

National Aeronautics and
Space Administration

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



October 8, 2014

Reply to Attn of:

RE-14-115

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 September 2014

Enclosed is the WSTF Monthly Environmental Activity Report for September 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 me at 575-524-5733.

A handwritten signature in blue ink, appearing to read "Radel Bunker-Farrar".

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 September 2014:

- NASA completed shipments of hazardous, universal, TSCA, and New Mexico special wastes in September 2014.
- NASA performed sampling at 34 of 43 groundwater monitoring wells and completed all required groundwater remediation system sampling scheduled for September 2014.
- The Plume Front Treatment System operated on 24 of 30 days in September 2014 at an average flow rate of 741 gallons per minute. The PFTS extracted and treated approximately 66.4 acre-feet of groundwater.
- The Mid-plume Interception and Treatment System operated on 15 business days during September 2014 and treated approximately 0.58 acre-feet of groundwater and investigation-derived waste.
- NASA continued processing analytical data from 200 Area soil and bedrock core samples collected during the Phase II investigation and initiated preparation of the investigation report.
- NASA continued post-introduction sampling required for the 200/600 Area and MPCA groundwater dye tracer test and submitted samples to the off-site laboratory for analysis.
- NASA continued planning for the investigation and removal of several WSTF septic tanks and the investigation and closure of the WSTF wastewater lagoons.
- NASA initiated an evaluation of anomalous detections of NDMA at Westbay monitoring wells installed on the Jornada Experimental Range.
- NASA submitted several documents to NMED in September 2014, including a request for a no longer contained-in determination, the fee assessment for the second quarter PMR, and a Class I permit modification request.
- During September 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 September 2014.



National Aeronautics and
Space Administration

Monthly Environmental Activity Report

September 2014

Submitted October 14, 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

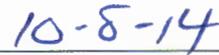
September 2014

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Radel Bunker-Farrar

Chief, Environmental Office



Date

Executive Summary

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- NASA completed shipments of hazardous, universal, TSCA, and New Mexico special wastes in September 2014.
- NASA performed sampling at 34 of 43 groundwater monitoring wells and completed all required groundwater remediation system sampling scheduled for September 2014.
- The Plume Front Treatment System operated on 24 of 30 days in September 2014 at an average flow rate of 741 gallons per minute. The PFTS extracted and treated approximately 66.4 acre-feet of groundwater.
- The Mid-plume Interception and Treatment System operated on 15 business days during September 2014 and treated approximately 0.58 acre-feet of groundwater and investigation-derived waste.
- NASA continued processing analytical data from 200 Area soil and bedrock core samples collected during the Phase II investigation and initiated preparation of the investigation report.
- NASA continued post-introduction sampling required for the 200/600 Area and MPCA groundwater dye tracer test and submitted samples to the off-site laboratory for analysis.
- NASA continued planning for the investigation and removal of several WSTF septic tanks and the investigation and closure of the WSTF wastewater lagoons.
- NASA initiated an evaluation of anomalous detections of NDMA at Westbay monitoring wells installed on the Jornada Experimental Range.
- NASA submitted several documents to NMED in September 2014, including a request for a no longer contained-in determination, the fee assessment for the second quarter PMR, and a Class I permit modification request.
- During September 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 September 2014.

1.0 Waste Management Activities

- 1.1 NASA completed a shipment of hazardous waste (bulk hydrazine fuel) to Clean Harbors in La Porte, Texas on September 3, 2014. The shipment consisted of one tanker with 27,962 pounds (12,710 kg) of hazardous waste.
- 1.2 NASA completed a shipment of TSCA waste (PCB ballasts) to Veolia in Phoenix, Arizona on September 4, 2014. The shipment consisted of one container with 57 pounds (26 kg) of universal waste.
- 1.3 NASA completed a shipment of universal waste to Veolia in Phoenix, Arizona on September 4, 2014. The shipment consisted of 18 containers with 1,509 pounds (686 kg) of universal waste.
- 1.4 NASA completed a shipment of New Mexico special waste (transite pipe) to the Otero/Lincoln County Regional Landfill near Alamogordo, New Mexico on September 10, 2014. The shipment consisted of 1,566 pounds (712 kg) of New Mexico special waste.
- 1.5 NASA completed a shipment of hazardous waste to Veolia in Henderson, Colorado on September 18, 2014. The shipment consisted of 15 containers with 884 pounds (402 kg) of hazardous waste.
- 1.6 NASA completed a shipment of hazardous waste to Veolia's USE facility in Grand View, Idaho on September 18, 2014. The shipment consisted of two intermediate bulk containers with 5,009 pounds (2,277 kg) of hazardous waste.
- 1.7 NASA continued to manage investigation-derived waste generated during 200 Area Phase II Investigation activities. All of the IDW has been determined to no longer contain hazardous waste or hazardous constituents and is no longer being managed as hazardous. Soil cuttings generated during the investigation are scheduled to be spread on the ground in the vicinity of the boreholes from which the cuttings were generated.

2.0 Environmental Monitoring

- 2.1 NASA performed sampling at 34 of 43 groundwater monitoring wells or zones scheduled for sampling in September 2014, as well as the four wells that were rescheduled from August 2014. One monitoring well was not sampled because the water level was insufficient to operate the dedicated bladder pump. Three Westbay monitoring zones were postponed to coincide with sampling associated with the JER NDMA evaluation in October 2014. The remaining five wells not completed in September 2014 were rescheduled to October 2014. There remains the potential that insufficient field personnel will be available to complete all of the scheduled groundwater sampling in October 2014. NASA will closely monitor groundwater sampling, evaluate the impact of delayed sampling on the groundwater assessment program, and reschedule the sampling of less critical monitoring wells to ensure all project objectives can be accomplished without negative effects on groundwater monitoring.
- 2.2 Sampling of groundwater remediation system influent, effluent, and operational extraction wells was performed in accordance with applicable permits and approved plans.

3.0 Corrective Actions/Investigations

- 3.1 Plume Front Treatment System
 - PFTS Operation – The PFTS operated on 24 of 30 days in September 2014 at an average flow rate of 741 gallons per minute. The system extracted and treated approximately 66.4 acre-feet of groundwater, most of which was injected to the aquifer following treatment. Approximately 0.13 acre-feet of groundwater were discharged to the on-site Modu-tank system during system startup events. Approximately 1.26 acre-feet were discharged to grade at the PFI wells during injection well backwashing and system startup activities.

- PFTS Shutdowns, Repairs, and Modifications – There were four unplanned shutdowns of the PFTS in September 2014. On September 2, 2014 the system shut down automatically because of high filter pressure. The issue was resolved and the system was restarted on September 4, 2014. On September 6, 2014 the system shut down automatically because of a fluctuation in the electrical power supply. The system was restarted on September 8, 2014. On September 10, 2014 another electrical power supply interruption caused the system to shut down automatically. The system was restarted later that day. On September 11, 2014 a well head pressure transducer leaked, resulting in an automatic shutdown of the PFTS. The transducer was replaced and the system was restarted on September 15, 2014. There was one planned shutdown of the PFTS on September 18, 2014 to evaluate system communications. The evaluation was completed and the system was restarted the following day.

3.2 Mid-plume Interception and Treatment System

- MPITS Operation – The MPITS operated during the day on 15 business days in September 2014 and treated approximately 0.58 acre-feet of groundwater and IDW. All treated groundwater was discharged to the infiltration basin.
- MPITS Shutdowns, Repairs, and Modifications – Due to a previous failure of a leak detection system component on July 21, 2014, the MPITS has been unable to operate when not actively monitored. The system has only operated on business days during working hours since that event. On September 17, 2014 the MPITS was shut down in order to thoroughly evaluate the leak detection system and initiate repairs as required. On September 25, 2014 MPE-11 was isolated from the rest of the pipeline and the system was reactivated with only that extraction well in operation. Leak detection system evaluation and repairs continued through the month.

3.3 JP4 and JP5 Investigation

- NASA completed and submitted the final investigation report to NMED on May 1, 2014. NASA received NMED's May 14, 2014 invoice for review of the report and submitted the \$7,500 review fee on June 4, 2014. NMED review of the report continued in September 2014.

3.4 100/600 Area Burn Pit and Container Storage Area Investigation

- NASA submitted the Historical Information Summary and Investigation Work Plan for the 100 Area Burn Pit (SWMU 1), the 100 Area Container Storage Area (SWMU 3), and the 600 Area Burn Pit (SWMU 15) to NMED on July 30, 2014. NASA received NMED's August 19, 2014 invoice for review of the IWP and submitted the \$10,000 review fee on August 25, 2014. NMED approved the report with modifications on September 5, 2014. NASA is developing the required response to the notice of approval.

3.5 200 Area Investigation

- NASA performed a survey of the coordinates and elevations for the 17 new 200 Area soil vapor monitoring wells and the 200-SB-GOx soil boring.
- NASA received approval from NMED for all "No Longer Contained-in Determinations" for investigation derived waste associated with all of the 200 Area soil borings. The approvals authorize NASA to thin spread the IDW soil at surface in the vicinity of the soil boring from which it was removed during the investigation. NASA expects to complete this activity in October.
- NASA began preparing for a comprehensive soil vapor sampling event at the 100, 200, and 600 Area soil vapor monitoring wells. Groundwater samples will be collected from wells with groundwater monitoring components contemporaneously with soil vapor sampling.

- NASA continued to receive analytical data from soil and bedrock core sampling performed in the June through August 2014 timeframe and continued data verification and validation in accordance with the work plan.
- NASA began preparation of the 200 Area Phase II Investigation Report.

3.6 600 Area Investigation

- NASA continued extracting perched groundwater from monitoring well 600-G-138 in September 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 199 gallons of perched groundwater were removed from 600-G-138 in September 2014.

3.7 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*. Four fluorescent dyes were introduced at four locations in June 2014, and post-introduction groundwater monitoring continued throughout September 2014.
- Groundwater tracer samples are regularly collected and submitted to the off-site contracted analytical laboratory as indicated in the work plan. Data are being received and reviewed by NASA project personnel. There have been no confirmed detections of tracer dye at the monitoring locations identified in the approved work plan.

3.8 Soil Background Study

- NASA prepared and submitted a response to NMED's June 26, 2014 *Notice of Disapproval for the Soil Background Study Investigation Report* on August 27, 2014. NMED review continues.

3.9 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 submitted a request for additional time to implement the investigation on July 30, 2014. In that request, NASA indicated that the investigation would be initiated by November 30, 2014 or NASA would notify NMED by November 1, 2014 if additional time is required. NMED approved the request on August 8, 2014 and granted an extension to December 31, 2014, with a notification date of December 1, 2014.

3.10 Septic Tank Investigation and Removal

- NASA continues to plan for the removal of several septic tanks and the investigation of the SWMU 22 tank location.
- NASA anticipates starting septic tank removal activities at tanks that are not currently in use in October 2014. Septic tanks that are currently in use will be removed following completion of the WSTF sanitary sewer.

3.11 JER Anomalous NDMA Detections

- NASA initiated purging and sampling at JER-1 in accordance with the NMED-approved NASA WSTF Investigation Work Plan for Evaluating Anomalous Detections of NDMA in Monitoring Wells JER-1 and JER-2.

3.12 SWMUs 10, 16, and 29-31

- NASA initiated development of the Historical Information Summaries for SWMU 10 (200 Area Hazardous Waste Transmission Line), SWMU 16 (600 Area BLM Off-Site Pile), SWMU 29 (Small Arms Range at STGT), SWMU 30 (200 Area Small Arms Range), and SWMU 31 (WB-2 Small Arms Firing Range). Investigation Work Plans and Historical Information Summaries for SWMUs 16, 29, 30, and 31 are due to NMED by December 30, 2014.

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 September 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.
- 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 complete. 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 complete and setting and pouring of the manhole rings is also 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. Validation, testing, and checkout 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 complete. A final low pressure air leak test and acceptance procedure with NASA is complete.
- Line E (from the 100 Area to the 200 Area) is substantially complete. Grouting, application of sealant coating, and setting of rings is complete. A final low pressure air leak test and acceptance procedure with NASA is complete.
- 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, including the completion of the remaining manholes. 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 complete.
- 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 also complete.

6.0 Documents Submitted

6.1 Documents submitted in September 2014

- NASA submitted a second *Request for No Longer Contained-In Determination (NLCID) for Investigation Derived Waste (IDW) from the 200 Area Phase II Investigation* on September 3, 2014. NASA subsequently submitted the *Supplemental Data for the “Contained-In” Determination for the 200 Area Phase II Investigations-Derived Waste (IDW) – Letter Dated September 3, 2014* on September 11, 2014. NMED approved the request on September 10, 2014.
- NASA submitted the *Fee Assessment for Periodic Monitoring Report – Second Quarter 2014* on September 10, 2014.
- NASA submitted the *Transmittal of Class I Permit Modification Request for the NASA White Sands Test Facility (WSTF) Hazardous Waste Permit No. NM8800019434* on September 16, 2014. The permit modification request indicated that NASA has modified Hazardous Waste Permit Attachment 22, *List of SWMUs and AOCs*, by adding Table 22.4, *Hazardous Waste Management Unit Status*, which indicates that the Fuel Treatment Unit (FTU) is active and the Evaporation Tank Unit (ETU) is now clean closed and no longer active. NASA also notified entities on the facility mailing list of this request on September 16, 2014.

6.2 Status of documents submitted in previous months

- NASA submitted the *Soil Background Study Investigation Report* on March 27, 2014. NASA received NMED's April 17, 2014 fee assessment for review of the report and submitted the \$2,000 review fee on May 7, 2014. NASA received NMED's June 26, 2014 Notice of Disapproval and submitted a response to the NOD on August 27, 2014.
- NASA submitted the *NASA White Sands Test Facility (WSTF) Solid Waste Management Unit 14: 600 Area JP4/JP5 Remote Testing Site Investigation Report* on May 1, 2014. NASA received NMED's May 14, 2014 fee assessment for review of the report and submitted the \$7,500 review fee on June 4, 2014. NMED review is pending.
- NASA submitted the *NASA WSTF Groundwater Monitoring Plan Update for 2014* on May 15, 2014. NASA received NMED's June 10, 2014 fee assessment for review of the plan and submitted the \$2,500 review fee on July 8, 2014. NMED review is pending.
- NASA submitted the *Remediation System Monitoring Plan 2014 Annual Update* on July 30, 2014. NASA received NMED's August 19, 2014 fee assessment for review of the plan and submitted the \$2,500 review fee on September 10, 2014. NMED review is pending.
- NASA submitted the *SWMUs 1, 3, and 15 (100 Area Burn Pit, 100 Container Storage Area, and 600 Area Burn Pit) Investigation Work Plan and Historical Information Summary* on July 30, 2014. NASA received NMED's August 19, 2014 invoice for review of the IWP and submitted the \$10,000 review fee on August 25, 2014. NMED approved the report with modifications on September 5, 2014 and directed NASA to respond to the modifications by October 15, 2014.

Sundeen, Sheila A. (WSTF-RE)[REDE CRITIQUE NSS JV]

From: John, Melissa J. (WSTF-RA111)[NAVARRO RESEARCH AND ENGINEERING, INC.]
Sent: Monday, October 20, 2014 12:16 PM
To: Sundeen, Sheila A. (WSTF-RE)[REDE CRITIQUE NSS JV]
Subject: FW: Official Email Submittal -- NASA WSTF Sanitary Sewer Project Status -- September 2014
Attachments: RE-14-115 NMED_MonthlyEARreport_September14_letter.pdf

From: JONES, MICHAEL E. (WSTF-RE111)
Sent: Thursday, October 09, 2014 8:45 AM
To: Isaac, Russell, NMENV (Russell.Isaac@state.nm.us)
Cc: John, Melissa J. (WSTF-RA111)[NAVARRO RESEARCH AND ENGINEERING, INC.]
Subject: Official Email Submittal -- NASA WSTF Sanitary Sewer Project Status -- September 2014

Hi Russell,

Your approval letter for NASA's request for additional time for implementation of the Wastewater Lagoon Investigation Work Plan contained a proviso that progress reports for the project be submitted monthly to the Ground Water Quality Bureau with the first update due on November 1, 2013. Subsequently, you indicated that the NASA Monthly Environmental Activity Report would satisfy that requirement. Additionally, you indicated that an electronic email copy was preferred.

Attached is the NASA WSTF September Monthly Environmental Activity Report, which has a project status report section for the new WSTF Sanitary Sewer line. I have provided that section below also.

Michael

5.1 Sanitary Sewer Upgrade

During September 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:

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Michael Jones

NASA WSTF Environmental Project Manager

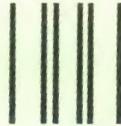
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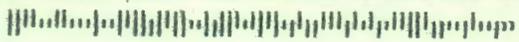


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National Aeronautics and
Space Administration

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



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- 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

2. Article Number
(Transfer from service label)

7011 3500 0003 2696 9174

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 Addressee
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- Certified Mail Express Mail
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4. Restricted Delivery? (Extra Fee) Yes

UNITED STATES POSTAL SERVICE

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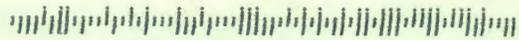


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Mail Code: RE-14-115
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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Baird Swanson
 Ground Water Quality Bureau
 New Mexico Environmental Department
 5500 San Antonio Drive NE
 Albuquerque, NM 87109

2. Article Number

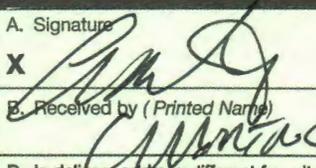
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A. Signature

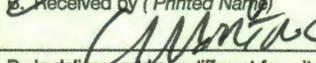
X



Agent

Addressee

B. Received by (Printed Name)



C. Date of Delivery

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