

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



December 12, 2013

Reply to Attn of: RE-13-133

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 November 2013

Enclosed is the WSTF Monthly Environmental Activity Report for November 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 November 2013:

- NASA completed two shipments of hazardous waste to two Veolia facilities in November 2013.
- NASA completed 37 of 51 groundwater sampling events and all required groundwater remediation system sampling scheduled for November 2013.
- The Plume Front Treatment System operated on 18 of 30 days in November 2013 at an average flow rate of 1,054 gallons per minute. During November 2013, the PFTS extracted and treated approximately 82 acre-feet of groundwater.
- The Mid-plume Interception and Treatment System operated on 30 of 30 days in November 2013 and treated approximately 2.84 acre-feet of groundwater.
- NASA received approval with conditions for the WSTF Septic Tanks Investigation Work Plan on November 8, 2013, continued a GPS survey of existing septic tank locations, and began finalizing internal plans for the removal and investigation portions of the project.
- During November 2013, NASA requested an Extension for Implementation of Wastewater Lagoon Closure Activities until February 28, 2014, due to the delay in completion of the sanitary sewer project.
- NASA also continued preliminary planning for the wastewater lagoon investigation and a groundwater tracer test.
- NASA completed fieldwork associated with the approved soil background study.
- NASA submitted several routine documents to NMED in November 2013, including an annual fee assessment, a request for time extension because of the Federal Government shutdown and the Investigation Work Plan for Evaluating Anomalous Detections of NDMA in Monitoring Wells JER-1 and JER-2.
- During November 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 November 2013.



National Aeronautics and  
Space Administration

## Monthly Environmental Activity Report

November 2013

Submitted December 12, 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

November 2013

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Radel Bunker-Farrar

Chief, Environmental Office



Date

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## 1.0 Waste Management Activities

- 1.1 NASA completed a shipment of hazardous waste to Veolia in Henderson, Colorado on November 20, 2013. The shipment consisted of 13 containers with 1,210 lbs (550 kg) of hazardous waste.
- 1.2 NASA completed a shipment of hazardous waste to Veolia in Burley, Idaho on November 20, 2013. The shipment consisted of two 330-gallon IBCs with 5,568 lbs (2,531 kg) of hazardous waste and one five-gallon container with 37 lbs (17 kg) of hazardous waste.
- 1.3 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 and references to SWMU 13- 400 Area Aspirator discharge pipe. NASA expects to submit this permit modification request after receiving NMED approval of the Certification of Closure Report for the Evaporation Tank Unit.

## 2.0 Environmental Monitoring

- 2.1 In November 2013, NASA performed sampling at 37 of 51 scheduled groundwater monitoring wells. Fourteen scheduled groundwater monitoring wells were not sampled due to continued schedule impact from the Federal Government shutdown and resulting WSTF site closure in October 2013. These wells were rescheduled for December 2013.
- 2.2 Sampling of groundwater remediation system influent, effluent, and operational extraction wells was performed in accordance with applicable permits and approved plans.

## 3.0 Corrective Actions

### 3.1 Plume Front Treatment System

- PFTS Operation – The PFTS operated on 18 of 30 days in November 2013 at an average flow rate of 1,054 gallons per minute. The system extracted and treated approximately 82 acre-feet of groundwater, most of which was injected to the aquifer following treatment. Approximately 42,900 gallons of groundwater were discharged to the on-site Modu-tanks during routine PFTS startup operations. Approximately 0.93 acre-feet were discharged to grade at the PFI wells during backwashing and startup activities.
- PFTS Shutdowns, Repairs, and Modifications – The PFTS operated on 18 of 30 days in November 2013 at an average flow rate of 1,054 gallons per minute. The system extracted and treated approximately 82 acre-feet of groundwater, most of which was injected to the aquifer following treatment. Approximately 42,900 gallons of groundwater were discharged to the on-site Modu-tanks during routine PFTS startup operations. Approximately 0.93 acre-feet were discharged to grade at the PFI wells during backwashing and startup activities.

### 3.2 Mid-plume Interception and Treatment System

- MPITS Operation – The MPITS operated on 30 of 30 days in November 2013 and treated approximately 2.84 acre-feet of groundwater and IDW, all of which was discharged to the infiltration basin.
- MPITS Shutdowns, Repairs, and Modifications – There were two unplanned shutdowns of the MPITS in November 2013. On November 1, 2013 the MPITS shut down automatically when a recirculation valve failed to open alarm. The system was offline for 12 hours and restarted. On November 4, 2013 the system shut down automatically because a recirculation valve failed to open. The system was offline for 9 hours while the recirculation valve limit switches were calibrated.

### 3.3 JP4 and JP5 Investigation

- NASA completed and submitted the *NASA White Sands Test Facility (WSTF) 600 Area JP4 and JP5 Investigation Work Plan and Historical Information Summary* on August 26, 2013. The abbreviated work plan is under NMED review. NASA expects to initiate final project planning and field work as quickly as possible following NMED approval of the work plan.

### 3.4 200 Area Investigation

- NASA completed and submitted the *200 Area Investigation – Phase II Investigation Work Plan* in accordance with NMED’s September 18, 2013 *Notice of Approval with Direction 200 Area Investigation – Phase I Status Report*. NASA expects to initiate final project planning and field work following NMED approval of the work plan.

### 3.5 600 Area Investigation

- NASA continued extracting perched groundwater from monitoring well 600-G-138 in November 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*. Approximately 74 gallons of perched groundwater was removed from 600-G-138 in November 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*. A letter requesting an Extension for Implementation of Closure Activities in Accordance with the Approved Wastewater Lagoon Areas Closure Investigation Work Plan (100, 200, 600 Area and STGT) to February 28, 2014 was sent to NMED on November 26, 2013. The extension is required to complete the Sanitary Sewer Pipeline Project which will connect WSTF to the City of Las Cruces sewage treatment facilities and complete property transfer between NASA and the City of Las Cruces. Surveying of the lagoons to establish sample collection locations has been initiated to prepare for lagoon water and sludge sampling after discharge to the lagoons is terminated. NASA is to start the investigation by February 28, 2014 or notify NMED by January 31, 2014 if additional time is required to complete installation of the WSTF sewer system.

### 3.7 Septic Tank Investigation and Abandonment

- NASA received Hazardous Waste Bureau approval with conditions for the *WSTF Septic Tanks (SWMU 21 – 27) Investigation Work Plan and WSTF Septic Tanks Historical Information Summary* on November 8, 2013.
- NASA conducted site surveys of the septic tanks located at Buildings 114 and 119, Building 116, 250 Area, and the STGT facility as part of the scheduled pre-investigation activities. The retired tank for Buildings 114 and 119 was found to have no associated leach field. Exploration in the area of the 250 Tank revealed that the tank had been previously removed. The Building 116 tank and STGT tank were successfully located.
- NASA continued to conduct a GPS survey of the septic tanks and associated infrastructure.
- NASA began finalizing internal plans for the removal and investigation portions of this project after receiving Hazardous Waste Bureau approval for the IWP.

### 3.8 Groundwater Tracer Testing

- NASA continued 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 consistent operational 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 December 2013. A preliminary activity of note is a fluorescent dye and low level NDMA analysis interference test. This test includes performing low level NDMA analysis of WSTF groundwater samples with and without fluorescent dye to determine if the presence of the dye impacts the low level NDMA analysis used to monitor groundwater quality at WSTF.

### 3.9 Soil Background Study

- Sample collection activities for the soil background study were completed in November 2013. Soil samples were collected from all 60 locations (three depths intervals each) as indicated in the approved work plan. All samples were shipped to the off-site laboratory for analysis.

## 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 October 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. 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 was signed and approved by the City of Las Cruces on October 29, 2013. 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. A final hydrostatic leak test will be performed prior to activating the system.
- Construction continues on the Holman Road lift station. The lift station pumps have been installed. Connection of piping and electrical power is in progress. Installation of controls and instrumentation is in progress. Grouting and sealant coating of the wet well is complete.
- 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, and setting and pouring of the manhole rings is complete.

- 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 pipe casing under the road, is complete. 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 scheduled for the week of December 16.
- 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 pipe casing under the road, is complete. Grouting and sealant coating of the inside of the manholes is in progress.
- 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. Grouting and sealant coating of the inside of the manholes is complete.
- Line I (from Lift Station #3 to Line E) is substantially complete. Lift Station #3 has been installed, and backfilling and installation of control panels is complete.
- 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 pipe casing under the road, is complete. Installation of the 8-inch gravity line in the pipe casing is complete. Lift Station #2 has been installed, and backfilling and installation of control panels is in work.

## 6.0 Documents Submitted

### 6.1 Documents submitted in November 2013

- NASA submitted the *IWP for Evaluating Anomalous Detections of NDMA in Monitoring Wells JER-1 and JER-2* on November 7, 2013.
- NASA submitted the *Periodic Monitoring Report (PMR) – Third Quarter 2013* on November 7, 2013.
- NASA submitted the *Request for Additional Extension of Time for Implementation of Lagoon Investigation Work Plan* on November 26, 2013.
- NASA submitted the *2013 Annual Fee Payment* (NMED invoice number HWB-NASA-2013-AF) for \$54,500 on November 26, 2013.
- NASA submitted the *2013 Waste Minimization Plan* on November 27, 2013.

### 6.2 Status of documents submitted in previous months

- 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 submitted the \$15,000 review fee on August 9, 2013. The NMED LWP has indicated their intent to approve the removal plan for the non-SWMU tanks. NMED HWB approved the plan with modifications on November 8, 2013.

## NASA White Sands Test Facility

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- NASA electronically submitted the *Time Extension Request for NASA WSTF 90-Day Accumulation Areas* on October 14, 2013. NMED approved the extension on November 12, 2013.
- NASA submitted the *Request for Extensions Due to the Government Shutdown and Subsequent Site Closure* on October 18, 2013. NMED review is pending.
- NASA submitted the *Request for Extension of Time for Westbay Conversion Due to Government Shutdown and Subsequent Site Closure* on October 30, 2013. NMED review is pending.
- NASA submitted the *200 Area Investigation – Phase II Investigation Work Plan* on October 30, 2013.
- 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. NMED review is pending.
- NASA submitted the *NASA White Sands Test Facility (WSTF) 600 Area JP4 and JP5 Investigation Work Plan and Historical Information Summary* on August 26, 2013. NASA received NMED's September 4, 2013 fee assessment for review of the plan and submitted the \$10,000 review fee on September 16, 2013. NMED review is pending.