National Aeronautics and
Space Administration

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

July 12, 2013

Reply to Attn of: RE-13-076

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 June 2013

Enclosed is the WSTF Monthly Environmental Activity Report for June 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 Zygmond

Radel Bunker-Farrah
for 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

National Aeronautics and
Space Administration

Monthly Environmental Activity Report

June 2013

Submitted July 12, 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

June 2013

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.

Michael Zigmont

for Radel Bunker-Farrah
Chief, Environmental Office

12 July 2013
Date

Executive Summary

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

- NASA completed three shipments of hazardous waste to two Veolia facilities in June 2013.
- NASA continued development of a Certification of Closure Report for the Evaporation Tank Unit. NASA also continued developing a Permit modification request related to the removal of permit conditions that are no longer applicable.
- NASA completed 33 of 39 groundwater sampling events and all required remediation system sampling scheduled for June 2013.
- The Plume Front Treatment System operated on 25 of 30 days in June 2013 at an average flow rate of 1,062 gallons per minute. During June 2013, the PFTS extracted and treated approximately 94.4 acre-feet of groundwater.
- The Mid-plume Interception and Treatment System was operational in June 2013 only to treat IDW. Ongoing maintenance and system upgrades were continued throughout the month.
- NASA submitted several documents in June 2013, including a request for extension of time to reply to the 200 Area NOD, the final soil vapor and groundwater data summary for the 200/600 Area, completion reports for groundwater monitoring well clusters BLM-40 and BLM-41, the IWP and HIS for WSTF septic tanks, and a request for an extension of time to perform the scheduled conversion of two Westbay monitoring wells to purgeable sampling systems.
- During June 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 June 2013.

1.0 Waste Management

1.1 NASA completed a shipment of hazardous waste to Veolia in Henderson, Colorado on June 13, 2013. The shipment consisted of one container with 456 lbs (207 kg) of hazardous waste.

1.2 NASA completed a shipment of hazardous waste to Veolia in Burley, Idaho on June 13, 2013. The shipment consisted of one container with 60 lbs (27 kg) of hazardous waste.

1.3 NASA completed a second shipment of hazardous waste to Veolia in Henderson, Colorado on June 20, 2013. The shipment consisted of 15 containers with 4,643 lbs (2,106 kg) of hazardous waste.

1.4 During June 2013 NASA continued development of a Certification of Closure Report for the Evaporation Tank Unit, which is scheduled for submittal to NMED in August 2013.

1.5 NASA continued development of a permit modification request to remove all permit conditions and/or requirements that meet the definition of 40 CFR 270.42- Appendix I, Section A(8): "Changes to remove permit conditions that are no longer applicable (i.e. because the standards upon which they are based are no longer applicable to the facility)." Examples of permit conditions include all references to the ETU; references to the 100, 200, 600, and STGT lagoons (SWMU 2, 8, 34, and AOC 51); references to SWMU 13- 400 Area Aspirator discharge pipe; references to SWMU's 21-27 (septic tanks); and SWMU 10- 200 Area HWTL.

2.0 Environmental Monitoring

2.1 In June 2013 NASA performed sampling at 33 of 39 scheduled groundwater monitoring wells. Groundwater monitoring well 700-E-458 was not accessible because of institutional security constraints. Groundwater monitoring wells BLM-40-517, BLM-40-595, BLM-40-688, BLM-41-420, and BLM-41-670 could not be sampled due to equipment limitations. These six monitoring wells have been rescheduled for sampling in July 2013.

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 completed and submitted the final well completion reports for groundwater monitoring wells BLM-40-517, BLM-40-595, BLM-40-688, BLM-41-420, and BLM-41-670, which were recently installed at WSTF.

2.4 NASA continued a variety of activities related to the ongoing project to replace two Westbay multiport groundwater monitoring wells with dual-zone conventional groundwater sampling systems. Contractual issues prevented NASA from initiating field work in June as planned. NASA has requested an extension of time for completion of the well conversion project.

3.0 Corrective Actions

3.1 Plume Front Treatment System

- PFTS Operation – The PFTS operated on 25 of 30 days in June 2013 at an average flow rate of 1,062 gallons per minute. The system extracted and treated approximately 94.4 acre-feet of groundwater, most of which was injected to the aquifer following treatment. Approximately 107,000 gallons of groundwater were discharged to the on-site Modu-tanks during PFTS startup operations. Approximately 1.70 acre-feet were discharged to grade at the PFI wells during backwashing and startup activities.
- PFTS Shutdowns, Repairs, and Modifications – There were eight shutdowns of the PFTS during June 2013. On June 3, 2013 the PFTS was shut down to repair a low pressure switch in the UV reactor and to install an inline pressure regulator. The system was restarted on June 5, 2013. On June 6, 2013 the PFTS was shut down in order to repair a minor leak at the inline port used to inject the sequestering agent. The system was restarted later that day. On June 10, 2013

the system shut down automatically because of an imbalance in the electrical supply. The system was restarted on June 11, 2013. On June 12, 2013 the PFTS shut down automatically because of a low air flow alarm. The air filters on one air stripper were changed and the system was restarted on June 14, 2013. Shortly after that restart, the system shut down automatically because of elevated water filter pressure readings. Alternate filters were used and the system was restarted approximately two hours later, but shut down automatically because of a communications failure. Repairs were performed and the system was restarted on June 17, 2013. The PFTS shut down on June 26, 2013 because of a communications failure. Repairs were performed and the system was restarted on June 28, 2013. On June 30, 2013 the PFTS shut down automatically because of a high air pressure alarm resulting from clogged air filters. The filters were replaced and the system was restarted several hours later.

3.2 Mid-plume Interception and Treatment System

- MPITS Operation – The MPITS operated in June 2013 only to treat approximately 12,400 gallons of investigation-derived waste generated from pumping at MPE-8 and from groundwater sampling operations.
- MPITS Shutdowns, Repairs, and Modifications – Because the system was only operational to treat IDW during June 2013, there were no unscheduled shutdowns. While the system was offline, software and hardware upgrades continued. In addition, the flow meters for MPE-1, MPE-10, and MPE-11 were calibrated and reinstalled.
- Bioreactor Pilot Test – The pilot scale test is complete. Data review and report preparation are in progress.

3.3 200 Area Investigation

- NASA continued developing a response to NMED's May 8, 2013 *Notice of Disapproval 200 Area Investigation – Phase I Status Report*. NASA requested and received NMED approval for an extension of time for submittal of the response to the NOD.
- NASA completed and submitted to NMED the *200/600 Area Semi-annual Soil Vapor and Groundwater Data Summary (Fourth Report – March 2013 Data)* on June 14, 2013. This report represents the final sampling event required by NMED's March 30, 2011 *Notice of Approval with Modifications – 600 Area Closure Investigation Report*.

3.4 300 Area Investigation

- NASA received NMED's June 6, 2013 *Approval 300 Area Closure Soil Vapor Sampling, Third Follow-up Report*. No further investigative activities are planned for the 300 Area at this time.

3.5 600 Area Investigation

- NASA continued extraction of perched groundwater from monitoring well 600-G-138 throughout June 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 well yields approximately 16 gallons per day when pumped twice per day. Approximately 255 gallons of perched groundwater was removed from 600-G-138 in June 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 completed development of the WSTF Septic Tanks (SWMU 21 – 27) Investigation Work Plan and WSTF Septic Tanks Historical Information Summary and submitted these documents to NMED on June 28, 2013.

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(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 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 August 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:

- NASA continues to negotiate Service and Transfer agreements with the City of Las Cruces. The Service Agreement addresses the cost of providing sewer service to WSTF. The Transfer Agreement addresses NASA's transfer of ownership of Line A to the City.
- 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.
- Line B (from Holman Road to the WSTF 100 Area) is substantially complete, but completion of several manholes is pending.

- 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 piping under the road, is pending. Installation of Lift Station #1 is pending.
- Line D (the force main from the 400 Area to the 200 Area) is substantially complete.
- Line E (from the 800 Area to the 300 Area) 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. A boring under STGT Road, and installation of piping under the road, 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 June 2013

- NASA submitted the *Request for Extension of Time for Response to NMED Notice of Disapproval - 200 Area Phase I Status Report* on June 12, 2013. NMED approved the request on June 25, 2013.
- NASA submitted the *200/600 Area Semi-annual Soil Vapor & Groundwater Data Summary (Fourth Report-March 2013 Data)* on June 13, 2013.
- NASA submitted the *Well Completion Reports for BLM-40 and BLM-41 Cluster Monitoring Wells* on June 25, 2013.
- NASA submitted the *NASA WSTF Septic Tanks (SWMU 21-27) Investigation Work Plan & WSTF Septic Tanks Historical Information Summary* on June 27, 2013. Copies of these documents were also submitted to the NMED Groundwater Quality Bureau and NMED Liquid Waste Program.
- NASA submitted the *Request for Extension of Time for Conversion of Westbay Wells* on June 28, 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. NASA received NMED's May 8, 2013 Notice of Disapproval and is developing a response. NASA

requested an extension of time for submittal of the NOD response on June 12, 2013. NMED approved the request on June 25, 2013.

- NASA submitted the Groundwater Monitoring Plan Update for 2013 on April 29, 2013. NASA received NMED's May 7, 2013 fee assessment for review of the document and submitted the required $2,000 review fee to NMED on May 23, 2013. NMED approved the updated GMP on June 6, 2013.
- NASA submitted the *Results of Soil Vapor Sampling at the 300 Area Closure* on April 29, 2013. NASA subsequently submitted the R*esults of Soil Vapor Sampling at the 300 Area Closure, May 2013 Update* on May 3, 2013. NASA received NMED's May 7, 2013 fee assessment for review of the report and submitted the required $500 review fee to NMED on May 23, 2013. NMED approved the report on June 6, 2013.

UNITED STATES POSTAL SERVICE

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

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

National Aeronautics and
Space Administration

Mail Code: RE-13-076
Lyndon B. Johnson Space Center
White Sands Test Facility
Post Office Box 20
Las Cruces, NM 88004-0020

SENDER: *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
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) [illegible] C. Date of Delivery 7/5/13

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) 7009 3410 0001 5868 3661

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

UNITED STATES POSTAL SERVICE

First-Class Mail
Postage & Fees Pa
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-17-076
Lyndon B. Johnson Space Center
White Sands Test Facility
Post Office Box 20
Las Cruces, NM 88004-0020

SENDER: *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 Antonia Drive NE
Albuquerque, NM 87109

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Sharon Fairchild ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* SHARON FAIRCHILD
C. Date of Delivery 9-13-13

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) 7009 3410 0001 5868 3678

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540