

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



May 14, 2014

Reply to Attn of: RE-14-056

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

Subject: WSTF Monthly Environmental Activity Report for April 2014

Enclosed is the WSTF Monthly Environmental Activity Report for April 2014. 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 Tim Davis at 575-524-5024.

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 April 2014:

- NASA completed two shipments of hazardous waste and one shipment of medical waste in April 2014.
- NASA completed 38 of 38 groundwater sampling events and all required groundwater remediation system sampling scheduled for April 2014.
- The Plume Front Treatment System operated on 27 of 30 days in April 2014 at an average flow rate of 835 gallons per minute. The PFTS extracted and treated approximately 108.9 acre-feet of groundwater.
- The Mid-plume Interception and Treatment System operated on 29 of 30 days in April 2014 and treated approximately 2.5 acre-feet of groundwater and approximately 0.04 acre-feet of investigation-derived waste.
- NASA continued development of the JP4/5 remote test site investigation report.
- NASA continued preparations for the investigation and removal of several WSTF septic tanks. Analytical data from cyanide resampling performed at SWMU 22 was received and evaluated.
- NASA continued project planning for the wastewater lagoon investigation, the upcoming 200 Area Phase II investigation fieldwork, and a groundwater dye tracer test.
- NASA submitted several documents to NMED in April 2014, including an interim status report on perched groundwater extraction at the 600 Area Closure and requests for extensions of time for submittal of the first quarter PMR and 2014 GMP update.
- During April 2014, 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 April 2014.



National Aeronautics and  
Space Administration

# Monthly Environmental Activity Report

April 2014

Submitted May 14, 2014

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

April 2014

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Radel Bunker-Farrar

Chief, Environmental Office



Date

### Executive Summary

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- NASA completed 38 of 38 groundwater sampling events and all required groundwater remediation system sampling scheduled for April 2014.
- The Plume Front Treatment System operated on 27 of 30 days in April 2014 at an average flow rate of 835 gallons per minute. The PFTS extracted and treated approximately 108.9 acre-feet of groundwater.
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- NASA continued development of the JP4/5 remote test site investigation report.
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- During April 2014, 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 April 2014.

## 1.0 Waste Management Activities

- 1.1 NASA completed a shipment of hazardous waste to Veolia in Burley, Idaho on April 17, 2014. The shipment consisted of one intermediate bulk container with 2,508 pounds (1,140 kg) of hazardous waste.
- 1.2 NASA completed a shipment of hazardous waste to Veolia in Henderson, Colorado on April 17, 2014. The shipment consisted of 10 containers with 2,361 pounds (1,073 kg) of hazardous waste.
- 1.3 NASA completed a shipment of regulated medical waste to Stericycle in Albuquerque, New Mexico on April 17, 2014. The shipment consisted of one 3.7 cubic foot (28 gallon) medical waste container.

## 2.0 Environmental Monitoring

- 2.1 NASA performed sampling at all 38 of the groundwater monitoring wells scheduled for sampling in April 2014.
- 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 27 of 30 days in April 2014 at an average flow rate of 835 gallons per minute. The system extracted and treated approximately 108.9 acre-feet of groundwater, most of which was injected to the aquifer following treatment. Approximately 300 gallons of groundwater were discharged to the on-site Modu-tanks during routine PFTS startup operations. Approximately 1.22 acre-feet were discharged to grade at the PFI wells during injection well backwashing and system startup activities.
- PFTS Shutdowns, Repairs, and Modifications – There were four unplanned shutdowns of the PFTS in April 2014. On April 1, 2014 the system shut down because of an electrical power outage. The system was restarted within six hours. On April 10, 2014 the PFTS shut down because of another electrical power outage. The system was restarted on April 14, 2014. On April 16 and 17, 2014 the PFTS shut down automatically because of communication failures within the system. After each shutdown, troubleshooting was performed to determine the cause of the shutdowns and the system was restarted within several hours. NASA installed enhanced diagnostic tools in the system to support future troubleshooting of communication problems.

### 3.2 Mid-plume Interception and Treatment System

- MPITS Operation – The MPITS operated on 29 of 30 days in April 2014 and treated approximately 2.5 acre-feet of groundwater and approximately 0.04 acre-feet of IDW. All treated groundwater was discharged to the infiltration basin.
- MPITS Shutdowns, Repairs, and Modifications – There were two unplanned shutdowns of the MPITS in April 2014. On April 16, 2014 low electrical voltage caused the system to shut down automatically. It was restarted later that day. On April 26, 2014 the MPITS shut down automatically when a fuse failed in the UV reactor. The fuse and two UV ballasts were replaced and the system was restarted on April 28, 2014. On April 16, 2014 the pump in MPE-11 failed. Replacement of the pump is scheduled for May 2014.

### 3.3 JP4 and JP5 Investigation

- NASA continued development of the final investigation report, which will be submitted to NMED in May 2014.

3.4 200 Area Investigation

- NASA continued project planning and related procurement activities for upcoming Phase II investigation fieldwork.

3.5 600 Area Investigation

- NASA continued extracting perched groundwater from monitoring well 600-G-138 in April 2014 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 191 gallons of perched groundwater was removed from 600-G-138 in April 2014.
- NASA submitted the *600 Area Perched Groundwater Extraction Pilot Test Interim Status Report* to NMED on April 17, 2014.

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*. NASA is to start the investigation by July 31, 2014 or notify NMED by July 1, 2014. This additional extension is required to complete the Sanitary Sewer Pipeline Project which will connect WSTF to the City of Las Cruces sewage treatment facilities.

3.7 Septic Tank Investigation and Removal

- NASA received analytical results from the SWMU 22 cyanide resampling event on April 3, 2014 and completed processing the data on April 23, 2014. A letter report summarizing the results of resampling will be submitted to the NMED in May 2014.

3.8 Groundwater Dye Tracer Test

- NASA continued planning for a groundwater dye 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 dye tracer test was postponed to allow sufficient time for the completion of work at the Mid-plume Interception and Treatment System. Consistent operational conditions have been achieved in the MPCA and MPE wellheads have been modified to allow for the collection of dye tracer samples. The dye tracer test was recently expanded to include additional sampling locations in the 200 and 600 Areas and the MPCA. NASA anticipates that fieldwork will begin in June 2014.

3.9 Soil Background Study

- The recently submitted final investigation report for the soil background study remains under NMED review.

**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(1)(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 March 2014, 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. 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 the Transfer Agreement 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 and the Holman Lift Station (HLS) to the City.
- Construction of Line A along Holman Road is substantially complete. A final hydrostatic leak test and acceptance procedure with NASA and the City of Las Cruces was completed.
- Construction continues on the HLS. The lift station pumps have been installed. Connection of piping and electrical power is complete. Installation of controls and instrumentation is in progress. Water service inside the HLS is complete. 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 complete and setting and pouring of the manhole rings is also complete. A final low pressure air leak test and cleaning of the line were completed.
- 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. Validation, testing, and checkout of Lift Station #1 is in progress. A final hydrostatic leak test of the line was completed.
- Line D (the force main from the 400 Area to the 200 Area) is substantially complete. A final hydrostatic leak test was completed.
- Line E (from the 800 Area to the 300 Area) is complete. Installation of connecting manholes, grouting, application of sealant coating, and setting of rings is complete. A final low pressure air leak test and acceptance procedure with NASA is complete.
- Line E (from the 100 Area to the 200 Area) is substantially complete. Grouting, application of sealant coating, and setting of rings is complete. A final low pressure air leak test and acceptance procedure with NASA is complete.
- Line F (400 Area) is substantially complete. A final low pressure air leak test was completed.
- Lines G and H (from several buildings in the 100 Area to Line B) are substantially complete, including completion of the remaining manholes. Grouting and sealant coating of the inside of the manholes is complete. A final low pressure air leak test of the line was completed.
- 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. A final hydrostatic leak test was completed. Backfilling and compaction around the lift station is complete.

- Line J (from the Hypervelocity facility to Lift Station #3) is substantially complete. A final low pressure air leak test was completed.
- Line K (from Lift Station #3 to the 800 Area) is substantially complete. A final low pressure air leak test was completed.
- 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. Installation of connecting manholes, grouting, application of sealant coating, and setting of rings is complete. Lift Station #2 has been installed, and backfilling and installation of control panels is complete. A final low pressure air leak test of the line was completed. Application of the sealant coating is also complete.

## 6.0 Documents Submitted

### 6.1 Documents submitted in March 2014

- NASA submitted the *600 Area Perched Groundwater Extraction Pilot Test Interim Status Report* on April 17, 2014.
- NASA submitted the *Request for Extension of Time for NASA WSTF Periodic Monitoring Report (PMR) – First Quarter 2014* on April 23, 2014. Formal NMED approval is expected soon.
- NASA submitted the *NASA WSTF Groundwater Monitoring Plan Update for 2014 – Extension Request* on April 24, 2014. Formal NMED approval is expected soon.

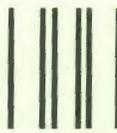
### 6.2 Status of documents submitted in previous months

- NASA submitted the *IWP for Evaluating Anomalous Detections of NDMA in Monitoring Wells JER-1 and JER-2* on November 7, 2013. NASA received NMED's November 21, 2013 fee assessment for review of the plan and submitted the \$10,000 review fee on December 19, 2013. NMED review is pending.
- NASA submitted the *Summary of SWMU 22 Sewage Sludge Analytical Results and Proposed SWMU 22 Soil Investigation Methodology Deviations* on March 4, 2014. NMED review is pending.
- NASA submitted the *Soil Background Study Investigation Report* on March 27, 2014. NASA received NMED's April 17, 2014 fee assessment for review of the report and began preparing the payment in April 2014.
- NASA submitted the *Request for Additional Extension of Time for Implementation of Lagoon Investigation Work Plan* on March 31, 2014.

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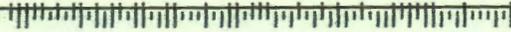
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New Mexico Environmental Department  
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Santa Fe, NM 87505

2. Article Number

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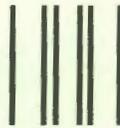
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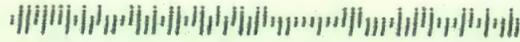


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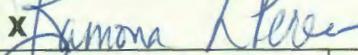
1. Article Addressed to:

Mr. Baird Swanson  
 Ground Water Quality Bureau  
 New Mexico Environmental Department  
 5500 San Antonia Drive NE  
 Albuquerque, NM 87109

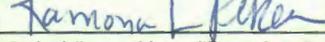
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