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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

November 2, 2009

Colonel Stephen Clark  
27<sup>th</sup> Special Operations Wing  
100 South D.L. Ingram Boulevard  
Cannon Air Force Base, New Mexico 88103-5214

**RE: NOTICE OF DISAPPROVAL  
PLAYA LAKE (SWMU 103) CORRECTIVE MEASURES STUDY WORK  
PLAN  
CANNON AIR FORCE BASE, NEW MEXICO, JULY 2009  
EPA ID #NM7572124454  
HWB-CAFB-09-004**

Dear Col. Clark:

The New Mexico Environment Department (NMED) has received Cannon Air Force Base's (Permittee) *Playa Lake (SWMU 103) Corrective Measures Study Work Plan* dated July 2009 (Work Plan). NMED has reviewed the Work Plan and hereby issues this Notice of Disapproval (NOD). The Permittee must revise the Work Plan based on the comments presented below.

**Comment 1. Section 1.1, Purpose and Scope, Page 1-1:**

The Permittee states, in the second paragraph, that the Work Plan may be modified based on field observations, site conditions and unforeseen circumstances or conditions. The Permittee may not modify an approved Work Plan without obtaining prior approval from the NMED. Deviations from an approved Work Plan must be documented and explained in the associated report.

**Comment 2. Section 1.3, Regulatory Framework, Page 1-1:**

The Permittee refers to a Corrective Measures Study in the title and throughout the Work Plan. However, the objectives of the Work Plan are not to evaluate, recommend or select remedial alternatives. (See the Cannon Air Force Base (CAFB) Hazardous Waste Facility Permit *Attachment 4. Corrective Measures Study: Scope of Work*).

The proposed work described in the Work Plan constitutes an investigation to define the nature and extent of contamination. (See the CAFB Hazardous Waste Facility Permit *Attachment 3. RCRA Facility Investigation (RFI) Scope of Work*). Because a Phase II RCRA Facility Investigation (RFI) was conducted in 1995 the Permittee must rename the document to reference that it is a third phase investigation work plan, and not a remedy evaluation.

The Permittee stated that the Work Plan follows the requirements for Cannon's RCRA permit and 40 CFR Part 264, Subpart S, *Corrective Action for Solid Waste Management Units*. The corrective action requirements of 40 CFR Part 264, Subpart S were never finalized by EPA. The portion of Subpart S that EPA finalized as rule only applies to Corrective Action Management Units (CAMUs). EPA withdrew the May 1996 advance notice of proposed rulemaking (ANPRM) comprising the majority of Part 264, Subpart S in October 1999 [FRL-6452-9]. The Permittee must delete reference to requirements in 40 CFR Part 264, Subpart S, except to the extent the Permittee uses it as guidance.

The Permittee refers to "closure" in several places in the Work Plan. NMED assumes that the Permittee intends to achieve the status of either Corrective Action Complete With Controls or Corrective Action Complete Without Controls and remove SWMU 103 from Table 1 (List of Solid Waste Management Units and Areas of Concern Requiring Corrective Action) of the permit through a Class 3 permit modification. The Permittee should refer to Corrective Action Complete Status instead of "closure". Completion determinations are described in "*Final Guidance on Completion of Corrective Action Activities at RCRA Facilities*" [FRL-7454-7].

**Comment 3. Human Health and Ecological Risk Re-evaluations, Page 3-4:**

The Permittee states that sediment and surface water are the media of concern and that "sediment will be analyzed for total petroleum hydrocarbons (TPH) (as waste oil), arsenic, vanadium, silver and selenium while surface water will be analyzed for lead, silver and selenium". To assess the surface water and sediment fully, especially because the surface water in Playa Lake is used for irrigation in nearby cultivated fields, and to determine the final disposition of this SWMU, the Permittee must analyze sediment and surface water for diesel-range organics (DRO) extended for comparison to unknown oil and also volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs) and all target analyte list (TAL) metals. The Permittee is referred to Standards for Interstate and Intrastate Surface Waters, 20.6.4.900 NMAC, Sections C and J. The Permittee is also directed to 20.6.4.12 NMAC, Section F which indicates that chromium analyses of surface water must measure both the trivalent and

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hexavalent ions. An ecological risk re-evaluation must also include chromium speciation in sediment.

Further, an ecological risk re-evaluation must include data for dioxin/furan/PCB congeners. These compounds were not considered in earlier ecological risk assessments. The Playa Lake (SWMU 103) is bounded by Landfill No. 3 (SWMU 105), Landfill No. 4 (SWMU 104), and Landfill No. 25 (SWMU 97). All three of the landfills were used for burning of various wastes (including fuels, spent fuels, oils, and other organics). The burning of chlorinated compounds results in the formation and release of dioxin/furan congeners. Dioxins/furans are known carcinogens and often drive risk when present. Whether or not remedial action is required can not be determined without a complete understanding of the nature and extent of contamination at the site. The Permittee must analyze water and sediment, using Method 1613b, for the presence and magnitude of dioxin/furan congeners and determine a toxicity equivalency concentration (TEQ).

**Comment 4. Section 4.2.1, Sediment, Page 4-2:**

The second sentence of the paragraph is incomplete.

**Comment 5. Section 4.4, Site Conceptual Exposure Models, Page 4-4:**

NMED disagrees with the Permittee's statements that percolation and leaching of wastes to subsurface sediment are secondary chemical release mechanisms and that it is unlikely that contaminants of potential concern (COPCs) in sediments would leach or percolate through the subsurface to ground water since the depth to ground water is greater than 200 feet. The continual presence of water providing hydraulic pressure in this playa may allow percolation of contaminant-bearing water to the aquifer. Playas typically do not have a continuous caliche barrier directly below them because caliche is soluble in acidic rain water and it is leached over time to form percolation pathways. The Permittee must revise its characterization of this potential pathway at this particular playa.

**Comment 6. Section 4.6.1, Derivation of NMED SSLs, Page 4-6:**

The Permittee referenced NMED's Soil Screening Levels (SSLs) Revision 4.0, June 2006. NMED has recently published Revision 5.0, August 2009. The Permittee must use the more recent version of NMED SSLs.

**Comment 7. Section 5.6.2, Field Documentation, Page 5-5.:**

In the paragraph with the subheading Sample Labeling, the second sentence states, "Samples will be thoroughly homogenized (except in the case of TPH-GRO analysis) and transferred to appropriate sample containers in accordance with the [Quality Assurance Project Plan] (QAPP) QAPP." The QAPP does not describe homogenizing samples. The QAPP defers sampling

procedures to Section 5 of the Work Plan. Discrete sediment samples should not be homogenized before being transferred to an appropriate sample container. Sediment sampling is correctly described in the Standard Operating Procedure No. 3 in Appendix C. Delete the statement referring to homogenizing samples.

**Comment 8. Section 4.5, Evaluation of Background Concentrations, Page 4-5:**

The Permittee proposes comparing the concentrations of metals in sediment samples to the background soils in the Permittee's *Naturally Occurring Concentrations of Inorganics and Background concentrations of Pesticides at Cannon Air Force Base, New Mexico.* Due to the differences in the physiochemical parameters it is inappropriate to compare metals concentrations in sediment to concentrations in unsaturated soils. It would be appropriate to compare sediment samples collected at SWMU 103 to sediment samples collected from a nearby playa that can be demonstrated to be unaffected by anthropogenic activities. The sites must be carefully selected to closely match upgradient soil chemistry found at SWMU 103. The Permittee must identify a nearby playa(s) with similar characteristics, collect a statistically valid number of samples of the water and sediment and provide results for comparison.

**Comment 9. Surface Water and Sediment Sampling Summary, Table 5-1:**

The Permittee must revise Table 5-1 to include filtered and unfiltered surface water samples to be analyzed for metals.

**Comment 10. SOP No. 4, Surface Water Sampling, Appendix C:**

The surface water sampling standard operating procedures (SOPs) do not describe techniques and equipment to be used for obtaining filtered surface water samples. The Permittee must provide a description of the filtering techniques and equipment, including the mesh size of the field filter.

**Comment 11. Screening-Level Ecological Risk Assessment Summary, Appendix F:**

Appendix F consists of an Ecological Risk Assessment (ERA). The risk screening conclusion for survival, growth and reproduction of omnivorous aquatic birds and of predatory aquatic birds are "low potential for risk or low to negligible potential for risk", respectively, for selenium in sediment. However, the conclusions were associated with a high degree of uncertainty because the maximum concentration was detected in a sample that was collected from an area of the lake inaccessible to the endpoint species.

Data used in the ERA were results of Phase I and Phase II RCRA Facility Investigations (RFIs) conducted in 1994 and 1995, respectively. Only four sediment samples were collected in the 1994 RFI, two within the perimeter of the berm and two outside the perimeter of the berm. No sediment samples were collected in the 1995 RFI. The Permittee's proposed Work Plan includes

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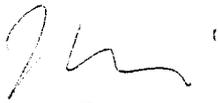
collection of six sediment samples, five from within the perimeter of the berm and one from outside the perimeter of the berm.

To reduce the high degree of uncertainty, more sediment samples must be collected and the distribution of sediment samples must include areas that are accessible to a wide range of endpoint species. The Permittee must increase the number of sediment samples to at least six within the perimeter of the berm (with at least four of them in shallow surface water accessible to omnivorous aquatic birds and predatory aquatic birds) and at least six outside the perimeter of the berm (with at least four of them at shallow depths accessible to omnivorous aquatic birds and predatory aquatic birds).

The Permittee must address all comments and submit a response by December 31, 2009. All submittals must be in the form of two paper copies and one electronic copy. The Permittee must also provide an electronic red-line strike out version of the revised Work Plan that shows all revisions made to the Plan.

Please contact Pat Stewart at (505) 476-6059, should you have any questions.

Sincerely,



James Bearzi  
Chief  
Hazardous Waste Bureau

cc: J. Kieling, NMED HWB  
D. Cobrain, NMED HWB  
N. Dhawan, NMED HWB  
P. Stewart, NMED HWB  
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