

HAFB 97



GARY E. JOHNSON  
GOVERNOR

State of New Mexico  
**ENVIRONMENT DEPARTMENT**  
Hazardous & Radioactive Materials Bureau  
2044 Galisteo  
P.O. Box 26110  
Santa Fe, New Mexico 87502  
(505) 827-1557  
Fax (505) 827-1544



MARK E. WEIDLER  
SECRETARY

EDGAR T. THORNTON, III  
DEPUTY SECRETARY

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

June 25, 1997

Howard E. Moffitt  
Deputy Base Civil Engineer  
49 CES\CEV  
550 Tabosa Ave  
Holloman Air Force Base, N.M. 88330-8458

RE: NOTICE OF DEFICIENCY: CONSTRUCTION WORK PLAN FOR FIRE TRAINING  
AREA FT-31, SWMUs 39, 127, 135, 170 and 171  
EPA I.D. Number NM6572124422

Dear Mr. Moffitt:

The Hazardous and Radioactive Materials Bureau (HRMB) of the New Mexico Environment Department (NMED) has reviewed for administrative completeness and technical adequacy, the Holloman Air Force Base (HAFB) August 1996 Work Plan for SWMUs 39, 127, 135, 170 and 171 Soil Venting System, as required under the New Mexico Hazardous Waste Management Regulations 20 NMAC 4.1 (Revised November 1, 1995).

After reviewing the Work Plan, the NMED has found it to be administratively incomplete and technically inadequate. The enclosed Attachment A lists the additional information HAFB must submit to HRMB before the Work Plan can be considered for approval. The information requested in Attachment A must be submitted to NMED within thirty (30) calendar days from the date you receive this letter. Please incorporate the required information into the April 1997 Work Plan, and present the revised version to HRMB in two hard copies, and on a 3.5" diskette compatible with Word Perfect 5.2. Your usual cooperation in submitting the necessary information promptly will expedite NMED's final determination on the subject Work Plan.

If you have any questions regarding this matter you may contact Mr. Jerry Bober or Mr. Cornelius Amindyas of my staff at (505) 827-1561.

Sincerely,

Benito Garcia, Chief  
Hazardous and Radioactive Materials Bureau

cc: Robert S. (Stu) Dinwiddie, Ph.D, PM, HRMB  
David Neleigh, EPA Region VI (6PD-N)  
FILES: HAFB, HSWA, 97  
TRACK: HAFB, 6/25/97, N/A, HRMB/CA, NOD, FT-31

**ATTACHMENT A**

**NOTICE OF DEFICIENCY: ADMINISTRATIVE COMPLETENESS AND TECHNICAL ADEQUACY OF VOLUNTARY CORRECTIVE MEASURES (VCM) WORK PLAN, FT-31 HOLLOMAN AIR FORCE BASE (HAFB).**

June 25, 1997

The following administrative and technical comments from the RCRA Permits Management Program of the Hazardous and Radioactive Materials Bureau (HRMB), New Mexico Environment Department (NMED), relate to the Voluntary Corrective Measures (VCM) Work Plan for HAFB Fire Training Area (FT-31) Solid Waste Management Units (SWMUs) 39, 127, 135, 170 and 171.

The language in bold print enclosed within parentheses is quoted directly from the text of the April 1996 document. HRMB's comments follow the quotations.

**ITEM #:**

**A. FT-31 SITE SOIL CHARACTERISTICS:**

1. What is the soil intrinsic permeability at the FT-31?
2. Is the soil at FT-31 free of impermeable layers or other conditions that would disrupt air flow?
3. What is the average plate count of heterotrophic or aerobic bacteria in Colony-Forming Units (CFU)/ gram of dry soil at FT-31?
4. What is the soil pH at FT-31?
5. What is the moisture content of the soil in the contaminated area as a percentage of its saturation?
6. What will the soil temperature be at the FT-31 during the proposed treatment season(s)?
7. Provide a topographic map that shows the location of FT-31 and the SWMUs there, relative to HAFB and the City of Alamogordo.
8. **Figure 1-1, page 1-2, Legend:**

How was the lateral extent of the contaminated soil determined, and what is it now? Which of the 22 boreholes shown on Figure 1-1 does HAFB plan to use for the proposed bioventing process?

**B. CONSTITUENT CHARACTERISTICS:**

1. Section 1.0, paragraph 1, page 1-1, second to the last sentence:

[" . . . low levels of chlorinated solvents were detected in the soil near the JP-4 tank located in the southeastern corner of the Fire Training Area (FT-31) "].

What were the chlorinated solvents detected in the soil at FT-31, and what were their concentrations in the petroleum contaminated soil?

2. Section 1.0, paragraph 1, page 1-1, the last sentence:

("Benzene, toluene, ethylbenzene, and xylene (BTEX) groundwater contamination was detected primarily near the" (oil/water separator) "OWS area.")

Submit the data showing the concentration of contaminant constituents in groundwater at FT-31. Explain why HAFB has not included ground water remediation methods in addition to bioventing of the contaminated soil.

3. Table 6-3, page 6-6, rows 1 and 2; columns 1 and 7:

<u>"Contaminant</u>	<u>Vapor Pressure</u>
1,1-dichloroethene	500 mm Hg
Hydrogen Sulfide	9,346 mm Hg"

Given the above high values of 1,1-dichloroethene (DCE) and hydrogen sulfide (H<sub>2</sub>S), submit an account on the potential human health and the environmental impact of these volatized constituents. Explain what measures will be taken to protect the remediation workers and the residents of HAFB and the City of Alamogordo from the fugitive fumes of DCE and H<sub>2</sub>S emanating from FT-31.

4. Section 7.1.1.2, page 7-2, paragraph 3, last sentence:

(Samples will be analyzed for TRPH (EPA Method 418.1), total benzene (EPA Method 8020A), and total lead (EPA Method 7421).

Provide an account of the source of Lead in the soil at FT-31. In addition, present information about whether or not other toxic metals and metalloids (such as

Arsenic, Barium, Cadmium, Chromium, Mercury, Selenium, Beryllium, Antimony, Thallium, and Silver) are present in the petroleum contaminated soil.

**C. BIOVENTING SYSTEM DESIGN:**

1. Provide details about how HAFB will conduct valve adjustments of in-situ equipment for the bioventing operations start-up phase, and the frequency of inspection of the equipment.
2. Section 4.3.6, page 4-8, paragraph 1, third sentence:  

**("Monitoring well IW-02 is screened in two intervals: 5 to 11 ft below ground surface (bgs) and 15 to 22 ft bgs.")**

Explain why monitoring well IW-02, and other monitoring wells mentioned in the Work Plan are screened in two intervals.
3. Section 4.3.12, page 4-13, paragraph 3, second sentence:  

**("The startup procedure will be submitted as an addendum to this Work Plan.")**

Submit a copy of the bioventing startup procedures. The startup procedures should have been incorporated into the subject Work Plan, rather than being deferred to a later date.
4. Provide tabulated data on the radius of influence (ROI) for the proposed bioventing wells. Include information about whether or not the ROI has been calculated for each soil type at the subject site.

**D: BIOVENTING OPERATION AND MONITORING PLANS:**

1. Section 4.3.12, page 4-14, paragraph 2, first sentence:  

**[If determined to be absolutely necessary, nutrients (primarily nitrogen and phosphorus) may be added to the sites to facilitate bacterial growth.]**

Provide a contingency nutrient delivery system design that could be used when the necessity arises. If it becomes necessary to use nutrients, will the addition of nutrients be controlled on a periodic rather than continuous basis?

2. Explain how monitoring of offgas vapors for volatile organic compounds and carbon dioxide concentrations will be conducted during remediation of the petroleum contaminated soil.
3. Provide an account of how subsurface soil, ambient air and ground water will be monitored and/or sampled, in order to track constituent reduction and biodegradation conditions.
4. When will all remediation activities be completed at the subject Fire Training Area?
5. Will the induced air flow in the bioventing process achieve cleanup of the environmental media at FT-31 in the time allotted for the remediation activities?
6. Provide information about how HAFB will conduct final confirmatory drilling, soil, vapor, and ground water sampling and analysis to determine when remedial action has been completed at FT-31.
7. Provide contingency long-term ground water, soil and air monitoring plans in the event HAFB cannot achieve cleanup goals by the bioventing method.