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**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

March 18, 2016

Colonel Douglas W. Gilpin
Commander, 27th Special Operations
Mission Support Group
110 E. Alison Avenue, Suite 1098
Cannon Air Force Base

**RE: APPROVAL**
**REVISION 2 FINAL RISK SCREENING EVALUATION FOR**
**SOLID WASTE MANAGEMENT UNIT [SWMU] 127**
**CANNON AIR FORCE BASE, NEW MEXICO**
**NM7572124454**
**HWB-CAFB-14-005**

Dear Colonel Gilpin:

The New Mexico Environment Department (NMED) has received Cannon Air Force Base's (Permittee) *Revision 2 Final Risk Screen Evaluation for Solid Waste Management Unit [SWMU] 127* (Report), dated October 22, 2015 and received October 23, 2015. NMED has completed review and hereby approves the Report with the following general comments. While these comments do not require additional work for this site, where applicable, the comments must be considered in any future risk screening evaluations.

**General Comments:**

1. **Revised Risk Screening Evaluation**

The Permittee has addressed previous requirements outlined in NMED's June 3, 2015 *Second Disapproval Revised Final Risk Screening Evaluation for Solid Waste Management Unit (SWMU) 127, Petroleum, Oil and Lubricants (POL) Wash Pad at Facility 4095.*

Approval of the report is granted based on the following required information which was incorporated into the second revision of the Report as follows:

- Although adequate justification for the collection of only one soil gas sample from the eastern portion of SWMU 127 was not provided by the Permittee in the Report, the presented information indicates cumulative vapor intrusion (VI) pathway risk screen for the collected data falls below the NMED cancer risk screen criteria of $1.0 \times 10^{-5}$ and maximum hazard index of 1 for the industrial land use scenario for the VI pathway at SWMU 127.

- The constituent 2-hexanone was incorporated into the revised VI evaluation as well as the maximum detected concentration for trichloroethylene as required.

- As required by NMED, a default indoor air exchange rate of 0.25 per hour was used for both the 5 feet below ground surface (bgs) and the 10 feet bgs data sets in the VI risk screen.

- The revised risk screening evaluation methodology used by the Permittee has ensured that the risk and hazard from the VI evaluation used in calculating cumulative impacts is based on the maximum detected soil gas concentration regardless of depth.

- Comparison of the values of soil total porosity and soil water-filled porosity used in the VI evaluation to NMED's recommended values indicates that the soil parameters used by the Permittee fall within the range considered in the sensitivity analysis of input for the soil partitioning equation in Section 4.7 and Table 4-1 of the 2014 *NMED Risk Assessment Guidance for Site Investigations and Remediation.* Thus, it appears the Permittees assumption of sandy site soils and the values for the soil porosities while not rigorously justified, are acceptable.

- In order to address exceendances for organics in soil, the Permittee has recalculated risk and hazard to include the polycyclic aromatic hydrocarbons (PAHs) benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. Results based on the maximum detected concentrations in soil were provided in the Report, but were above the target cancer risk level for both the residential and industrial land use scenarios. Due to these exceedances, the calculated 95% Upper Confidence Limit for the constituents of concern were utilized as exposure point concentrations for the risk screen. The resulting calculated industrial land use scenario for the site was below the NMED target risk level.

- As part of an uncertainty analysis conducted in the Report, the Permittee has repeated the risk and hazard calculations assuming that the five PAHs were due to background conditions (i.e., the five PAHs were removed from the analysis). The results of the uncertainty analysis indicate the risk target level was not exceeded under the industrial land use scenario. Based on the results of the revised risk screen analysis and additional

analysis presented in the uncertainty section of the Report, adequate defensible technical support for the risk-based closure with land use restrictions under an industrial land use scenario has been provided by the Permittee. Additionally, the results for total combined risk for soil organics, soil metals and soil vapor were below NMED screening criteria.

**2. Various Screening Level Errors**

**NMED Comment:** The following screening level errors were noted:

- Errors in unit conversion were identified in Table 8, "Soil Leaching Evaluation at SWMU 127" for methylene chloride, tetrachloroethene, 3,3-dichlorobenzidine; however, this did not result in any additional exceedances for the soil leaching evaluation. Additionally, NMED dilution attenuation factors (DAF) were available for di-n-butylphathalate and acenaphthene which should have been utilized during screening. The use of EPA risk based soil screening levels for protection of groundwater for these chemicals of concern (COCs) also did not result in any additional exceedances.

- Review of screening levels for Table 9, "Soil Leaching Evaluation-Metals at SWMU 127" identified that the NMED DAF (20) for elemental mercury of 0.654 milligrams per kilogram (mg/kg) should have been utilized for screening purposes instead of the DAF for mercury salts (5.13 mg/kg); however, this has not resulted in an exceedance because sample analysis results for mercury were below laboratory detection limits.

- The review of Table 11 "Refined Total Risk and Hazard Calculations for Organics in Soil without Background PAHs, for Uncertainty Analysis" identified an error in the residential screening level for 2,4-dinitrophenol. The COC was reported at a non-detectable concentration for all sample data used in the risk screen; therefore, no exceedance of the screening level was identified.

Based on NMED's evaluation of the Report, it appears that the previously outstanding issues and concerns with the risk-based screening evaluation approach for SWMU 127 have been adequately addressed. The Permittee may submit a permit modification request to change the status of SWMU 127 from Corrective Action Required to Corrective Action Complete (CAC). The request for a permit modification must be submitted in accordance with 40 CFR §270.42 (c) pertaining to Class 3 modifications. Proof that the sand trap associated with SWMU 127 has been rendered incapable of receiving wash water or has been removed must be provided in the request. Additionally, proof of the oil water separator removal at SWMU 127 must also be provided. NMED's decision is based on the information available at this time. If deemed necessary at a later date by NMED, the Permittee may be required to conduct further corrective action investigation at this site.

If you have any questions regarding this letter, please contact Gabriel Acevedo at (505) 476-6043.

Sincerely,

John E. Kieling
Chief
Hazardous Waste Bureau

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