NEW MEXICO
ENVIRONMENT DEPARTMENT

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RYAN FLYNN
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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

July 29, 2014

Jose Franco, Manager
U.S. Department of Energy
P.O. Box 3090
Carlsbad, NM 88221

RE: Discharge Permit Renewal, DP-831, Waste Isolation Pilot Plant (WIPP)

Dear Mr. Franco:

The New Mexico Environment Department (NMED) issues the enclosed Discharge Permit Renewal, DP-831, to the Department of Energy (permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978 §§74-6-1 through 74-6-17, and the New Mexico Water Quality Control Commission (WQCC) Regulations, 20.6.2 NMAC.

The Discharge Permit contains terms and conditions that shall be complied with by the permittee and are enforceable by NMED pursuant to Section 20.6.2.3104 NMAC, WQA, NMSA 1978 §74-6-5 and §74-6-10. Please be aware that this Discharge Permit may contain conditions that require the permittee to implement operational, monitoring or closure actions by a specified deadline. Such conditions are listed at the beginning of the operational, monitoring and closure plans of this Discharge Permit.

Issuance of this Discharge Permit does not relieve the permittee of the responsibility to comply with the WQA, WQCC Regulations, and any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

Pursuant to Paragraph (4) of Subsection H of 20.6.2.3109 NMAC, the term of the Discharge Permit shall be five years from the effective date. The term of this Discharge Permit will end on July 29, 2019.

UNIQUE #	DOE UFC	DATE REC'VD	ADDRESSEES
1402165	5482.00	AUG 0 1 2014	See list

NMED requests that the permittee submit an application for renewal (or renewal and modification) at least 180 days prior to the date the Discharge Permit term ends.

An invoice for the Discharge Permit Fee of $12,650.00 is being sent under separate cover. Payment of the Discharge Permit Fee must be received by NMED within 30 days of the date the Discharge Permit is issued.

If you have any questions, please contact John Hall at (505) 827-1049. Thank you for your cooperation during this Discharge Permit review.

Sincerely,

Jerry Schoeppner, Chief
Ground Water Quality Bureau

JS:JH

Encs: Discharge Permit Renewal, DP-831
Ground Water Discharge Permit Conditions for Synthetically Lined Lagoons – Liner Material and Site Preparation, Revision 0.0, May 2007
Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions, Revision 1.1, March 2011

cc: Michael Kesler, District Manager, NMED District III (electronic copy)
NMED Carlsbad Field Office (electronic copy)
John Romero, Office of the State Engineer (electronic copy)
George Basabilvazo, Director of HSE, U.S. Department of Energy, P.O. Box 3090, Carlsbad, NM 88221 (permit/enclosures)

OOM - 220	R. CHAVEZ - GSA 109	S. Jones
OQA - 221	A. CHAVEZ - GSA 109	R. Salness
OOB - 222	L. PASTORELLO - GSA 109	D. Sellmer - CTAC
OSO - 223	T. Klien - GSA 109	P. Hinojos - CTAC
OESH - 224	W. Most – GSA 109	
NTP - 226	B. CARLSEN – GSA 109	P. Gilbert/
		G. Lyshik

GROUND WATER DISCHARGE PERMIT RENEWAL
Waste Isolation Pilot Plant (WIPP), DP-831

I. INTRODUCTION

The New Mexico Environment Department (NMED) issues this Discharge Permit Renewal (Discharge Permit), DP-831, to the U.S. Department of Energy (permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978 §§74-6-1 through 74-6-17, and the New Mexico Water Quality Control Commission (WQCC) Regulations, 20.6.2 NMAC.

NMED's purpose in issuing this Discharge Permit, and in imposing the requirements and conditions specified herein, is to control the discharge of water contaminants from the Waste Isolation Pilot Plant (WIPP) (facility) into ground and surface water, so as to protect ground and surface water for present and potential future use as domestic and agricultural water supply and other uses and protect public health. In issuing this Discharge Permit, NMED has determined that the requirements of Subsection C of 20.6.2.3109 NMAC have been or will be met. Pursuant to Section 20.6.2.3104 NMAC, it is the responsibility of the permittee to comply with the terms and conditions of this Discharge Permit; failure may result in an enforcement action(s) by NMED (20.6.2.1220 NMAC).

The activities which produce the discharge, the location of the discharge, and the quantity, quality and flow characteristics of the discharge are briefly described as follows:

Up to 23,000 gallons per day (gpd) of domestic wastewater is discharged to a synthetically lined impoundment system for disposal by evaporation. The system consists of seven synthetically-lined facultative sewage lagoons (Facultative Lagoon System) that include Settling Lagoons 1 and 2, Polishing Lagoons 1 and 2, and Effluent Lagoons A, B, and C. Industrial wastewater from two compressed air systems at the facility is also discharged to the Facultative Lagoon System. Brine, purge waters, and miscellaneous industrial non-hazardous wastewater are discharged to the Effluent Lagoons B and C of the Facultative Lagoon System. In addition, brine, purge waters, and miscellaneous industrial non-hazardous wastewater are discharged to a separate synthetically-lined impoundment for disposal by evaporation (Evaporation Pond H-19).

Salt and other subsurface materials mined during construction of the facility, as well as currently mined salt, are stored on the surface in three stockpiles. The stockpiles that are being used to store salt currently, or in the future, as it is mined out from the underground panels at the facility are Salt Cells 2 and 3. Up to 2,547,202 gpd of storm water runoff in contact with these salt stockpiles (based on a 24-hour, 25-year storm event - 3.9 inches) is collected in two double synthetically-lined storm water impoundments, each with a leak detection system (Salt Storage Ponds 2 and 3). The third salt stockpile (Salt Cell 1) is capped with a synthetic liner and earthen cover. Up to 1,677,633 gpd of storm water runoff in contact with this stockpile is collected in synthetically-lined diversion ditches and is diverted to a synthetically-lined impoundment (Salt Storage Pond 1).

Additional storm water runoff from the facility's paved areas and roofs is collected in three synthetically-lined impoundments (Storm Water Ponds 1, 2, and 3). This runoff is not in contact with the salt stockpiles at the facility.

The Site and Preliminary and Design Validation (SPDV) material pile was constructed as the shafts were excavated when construction first began at the WIPP site. The SPDV material pile was closed in the year 2000 with a cover consisting of a geosynthetic liner installed on 6 inches of bedding material and covered with a minimum of three feet of earthen material.

The discharge contains water contaminants which may be elevated above the standards of Section 20.6.2.3103 NMAC and/or the presence of toxic pollutants as defined in Subsection WW of 20.6.2.7 NMAC. The facility is located off of the Jal Highway, approximately 26 miles southeast of Carlsbad, in Sections 20, 28, and 29, Township 22 South, Range 31 East, Eddy County. Ground water most likely to be affected is at a depth of approximately 164 feet and has a total dissolved solids concentration of approximately 3,400 milligrams per liter.

The Discharge Permit sets forth separate requirements for the Facultative Lagoon System, the storage of storm water runoff in contact with salt stockpiles, and storm water runoff from the facility's paved and impermeable areas.

- Part A. Applicable to All Parts
- Part B. Applicable to the Facultative Lagoon System
- Part C. Applicable to the Evaporation Pond H-19 and Storm Water Impoundments Not in Contact with Salt Stockpiles (Storm Water Ponds 1, 2, and 3)
- Part D. Applicable to the Storm Water Runoff Impoundments in Contact with Salt Stockpiles (Salt Storage Ponds 1, 2, and 3) and Salt Stockpiles (Salt Cells 1, 2, and 3)

The original Discharge Permit was issued on January 16, 1992, amended on August 28, 1995, renewed on July 3, 1997, amended on June 12, 1998, amended on January 24, 2000, renewed on April 29, 2003, modified on December 22, 2003, modified again on December 29, 2006, and renewed and modified on July 23, 2008. The application (i.e., discharge plan) consists of the materials submitted by the permittee dated May 10, 2013 and materials contained in the administrative record prior to issuance of this Discharge Permit. The discharge shall be managed in accordance with all conditions and requirements of this Discharge Permit.

Pursuant to Section 20.6.2.3109 NMAC, NMED reserves the right to require a Discharge Permit Modification in the event NMED determines that the requirements of 20.6.2 NMAC are being or may be violated or the standards of Section 20.6.2.3103 NMAC are being or may be violated. This may include a determination that structural controls and/or management practices approved under this Discharge Permit are not protective of ground water quality, and that more stringent requirements to protect ground water quality may be required by NMED. The permittee may be required to implement abatement of water pollution and remediate ground water quality.

Issuance of this Discharge Permit does not relieve the permittee of the responsibility to comply with the WQA, WQCC Regulations, and any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

The following acronyms and abbreviations may be used in this Discharge Permit:

Abbreviation	Explanation	Abbreviation	Explanation
CFR	Code of Federal Regulations	NO_3-N	nitrate-nitrogen
Cl	Chloride	TDS	total dissolved solids
EPA	United States Environmental Protection Agency	TKN	total Kjeldahl nitrogen
gpd	gallons per day	total nitrogen	= TKN + NO_3-N
mg/L	milligrams per liter	SO_4	Sulfate
mL	Milliliters	UPC	Uniform Plumbing Code
NMAC	New Mexico Administrative Code	WQA	New Mexico Water Quality Act
NMED	New Mexico Environment Department	WQCC	Water Quality Control Commission
NMSA	New Mexico Statutes Annotated	WWTF	Wastewater Treatment Facility

II. FINDINGS

In issuing this Discharge Permit, NMED finds:

1. The permittee is discharging effluent or leachate from the facility so that such effluent or leachate may move directly or indirectly into ground water within the meaning of Section 20.6.2.3104 NMAC.

2. The permittee is discharging effluent or leachate from the facility so that such effluent or leachate may move into ground water of the State of New Mexico which has an existing concentration of 10,000 mg/L or less of TDS within the meaning of Subsection A of 20.6.2.3101 NMAC.

3. The discharge from the facility is not subject to any of the exemptions of Section 20.6.2.3105 NMAC.

III. AUTHORIZATION TO DISCHARGE

Pursuant to 20.6.2.3104 NMAC, it is the responsibility of the permittee to ensure that discharges authorized by this Discharge Permit are consistent with the terms and conditions herein.

The permittee is authorized to discharge up to 23,000 gpd of domestic wastewater to a synthetically-lined facultative impoundment system for disposal by evaporation. The permittee is also authorized to discharge up to 4,224,835 gpd of runoff in contact with salt stockpiles to three synthetically-lined impoundments for disposal by evaporation. The Facultative Lagoon System is permitted to accept non-hazardous industrial wastewater from two compressed air systems at the facility. Up to 50,000 gpd of brine, purge waters, and miscellaneous non-hazardous process waters are permitted to be discharged into Evaporation Ponds B and C of the Facultative Lagoon System, up to the capacity of the ponds with one foot of freeboard. Up to 50,000 gpd of brine, purge waters, and miscellaneous non-hazardous process waters are permitted to be discharged into to the Evaporation Pond H-19, up to the capacity of the pond with one foot of freeboard. The permittee is also authorized to collect storm water runoff from the facility's paved areas and

roofs in Storm Water Ponds 1, 2, and 3. This runoff is not in contact with the salt stockpiles at the facility.

[20.6.2.3104 NMAC, Subsection C of 20.6.2.3106 NMAC, Subsection C of 20.6.2.3109 NMAC]

IV. CONDITIONS

NMED issues this Discharge Permit for the discharge of water contaminants subject to the following conditions:

OPERATIONAL PLAN

Part A. Applicable to All Parts

#	Terms and Conditions
1.	The permittee shall implement the following operational plan to ensure compliance with Title 20, Chapter 6, Parts 1 and 2 NMAC. [Subsection C of 20.6.2.3109 NMAC]
2.	The permittee shall operate in a manner such that standards and requirements of Sections 20.6.2.3101 and 20.6.2.3103 NMAC are not violated. [20.6.2.3101 NMAC, 20.6.2.3103 NMAC, Subsection C of 20.6.2.3109 NMAC]
3.	The permittee shall maintain the impoundment liner(s) in such a manner as to avoid conditions which could affect the structural integrity of the impoundment(s) and/or impoundment liner(s). Such conditions include or may be characterized by the following: • erosion damage; • animal burrows or other damage; • the presence of vegetation including aquatic plants, weeds, woody shrubs or trees growing within five feet of the top inside edge of a sub-grade impoundment, within five feet of the toe of the outside berm of an above-grade impoundment, or within the impoundment itself; • the presence of large debris or large quantities of debris in the impoundment; • evidence of seepage; and • evidence of berm subsidence. Vegetation growing around the impoundment shall be routinely controlled by mechanical removal in a manner that is protective of the impoundment liner. The permittee shall visually inspect the impoundment(s) and surrounding berms on a monthly basis to ensure proper maintenance. In the event that inspection reveals any evidence of damage that threatens the structural integrity of an impoundment berm or liner, or that may result in an unauthorized discharge, the permittee shall enact the

#	**Terms and Conditions**
	contingency plan set forth in this Discharge Permit. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
4.	The permittee shall preserve a minimum of one foot of freeboard between the liquid level in the all impoundments and the elevation of the top of the impoundment liners. In the event that the permittee determines that one foot of freeboard cannot be preserved in any impoundment, the permittee shall enact the contingency plan set forth in this Discharge Permit. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]

Part B. Applicable to the Facultative Lagoon System

#	**Terms and Conditions**
5.	The permittee shall maintain fences around the Facultative Lagoon System to control access by the general public and animals. The fences shall consist of a minimum of six-foot chain link or field fencing and locking gates. Fences shall be maintained throughout the term of this Discharge Permit. [Subsections B and C of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.D]
6.	The permittee shall maintain signs indicating that the wastewater at the facility is not potable. Signs shall be posted at the Facultative Lagoon System's entrance and other areas where there is potential for public contact with wastewater. All signs shall be printed in English and Spanish remain visible and legible for the term of this Discharge Permit. [Subsections B and C of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.D]
7.	The permittee shall utilize operators, certified by the State of New Mexico at the appropriate level, to operate the wastewater collection, treatment and disposal systems. The operations and maintenance of all or any part of the wastewater system shall be performed by, or under the direct supervision of, a certified operator. [Subsection C of 20.6.2.3109 NMAC, 20.7.4 NMAC]
8.	The permittee shall measure the thickness of the sludge blanket in each pond of the Facultative Lagoon System ***once within the effective term*** of this Discharge Permit, but before the end of 2018. When sludge accumulation exceeds 1/3 of the total depth of any pond, the permittee shall remove the sludge in a manner, which is protective of the pond liner. Removed solids shall be contained, transported, and disposed of in accordance with all local, state, and federal regulations. The permittee shall maintain solids blanket measurements and solids disposal manifests for solids transported from the facility for

#	Terms and Conditions
	off-site disposal. The permittee shall submit all measurements and manifests to NMED in the semi-annual monitoring report immediately following the solids thickness measurement. [20.6.2.3109 NMAC, 20.6.2.3107 NMAC]

Part D. Applicable to the Storm Water Runoff Impoundments in Contact with Salt Stockpiles (Salt Storage Ponds 1, 2, and 3) and Salt Stockpiles (Salt Cells 1, 2 and 3)

#	Terms and Conditions
9.	The permittee shall measure the thickness of the solids blanket in each impoundment ***once within the effective term*** of this Discharge Permit, but before the end of 2018. Removed solids shall be contained, transported, and disposed of in accordance with all local, state, and federal regulations. The permittee shall maintain solids blanket measurements and solids disposal manifests for solids transported from the facility for off-site disposal. The permittee shall submit all measurements and manifests to NMED in the semi-annual monitoring report immediately following the solids thickness measurement. [20.6.2.3109 NMAC, 20.6.2.3107 NMAC]
10.	The permittee shall inspect the leak detection systems for Salt Storage Ponds 2 and 3 on a monthly basis for the presence of liquid. The permittee shall keep a log of the inspection findings and repairs made. The inspection log, including a statement whether or not liquids were observed in the leak detection systems, shall be submitted to NMED in the semi-annual monitoring reports. [20.6.2.3107 NMAC]
11.	The permittee shall conduct regular maintenance of the earthen cover on the Salt Cell 1 and the SPDV material pile. Inspections shall be conducted monthly and after storm events of 2 inches or greater in a 24-hour period to evaluate potential erosion and vegetation success of the cover. In the event of significant erosion or failure of vegetative success, the permittee shall provide a plan and schedule for repair within 90 days of discovery. General observations and cover repairs shall be reported to NMED. [20.6.2.3109 NMAC]

MONITORING AND REPORTING

Part A. Applicable to All Parts

#	Terms and Conditions
12.	The permittee shall conduct the following monitoring, reporting, and other requirements listed below in accordance with the monitoring requirements of this Discharge Permit. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
13.	METHODOLOGY – Unless otherwise approved in writing by NMED, the permittee shall conduct sampling and analysis in accordance with the most recent edition of the following documents: a) American Public Health Association, Standard Methods for the Examination of Water and Wastewater (18^{th}, 19^{th} or current) b) U.S. Environmental Protection Agency, Methods for Chemical Analysis of Water and Waste c) U.S. Geological Survey, Techniques for Water Resources Investigations of the U.S. Geological Survey d) American Society for Testing and Materials, Annual Book of ASTM Standards, Part 31. Water e) U.S. Geological Survey, et al., National Handbook of Recommended Methods for Water Data Acquisition f) Federal Register, latest methods published for monitoring pursuant to Resource Conservation and Recovery Act regulations g) Methods of Soil Analysis: Part 1. Physical and Mineralogical Methods; Part 2. Microbiological and Biochemical Properties; Part 3. Chemical Methods, American Society of Agronomy h) New Mexico Environment Department, Hazardous Waste Bureau Position Paper, *Use of Low-Flow and Other Non-Traditional Sampling Techniques for RCRA Compliant Groundwater Monitoring.* [Subsection B of 20.6.2.3107 NMAC]
14.	The permittee shall submit semi-annual monitoring reports to NMED for the most recently completed semi-annual period by the 1^{st} of February and August each year. Semi-annual monitoring shall be performed during the following periods and submitted as follows: • January 1^{st} through June 30^{th} (first half) – **due by August 1^{st}** • July 1^{st} through December 31^{st} (second half) – **due by February 1^{st}** [Subsection A of 20.6.2.3107 NMAC]

Part B. Applicable to the Facultative Sewage Lagoon System

#	Terms and Conditions
15.	The volume of domestic influent discharged to the Facultative Lagoon System shall be measured ***monthly*** using a totalizing flow meter on the influent line to the system or the totalizing meter that measures total domestic water usage. Volumes of other authorized discharges to the Facultative Lagoon System shall be calculated by a time/volume method or volumetric measurement of the transport container(s). NMED may require comprehensive laboratory analyses of such wastewater prior to discharge when NMED determines that additional information is needed. Monthly meter readings, the units of measurement, monthly discharge volumes and other volumetric calculations for the previous 6-month period shall be submitted to NMED semi-annually in the monitoring reports. [Subsection A of 20.6.2.3107 NMAC]
16.	The permittee shall collect a wastewater sample on a ***semi-annual*** basis (once every six months) from the influent to the Facultative Lagoon System. The grab sample shall be analyzed for TKN, NO_3-N, SO_4, TDS and Cl. Samples shall be properly prepared, preserved, transported and analyzed in accordance with the methods authorized in this Discharge Permit. Analytical results shall be submitted to NMED in the semi-annual monitoring reports. [Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]

Part C. Applicable to the Evaporation Pond H-19 and Storm Water Impoundments Not in Contact with Salt Stockpiles (Storm Water Ponds 1, 2, and 3)

#	Terms and Conditions
17.	The volume and origin of all wastewater discharged to the Evaporation Pond H-19 that is derived from miscellaneous non-hazardous sources shall be measured ***monthly*** and reported to NMED. Discharge volumes to the Evaporation Pond H-19 shall be calculated by a time/volume method or volumetric measurement of the transport container(s). NMED may require comprehensive laboratory analyses of such wastewater prior to discharge when NMED determines that additional information is needed. Monthly discharge volumes and other volumetric calculations for the previous 6-month period shall be submitted to NMED semi-annually in the monitoring reports. [Subsection A of 20.6.2.3107 NMAC]
18.	A sample shall be collected ***semi-annually*** from the Evaporation Pond H-19 and analyzed for SO_4, Cl, and TDS. Samples shall be collected ***annually*** after a significant storm event from each of the storm water ponds, Storm Water Ponds 1, 2, and 3 and analyzed for SO_4, Cl, and TDS. Samples shall be properly prepared, preserved, transported and

#	Terms and Conditions
	analyzed in accordance with the methods authorized in this Discharge Permit. Analytical results shall be submitted to NMED in the semi-annual monitoring reports. Analytical results, including the laboratory QA/QC summary report, shall be submitted to NMED in the semi-annual monitoring reports. [Subsection A of 20.6.2.3107 NMAC]
19.	The water depth shall be measured ***monthly*** to the nearest tenth of a foot (0.1 ft) in the Storm Water Ponds 1, 2, and 3. The approximate volume of storm water shall be calculated and submitted to NMED in the semi-annual monitoring reports. [Subsection A of 20.6.2.3107 NMAC]

Part D. Applicable to the Storm Water Runoff Impoundments in Contact with Salt Stockpiles (Salt Storage Ponds 1, 2, and 3) and Salt Stockpiles (Salt Cells 1, 2 and 3)

#	Terms and Conditions
20.	A sample shall be collected ***annually*** after a significant storm event from each of the Salt Storage Cells 1, 2, and 3 and analyzed for SO_4, Cl, and TDS. Samples shall be properly prepared, preserved, transported and analyzed in accordance with the methods authorized in this Discharge Permit. Analytical results shall be submitted to NMED in the semi-annual monitoring reports. Analytical results, including the laboratory QA/QC summary report, shall be submitted to NMED in the semi-annual monitoring reports. [Subsection A of 20.6.2.3107 NMAC]
21.	The water depth shall be measured monthly to the nearest tenth of a foot (0.1 ft) in the Salt Storage Ponds 1, 2, and 3. The approximate volume of storm water shall be calculated and submitted to NMED in the semi-annual monitoring reports. [Subsection A of 20.6.2.3107 NMAC]

GROUND WATER MONTIROING AND REPORTS

#	Terms and Conditions
22.	Depth to the water table shall be measured to the nearest hundredth of a foot (0.01 ft) ***quarterly*** in piezometers/monitoring wells: • PZ-1, PZ-2, PZ-3, PZ-4, PZ-5, PZ-6, PZ-7, PZ-8, PZ-9, PZ-10, PZ-11, PZ-12, PZ-13,

#	Terms and Conditions
	PZ-14, and PZ-15 • C-2505, C-2506, C-2507, C-2811, and WQSP-6A [Subsection A of 20.6.2.3107 NMAC]
23.	The permittee shall perform ***semi-annual*** ground water sampling in the following piezometers/monitoring wells and analyze the samples for temperature, pH, specific conductance, SO_4, TDS, and Cl: • Piezometers: PZ-1, PZ-5, PZ-6, PZ-7, PZ-9, PZ-10, PZ-11, PZ-12, and PZ-13 • Monitoring Wells: C-2507, C-2811, and WQSP-6A Ground water sample collection, preservation, transport and analysis shall be performed according to the following procedure: a) Measure the depth-to-most-shallow ground water from the top of the well casing to the nearest hundredth of a foot. b) Purge three well volumes of water from the well prior to sample collection. c) Obtain samples from the well for analysis. d) Properly prepare, preserve and transport samples. e) Analyze samples in accordance with the methods authorized in this Discharge Permit. Depth-to-most-shallow ground water measurements, analytical results, including the laboratory QA/QC summary report, and a facility layout map showing the location and number of each well shall be submitted to NMED in the semi-annual monitoring reports. [Subsection A of 20.6.2.3107 NMAC]
24.	The permittee shall perform ***semi-annual*** ground water sampling from monitoring well WQSP-6A and analyzed for TKN and NO_3. Samples shall be properly prepared, preserved, transported and analyzed in accordance with the methods authorized in this Discharge Permit. Analytical results shall be submitted to NMED in the semi-annual monitoring reports. Analytical results, including the laboratory QA/QC summary report, shall be submitted to NMED in the semi-annual monitoring reports. [Subsection A of 20.6.2.3107 NMAC]
25.	Hydrographs shall be submitted ***annually*** for all monitoring wells and piezometers covered under Condition 22 of this Discharge Permit. At a minimum, graphs shall include the previous five years of water level data, or for recently installed wells, all data since the well was installed. Data for several wells may be included on one graph.

#	Terms and Conditions
	[Subsection A of 20.6.2.3107 NMAC]
26.	A potentiometric map for facility area shall be submitted ***annually***. The map shall incorporate the most recent water level data for all monitoring wells and piezometers installed in the shallow subsurface water (SSW). [Subsection A of 20.6.2.3107 NMAC]
27.	A single table in a paper and electronic format (EXCEL spreadsheet) of water level measurements and water quality data with only those constituents analyzed and water levels measured during a single event shown in columns. Tabulated field measurements to include temperature, pH, and electrical conductivity corrected to 25 degrees Celsius. Monitoring sites shall be shown in rows. The second column shall contain the date of the sampling event. Values exceeding standards shall be bolded. Any constituent not analyzed for a particular site shall be shown as "NA", any site not sampled shall be shown as "NS" with an associated reason, and any site not measured for water levels shall be shown as "NM" with an associated reason. [Subsection A of 20.6.2.3107 NMAC]
28.	A single table that includes all available ground water data to date shall be submitted annually. For each monitoring well, the name of the well shall be entered in the far left column in a row by itself. Sampling events, beginning with the earliest event first, shall be entered in subsequent rows with the sampling date in the second column and the corresponding analytical data in columns further to the right. Each new sampling event shall be added as an additional row to the existing spreadsheet with the corresponding date of the sampling event noted in the second column next to the monitoring well name. [Subsection A of 20.6.2.3107 NMAC]

CONTINGENCY PLAN

#	Terms and Conditions
29.	In the event that ground water monitoring indicates that a ground water quality standard identified in Section 20.6.2.3103 NMAC is exceeded; the total nitrogen concentration in ground water is greater than 10 mg/L; or a toxic pollutant (defined in Subsection WW of 20.6.2.7 NMAC) is present in a ground water sample and in any subsequent ground water sample collected from a monitoring well required by this Discharge Permit, the permittee shall enact the following contingency plan: Within 60 days of the subsequent sample analysis date, the permittee shall propose measures to ensure that the exceedance of the standard or the presence of a toxic pollutant will be mitigated by submitting a corrective action plan to NMED for approval.

#	**Terms and Conditions**
	The corrective action plan shall include a description of the proposed actions to control the source and an associated completion schedule. The plan shall be enacted as approved by NMED. Once invoked (whether during the term of this Discharge Permit; or after the term of this Discharge Permit and prior to the completion of the Discharge Permit closure plan requirements), this condition shall apply until the permittee has fulfilled the requirements of this condition and ground water monitoring confirms for a minimum of two years of consecutive ground water sampling events that the standards of Section 20.6.2.3103 NMAC are not exceeded and toxic pollutants are not present in ground water. The permittee may be required to abate water pollution pursuant to Sections 20.6.2.4000 through 20.6.2.4115 NMAC, should the corrective action plan not result in compliance with the standards and requirements set forth in Section 20.6.2.4103 NMAC within 180 days of confirmed ground water contamination. [Subsection A of 20.6.2.3107 NMAC, Subsection E of 20.6.2.3109 NMAC]
30.	In the event that inspection findings reveal significant damage likely to affect the structural integrity of the lined impoundment(s) or its ability to contain contaminants, the permittee shall propose the repair or replacement of the impoundment liner(s) by submitting a corrective action plan to NMED for approval. The plan shall be submitted to NMED within 30 days after discovery by the permittee or following notification from NMED that significant liner damage is evident. The corrective action plan shall include a schedule for completion of corrective actions and the permittee shall initiate implementation of the plan following approval by NMED. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
31.	In the event that a minimum of one foot of freeboard cannot be preserved in the impoundment(s), the permittee shall take actions authorized by this Discharge Permit and all applicable local, state, and federal regulations to restore the required freeboard. In the event that one foot of freeboard cannot be restored within a period of 72 hours following discovery, the permittee shall propose actions to be immediately implemented to restore one foot of freeboard by submitting a short-term corrective action plan to NMED for approval. Examples of short-term corrective actions include: removing excess wastewater from the impoundment through pumping and hauling; or reducing the volume of liquid/wastewater discharged to the impoundment. The plan shall include a schedule for completion of corrective actions and shall be submitted within 15 days following the date when the one foot of freeboard limit was initially discovered. The permittee shall initiate implementation of the plan following approval by NMED. In the event that the short-term corrective actions failed to restore one foot of freeboard,

#	**Terms and Conditions**
	the permittee shall propose permanent corrective actions in a long-term corrective action plan submitted to NMED within 90 days following failure of the short-term corrective action plan. Examples include: the installation of an additional storage impoundment, or a significant/permanent reduction in the volume of liquid/wastewater discharged to the impoundment. The plan shall include a schedule for completion of corrective actions and implementation of the plan shall be initiated following approval by NMED. [Subsection A of 20.6.2.3107 NMAC]
32.	In the event that a release (commonly known as a "spill") occurs that is not authorized under this Discharge Permit, the permittee shall take measures to mitigate damage from the unauthorized discharge and initiate the notifications and corrective actions required in Section 20.6.2.1203 NMAC and summarized below. Within 24 hours following discovery of the unauthorized discharge, the permittee shall verbally notify NMED and provide the following information: a) The name, address, and telephone number of the person or persons in charge of the facility, as well as of the owner and/or operator of the facility. b) The name and address of the facility. c) The date, time, location, and duration of the unauthorized discharge. d) The source and cause of unauthorized discharge. e) A description of the unauthorized discharge, including its estimated chemical composition. f) The estimated volume of the unauthorized discharge. g) Any actions taken to mitigate immediate damage from the unauthorized discharge. Within one week following discovery of the unauthorized discharge, the permittee shall submit written notification to NMED with the information listed above and any pertinent updates. Within 15 days following discovery of the unauthorized discharge, the permittee shall submit a corrective action report/plan to NMED describing any corrective actions taken and/or to be taken relative to the unauthorized discharge that includes the following: a) A description of proposed actions to mitigate damage from the unauthorized discharge. b) A description of proposed actions to prevent future unauthorized discharges of this nature. c) A schedule for completion of proposed actions. In the event that the unauthorized discharge causes or may with reasonable probability cause water pollution in excess of the standards and requirements of Section 20.6.2.4103 NMAC, and the water pollution will not be abated within 180 days after notice is required to be given pursuant to Paragraph (1) of Subsection A of 20.6.2.1203 NMAC, the permittee may be required to abate water pollution pursuant to Sections 20.6.2.4000

#	Terms and Conditions
	through 20.6.2.4115 NMAC. Nothing in this condition shall be construed as relieving the permittee of the obligation to comply with all requirements of Section 20.6.2.1203 NMAC. [20.6.2.1203 NMAC]
33.	In the event that NMED or the permittee identifies any failures of the discharge plan or this Discharge Permit not specifically noted herein, NMED may require the permittee to submit a corrective action plan and a schedule for completion of corrective actions to address the failure(s). Additionally, NMED may require a Discharge Permit modification to achieve compliance with 20.6.2 NMAC. [Subsection A of 20.6.2.3107 NMAC, Subsection E of 20.6.2.3109 NMAC]
34.	In the event of a pipeline break, pump failure, pond overflow or other system failure at the facility, discharged water shall be contained, pumped and transferred to area of the facility that impose minimal impacts to ground water quality. Failed components shall be repaired or replaced as soon as possible and no later than 72 hours from the time of failure. For good cause demonstrated, the permittee may request NMED approval of an extension of the schedule for the repair or replacement of a failed component. [20.6.2.3107A NMAC]

CLOSURE PLAN

Part A. Applicable to All Parts

#	Terms and Conditions
35.	The permittee shall close the facilities covered under this Discharge Permit in accordance with the closure plan in the March 4, 2005 discharge permit application, the closure plan in the WIPP Hazardous Waste Facility Permit (HWFP) dated November 1, 2012, and the WIPP Land Management Plan. [Subsection A of 20.6.2.3107 NMAC]
36.	The permittee shall continue ground water monitoring until the requirements of this condition have been met and ground water monitoring confirms for a minimum of two years of consecutive ground water sampling events that the standards of Section 20.6.2.3103 NMAC are not exceeded and toxic pollutants are not present in ground water. If monitoring results show that a ground water quality standard in Section 20.6.2.3103 NMAC is exceeded; the total nitrogen concentration in ground water is greater than 10

#	Terms and Conditions
	mg/L; or a toxic pollutant (defined in Subsection WW of 20.6.2.7 NMAC) is present in ground water, the permittee shall implement the contingency plan required by this Discharge Permit. Following notification from NMED that post-closure monitoring may cease, the permittee shall plug and abandon the monitoring well(s) in accordance with the attachment titled *Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions*, Revision 1.1, March 2011. [Subsection A of 20.6.2.3107 NMAC]

Part B. Applicable to the Facultative Sewage Lagoon System

#	Terms and Conditions
37.	In the event the Facultative Lagoon System is proposed to be permanently closed, upon ceasing discharging, the permittee shall perform the following closure measures: Within 60 days of ceasing discharging to the Facultative Lagoon System impoundments(s), the line leading to the impoundment shall be plugged so that a discharge can no longer occur. Within 60 days of ceasing discharging to the Facultative Lagoon System (impoundments), wastewater shall be drained or evaporated from the impoundment and any other wastewater system components and it shall be disposed of in accordance with all local, state, and federal regulations. Within 90 days of ceasing discharging to the Facultative Lagoon System impoundment(s), the permittee shall submit a sludge removal and disposal plan to NMED for approval. The permittee shall initiate implementation of the plan within 30 days following approval by NMED. The sludge removal and disposal plan shall include the following: a) The estimated volume and dry weight of sludge to be removed and disposed, including measurements and calculations. b) Analytical results for samples of the sludge taken from the impoundment for TKN, NO_3-N, percent total solids, hazardous constituents, and any other parameters tested (reported in mg/kg, dry weight basis). c) The method(s) of sludge *removal* from the impoundment(s). d) The method(s) of *disposal* for all of the sludge (and its contents) removed from the impoundment(s). The method(s) shall comply with all local, state and federal regulations, including 40 CFR Part 503. *Note: A proposal that includes the surface disposal of sludge may be subject to Ground Water Discharge Permitting requirements pursuant to 20.6.2.3104 NMAC that are separate from the*

#	Terms and Conditions
	requirements of this Discharge Permit. e) A schedule for completion of sludge removal and disposal not to exceed two years from the date discharge to the impoundment(s) ceased. Within one year following completion of the sludge removal and disposal, the permittee shall complete the following closure measures: a) Remove all lines leading to and from the Facultative Lagoon System impoundment(s), or permanently plug and abandon them in place. b) Remove or demolish any other wastewater system components and re-grade area with suitable fill to blend with surface topography, promote positive drainage and prevent ponding. c) Perforate or remove the impoundment liner(s). d) Fill the impoundment(s) with suitable fill. e) Re-grade the impoundment site to blend with surface topography, promote positive drainage and prevent ponding. [Subsection A of 20.6.2.3107 NMAC, 40 CFR Part 503]

Part C. Applicable to the Evaporation Pond H-19 and Storm Water Impoundments Not in Contact with Salt Stockpiles (Storm Water Ponds 1, 2, and 3)

#	Terms and Conditions
38.	Upon cessation of operation, the permittee shall close the Evaporation Pond H-19 and Storm Water Ponds 1, 2, and 3. Remaining liquids in each impoundment shall be removed and/or evaporated. All sludge shall be sampled to determine if hazardous constituents exist and managed and/or disposed of in accordance with applicable regulations. Within one year following completion of the sludge removal and disposal, the permittee shall complete the following closure measures: a) Remove or plug all piping and other ancillary components b) Remove or demolish any other components and re-grade area with suitable fill to blend with surface topography, promote positive drainage and prevent ponding. c) Perforate or remove the impoundment liner(s). d) Fill the impoundment(s) with suitable fill. e) Re-grade the impoundment site to blend with surface topography, promote positive drainage and prevent ponding. [20.6.2.3107A(11) NMAC]

Part D. Applicable to the Storm Water Runoff Impoundments in Contact with Salt Stockpiles (Salt Storage Ponds 1, 2, and 3) and Salt Stockpiles (Salt Cells 1, 2 and 3)

#	Terms and Conditions
39.	Upon cessation of operation, all mined salt at the facility shall be removed from the site. The permittee is permitted to use the mined salt as backfill in shafts and as interior fill material in berms and permanent markers after closure. All mined salt remaining after backfilling and after construction of surface structures shall be removed from the site. The permittee shall submit a plan and schedule for salt tailings removal to NMED for approval within 120 days prior to the facility closure. The WIPP Land Management Plan reflects the Land Withdrawal Act's requirements for disposition of the salt. The WIPP's Hazardous Waste Facility Permit also addresses closure activities that include closure of the salt storage areas in accordance with the provisions of the WIPP Land Management Plan. The salt storage area will be reclaimed in the manner described in these documents. [20.6.2.3107A(11) NMAC]
40.	Upon cessation of operation, the permittee shall close Salt Storage Ponds 1, 2, and 3. Remaining liquids in each impoundment shall be removed and/or evaporated. All sludge shall be sampled to determine if hazardous constituents exist and managed and/or disposed of in accordance with applicable regulations. Within one year following completion of the sludge removal and disposal, the permittee shall complete the following closure measures: f) Remove or plug all piping and other ancillary components g) Remove or demolish any other components and re-grade area with suitable fill to blend with surface topography, promote positive drainage and prevent ponding. h) Perforate or remove the impoundment liner(s). i) Fill the impoundment(s) with suitable fill. j) Re-grade the impoundment site to blend with surface topography, promote positive drainage and prevent ponding. [20.6.2.3107A(11) NMAC]

E. GENERAL TERMS AND CONDITIONS

#	Terms and Conditions
41.	RECORD KEEPING - The permittee shall maintain a written record of the following information: a) Information and data used to complete the application for this Discharge Permit. b) Records of any releases (commonly known as "spills") not authorized under this Discharge Permit and reports submitted pursuant to 20.6.2.1203 NMAC.

#	**Terms and Conditions**
	c) Records of the operation, maintenance, and repair of all facilities/equipment used to treat, store or dispose of wastewater. d) Facility record drawings (plans and specifications) showing the actual construction of the facility and bear the seal and signature of a licensed New Mexico professional engineer. e) Copies of monitoring reports completed and/or submitted to NMED pursuant to this Discharge Permit. f) The volume of wastewater or other wastes discharged pursuant to this Discharge Permit. g) Ground water quality and wastewater quality data collected pursuant to this Discharge Permit. h) Copies of construction records (well log) for all ground water monitoring wells required to be sampled pursuant to this Discharge Permit. i) Records of the maintenance, repair, replacement or calibration of any monitoring equipment or flow measurement devices required by this Discharge Permit. j) Data and information related to field measurements, sampling, and analysis conducted pursuant to this Discharge Permit. The following information shall be recorded and shall be made available to NMED upon request: i) The dates, location and times of sampling or field measurements; ii) The name and job title of the individuals who performed each sample collection or field measurement; iii) The sample analysis date of each sample; iv) The name and address of the laboratory, and the name of the signatory authority for the laboratory analysis; v) The analytical technique or method used to analyze each sample or collect each field measurement; vi) The results of each analysis or field measurement, including raw data; vii) The results of any split, spiked, duplicate or repeat sample; and viii) A copy of the laboratory analysis chain-of-custody as well as a description of the quality assurance and quality control procedures used. The written record shall be maintained by the permittee at a location accessible during a facility inspection by NMED for a period of at least five years from the date of application, report, collection or measurement and shall be made available to the department upon request. [Subsections A and D of 20.6.2.3107 NMAC]
42.	INSPECTION and ENTRY – The permittee shall allow inspection by NMED of the facility and its operations which are subject to this Discharge Permit and the WQCC regulations. NMED may upon presentation of proper credentials, enter at reasonable times upon or through any premises in which a water contaminant source is located or in which are located any records required to be maintained by regulations of the federal government or the WQCC.

#	**Terms and Conditions**
	The permittee shall allow NMED to have access to and reproduce for their use any copy of the records, and to perform assessments, sampling or monitoring during an inspection for the purpose of evaluating compliance with this Discharge Permit and the WQCC regulations. Nothing in this Discharge Permit shall be construed as limiting in any way the inspection and entry authority of NMED under the WQA, the WQCC Regulations, or any other local, state or federal regulations. [Subsection D of 20.6.2.3107 NMAC, NMSA 1978, §§ 74-6-9.B and 74-6-9.E]
43.	DUTY to PROVIDE INFORMATION - The permittee shall, upon NMED's request, allow for NMED's inspection/duplication of records required by this Discharge Permit and/or furnish to NMED copies of such records. [Subsection D of 20.6.2.3107 NMAC]
44.	MODIFICATIONS and/or AMENDMENTS – In the event the permittee proposes a change to the facility or the facility's discharge that would result in a change in the volume discharged; the location of the discharge; or in the amount or character of water contaminants received, treated or discharged by the facility, the permittee shall notify NMED prior to implementing such changes. The permittee shall obtain approval (which may require modification of this Discharge Permit) by NMED prior to implementing such changes. [Subsection C of 20.6.2.3107 NMAC, Subsections E and G of 20.6.2.3109 NMAC]
45.	PLANS and SPECIFICATIONS – In the event the permittee is proposing to construct a wastewater system or change a process unit of an existing system such that the quantity or quality of the discharge will change substantially from that authorized by this Discharge Permit, the permittee shall submit construction plans and specifications to NMED for the proposed system or process unit prior to the commencement of construction. In the event the permittee implements changes to the wastewater system authorized by this Discharge Permit which result in only a minor effect on the character of the discharge, the permittee shall report such changes (including the submission of record drawings, where applicable) as of January 1 and June 30 of each year to NMED. [Subsections A and C of 20.6.2.1202 NMAC, NMSA 1978, §§ 61-23-1 through 61-23-32]
46.	CIVIL PENALTIES - Any violation of the requirements and conditions of this Discharge Permit, including any failure to allow NMED staff to enter and inspect records or facilities, or any refusal or failure to provide NMED with records or information, may

#	**Terms and Conditions**
	subject the permittee to a civil enforcement action. Pursuant to WQA 74-6-10(A) and (B), such action may include a compliance order requiring compliance immediately or in a specified time, assessing a civil penalty, modifying or terminating the Discharge Permit, or any combination of the foregoing; or an action in district court seeking injunctive relief, civil penalties, or both. Pursuant to WQA 74-6-10(C) and 74-6-10.1, civil penalties of up to $15,000 per day of noncompliance may be assessed for each violation of the WQA 74-6-5, the WQCC Regulations, or this Discharge Permit, and civil penalties of up to $10,000 per day of noncompliance may be assessed for each violation of any other provision of the WQA, or any regulation, standard, or order adopted pursuant to such other provision. In any action to enforce this Discharge Permit, the permittee waives any objection to the admissibility as evidence of any data generated pursuant to this Discharge Permit. [20.6.2.1220 NMAC, NMSA 1978, §§ 74-6-10 and 74-6-10.1]
47.	CRIMINAL PENALTIES – No person shall: 1) make any false material statement, representation, certification or omission of material fact in an application, record, report, plan or other document filed, submitted or required to be maintained under the WQA; 2) falsify, tamper with or render inaccurate any monitoring device, method or record required to be maintained under the WQA; or 3) fail to monitor, sample or report as required by a permit issued pursuant to a state or federal law or regulation. Any person who knowingly violates or knowingly causes or allows another person to violate the requirements of this condition is guilty of a fourth degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who is convicted of a second or subsequent violation of the requirements of this condition is guilty of a third degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who knowingly violates the requirements of this condition or knowingly causes another person to violate the requirements of this condition and thereby causes a substantial adverse environmental impact is guilty of a third degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who knowingly violates the requirements of this condition and knows at the time of the violation that he is creating a substantial danger of death or serious bodily injury to any other person is guilty of a second degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. [20.6.2.1220 NMAC, NMSA 1978, §§ 74-6-10.2.A through 74-6-10.2.F]
48.	COMPLIANCE with OTHER LAWS - Nothing in this Discharge Permit shall be construed in any way as relieving the permittee of the obligation to comply with all applicable federal, state, and local laws, regulations, permits or orders.

#	**Terms and Conditions**
	[NMSA 1978, § 74-6-5.L]
49.	RIGHT to APPEAL - The permittee may file a petition for review before the WQCC on this Discharge Permit. Such petition shall be in writing to the WQCC within thirty days of the receipt of postal notice of this Discharge Permit and shall include a statement of the issues to be raised and the relief sought. Unless a timely petition for review is made, the decision of NMED shall be final and not subject to judicial review. [20.6.2.3112 NMAC, NMSA 1978, § 74-6-5.O]
50.	TRANSFER of DISCHARGE PERMIT - Prior to the transfer of any ownership, control, or possession of this facility or any portion thereof, the permittee shall: 1) notify the proposed transferee in writing of the existence of this Discharge Permit; 2) include a copy of this Discharge Permit with the notice; and 3) deliver or send by certified mail to NMED a copy of the notification and proof that such notification has been received by the proposed transferee. Until both ownership and possession of the facility have been transferred to the transferee, the permittee shall continue to be responsible for any discharge from the facility. [20.6.2.3111 NMAC]
51.	PERMIT FEES - Payment of permit fees is due at the time of Discharge Permit approval. Permit fees shall be paid in a single payment or shall be paid in equal installments on a yearly basis over the term of the Discharge Permit. Single payments shall be remitted to NMED no later than 30 days after the Discharge Permit effective date. Initial installment payments shall be remitted to NMED no later than 30 days after the Discharge Permit effective date; subsequent installment payments shall be remitted to NMED no later than the anniversary of the Discharge Permit effective date. Permit fees are associated with <u>issuance</u> of this Discharge Permit. Nothing in this Discharge Permit shall be construed as relieving the permittee of the obligation to pay all permit fees assessed by NMED. A permittee that ceases discharging or does not commence discharging from the facility during the term of the Discharge Permit shall pay all permit fees assessed by NMED. An approved Discharge Permit shall be suspended or terminated if the facility fails to remit an installment payment by its due date. [Subsection F of 20.6.2.3114 NMAC, NMSA 1978, § 74-6-5.K]

V. PERMIT TERM & SIGNATURE

EFFECTIVE DATE: July 29, 2014
TERM ENDS: July 29, 2019

[Subsection H of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.I]

JERRY SCHOEPPNER
Chief, Ground Water Quality Bureau
New Mexico Environment Department

New Mexico Environment Department Ground Water Quality Bureau
Discharge Permit Summary

Facility Information

Facility Name Waste Isolation Pilot Plant (WIPP)
Discharge Permit Number DP-831

Legally Responsible Party
Jose Franco, Manager
U.S. Department of Energy
P.O. Box 3090
Carlsbad, NM 88221
(575) 234-7300

Treatment, Disposal and Site Information

Primary Waste Type Domestic and Industrial
Facility Type Federal Agency - U.S. Department of Energy

Evaporative Impoundment Locations

Domestic Wastewater

Type	Designation	Description & Comments
Settling Impoundment	Settling Lagoon 1	Formerly known as "Settling Pond 1A"; Primary treatment; Permitted 1 foot of freeboard.
Settling Impoundment	Settling Lagoon 2	Formerly known as "Settling Pond 2A"; Primary treatment; Permitted 1 foot of freeboard.
Polishing Impoundment	Polishing Lagoon 1	Formerly known as "Polishing Pond 1B"; Passive secondary treatment; Permitted 1 foot of freeboard.
Polishing Impoundment	Polishing Lagoon 2	Formerly known as "Polishing Pond 2B"; Passive secondary treatment; Permitted 1 foot of freeboard.
Evaporation Impoundment	Effluent Lagoon A	Formerly known as "Evaporation Pond A"; Effluent storage; Disposal by evaporation; Permitted 1 foot of freeboard.
Evaporation Impoundment	Effluent Lagoon B	Formerly known as "Evaporation Pond B"; Effluent storage; Disposal by evaporation; Permitted discharges are domestic waste, brine, purge waters, and miscellaneous industrial non-hazardous wastewater; Permitted 1 foot of freeboard.
Evaporation Impoundment	Effluent Lagoon C	Formerly known as "Evaporation Pond C"; Effluent Storage; Disposal by evaporation; Permitted discharges are domestic waste, brine, purge waters, and miscellaneous industrial non-hazardous wastewater; Permitted 1 foot of freeboard.

Storm Water Control

Type	Designation	Description & Comments
Storm Water Impoundment	Storm Water Pond 1	Formerly known as "Storm Water Intrusion Pond 1"; Receives clean non-contact storm water from paved areas, roofs, air conditioner condensate, and water from domestic water lines; Disposal by evaporation.

Storm Water Impoundment	Storm Water Pond 2	Formerly known as "Storm Water Intrusion Pond 2"; Receives clean non-contact storm after from the facilities paved areas, roofs, air conditioner condensate, and draining domestic water lines; Disposal by evaporation.
Storm Water Impoundment	Storm Water Pond 3	Formerly known as "Storm Water Intrusion Pond A"; Receives clean non-contact storm after from the facilities paved areas, roofs, air conditioner condensate, and draining domestic water lines; Disposal by evaporation.

Industrial Wastewater

Type	Designation	Description & Comments
Evaporation Impoundment	Evaporation Pond H-19	Permitted discharges are brine, purge waters, and miscellaneous industrial non-hazardous wastewater; 346, 085 gallons (with one foot of freeboard); Disposal by evaporation.
Evaporation Impoundment	Salt Storage Pond 1	Formerly known as "Salt Pile Evaporation Pond"; 1,677,633 gallons (with one foot freeboard); Disposal by evaporation
Evaporation Impoundment	Salt Storage Pond 2	Formerly known as "Salt Storage Extension Basin I"; Constructed using 60-mil HDPE liner, 200-mil geonet drainage layer, and a second 60-mil HDPE liner with a leak detection system;1,273,601 gallons (with one foot of freeboard); Disposal by evaporation.
Evaporation Impoundment	Salt Storage Pond 3	Formerly known as "Salt Storage Extension Basin II"; Constructed using 60-mil HDPE liner, 200-mil geonet drainage layer, and a second 60-mil HDPE liner with a leak detection system; 1,273,601 gallons (with one foot of freeboard); Disposal by evaporation.

Salt Storage Locations

Type	Designation	Description & Comments
Salt Pile	Salt Cell 1	Formerly known as "Salt Pile"; Inactive; Approximately 18.8 acres; graded to 2% slope covered with sand and 60 mil HDPE liner and with 2 ft. of native soil; Seeded; Run-off collects in to Salt Storage Pond 1.
Salt Pile	Salt Cell 2	Formerly known as "Salt Extension Cell A"; Active; 6.2 acres; Run-off area of 326,350 sq. ft.; Constructed using of six inch prepared subgrade, 60-mil HDPE liner, 200-mil drainage layer, eight oz. geotextile fabric covered with 2 ft. of native soil; Runoff collects in Storage Pond(s) 2 and/or 3.

Salt Pile	Salt Cell 3	Formerly known as "Salt Extension Cell B"; Active; 5.2 acres; run-off area of 272,850 sq. ft.; Constructed using of six inch prepared subgrade, 60-mil HDPE liner, 200-mil drainage layer, eight oz. geotextile fabric covered with 2 ft. of native soil; Runoff collects in Storage Pond(s) 2 and/or 3.
Salt Pile	Site Preliminary Design Validation Pile	Closed in 2000; Covered with a geosynthetic liner, 6 inches of bedding material, and three feet of soil; Seeded.

Flow Metering Locations

Type	Designation	Description & Comments
Totalizing Flow Meter	Ultrasonic Flow Meter	Located at the facility Pump House – water supply; Estimates domestic wastewater discharged to the facultative sewage impoundment system.
Primary Measurement Device	Time Recorder	Estimates miscellaneous wastewater discharged to Evaporation Pond H-19 and Facultative Lagoon System.

Ground Water Monitoring Locations

Type	Designation	Description & Comments
Monitoring Well	C-2505	Quarterly depth to water measurement.
Monitoring Well	C-2506	Quarterly depth to water measurement.
Monitoring Well	C-2507	Quarterly depth to water measurement; Semi-annual collection of field parameters for temperature, pH, and specific conductance; Semi-annual monitoring for SO4, Cl, and TDS.
Monitoring Well	C-2811	Quarterly depth to water measurement; Semi-annual collection of field parameters for temperature, pH, and specific conductance; Semi-annual monitoring for SO4, Cl, and TDS.
Monitoring Well	WQSP-6A	Quarterly depth to water measurement; Semi-annual collection of field parameters for temperature, pH, and specific conductance; Semi-annual monitoring for SO_4, Cl, TDS, TKN and NO_3.
Piezometer	PZ-4	Quarterly depth to water measurement.
Piezometer	PZ-5	Quarterly depth to water measurement; Semi-annual collection of field parameters for temperature, pH, and specific conductance; Semi-annual monitoring for SO4, Cl, and TDS.

Piezometer	PZ-6	Quarterly depth to water measurement; Semi-annual collection of field parameters for temperature, pH, and specific conductance; Semi-annual monitoring for SO4, Cl, and TDS.
Piezometer	PZ-7	Quarterly depth to water measurement; Semi-annual collection of field parameters for temperature, pH, and specific conductance; Semi-annual monitoring for SO4, Cl, and TDS.
Piezometer	PZ-8	Quarterly depth to water measurement.
Piezometer	PZ-9	Quarterly depth to water measurement; Semi-annual collection of field parameters for temperature, pH, and specific conductance; Semi-annual monitoring for SO4, Cl, and TDS.
Piezometer	PZ-10	Quarterly depth to water measurement; Semi-annual collection of field parameters for temperature, pH, and specific conductance; Semi-annual monitoring for SO4, Cl, and TDS.
Piezometer	PZ-11	Quarterly depth to water measurement; Semi-annual collection of field parameters for temperature, pH, and specific conductance; Semi-annual monitoring for SO4, Cl, and TDS.
Piezometer	PZ-12	Quarterly depth to water measurement; Semi-annual collection of field parameters for temperature, pH, and specific conductance; Semi-annual monitoring for SO4, Cl, and TDS.
Piezometer	PZ-13	Quarterly depth to water measurement; Semi-annual collection of field parameters for temperature, pH, and specific conductance; Semi-annual monitoring for SO4, Cl, and TDS.
Piezometer	PZ-14	Quarterly depth to water measurement.
Piezometer	PZ-15	Quarterly depth to water measurement.

Depth-to-Ground Water 164 feet
Total Dissolved Solids (TDS) 3,400 mg/L

Permit Information

Application Received May 10, 2013
Public Notice Published May 31, 2014
Discharge Permit Issued July 29, 2014
Discharge Permit Term Ends July 29, 2019
Permitted Discharge Volume Domestic – 23,000 gallons per day
Industrial – 4,224,835 gallons per day

NMED Contact Information

Mailing Address	Ground Water Quality Bureau P.O. Box 5469 Santa Fe, New Mexico 87502-5469
GWQB Telephone Number	(505) 827-2900
NMED Lead Staff	John Hall
Lead Staff Telephone Number	(505) 827-1049
Lead Staff Email	john.hall@state.nm.us

Ground Water Discharge Permit Conditions for Synthetically Lined Lagoons – Liner Material and Site Preparation

These Conditions represent minimum liner material and site preparation requirements for wastewater treatment, storage and evaporation lagoons. These requirements do not apply to lagoons storing hazardous wastes or high strength waste. The Ground Water Quality Bureau may impose additional requirements (e.g., double-lined lagoons with leak detection) for facilities discharging hazardous or high strength waste to lagoons through the development of specific Discharge Permit conditions for such facilities.

Liner Material Requirements:

1. The liner shall be chemically compatible with any material that will contact the liner.
2. The liner material shall be resistant to deterioration by sunlight if any portion of the liner will be exposed.
3. Synthetic liner material shall be of sufficient thickness to have adequate tensile strength and tear and puncture resistance. Under no circumstances shall a synthetic liner material less than 40 mils in thickness be accepted. Any liner material shall be certified by a licensed New Mexico professional engineer and approved by the New Mexico Environment Department (NMED) prior to its installation.

Lagoon Design and Site Preparation Requirements:

1. The system shall be certified by a licensed New Mexico professional engineer and approved by NMED prior to installation.
2. Inside slopes shall be a maximum of 3 (horizontal): 1 (vertical), and a minimum of 4 (horizontal); 1 (vertical).
3. Lagoon volume shall be designed to allow for a minimum of 24 inches of freeboard.
4. The liner shall be installed with sufficient liner material to accommodate shrinkage due to temperature changes. Folds in the liner are not acceptable.
5. To a depth of at least six inches below the liner, the sub-grade shall be free of sharp rocks, vegetation and stubble. In addition, liners shall be placed on a sub-grade of sand or fine soil. The surface in contact with the liner shall be smooth to allow for good contact between liner and sub-grade. The surface shall be dry during liner installation.
6. Sub-grade shall be compacted to a minimum of 90% of standard proctor density.
7. The minimum dike width shall be eight feet to allow vehicle traffic for maintenance.
8. The base of the pond shall be as uniform as possible and shall not vary more than three inches from the average finished elevation.
9. Synthetic liners shall be anchored in an anchor trench in the top of the berm. The trench shall be a minimum of 12 inches wide, 12 inches deep and shall be set back at least 24 inches from the inside edge of the berm.
10. If the lagoon is installed over areas of decomposing organic materials or shallow ground water, a liner vent system shall be installed.
11. Any opening in the liner through which a pipe or other fixture protrudes shall be properly sealed. Liner penetrations shall be detailed in the construction plans and record drawings.
12. A synthetic liner shall not be installed in temperatures below freezing.
13. The liner shall be installed or supervised by an individual that has the necessary training and experience as required by the liner manufacturer.
14. All manufacturer's installation and field seaming guidelines shall be followed.
15. All synthetic liner seams shall be field tested by the installer and verification of the adequacy of the seams shall be submitted to NMED along with the record drawings.
16. Concrete slabs installed on top of the synthetic liner for operational purposes shall be completed in accordance with manufacturer and installer recommendations to ensure liner integrity.

Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions

These conditions identify construction and abandonment requirements for installation of water table monitoring wells under ground water Discharge Permits issued by the NMED's Ground Water Quality Bureau (GWQB). Proposed locations of monitoring wells required under Discharge Permits and requests to use alternate installation and/or construction methods for water table monitoring wells shall be submitted to the GWQB for approval prior to drilling and construction.

General Drilling Specifications:

1. All well drilling activities shall be performed by an individual with a current and valid well driller license issued by the State of New Mexico in accordance with 19.27.4 NMAC.
2. Drilling methods that allow for accurate determinations of water table locations shall be employed. All drill bits, drill rods, and down-hole tools shall be thoroughly cleaned immediately prior to the start of drilling. The borehole diameter shall be drilled a minimum of 4 inches larger than the casing diameter to allow for the emplacement of sand and sealant.
3. After completion, the well shall be allowed to stabilize for a minimum of 12 hours before development is initiated.
4. The well shall be developed so that formation water flows freely through the screen and is not turbid, and all sediment and drilling disturbances are removed from the well.

Well Specifications (see attached monitoring well schematic):

5. Schedule 40 (or heavier) polyvinyl chloride (PVC) pipe, stainless steel pipe, carbon steel pipe, or pipe of an alternate appropriate material that has been approved for use by NMED shall be used as casing. The casing shall have an inside diameter not less than 2 inches. The casing material selected for use shall be compatible with the anticipated chemistry of the ground water and appropriate for the contaminants of interest at the facility. The casing material and thickness selected for use shall have sufficient collapse strength to withstand the pressure exerted by grouts used as annular seals and thermal properties sufficient to withstand the heat generated by the hydration of cement-based grouts. Casing sections shall be joined using welded, threaded, or mechanically locking joints; the method selected shall provide sufficient joint strength for the specific well installation. The casing shall extend from the top of the screen to at least one foot above ground surface. The top of the casing shall be fitted with a removable cap, and the exposed casing shall be protected by a locking steel well shroud. The shroud shall be large enough in diameter to allow easy access for removal of the cap. Alternatively, monitoring wells may be completed below grade. In this case, the casing shall extend from the top of the screen to 6 to 12 inches below the ground surface; the monitoring wells shall be sealed with locking, expandable well plugs; a flush-mount, watertight well vault that is rated to withstand traffic loads shall be emplaced around the wellhead; and the cover shall be secured with at least one bolt. The vault cover shall indicate that the wellhead of a monitoring well is contained within the vault.
6. A 20-foot section (maximum) of continuous-slot, machine slotted, or other manufactured PVC or stainless steel well screen or well screen of an alternate appropriate material that has been approved for use by NMED shall be installed across the water table. Screens created by cutting slots into solid casing with saws or other tools shall not be used. The screen material selected for use shall be compatible with the anticipated chemistry of the ground water and appropriate for the contaminants of interest at the facility. Screen sections shall be joined using welded, threaded, or mechanically locking joints; the method selected shall provide sufficient joint strength for the specific well installation and shall not introduce constituents that may reasonably be considered contaminants of interest at the facility. A cap shall be attached to the bottom of the well screen; sumps (i.e., casing attached to the bottom of a well screen) shall not be installed. The bottom of the screen shall be installed no more than 15 feet below the water table; the top of the well screen shall be positioned not

less than 5 feet above the water table. The well screen slots shall be appropriately sized for the formation materials and shall be selected to retain 90 percent of the filter pack.

7. Casing and well screen shall be centered in the borehole by placing centralizers near the top and bottom of the well screen.
8. A filter pack shall be installed around the screen by filling the annular space from the bottom of the screen to 2 feet above the top of the screen with clean silica sand. The filter pack shall be properly sized to prevent fine particles in the formation from entering the well. For wells deeper than 30 feet, the sand shall be emplaced by a tremmie pipe. The well shall be surged or bailed to settle the filter pack and additional sand added, if necessary, before the bentonite seal is emplaced.
9. A bentonite seal shall be constructed immediately above the filter pack by emplacing bentonite chips or pellets (3/8-inch in size or smaller) in a manner that prevents bridging of the chips/pellets in the annular space. The bentonite seal shall be 3 feet in thickness and hydrated with clean water. Adequate time shall be allowed for expansion of the bentonite seal before installation of the annular space seal.
10. The annular space above the bentonite seal shall be sealed with cement grout or a bentonite-based sealing material acceptable to the State Engineer pursuant to 19.27.4 NMAC. A tremmie pipe shall be used when placing sealing materials at depths greater than 20 feet below the ground surface. Annular space seals shall extend from the top of the bentonite seal to the ground surface (for wells completed above grade) or to a level 3 to 6 inches below the top of casing (for wells completed below grade).
11. A concrete pad (2-foot minimum radius, 4-inch minimum thickness) shall be poured around the shroud or well vault and wellhead. The concrete and surrounding soil shall be sloped to direct rainfall and runoff away from the wellhead.

Abandonment:

12. Approval for abandonment of monitoring wells used for ground water monitoring in accordance with Discharge Permit requirements shall be obtained from NMED prior to abandonment.
13. Well abandonment shall be accomplished by removing the well casing and placing neat cement grout, bentonite-based plugging material, or other sealing material approved by the State Engineer for wells that encounter water pursuant to 19.27.4 NMAC from the bottom of the borehole to the ground surface using a tremmie pipe. If the casing cannot be removed, neat cement grout, bentonite-based plugging material, or other sealing material approved by the State Engineer shall be placed in the well using a tremmie pipe from the bottom of the well to the ground surface.
14. After abandonment, written notification describing the well abandonment shall be submitted to the NMED. Written notification of well abandonment shall consist of a copy of the well plugging record submitted to the State Engineer in accordance with 19.27.4 NMAC, or alternate documentation containing the information to be provided in a well plugging record required by the State Engineer as specified in 19.27.4 NMAC.

Deviation from Monitoring Well Construction and Abandonment Requirements: Requests to construct water table monitoring wells or other types of monitoring wells for ground water monitoring under ground water Discharge Permits in a manner that deviates from these requirements shall be submitted in writing to the GWQB. Each request shall state the rationale for the proposed deviation from these requirements and provide detailed evidence supporting the request. The GWQB will approve or deny requests to deviate from these requirements in writing.

MONITORING WELL SCHEMATIC

(Not to Scale)