National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
White Sands Test Facility
P.O. Box 20
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May 12, 2026

Reply to Attn of: RE-26-053

Mr. JohnDavid Nance, Bureau Chief
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

Subject: PL-6 Work Plan Deviation Request

On February 1, 2022, NASA submitted the *Work Plan for Drilling and Installation of Monitoring Well 600C-002-GW and Abandonment of PL-6*. NMED approved the work plan on October 31, 2022, and through subsequent correspondence directed NASA to provide a well completion report, including abandonment information for well PL-6, no later than December 1, 2026. NASA has drilled and completed installation of replacement well 600C-002-GW but has encountered an issue with the abandonment approach for well PL-6 described in the NMED-approved Work Plan. As a result, NASA is requesting a Work Plan Deviation to accommodate an alternate well abandonment approach as detailed in this letter.

The NMED-approved Work Plan states:

> NASA will plug and abandon existing groundwater monitoring well PL-6 in accordance with WSTF Hazardous Waste Permit (Permit) Attachment 19 (Section 19.4; NMED, 2009) and 19.27.4.30 New Mexico Administrative Code (NMAC). Well PL-6, completed in June 1991, is equipped with 14-inch steel surface casing extending to 16.5 feet below ground surface (bgs). The 12¼-inch diameter borehole extends from surface casing to a total depth of 1,920 ft bgs. The conventional portion of the monitoring well consists of 4-inch stainless-steel casing extending from ground surface to 1,860 ft bgs. The approved abandonment plan requires NASA to first remove the 1.5-inch diameter Westbay sampling system from the 4-inch stainless-steel well casing. Removal was to be completed by Westbay representatives using specialized equipment to perforate the inflatable packers and oversee removal of the polyvinyl chloride (PVC) sampling system. Should a portion of the sampling system be unable to be removed, the remaining material would be pushed to the bottom of the stainless-steel casing and pressure grouted in place during well abandonment in consultation with NMED and the drilling subcontractor.

Removal of the Westbay sampling system by Westbay representatives is no longer a viable approach. On April 23, 2026, Westbay Instruments announced they have ceased operations and

are unable to provide technical support or field support for current or future projects. Their proprietary specialized tools and equipment are not commercially available to purchase or rent. Specialized tooling needed to remove the Westbay sampling system include a packer perforator tool and an extractor tool to puncture the packers and pull the PVC Westbay casing out in one piece. Without Westbay support and specialty equipment, the Westbay sampling system cannot be removed by any other available means; therefore, the system needs to be abandoned in place.

NASA proposes leaving the Westbay casing installed in the outer steel casing and pressure grout inside the 1.5-inch PVC Westbay sampling system and 4-inch casing. This operation consists of:

1. Lowering a 1-inch tremie pipe down within the 1.5-inch Westbay system casing to the bottom (1,840 ft bgs).
2. Pumping grout through it as it is removed from the 1.5-inch Westbay PVC.
3. Emplacing grout around the outside of the 1.5-inch PVC within the 4-inch steel casing to the depth of the uppermost packer (530 ft bgs).

Field abandonment procedures include:

1. Installation of the tremie pipe.
2. Mixing and pumping grout while withdrawing the tremie pipe during the grout pumping process.
3. Emplacing grout between the 1.5-inch PVC and the 4-inch well casing to the maximum extent practical.

This option is the simplest approach and can isolate and completely seal the sampling system, allowing for in-place abandonment of the system components and the well. With this option, the annular space between the 1.5-inch PVC Westbay system and the 4-inch stainless steel well casing would remain open to the formation because the packers cannot be deflated without the use of proprietary Westbay tools. However, since the well is located in an area of unconsolidated sediments (hydraulically connected) outside the contaminant plume, there is no risk of contaminant migration or vertical mixing between monitoring zones.

I certify under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or comments concerning this submittal, please contact Antonette Doherty at 575-202-5406.

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