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DEPARTMENT OF THE AIR FORCE  
377TH AIR BASE WING (AFGSC)



JUL 23 2018

Colonel Richard W. Gibbs, USAF  
Commander  
377th Air Base Wing  
2000 Wyoming Blvd SE  
Kirtland AFB NM 87117

Mr. John Kieling, Bureau Chief  
Hazardous Waste Bureau (HWB)  
New Mexico Environment Department (NMED)  
2905 Rodeo Park Drive East, Building 1  
Santa Fe NM 87505-6303

Dear Mr. Kieling

Kirtland Air Force Base (AFB) is requesting deferral of the air-lift enhanced bioremediation pilot test approved by NMED on April 6, 2018 in the *Work Plan for Bioventing and Air-lift Enhanced Bioremediation Pilot Test, Bulk Fuels Facility, Solid Waste Management Unit (SWMU) ST-106/SS-111, Kirtland Air Force Base, New Mexico, dated November 2017*. This request for deferral follows a meeting that was held between Kirtland Air Force Base and Mr. Dennis McQuillan on June 7, 2018, to discuss 1) the positive results coming from the anaerobic in situ bioremediation (ISB) pilot test 2) the technical issues have lead the Air Force to recommend placing the air-lift enhanced bioremediation pilot test on hold at this time. Some of the issues with the proposed air-lift technology were discussed at the meeting and include:

- a. The ground water in the pilot test location is currently anaerobic. Introduction of oxygen into groundwater with elevated ferrous iron concentrations (and possibly other minerals) caused by the strongly reducing condition near residual nonaqueous phase liquid (NAPL) will quickly foul and plug the pilot test well significantly impeding water flow.
- b. The mineral fouling will result in excessive maintenance and well rehabilitation, and after several redevelopment events, will result in wells that are typically of limited effectiveness.
- c. This technology relies on establishing a groundwater circulation pattern which has proven difficult to achieve on many sites. As a result, it is estimated the zone of influence for air-lift enhanced wells will be quite small, and it is unlikely that sufficient oxygen will be delivered to groundwater to have significant impact.
- d. Even if the air-lift pilot test proved technically feasible, because of the limited zone of influence of this technology, scaling-up the technology would require an inordinate number of wells to treat a residual NAPL zone measured in acres.

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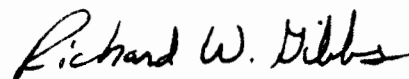


- e. Full-scale implementation of this technology at the BFF is infeasible due to limited zone of influence and highly unlikely for future selection in an alternatives analysis.

The general concurrence of meeting participants was that the air-lift pilot test should not be performed at this time. Kirtland Air Force Base (AFB) is hereby formally requesting deferral of the air-lift enhanced bioremediation pilot test until additional source zone information is collected during the coring program and final data are available from the ISB project. However, Kirtland AFB would like to proceed with coring the proposed air-lift well KAFB-106S1 location and installing a two-well nest design currently approved on February 28, 2018 under the *Work Plan for Data Gap Monitoring Well Installation, Bulk Fuels Facility, Solid Waste Management Unit (SWMU) ST-106/SS-111, Kirtland Air Force Base, New Mexico, dated December 2017*.

If you have any questions or concerns, please contact Mr. Scott Clark at (505) 846-9017 or at [scott.clark@us.af.mil](mailto:scott.clark@us.af.mil); or Mr. Sheen Kottkamp at (505) 846-7674 or at [sheen.kottkamp.1@us.af.mil](mailto:sheen.kottkamp.1@us.af.mil).

Sincerely



RICHARD W. GIBBS, Colonel, USAF  
Commander

cc:

NMED (Borrego) letter

NMED-OOTS (McQuillan), letter and CD

NMED GWQB (Hunter), letter and CD

EPA Region 6 (King, Ellinger), letter and CD

SAF-IEE (Lynnes), electronic only

AFCEC/CZ (Renaghan, Clark, Kottkamp, Segura), electronic only

USACE-ABQ District Office (Moayyad, Phaneuf, Dreeland, Sanchez, Salazar), electronic only

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