCE BASE, EPA ID # NM6572124422  
HWB-HAFB-14-001**

Dear Ms. Rothhaupt:

The New Mexico Environment Department (NMED) has reviewed the Holloman Air Force Base (Permittee) November 7, 2015 response to the August 21, 2015 Notice of Disapproval (NOD) issued for the *Final Nitrate Characterization Study Report*, dated January 2014 (the Report). The purpose of the study is to establish screening background concentrations for various nitrogen-bearing compounds in groundwater and soil at the Facility. Upon review of the subject response, the NMED has determined that the Permittee did not adequately address all comments in the August NOD, thus, essential information remains missing, and the Report is incomplete. The Permittee must address the following shortcomings in the Report.

1. As indicated in Comment #1 of the August NOD, the Permittee proposes that the background screening concentration for nitrate be set at 37.77 milligrams per liter (mg/L), which exceeds the New Mexico Water Quality Control Commission standard and the U.S. Environmental Protection Agency Maximum Contaminant Level for nitrate (both set at 10 mg/L). In the August NOD, NMED stated that it cannot accept a screening background concentration that exceeds water quality standards unless the Permittee demonstrates that it is based on water quality data that are representative of natural conditions. Therefore, the NMED directed the Permittee to:

- a. Collect groundwater samples at all 24 background monitoring wells (MWs) and analyze them for perchlorate. Appreciable concentrations of perchlorate in association with nitrate suggest a likely anthropogenic source for both compounds, and
- b. Collect groundwater samples at all 24 MWs and analyze them for stable isotopes of nitrogen and oxygen (specifically  $^{15}\text{N}/^{14}\text{N}$  and  $^{18}\text{O}/^{16}\text{O}$ ). The data, in the form of  $\delta^{15}\text{N}$  and  $\delta^{18}\text{O}$ , must be plotted on a graph similar to the one shown on Figure 1 (enclosed with this letter) to support interpretation of the data.

In the Permittee's response to the August NOD, the Permittee states "The collection of additional groundwater samples... and revising the Report are beyond the scope of work presented in the NMED approved *Final Nitrate Characterization Study Work Plan HAFB, NM...*" and "Completion of the additional sampling requested would require new programmatic funding which is not currently available."

This does not constitute technical justification for for not obtaining essential additional additional water quality data. Although the work plan was approved by the NMED, it is not possible to predict with certainty the outcome of any investigation. Therefore, sometimes additional work beyond that presented in a plan must be conducted. Furthermore, the lack of funding does not vacate the need to obtain the crucial data necessary for the protection of human health and the environment in this matter. The NMED hereby directs again that the Permittee provide the requested information. Failure to provide the information may lead to an enforcement action against the Permittee. The Permittee must submit a work plan to the NMED that describes how the groundwater samples will be collected and analyzed in order to provide the data necessary to proceed with this project.

2. As indicated in Comment #2 of the August NOD, the locations of active and inactive septic/leachfield systems, sites used for sewage disposal, and any other sites where a nitrogen-bearing source currently is or has existed that potentially was or is being released into the environment are of paramount importance in conducting a background study for nitrate and other nitrogen-bearing compounds. The new Figure 7.1 and the new Table 7.1 included in the response to the August NOD do not depict or list, as appropriate, all such sites known by the NMED to present at the Facility. Missing sites identified by building numbers include, but are not limited to: 638, 639, 640, 642, 700, 702, 1142, 1155, 1158, 1168, 1174, 1178, 1179, 1180, 1183, and 1284.

Revise Figure 7.1 and Table 7.1 to include the missing sites.

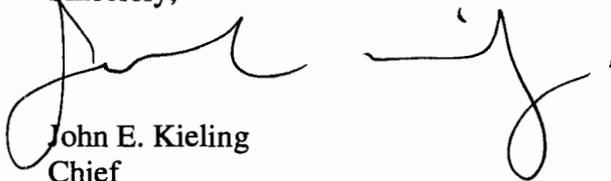
3. As indicated in Comment #3 of the August NOD, the direction of groundwater flow across SWMU OT-04 was in question because the indicated flow direction was opposite of the regional groundwater flow direction. In the Permittee's response to the August NOD, a copy of a Figure 4-11 of a draft 1992 investigation report was provided that shows that the elevation of the potentiometric surface of the groundwater

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in well MW-04-02 was 4068.99 feet. However, the potentiometric surface of the groundwater is shown as 4086.86 feet in Figure 2-8 of the Report, a difference of nearly 18 feet of hydraulic head. Indicate which of these data are correct, and correct the information as appropriate.

The information and submittal required by this letter must be provided to the NMED on or before **May 12, 2016** in the form of two paper copies and one electronic copy (in MS Word/ EXCEL™ format). If you have any questions regarding this matter, please contact Mr. David Strasser of my staff at (505) 222-9526.

Sincerely,



John E. Kieling  
Chief  
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB  
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File: HAFB 2015 and Reading  
HAFB-14-001