

National Aeronautics and
Space Administration

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



June 11, 2013

Reply to Attn of: RE-13-060

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

Subject: WSTF Monthly Environmental Activity Report for May 2013

Enclosed is the WSTF Monthly Environmental Activity Report for May 2013. This reporting format includes an Executive Summary that provides important events/observations as Enclosure 1, a paper copy of the report as Enclosure 2, and a CD-ROM with the report in PDF as Enclosure 3.

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 knowing violations. If you have any questions or comments concerning this submittal, please contact me at 575-524-5733.

A handwritten signature in black ink, appearing to read "Radel Bunker-Farrar".

Radel Bunker-Farrar
Chief, Environmental Office

3 Enclosures

cc:

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

Mr. Baird Swanson (*CD only)
Ground Water Quality Bureau
New Mexico Environment Department
5500 San Antonio Drive NE
Albuquerque, NM 87109

Executive Summary

The following summarizes important information associated with NASA White Sands Test Facility (WSTF) environmental program activities in May 2013:

- NASA completed a shipment of bulk fuel waste to Veolia in Port Arthur, Texas on May 1, 2013 and a shipment of hazardous waste to Veolia in Henderson, Colorado on May 16, 2013.
- NASA evaluated analytical data obtained from samples collected during the soil investigation associated with closure of the Evaporation Tank Unit (ETU) and the Hazardous Waste Drain Line (HWDL) and determined that there was no evidence of a release from the ETU to the environment.
- NASA completed 41 of 42 groundwater sampling events and all required remediation system sampling scheduled for May 2013.
- The Plume Front Treatment System operated on 28 of 31 days in May 2013 at an average flow rate of 934 gallons per minute. During May 2013, the PFTS extracted and treated approximately 110.1 acre-feet of groundwater.
- The Mid-plume Interception and Treatment System was operational in May 2013 only to treat IDW. Ongoing maintenance and system upgrades were continued throughout the month.
- NASA submitted several documents in May 2013, including updated results of 300 Area soil vapor sampling, an updated WSTF Contingency Plan, and well completion reports for the BLM-40 and BLM-41 monitoring well clusters.
- During May 2013, NASA continued a project to upgrade the sanitary sewer at WSTF and connect to the City of Las Cruces sewer system.
- There were no reportable non-compliance issues in May 2013.



National Aeronautics and
Space Administration

Monthly Environmental Activity Report

May 2013

Submitted June 14, 2013

NM8800019434

NASA Johnson Space Center White Sands Test Facility

12600 NASA Road Las Cruces, New Mexico 88012

NASA Johnson Space Center White Sands Test Facility
Monthly Environmental Activity Report

May 2013

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 knowing violations.



Radel Bunker-Farrah

Chief, Environmental Office



Date

Executive Summary

The following summarizes important information associated with NASA White Sands Test Facility (WSTF) environmental program activities in May 2013:

- NASA completed a shipment of bulk hydrazine fuel waste to Veolia in Port Arthur, Texas on May 1, 2013 and a shipment of hazardous waste to Veolia in Henderson, Colorado on May 16, 2013.
- NASA evaluated analytical data obtained from samples collected during the soil investigation associated with closure of the Evaporation Tank Unit (ETU) and the Hazardous Waste Drain Line (HWDL) and determined that there was no evidence of a release from the ETU to the environment.
- NASA completed 41 of 42 groundwater sampling events and all required remediation system sampling scheduled for May 2013.
- The Plume Front Treatment System operated on 28 of 31 days in May 2013 at an average flow rate of 934 gallons per minute. During May 2013, the PFTS extracted and treated approximately 110.1 acre-feet of groundwater.
- The Mid-plume Interception and Treatment System was operational in May 2013 only to treat IDW. Ongoing maintenance and system upgrades were continued throughout the month.
- NASA submitted several documents in May 2013, including updated results of 300 Area soil vapor sampling and an updated WSTF Contingency Plan.
- During May 2013, NASA continued a project to upgrade the sanitary sewer at WSTF and connect to the City of Las Cruces sewer system.
- There were no reportable non-compliance issues in May 2013.

1.0 Waste Management

- 1.1 NASA completed a shipment of bulk fuel waste to Veolia in Port Arthur, Texas on May 1, 2013. The shipment consisted of 20,780 lbs (9,420 kg) of hydrazine fuel waste.
- 1.2 NASA completed a shipment of hazardous waste to Veolia in Henderson, Colorado on May 16, 2013. The shipment consisted of seven containers with 761 lbs (346 kg) of hazardous waste and one container with 42 lbs (19 kg) of non-DOT regulated material.
- 1.3 During May 2013 NASA continued closure of the 200 Area Evaporation Tank Unit (ETU), a permitted hazardous waste management unit. Analytical data from soil sampling performed at numerous locations beneath the ETU and hazardous waste drain line were evaluated. Based on a comparison of these data to 40 CFR 268 LDR treatment standards and NMED Soil Screening Levels, the results confirm NASA's position that there were no releases to the environment from the ETU or hazardous waste drain line system. NASA began preparation of a Certification of Closure Report for submittal to NMED in August 2013. NASA also continued development of a permit modification request to remove all references to the ETU from the Hazardous Waste Permit.

2.0 Environmental Monitoring

- 2.1 In May 2013 NASA performed sampling at 41 of 42 scheduled groundwater monitoring wells. BLM-2-482 was not sampled because the water level in the well was insufficient to allow for the collection of representative groundwater samples using the dedicated low-flow sampling equipment.
- 2.2 Sampling of groundwater remediation system influent, effluent, and operational extraction wells was performed in accordance with applicable permits and approved plans.
- 2.3 NASA continued development of the final well completion reports for groundwater monitoring wells BLM-40-517, BLM-40-595, BLM-40-688, BLM-41-420, and BLM-41-670, which were recently installed at WSTF.
- 2.4 NASA continued planning and procurement activities related to the ongoing project to replace two Westbay multiport groundwater monitoring wells with dual-zone conventional groundwater sampling systems.

3.0 Corrective Actions

- 3.1 Plume Front Treatment System
 - PFTS Operation – The PFTS operated on 28 of 31 days in May 2013 at an average flow rate of 934 gallons per minute. The system extracted and treated approximately 110.1 acre-feet of groundwater, most of which was injected to the aquifer following treatment. Approximately 160,500 gallons of groundwater were discharged to the on-site Modu-tanks during PFTS startup operations. Approximately 2.29 acre-feet were discharged to grade at the PFI wells during backwashing and startup activities.
 - PFTS Shutdowns, Repairs, and Modifications – There were three shutdowns of the PFTS during May 2013. On May 13, 2013 the system shut down automatically because of a communications failure related to the UV reactor. While the system was offline, the UV lamps were replaced and several maintenance activities were performed. The system was restarted on May 17, 2013. On May 21, 2013 the system shut down during testing of a new relief valve. The automated shutdown created higher than normal pressure within the system, resulting in a burst disc failure. The disc was replaced and the system was brought back on line within four hours. On May 31, 2013 the system shut down automatically when a capacitor in the UV reactor failed, reducing the number of operational UV lamps below the system set point. The capacitor was replaced and the system was restarted within three hours.

3.2 Mid-plume Interception and Treatment System

- MPITS Operation – The MPITS operated in May 2013 only to treat approximately 9,000 gallons of investigation-derived waste.
- MPITS Shutdowns, Repairs, and Modifications – Because the system was only operational to treat IDW during May 2013, there were no unscheduled shutdowns. While the system was offline, the UV lamps were replaced and a variety of control system upgrades were performed.
- Bioreactor Pilot Test – The pilot scale test is complete. Data review and report preparation are in progress.

3.3 200 Area Investigation

- NASA received NMED's May 8, 2013 *Notice of Disapproval 200 Area Investigation – Phase I Status Report* and began developing a response to the NOD.
- NASA completed and submitted to NMED the *200/600 Area Semi-annual Soil Vapor and Groundwater Data Summary (Fourth Report – March 2013 Data)*.

3.4 300 Area Investigation

- NASA received NMED's May 7, 2013 invoice for review of the *300 Area Closure Soil Vapor Sampling, Third Follow-up Report* and submitted the review fee on May 23, 2013.

3.5 600 Area Investigation

- NASA continued extraction of perched groundwater from monitoring well 600-G-138 throughout May 2013 in accordance with NMED's March 1, 2013 *Approval Time Extension for Implementation of the Perched Groundwater Extraction Pilot Test at the 600 Area*. The well yields approximately 16 gallons per day when pumped twice per day. Approximately 319 gallons of perched groundwater was removed from 600-G-138 in May 2013.

3.6 Wastewater Lagoon Investigation and Closure

- NASA continues to plan for the investigation and closure of the WSTF wastewater lagoons in accordance with the NMED-approved *Wastewater Lagoon Areas Closure Investigation Work Plan*. As indicated in NMED's March 22, 2013 *Approval Time Extension for Implementation of Closure Activities in Accordance with the Approved Wastewater Lagoon Areas Closure Investigation Work Plan (100, 200, 600 Area and STGT)*, NASA is to start the investigation by August 31, 2013 or notify NMED by August 1, 2013 if additional time is required to complete installation of the WSTF sewer system.

3.7 Septic Tank Investigation and Abandonment

- NASA continued development of an Investigation Work Plan and Historical Information Summary for several septic tanks at WSTF. These documents will be submitted to NMED by June 30, 2013 in accordance with Attachment 16 of the Hazardous Waste Permit.

3.8 Groundwater Tracer Testing

- NASA continues to plan a groundwater tracer test, which will be conducted in the WSTF 200/600 Areas and in the Mid-plume Constriction Area (MPCA). NASA's May 10, 2012 *Work Plan for Tracer Testing in the 200/600 Areas and Mid-plume Constriction Area*, approved by the NMED Hazardous Waste Bureau on July 20, 2012, provides specific information regarding the planned test. Though originally scheduled for as early as August 2012, the tracer test has been postponed until 2013 in order to allow sufficient time for the completion of work at the Mid-plume Interception and Treatment System. When steady-state operating conditions have

been achieved in the MPCA, the groundwater tracer test can be performed as indicated in the May 10, 2012 work plan.

4.0 Non-compliance Issues

- The NASA Hazardous Waste Permit requires that other non-compliance conditions be reported to NMED. There were no instances of other non-compliance during this reporting period that require notification under the Permit. The criteria for non-compliance reporting in this report (as defined by 40 CFR 270.30(i)(10) and EPA interpretations at RCRA Faxbacks 13142 and 13686) would be any non-compliance with permit conditions that is not classified as minor recordkeeping, reporting, and similar oversights that were corrected once discovered. Additionally, there were no issues meeting the previously defined criteria (minor items immediately corrected) that were part of a repeating pattern of non-compliance.

5.0 Miscellaneous

5.1 Sanitary Sewer Upgrade

During May 2013 NASA continued the project to upgrade the sanitary sewer system at WSTF and connect to the City of Las Cruces (CLC) sewer system. The sewer upgrade includes a combination of both gravity and force main in addition to four lift stations and is scheduled for completion in July 2013. The delays with completing the sewer construction have not affected work on the ETU Closure project, though closure and investigation of the site wastewater lagoons will be impacted. NASA will continue to keep NMED informed about the status of the sewer project, and its potential impacts on other WSTF projects. Construction progress to date includes the following:

- NASA continues to negotiate Service and Transfer agreements with the City of Las Cruces. The Service Agreement addresses the cost of providing sewer service to WSTF. The Transfer Agreement addresses NASA's transfer of ownership of Line A to the City.
- Construction of Line A along Holman Road is substantially complete.
- Construction continues on the Holman Road lift station. The lift station pumps have been installed. Connection of piping and electrical power is pending. Installation of controls and instrumentation are also pending.
- Line B (from Holman Road to the WSTF 100 Area) is substantially complete, but completion of several manholes is pending.
- Line C (the force main from the Second TDRSS Ground Terminal (STGT) to the WSTF 400 Area) is substantially complete. A boring under the STGT access road, and installation of piping under the road, is pending. Installation of Lift Station #1 is pending.
- Line D (the force main from the 400 Area to the 200 Area) is substantially complete.
- Line E (from the 800 Area to the 300 Area) is substantially complete, but completion of several manholes is pending. A boring under Apollo Road, and installation of piping under the road, is pending.
- Line E (from the 100 Area to the 200 Area) is substantially complete, but completion of several manholes is pending. A boring under STGT Road, and installation of piping under the road, is pending.
- Line F (400 Area) is substantially complete.
- Lines G and H (from several buildings in the 100 Area to Line B) are substantially complete, but completion of several manholes is pending.

- Line I (from Lift Station #3 to Line E) is substantially complete. Lift Station #3 has been installed, but backfilling and installation of control panels are pending.
- Line J (from the Hypervelocity facility to Lift Station #3) is substantially complete.
- Line K (from Lift Station #3 to the 800 Area) is substantially complete.
- Line L (from various 400 Area buildings toward Lift Station #2) is substantially complete. A boring under Road L, and installation of piping under the road, is pending. Lift Station #2 has been installed, but backfilling and installation of control panels are pending.

6.0 Documents Submitted

6.1 Documents submitted in May 2013

- NASA submitted the *NASA WSTF Contingency Plan (Permit Attachment) Annual Update* on May 23, 2013.

6.2 Status of documents submitted in previous months

- NASA submitted the *NASA WSTF 200 Area Investigation - Phase I Status Report* and the *NASA WSTF 200 Area Investigation - Phase II Investigation Work Plan* to the NMED HWB on January 30, 2013. NASA received NMED's February 6, 2013 fee assessment for review of the documents. NASA submitted the review fee payments to NMED on February 22, 2013. NASA received NMED's May 8, 2013 Notice of Disapproval and is developing a response.
- NASA submitted the *Results of Soil Vapor Sampling at the 300 Area Closure* on April 29, 2013. NASA subsequently submitted the *Results of Soil Vapor Sampling at the 300 Area Closure, May 2013 Update* on May 3, 2013. NASA received NMED's May 7, 2013 fee assessment for review of the report and submitted the required \$500 review fee on May 23, 2013. NMED review is pending.