

National Aeronautics and
Space Administration

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



May 9, 2013

Reply to Attn of: RE-13-050

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

Subject: WSTF Monthly Environmental Activity Report for April 2013

Enclosed is the WSTF Monthly Environmental Activity Report for April 2013. 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 575-524-5733.

Michael Jeymond
for 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 April 2013:

- NASA completed a shipment of hazardous waste to Veolia in Henderson, Colorado on April 25, 2013.
- NASA continued evaluation of the data obtained from samples collected during the soil investigation associated with closure of the Evaporation Tank Unit (ETU) and the Hazardous Waste Drain Line (HWDL).
- NASA completed 35 of 35 groundwater sampling events and all required remediation system sampling scheduled for April 2013. NASA also performed sampling at 14 groundwater monitoring wells that were rescheduled from March 2013. Groundwater sampling is on schedule.
- The Plume Front Treatment System operated on 20 of 30 days in April 2013 at an average flow rate of 967 gallons per minute. During April 2013, the PFTS extracted and treated approximately 67.0 acre-feet of groundwater.
- The Mid-plume Interception and Treatment System was operational for one day in April 2013 to treat IDW. Ongoing maintenance was continued throughout the month.
- NASA completed development of the final new groundwater monitoring well (“data gap well”) at WSTF.
- NASA submitted several documents in April 2013, including a request for a “contained-in determination,” results of 300 Area soil vapor sampling, and an updated Groundwater Monitoring Plan.
- During April 2013, 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 2013.



National Aeronautics and
Space Administration

Monthly Environmental Activity Report

April 2013

Submitted May 14, 2013

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

April 2013

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Michael Zygmund

Radel Bunker-Farrar

Chief, Environmental Office

for

9 May 2013

Date

Executive Summary

The following summarizes important information associated with NASA White Sands Test Facility (WSTF) environmental program activities in April 2013:

- NASA completed a shipment of hazardous waste to Veolia in Henderson, Colorado on April 25, 2013.
- NASA continued evaluation of the data obtained from samples collected during the soil investigation associated with closure of the Evaporation Tank Unit (ETU) and the Hazardous Waste Drain Line (HWDL).
- NASA completed 35 of 35 groundwater sampling events and all required remediation system sampling scheduled for April 2013. NASA also performed sampling at 14 groundwater monitoring wells that were rescheduled from March 2013. Groundwater sampling is on schedule.
- The Plume Front Treatment System operated on 20 of 30 days in April 2013 at an average flow rate of 967 gallons per minute. During April 2013, the PFTS extracted and treated approximately 67.0 acre-feet of groundwater.
- The Mid-plume Interception and Treatment System was operational for one day in April 2013 to treat IDW. Ongoing maintenance was continued throughout the month.
- NASA completed development of the final new groundwater monitoring well (“data gap well”) at WSTF.
- NASA submitted several documents in April 2013, including a request for a “contained-in determination,” results of 300 Area soil vapor sampling, and an updated Groundwater Monitoring Plan.
- During April 2013, 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 2013.

1.0 Waste Management

- 1.1 NASA completed a shipment of hazardous waste to Veolia in Henderson, Colorado on April 25, 2013. The shipment consisted of 16 containers with 2,270 lbs (1,032 kg) of hazardous waste.
- 1.2 During April 2013 NASA continued closure of the 200 Area Evaporation Tank Unit (ETU), a permitted hazardous waste management unit. Analytical data from soil sampling performed at numerous locations beneath the ETU and hazardous waste drain line are being evaluated and incorporated in a revised Sampling and Analysis Plan. NASA also continued development of a permit modification request to remove all references to the ETU from the Hazardous Waste Permit.

2.0 Environmental Monitoring

- 2.1 In April 2013 NASA performed sampling at 35 of 35 scheduled groundwater monitoring wells or groundwater remediation system extraction wells. NASA also completed sampling of the 14 groundwater monitoring wells that were rescheduled from March 2013.
- 2.2 Sampling of groundwater remediation system influent, effluent, and (as applicable) extraction wells was performed in accordance with approved plans.
- 2.3 NASA completed development of groundwater monitoring well BLM-40-688, the last of five recently installed “data gap” wells to be developed. NASA continued preparation of the final well installation reports scheduled for submittal to NMED in May 2013.

3.0 Corrective Actions

3.1 Plume Front Treatment System

- PFTS Operation – The PFTS operated on 20 of 30 days in April 2013 at an average flow rate of 967 gallons per minute. The system extracted and treated approximately 67.0 acre-feet of groundwater, most of which was injected to the aquifer following treatment. Approximately 50,000 gallons of groundwater was discharged to the on-site Modu-tanks during PFTS startup operations. Approximately 0.95 acre-feet was discharged to grade at the PFI wells during backwashing and startup activities.
- PFTS Shutdowns, Repairs, and Modifications – There were four shutdowns of the PFTS during April 2013. On April 2, 2013 the system was shut down to accommodate the replacement of several power poles in the electrical supply line to the PFTS. The system was restarted on April 4, 2013. On April 6, 2013 the system shut down automatically due to low air flow through one of the air strippers. The system remained shut down until April 16, 2013 to allow for the replacement of several additional power poles. Shortly after restarting the system on April 16, 2013 it shut down automatically because of an alarm indicating a leak in the extraction well piping. The leak was determined to be condensation within the pipe annulus, so the annulus was dried and the system was restarted on April 17, 2013. On April 23, 2013 the PFTS was inadvertently shut down when a system engineer activated an incorrect screen in the control system. The system was left offline until April 24, 2013, when a burst disc was replaced and the system was restarted.

3.2 Mid-plume Interception and Treatment System

- MPITS Operation – The MPITS operated on one day in April 2013 to treat approximately 3,000 gallons of investigation-derived waste.
- MPITS Shutdowns, Repairs, and Modifications – On March 29, 2013 the system was shut down to clean the UV reactor after buildup on the tubes protecting the UV lamps reduced UV intensity. In addition, the flow meters were removed from the extraction wells and shipped off-site for required calibration. The system remained offline during April to facilitate replacement of the UV lamps and to await return of the flow meters. While shut down in April 2013, a

variety of system hardware and software upgrades were performed and system personnel received additional training on the operational control system.

- Bioreactor Pilot Test – The pilot scale test was completed in March 2013 and the bioreactor was disassembled, packaged, and shipped to Envirogen in early April 2013. Data review and report preparation are in progress.

3.3 200 Area Investigation

- NASA completed groundwater sampling associated with soil vapor monitoring performed in March 2013 in the 200 and 600 Areas as required by NMED's June 9, 2011 *Approval with Modifications 600 Area Closure Investigation Report and 200/600 Area Soil Vapor and Groundwater Evaluation Report*.
- NASA continued preparations for the 200 Area Phase II Investigation while awaiting NMED review of the Phase I Report and Phase II Investigation Work Plan.

3.4 300 Area Investigation

- NASA completed and submitted a report detailing the results of the third and final follow-up soil vapor sampling event performed at the 300 Area Closure as required by NMED's October 13, 2011 *Approval with Modifications of the 300 Area Closure Investigation Report*.

3.5 600 Area Investigation

- NASA initiated extraction of perched groundwater from monitoring well 600-G-138 on April 19, 2013 in accordance with NMED's March 1, 2013 *Approval Time Extension for Implementation of the Perched Groundwater Extraction Pilot Test at the 600 Area*. The measured thickness of perched groundwater has declined from 60 inches following well installation in October 2011 to approximately 18 inches. The well yields approximately 10 gallons per day when pumped twice per day. Approximately 80 gallons of perched groundwater was removed from 600-G-138 in April 2013.

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*. As indicated in NMED's March 22, 2013 *Approval Time Extension for Implementation of Closure Activities in Accordance with the Approved Wastewater Lagoon Areas Closure Investigation Work Plan (100, 200, 600 Area and STGT)*, NASA is to start the investigation by August 31, 2013 or notify NMED by August 1, 2013 if additional time is required to complete installation of the WSTF sewer system.

3.7 Septic Tank Investigation and Abandonment

- NASA continued development of an Investigation Work Plan and Historical Information Summary for several septic tanks at WSTF. These documents are due to NMED by June 30, 2013 in accordance with Attachment 16 of the Hazardous Waste Permit.
- NASA and NMED participated in a conference call on April 23, 2013 to finalize the scope and schedule for the Septic Tank Investigation and Abandonment Project. Based on the results of the ongoing Historical Information Summary investigation, it is believed that very little investigative work will be required. Instead, septic tanks are expected to be abandoned in accordance with Liquid Waste Program requirements.

3.8 Groundwater Tracer Testing

- NASA continues to plan 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 until 2013 in order to allow sufficient time for the completion of work at the Mid-plume Interception and Treatment System. When steady-state operating conditions have been achieved in the MPCA, the groundwater tracer test can be performed as indicated in the May 10, 2012 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(i)(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 April 2013 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 and is scheduled for completion in July 2013. The delays with completing the sewer construction have not affected work on the ETU Closure project, though closure and investigation of the site wastewater lagoons will be impacted. 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:

- Construction of Line A along Holman Road is substantially complete.
- Construction continues on the Holman Road lift station. The lift station pumps have been installed. Connection of piping and electrical power is pending. Installation of controls and instrumentation are also pending.
- Approximately 10,300 feet of Line B (from Holman Road to the WSTF 100 Area) has been completed, leaving approximately 12,000 feet to complete.
- Line C (the force main from the Second TDRSS Ground Terminal to the WSTF 400 Area) is substantially complete. A boring under the STGT access road, and installation of piping under the road, is pending. Lift Station #1 has been installed, but installation of control panels is pending.
- Line D (the force main from the 400 Area to the 200 Area) is substantially complete.
- Approximately 3,000 feet of Line E (from the 800 Area to the 300 Area) has been installed. The sewer line is substantially complete, but completion of several manholes is pending. A boring under Apollo Road, and installation of piping under the road, is pending.
- Line E (from the 100 Area to the 200 Area) is substantially complete, but completion of several manholes is pending.

- Line F (400 Area) is substantially complete.
- Lines G and H (from several buildings in the 100 Area to Line B) are substantially complete, but completion of several manholes is pending.
- Line I (from Lift Station #3 to Line E) is substantially complete. Lift Station #3 has been installed, but backfilling and installation of control panels are pending.
- Line J (from the Hypervelocity facility to Lift Station #3) is substantially complete.
- Line K (from Lift Station #3 to the 800 Area) is substantially complete.
- Line L (from various 400 Area buildings toward Lift Station #2) is substantially complete. A boring under Road L, and installation of piping under the road, is pending. Lift Station #2 has been installed, but backfilling and installation of control panels are pending.

6.0 Documents Submitted

6.1 Documents submitted in March 2013

- NASA submitted a *Request for "Contained-In Determination" for the ETU Primary Liners* on April 2, 2012. NMED approved the request on April 11, 2013.
- NASA submitted the *Results of Soil Vapor Sampling at the 300 Area Closure* on April 29, 2013.
- NASA submitted the *Groundwater Monitoring Plan Update for 2013* on April 29, 2013.

6.2 Status of documents submitted in previous months

- NASA submitted the *NASA WSTF 200 Area Investigation - Phase I Status Report* and the *NASA WSTF 200 Area Investigation - Phase II Investigation Work Plan* to the NMED HWB on January 30, 2013. NASA received NMED's February 6, 2013 fee assessment for review of the documents. NASA submitted the review fee payments to NMED on February 22, 2013. NMED review is pending.
- NASA submitted the *Transmittal of Class I Permit Modifications Request to the Contingency Plan of the NASA White Sands Test Facility (WSTF) Hazardous Waste Permit Nol. NM 8800019434* on February 28, 2013. NASA received NMED's March 8, 2013 fee assessment for review of the request and submitted the required \$500 review fee on April 17, 2013.

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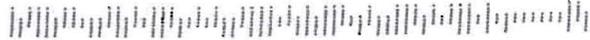
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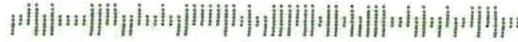
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2. Article Number

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