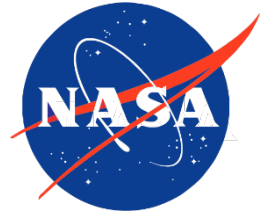


National Aeronautics and Space Administration



Monthly Environmental Activity Report
October 2019

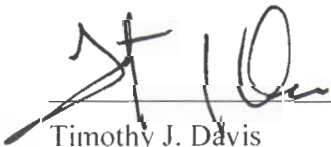
Report Deadline: November 15, 2019

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

October 2019

NM8800019434

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.



Timothy J. Davis
Chief, Environmental Office

11/14/2019
Date

National Aeronautics and Space Administration

Johnson Space Center
White Sands Test Facility
12600 NASA Road
Las Cruces, NM 88012
www.nasa.gov/centers/wstf

www.nasa.gov

Executive Summary

The following summarizes important information associated with NASA WSTF (White Sands Test Facility) environmental program activities in October 2019:

- NASA completed two shipments of solid waste, one shipment of special waste, and one shipment of hazardous waste in October 2019.
- NASA sampled 46 of 46 groundwater monitoring wells scheduled for October 2019.
- The Plume Front Treatment System was operated on 29 of 31 days in October 2019 and treated 77.9 acre-feet of contaminated groundwater.
- The Mid-plume Interception and Treatment System was operated on 31 of 31 days in October 2019 and treated 1.21 acre-feet of contaminated groundwater and 53,488 gallons investigation-derived waste.
- NASA continued developing investigation reports associated with the WSTF wastewater lagoons (SWMUs 2, 8, 34, and AOC 51).
- NASA continued developing the responses to NMED disapprovals of the 200/600 Area Vapor Intrusion Assessment Report, the 400 Area Closure Investigation Report, and the 500 Fuel Storage Area Investigation Work Plan and began developing the response to the disapproval of the 600 Area BLM Off-site Soil Pile Investigation Report.
- NASA continued fieldwork and additional project planning for Phase I of the investigation of the 700 Area Landfill (SWMU 49).
- NASA continued additional corrective measures fieldwork at the three closed small arms firing ranges (SWMUs 29-31).
- NASA continued groundwater extraction in accordance with the *Targeted Mobile Remediation Process Pilot Test Work Plan*.
- NASA performed approximately 60% of the investigation fieldwork for the geophysical survey in the 600 Area and continued project planning and preparations for the proposed site-wide airborne gravity-magnetic geophysical survey.
- NASA submitted several documents in October 2019: requests for “contained-in” determinations; 15-day notification of a newly identified SWMU; disapproval response for the fourth quarter 2018 PMR; a request for additional time to complete corrective measures at the firing ranges; the third quarter 2019 PMR; a notification of a Permit modification; and, two review fees.
- There were no reportable non-compliance issues in October 2019.

1.0 Waste Management Activities

1.1 NASA completed the following waste shipments in October 2019.

Date	Shipped To	Type of Waste	No. of Containers	Amount of Waste	Disposition
10/29/19	South Central Solid Waste Authority, Las Cruces, NM	Solid (Non-Hazardous)	1	1,750 kg	Landfill
10/29/19	South Central Solid Waste Authority, Las Cruces, NM	Solid (Non-Hazardous)	6	1,515 kg	Landfill
10/29/19	South Central Solid Waste Authority, Las Cruces, NM	Special (Asbestos)	4	349 kg	Special Waste Cell at Landfill for Asbestos
10/29/19	ACT, Albuquerque, NM	Hazardous	4	705 kg	Stored/bulked for transport to other TSDF

1.2 NMED is reviewing the *Closure Certification Report for the NASA WSTF FTU (Fuel Treatment Unit)* (August 6, 2019).

2.0 Environmental Monitoring

2.1 NASA performed sampling at 46 of 46 groundwater monitoring wells or zones scheduled for sampling in October 2019, in accordance with the *Groundwater Monitoring Plan*. This includes six wells rescheduled from September 2019 and one well sampled ahead of schedule from November 2019. Deviations from the planned sampling schedule are described below:

- In September 2019, NASA rescheduled the routine sampling of six 700 Area groundwater monitoring wells/zones to coincide with the required semi-annual landfill groundwater detection monitoring event scheduled for October 2019. The sampling was performed in October 2019.
- Well 200-KV-150, scheduled for sampling in December 2018, failed to recharge adequately to collect representative samples. NASA previously recommended no purge sampling for this well.
- Wells BLM-17-493 and BLM-2-630, scheduled for sampling in November 2018 and January 2019 respectively, cannot be sampled because the water level declined below the dedicated bladder pumps. NASA received new sampling systems for these wells and expects to install the systems in November 2019.

2.2 NASA performed other regulatory groundwater sampling requirements (such as those included in the Remediation System Monitoring Plan, landfill post-closure care, and discharge plans) as scheduled and as allowed by operational status. NASA did not sample well PFE-2 because the well

NASA White Sands Test Facility

was not operational due to a previous equipment failure. During October 2019, NASA and the equipment vendor continued troubleshooting to determine the cause of pump failure.

- 2.3 NASA developed the November 2019 groundwater sampling schedule and plans to sample 44 groundwater monitoring wells or zones based on *Groundwater Monitoring Plan* requirements.

3.0 Corrective Actions/Investigations

3.1 Plume Front Treatment System Operations

Days Operated	Average Flow Rate (gpm)	Volume Extracted/Treated (acre-feet)	Volume Injected	Volume Discharged to Grade (acre-feet)	Volume Discharged to Modu-tank (acre-feet)
29 of 31	817	77.9	77.9	2.03	0.15

Shutdown Date	Restart Date	Shutdown Status	Discussion
10/4/19	10/4/19	Unplanned	The system shut down automatically because of a communication error. NASA initiated troubleshooting and continued at each subsequent communication error (below).
10/4/19	10/5/19	Unplanned	The system shut down automatically because of a communication error. Troubleshooting continued.
10/9/19	10/9/19	Unplanned	The system shut down automatically because of a communication error. Troubleshooting continued.
10/10/19	10/11/19	Unplanned	The system shut down automatically because of a communication error. Troubleshooting continued.
10/14/19	10/16/19	Unplanned	The system shut down automatically because of a communication error. Troubleshooting continued.
10/17/19	10/17/19	Unplanned	The system shut down automatically because of a communication error. Troubleshooting continued.
10/19/19	10/21/19	Unplanned	The system shut down automatically because of a communication error. Troubleshooting continued.
10/28/19	10/28/19	Unplanned	The system shut down automatically because of a communication error. Troubleshooting continued.
10/29/19	10/29/19	Unplanned	The system shut down automatically because of a communication error. Troubleshooting continued.

3.2 Mid-plume Interception and Treatment System Operations

Days Operated	Average Flow Rate (gpm)	Volume of Groundwater Extracted and Treated (acre-feet)	Volume of Groundwater Discharged to Infiltration Basin (acre-feet)	Volume of IDW Treated and Discharged to the Infiltration Basin (gallons)
31 of 31	7.6	1.21	1.28	53,488

NASA White Sands Test Facility

Shutdown Date	Restart Date	Shutdown Status	Discussion
10/18/19	10/18/19	Planned	The system was manually shut down to perform scheduled upgrades on a LAN switch in the treatment system building.
10/25/19	10/25/19	Planned	The system was shut down to inspect wiring to lamps in the UV reactor.

3.3 200 Area Investigation

- NASA continued developing the required response to the 12 comments in NMED's June 5, 2019 disapproval of the *200 Area and 600 Area Vapor Intrusion Assessment Report* (June 18, 2018).
- In accordance with NMED's approval of NASA's request for additional time (September 17, 2019), the response and revised report is due to NMED by December 20, 2019.

3.4 Test Stand 301A Release Assessment

- NMED is reviewing the *Response to Disapproval of NASA WSTF Test Stand 301A Abbreviated Investigation Report* (September 24, 2019).

3.5 400 Area

- NASA continued developing the required response to the 14 comments in NMED's September 16, 2019 disapproval of the revised *NASA WSTF 400 Area Closure Investigation Report* (November 29, 2018).
- The response and revised report is due to NMED by December 31, 2019.
- NMED is reviewing the *400 Area Supplemental Groundwater and Soil Vapor Monitoring Plan* (May 28, 2019) and related *300 Area Supplemental Abbreviated Drilling Work Plan* for two additional multiport soil vapor and groundwater monitoring wells in the 300 Area (May 30, 2019).

3.6 600 Area Perched Groundwater Extraction Pilot Test and Investigation

- Perched groundwater extraction from monitoring well 600-G-138, performed in accordance with the *600 Area Perched Groundwater Extraction Pilot Test Work Plan* (November 13, 2012), is suspended pending delivery of the new pump, expected in late November 2019.
- On October 21, 2019, NASA and the selected geophysics subcontractor initiated fieldwork for the geophysical survey at the 600 Area Closure, consisting of seismic reflection and reflection in accordance with the *Abbreviated Investigation Work Plan for 600 Area Perched Groundwater* (December 22, 2019; revised) and NMED's *Work Scope Modification Request Abbreviated Investigation Work Plan for 600 Area Perched Groundwater* (August 23, 2019). As of October 31, 2019, NASA had completed approximately 60% of planned fieldwork. Geophysical data were reviewed and processed daily to ensure high quality field data are generated and ready for use in the report due to NMED by December 31, 2019.

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

- NASA continued developing the required investigation reports for the 200 Area Wastewater Lagoons (SWMU 8) and the 600 Area Wastewater Lagoons (SWMU 24).
- NASA received NMED's October 8, 2019 Approval with Modifications of the *NASA WSTF STGT Wastewater Lagoons Liner Management Plan Addendum* (July 11, 2019). NMED

provided three comments that NASA must address in a revised Addendum no later than December 20, 2019. NASA began planning for further subsurface investigation as authorized by NMED in Comment 1 of the Approval with Modifications.

- NMED is reviewing the *NASA WSTF 100 Area Wastewater Lagoons Closure (SWMU 2) Interim Status Report* (May 29, 2019).

3.8 SWMU 10 (200 Area Hazardous Waste Transmission Lines)

- NMED is reviewing the *Response to Disapproval of the NASA WSTF 200 Area HWTL (SWMU 10) Investigation Report* (July 30, 2019).

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

- NASA received NMED's October 8, 2019 Disapproval of the *Response to Third Disapproval of NASA WSTF SWMU 16 (600 Area BLM Off-Site Soil Pile) Investigation Report* (December 21, 2018). NMED directed NASA to address eight comments, revise the investigation report, and submit the response to comments and the revised investigation report no later than December 31, 2019.

3.10 SWMU 19 (800 Area Below Grade Storage Tank)

- NMED is reviewing the *Response to Disapproval of Revised SWMU 19 (800 Area Below Grade Storage Tank) Investigation Report* (June 27, 2019).

3.11 SWMUs 21-27 (Septic Tanks)

- NMED is reviewing the *Response to Disapproval of NASA WSTF Septic Tanks (SWMUs 21-27) Investigation Report* (July 23, 2019).

3.12 SWMUs 29-31 (Small Arms Firing Ranges)

- NASA continued additional fieldwork required to respond to NMED's February 21, 2019, *Second Disapproval of Small Arms Firing Ranges (SWMUs 29-31) Remedy Completion Report* (March 30, 2018). In October 2019, NASA completed discrete soil sampling at the WB-2 firing range (SWMU 31).
- Following NMED's October 8, 2019 Approval with Modifications of the *NASA WSTF STGT Wastewater Lagoons Liner Management Plan Addendum*, NASA began planning for additional corrective measures fieldwork at the STGT firing range (SWMU 29), which will consist of manual recovery of ammunition fragments and discrete soil sampling.
- The disapproval response and revised remedy completion report is due to NMED by December 31, 2019. However, due to the delay encountered with investigation work and reporting at the STGT wastewater lagoons, which prevented access to SWMU 29, NASA requested additional time to complete accelerated corrective measures and submit the remedy completion report.

3.13 SWMU 47 (500 Area Fuel Storage)

- NASA continued developing the response to the 14 comments in NMED's August 9, 2019 disapproval the *500 Area Fuel Storage (SWMU 47) Investigation Work Plan* (September 26, 2018).
- The disapproval response and revised work plan is due to NMED by November 25, 2019.

3.14 SWMU 49 (700 Area Landfill)

- NASA installed conduits at 168 shallow soil vapor sampling locations (Phase 1A) as described in the *SWMU 49 (700 Area Landfill) Phase I Investigation Work Plan* (August 8, 2019; revised).
- NASA continued procurement of the passive soil vapor samplers and subsequent analysis and expects to complete the procurement in early November 2019. NASA also continued working on several additional procurements for other geophysical investigation components (electromagnetic induction, ground penetrating radar, magnetic gradient, and passive seismic) of the approved landfill investigation.

3.15 SWMU 50 (TDRSS Diesel Release)

- NMED is reviewing the *First Tracking and Data Relay Satellite System (TDRSS) Diesel Release (SWMU 50) Investigation Report* (March 14, 2019).

3.16 Augmented Soil Background Study

- NMED is reviewing the *Response to Disapproval of Augmented Soil Background Study Abbreviated Investigation Work Plan* (June 24, 2019).

3.17 Monitoring Well Installation and Decommissioning

- NASA completed a procurement for the groundwater sampling systems for installation in new groundwater monitoring wells BLM-42 and PL-12 as indicated in the *Work Plan for Abandonment of NASA WSTF Monitoring Well BLM-37 and Replacement with Monitoring Well BLM-42* (January 30, 2018) and the *NASA WSTF Drilling Work Plan for Groundwater Monitoring Well PL-12* (December 27, 2017). The off-site vendor initiated fabrication of the sampling systems and expects to deliver them to WSTF in December 2019. As a result of longer-than anticipated procurement schedules for the sampling systems, NASA submitted the *Second Request for Extension of Time for BLM-42 and PL-12 Well Completion Reports* on September 26, 2019. NMED approved the request on October 11, 2019, extending the due date for submittal of the well completion reports from October 31, 2019 to February 28, 2020.
- NASA's subcontracted surveyor performed the Permit-required professional survey of new monitoring wells BLM-42 and PL-12.
- NASA continued managing investigation derived waste generated during the installation and development of new monitoring well PL-12 in accordance with the approved work plan. NASA submitted the *Request for "Contained-in" Determination for Drill Cuttings Associated with Monitoring Well PL-12 Drilling at WSTF*, the *Request for "Contained-in" Determination for Drilling Fluid Returns Associated with Monitoring Well PL-12 Drilling at WSTF*, and the *Request for "Contained-in" Determination for Drill Cuttings Associated with Monitoring Well BLM-30 Westbay Sampling System Recovery at WSTF* on October 1, October 9, and October 9, 2019, respectively. NMED approved the requests on October 8, October 22, and October 22, 2019, respectively, and directed NASA to dispose of the solid waste material in at an appropriate waste disposal facility.
- NMED is reviewing the *Work Plan for Abandonment of NASA WSTF Well BLM-30 and Replacement with Monitoring Well BLM-43* (August 29, 2019), which was submitted following NASA's determination that the reconfiguration of previous Westbay monitoring well BLM-30 was not feasible.

3.18 Westbay Monitoring Well Reconfiguration

- NASA acquired, tested, and verified additional field equipment necessary for further attempts to recover the dedicated sampling system from well BLM-28. The sampling system became lodged in the borehole after a portion of the borehole is believed to have collapsed on top of the system. NASA anticipates attempting to recover the sampling system in November 2019.

3.19 TMRP (Targeted Mobile Remediation Process)

- During October 2019, NASA continued TMRP fieldwork in accordance with the *Targeted Mobile Remediation Process Pilot Test Work Plan* to NMED (April 26, 2019; updated). NASA completed the first episode of groundwater extraction at monitoring well ST-1-630 on October 3, 2019, with a total extraction of 16,263 gallons of contaminated groundwater. NASA relocated the pumping system to well ST-1-541 on October 7, 2019 and initiated the second episode of groundwater extraction the following day. NASA extracted 22,084 gallons of contaminated groundwater from well ST-1-541 before terminating Episode 2 on October 31, 2019. The extracted groundwater was transported to the MPITS in accordance with the approved work plan and Discharge Plan DP-1255.
- NASA continued the procurement of two additional mobile pumping systems.

3.20 Groundwater Data Representativeness Evaluation

- NASA continued reviewing chemical analytical data from groundwater samples collected at monitoring well WW-4 in accordance with the *Abbreviated Investigation Work Plan Groundwater Data Representativeness Phase 1: Water FLUTE Well Evaluation* (July 30, 2019; revised).
- The investigation report is due to NMED no later than February 28, 2020.

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 conditions 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 October 2019

- NASA submitted the *Request for “Contained-in” Determination for Drill Cuttings Associated with Monitoring Well PL-12 Drilling the at WSTF*, the *Request for “Contained-in” Determination for Drilling Fluid Returns Associated with Monitoring Well PL-12 Drilling at WSTF*, and the *Request for “Contained-in” Determination for Drill Cuttings Associated with Monitoring Well BLM-30 Westbay Sampling System Recovery at WSTF* on October 1, October 9, and October 9, 2019, respectively. NMED approved the requests on October 8, October 22, and October 22, 2019, respectively.
- NASA submitted the *Fee Assessment for 400 Area Supplemental Groundwater and Soil Vapor Monitoring Plan* on October 7, 2019.

- NASA submitted the *Fifteen-Day Notification of a Newly Identified SWMU within the WSTF 500 Area* on October 16, 2019.
- NASA submitted the *Response to Disapproval of NASA WSTF Periodic Monitoring Report – Fourth Quarter 2018* on October 24, 2019.
- NASA submitted the *Request for Extension of Time for NASA WSTF Small Arms Firing Ranges (SWMUs 29 – 31) Response to Second Disapproval Remedy Completion Report* on October 28, 2019.
- NASA submitted the *NASA WSTF Periodic Monitoring Report – Third Quarter 2019* on October 30, 2019.
- NASA submitted the *Notification of a Class 1 Permit Modification Without Prior Approval – Update of Attachment 3 - Contingency Plan for the NASA White Sands Test Facility (WSTF) Hazardous Waste Permit No. NM880019434* on October 31, 2019.
- NASA submitted the *Fee Assessment for BLM-30 Abandonment and BLM-43 Drilling Work Plan* on October 31, 2019.

5.2 Pertinent documents submitted to other NMED bureaus or entities in October 2019

- NASA submitted the *NASA JSC White Sands Test Facility – FF (NM3590607) Certification of Lead Consumer Notice Issuance* to the NMED Drinking Water Bureau on October 8, 2019.
- NASA submitted the *Water Easement WM-14 Quarterly Report – Third Quarter 2019* to the New Mexico State Land Office on October 9, 2019.
- NASA submitted the *NASA WSTF Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units – 40 CFR Part 60 Subpart Dc (NSPS Dc) Quarterly Report for Period July 1 through September 30, 2019* to the NMED Air Quality Bureau on October 28, 2019.
- NASA submitted the *NASA WSTF Discharge Permit DP-1170 Perfluorinated Chemicals Monitoring Report* to the NMED Ground Water Pollution Prevention Section on October 28, 2019.

5.3 Status of documents previously submitted to the NMED Hazardous Waste Bureau for which activity was recorded in October 2019

- NASA submitted the *SWMU 16 (600 Area BLM Off-Site Soil Pile) Investigation Report* on February 25, 2016. NASA received NMED’s March 8, 2016 fee assessment for review of the work plan and submitted the \$7,500 review fee to NMED on April 3, 2016. The investigation report was disapproved by NMED on October 14, 2016. NASA submitted the *Response to Disapproval of NASA WSTF SWMU 16 (600 Area BLM Off-Site Soil Pile) Investigation Report* on January 26, 2017. NMED disapproved the revised investigation report on June 27, 2017 and directed NASA to address ten NMED comments and provide a revised investigation report by November 30, 2017. NASA submitted the *Response to Second Disapproval of NASA WSTF SWMU 16 (600 Area BLM Off-Site Soil Pile) Investigation Report* on November 28, 2017. NMED disapproved the revised report on June 19, 2018 and directed NASA to provide a revised report by October 31, 2018. NASA submitted the *Request for Extension of Time for 600 Area Bureau of Land Management Off-Site Soil Pile (SWMU 16) Revised Investigation Report* on October 4, 2018. NMED approved the request on October 19, 2018, extending the submittal date for the revised report to December 31, 2018. NASA submitted the *Request for a “Contained-in” Determination for the BLM Off-Site Soil Pile (SWMU 16) Investigation Derived Waste* on December 4, 2018. NASA submitted the *Response to Third Disapproval of*

NASA WSTF SWMU 16 (600 Area BLM Off-Site Soil Pile) Investigation Report on December 21, 2018. NMED approved the Request for “Contained-in” Determination on December 21, 2018. NMED disapproved the revised investigation report on October 8, 2019 and directed NASA to address eight comments and submit a revised report no later than December 31, 2019.

- NASA submitted the *NASA WSTF Small Arms Firing Ranges (SWMUs 29-31) Remedy Completion Report* on March 30, 2017. NASA received NMED’s April 28, 2017 fee assessment for review of the report and submitted the \$6,500 review fee to NMED on May 31, 2017. NASA received NMED’s September 7, 2017 disapproval of the report. NASA submitted the *Request for Extension of Time for Response to Small Arms Firing Ranges (SWMUs 29-31)* on November 8, 2017. NMED approved the request for extension on December 1, 2017, extending the due date from December 29, 2017 to March 30, 2018. NASA submitted the *Response to Disapproval Small Arms Firing Ranges (SWMUs 29-31) Remedy Completion Report* on March 30, 2018. NMED disapproved the report on February 21, 2019 and directed NASA to address seven NMED comments and submit a revised report no later than December 31, 2019. NASA submitted the *Request for Extension of Time for NASA WSTF Small Arms Firing Ranges (SWMUs 29 – 31) Response to Second Disapproval Remedy Completion Report* on October 28, 2019.
- NASA submitted the *NASA WSTF 400 Area Closure Investigation Report* on December 27, 2017. NASA received NMED’s February 7, 2018 fee assessment for review of the report and submitted the \$7,500 review fee to NMED on April 17, 2018. NMED disapproved the report on August 14, 2018 and provided 28 comments that required NASA response. NMED directed NASA to submit a revised report by November 30, 2018, and a work plan for additional groundwater and soil vapor sampling by February 28, 2019. NASA submitted the *NASA WSTF 400 Area Closure Investigation Report – NMED Disapproval Response* on November 29, 2018. The submittal included the revised investigation report recommendations for additional groundwater and soil vapor sampling as required by NMED. NASA submitted the *Request for Extension of Time for 400 Area Soil Vapor and Groundwater Monitoring Plan* on April 25, 2019. NMED approved the request on May 2, 2019, extending the submittal date for the monitoring plan to May 31, 2019. NASA submitted the *400 Area Supplemental Groundwater and Soil Vapor Monitoring Plan* on May 28, 2019. NASA also submitted the *300 Area Supplemental Abbreviated Drilling Work Plan* on May 29, 2019. NASA received NMED’s July 3, 2019 fee assessments for review of the monitoring plan and drilling work plan on July 9, 2019. NASA provided the \$1,000 fee for review of the drilling work plan on August 13, 2019. NASA received NMED’s September 16, 2019 *Disapproval 400 Area Closure Investigation Report*, which directs NASA to address 14 NMED comments and submit a revised report no later than December 31, 2019. NASA provided the \$5,000 fee for review of the supplemental monitoring plan on October 7, 2019.
- NASA submitted the *200 Area and 600 Area Vapor Intrusion Assessment Report* on June 18, 2018. NASA received NMED’s July 11, 2018 fee assessment for review of the report on August 13, 2018 and provided the \$4,500 review fee to NMED on October 2, 2018. NASA received NMED’s June 5, 2019 disapproval on June 10, 2019 and is reviewing NMED comments. Responses to the comments and a revised investigation report are due to NMED by October 31, 2019. NASA submitted the *Request for Extension of Time for Response to Disapproval 200 Area and 600 Area Vapor Intrusion Assessment Report* on September 17, 2019. NMED approved the request on October 7, 2019, extending the due date for the revised report to December 20, 2019.
- NASA submitted the *NASA WSTF Periodic Monitoring Report – Fourth Quarter 2018* on February 19, 2019. NASA received NMED’s March 20, 2019 fee assessment for review of the report on April 3, 2019 and provided the \$2,000 review fee to NMED on April 26, 2019.

NMED disapproved the report on July 31, 2019 and directed NASA to address six multi-part comments and submit a revised report no later than October 25, 2019. NASA submitted the *Response to Disapproval of NASA WSTF Periodic Monitoring Report – Fourth Quarter 2018* on October 24, 2019.

- NASA submitted the *Site-wide Geophysical Survey Investigation Work Plan* on April 10, 2019. NASA received NMED's May 31, 2019 fee assessment for review of the plan on June 6, 2019 and provided the \$5,000 review fee to NMED on July 2, 2019. NMED approved the work plan on October 7, 2019 with modifications and directed NASA to address four comments and submit a revised work plan no later than December 13, 2019.
- NASA submitted the *NASA WSTF STGT Wastewater Lagoons Liner Management Plan Addendum* on July 11, 2019. NASA received NMED's August 19, 2019 fee assessment for review of the plan on August 28, 2019 and provided the \$2,000 review fee to NMED on September 10, 2019. NMED approved the Addendum on October 8, 2019 and directed NASA to address three comments and submit a revised Addendum no later than December 20, 2019.
- NASA submitted the *NASA WSTF Drilling Work Plan for Abandonment of Well BLM-30 and Drilling of New Monitoring Well BLM-43* on August 29, 2019. NASA received NMED's September 20, 2019 fee assessment for review of the work plan on September 23, 2019 and provided the \$1,000 review fee to NMED on October 31, 2019.
- NASA submitted the *Second Request for Extension of Time for BLM-42 and PL-12 Well Completion Reports* on September 26, 2019. NMED approved the request on October 11, 2019, extending the due date for submittal of the well completion reports from October 31, 2019 to February 28, 2020.