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MICHELLE LUJAN GRISHAM
GOVERNOR

JAMES C. KENNEY
CABINET SECRETARY

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September 16, 2022

Colonel Jason F. Vattioni
Base Commander
377 ABW/CC
2000 Wyoming Blvd SE
Kirtland AFB, NM 87117

Ms. Melissa Clark
Civil Engineer Office
377 Civil Engineer Division
2050 Wyoming Blvd SE, Suite 116
Kirtland AFB, NM 87117

**RE: REQUEST FOR SOIL VAPOR MONITORING WORK PLAN
BULK FUELS FACILITY SOLID WASTE MANAGEMENT UNITS ST-106 AND SS-111
KIRTLAND AIR FORCE BASE, NEW MEXICO
EPA ID# NM6213820974
HWB-KAFB-21-004**

Dear Colonel Vattioni and Ms. Clark:

The New Mexico Environment Department (NMED) evaluated the periodic soil vapor monitoring program being conducted at the Kirtland Air Force Base (Permittee) Solid Waste Management Unit ST-106/SS-111 Bulk Fuels Facility Spill (BFFS). Currently, the RCRA soil vapor monitoring at the BFFS site is being conducted under the December 2017 *Work Plan for Vadose Zone Coring, Vapor Monitoring, and Water Supply Sampling Bulk Fuels Facility Solid Waste Management Units ST-106 and SS-111, Revision 1* (2017 Work Plan). Significant changes have been made to the monitoring procedures since this plan was issued, including the directives issued by NMED in a letter dated August 31, 2021, which are not documented in the 2017 Work Plan.

NMED's required changes to the sampling methods proposed in the 2017 work plan include:

1. Purge 3 well volumes from each soil vapor monitoring point prior to collection of soil vapor samples for all future sampling events per EPA Guidance;
2. Recalculate the purge volume for each soil vapor monitoring point using the actual boring dimensions of the well and the entire filter pack volume based on the well construction. In addition, a conservative filter pack porosity of 0.4 must be used for the calculations. In addition, include the volume of the above ground tubing prior to the sample collection point in the sampling train.
3. Reduce the purge/sample flow rate to adhere with EPA's recommendation of 200 to 500 ml/min.
4. Reduce the sample collection time for a 6-liter canister to the EPA recommendation of 20-minutes.

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Hazardous Waste Bureau - 2905 Rodeo Park Drive East, Building 1, Santa Fe, New Mexico
Telephone (505) 476-6000 - www.env.nm.gov

KAFB5223



5. Include historically monitored total petroleum hydrocarbon fractions in the analytical suite for all soil vapor samples.
6. Follow Part 6.5.16, Requirements for Soil-Vapor Monitoring, of the KAFB Permit, which states, “[w]hen collecting soil-vapor samples for laboratory or field analysis, the Permittee shall continually monitor the concentrations of soil vapor from a given monitoring point with an appropriate field instrument (e.g., photoionization detector). The Permittee shall collect soil vapor samples after the field instrument readings have stabilized and after the sampling tubing and soil-vapor monitoring well have been appropriately purged to remove all stagnant vapor.” In order to ensure the permit requirement is adhered to, the Permittee must return to the use of a sampling sheet similar to that used prior to 2015, where CO₂%, O₂%, and volatile hydrocarbon concentrations are recorded every one to two minutes during the last purge volume until stabilization occurs and the minimum three accurate purge volumes has been met.

In order to account for these changes, the Air Force must submit an up-to-date soil vapor monitoring work plan for the BFFS site to NMED for approval. The plan must describe the monitoring to be conducted and include detailed descriptions of the proposed sampling methods, analytical methods, sampling frequency, and the locations and screened intervals of all wells and monitoring points included in the monitoring program. The work plan must include an appendix presenting the boring logs and well construction diagrams for all wells included in the monitoring program. The work plan must also include an appendix, or appendices, providing example computations related to vapor sampling, including all equations, assumptions, and variables used for the monitoring program. The work plan must also adhere to the guidelines found in NMED’s *General Reporting Guidelines for Corrective Action Documents*, which can be found on NMED’s website at: <https://www-archive.env.nm.gov/hazardous-waste/guidance-documents/>.

The work plan must be updated annually on **April 1st** of each subsequent year. The updates must include changes such as the addition of new wells to the monitoring network and incorporate any proposed changes to the monitoring program (e.g., sampling frequency, analytical suite, sample collection methods). If no changes to the plan are proposed, the Permittee must submit a letter(s), specific to the plan, by **April 1st** of the corresponding year stating that no changes to the monitoring program are proposed. The first work plan update is due **April 1, 2024**.

The Permittee must submit the updated Bulk Fuels Facility Spill soil vapor monitoring plan no later than **March 1, 2023**.

Col. Vattioni and Ms. Clark
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Should you have any questions, please contact Ben Wear of my staff at (505) 690-6662.

Sincerely,

Rick Shean

Digitally signed by Rick
Shean
Date: 2022.09.16
09:52:24 -06'00'

Rick Shean
Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
B. Wear, NMED HWB
L. Andress, NMED HWB
S. Kottkamp, KAFB
R. Wortman, KAFB
K. Bronson, ABCWUA
A. Tafoya, VA

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