



Michelle Lujan Grisham
Governor

Howie C. Morales
Lt. Governor

**NEW MEXICO
ENVIRONMENT DEPARTMENT**

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6313
Phone (505) 476-6000 Fax (505) 476-6030
www.env.nm.gov

CERTIFIED MAIL - RETURN RECEIPT REQUESTED



James C. Kenney
Cabinet Secretary

Jennifer J. Pruett
Deputy Secretary

October 7, 2019

Timothy J. 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-19-050

**RE: APPROVAL WITH MODIFICATIONS
SITE-WIDE GEOPHYSICAL SURVEY INVESTIGATION WORK PLAN
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHNSON SPACE CENTER WHITE SANDS TEST FACILITY
DOÑA ANA COUNTY, NEW MEXICO
EPA ID #NM08800019434
HWB-NASA-19-007**

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) *Site-wide Geophysical Survey Investigation Work Plan* (Work Plan), dated April 30, 2019. NMED has completed review of the Work Plan and hereby issues this Approval with the following modifications.

MODIFICATIONS

1. Section 1.2, Objectives and General Scope of Site-Wide Geophysical Survey, Page 2

Permittee Statement: “Additional geophysical techniques may be subsequently performed to provide more resolution of WSTF [White Sands Test Facility] bedrock lithology and structure. These may include more extensive passive seismic surveys, conventional refraction and/or reflection surveys and borehole geophysics”

NMED Comment: The proposed geophysical survey investigation scope of work includes an airborne magnetic and gravity survey, a passive seismic survey in the vicinity of the WSTF plume front area, and reprocessing of select historical geophysical survey data, in lieu of conventional geophysical survey data collection methods. It is understood that the scope of work is based on the recommendations of prospective geophysical investigation contractors; however, the Permittee must ensure that geophysical methods used during the investigation yield data and information of sufficient quality to enhance the current subsurface geologic structural model at WSTF. This includes appropriate validation of collected data and any reprocessed data, which must be documented in the investigation report. If the results produced by the proposed primary investigation methods do not yield data and information that meet the Work Plan objectives, then the Permittee must use additional geophysical techniques. Revise the statement to indicate that additional geophysical techniques will be used to provide better resolution of WSTF bedrock lithology and structure, if the primary scope of work does not meet the objectives of the Work Plan. Revise the Work Plan accordingly, ensure that the revision is consistently made in all applicable sections of the Work Plan, and provide respective replacements pages.

2. Section 1.5, Regulatory Requirements, Page 3

Permittee Statement: “The WSTF [White Sands Test Facility] site-wide geophysical survey is not part of a specific solid waste management unit investigation or remediation effort required by the NMED (New Mexico Environment Department). The proposed survey will be performed at the discretion and risk of NASA [National Aeronautics and Space Administration] to enhance the understanding [of] the subsurface bedrock lithology and structure of the site.”

NMED Comment: An enhanced understanding of subsurface bedrock lithology and structure has implications related to the understanding of the groundwater aquifer at WSTF and is applicable to ongoing and future groundwater monitoring and contaminant remediation required by the WSTF Hazardous Waste Permit. Additionally, enhancement of the site-wide geologic conceptual model is applicable to understanding contaminant source zones and migration pathways at Solid Waste Management Units, Areas of Concern, and Closure activities regulated under the Facility Hazardous Waste Permit. NMED understands

that the Permittee assumes any risk associated with the outcome of the final geophysical survey; however, following submittal of the investigation report and NMED review, NMED may direct the Permittee to complete additional investigation and/or provide additional information. Any further direction provided by NMED will be based on the investigation results and the quality of information and data collected and reported for the site-wide geophysical survey investigation. Revise the statement to also indicate that the information and data reported for the site-wide geophysical survey investigation will be used to enhance the understanding of the geologic conceptual model at WSTF and is applicable to continued periodic groundwater monitoring and contamination remediation and investigations regulated under the RCRA Permit. Revise the Work Plan accordingly and provide respective replacement pages.

3. Section 6.0, Schedule, Page 9

Permittee Statement: “The anticipated duration for site-wide geophysical survey investigation and submittal of the IR [Investigation Report] is 1 to 2 years.”

NMED Comment: Based on the Permittee’s proposed anticipated investigation schedule, an investigation report documenting the site-wide geophysical survey must be submitted to NMED no later than **June 30, 2021**. If changes to the proposed project schedule have been made, update the Work Plan accordingly and provide an anticipated investigation report submittal due date and respective Work Plan replacement pages.

4. Section 7.0, References, Page 9

NMED Comment: For reference and retention in the WSTF administrative record, provide hardcopy and electronic copies of the following Work Plan reference documents with the response to NMED’s modifications:

- a. Maciejewski, T.J. (1996). Integrated Geophysical Interpretation of Bedrock Geology, San Andreas Mountains, New Mexico. Unpublished master’s thesis, University of Texas at El Paso, Texas.
- b. Reynolds, C.B. (1988). Final Report, Shallow Seismic Reflection Survey, NASA Lyndon B. Johnson Test Facility Area, Dona Ana County, New Mexico. Charles B. Reynolds & Associates, Consulting Geophysicists and Geologists. Albuquerque, NM.
- c. SECO. (2001). Final Report, Mid-Plume Area Seismic Reflection Study, NASA White Sands Test Facility, Dona Ana County, New Mexico. Subsurface Exploration Company, Pasadena, CA.

All documents referenced in any submittal must be provided to NMED for inclusion in the WSTF Administrative Record.

The Permittee must provide replacement pages that address NMED's modifications to the Work Plan. 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. An electronic copy of the redline-strikeout version of the Work Plan and revised Work Plan must also be submitted to NMED no later than **December 13, 2019**.

An investigation report documenting the site-wide geophysical survey must be submitted to NMED no later than **June 30, 2021**.

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) 476-6043.

Sincerely,



John E. Kieling
Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
B. Wear, NMED HWB
G. Acevedo, NMED HWB
L. King, EPA Region 6 (6LCRRC)
M. Zigmund, NASA WSTF

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