DEPARTMENT OF THE AIR FORCE

HEADQUARTERS 27th FIGHTER WING (ACC)
CANNON AIR FORCE BASE, NEW MEXICO

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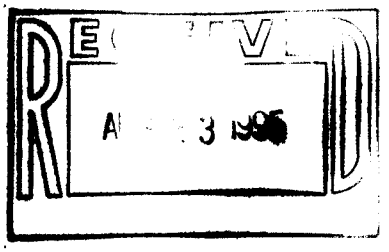
01 AUG 1995

Mr. William Honker
Chief, RCRA Permits Branch
US Environmental Protection Agency Region VI
1445 Ross Avenue Suite 1200
Dallas TX 75202-2733



Dear Mr. Honker

Attached are our responses to your 21 Jun 95, Notice of Deficiencies for the RFI Work Plan on Melrose Air Force Range. Please try to turn this around quickly. It is important to meet our field work schedule during August-September 1995; this will have a minimal impact on our flying schedule.

If you have any questions, please contact Mr. John Constantine at (505) 784-6378 or Mr. Sanford Hutsell at (505) 784-4348.

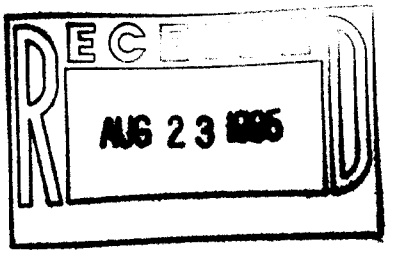
Sincerely

W. P. ARD, Colonel, USAF
Commander, 27th Support Group

Attachments:
Responses

cc:
NMED (B. Hoditschek)
NMED (S. Pullen)
HQ ACC/CES/ESVW(w/o Atch) (M. Calvert)

(see V for additional info)



RESPONSES TO COMMENTS RECEIVED FROM THE U.S. ENVIRONMENTAL PROTECTION AGENCY ON THE DRAFT WORKPLAN FOR THE MELROSE AIR FORCE RANGE RCRA FACILITY INVESTIGATION PHASE I

July 24, 1995
(revised)

It is the understanding of the U.S. Air Force (USAF) and the U.S. Army Corps of Engineers (USACE) that the comments submitted to the USAF by the U.S. Environmental Protection Agency (EPA) regarding the Draft Workplan for the Melrose Air Force Range (MAFR) Phase I RCRA Facility Investigation (RFI), dated June 21, 1995, incorporate and supercede the comments on the referenced workplan submitted to the USAF by the New Mexico Environment Department (NMED) Hazardous and Radioactive Materials Bureau (HRMB), dated June 8, 1995. Consequently, these responses are considered to pertain to comments from both the EPA and NMED.

Comment 1. General Comment: The Helicopter Pad Disposal / Burn Site, the Domestic Waste Burial Site, and the World War Cantonment Disposal Site are units that were not identified in the RFA, performed by A. T. Kearney in 1987. However, EPA agrees that these units should be investigated. If the investigation results indicate hazardous constituent contamination, then these sites will be added to the HSWA permit via a Class I permit modification.

Response: General site investigations at these potential areas of concern (AOCs) are being pursued now in order to determine whether contamination is present or absent. The USAF appreciates the EPA's intent to wait until the results of this investigation are available before making an administrative decision regarding their listing, and requests that until the results of these investigations are thoroughly evaluated EPA not add these sites to the HSWA permit.

Comment 2. General Comment: EPA would like to review the results of the geophysical and soil gas surveys before Melrose begins selecting the soil boring and groundwater well locations. Besides the above information obtained from the surveys, Melrose should also perform an aerial photography analysis. Please indicate in the revised workplan the approximate date the results from the surveys will be available for EPA's review.

Response: The results of the geophysical and soil gas surveys will be provided to EPA for review, along with proposed sampling locations, concurrent with review by USACE and USAF. The final selection of sampling locations is dependent on the review of these data, and

scheduling is critical to completing the field program within budget, consequently EPA's timely review and input will be greatly appreciated. While the start date for the field investigations is not yet firm, it is expected that the results of these surveys will be available in late August or early September. Because of the critical nature of the schedule with respect to ongoing military activities at MAFR and the "window" of opportunity to investigate sites within the "active" portion of the range in the second half of September, EPA's timely review is important.

Aerial photography analysis is planned as part of the preliminary assessment of MAFR. The work to be conducted under the preliminary assessment is described in Section 4.6 of Volume I of the Draft Workplan.

Comment 3. General Comment: EPA requires angled soil borings underneath SWMUs that cannot be drilled directly within the unit in order to adequately determine a release. Please justify why angled borings are unsafe. If angled borings are not possible, then alternative investigative methods may be needed.

Response: Unexploded ordnance (UXO) is potentially present in virtually every site targeted for investigation. The lateral and vertical extent of these sites is unknown, and cannot be precisely defined by geophysical techniques. As described in the workplan, a potential for proximity fuses exists with many of the types of UXO that may be present, limiting the specific geophysical methods available to conduct clearance activities. In order to insure the safety of the personnel conducting field investigations, invasive sampling of the disposal sites themselves are not planned during this phase of the RFI. The maximum angle possible for angled boreholes using conventional techniques is about forty-five degrees, and in order to sample beneath the sites of interest, a risk of penetrating the edge of a disposal site is posed, while the attendant costs associated with this approach are both unwarranted and unnecessary at this stage in the RFI process. UXO clearance activities are planned for the borings around the peripheries of the targeted sites now, and substantially increase the effort and cost associated with this phase of the RFI. The presence or absence of contaminants in groundwater downgradient of each site will provide evidence of contaminant migration beneath targeted sites, and a rational approach to the assessment and evaluation of the risks associated with any detections will provide guidance regarding whether additional sampling is necessary. If appropriate, additional sampling can be conducted in a subsequent phase of the RFI. However, if geophysical survey and UXO clearance activity results demonstrate that there is **NO** possibility of encountering UXO or other hazardous materials such as drums, etc. during borehole drilling within site boundaries, such drilling will be considered.

Comment 4. General Comment: The Field Sampling Plan and the Standard Operating Procedures are inconsistent regarding which analytical method will be used to analyze the soil gas samples. Please clarify in the revised workplan.

Response: Passive soil gas samples will be analyzed using modified EPA Method 8240, as described in the Standard Operating Procedure (SOP) for soil gas sampling (SOP 11). Section

8.0, Analytical Procedures, of the Quality Assurance Project Plan (QAPP) in Volume II of the workplan has been revised to include passive soil gas analytical procedures.

Comment 5. General Comment: EPA questions whether hydropunch technologies will be practicable in the geology encountered at Melrose, especially in the caliche beds. Please justify in the revised workplan.

Response: Hydropunch-type groundwater sampling is appropriate where permanent wells cannot be installed due to the risk of their destruction by the aerial bombing and other military activities which are conducted at MAFR (see Response to Comment 17 below). Hydropunch-type sampling is not intended in caliche beds, which occur at relatively shallow depths, but is expected to be effective at the depths where groundwater is first encountered at MAFR. Hydropunch-type sampling will be conducted in borings drilled to the first appearance of groundwater (approximately 90 ft depth), not driven from the ground surface. Because there is a likelihood that water will rise in the borehole above its first appearance, based on U.S. Geological Survey data, obtaining a groundwater sample from the borings where a hydropunch-type sampling approach is planned is expected to be feasible.

Comment 6. General Comment: Please explain why Melrose is not proposing an "active" soil-gas survey for the areas outside the trenches. The active survey could be done in conjunction with the passive soil gas survey conducted within the trenches.

Response: Conducting "active" soil gas surveys would provide a marginal benefit at best. Passive soil gas survey data are superior to "active" soil-gas survey data in that they are semi-quantitative instead of merely qualitative, and are supportable, EPA-approved data. Soil gas sampling grids will be laid out on a 50-ft centered grid and will extend 50 ft beyond the boundaries of the sites to cover areas outside of and adjacent to, as well as within, the targeted sites.

Comment 7. Sampling and Field Procedures, Volume II: Please justify not performing a soil gas survey at the following units: SWMU 117, NW Munitions Disposal Site, Helicopter Pad Disposal / Burn Site, and the Domestic Waste Burial Site. Presumably, these sites have the same potential to contain volatile organic compounds as those sites where the survey is proposed to occur.

Response: SWMU #117 was included in the sites proposed for passive soil gas sampling. Please refer to Section 2.3 of the Field Sampling Plan (FSP), Part B of Volume II of the draft workplan, specifically Subsection 2.3.2, Passive Soil Gas Sampling. The NW Munitions Disposal Site was used only for disposal of munitions and soil gas sampling there is unwarranted. At the other sites referenced, where a potential for volatile organic contaminants exists, additional passive soil gas sampling will be conducted. The work plan has been modified to include this additional soil gas sampling.

Comment 8. Sampling and Field Procedures, Volume II: EPA agrees with the general approach which Melrose is using to investigate the SWMUs. However, EPA disagrees with using a predetermined sampling interval for every SWMU and stating the exact number of borings for each SWMU, with no flexibility to add or eliminate borings.

Sampling intervals should be based on the characteristics of each SWMU. For example, if a SWMU had a waste placed in it from 6-12 feet, with 6 feet of cover, you would not want to take soil samples at the surface or at 3 feet. Also, if a different SWMU had obvious contamination for a length of 300 feet, but the workplan specifically stated that only 1 sample would be taken, preselecting the number of samples would be flawed. EPA recommends flexibility in sampling intervals and in the number of samples to be taken from a SWMU. Please revise the workplan accordingly.

Response: The workplan has been modified to provide flexibility regarding the number of soil borings and surface soil samples by providing for contingency borings and sampling on a case-by-case basis, dependent on the results of the geophysical and soil gas surveys, and visual inspections conducted at the time of site clearance activities. In addition to sampling at specified depth intervals, samples will be collected at intervals showing evidence, such as staining or PID/OVA readings, of contamination. Surface and near-surface sampling is necessary in order to evaluate potential environmental risks, consequently the selection of samples at ground surface, 3 ft and 8 ft depth is appropriate regardless of the known disposal practices employed at a specific site. In addition, given the presently limited knowledge of these practices, such sampling is prudent. However, at this stage in the RFI process at MAFR, sampling at specified intervals is the appropriate cost-effective approach to determining the presence or absence, nature, and extent of potential contamination. The effect of such sampling will be a conservative overestimation of potentially contaminated soil volumes.

Comment 9: Appendix B; Community Relations Plan, Volume I: It appears that the community relations plan submitted in the RFI workplan is the plan for Cannon AFB, not Melrose Range. Please explain why the town of Melrose was not included in the list of public meeting locations. Please revise the workplan to include a plan tailored towards the Melrose community.

Response: The Community Relation Plan has been revised to include MAFR, and the Town of Melrose for public meeting locations, and is included in the final workplan.

Comment 10: Drilling Log, Volume II: Melrose must identify all visual and olfactory contamination in each drilling log or description log and must include the PID/OVA readings for the full boring length.

Response: All significant factors identified during the drilling and sampling, including drill rig behavior in response to subsurface conditions as well as visual, olfactory, and PID/OVA readings, will be recorded on the bore logs. Continuous coring and core recovery is unwarranted and not considered to be cost effective at this preliminary stage in the RFI process, however.

Comment 11: Page 1-5; Data Quality Objectives, Volume I: EPA would like to add that the purpose of the RFI is to find the vertical and horizontal extent of contamination in the appropriate media for each SWMU, using PQLs for the delineation "stopping point" for all hazardous constituents (except metals). For metals, background numbers can be used in association with an acceptable statistical procedure to determine the delineation "stopping point".

Response: As stated on page 2-3 of Section 2.3, Data Quality Objectives in Volume II - Quality Assurance Project Plan of the work plan, "...the possible use of data for risk assessment dictates the quality of analytical data required." The purpose of this preliminary phase of the RFI is primarily to determine whether potential contaminants have migrated beyond the site boundaries of the targeted sites, and to provide data to support rational risk-based evaluations of the sites under consideration, using EPA Region III Risk-Based Concentrations. Establishing practical quantitation limits (PQLs) as the standard to delineate "stopping points" for horizontal and vertical extent of all hazardous constituents obviates the cost-effectiveness approach on which the sampling protocols for this investigation are based by making quantitation limits, rather than risk-based assessments, the standard for decisions regarding the appropriate extent of the investigation, and would require either real-time sample analysis concurrent with field sampling and an open-ended field program, or the presumption of additional sampling phases in advance of an evaluation of the data to be collected in this phase. In short, it may not be necessary to delineate the detectable extent of something that is not posing a risk, particularly when the remote nature of the sites, their restricted access due to active military use, and the depth to groundwater (the most likely active potential pathway), all serve to reduce the potential for contaminant migration to possible receptors.

While it may be necessary to conduct additional phases of sample collection, a rational assessment—from a risk-based perspective—of the data developed by this investigation is the prudent, cost effective, and appropriate approach to follow at this stage in the RFI process.

Comment 12: Page 3-2; 1st Paragraph, Volume II: Please include the well construction diagram of the production well in the revised workplan.

Response: This comment apparently refers to page 3-2, 1st paragraph of Volume I of the workplan, not Volume II. According to Mr. Sanford Hutsell of Cannon Air Force Base (CAFB), the well construction diagram for the production well at MAFR cannot be located in the files or records of the base water plant, the superintendent for water at CAFB (which operates MAFR), or the civil engineering files (telephone communication with Ms. A. Lafferty, EBASCO, July 20, 1995). Because the well was constructed approximately 34 years ago and not registered until recently with the State of New Mexico, Mr. Hutsell believes it possible that construction diagrams for this well may no longer exist. However, the U.S. Geological Survey installed a monitoring well near the EOD pit in June 1993. The lithological log and the well construction diagram for that well have been included in the revised workplan.

Comment 13: Page 3-5; SOP Soil Sampling Method, Volume II: Samplers should not take a soil sample length greater than a foot. Also, EPA does not want semivolatile soil samples homogenized. In addition, there should be a contingency in the workplan that if soil layers other than the prescribed intervals are found contaminated, then those intervals should be sampled. Please revise.

Response: The 2-ft soil sample length is necessary in order to obtain sufficient soil volume for laboratory chemical analysis, and is consistent with the sampling protocols in use for investigations being conducted at CAFB that have been approved by the EPA.

Although the compositing protocol for soil samples for semivolatile organic compounds (SVOCs), total organic carbon (TOC), total recoverable petroleum hydrocarbons (TRPH), and metals is appropriate in order to improve the reproducibility of analytical results from a quality control (QC) perspective, Standard Operating Procedures (SOPs) Nos. 3 and 6 has been revised to remove the requirement to composite samples for SVOC analysis.

The soil sampling procedure described on page 3-5 of SOP 3 includes language requiring the geologist responsible for sample collection to "...pay close attention to any evidence of contamination,... ...to ensure that potentially significant non-standard sampling intervals are not overlooked." The workplan has been revised on page 4-3 of Volume I to include the collection of contingency samples at such intervals.

Comment 14: Page 4-2; Soil Borings and Subsurface Soil Sampling, Volume II: One soil boring is not enough at the Helicopter Pad site. EPA will require an additional soil boring.

Response: The Helicopter Pad site is a potential Area of Concern (AOC) that is only 1/4 acre in area. Sampling here is intended to be confirmatory for presence or absence of contamination, and a single boring is appropriate at this site. If the geophysical survey and UXO clearance results are acceptable, the boring may be located within the site boundaries to accomplish this objective.

Comment 15: Page 4-3; Surface and Sediment Soil Sampling, Volume II: Since sediment samples are not dependent on the soil gas survey, please include the locations of the sediment samples in the revised RFI workplan.

Response: A figure has been added to Section 2.2, SWMU #115—Explosives-Contaminated Burial Site (Arroyo Burial Site) of the Field Sampling Plan (FSP) presenting the proposed sediment sampling locations. Sediment sampling locations will be adjacent to and on the downgradient side of the site in the arroyo, and at distances of approximately 1/3 mile, 2/3 mile, and 1 mile downgradient of the site in the arroyo. The small reservoir into which the arroyo drains is approximately 1 mile from the site. Proposed locations will be adjusted to those most suitable dependent on site conditions at the time of sampling.

Comment 16: Page 4-3; Surface and Sediment Sampling, Volume II: EPA disagrees with compositing of soil samples in this particular case. Please revise the workplan to state that sediment soil samples will not be composited.

Response: The workplan (including SOP No. 6) has been revised to state that sediment soil samples will not be composited.

Comment 17: Page 4-5; 1st paragraph, Volume I: Please further explain/justify how wells will be destroyed at SWMU #115 or the NW Munitions site.

Response: Both sites are located within the active target range portion of MAFR and permanent well installations there would be at risk of damage or destruction by bomb, artillery, or gunfire impact. Other military activities conducted in the active portion of the range to set-up or remove practice targets, remove expended ordnance, or assess the results of training activities could result in damage to permanent well installations. The detrimental effects of such damage, including the loss of the expenses related to their original installation and the potential to open direct surface to groundwater pathways via damaged wells, justify the alternative groundwater sampling techniques proposed in the workplan for these sites. The remaining sites to be investigated are within the "buffer zone" of the range but outside the active target range.

Comment 18: Page 4-7; Color, Volume II: Melrose should use a Munsell color chart to describe the colors of the soil. Please revise.

Response: The last sentence of the first paragraph on page 4-8 of SOP 4—Borehole and Sample Logging, in Volume II of the workplan reads: "A Munsell color chart or equivalent must be used."

Comment 19: Background Sampling, Volume I: Please include a map in the revised workplan showing the location of the background samples and why these locations are appropriate.

Response: Proposed background sampling locations are expected to be located in the western region of MAFR, west of the west mesa area. A map showing preliminary proposed background sampling locations has been added to Section 4.5 of Volume I of the workplan, however, as noted in the text on page 4-7 of Volume I, these locations will selected based on a combination of Range-specific factors such as wind direction, historical land use, surface drainage, soil type, and subsurface lithology. Appropriate locations should be upwind and upgradient from known or potential contaminant source areas, and as representative of unaffected natural background conditions as is possible at this site.

Comment 20: Page 7-5; Groundwater SOP, Volume II: Twenty-foot well screens are not acceptable unless Melrose can provide sufficient justification for that length. EPA generally does not allow screen lengths greater than 10 feet.

Response: Due to water table fluctuations, a generally dropping water table over the long term, the costs associated with installing replacement wells in the event the water table drops below the bottom of the screen, the desire to install well screens near the phreatic surface in order to determine the presence of potential light non-aqueous phase liquid (LNAPL) contamination, and the fact that EPA has accepted 30-ft screens for groundwater monitoring wells at CAFB for similar reasons, 20-ft well screens are appropriate at MAFR.

Comment 21: Page 11-1; 1st paragraph, Volume I: Please include in the schedule the date the RFI report will be submitted to EPA.

Response: The schedule presented in Section 11 of Volume I of the workplan represents the time-line for the execution of this investigation. Initiation of the field investigations is dependent on EPA approval of the workplans. The "window" in the second half of September is critical to performing investigations at the sites within the active target range portions of MAFR. As noted in the response to Comment 2 above, the critical schedule is sensitive to EPA's requests to review geophysical and soil gas results prior to initiating other investigative activities. Consequently a fixed date for submittal of the RFI report to EPA is not possible at this time. However, as can be seen on the schedule included in the workplan, it is expected that the draft RFI report will be submitted to EPA approximately 6 to 8 weeks after receipt of final laboratory analytical data.