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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 27, 2015

Ms. DeAnna Rothhaupt
Chief, Holloman AFB Environmental
49 CES/CEIE
550 Tabosa Avenue
Holloman AFB, NM 88330-8261

RE: DISAPPROVAL
FINAL SR859A FORMER SKEET RANGE 2 AND TS862A JEEP TARGET AREA SKEET RANGE, REMEDIAL INVESTIGATION WORK PLAN, FEBRUARY 2015
HOLLOMAN AIR FORCE BASE, EPA ID # NM6572124422
HWB-HAFB-14-007

Dear Ms. Rothhaupt:

The New Mexico Environment Department (NMED) has reviewed the above referenced document submitted by Holloman Air Force Base (the Permittee) on February 25, 2015. NMED finds that the subject document is deficient and hereby issues this Disapproval for the reasons discussed below.

1. Page xi, Executive Summary, Third Paragraph

This paragraph indicates that the Remedial Investigation (RI) for these two former skeet ranges will be performed "...in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986". In a letter dated July 14, 2014, NMED advised the Permittee that closed ranges are fully subject to the corrective action requirements of the Resource Conservation and Recovery Act (RCRA), the New Mexico Hazardous Waste Act, and the New Mexico Hazardous Waste Management Regulations. In addition, in a letter dated November 26, 2014, the United States Environmental Protection Agency (EPA) advised the Permittee that these non-operational ranges are fully subject to corrective action under 40 C.F.R. § 264.101, which is incorporated in the Facility's Hazardous Waste Permit issued by the NMED. The NMED is therefore re-

viewing this RI Work Plan (RI WP) under the authority of RCRA, the New Mexico Hazardous Waste Act, the New Mexico Hazardous Waste Management Regulations, and the Facility's Hazardous Waste Permit. NMED acknowledges that the format of the RI WP is not as specified for a RCRA Facility Investigation Work Plan in Section IV.E.1 of the Facility's Hazardous Waste Permit. However, apart from the format, sufficient information has been presented in the subject document for effective review.

2. Page xii, Executive Summary, First and Third Paragraphs and Page 15, QAPP Worksheet #10, Conceptual Site Model, First Paragraph

These paragraphs indicate that the Report for the Phase II Comprehensive Site Evaluation (CSE) conducted in 2013 at both Munitions Response Areas (SR859 and TS862) recommended splitting them into two Munitions Response Sites (MRSs) each: SR859 (34.3 acres) and SR859a (8 acres) and TS862 (34.6 acres) and TS862a (5.7 acres). This was recommended based on the perceived lack of Munitions and Explosives of Concern (MEC) and Munitions Constituents (MC) exceeding regulatory screening levels at MRSs SR859 and TS862, which were recommended for No Further Action in the Phase II CSE Report. The smaller MRSs (SR859a and TS862a) were recommended for future munitions response actions due to MCs in soil that exceed screening levels, with the proposed responses including soil/clay target debris excavation and disposal and post-excavation confirmation sampling.

No further munition response activities are proposed for the larger MRSs (SR859 and TS862). However, Figure 2 of the RI WP shows that lead shot is scattered throughout MRS SR859. The legend for Figure 3 of the RI WP shows a symbol for lead shot, but no lead shot symbols appear within the MRS on the Figure. A walkover of both MRSs conducted on July 30, 2015 by NMED and base environmental staff found lead shot scattered extensively on the ground surface at both of the larger MRSs. Although the Phase II CSE soil investigation found no MCs exceeding screening levels at both of the larger MRSs (with the exception of two small areas in MRS SR859), it appears that visible masses of lead shot are present on the surface at several locations within these two areas. The lead shot occurring in masses that are visible in a walkover survey is clearly a waste that constitutes a hazard to human health and ecological receptors at both MRSs. It appears that the Phase II CSE sampling methods failed to detect the shot and led to conclusions based upon results which are not representative of site conditions.

During the Phase II CSE, X-ray fluorescence (XRF) was utilized in the field to survey the soil at both MRSs for lead. However, XRF should only be used as a field screening tool or in combination with data obtained by laboratory analysis using EPA SW-846 methods. NMED does not accept XRF survey data by itself as providing conclusive results for determining the nature and extent of contamination in soil. Instead, laboratory analysis of soil samples must be used at least in part to define the limits, horizontal and vertical, of contamination.

Furthermore, although Figures 2 and 3 of the RI WP provide the locations of XRF sam-

ples, they only indicate whether the results for samples were less than or more than the 400 milligrams per kilogram (mg/kg) screening level for residential land use. All of the XRF data should have been reported, regardless of whether the soil screening level for residential land use (400 mg/kg) was exceeded.

The Permittee shall propose a sampling protocol that includes laboratory analysis of surface and subsurface soils to 18 inches below ground surface at areas that are, or may be, impacted by the presence of lead shot. Lead shot shall not be removed from the soil samples prior to analysis of the samples. All samples shall be analyzed in the laboratory for antimony, arsenic, copper, lead and zinc. The proposed sampling protocol shall be included in a revised work plan submitted for NMED review. Any needed remedial measures will be based on the results of this sampling, including analysis of risk to human health and ecological receptors and to groundwater. The sampling protocol must include extensive sampling of soil to ensure that all "hot spots" of contamination are detected. Confirmatory sampling will also be needed for those areas determined to contain contamination that represents an unacceptable risk to human health or the environment, and subsequently are remediated.

Preferred by the NMED, and as an alternative to such extensive area-wide sampling and analysis and assessment of risk, the Permittee may propose a presumptive remedy for both MRSs (SR859 and TS862, as well as SR859a and TS862a) to conduct remediation of surface soils and subsurface soils to remove the waste lead shot and any other MCs followed by post-excavation confirmatory sampling. There are available technologies designed specifically to clean up skeet and shooting ranges. Any removed soil/debris, including lead shot and clay target debris from MRSs SR859a and TS862a, must be characterized for proper disposal.

The Permittee shall submit a revised work plan in the form of a Investigation Work Plan (IWP; see comment #5) or an Accelerated Corrective Measures Work Plan, if the field work can be completed within 180 days or a Corrective Measures Work Plan if the field work will take longer than 180 days, incorporating one of the above directives. The If a presumptive remedy is proposed, the work plan must provide a proposal for post-excavation confirmatory sampling and hazardous waste disposal.

3. Page 20, QAPP Worksheet #11, Decision Rules 2 and 3

Decision Rule 2 states "*If the concentrations of metals and/or PAHs in soil exceed the project action limits, then a range of data points exceeding the project action limits from the site dataset will be analyzed to determine if the analytes will leach from the soil utilizing USEPA's synthetic precipitation leaching procedure (SPLP)*". Decision Rule 3 then states that the leachate concentrations resulting from the SPLP analysis will be used to determine if the site is subject to further remedial action (e.g. soil removal) to protect groundwater.

NMED does not agree with this protocol. If, as a result of soil sample analysis, MCs are found in excess of the NMED Soil Screening Levels (SSLs), including evaluation of the dilution attenuation factor (DAF), or the EPA's Regional Screening Levels (RSLs), the Permittee will be required to remediate the soil as necessary to achieve an acceptable level of risk to both human and ecological receptors, and to groundwater.

The Permittee shall submit a work plan incorporating the above revisions in protocol.

4. Page 43, QAPP Worksheet #15, Project Action Limits

The following Project Action Levels for soils (as RSLs or SSLs, shown in mg/kg), as provided on Worksheet #15, need to be revised:

- Antimony: RSL should be 31, not 3.1
- Copper: RSL should be 3,100, not 310
- Zinc: RSL should be 23,000, not 2,300
- Acenaphthene: RSL should be 3,500, not 350
- Benzo(a)pyrene: SSL should be 0.148, not 0.48
- Fluoranthene: RSL should be 2,300, not 230
- Fluorene: RSL should be 2,300, not 230
- 2-methylnaphthalene: RSL should be 230, not 23
- Pyrene: RSL should be 1,700, not 170

In addition, the "NMED Water Quality Standard" for copper should be 1,000 micrograms per liter (µg/L) and that for zinc should be 10,000 µg/L, not "NA", as per *Other Standards for Domestic Water Supply*, 20.6.2.3103(B) NMAC. In addition, either the default the value based on a DAF of 20 or a calculated site-specific DAF must be included for each compound in the worksheet.

The Permittee shall submit a work plan incorporating the above revisions.

5. Page 47, QAPP Worksheet #17, Sample Design and Rationale, Third and Fourth Paragraphs

These paragraphs, addressing MRSs SR859a and TS862a, indicate that based upon soil sample results, remedial options will be evaluated in an *Engineering Evaluation/Cost Analysis* (EE/CA) document. In order to be compliant with the Facility's Hazardous Waste Permit, the Permittee is required to submit a work plan as described in Item 2 above in lieu of the EE/CA for NMED review, prepared in accordance with Permit Section IV.L.

6. Appendix E, CSE Phase II Sampling Results, Tables 5-9 and 5-13

When resubmitting these sampling result tables, the Permittee shall include columns for NMED and EPA screening levels (SSLs and RSLs). In addition, as referred to in Com-

ment #2 above, results of the CSE Phase II XRF survey for both sites were not included in this Appendix. The Permittee shall provide the XRF results in the work plan.

The Permittee shall submit the work plan for MRSs SR859 and TS862 as well as SR859a and TS862a to NMED on or before **November 23, 2015** in the form of two paper copies and one electronic copy (in MS Word/ Excel™ format).

If you have any questions regarding this matter, please contact Mr. David Strasser of my staff at (505) 222-9526.

Sincerely,

John E. Kieling
Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
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