



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 377TH AIR BASE WING (AFMC)



DEC 6 2011

Mr. Thomas F. Berardinelli
377 ABW/DS
2000 Wyoming Blvd SE
Kirtland AFB NM 87117-5606

Mr. John Kieling, Manager
RCRA Permits Management Program
Hazardous Waste Bureau (HWB)
New Mexico Environment Department (NMED)
2905 Rodeo Park Road
Santa Fe New Mexico 87505



Dear Mr. Kieling

As requested per your letter dated 28 September 2011, a list of wells in which gas bubbles were observed during groundwater sampling for analysis of volatile organic compounds (VOCs) was submitted to Mr. William Moats, NMED/HWB, on 9 November 2011 identifying wells KAFB-106045, 106061, and 106081. During the first week of November, samples on these same wells were collected to analyze the gas bubbles. Per your request, our contractor has confirmed that the analysis of these samples for gas composition of the bubbles will be available by 7 February 2012.

If you have any questions with regard to this submittal, please contact Mr. Wayne Bitner at (505) 853-3484 or ludie.bitner@kirtland.af.mil.

Sincerely

THOMAS F. BERARDINELLI
Director of Staff

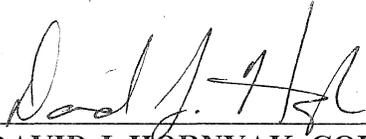
cc:
NMED HWB – Mr. Moats, Mr. McDonald, Mr. Brandwein, w/o Atch
NMED PSTB – Mr. Reuter, w/o Atch
NMED GWQB – Mr. Schoeppner, w/o Atch
NMED OGC – Ms. Barnhart, w/o Atch
AEHD – Mr. Gallegos, w/o Atch
ABCWUA – Mr. Shean, w/o Atch
USEPA- Region 6 (6PD-N), Ms. King, w/o Atch
Admin Record- electronic copy
File

KAFB3829



40 CFR 270.11
DOCUMENT CERTIFICATION
NOVEMBER 2011

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.



DAVID J. HORNYAK, COLONEL
Commander



SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lieutenant Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

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DAVE MARTIN
Secretary

BUTCH TONGATE
Acting Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

September 28, 2011

Colonel Robert L. Maness
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, AUGUST 2011
KIRTLAND AIR FORCE BASE, EPA ID# NM9570024423**

Dear Colonel Maness and Mr. Pike:

The New Mexico Environment Department (NMED) has received a memorandum (hereafter referred to as the Memo) dated August 5, 2011, on the subject "Occurrences of Gas Bubbles in KAFB Groundwater Samples", authored by Mr. Jonathan Myers of Shaw Environmental & Infrastructure, Inc. (Shaw). The Memo was sent to NMED by Mr. Wayne Bitner of Kirtland Air Force Base (KAFB) as an email attachment on August 11, 2011. The Memo was written in response to the observation of gas bubbles in groundwater samples being collected for analysis of volatile organic compounds (VOCs). NMED expressed concern that gas bubbles in water samples would be detrimental to sample integrity. The Memo outlines Shaw's position (and presumably KAFB's position) that the observed gas bubbles are carbon dioxide gas (CO₂) that has exsolved from the water samples as a result of the reduction in fluid pressure when samples are retrieved from wells screened several tens of feet below the water table.

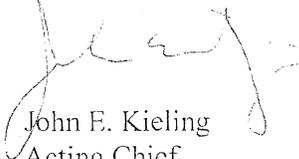
While this may be a plausible explanation, other explanations are possible, including an air leak in the sample tubing. One way to differentiate between these two potential sources of gas bubbles is to sample and analyze the gas. If the gas is chiefly CO₂, then exsolved CO₂ is likely the source of the gas bubbles. If the results of the gas analysis are similar to the composition of air, then an air leak in the sampling equipment is likely the source of the gas bubbles.

Therefore, NMED directs the U. S. Air Force (Permittee) to submit to the NMED by **October 27, 2011** a list of wells in which gas bubbles have been and are being observed, and which are not known to be the result of entrained air from a leak in sampling equipment. Gas bubbles were observed by the NMED in water samples from wells KAFB-106045, KAFB-106061, and KAFB-106081. NMED also directs the Permittee to collect and analyze the gas bubbles in water samples from the wells on the list to determine the composition of the gas or gases. This sampling must be completed by **November 10, 2011**. The results of the testing must be submitted to the NMED by **February 7, 2011**.

The Permittee shall also ensure that groundwater samples shall not contain entrained air from leaking sampling equipment. Any such leaking equipment shall be repaired or replaced before groundwater samples are collected for laboratory analysis.

Should you have any questions, 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 IIWB
S. Brandwein, NMED HWB
S. Reuter, NMED PSTB
J. Schoepner, NMED GWQB
L. Barnhart, NMED OGC
B. Gallegos, AEHD
R. Shean, ABCWUA
L. King, EPA-Region 6 (6PD-N)
File: KAFB 2011 and Reading