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March 1, 2023

Tim Davis
Chief Environmental Officer
National Aeronautics and Space Administration
White Sands Test Facility
P.O. Box 20
Las Cruces, NM 88004-0020

Attention of: RE-21-104

RE: APPROVAL WITH MODIFICATIONS
500 AREA FUEL STORAGE (SWMU 47) INVESTIGATION WORK PLAN: PHASE I
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHNSON SPACE CENTER WHITE SANDS TEST FACILITY
DOÑA ANA COUNTY, NEW MEXICO
EPA ID #NM08800019434
HWB-NASA-18-016

Dear Mr. Davis:

The New Mexico Environment Department (NMED) has received the National Aeronautics and Space Administration Johnson Space Center White Sands Test Facility (Permittee) *500 Area Fuel Storage (SWMU 47) Investigation Work Plan: Phase I* (Work Plan), dated June 29, 2021. NMED has completed review of the Work Plan and hereby issues this Approval with the following modifications.

MODIFICATIONS

1. Section 4.2.5, Monitoring Well Installation, Pages 12 and 13

Permittee Statement: "Based on experience gained from monitoring wells installed in the 400 Area, there is a minimum amount of recharge required to obtain representative samples of approximately 0.5 gpm [gallons per minute]. In addition, there must be sufficient water in the well to purge the sampling system (pump and tubing) and the well. This can be as much as 8 to 10 gallons. Additionally, the low-flow bladder pumps must be submerged in the water to function properly. Therefore, the completed well must have at least 15 ft of

groundwater. If the borings do not meet these minimum criteria, they will not be considered for well installation."
NMED Comment: In a following paragraph, a statement proposes that "[e]ach groundwater monitoring well will include a 15 ft [foot] (0.010-in. [inch] slot) screen straddling the water table, with 5 ft of screen above the water table and 10 feet below the water table." This statement contradicts the criteria above for completing a boring as a monitoring well and sampling with a low-flow bladder pump because it proposes 10 feet of screened water column for sampling rather than 15 feet.

If groundwater is encountered at a boring location, the boring must be advanced to a depth in the aquifer that allows for the long-term collection of representative groundwater samples with a bladder pump. Furthermore, as an alternative, NMED-approved *2022 Groundwater Monitoring Plan*, Section 5.1, Conventional Monitoring Wells, also allows for groundwater monitoring well purging with a non-dedicated pump and subsequent collection of groundwater samples with a bailer, if necessary.

The Work Plan must be revised to propose an adequate groundwater monitoring well completion design that allows for the collection of representative groundwater samples with a low-flow bladder pump sampling system or an appropriate alternative NMED-approved purging and sampling method. The Work Plan must be revised accordingly, and replacement pages and figures must be provided.

2. **Section 11.2, Monitoring Well Installation, Page 24**

Permittee Statement: "Field lithologic information and a revised well construction diagram will be provided to NMED after completion of any soil boring that is planned to deviate from the general well design. NMED review and approval of the revised well construction diagram is required prior to specific well installation. Expedited turnaround from NMED will be required in order to avoid short-term (or potentially longer term) standby delays."

NMED Comment: All monitoring well completions must be submitted to NMED for review and concurrence with all supporting information and proposed well completion diagrams. To expedite this process, this information may be submitted to NMED via email. Revise the section discussion to specify this requirement and provide a replacement page.

3. **Table 4.1, Sampling and Analysis Plan for the SWMU 47 Investigation, Pages 46 through 49**

NMED Comment: The following issues must be addressed:

   a. Soil boring locations 500-SB-01 and 500-SB-06 have been designated as bedrock only borings; however, the sampling schedule includes the collection of groundwater

samples at these locations. Revise the table to resolve the sample schedule discrepancies and provide a replacement table.

b. Soil boring locations 500-SB-02 and 500-SB-09 have been designated as potential groundwater monitoring well locations; however, the sampling schedule does not include the collection of groundwater samples at these boring locations. Revise the table to resolve the sampling schedule discrepancies and provide a replacement table.

The Permittee must provide replacement pages that address each of NMED's modifications. In addition, a response letter that cross-references where the modifications were addressed must be provided. The response letter must also be provided as an electronic copy. Electronic copies of the revised Work Plan and a redline-strikeout version of the Work Plan showing where all changes were made to the Work Plan must be submitted to NMED no later than **May 31, 2023.**

The report documenting the results of Phase I investigation must be submitted to NMED for review no later than **November 30, 2024**.

This approval is based on the information presented in the document as it relates to the objectives of the work identified by NMED at the time of review. Approval of this document does not constitute agreement with all information or every statement presented in the document.

If you have any questions regarding this letter, please contact Gabriel Acevedo at (505) 690-5760.

Sincerely,

Dave Cobrain
Acting Chief
Hazardous Waste Bureau

cc: B. Wear, NMED HWB
G. Acevedo, NMED HWB
L. King, EPA Region 6 (6LCRRC)
A. Sanchez, NASA WSTF

File: NASA 2023 and Reading

HWB 3391
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