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RYAN FLYNN
Cabinet Secretary
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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

April 24, 2015

Colonel Tom D. Miller
Base Commander
377 ABW/CC
2000 Wyoming 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: FINAL BASIS OF DESIGN – MID-PLUME PUMP AND TREAT SYSTEM,
BULK FUELS FACILITY SPILL
SOLID WASTE MANAGEMENT UNITS ST-106 AND SS-111
KIRTLAND AIR FORCE BASE
EPA ID# NM9570024423, HWB-KAFB-15-MISC**

Dear Messrs. Colonel Miller and Pike:

The New Mexico Environment Department (NMED) is in receipt of the Kirtland Air Force Base (the Permittee) *Final Basis of Design (BOD) – Mid-Plume Pump and Treat System*, submitted on March 20, 2015. The BOD describes the technical approach and the design parameters that will be used in development of the pump and treat system.

The Permittee's BOD is hereby approved with the following conditions:

1. The Permittee shall submit, within 90 days of the date of this letter, a supplemental document to the BOD demonstrating that treatment technology for elevated dissolved concentrations of iron (1 mg/L) and manganese (0.2 mg/L) exceeding New Mexico Water Quality Control Commission (WQCC) standards can be incorporated into the treatment system if necessary.
2. The Permittee shall install piezometers within the infiltration gallery to measure water levels.
3. The Permittee shall, by June 30, 2015 submit an analysis of whether or not backwashing of the carbon beds is anticipated.

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4. The Permittee shall, by June 30, 2015 submit an operation and maintenance (O&M) plan for NMED approval. The O&M plan shall include procedures for carbon exchange, carbon reactivation/replacement, backwashing (if applicable), filter exchange, management of potential biofouling, iron and manganese removal and any other relevant procedures. The Permittee shall, by September 30, 2015, submit a revised O&M plan if necessary to modify procedures based on experience with system operation.
5. The Permittee shall, by June 30, 2015 submit a sampling and analysis plan for NMED approval. The sampling and analysis plan shall include the sampling locations, sampling methods, sampling frequencies and analytical methods that will be used to monitor and optimize the treatment system.
6. The Permittee shall, within 30 days of the date of this letter, submit an addendum to the BOD that corrects:
 - a. the inconsistency between the BOD and the Addendum 3 Work Plan regarding the length of the extraction well screen.
 - b. the inconsistency regarding whether stream no. 14 vents a treated or an untreated water tank.
 - c. the inconsistency between Sections 2.2 and 2.3 of the BOD regarding the sizing and capacities of the extraction water pipelines.
7. If treated-water disposition options different from those described in the BOD are anticipated, the Permittee shall submit supplemental BOD document(s) for those options for NMED approval prior to their construction and use.
8. Upon completion of construction of the pump-and-treat system, the Permittee shall submit an as-built construction completion report to NMED that includes the following:
 - a. The locations of sampling ports within the carbon treatment system, and a revised Figure 2 Process Flow Diagram that denotes the sampling ports.
 - b. The capacity, outlet and other details of the treatment building sump.
 - c. Pipeline integrity testing methods and results.
 - d. A list of the regulatory permits that were obtained.
 - e. A list of the regulatory construction inspections that were conducted.
 - f. Specifications on trenching, backfilling, compaction and vertical and horizontal infrastructure separation.
 - g. A revised Figure 3 that has labels for equipment layout.
 - h. Figures depicting typical trench detail, road crossings, manifold details, and infiltration gallery plan and section details.
 - i. Design basis, and rationale, for infiltration gallery cell dimensions based on anticipated long-term infiltration acceptance rates.
 - j. Design basis for selection of underground and aboveground extraction water conveyance lines.

Col. Miller and Mr. Pike
April 24, 2015
Page 3

- k. Design basis and supporting calculations for the selection of two 20,000 pound carbon treatment vessels and the bag filter sizing.
- l. Design basis, and justification, for the slab-on-grade/pavement design load.
- m. Infiltration gallery piezometer specifications.
- n. All relevant manufacturers cut sheets.

NMED technical staff will assist you and your contractor in any way possible to achieve this interim measure.

If you have any questions, please contact me at 505-827-2855.

Sincerely,



Kathryn Roberts
Director
Resource Protection Division

KR/DM

cc: Col. T. Haught, KAFB
D. Wilson, KAFB
B. Gallegos, AEHD
F. Shean, ABCWUA
L. King, EPA-Region 6 (6PD-N)
J. Kieling, NMED-HWB

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