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ENVIRONMENT DEPARTMENT
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SECRETARY

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DEPUTY SECRETARY

November 29, 1993

General Guth, Commander
27 FW/CC
100 S DL Ingram Blvd., Suite 100
Cannon AFB, New Mexico 88103-5214



RE: **RCRA Facility Investigation Draft Work Plan for
Landfill No. 5 (SWMU 113)
Notice of Deficiency
EPA ID No. NM7572124454**

Dear General Guth:

In a March 2, 1992 U.S. Environmental Protection Agency (**EPA**) letter the New Mexico Environment Department was given lead concerning Hazardous and Solid Waste Amendments (**HSWA**) corrective actions at Solid Waste Management Unit #113, Cannon Air Force Base (**CAFB**).

The Phase I Draft Work Plan for the RCRA Facility Investigation (**RFI**) of SWMU No. 113 Landfill No 5. was received on October 1, 1993. NMED's Hazardous & Radioactive Materials Bureau (**HRMB**) has completed its review of the Draft Work Plan. The review was performed in coordination with Bill Hurlbut of the EPA and Dave Morgan of NMED's Groundwater Protection and Remediation Bureau. The RFI Draft Work Plan was found to be deficient. The attached technical comments in the form of a Notice of Deficiency are being forwarded to explain these deficiencies.

If you have any questions, please contact Lee Winn at (505) 827-4313.

Sincerely,

Barbara Hoditschek

Barbara Hoditschek
Program Manager, RCRA Permitting

xc: Steve Alexander, HRMB
Dave Morgan, IRP/GWPRB
William Honker, EPA Region VI
Stephanie Stoddard
Barbara Hoditschek
file:CAFB 1993, ~~blue~~ **RED**

FAX: Janice Stowell, CAFB

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NOTICE OF DEFICIENCY

CANNON AIR FORCE BASE
RFI DRAFT WORK PLAN, SWMU #113, LANDFILL NO. 5.
DATED SEPTEMBER 1993

ITEM GENERAL COMMENTS:

1. The purpose of a RCRA Facility Investigation (RFI) is to obtain information to fully characterize the nature, extent and rate of migration of releases of hazardous waste or constituents and to interpret this information to determine whether interim corrective measures and/or a Corrective Measures Study may be necessary. In order to fully serve the purpose of an RFI four objectives must be met:
 - A. Determine whether releases of hazardous waste or hazardous constituents have occurred from the Resource Conservation and Recovery Act (RCRA) regulated unit(s) and/or RCRA Solid Waste Management Unit(s).
 - B. If releases have occurred then the facility must determine the nature (chemical composition and direction), rate (vertical and horizontal) and extent (vertical and horizontal) of those releases.
 - C. Identify and collect data necessary to determine the potential threat to human health or the environment.
 - D. Identify and collect data necessary to determine whether interim corrective measures are necessary and to support the evaluation and selection of the final Corrective Measures Study.

There are several conflicting statements about the objective(s), goal(s), intent, "focus", etc., of the RFI throughout the text of Volume I and II of the draft Phase I Work Plan which must be clarified by CAFB. Please provide a clear statement of objectives for the RFI, how the RFI will address the four objectives listed above, which of the four objectives Phase I is to address, and outline any additional phases which may be required to fulfill the stated objectives.

2. This RCRA Facility Investigation is intended to be conducted through utilizing a phased approach. Depending upon the results from any phase of the investigation, additional sampling and analysis may be required to adequately assess the composition, rate, extent and direction of contaminant releases, determine the potential threat to human health or the environment, and support any interim corrective measures and the corrective measures study (CMS). Additionally, NMED may require additional ground-water

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monitoring wells and/or a vadose zone monitoring system to adequately detect releases from SWMU #113 during the compliance period.

3. NMED is concerned about the occurrence of lead detected in ground-water samples from monitoring well #113B. Please see comment #8 below.
4. Volume I, Project Schedule, page B-3-1. Comment: The scheduled completion for this project is May 1995. Please provide justification for this date.

ITEM REFERENCE AND COMMENT

1. Volume I, Section 3.3, page 3-4, para. 2. "Due to the depth to the water table (greater than 200 ft) and lack of precipitation and water infiltration as a contaminant carrier, only large or continuous releases of liquid contaminants may be expected to reach the water table. The presence of low permeability (but not impermeable) caliche layers as well as chemically active (i.e., high Cation Exchange Capacity (CEC) clays will also act to impede contaminant migration." Comment: These assumptions seem contradictory to knowledge of behavior of vapor phase plumes. Please explain.
2. Volume I, Section 3.3, page 3-4, para. 3. "In this instance, a water table with a low gradient could limit the rate of migration." Comment: Please provide assumptions and measurements to describe this qualitatively and quantitatively.
3. Volume I, Section 3.3, page 3-5, para. 1. "However, migration along fractures in the caliche, where present, may allow deeper migration in some locations." Comment: Current understanding suggest that the caliche is ubiquitously fractured with microfractures and contains additional larger fractures. Please provide peer-reviewed references and empirical data to determine the relative amount and kind of fracturing in the caliche.
4. Volume I, Section 3.4, page 3-6, para. 4. "Based on past RFI's and RIs conducted for other landfills at Cannon AFB, most of the contamination, if present, within the soils at Landfill No. 5 will likely exist as

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localized low concentrations of....". Comment: Please provide estimates of quantities of compounds disposed based on records, practices, and personal interviews. The RFI is conducted to determine the composition, rate, and extent of releases and to gather data necessary to support the Corrective Measures Study.

5. Volume I, Section 3.6, Preliminary Identification of Remedial Action Technologies, page 3-7. Comment: The list of potential corrective measures is incomplete. The RFI work plan must address potential corrective measures technologies which may be used on-site or off-site for the containment, treatment, remediation, and/or disposal of contamination. Additionally, the RFI work plan must identify any field data that needs to be collected to facilitate the evaluation and selection of the final corrective measures or measures. This data must be of adequate technical quality to support the development and evaluation of the corrective measures alternative or alternatives during the Corrective Measures Study. The inclusion of this section in the work plan will not preclude the need for a formal Corrective Measures study based upon the findings of the RFI.
6. Volume I, Section 4.2, page 4-2, para. 3. "Historical information was used to identify potential chemicals of interest for Landfill No. 5." Comment: Please provide copies of historical information with adequate references to support this statement.
7. Volume I, Section 4.2, page 4-3, para. 1. "Metals that do not exceed background levels will not be included as chemicals of interest." If proposing background levels for metals, please provide a detailed explanation of how background levels will be determined at this SWMU.
8. Volume I, Section 4.3, page 4-3, para. 3. "Lead was detected in one groundwater sample from well 113B at 0.016 mg/L. This concentration is at the action level (0.015 mg/L) for drinking water...." When was lead detected? Was there confirmation sampling for this constituent? If so was it confirmed? Please provide details.
9. Volume I, Section 4.3.3, page 4-4, para. 1. "...thirty soil borings will be located, to allow for the collection and subsequent laboratory analysis of surface and subsurface soil samples." Comment: Please provide justification to support the adequacy of thirty samples to: 1) determine

whether a release has occurred from the unit, 2) characterize the composition, rate, and extent of any release, 3) characterize the source, and 3) support the corrective measures study. Additionally, CAFB states in the same paragraph, on page 4-5, that: "The subsurface soil samples collected will also be used to characterize the vertical distribution of contamination, so that potential impacts to groundwater can be addressed." Again, please provide justification for the adequacy of thirty samples to fulfill this objective.

10. Volume I, Section 4.3, page 4-5, para. 1. "No sampling from within the landfill cells themselves is to be conducted as part of this RFI or is planned in the future." Comment: See item #5 and #6, above.
11. Volume I, Section 4.5, Applicable or Relevant and Appropriate Requirements (ARARs), page 4-6. Comment: Cannon Air Force Base was informed in a letter dated November 2, 1993 that ARARs established under the CERCLA/IRP program are not applicable to the HSWA Corrective Actions program. The CERCLA/IRP program cannot be substituted for the RCRA facility Investigation program. CAFB must conduct the RFI process under the HSWA program. This is a RCRA Facility Investigation Work Plan and cleanup standards and thus action levels must be developed from proposed RCRA Subpart S Guidance. In general, all vadose zone investigation should be performed to action levels or background concentrations as outlined in RCRA Subpart S. Ground-water investigations should be performed to Subpart S concentrations as outlined in Appendix B of Subpart S, EPA Maximum Concentration Levels, or New Mexico Water Quality Control Commission Ground-water Standards whichever are lower. CAFB is requested to please discontinue references to ARARs in future submittals concerning SWMU #113.
12. Volume I, Figure 4-2, Decision Diagram Cannon Air Force Base Phase I RFI Landfill No. 5. Comment: In general, this work plan suggests that the RFI will proceed in a phased approach. Under Step 4 of the flow chart, the no option should be revised to state that NMED will be involved with the decision of recommending of collection of additional data as needed. Step 5 "Recommend no further action" should also be revised to include an evaluation by NMED.
13. Volume I, Section 4.5.2, page 4-8, para. 5. "Repeated

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nondetect analytical results for any constituent during routine groundwater monitoring may allow the constituent to be dropped from the list of analytes." Comment: This is subject to approval from NMED.

14. Volume II, Section 1.3, Chemicals of Concern and Analyte Groupings", page 1-12. Comment: Due to the incomplete documentation concerning wastes disposed of in SWMU #113 CAFB must provide specific references documenting justification of the proposed list of analytes in tables 2-1a through 2-1f.
15. Volume II, Section 1.3, Project Description, page 1-13, para. 1. Comment: This reference should refer to tables 2-1a through 2-1f rather than tables 3-1a through 3-1f in section 2.1. Additionally, all references to table and section 7 should be corrected. Section 7 does not address Quality Assurance objectives and there is no Table 7.1. as referred to in Volume II, section 2.2.2, page 2-3, bullet #1.
16. Volume II, Section 2.0, Quality Assurance Objectives and Audit Procedures, Tables 2-1a through 2-1f. Comment: These tables are to contain the specific analytes for which the samples will be analyzed. The tables of specific analytes are to be included in the revised work plan.

It has been common practice in corrective action investigations to analyze soil and groundwater samples for all Appendix VIII constituents. Please provide an explanation as to how the Tables of analytes will serve as an adequate substitute list for Appendix VIII constituents and are adequate to encompass all likely hazardous constituent releases from the SWMU.

All soil samples should be analyzed using methods with the lowest practical quantitation limits.

17. Volume II, Section 4.2.2, page 4-2. Comment: Please provide a map depicting proposed geophysical surveying location.
18. Volume II, Sampling Locations and Frequencies, page 4-4. Comment: A map should be included of SWMU #113 showing the grid which will be used and the proposed borehole locations.
19. Volume II, section 4.2.4.2, page 4-5, para. 1. "Chemical samples will be collected at depths of 5, 10, 20, 30 and 40 feet below the bottom of the

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landfill....". Comment: Samples should be collected and laboratory analyzed from each 5 foot interval beginning with the first five foot interval of the boring within the landfill and continuing in each 5 foot intervals to the total depth of the boring. The total depth of the boring will be determined through laboratory analysis until there are at least 20 feet of uncontaminated soil.

Additionally, within the landfill each 5 foot sample should be analyzed for all suspected hazardous constituents. Based on the results of this sampling a contaminant of concern list can be derived. This list must be reviewed and approved by NMED. The remaining boring sampling intervals may sample for the contaminant of concern components.

20. Volume II, SOP 1, Section 5.2, page 6, para. 3. The target depth for the soil gas sampling is 10 feet below ground surface. Comment: The purpose of soil vapor sampling should be to 1) determine the source and horizontal extent of any possible VOC's to the bottom of the landfill and 2) determine areas of highest concentrations of VOC's. Please explain how the proposed soil gas vapor survey will satisfy these two objectives. Provide values for horizontal and vertical soil permeability, extraction pressure, and soil pore vapor velocity to support the proposed 10 foot depth of investigation.

ENVIRONMENT DEPARTMENT ROUTING SLIP

Letter To: GENERAL CUNY
 For: BARBARA MOOITSCHEK SIGNATURE
 Drafted By: LEE WIND 11/29/93
 Date
 Subject: RFI REVIEW

FINAL DECISION NEEDED BY: TODAY (11/29/93) REASON AGREEMENT WITH CAFB

Review:

	Initial	Date Rec'd	Date Apprv'd
<u>STEVE ALEXANDER</u> PROGRAM MANAGER	<u>SMA</u>	<u>11/19/93</u>	<u>11/19/93</u>
BUREAU CHIEF			
DISTRICT MANAGERS			
GRANTS			
ACCOUNTING			
BUDGETS			
LEGAL REVIEW			
ASD DIRECTOR			
WWM DIRECTOR			
ERD DIRECTOR			
DEPUTY SECRETARY			
SECRETARY			
OTHER			

COMMENTS BY DRAFTER OR REVIEWER(S):

Give copy to Steph S & BN
