SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lieutenant Governor

# NEW MEXICO ENVIRONMENT DEPARTMENT

## *Hazardous Waste Bureau*

**2905 Rodeo Park Drive East, Building 1**
**Santa Fe, New Mexico 87505-6303**
**Phone (505) 476-6000 Fax (505) 476-6030**
***www.nmenv.state.nm.us***

DAVE MARTIN
Secretary

BUTCH TONGATE
Deputy Secretary

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

February 29, 2012

Colonel John Kubinec
Base Commander
377 ABW/CC
2000Wyoming Blvd. SE
Kirtland AFB, NM 87117-5606

John Pike
Director, Environmental Management Services
377 MSG
2050 Wyoming Blvd. SE, Suite 116
Kirtland AFB, NM 87117-5270

**RE: QUARTERLY PRE-REMEDY MONITORING AND SITE INVESTIGATION REPORT FOR APRIL – JUNE 2011, BULK FUELS FACILITY SPILL, SOLID WASTE MANAGEMENT UNITS ST-106 AND SS-111, SEPTEMBER, 2011 KIRTLAND AIR FORCE BASE, EPA ID# NM9570024423 HWB-KAFB-11-014**

Dear Colonel Kubinec and Mr. Pike:

The New Mexico Environment Department (NMED) has reviewed the document *Quarterly Pre-Remedy Monitoring and Site Investigation Report for April – June 2011, Bulk Fuels Facility Spill, Solid Waste Management Units ST-106 and SS-111*, dated September 2011 (hereinafter referred to as the Quarterly Report). The deficiencies noted in this letter need to be corrected in future quarterly reports.

**Comments**

1. Graphs showing trends of major contaminant concentrations versus time for groundwater or soil vapor need to be prepared. For groundwater, at a minimum, the major contaminants are EBD, benzene, toluene, xylene (total), naphthalene, 1-methl naphthalene, 2-methlnaphthalene, DRO, GRO, and lead. For soil vapor, at a minimum, the major contaminants are EDB, EDC, benzene, toluene, ethylbenzene, xylenes, acetone, GRO, 1,3,5-trimethylbenzene, and 1,2,4-trimethylbenzene.
2. There is not a complete and updated listing of survey data (horizontal and vertical coordinates) for all groundwater and soil-vapor monitoring wells, and soil borings. Include such a table or tables in future quarterly reports and in MSExcel™ format on a CD or DVD.

3. Although geophysical logs were included in the quarterly report, the logs are not calibrated and are not useful.
4. The Quarterly Report does not provide adequate information to evaluate the effectiveness of the SVE units. While NMED can discern how much contaminant mass is being removed from the vadose zone during the reporting period and how much mass has been removed cumulatively since initiation of SVE, NMED cannot easily evaluate possible trends or determine if the SVE system is pulling increasing or decreasing amounts of contaminants with time, or monitor if system maintenance or optimization is successful. NMED also cannot determine how much propane is being consumed, or monitor the ratio of propane use versus contaminant extraction. To correct this problem, data tables and graphical representations of the data must be prepared showing by each quarterly period and cumulatively since SVE has commenced for a given area, hours of operation (by engine and by unit), propane used, and mass of contaminants extracted (separate from biodegradation) and treated.
5. The Quarterly Report does not describe in detail what optimization was conducted for the SVE system during the reporting period.
6. NMED is concerned that geophysical and geologic data are not being fully integrated in the cross-sections to produce the best possible geologic model. Furthermore, explain how each of the lithologic units shown on the cross-sections are differentiated from each other, and what major type of depositional environment(s) are represented by each of the units. Use and show on cross-sections data from other KAFB wells and from the Water Utility Authority (WUA) wells wherever possible to provide additional information for preparation of the geologic cross-sections. Because the production wells in the area are deeper than the monitoring wells, these wells may be the only source for geologic information for deeper parts of the aquifer.
7. To better understand the general hydrochemistry of the groundwater, Piper and stiff diagrams should be prepared for shallow, intermediate, and deep depths within the saturated zone. The stiff diagrams for a given depth should be posted on a map at the sample locations (wells) the diagrams represent.
8. The water level maps do not provide adequate coverage of the area. The maps should show all wells in the area, including at a minimum the VA Hospital, KAFB and Water Utility Authority (Ridgecrest and Burton Fields) production wells and KAFB groundwater monitoring wells located nearest to the Bulk Fuels Facility.
9. In the future, hydrographs should have the same vertical and horizontal scale for ease of comparison. Graphs showing water levels versus time for multiple wells in the same geographic area should be prepared and included in each quarterly report so that changes in water-level for a given well can be assessed relative to that of the overall water level change for the group of wells shown on the same plot.

Should you have any questions or would like to meet to discuss the deficiencies addressed in this letter, please contact Mr. William Moats of my staff at (505) 222-9551.

Sincerely,

John E. Kieling
Acting Chief
Hazardous Waste Bureau

cc: W. Moats, NMED HWB
W. McDonald, NMED HWB
S. Brandwein, NMED HWB
J. Schoeppner, NMED GWQB
B. Gallegos, AEHD
B. Gastian, ABCWUA
L. King, EPA-Region 6 (6PD-N)
File: KAFB 2012 and Reading