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**NEW MEXICO  
ENVIRONMENT DEPARTMENT**

***Hazardous Waste Bureau***

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DAVE MARTIN  
Secretary

BUTCH TONGATE  
Deputy Secretary

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

March 2, 2012

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

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

**RE: OCCURENCES OF GAS BUBBLES IN GROUNDWATER SAMPLES, BULK  
FUELS FACILITY SPILL, SOLID WASTE MANAGEMENT UNITS ST-106 AND  
SS-111, JANUARY 26, 2012  
KIRTLAND AIR FORCE BASE, EPA ID# NM9570024423**

Dear Col. Kubinec and Mr. Pike:

The New Mexico Environment Department (NMED) has reviewed the letter of January 6, 2012, signed by Thomas Berardinelli, that was submitted in response to the NMED's letter of September 28, 2011 directing KAFB to analyze entrained gas found in groundwater samples from Bulk Fuels Facility (BFF) Spill wells KAFB-106045, KAFB-106061, and KAFB-106081. NMED is not persuaded by the conclusion, in the January 6 letter, that the entrained gas includes carbon dioxide and methane that are exsolving from the groundwater under natural conditions. Instead, the data indicate that the entrained gas is air.

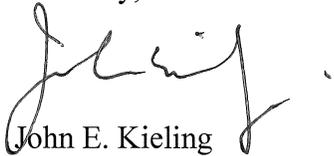
Entrained air would be expected to adversely affect the collection of representative samples of groundwater to be analyzed for volatile organic compounds, such as benzene, toluene, xylene, and ethylene dibromide, which are major contaminants at the BFF. In accordance with Permit Parts 1.23.1 and 6.5.18.3.1 of the Permittee's Hazardous Waste Operating Permit, the Permittee must collect and analyze representative samples of media, and thus must prevent air from becoming entrained during sample collection. This requirement applies to the sampling of all wells used to monitor groundwater for the BFF Spill, including the 18 additional wells identified in the subject letter as producing samples containing bubbles in the third quarter of 2011.

Additionally, the Permittee must immediately repeat the collection and analysis of gas samples as recommended by Shaw Environmental Inc. (Shaw), particularly because of the concern that the original gas samples may have been inadvertently contaminated with air. NMED will review the data generated as a result of this effort. NMED also directs that air samples at each well site be collected and analyzed. NMED has doubts that the standard air composition referred to in the report by Shaw is representative of the air composition at these well sites given that these sites are located in a major metropolitan area where background levels of carbon dioxide and methane emissions would be expected. The results of the study must be reported to the NMED by **June 1, 2012**.

Finally, quarterly reports containing analytical results for groundwater samples must include a listing of wells where bubbles were observed during the collection of the samples.

Please contact William Moats of my staff at 505-222-9551 should you have any questions.

Sincerely,



John E. Kieling  
Acting Chief  
Hazardous Waste Bureau

cc: J. Davis, NMED HWB  
W. Moats, NMED HWB  
W. McDonald, NMED HWB  
S. Brandwein, NMED HWB  
J. Schoeppner, NMED GWQB  
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B. Gallegos, AEHD  
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L. King, EPA-Region 6 (6PD-N)  
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