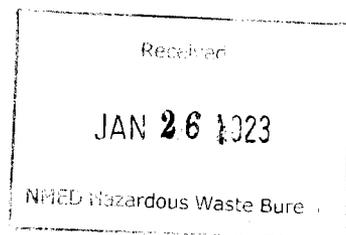




DEPARTMENT OF THE AIR FORCE
377TH AIR BASE WING (AFGSC)



24 January 2023

Colonel Jason F. Vattioni, USAF
Commander
377th Air Base Wing
2000 Wyoming Blvd SE
Kirtland Air Force Base NM 87117



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

Dear Mr. Shean

This letter is in response to NMED's October 25, 2022, letter regarding the *Response to the Air Force Letter Regarding Soil Vapor Monitoring at the Bulk Fuels Facility Spill Site Kirtland Air Force Base, New Mexico EPA ID # NM6213820974* (hereafter NMED's October letter) and NMED's November 30, 2022 letter regarding *Request for Clarification Regarding NMED 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* (hereafter NMED's November letter). This letter is intended to further support the Air Force's position that historical soil vapor data collected following NMED-approved methods yield representative data that can be utilized for project decision making. If NMED does not allow the Air Force to utilize historical site data, the Bulk Fuels Facility corrective action process will be delayed significantly. It would take the project a minimum of eight years to recover the data that NMED is disregarding. Additionally, this letter will discuss the Air Force's position that investigation activities performed at the site can only be performed in accordance with an NMED-approved work plan in order to produce defensible data.

The Air Force thanks NMED for responding to the Air Force's October 30, 2022 letter, which requested clarification on NMED's requirements to modify the methodologies used for soil vapor sample collection at the site. In NMED's November letter, NMED provided updated required purge flow rates that will produce feasible purge times in comparison to the required flow rates required by NMED in its September 16, 2022 letter *Request for Soil Vapor Work Plan*. The updated flow rates are more consistent with historical flow rates utilized at the site to collect soil vapor samples than the required flow rates in NMED's September 16, 2022 letter. The Air Force will include the modified purge rates in the updated work plan it is preparing for NMED review and approval.

However, NMED's November letter includes several statements that the Air Force finds concerning regarding the historical decision making process employed at the site by NMED and the approval process. The Air Force's goal has always been to feasibly collect the most

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representative data possible and utilize historical NMED decisions to advance the project through the corrective action process. The Air Force has not misinterpreted EPA guidance and has no control over who approves documents within NMED. To advance the project, the Air Force will focus on working with NMED to determine the utility of historical data sets collected for this project and will develop an updated soil vapor work plan that incorporates NMED requirements.

The Air Force requests that NMED reconsider its position that soil vapor data collected from 2015 to the present at this site is not representative of site conditions. The Air Force's position is that data collected following the methodology from the current NMED-approved work plans is yielding representative data that is valid for decision making purposes. The representativeness of data is a qualitative determination of how closely a sample matches the natural conditions of the media being evaluated. At a minimum, the Air Force requests that NMED update its qualitative assessment of data representativeness based on a comparison of data currently being collected at the site with the data generated from NMED's modified methodology. Determination of representativeness and usability of the historical data set based on an evaluation of site data is highly recommended by the Air Force.

NMED's November letter states that representative samples have not been collected since 2014 at the site. This determination seems to be based solely on the Vadose Zone Working Group's proposed updated sampling methodology that reduced purge volumes; NMED approved this methodology in 2015. However, there are several other key factors that NMED should consider when determining the representativeness of data sets produced before 2015. The most important factor not considered is the shutdown of the soil vapor extraction system in 2015. This shutdown had a major impact on the soil vapor monitoring network, as the Air Force documented in the *KAFB Pilot Soil-Vapor Extraction System Shutdown Test*, dated July 2016. The Air Force performed baseline, hourly, daily, weekly, and then monthly monitoring associated with the soil vapor extraction system shutdown that showed substantial changes in concentration over time. Additionally, in 2015 the soil vapor monitoring network was sealed to prevent ambient air infiltration, resulting in the collection of more representative samples. Data collected before the 2015 sealing operations were likely biased and not recommended to be used for decision making purposes. Within NMED's September 25, 2020, letter regarding *Approval with Modification Phase I RCRA Facility Investigation Report*, NMED states in the discussion of data impacted by the lack of seals:

“For these data to be used for decision-making purposes at the site, a discussion regarding the lack of SVMP seals and the potential impacts on the soil vapor concentrations data and estimates of soil vapor contamination degradation must be included in the Phase II RFI report.”

NMED's October letter also discusses a discrepancy between the purge volumes utilized at the site, and NMED's November letter states the data impacted by this discrepancy are invalid. The Air Force has reviewed this discrepancy and found that the purge volumes presented in the NMED-approved February 2018 work plan were not implemented in the field activities. The purge volumes used in the field were from a previous NMED-approved work plan: the *KAFB Pilot Soil-Vapor Extraction System Shutdown Test Work Plan*, dated December 2014. In the NMED-approved February 2018 work plan the purge volumes were adjusted due to the

telescoping of the borehole resulting in an approximate 10% increase in purge volumes for the 25-50 foot horizons and a 5% decrease in purge volumes for the deeper horizons. The Air Force is evaluating this deviation by analyzing additional samples collected from the site to assess whether the deviation affected the sample concentrations.

However, the Air Force disagrees with the conclusion NMED drew from this deviation. NMED states in its October letter:

“Miscalculation have resulted in the routine collection of soil vapor data since 2015 that is not representative of subsurface conditions.”

Despite any impact identified by the deviation discussed above, the Air Force maintains that the data is still representative. The data is representative because the purge volumes utilized at the site were historically approved by NMED. Purge volumes utilized at the site exceed EPA recommended purge volumes that require three sample strings as the purge volumes to be removed, rather than well volumes. For many soil vapor monitoring points one well volume exceeds three sample string volumes. The purge volumes employed at the site ensure that enough stagnant soil vapor gas or ambient air are purged from the well casing prior to sampling in order to collect representative samples as required by the Kirtland AFB Resource Conservation Recovery Act (RCRA) permit Part 6.5.16. The Air Force requests NMED withhold its final decision on data representativeness and validity until data collected from the updated methodologies can be compared to the historical data set. The Air Force will note this deviation from the NMED-approved work plan whenever these impacted data points are utilized moving forward.

The Air Force continues to request that NMED not require modifications and additional investigation activities until the Air Force has submitted and NMED has approved an updated work plan. This request is based on the Air Force's review of RCRA permit sections 1.38, 6.2.2.1, and 6.2.2.1.1, which require the Air Force to conduct investigations in accordance with approved work plans and to propose supplements to approved work plans when needed. In addition, there are practical reasons why the Air Force must proceed under an approved work plan. The Air Force cannot conduct an orderly and effective remedial investigation based on NMED letters that contain evolving and sometimes conflicting directions. Proceeding under approved NMED work plans will ensure that the Air Force is accurately and consistently incorporating NMED requirements in its investigation activities.

In addition, NMED's November letter states that the Air Force misinterpreted EPA guidance and adds a requirement for a leak test to be performed in accordance with EPA guidance. Any such requirement should be included in an updated work plan. That process will allow the Air Force to show how the Air Force interprets relevant EPA guidance; NMED's review of the said work plan will ensure that no guidance documents have been misinterpreted.

In conclusion, the Air Force is unable to immediately implement the sampling methods required by NMED because the RCRA permit requires that all site activities be performed in accordance with NMED-approved work plans. The updated NMED-approved work plan is needed before modifications can be implemented to ensure that there is an accurate interpretation

of EPA guidance and address the historical inconsistencies in the NMED direction. NMED's review and approval of an updated work plan will assure that the data collected will meet the intent of all NMED's requirements.

The Air Force will continue to follow the current NMED-approved work plan and will prepare an updated work plan to meet the regulatory due date of March 1, 2023. The Air Force will implement the updated work plan when NMED approves it. If you have any questions, please contact Mr. Ryan Wortman at (505) 853-3484 or email ryan.wortman.3@us.af.mil.

Sincerely

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JASON F. VATTIONI, Colonel, USAF
Commander

cc:

NMED (Gilliam), letter, and CD

NMED Resource Protection Division (Catechis), letter, and CD

NMED HWB (Shean, Andress, Cobrain, Wear), 2 Hard Copies/2 CDs

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

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