

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



July 9, 2014

Reply to Attn of: RE-14-079

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 June 2014

Enclosed is the WSTF Monthly Environmental Activity Report for June 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 knowing violations.

If you have any questions or comments concerning this submittal, please contact Tim Davis of my staff at 575-524-5024.

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 June 2014:

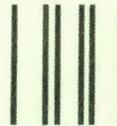
- NASA completed two shipments of hazardous waste, two shipments of universal waste, and a shipment of medical waste in June 2014.
- NASA completed 27 of 27 groundwater sampling events and all required groundwater remediation system sampling scheduled for June 2014.
- The Plume Front Treatment System operated on 29 of 30 days in June 2014 at an average flow rate of 842 gallons per minute. The PFTS extracted and treated approximately 104.6 acre-feet of groundwater.
- The Mid-plume Interception and Treatment System operated on 29 of 30 days in June 2014 and treated approximately 1.16 acre-feet of groundwater and investigation-derived waste.
- NASA initiated fieldwork associated with Phase II of the 200 Area Investigation. Several soil borings and related monitoring wells were installed.
- NASA completed background sampling required for the 200/600 Area and MPCA groundwater dye tracer test and released four fluorescent dyes into the subsurface at the four planned locations.
- NASA continued planning for the investigation and removal of several WSTF septic tanks and the investigation and closure of the WSTF wastewater lagoons.
- NASA continued development of a Historical Information Summary and Investigation Work Plan for SWMUs 1, 3, and 15.
- NASA submitted several documents to NMED in June 2014, including a fee assessment for the JP4/5 investigation report and a request for additional time to prepare and submit the HIS and IWP for SWMUs 1, 3, and 15.
- During June 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 June 2014.

UNITED STATES POSTAL SERVICE

NM 800

11 JUL '14

PM 3 L



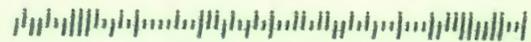
First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

National Aeronautics and
Space Administration

Mail Code: *25-14-079*
Lyndon B. Johnson Space Center
White Sands Test Facility
Post Office Box 20
Las Cruces, NM 88004-0020

2020



COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

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

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
 Addressee

B. Received by (Printed Name) *Trina Jage* C. Date of Delivery *7/11/14*

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

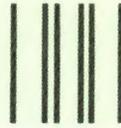
3. Service Type

Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

2. Article Number 7011 3500 0003 2696 8702
 (Transfer from service label)

UNITED STATES POSTAL SERVICE

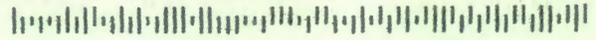


First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

**National Aeronautics and
Space Administration**

Mail Code: *RE-14-079*
**Lyndon B. Johnson Space Center
White Sands Test Facility
Post Office Box 20
Las Cruces, NM 88004-0020**



COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

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

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent Addressee
[Handwritten Signature]

B. Received by (Printed Name) C. Date of Delivery
 LA ARTINEZ 7-11-14

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type

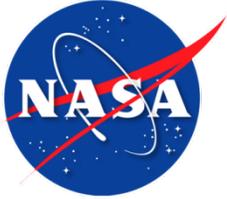
Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

2. Article Number

(Transfer from service label)

7011 3500 0003 2696 8696



National Aeronautics and
Space Administration

Monthly Environmental Activity Report

June 2014

Submitted July 14, 2014

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

June 2014

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-Farrar

Chief, Environmental Office



Date

Executive Summary

The following summarizes important information associated with NASA White Sands Test Facility (WSTF) environmental program activities in June 2014:

- NASA completed two shipments of hazardous waste, two shipments of universal waste, and a shipment of medical waste in June 2014.
- NASA completed 27 of 27 groundwater sampling events and all required groundwater remediation system sampling scheduled for June 2014.
- The Plume Front Treatment System operated on 29 of 30 days in June 2014 at an average flow rate of 842 gallons per minute. The PFTS extracted and treated approximately 104.6 acre-feet of groundwater.
- The Mid-plume Interception and Treatment System operated on 29 of 30 days in June 2014 and treated approximately 1.16 acre-feet of groundwater and investigation-derived waste.
- NASA initiated fieldwork associated with Phase II of the 200 Area Investigation. Several soil borings and related monitoring wells were installed.
- NASA completed background sampling required for the 200/600 Area and MPCA groundwater dye tracer test and released four fluorescent dyes into the subsurface at the four planned locations.
- NASA continued planning for the investigation and removal of several WSTF septic tanks and the investigation and closure of the WSTF wastewater lagoons.
- NASA continued development of a Historical Information Summary and Investigation Work Plan for SWMUs 1, 3, and 15.
- NASA submitted several documents to NMED in June 2014, including a fee assessment for the JP4/5 investigation report and a request for additional time to prepare and submit the HIS and IWP for SWMUs 1, 3, and 15.
- During June 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 June 2014.

1.0 Waste Management Activities

- 1.1 NASA completed a shipment of universal waste to Big Green Box in Anaheim, California on June 5, 2014. The shipment consisted of two boxes with 62 pounds (28 kg) of spent dry cell batteries expected to be recycled.
- 1.2 NASA completed a shipment of medical waste to Stericycle in Albuquerque, New Mexico on June 19, 2014. The shipment consisted of one 3.7 cubic foot (28 gallon) medical waste bin.
- 1.3 NASA completed a shipment of hazardous waste to Veolia's USE facility in Grand View, Idaho on June 19, 2014. The shipment consisted of one intermediate bulk container with 2,200 pounds (998 kg) of hazardous waste and one other container with 463 pounds (210 kg) of hazardous waste.
- 1.4 NASA completed a shipment of hazardous waste to Veolia in Henderson, Colorado on June 19, 2014. The shipment consisted of 11 containers with 959 pounds (436 kg) of hazardous waste.
- 1.5 NASA completed a shipment of universal waste to Veolia in Phoenix, Arizona on June 19, 2014. The shipment consisted of 21 containers with 2,400 pounds (1,091 kg) of universal waste.
- 1.6 NASA managed significant quantities of potentially hazardous investigation-derived waste generated during 200 Area Phase II Investigation activities. IDW is managed as hazardous waste until analytical data required to fully characterize the waste are available.

2.0 Environmental Monitoring

- 2.1 NASA performed sampling at all 27 of the groundwater monitoring wells scheduled for sampling in June 2014.
- 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 initiated two field projects in June 2014 that will require the use of significant resources to perform. There remains the potential that insufficient field personnel will be available to complete all of the scheduled groundwater sampling in July 2014. NASA will closely monitor groundwater sampling, evaluate the impact of delayed sampling on the groundwater assessment program, and reschedule the sampling of less critical monitoring wells to ensure all project objectives can be accomplished without negative effects on groundwater monitoring.

3.0 Corrective Actions

3.1 Plume Front Treatment System

- PFTS Operation – The PFTS operated on 29 of 30 days in June 2014 at an average flow rate of 842 gallons per minute. The system extracted and treated approximately 104.6 acre-feet of groundwater, most of which was injected to the aquifer following treatment. Approximately 313 gallons of groundwater were discharged to the on-site Modu-tank system during startup events. Approximately 1.43 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 three unplanned shutdowns of the PFTS in June 2014. On June 17, 2014 the system shut down automatically because of an unexpected electrical power outage. The system was restarted the following day. On June 18, 2014 the system shut down automatically because of another unexpected electrical power outage. The system was restarted approximately four hours later. On June 21, 2014 the PFTS was again shut down because of an electrical power outage. The system was restarted on June 23, 2014. There was one planned shutdown on June 12, 2014, when the system was shut down for a short period to troubleshoot and reboot the programmable logic controllers that caused one of the air strippers to operate erratically.

3.2 Mid-plume Interception and Treatment System

- MPITS Operation – The MPITS operated on 29 of 30 days in June 2014 and treated approximately 1.16 acre-feet of groundwater and IDW. All treated groundwater was discharged to the infiltration basin.
- MPITS Shutdowns, Repairs, and Modifications – There were two unplanned shutdowns of the MPITS in June 2014. On June 17, 2014 the system shut down automatically because of an unexpected electrical power outage. The system was restarted on June 18, 2014. On June 21, 2014 the MPITS shut down automatically because of another unexpected electrical power outage. The system was restarted on June 23, 2014.

3.3 JP4 and JP5 Investigation

- NASA completed and submitted the final investigation report to NMED on May 1, 2014. NASA received NMED's May 14, 2014 invoice for review of the report and submitted the \$7,500 review fee on June 4, 2014.

3.4 100/600 Area Burn Pit and Container Storage Area Investigation

- NASA continued the required research and development of the Historical Information Summary for the 100 Area Burn Pit (SWMU 1), the 100 Area Container Storage Area (SWMU 3), and the 600 Area Burn Pit (SWMU 15). The Investigation Work Plan and HIS for these SWMUs are due to NMED by June 30, 2014. NASA requested a submittal date extension for the IWP and HIS documentation due to photographic equipment problems and other field projects requiring extensive resources. NMED granted the extension request, and the new due date is July 31, 2014.

3.5 200 Area Investigation

- NASA initiated Phase II investigation fieldwork on June 1, 2014 with the mobilization of the drilling subcontractor.
- During June 2014 NASA completed soil borings 200-SB-05, 200-SB-08, 200-SB-09, 200-SB-10, 200-SB-13, 200-SB-14, 200-SB-20, and 200-SB-21 to bedrock with the Air Rotary Casing Hammer (ARCH) rig. NMED-approved soil vapor monitoring wells were installed in each boring.
- NASA also completed soil borings 200-SB-06 and 200-SB-07 to bedrock with the ARCH rig. After drilling to bedrock, a core rig was utilized to advance each boring into groundwater and to retrieve core samples. Bedrock core samples were collected and processed by an experienced off-site subcontractor to determine if bedrock matrix diffusion has occurred. When coring was completed, NMED-approved groundwater/soil vapor monitoring wells were installed in both borings.

3.6 600 Area Investigation

- NASA continued extracting perched groundwater from monitoring well 600-G-138 in June 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 283 gallons of perched groundwater were removed from 600-G-138 in June 2014.
- The *600 Area Perched Groundwater Extraction Pilot Test Interim Status Report*, submitted by NASA on April 17, 2014, remains under NMED review.

3.7 Groundwater Dye Tracer Test

- In early June 2014, NASA completed background sampling required as part of a groundwater dye tracer test being conducted in the WSTF 200/600 Areas and in the Mid-plume Constriction Area (MPCA).
- During the week of June 23, 2014 NASA and off-site subcontractor Ozark Underground Laboratories introduced four groundwater tracer dyes in accordance with the NMED-approved *Work Plan for Tracer Testing in the 200/600 Areas and Mid-plume Constriction Area*. Fluorescent dyes were released using two excavations in the 200 area and two groundwater monitoring wells in the MPCA.
- NASA initiated post-introduction groundwater monitoring as required by the approved work plan.

3.8 Soil Background Study

- NASA received NMED's June 26, 2014 *Notice of Disapproval for the Soil Background Study Investigation Report* and began developing the required response.

3.9 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 September 2, 2014 or notify NMED by August 1, 2014.

3.10 Septic Tank Investigation and Removal

- NASA received NMED's June 26, 2014 approval of the May 5, 2014 letter report summarizing the results of SWMU 22 cyanide resampling to NMED on May 5, 2014. NASA continues to plan for the removal of several septic tanks and the investigation of the SWMU 22 tank location.

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 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 the 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 June 2014

- NASA submitted the *Fee Assessment for NASA WSTF SWMU 14: 600 Area JP4 and JP5 Remote Test Sites Investigation Report* on June 4, 2014.
- NASA submitted the *Request for Extension of Time for Submittal of Solid Waste Management Unit (SWMU) 1, 3, and 15 Investigation Work Plan and Historical Information Summary* on June 12, 2014. NMED approved the extension request, which extends the due date for the IWP and HIS from June 30, 2014 to July 31, 2014, on June 26, 2014.

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 approved the IWP with modifications on June 19, 2014. NASA provided additional requested information via email on June 26, 2014.
- 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 submitted the \$2,000 review fee on May 7, 2014. NASA received NMED's June 26, 2014 Notice of Disapproval and began developing the required response.
- NASA submitted the *Request for Additional Extension of Time for Implementation of Lagoon Investigation Work Plan* on March 31, 2014. NMED approved the extension on June 19, 2014.
- NASA submitted the *600 Area Perched Groundwater Extraction Pilot Test Interim Status Report* on April 17, 2014. NASA received NMED's May 1, 2014 fee assessment for review of the report and submitted the \$2,000 review fee on May 16, 2014. NMED review is pending.
- NASA submitted the *NASA White Sands Test Facility (WSTF) Solid Waste Management Unit 14: 600 Area JP4/JP5 Remote Testing Site Investigation Report* on May 1, 2014. NASA received NMED's May 14, 2014 fee assessment for review of the report and submitted the \$7,500 review fee on June 4, 2014. NMED review is pending.
- NASA submitted the *NASA WSTF SWMU 22 Sewage Sludge Cyanide Analytical Results* on May 5, 2014. NMED approved the report on June 26, 2014.
- NASA submitted the *NASA WSTF Groundwater Monitoring Plan Update for 2014* on May 15, 2014. NASA received NMED's June 10, 2014 fee assessment for review of the plan and is processing the payment.