

From: [Cobrain, Dave, NMENV](#)
To: [Catechis, Chris, NMENV](#)
Cc: [Shean, Rick, NMENV](#)
Subject: FW: KAFB BFFS Shallow Soil Vapor Investigation Work Plan
Date: Tuesday, January 4, 2022 1:30:24 PM
Attachments: [EPA Comments KFAB BFF Soil Gas WP 5-2021.docx](#)



Chris,

I never received a response to my emails regarding the KAFB BFFS Shallow Soil Vapor Investigation Work Plan approval (below). HWB also hasn't received any feedback regarding the work plan disapproval sent by Ricardo for your review before we learned of the approval letter that was sent to the Air Force approximately three weeks before the disapproval letter was forwarded to you for review in late October. In addition, I've attached EPA's November 2021 comments on the work plan based on our request for their review in conjunction with HWB's review of the work plan. EPA's comments support our disapproval. I understand that the Air Force will be implementing the work plan in the near future which means that we have limited time to direct the Air Force to re-evaluate their vapor monitoring well locations to align with our disapproval comments that have not as yet been issued. As outlined in the two emails below, the proposed investigation locations in the work plan will not provide the information essential for evaluating potential hazards or future remedies. To require the Air Force to go back out to install vapor monitoring wells at appropriate locations in the near future or at a future date prior to remedy selection will reflect poorly on NMED and the currently approved work will likely be characterized as a waste of taxpayer money once the Air Force is required to conduct a technically appropriate investigation. If the Air Force implements the Shallow Soil Vapor Investigation Work Plan as approved, it will cause significant difficulties for NMED in the future with regard to site characterization and affect our ability to select a final remedy(s).

Thanks.

Dave

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From: Cobrain, Dave, NMENV
Sent: Tuesday, October 26, 2021 2:29 PM
To: Catechis, Chris, NMENV <Chris.Catechis@state.nm.us>
Cc: Maestas, Ricardo, NMENV <Ricardo.Maestas@state.nm.us>; Wear, Benjamin, NMENV <Benjamin.Wear@state.nm.us>; Andress, Lane, NMENV <Lane.Andress@state.nm.us>
Subject: KAFB BFFS Shallow Soil Vapor Investigation Work Plan

KAFB5106



Chris,

It has come to my attention that the KAFB BFFS Shallow Soil Vapor Investigation Work Plan submitted by the Air Force and currently under review by HWB was approved. This was surprising since a 16-page Disapproval letter for the work plan with supporting attachments was sent to you by Ricardo for review yesterday evening. After hearing about this I checked the KAFB October Stakeholder meeting agenda and under Recent and Upcoming Documents an approval is listed as "Received Approval for the Shallow Soil Vapor Work Plan on 03 October 2021." I subsequently checked internally and no one in the bureau is aware of this or seen an approval letter. Can you tell me who reviewed the work plan and whether it was an approval with modifications (which would have had to be extensive) or a simple approval? This approval was not issued from the bureau; therefore, it must have been issued from the OOTS? Can you tell me what the stated basis was for an approval for a work plan that, based on the HWB review, was very deficient and also unresponsive to the comments provided our previous Disapproval issued in 2020? The work proposed in the May 2021 work plan will not provide data that can be used to defend the selected site remedy(s) as being protective of human health in the inevitable hearing on the remedy selection. If the appropriate data are not collected, this will ultimately delay remedy selection until data is acquired that either demonstrates that there isn't an exposure issue or that remedial action is necessary to protect human health.

Thanks.

Dave

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From: Cobrain, Dave, NMENV

Sent: Friday, October 29, 2021 10:34 AM

To: Catechis, Chris, NMENV Chris.Catechis@state.nm.us

Cc: Maestas, Ricardo, NMENV Ricardo.Maestas@state.nm.us; Andress, Lane, NMENV Lane.Andress@state.nm.us; Wear, Benjamin, NMENV Benjamin.Wear@state.nm.us

Subject: KAFB BFFS Shallow Soil Vapor Investigation Work Plan Approval

Chris,

I was able to locate and download the October 3, 2021 Shallow Soil Vapor Investigation Work Plan Approval issued by NMED for HWB from the Air Force website, which is not the way the bureau typically receives internal NMED correspondence. The Shallow Soil Vapor Investigation Work Plan

Approval letter (October 3, 2021) is inconsistent with the technical facts and site history. The inconsistencies in the Approval, which you may not have recognized since you're relatively new to the project, are discussed below.

Second Paragraph:

"The Work Plan was developed to perform additional shallow soil vapor sampling to verify the conclusions of the Risk Assessment Report, Bulk Fuels Facility Spill; Solid Waste Management Unit ST-106/SS-111, dated July 15, 2017."

--The Risk Assessment is based on data collected prior to 2017. Risk Assessment's cannot be performed for a site until characterization is complete. Characterization is not complete at the BFFS. In addition, the 2017 Risk Assessment Report indicated that the site doesn't pass risk.

"The Work Plan reflects the incorporation of NMED's Notice of Disapproval (NOD) comments, sent May 26, 2020, that were still applicable after clarification meetings were held between James Kenney, NMED Cabinet Secretary and Mark Correll, Deputy Assistant Secretary for Environment, Safety, and Infrastructure in February 2021 consistent with the informal dispute resolution process."

--The revised work plan did not incorporate the direction provided in the Disapproval and all of the comments were still applicable since no additional data had been collected between the time of issuance of the Disapproval and NMED's receipt of the revised work plan. Also, the KAFB RCRA Permit does not contain a dispute resolution provision. The "informal dispute resolution process" is undefined and did not include HWB or appear to resolve the technical issues included in the Disapproval based on review of the revised Work Plan.

Third Paragraph:

"The Permittee is directed to proceed with implementation of the shallow soil vapor sampling as described in the Work Plan. If sampling data collected during the first phase identifies soil vapor concentrations that indicate additional sampling is needed to *"demonstrate that there is no risk to off-site receptors located north of the Base,"* the Permittee shall work as directed by NMED to develop a second phase work plan to extend sampling from the point of detection outward."

--The work as proposed in the plan does not conform to the Disapproval direction, EPA's direction, the conclusions of NMED's contractor (DBS&A), or standard site investigation techniques. The work as proposed will very likely not generate data useful for remedy evaluation or defense of a selected remedy(s) and will not be adequate to demonstrate that there is no risk to off-site receptors since the proposed well locations are not adjacent to the VA hospital, the residential neighborhood, utility lines north of Randolph Road close to those locations, or large paved areas.

"This approach builds on the concepts detailed in Sections 4.0, 6.2.1, and 6.3.1 of the U.S. Environmental Protection Agency (EPA) *Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air, Office of Solid Waste and Emergency Response, OSWER Publication 9200.2-154 (June 2015)*"

--The approach for a site where the source is known, and historic data reports detections of high concentrations of contaminants in soil gas near the locations of concern is not considered in the work plan or directly addressed in the guidance since guidance is not specific to any given site.

Instead, the work plan proposes to investigate locations at distance from both the source area and the vicinities of the VA hospital and the residences and near utilities close to the source that were influenced by the former SVE system. The proposed investigation locations are in areas where there is a low probability of detecting contaminants in soil gas at concentrations that would result in the perceived need for further investigation in the direction of the VA hospital and residences where high concentrations in shallow soil gas were historically detected.

For these reasons, the Approval should be revisited to avoid future delays at the time of remedy selection due to the inability to demonstrate that vapor intrusion is not an ongoing problem the VA Hospital or the residential neighborhoods.

Thanks.

Dave

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

1201 Elm Street, Suite 500
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Transmitted via email

November 22, 2021

Mr. Ben Wear

Environmental Scientist Supervisor

Hazardous Waste Bureau

New Mexico Environmental Department

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(505) 690-6662

RE: *Work Plan for Shallow Soil Vapor Sampling, Bulk Fuels Facility, Solid Waste Management Units ST-106/SS-111, May 2021*
Kirtland Air Force Base, New Mexico
EPA ID #NM9570024423

Dear Mr. Wear:

The United States Environmental Protection Agency (EPA) has reviewed the *Work Plan for Shallow Soil Vapor Sampling, Bulk Fuels Facility, Solid Waste Management Units ST-106/SS-111*, that I received on October 26, 2021, via an attachment to your email. This Work Plan describes the investigative approach to assess the current nature and extent of shallow soil vapor off-base.

General Comments:

1. EPA provided general comments December 30, 2020 on the November 2019 Kirtland AFB (KAFB) Soil Vapor Sampling Work Plan, KAFB's revised Conceptual Shallow Soil Gas Sampling Proposal by Noblis, dated February 2021, and KAFB's May 2021 Soil Vapor Sampling Work Plan. These comments are still applicable to the investigation of the potential VI pathway north of the base.
2. EPA has also reviewed NMEDs comments on the May 2021 Draft Work Plan and concur with their conclusions and recommendations.

3. EPA considers a comprehensive CSM essential to response action development, selection, and implementation. The CSM is a primary project planning and management tool, and as such, the CSM should incorporate all that is known about the site's current and potential future environmental conditions and uses, noting that it will evolve and mature over the project's life cycle. A realistic CSM accurately portrays critical conditions that affect the success of response actions, and at a scale that addresses heterogeneity. It is expected that this Vapor Intrusion CSM will build on the previous CSMs and present known and potential source areas, transport mechanisms, pathways, and exposure routes and receptors.

Specific Comments:

1. Three purge volumes of the sampling train are both recommended by EPA and state agencies. It is considered to be an industry standard.

EPA Region 4. 2010. Soil Gas Sampling Operating Procedure states "it is necessary to remove all stagnant or ambient air from the sample string. This volume, equal to approximately three times the volume of the sample string, should be estimated or calculated" ...

ASTM. 2012. Standard Practice for Active Soil Gas Sampling in the Vadose Zone for Vapor Intrusion Evaluations, D7663-12 (Reapproved 2018) defines "*dead volume, n*—the total air-filled internal volume of the sampling system; *purge volume, n*—the amount of air removed from the sampling system prior to the start of sample collection. This is usually referred to in number of dead volumes." Regarding dead volume it states "It is recommended that a minimum of three (3) dead volumes be purged from the sampling system immediately prior to sample collection."

CalEPA. 2015. Advisory – Active Soil Gas Investigations states "The purpose of purging is to remove stagnant air from the sampling system so that representative samples can be collected from the subsurface. A default of three purge volumes should be used. Purge volume testing is no longer recommended."

2. The proper flow/purge rate recommended by EPA is 200 to 500 ml/min, but no more than 1,500 ml/min. EPA agrees with Comment 21, made by NMED, that the proposed purge rate of 0.75 cubic feet per minute is too high.

EPA ORD. July 2007. Final Project Report for the Development of an Active Soil Gas Sampling Method provides three experiments investigating the relationship between purge rate and measured VOC concentrations. Purge rates of the three experiments ranged from 100 to 2,000 ml/min. The findings of the report state "Based on the data from this investigation, it appears that purge rates of 200 to 500 ml/min should be recommended."

EPA ERT SOP 2042. June 1996. Soil Gas Sampling recommends "The approximate sampling time for a 6-liter canister is 20 minutes." Which equates out to around 300 ml/min.

3. EPA recommends conducting leak testing each time a soil gas sample is taken from each individual SVMP.

EPA Region 5. March 2020. Vapor Intrusion Handbook states EPA “recommends leak testing to assess the integrity of the sampling assembly by providing quantitative proof that breakthrough of air is not occurring into the sub-slab sampling port, sampling train, or sampling medium... samplers should conduct leak testing each time a soil gas or sub-slab sample is collected. The acceptable range of leakage should be documented in the SAP and communicated to field staff prior to site activities.”

If you have any questions regarding this comment letter, please contact me via telephone at 214-665-7124, or via e-mail at mckinney.lucas@epa.gov.

Sincerely,

Lucas McKinney

Lucas McKinney

Project Manager

cc: Dave Cobrain, NMED

Laurie King, EPA

Rick Ehrhart, EPA