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Certified Mail - Return Receipt Requested

February 6, 2024

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-21-069

RE: DISAPPROVAL
WELL RECONFIGURATION WORK PLAN FOR WESTBAY WELLS
PL-7, PL-8, PL-10, ST-5, AND WW-3
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHNSON SPACE CENTER WHITE SANDS TEST FACILITY
DOÑA ANA COUNTY, NEW MEXICO
EPA ID #NM08800019434
HWB-NASA-21-007

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) *Well Reconfiguration Work Plan for Westbay Wells PL-7, PL-8, PL-10, ST-5, and WW-3* (Work Plan), dated April 29, 2021. NMED has completed review of the Work Plan and hereby issues this Disapproval. The following comment must be addressed.

COMMENT

1. Basis for Well Conversion, Page 1

Permittee Statement: "NASA believes reconfiguring wells PL-7, PL-8, PL-10, ST-5, and WW-3 to use purgeable sampling systems will allow for the collection of analytical groundwater samples that are more representative of aquifer conditions. Therefore, NASA proposes to replace the Westbay systems in these wells with purgeable, multiport Water Flexible Liner Underground Technologies (FLUTe)®2 systems to improve the quality of samples collected for chemical analysis. Samples collected from the Water FLUTe system are expected to provide data that will better characterize the Plume Front area of the WSTF groundwater contaminant plume (Figure 1)."

NMED Comment: Due to the apparent propensity for FLUTe system liner materials to leach residual concentrations of N-nitrosodimethylamine (NDMA) (WSTF primary contaminant of concern) and 1,4-dioxane (WSTF analyte of interest) as reported in the November 2021 *Abbreviated Investigation Work Plan for Groundwater Data Representativeness Phase 2: Water FLUTe Well Evaluation* (Work Plan) and further evidenced by data and information provided in the April 2023 *Groundwater Data Representativeness Phase 2: Water FLUTe Well Evaluation Abbreviated Investigation Report*, that could affect interpretation of groundwater data collected at groundwater monitoring wells equipped with FLUTe sampling systems, additional use of the groundwater sampling system at PL-7, PL-8, PL-10, ST-5, and WW-3 does not appear appropriate at this time.

In lieu of any current alternative to Westbay and FLUTe sampling systems, nested groundwater monitoring wells equipped with bladder pumps may be the most viable long-term solution for the collection of representative groundwater sampling data at PL-7, PL-8, PL-10, ST-5, and WW-3, and potentially at other multi-zone groundwater monitoring wells in the Plume Front area. The Work Plan must be revised to propose reconfiguration of PL-7, PL-8, PL-10, ST-5, and WW-3 to nested groundwater monitoring wells with sampling zones at least comparable to the current multi-zone monitoring wells to ensure consistency and reliability of groundwater data collection within the Plume Front area at these locations. Nested groundwater monitoring wells may be completed as dual-sampling zone wells equipped with packers and bladder pump systems or as single sampling zone wells. Well reconfiguration may be proposed in phases to ensure continuity of groundwater data collection at the Plume Front area and well performance evaluation. Alternatively, the Permittee may propose the use of another viable groundwater sampling system that will allow for adequate purging and unbiased groundwater data collection from existing multi-zone groundwater monitoring wells. Revise the Work Plan accordingly.

The Permittee must submit a revised Work Plan that addresses the comment contained in this Disapproval. In addition, the Permittee must include a response letter that cross-references where NMED's comment was addressed in the Work Plan. The Permittee must also submit an electronic redline-strikeout version of the revised Work Plan showing all changes made to the Work Plan. The revised Work Plan must be submitted to NMED no later than **July 31, 2024**.

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

Sincerely,

Ricardo Maestas Digitally signed by Ricardo Maestas
Date: 2024.02.06 11:02:54 -07'00'

Ricardo Maestas
Acting Chief
Hazardous Waste Bureau

cc: N. Dhawan, NMED HWB
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File: NASA 2023 and Reading

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