

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



February 8, 2016

Reply to Attn of: RE-16-024

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 2016

Enclosed is the WSTF Monthly Environmental Activity Report for January 2016. 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.

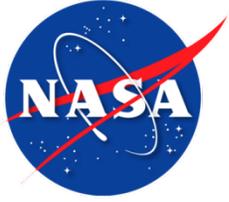
If you have any questions or comments concerning this submittal, please contact me at 575-524-5024.

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

Timothy J. Davis
Chief, Environmental Office

3 Enclosures

cc:
Mr. Gabriel Acevedo
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505



National Aeronautics and
Space Administration

Monthly Environmental Activity Report

January 2016

Submitted February 11, 2016

NM8800019434

NASA Johnson Space Center White Sands Test Facility

12600 NASA Road Las Cruces, New Mexico 88012

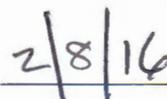
NASA Johnson Space Center White Sands Test Facility
Monthly Environmental Activity Report

January 2016

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Timothy J. Davis
Chief, Environmental Office



Date

Executive Summary

The following summarizes important information associated with NASA White Sands Test Facility (WSTF) environmental program activities in January 2016:

- NASA completed three shipments of hazardous waste in January 2016.
- NASA performed sampling at 36 of 36 groundwater monitoring wells and completed all required groundwater remediation system sampling scheduled for January 2016.
- The Mid-plume Interception and Treatment System operated on 23 of 31 days in January 2016 and treated approximately 1.44 acre-feet of groundwater and investigation-derived waste.
- The Plume Front Treatment System operated only sporadically in January 2016 for system testing purposes.
- NASA continued development of investigation reports for recently completed investigations of SWMU 16 and SWMU 19.
- NASA continued fieldwork associated with the investigation and closure of the WSTF wastewater lagoons.
- NASA continued planning follow-on cleanup work at three closed small arms firing ranges.
- NASA continued planning and preparation for the investigation and removal of additional WSTF septic tanks.
- NASA initiated project planning activities for the upcoming investigation of the hazardous waste transmission line (SWMU 10).
- Post-introduction sampling required for the 200/600 Area and MPCA groundwater dye tracer test was performed and samples were submitted to the off-site laboratory for analysis.
- NASA extracted 141 gallons of perched contaminated groundwater from monitoring well 600-G-138 in January 2016.
- There were no reportable non-compliance issues in January 2016.

1.0 Waste Management Activities

- 1.1 NASA completed a shipment of hazardous waste to Veolia in Sauget, Illinois on January 5, 2016. The shipment consisted of three containers with 9 kilograms of hazardous waste for disposal.
- 1.2 NASA completed a shipment of hazardous waste to Veolia in Henderson, Colorado on January 21, 2016. The shipment consisted of 15 containers with 217 kilograms of hazardous waste for disposal.
- 1.3 NASA completed a shipment of P078 ADGAS treatment residual (water) waste to Veolia in Henderson, Colorado on January 21, 2016. The shipment consisted of two intermediate bulk containers with 2,120 kilograms of hazardous waste for disposal.

2.0 Environmental Monitoring

- 2.1 NASA performed sampling at 36 of 36 groundwater monitoring wells or zones scheduled for sampling in January 2016, including those rescheduled from December 2016 for various reasons.
- 2.2 Sampling of operational groundwater remediation system influent, effluent, and extraction wells was performed in accordance with applicable permits and approved plans.

3.0 Corrective Actions/Investigations

3.1 Mid-plume Interception and Treatment System

- MPITS Operation – The MPITS operated on 23 of 31 days in January and treated approximately 1.44 acre-feet of groundwater and 24 gallons of IDW. All treated water was discharged to the infiltration basin.
- MPITS Shutdowns, Repairs, and Modifications – There was one unplanned shutdown of the MPITS in January 2016. On January 23, 2016 the system shut down automatically because of a leak detection alarm. Due to ongoing issues with the quality of the electrical power supply, and the potential negative impacts of those issues, the system was not restarted in January 2016.

3.2 Plume Front Treatment System

- PFTS Operation – The PFTS shut down automatically on December 26, 2016 when the electrical power supply was interrupted following an off-site event during a winter storm. It operated only sporadically in January 2016 to perform testing, during which approximately 0.68 acre-feet of groundwater were discharged to grade at the PFI wells and 0.06 acre-feet were discharged to the on-site Modu-tank.
- PFTS Shutdowns, Repairs, and Modifications – The system remained offline throughout most of January 2016 because of ongoing issues with the quality of the electrical power supply, and the potential negative impacts of those issues on the system. Several short-duration tests were performed to troubleshoot system operations and test the quality of the electrical power supply. It was determined that the electrical power supply is of insufficient quality to safely operate the system. NASA continued efforts to resolve these quality issues in order to resume treatment operations.

3.3 200 Area Investigation

- NASA continued development of a work plan for the 200 Area quantitative assessment of soil vapor intrusion required by NMED's approval with modification of the *200 Area Phase II Investigation Report* (June 29, 2015).

3.4 600 Area Perched Groundwater Extraction Pilot Test

- NASA continued extracting perched groundwater from monitoring well 600-G-138 in January 2016 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 141 gallons of perched groundwater were removed from 600-G-138 in January 2016.

3.5 SWMUs 1, 3 and 15 (100/600 Area Burn Pit and Container Storage Area)

- The *NASA WSTF SWMUs 1, 3, and 15 (100 Area Burn Pit, 100 Area Container Storage Area, and 600 Area Burn Pit) Investigation Report* (November 23, 2015) remains under NMED review.

3.6 SWMUs 2, 8, and 34 and AOC 51 (Wastewater Lagoons)

- After previous complications with the analysis of sludge samples collected from the 100 and 200 Area wastewater lagoons, NASA secured the services of an alternate laboratory and shipped sludge samples for evaluation. The laboratory determined that, as with past samples shipped to the first laboratory, the samples provided did not contain enough solids to perform the required analyses.
- NASA initiated efforts to transfer wastewater from the 100 Area lagoons to the 600 Area lagoons in order to more rapidly dry the 100 Area sludge and allow for the collection of fully representative sludge samples.

3.7 SWMU 10 (200 Area Hazardous Waste Transmission Line)

- NMED approved the *200 Area HWTL (SWMU 10) Investigation Work Plan and Historical Information Summary* (July 29, 2015) with modifications on January 8, 2016. NASA initiated project planning activities for investigation fieldwork scheduled for later in 2016.

3.8 SWMU 16 (600 Area BLM Off-site Soil Pile)

- NASA initiated development of a request for no longer “contained-in” determination for investigation-derived waste. Soil cuttings generated during the investigation are being managed at the investigation site as hazardous waste pending NMED review of the request.
- NASA continued preparation of the investigation report.

3.9 SWMU 19 (800 Area Below Grade Storage Tank)

- NASA prepared and submitted to NMED a request for no longer “contained-in” determination for investigation-derived waste. Soil cuttings generated during the investigation are being managed at the investigation site as hazardous waste pending NMED review of the request.
- NASA continued preparation of the investigation report.

3.10 SWMUs 21-27 (Septic Tanks)

- NASA continued planning for the collection of soil samples from inside the SWMU 22 tank prior to its removal and investigation.
- NASA continues to plan for the removal of several more septic tanks and the investigation of the SWMU 22 tank location, which will be performed after non-SWMU tanks are removed in early 2016.

3.11 SWMUs 29-31 (Small Arms Firing Ranges)

- Utilizing chemical and field screening data, NASA began preparing updated maps of the firing ranges in accordance with the *Small Arms Firing Ranges (SWMUs 29 – 31) Accelerated Corrective Measures Work Plan* (February 26, 2015). These maps will provide additional delineation of the horizontal extent of the firing range study areas.

- NASA continued planning activities for the required follow-on cleanup work at the three closed small arms firing ranges.

3.12 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* (May 10, 2012). Four fluorescent dyes were introduced at four locations (two in the 200 Area and two in the Mid-plume area) in June 2014, and post-introduction groundwater monitoring continued through January 2016 in accordance with the plan.
- Groundwater tracer samples have been regularly collected since dye introduction and submitted to the off-site contracted analytical laboratory as described in the work plan. Data are being received and reviewed by NASA project personnel. Rhodamine WT, which was introduced in monitoring well BLM-14-327, has been detected at three monitoring wells in the Mid-plume area. Eocene, which was introduced in monitoring well BLM-15-305, has been detected at three different monitoring wells to the southwest of the Mid-plume area. To date, there have been no confirmed detections of tracer dyes released in the 200 Area.

3.13 JER Anomalous NDMA Detections

- NMED approved the *Investigation Report for Evaluating Anomalous Detections of NDMA in JER-1 and JER-2* (September 29, 2015) with modifications on January 8, 2016.
- NASA initiated compilation of the analytical laboratory reports and development of the Westbay well conversion work plan required by NMED's approval.

3.14 Westbay Monitoring Well Conversion

- Routine sampling of recently converted Westbay wells BLM-32, WW-4, and WW-5 continues in accordance with the approved Groundwater Monitoring Plan.
- NASA continued efforts to convert previous Westbay monitoring well BLM-28. After a significant delay, the off-site vendor responsible for the construction of the dedicated low-flow bladder pump system (with packer) delivered the sampling system in late January 2016. The system was inspected and prepared for installation. However, attempts to install the system were unsuccessful. It is believed that the inflatable packer supplied with the system is too large in diameter for installation in the open borehole at BLM-28. NASA will continue efforts to install a dedicated system in this well in February 2016.

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 Documents Submitted

5.1 Documents submitted to the Hazardous Waste Bureau in January 2016.

- NASA submitted the *Request for a "Contained-in" Determination for SWMU 19 Investigation-Derived Waste (IDW)* on January 21, 2016.

- NASA submitted the *Annual Map Location of Waste Accumulation Areas* on January 22, 2016.

5.2 Status of documents submitted in previous months

- NASA submitted the *200 Area HWTL (SWMU 10) Investigation Work Plan and Historical Information Summary* on June 29, 2015. NASA received NMED's August 21, 2015 Fee Assessment for review of the IWP and submitted the \$10,000 review fee on September 28, 2015. NMED approved the IWP and HIS on January 8, 2016 with modifications.
- NASA submitted the *Investigation Report for Evaluating Anomalous Detections of NDMA in JER-1 and JER-2* on September 29, 2015. NASA received NMED's October 14, 2015 Fee Assessment for review of the report and submitted the \$7,500 review fee on November 23, 2015. NMED approved the report on January 8, 2016 with modifications.
- NASA submitted the *Transmittal of Class 1 Permit Modification Request for the NASA White Sands Test Facility (WSTF) Hazardous Waste Permit No. NM8800019434 Attachment 16* on November 17, 2015. NASA received NMED's December 16, 2015 *Administrative Completeness and Fee Assessment Approval with Modifications* and submitted the \$2,500 review fee on January 28, 2015. NASA submitted the *Public Notice of a Class 1 Hazardous Waste Permit Modification* to all entities on the NMED mailing list on January 11, 2016.
- NASA submitted the *NASA WSTF SWMUs 1, 3, and 15 (100 Area Burn Pit, 100 Area Container Storage Area, and 600 Are Burn Pit) Investigation Report* on November 23, 2015. NASA received NMED's January 6, 2016 Fee Assessment for review of the report and is processing the payment.

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RE-16-024

Mr. Gabriel Acevedo
 Hazardous Waste Bureau
 New Mexico Environmental Department
 2905 Rodeo Park Drive East, Bldg 1
 Santa Fe, NM 87505

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