

National Aeronautics and  
Space Administration  
Lyndon B. Johnson Space Center  
**White Sands Test Facility**  
P.O. Box 20  
Las Cruces, NM 88004-0020



December 18, 2014

Reply to Attn of: RE-14-139

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

Subject: Status of Westbay Well Conversions at NASA WSTF

On November 1, 2012, NASA submitted the *Westbay Well Conversion Work Plan*, which provided specific information related to the conversion of eight multiport Westbay groundwater monitoring wells to purgeable groundwater sampling systems. The plan indicated that two Westbay wells would be converted each year between 2013 and 2016. NMED approved the work plan on January 16, 2013. NASA completed the conversion of the first two Westbay wells, JP-3 and ST-6, in November 2013. Because of technical and scheduling challenges encountered before and during that conversion effort, NASA submitted the *Request for Revised Westbay Conversion Schedule* on February 24, 2014. That submittal proposed a revised schedule for converting the remaining six Westbay wells and scheduled the conversion of wells BLM-28 and BLM-32 for 2014. NMED approved the revised schedule on March 7, 2014.

NASA's February 24, 2014 schedule indicated that the Westbay multiport casings of groundwater monitoring wells BLM-28 and BLM-32 were installed directly in open boreholes. NASA expected to remove the well casings and evaluate the boreholes in order to determine if they are suitable for the installation of replacement groundwater sampling systems that will allow for purging prior to sample collection. If NASA determined the boreholes were unsuitable for monitoring, a schedule for the installation of replacement boreholes and wells was to be provided by November 30, 2014. If deemed suitable, replacement sampling systems were to have been installed by November 30, 2014. In a November 25, 2014 telephone call and subsequent email, NASA and NMED agreed to extend the due date for this submittal to December 12, 2014.

Because of scheduling issues and the current uncertainty as to the boreholes' potential to produce sufficient groundwater for the use of purgeable groundwater sampling systems, NASA requests additional time to further evaluate the boreholes at BLM-28 and BLM-32.

NASA initially planned to remove the Westbay casings from monitoring wells BLM-28 and BLM-32 in August 2014. However, scheduling conflicts with off-site subcontractors and coordination of drilling support requirements for the Plume Front Treatment System resulted in a delay of fieldwork to late October 2014. Schlumberger/Westbay personnel mobilized to WSTF and supported the perforation of packers in BLM-28 on October 20, 2014 and in BLM-32 on October 24, 2014. The subcontracted drilling company was not able to mobilize to WSTF until November 5, 2014. The Westbay casings were removed from BLM-32 and BLM-28 on November 5, 2014 and November 8, 2014, respectively.

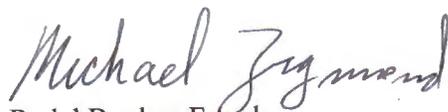
The groundwater in the boreholes was allowed to equilibrate before performing down-hole video logs of the boreholes on November 13, 2014.

NASA geologists have reviewed the video logs in conjunction with the geophysical boring logs obtained during initial installation of the boreholes. The available information has been deemed inadequate to determine conclusively if these two boreholes are suitable for the installation of alternate groundwater sampling systems. Additionally, the nature of these boreholes, which are installed in bedrock, makes it challenging to determine the best placement for sample collection points with the existing information. NASA plans to perform additional work at these two boreholes to determine overall suitability for monitoring and to refine potential sampling intervals. More modern evaluation techniques are expected to provide information to supplement the data obtained by the geophysical logging performed following borehole installation. NASA is planning to use a Flexible Liner Underground Technologies, LLC (FLUTE™) blank liner system to evaluate the transmissivity of the boreholes and identify potential sampling intervals. In addition, after the FLUTE evaluation is completed, vertical flow meter and fluid temperature logging may be utilized to further support the selection of sampling intervals.

It is expected that the additional evaluation work can be scheduled and performed in by early March 2015. Upon completion, NASA will determine if the boreholes can be equipped with purgeable sampling systems. If so, these systems will be competitively procured and installed by May 31, 2015. If the boreholes are not suitable for further monitoring, NASA will notify NMED by March 31, 2015 and propose a course of action for future monitoring at these locations. This delay will not impact the conversion of Westbay wells WW-4 and WW-5, which are scheduled for conversion by October 31, 2015.

I certify under penalty of law that this document and all attachments were 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 known violations.

If you have any questions or comments concerning this submittal, please contact Mike Zigmond at 575-524-5484.



Radel Bunker-Farrar  
Chief, Environmental Office

*Acting*

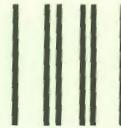
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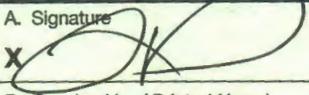
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