

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



February 10, 2015

Reply to Attn of: RE-15-016

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 January 2015

Enclosed is the WSTF Monthly Environmental Activity Report for January 2015. 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 575-524-5024.

A handwritten signature in black ink, appearing to read "T. J. Davis".

Timothy J. Davis
Chief, Environmental Office

3 Enclosures

cc:

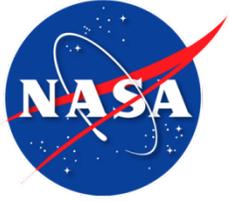
Ms. Vicky Baca
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

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 January 2015:

- NASA completed two shipments of hazardous wastes in January 2015.
- NASA performed sampling at 26 of 28 groundwater monitoring wells and completed all required groundwater remediation system sampling scheduled for January 2015.
- The Plume Front Treatment System operated on 26 of 31 days in January 2015 at an average flow rate of 951 gallons per minute. The PFTS extracted and treated approximately 115.5 acre-feet of groundwater.
- The Mid-plume Interception and Treatment System operated on 28 of 31 days in January 2015 and treated approximately 2.22 acre-feet of groundwater and investigation-derived waste.
- NASA continued preparation of the 200 Area Phase II investigation report.
- NASA continued post-introduction sampling required for the 200/600 Area and MPCA groundwater dye tracer test and submitted samples to the off-site laboratory for analysis.
- NASA continued project planning associated with the investigation of two burn pits and the site of a previous container storage area (SWMUs 1, 3, and 15).
- NASA completed and submitted the Historical Information Summary and Investigation Work Plan for the 600 Area Off-Site BLM Soil Pile (SWMU 16).
- NASA continued development of the Historical Information Summary and the newly agreed upon Accelerated Corrective Measures Work Plan for three small arms firing ranges (SWMUs 29-31).
- NASA removed one unused WSTF septic tank and continued planning for the investigation and removal of additional WSTF septic tanks and the investigation and closure of the WSTF wastewater lagoons.
- NASA extracted 105 gallons of perched contaminated groundwater from monitoring well 600-G-138 in January 2015.
- NASA submitted several documents to NMED in January 2015, including a notification for utilizing alternative treatment standards for hazardous debris, an outline for a work plan for NASA-initiated accelerated cleanup process at SWMUs 29-31, and the annual map with locations of waste accumulation areas.
- During January 2015, 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 January 2015.



National Aeronautics and
Space Administration

Monthly Environmental Activity Report

January 2015

Submitted February 12, 2015

NM8800019434

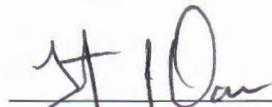
NASA Johnson Space Center White Sands Test Facility

12600 NASA Road Las Cruces, New Mexico 88012

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

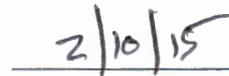
January 2015

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Timothy J. Davis

Chief, Environmental Office



Date

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- NASA performed sampling at 26 of 28 groundwater monitoring wells and completed all required groundwater remediation system sampling scheduled for January 2015.
- The Plume Front Treatment System operated on 26 of 31 days in January 2015 at an average flow rate of 951 gallons per minute. The PFTS extracted and treated approximately 115.5 acre-feet of groundwater.
- The Mid-plume Interception and Treatment System operated on 28 of 31 days in January 2015 and treated approximately 2.22 acre-feet of groundwater and investigation-derived waste.
- NASA continued preparation of the 200 Area Phase II investigation report.
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- NASA removed one unused WSTF septic tank and continued planning for the investigation and removal of additional WSTF septic tanks and the investigation and closure of the WSTF wastewater lagoons.
- NASA extracted 105 gallons of perched contaminated groundwater from monitoring well 600-G-138 in January 2015.
- NASA submitted several documents to NMED in January 2015, including a notification for utilizing alternative treatment standards for hazardous debris, an outline for a work plan for NASA-initiated accelerated cleanup process at SWMUs 29-31, and the annual map with locations of waste accumulation areas.
- During January 2015, 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 January 2015.

1.0 Waste Management Activities

- 1.1 NASA completed a shipment of hazardous waste to Veolia in Henderson, Colorado on January 22, 2015. The shipment consisted of 12 containers with 757 pounds (344 kg) of hazardous waste for disposal.
- 1.2 NASA completed a shipment of P078 ADGAS waste to Veolia in Henderson, Colorado on January 22, 2015. The shipment consisted of one 330-gallon intermediate bulk container with 2,508 pounds (1,140kg) of hazardous waste for disposal.

2.0 Environmental Monitoring

- 2.1 NASA performed sampling at 26 of 28 groundwater monitoring wells or zones scheduled for sampling in January 2015. The two wells or zones not sampled in January 2015 were rescheduled for February 2015. One monitoring well rescheduled from December 2014 and two monitoring wells rescheduled from November 2014 were not sampled because of conflicts with the ongoing groundwater tracer test. These wells will continue to be evaluated and will be sampled as soon as possible.
- 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/Investigations

3.1 Plume Front Treatment System

- PFTS Operation – The PFTS operated on 26 of 31 days in January 2015, at an average flow rate of 951 gallons per minute. The system extracted and treated approximately 115.5 acre-feet of groundwater, most of which was injected to the aquifer following treatment. Approximately 0.002 acre-feet of groundwater were discharged to the on-site Modu-tank system during system startup events. Approximately 2.251 acre-feet were discharged to grade at the PFI wells during injection well backwashing and system startup activities.
- PFTS Shutdowns, Repairs, and Modifications – There was one unplanned shutdown of the PFTS in January 2015. On January 26, 2015 the system shut down automatically following the failure of a UV lamp and subsequent release of groundwater from the UV reactor to the floor of the treatment system building. There was no release of groundwater to the environment. NASA immediately initiated cleanup and repairs of the system, which continued through January 2015.

3.2 Mid-plume Interception and Treatment System

- MPITS Operation – The MPITS operated on 28 of 31 days in January 2015 and treated approximately 2.22 acre-feet of groundwater and approximately 200 gallons of IDW. All treated groundwater was discharged to the infiltration basin.
- MPITS Shutdowns, Repairs, and Modifications – The MPITS operated throughout January with all five extraction wells. There were two unplanned shutdowns of the MPITS. On January 23, 2015 the system shut down automatically due to a low air stripper sump water level. A minor repair of the motor VFD control panel was completed and the system was restarted in less than one hour. On January 26, 2015 the system shut down automatically when electrical power was lost. Two UV lamp ballasts were replaced and the system was restarted on January 29, 2015.

- 3.3 100/600 Area Burn Pit and Container Storage Area Investigation (SWMUs 1, 3 and 15)
- NASA continued project planning and procurement activities related to the recently approved *Investigation Work Plan for the 100 Area Burn Pit (SWMU 1), the 100 Area Container Storage Area (SWMU 3), and the 600 Area Burn Pit (SWMU 15)*.
 - NASA expects to initiate preliminary fieldwork at the associated Area of Interest (Fire Department Training Area) in February or March 2015.
- 3.4 200 Area Investigation
- NASA continued preparation of the 200 Area Phase II Investigation Report. This report presents the results of an evaluation of subsurface soil, bedrock, groundwater, and soil vapor within the 200 Area vadose zone. This report will be submitted to NMED in early 2015.
- 3.5 600 Area Investigation
- NASA continued extracting perched groundwater from monitoring well 600-G-138 in January 2015 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 105 gallons of perched groundwater were removed from 600-G-138 in January 2015.
- 3.6 Groundwater Dye Tracer Test
- NASA continued a groundwater dye tracer test in accordance with the NMED-approved *Work Plan for Tracer Testing in the 200/600 Areas and Mid-plume Constriction Area*. Four fluorescent dyes were introduced at four locations in June 2014, and post-introduction groundwater monitoring continued throughout January 2015.
 - Groundwater tracer samples have been regularly collected since dye introduction and submitted to the off-site contracted analytical laboratory as indicated in the work plan. Data are being received and reviewed by NASA project personnel. Rhodamine WT has been detected at two monitoring wells in the Mid-plume area. Dye concentrations at these locations continue to increase. NASA installed groundwater tracer dye sampling equipment in twelve additional groundwater monitoring wells approximately downgradient of these wells in order to expand the tracer monitoring network.
- 3.7 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 and NMED participated in a teleconference on January 13, 2015 to provide NMED with current project status and potential near-term future activity.
- 3.8 Septic Tank Investigation and Removal
- NASA continues to plan for the removal of several septic tanks and the investigation of the SWMU 22 tank location.
 - The Building 463 septic tank was removed on January 28, 2015 in accordance with the WSTF Septic Tanks Removal Plan. NASA is currently planning to remove the remaining septic tanks that are not in use during the first half of the 2015 calendar year. Septic tanks that are currently in use will be removed following completion of the WSTF sanitary sewer.
- 3.9 JER Anomalous NDMA Detections
- NASA continued fieldwork at Westbay monitoring wells JER-1 and JER-2 in accordance with the NMED-approved *NASA WSTF Investigation Work Plan for Evaluating Anomalous Detections of NDMA in Monitoring Wells JER-1 and JER-2*.

3.10 Closed WSTF Small Arms Firing Ranges (SWMUs 29-31)

- NASA continued development of the Historical Information Summary and Work Plan for SWMU 29 (Small Arms Range at STGT), SWMU 30 (200 Area Small Arms Range), and SWMU 31 (WB-2 Small Arms Firing Range). NASA and NMED discussed these units further in January 2015 and determined that it would be more appropriate to implement accelerated corrective measures in accordance with Permit Section VIII.L. NASA developed an outline for an Accelerated Corrective Measures Work Plan and submitted it for NMED review on January 14, 2015. On January 28, 2015, NASA and NMED agreed to a revised due date of February 28, 2015 for the Accelerated Corrective Measures 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 (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 January 2015, 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 of the HLS is complete. 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 January 2015

- NASA submitted the *NASA White Sands Test Facility (WSTF) Notification for Utilizing 40 CFR 268.45, Table 1, Alternative Treatment Standards for Hazardous Debris (40 CFR 268.7(d))* on January 7, 2015.
- NASA submitted the *NASA-Initiated Accelerated Cleanup Process at SWMUs 29-31*, which provided an outline for the Accelerated Corrective Measures Work Plan at these units, on January 14, 2015.
- NASA submitted the *NASA White Sands Test Facility (WSTF) Annual Map with Locations of Waste Accumulation Areas* on January 20, 2015.

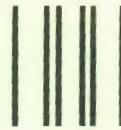
6.2 Status of documents submitted in previous months

- 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 submitted a response to the NOD on August 27, 2014. NASA received NMED's October 15, 2014 second NOD and submitted the *Response to Second NMED*

Disapproval - NASA White Sands Test Facility Soil Background Study Investigation on December 17, 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 submitted the \$2,500 review fee on July 8, 2014. NMED review is pending.
- NASA submitted the *NASA-Initiated Interim Measures at SWMUs 29-31* on December 17, 2014. Subsequent discussion between NMED and NASA resulted in the additional submittal of an outline for accelerated cleanup in accordance with Permit Section VII.L.
- NASA submitted the *Status of Westbay Well Conversions at NASA WSTF* on December 18, 2014, which included a request for additional time to further characterize two borings prior to the installation of purgeable sampling systems. NMED approved the request on December 29, 2014.
- NASA submitted to NMED the *NASA WSTF 600 Area BLM Off-Site Soil Pile (SWMU 16) Investigation Work Plan and Historical Information Summary* on December 29, 2014.

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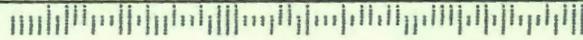


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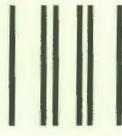
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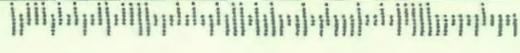
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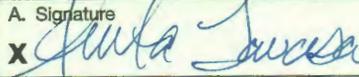
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