

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



March 12, 2014

Reply to Attn of: RE-14-034

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 February 2014

Enclosed is the WSTF Monthly Environmental Activity Report for February 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 black ink, appearing to read "Radel Bunker-Farrah".

Radel Bunker-Farrah
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 February 2014:

- NASA completed a shipment of hazardous waste and a shipment of bulk fuel waste in February 2014.
 - NASA completed 34 of 34 groundwater sampling events and all required groundwater remediation system sampling scheduled for February 2014.
 - The Plume Front Treatment System operated on 19 of 28 days in February 2014 at an average flow rate of 581 gallons per minute. The PFTS extracted and treated approximately 38.9 acre-feet of groundwater.
 - The Mid-plume Interception and Treatment System operated on 28 of 28 days in February 2014 and treated approximately 2.38 acre-feet of groundwater and approximately 0.13 acre-feet of investigation-derived waste.
 - NASA performed investigation fieldwork at the JP4/5 remote test site in accordance with the NMED-approved work plan.
 - NASA continued preparations for the investigation and removal of several WSTF septic tanks. A report summarizing the results of sampling performed at SWMU 22 is being developed.
 - NASA continued project planning for the wastewater lagoon investigation, the upcoming 200 Area Phase II investigation fieldwork, and a groundwater tracer test.
 - NASA plugged and abandoned two unneeded groundwater monitoring wells.
 - NASA submitted several documents to NMED in February 2014, including a request for a revised schedule for Westbay well conversions, the 2013 hazardous waste report, and a review fee for the 2013 comprehensive PMR.
 - During February 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 February 2014.
-



National Aeronautics and
Space Administration

Monthly Environmental Activity Report

February 2014

Submitted March 13, 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

February 2014

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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 February 13, 2014. The shipment consisted of 11 containers with 2,060 pounds (937 kg) of hazardous waste.
- 1.2 NASA completed a shipment of bulk fuel waste (water with less than 2% hydrazine) to Clean Harbors in La Porte, Texas on February 18, 2014. The shipment consisted of one tanker trailer with 28,740 pounds (13,030 kg) of bulk fuel waste.

2.0 Environmental Monitoring

- 2.1 In February 2014, NASA performed sampling at six groundwater monitoring wells that were rescheduled from January 2014. NASA also performed sampling at all 28 of the groundwater monitoring wells scheduled for February 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 plugged and abandoned two groundwater monitoring wells (WB-2 and WB-3) that were no longer needed. NASA will provide the required plugging records to the New Mexico Office of the State Engineer in accordance with the applicable regulations.

3.0 Corrective Actions

3.1 Plume Front Treatment System

- PFTS Operation – The PFTS operated on 19 of 28 days in February 2014 at an average flow rate of 581 gallons per minute. The system extracted and treated approximately 38.9 acre-feet of groundwater, most of which was injected to the aquifer following treatment. Approximately 5,000 gallons of groundwater were discharged to the on-site Modu-tanks during routine PFTS startup operations. Approximately 1.65 acre-feet were discharged to grade at the PFI wells during backwashing and startup activities.
- PFTS Shutdowns, Repairs, and Modifications – There was one planned shutdown of the PFTS in February 2014. On February 6, 2014 the system was shut down to replace several UV lamps and perform required pipeline repairs. The system was restarted on February 12, 2014. There were seven unplanned shutdowns of the PFTS in February 2014. On February 12, 2014 the PFTS shut down automatically because of a leak detection alarm at PFE-3 that resulted from water drained into the well vault during maintenance activities. The water was removed from the well vault and the system was restarted later that day. The system shut down automatically on February 13, 2014 because of a failing variable frequency drive on Air Stripper #1. The system was restarted that day, but shut down again on February 14, 2014 for the same problem. An attempt was made to restart the system, but it shut down automatically because of high flow through Air Stripper #2. The system could not be successfully restarted until February 18, 2014, when it was restarted with reduced flow through only one air stripper. The system shut down automatically later on February 18, 2014 because of a communication loss. The issue was resolved and the system was restarted that day. On February 19, 2014 the system shut down automatically because of a small leak at PFE-4A that resulted from a loose flange. The issue was repaired, water was pumped from the well vault, and the system was restarted on February 20, 2014. The final unplanned shutdown occurred on February 25, 2014 when the water flow to the operational air stripper exceeded allowable limits during a configuration change. The system was restarted within an hour under the correct configuration.

3.2 Mid-plume Interception and Treatment System

- MPITS Operation – The MPITS operated on 28 of 28 days in February 2014 and treated approximately 2.38 acre-feet of groundwater and approximately 0.13 acre-feet of IDW. All treated groundwater was discharged to the infiltration basin.
- MPITS Shutdowns, Repairs, and Modifications – There was one unplanned shutdown of the MPITS on February 26, 2014 when a lamp in the UV transmittance analyzer failed. The lamp was replaced and the system was restarted within the hour.

3.3 JP4 and JP5 Investigation

- NASA completed investigation fieldwork in accordance with the NMED-approved IWP. Twelve soil borings were installed and soil samples were collected as required. Samples were shipped to the contracted off-site laboratory for analysis.

3.4 200 Area Investigation

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

3.5 600 Area Investigation

- NASA continued extracting perched groundwater from monitoring well 600-G-138 in February 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 170 gallons of perched groundwater was removed from 600-G-138 in February 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 was to start the investigation by February 28, 2014 or notify NMED by February 1, 2014. On January 30, 2014 NASA submitted a letter requesting a revised project start date of April 30, 2014. The extension is required to complete the Sanitary Sewer Pipeline Project which will connect WSTF to the City of Las Cruces sewage treatment facilities.
- NASA began surveying the lagoons to establish sample collection locations in preparation for lagoon wastewater and sludge sampling after discharge to the lagoons is terminated.

3.7 Septic Tank Investigation and Removal

- NASA reviewed and processed analytical data from sewage sludge samples collected on February 3, 2014 from the septic tank at SWMU 22 and began preparing a data report for submittal to NMED in March 2014.
- NASA performed exploratory fieldwork on February 12, 2014 to investigate unsubstantiated reports of a septic tank in the JP remote test area. No septic tank was located.

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 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 early 2014.

- NASA coordinated low level NDMA analysis of WSTF groundwater samples with and without fluorescent dye and determined that the presence of the dye does not negatively impact the low level NDMA analytical method used to monitor groundwater quality at WSTF.

3.9 Soil Background Study

- NASA's off-site statistical contractor completed the statistical evaluation of soil data collected during the investigation. NASA continued development of the final investigation report.

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 February 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. NASA met with BLM and CLC on February 13, 2014 to discuss the transfer agreement documents. Based on this meeting, NASA drafted a letter per BLM request to explain NASA's right-of-way and the City's requirement to maintain, access, and operate the HLS and the Holman Road 6-inch force main sewer line.
- 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 in progress. 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 in progress, and setting and pouring of the manhole rings is 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. Installation 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 in progress. A final low pressure air leak test and acceptance procedure with NASA will be performed prior to activating the system.
- Line E (from the 100 Area to the 200 Area) is substantially complete. Grouting, application of sealant coating, and setting of rings is in progress. A final low pressure air leak test and acceptance procedure with NASA will be performed prior to activating the system.
- 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, but completion of several manholes is pending. 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 in progress.
- 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 in progress.

6.0 Documents Submitted

6.1 Documents submitted in February 2014

- NASA submitted the *Fee Assessment for Class 1 Permit Modification Request with Prior Approval for Fuel Treatment Unit (FTU)* on February 12, 2014.
- NASA submitted the *Fee Assessment for Well Completion Reports: Westbay Well Conversions, WW-2 and JP-3* on February 21, 2014.
- NASA submitted the *Request for Revised Westbay Well Conversion Schedule* on February 24, 2014.
- NASA submitted the *2013 Hazardous Waste Report for the NASA White Sands Test Facility* on February 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 review is pending.

- NASA submitted the *Periodic Monitoring Report (PMR) – 2013 Comprehensive Report* on January 30, 2014. NASA received NMED's February 11, 2014 fee assessment for review of the report and processed the payment request for payment in March 2014.
- NASA submitted the *Well Completion Reports for the Conversion of Westbay Wells WW-2 and JP-3* on December 16, 2013. NASA received NMED's January 14, 2014 fee assessment for review of the reports and submitted the \$1,000 review fee on February 21, 2014. NMED is reviewing the reports.
- NASA submitted the *Request for Additional Extension of Time for Implementation of Lagoon Investigation Work Plan* on January 30, 2014.

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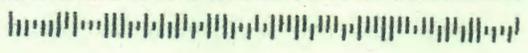
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