

HAFB



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Mr. David Cobrain
Hazardous Waste Bureau
2905 Rodeo Park Dr. E/Bldg 1
Santa Fe, NM 87505

RE: Draft Technical Review of the *Final RCRA Facility Investigation Work Plan, SWMU 183 – Base Wide Sewer System*, Holloman Air Force Base, New Mexico, dated August 2009

Dear Mr. Cobrain:

Attached please find draft technical review comments on Holloman Air Force Base's (HAFB) *Final RCRA Facility Investigation Work Plan, SWMU 183 – Base Wide Sewer System*. Per request of Ms. Dezbah Tso in an email dated October 8, 2009, the associated risk assessment portions of the Work Plan were reviewed. As part of the review, HAFB responses to previous NMED Notice of Disapproval (NOD) comments were also reviewed.

If you or any of your staff have questions, please contact me at (801) 451-2864 or via email at paigewalton@msn.com.

Thank you,

Paige Walton
AQS Senior Scientist and Project Lead

cc: Dezbah Tso, NMED (electronic)
Joel Workman, AQS (electronic)

Draft Technical Review of the *Final RCRA Facility Investigation Work Plan, SWMU 183 – Base Wide Sewer System, Holloman Air Force Base, New Mexico, dated August 2009*

General Comments

1. One of the objectives of the investigation is to “collect sufficient analytical data to complete a site specific risk assessment to determine the affect of releases on human health and/or the environment.” While a discussion of the various flora and fauna that may be presented on-site was provided, the Work Plan does not provide any discussion of how an ecological risk assessment will be conducted. As noted in Section 4.3 of the Work Plan, the average depth to the sewer system is six feet below ground surface (ft bgs). Typically for an initial ecological screening assessment, a conservative soil exposure interval of zero to 10 ft bgs is considered for all receptors. If the results of the initial screen indicated adverse impact, then a more refined exposure interval may be applied. For the refined analysis, a surface exposure interval for surface-foraging and shallow-burrowing wildlife of zero to 0.5 ft bgs may be applied and a soil interval of zero to 10 ft bgs may be applied to evaluate plants and deeper burrowing animals. Since potential impacts to shallow subsurface soil (less than 10 ft bg) are likely, an ecological assessment will need to be conducted. The exposure pathway for ecological receptors to groundwater appears to be incomplete, due to the lack of springs or water bodies directly recharged by potentially impacted groundwater. However, the Work Plan must address all exposure pathways and provide a completed exposure model for ecological receptors. Revise the Work Plan (Section 7.0) to include a discussion of how ecological impacts will be evaluated for all potentially contaminated media.
2. For the initial screening assessment for soil, the NMED residential soil screening levels (SSLs) or Regional Screening Levels (RSLs) will be used to evaluate potential risk to human receptors. If the maximum detected concentration is below the residential SSL or RSL, then no additional analysis will be conducted and the findings will be provided to NMED. However, a construction worker was identified as a potential receptor. For some noncarcinogenic metals, the inhalation pathway results in a more conservative screening level for the construction worker than for a resident. Therefore, the initial screening assessment should include a comparison of site data to both residential and construction worker screening levels. Revise the Work Plan accordingly.
3. It is not clear whether results from soil sampling will be compared to the soil-to-groundwater screening levels to assess whether concentrations in soil are of sufficient magnitude to migrate to groundwater. While it is understood that groundwater is not of drinking water quality, this evaluation may be useful in identifying soil that may be a continual or future source for groundwater contamination and to determine if remedial actions may be needed. Clarify whether site data will be compared to soil-to-groundwater SSLs/RSLs.

Specific Comments

4. Section 5.7.3. The Work Plan indicates that “potential exposure pathways which may be present onsite include dermal contact, and soil vapor inhalation to indoor air (via vapor intrusion) into occupied structures within close proximity to a release location.” Incidental

ingestion and inhalation of soil particles are likely to occur and should also be identified as complete exposure pathways. Revise the Work Plan accordingly.

5. Section 7.2.5. In the event that site-specific SSLs are needed, it is proposed that toxicity data provided in Table C-1 of the NMED Soil Screening Guidance be applied. Please note that the tabulated toxicological data were provided to allow users to understand what data were used in developing the generic SSLs. The data contained within Table C-1 were current at the time of the development of the SSLs. More recent studies and updated toxicological data may have become available since the publication of the data in Table C-1. As such, the use of the toxicological data in Table C-1 should not be used without verification that more current data are not available. Revise the Work Plan to indicate that in developing site-specific SSL, a review of toxicological databases (following the hierarchy outlined in the NMED Soil Screening Guidance) will be conducted to ensure the most current data are applied.
6. Section 7.2.6. In the event that a more refined assessment of risk is needed, site-specific screening levels will be developed and compared to “the representative concentration of each COC in each media of concern.” The Work Plan does not contain clarification as to how this exposure point concentration (EPC) will be determined. It is recommended that an EPC of the 95% upper confidence level of the mean (UCL) determined using distributional-based statistics be used. The Environmental Protection Agency’s (EPA’s) ProUCL or another EPA-approved model should be used in determining the UCL. Revise the Work Plan accordingly.
7. Section 7.2.6. The Johnson and Ettinger (J&E) model is proposed for the evaluation of the vapor intrusion scenario. However, it is not clear whether the vapor intrusion pathway is to be evaluated as part of the initial screening assessment or the more refined site-specific assessment. As noted in the Work Plan, the NMED SSLs and RSLs do not incorporate potential risks via inhalation via this pathway. As such, the risks/hazards via vapor intrusion must be determined and added to the risks/hazards associated with the generic screening levels. Clarify the Work Plan to indicate that the vapor intrusion pathway will be evaluated as part of the initial screening assessment in addition to the site-specific evaluated where appropriate. In addition, it appears that only bulk soil data are proposed. In the event that significant risk is present due to the vapor intrusion scenario, a more refined analysis of this pathway using soil gas data may be needed.