

National Aeronautics and  
Space Administration

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



August 14, 2013

Reply to Attn of: RE-13-097

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 July 2013

Enclosed is the WSTF Monthly Environmental Activity Report for July 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 known violations. If you have any questions or comments concerning this submittal, please contact me at 575-524-5733.

A handwritten signature in blue 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**

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

- NASA completed two shipments of hazardous waste to two Veolia facilities in July 2013.
- NASA continued development of a Certification of Closure Report for the Evaporation Tank Unit. NASA also continued developing a Permit modification request related to the removal of permit conditions that are no longer applicable.
- NASA completed 45 of 52 groundwater sampling events and all required groundwater remediation system sampling scheduled for July 2013.
- The Plume Front Treatment System operated on 28 of 31 days in July 2013 at an average flow rate of 1,010 gallons per minute. During July 2013, the PFTS extracted and treated approximately 109.1 acre-feet of groundwater.
- The Mid-plume Interception and Treatment System operated on 17 of 31 days in July 2013 and treated approximately 0.97 acre-feet of groundwater. Numerous components of the system were damaged by lightning in July 2013 and required significant troubleshooting and repair efforts.
- NASA initiated pre-investigation activities related to the upcoming septic tank investigation.
- NASA submitted several documents in July 2013, including an update on the status of ETU closure activities, a Permit modification request related to the FTU, evaluations of several groundwater monitoring wells in the 600 Area, the 2012 annual hazardous waste fees, a request for additional time to implement the wastewater lagoon closure and investigation, and the 2013 update of the Remediation System Monitoring Plan.
- During July 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 July 2013.



National Aeronautics and  
Space Administration

## Monthly Environmental Activity Report

July 2013

Submitted August 14, 2013

NM8800019434

NASA Johnson Space Center White Sands Test Facility

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12600 NASA Road Las Cruces, New Mexico 88012

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

July 2013

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Radel Bunker-Farrah

Chief, Environmental Office



Date

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- NASA completed 45 of 52 groundwater sampling events and all required groundwater remediation system sampling scheduled for July 2013.
- The Plume Front Treatment System operated on 28 of 31 days in July 2013 at an average flow rate of 1,010 gallons per minute. During July 2013, the PFTS extracted and treated approximately 109.1 acre-feet of groundwater.
- The Mid-plume Interception and Treatment System operated on 17 of 31 days in July 2013 and treated approximately 0.97 acre-feet of groundwater. Numerous components of the system were damaged by lightning in July 2013 and required significant troubleshooting and repair efforts.
- NASA initiated pre-investigation activities related to the upcoming septic tank investigation.
- NASA submitted several documents in July 2013, including an update on the status of ETU closure activities, a Permit modification request related to the FTU, evaluations of several groundwater monitoring wells in the 600 Area, the 2012 annual hazardous waste fees, a request for additional time to implement the wastewater lagoon closure and investigation, and the 2013 update of the Remediation System Monitoring Plan.
- During July 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 July 2013.

## **1.0 Waste Management**

- 1.1 NASA completed a shipment of hazardous waste to Veolia in Henderson, Colorado on July 18, 2013. The shipment consisted of 18 containers with 2,022 lbs (917 kg) of hazardous waste.
- 1.2 NASA completed a shipment of hazardous waste to Veolia in Burley, Idaho on July 18, 2013. The shipment consisted of one container with 223 lbs (101 kg) of hazardous waste.
- 1.3 During July 2013 NASA continued development of a Certification of Closure Report for the Evaporation Tank Unit, which is scheduled for submittal to NMED in August 2013.
- 1.4 NASA continued development of a permit modification request to remove all permit conditions and/or requirements that meet the definition of 40 CFR 270.42- Appendix I, Section A(8): "Changes to remove permit conditions that are no longer applicable (i.e., because the standards upon which they are based are no longer applicable to the facility)." Examples of permit conditions include all references to the ETU; references to the 100, 200, 600, and STGT lagoons (SWMU 2, 8, 34, and AOC 51); references to SWMU 13- 400 Area Aspirator discharge pipe; and references to SWMU's 21-27 (septic tanks).

## **2.0 Environmental Monitoring**

- 2.1 In July 2013 NASA performed sampling at 45 of 52 scheduled groundwater monitoring wells. Groundwater monitoring well PL-6 was not accessible because of facility construction work. Two zones were not sampled at this well. Groundwater monitoring wells BLM-40-517, BLM-40-595, BLM-40-688, BLM-41-420, and BLM-41-670, which were rescheduled from June, could not be sampled due to continued equipment limitations. Sampling equipment needed to sample the five new BLM wells was received. These seven monitoring wells have been rescheduled for sampling in August 2013.
- 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 a variety of activities related to the ongoing project to convert two Westbay multiport groundwater monitoring wells to dual-zone conventional groundwater sampling systems. Field work is scheduled to begin on August 12, 2013.

## **3.0 Corrective Actions**

### **3.1 Plume Front Treatment System**

- **PFTS Operation** – The PFTS operated on 28 of 31 days in July 2013 at an average flow rate of 1,010 gallons per minute. The system extracted and treated approximately 109.1 acre-feet of groundwater, most of which was injected to the aquifer following treatment. Approximately 185,000 gallons of groundwater were discharged to the on-site Modu-tanks during a UV lamps characterization test and routine PFTS startup operations. Approximately 2.23 acre-feet were discharged to grade at the PFI wells during backwashing and startup activities.
- **PFTS Shutdowns, Repairs, and Modifications** – There were five shutdowns of the PFTS during July 2013. On July 14, 2013 the PFTS shut down automatically because of a leak detection alarm. The leak detection system was evaluated and no leaks were discovered. The leak detection alarm is believed to have been caused by lightning, which damaged several related electronic components. After troubleshooting and repairs were made, the system was restarted on July 17, 2013. On July 17, 2013 the PFTS was shut down to perform a short-duration test to characterize the performance of alternate UV lamps. During this test, all treated water was discharged to the Modu-tank. Following the characterization test, the system was restarted later that day. On July 23, 2013 the system shut down automatically when the electrical power supply was interrupted. The system was fully checked out and restarted on July 24, 2013. On July 29 and July 30, 2013

the PFTS shut down automatically due to communications issues. Following each shutdown, the system was checked, reset, and restarted within several hours.

### 3.2 Mid-plume Interception and Treatment System

- **MPITS Operation** – The MPITS operated on 17 of 31 days in July 2013 and treated approximately 0.97 acre-feet of groundwater, all of which was discharged to the infiltration basin. The MPE wells operated intermittently throughout July 2013 to determine optimal configuration. The system operated primarily during standard business hours.
- **MPITS Shutdowns, Repairs, and Modifications** – There were two significant unplanned shutdowns of the MPITS. On July 14, 2013 a lightning strike damaged several system components and caused an automated shutdown. Troubleshooting and repairs were performed through July 26, 2013, when a second more significant lightning strike caused additional damage to several components in the extraction portion of the system. Repair efforts continued through the end of the month. The treatment process itself was not significantly damaged and IDW was processed throughout July 2013 as required.

### 3.3 200 Area Investigation

- NASA continued developing a response to NMED's May 8, 2013 *Notice of Disapproval 200 Area Investigation – Phase I Status Report*. NASA requested and received NMED approval for an extension of time for submittal of the response to the NOD. The NOD response is due to NMED on August 7, 2013.

### 3.4 600 Area Investigation

- NASA continued extraction of perched groundwater from monitoring well 600-G-138 in early July 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*. On July 17, 2013 the pump used to remove groundwater from this well failed, preventing further extraction in July 2013. A replacement pump is expected in August 2013. Approximately 146 gallons of perched groundwater was removed from 600-G-138 in July 2013.

### 3.5 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. NASA submitted a request for additional time on July 30, 2013.

### 3.6 Septic Tank Investigation and Abandonment

- NASA initiated pre-investigation activities after submitting the *WSTF Septic Tanks (SWMU 21 – 27) Investigation Work Plan and WSTF Septic Tanks Historical Information Summary* to NMED on June 28, 2013. Activities included the location of underground utilities near septic tank locations, initial site surveys of the septic tank locations, and efforts to replace the septic tank at Building 114/119 prior to removal and investigation of that tank.

### 3.7 Groundwater Tracer Testing

- NASA resumed planning for 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. NASA anticipates that field work associated with the tracer test will begin following an evaluation of Mid-plume extraction and exploration wells, currently scheduled for completion in late October 2013.

### **3.8 Soil Background Study**

- NASA resumed planning for a soil background study, which will be performed in accordance with the *Soil Background Study Investigation Work Plan*. Field work is expected to begin as early as late September 2013.

### **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(l)(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 June 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 August 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. Manholes have been installed. Grouting and sealant coating of the inside of the manholes is in progress.
- 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 in progress.
- 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. A pavement cut across Apollo Road, and installation of piping under the road, is pending.
- Line E (from the 100 Area to the 200 Area) is substantially complete. Manholes have been installed. A boring under STGT Road, and installation of piping under the road, is scheduled for the week of August 12, 2013.
- 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 July 2013**

- NASA submitted the Final Certification Closure Report, Certification of Final Closure, and Permit Modification Procedures for the Evaporation Tank Unit (ETU) at the NASA White Sands Test Facility (WSTF) – Hazardous Waste Permit No. NM8800019434 on July 8, 2013. This letter provided an update on the status of required submittals related to closure of the ETU and its removal from the Permit.
- NASA submitted the Permit Modification Request for NASA White Sands Test Facility (WSTF) Hazardous Waste Permit No. NM8800019434 on July 8, 2013. This document proposed to update and clarify permit language related to two routine operations at the Fuel Treatment Unit.
- NASA submitted the Detailed Well Evaluations: 100-D-176, 600-C-173, BLM-3-182, and NASA 2 on July 30, 2013.
- NASA submitted the NASA Johnson Space Center White Sands Test Facility (WSTF) 2012 Annual Hazardous Waste Fees of \$32,245.06 on July 30, 2013.
- NASA submitted the Request for Additional Extension of Time for Implementation of Lagoon Investigation Work Plan on July 30, 2013.
- NASA submitted the NASA WSTF Remediation System Monitoring Plan Annual Update on July 31, 2013.

### **6.2 Status of documents submitted in previous months**

- NASA submitted the 2012 Annual Waste Summary Report for Waste Placed into the Permitted Treatment Units at the NASA White Sands Test Facility (WSTF) to the NMED HWB on March 28, 2013. NMED approved the report on July 17, 2013.
- NASA submitted the 200/600 Area Semi-annual Soil Vapor & Groundwater Data Summary (Fourth Report-March 2013 Data) on June 13, 2013. NASA received NMED's June 25, 2013 fee assessment for review of this document and submitted the \$2,000 review fee on July 10, 2013.

## NASA White Sands Test Facility

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- NASA submitted the Well Completion Reports for BLM-40 and BLM-41 Cluster Monitoring Wells on June 25, 2013. NASA received NMED's July 12, 2013 fee assessment for review of the reports and is processing the payment.
- NASA submitted the NASA WSTF Septic Tanks (SWMU 21-27) Investigation Work Plan & WSTF Septic Tanks Historical Information Summary on June 27, 2013. Copies of these documents were also submitted to the NMED Groundwater Quality Bureau and NMED Liquid Waste Program. NASA received NMED's July 16, 2013 fee assessment for review of the reports and is processing the payment.
- NASA submitted the Request for Extension of Time for Conversion of Westbay Wells on June 28, 2013. NMED approved the extension request on July 12, 2013.

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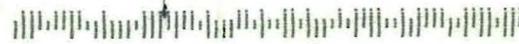


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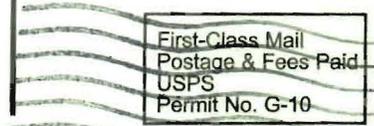
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