

FACT SHEET

Groundwater Discharge Permit DP-1446

May 2021

Facility Name: Holloman Air Force Base, FT-31 Petroleum Contaminated Soil Land Farm

Facility Location: Holloman Air Force Base, Highway 70
Alamogordo, NM
Sections 11, 14 and 15, Township 17S, Range 08E

County: Otero County

Applicant/Permittee: Col. Joseph L. Campo, 49th Wing Commander
Holloman Air Force Base
P.O. Box 2000
Holloman Air Force Base, NM 88330

Proposed Permitting Action: Discharge Permit Renewal

Regulatory Authority: Water Quality Control Commission's Ground and Surface Water Protection Regulations, 20.6.2 NMAC

Issuing Agency: Ground Water Quality Bureau of the
New Mexico Environment Department

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The New Mexico Environment Department (NMED) provides this Fact Sheet to inform the public regarding the Department's proposed permitting action at the Holloman Air Force Base, FT-31 Petroleum Contaminated Soil Land Farm (Facility) to protect groundwater. Prior to issuing a permit, NMED is required by regulation to release a draft of the permit for public comment. NMED is also required to issue a Fact Sheet which serves two functions: 1) to facilitate public review of that draft permit; and 2) to provide a brief summary of the basis for draft permit conditions.

This Fact Sheet includes general information about Holloman Air Force Base, FT-31 Petroleum Contaminated Soil Land Farm, a description of the department's permitting process to protect groundwater, a description of the wastewater discharged from the Facility that could potentially impact groundwater, and a summary of the draft conditions in the groundwater discharge permit. NMED issues groundwater discharge permits in accordance with the State law, i.e., the New Mexico Water Quality Act, and State regulation, i.e., the Ground and Surface Water Protection Regulations.

Facility Background

The Facility is located at Holloman Air Force Base, Highway 70, in Sections 11, 14 and 15, Township 17S, Range 08E, in Otero County.

The Holloman Air Force Base, FT-31 Petroleum Contaminated Soil Land Farm accepts petroleum contaminated soil (PCS) excavated from Environmental Restoration Program (ERP) clean-up sites on Holloman AFB. The PCS is placed in 1-foot thick lifts in the land farm (10,000 cubic yards per lift maximum). The land farm is divided into 16 equal area grids that are filled one at a time. The Facility has been inactive since 2015.

Regulatory Framework

The Ground and Surface Water Protection Regulations, 20.6.2 NMAC, establish the regulatory framework for controlling discharges onto or below the surface of the ground through the issuance of groundwater discharge permits. The purpose of the regulations pertaining to groundwater discharge permits, as stated in Section 20.6.2.3101 NMAC, is "to protect all ground water of the state of New Mexico which has an existing concentration of 10,000 mg/l or less of total dissolved solids, for present and potential future use as domestic and agricultural water supply, and to protect those segments of surface waters which are gaining because of ground water inflow, for uses designated" in the Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC. (See the New Mexico Commission of Public Records website to view 20.6.2 and 20.6.4 NMAC: <http://www.srca.nm.gov/chapter-6-water-quality/>.) The regulations establish groundwater standards as identified in Section 20.6.2.3103 NMAC.

Persons proposing to discharge effluent or leachate in such a manner that it could move directly or indirectly into groundwater must obtain and comply with a discharge permit (20.6.2.3104 NMAC). In order to obtain a discharge permit, an applicant must submit an application (or "discharge plan" – 20.6.2.7 NMAC) proposing methods/techniques to be used or processes expected to naturally occur to ensure that the discharge of water contaminants does not result in the contamination of ground or surface water (20.6.2.3106 NMAC).

In reviewing and approving an application, NMED must ensure that the discharge plan will not result in a hazard to public health, undue risk to property, exceedance of the groundwater standards at any place of withdrawal of water for present or reasonably foreseeable future use,

or violation of a stream standard (Subsections C and H of 20.6.3109 NMAC). “Hazard to public health” is defined in Section 20.6.2.7 NMAC and pertains to the exceedance of the groundwater standards in a drinking water supply.

Subsection B of 20.6.2.3109 NMAC directs the NMED Secretary to “approve, approve with conditions, or deny” a discharge permit application, after the administrative record is complete and all required information is available. This regulation authorizing permit approval “with conditions” provides the fundamental authority for including conditions in discharge permits.

NMED’s Ground Water Quality Bureau (GWQB) is responsible for the issuance of the groundwater discharge permit (Discharge Permit of DP-1446) to control discharges from the Facility for the protection of groundwater for present and potential future use as domestic and agricultural water supply.

Discharge Permit History

The original Holloman Air Force Base, FT-31 Petroleum Contaminated Soil Land Farm Groundwater Discharge Permit (DP-1446) was issued by NMED on March 11, 2004 and subsequently renewed and modified on November 6, 2009. The application (i.e., discharge plan) consists of the materials submitted by the Permittee dated August 4, 2020 and materials contained in the administrative record prior to issuance of this draft Discharge Permit and draft Fact Sheet. The draft Discharge Permit addresses the renewal of associated permit conditions.

Description of the Proposed Discharge

The activities that produce the discharge and the quantity, quality, and flow characteristics of the proposed discharges at the Holloman Air Force Base, FT-31 Petroleum Contaminated Soil Land Farm are briefly described as follows:

The draft Discharge Permit proposes to authorize the Permittee to receive and treat up to 10,000 cy of petroleum contaminated soil per lift and a total maximum of 150,000 cy per year that discharges to 16 cells that are filled one at a time with 12 inch lifts of soil and with an interior berm size of 270,000 square feet for remediation and surface disposal.

Basis for Draft Permit Conditions

NMED organized the conditions in this draft Discharge Permit into the following Sections: Operational Plan, Monitoring and Reporting, Contingency, Closure, and General Requirements. The Draft Permit conditions conform to the requirements of the regulations and are generally consistent with similar conditions in other groundwater discharge permits issued by the Department.

1. Operational Plan Conditions (pages 3-8 in the Draft Permit)

Conditions in this Section require the permittee to properly operate and maintain the disposal systems, to restrict access to the systems via fencing so that unauthorized persons cannot damage a system or be exposed to unsafe conditions, and to post appropriate cautionary signs.

This Section contains operating conditions typically required for an earthen berm. These conditions include requirements to appropriately maintain a 24-inch earthen berm surrounding the perimeter of the facility to prevent run-on and run-off from a 25-year storm event. In addition, the Permittee shall construct and maintain shallow (minimum depth of six inches) storm water diversion bar trenches parallel to and on each side of the site entrance gate. The conditions associated with the earthen berm include requirements to inspect the berms on a regular basis and after any major rainfall event and repair the berms as necessary. Proper operation and maintenance of the discharge system is critical for the Discharge Permit to achieve the performance criteria established in Subsection C of 20.6.2.3109 NMAC.

This Section contains standard operating conditions authorized to receive waste for the remediation of Environmental Restoration Program clean-up sites on Holloman Air Force Base. The conditions associated with the hydrocarbon-contaminated soil include requirements to inspect the Facility weekly and collect any residual solid waste (trash) on the Facility site. This section restricts the Permittee to receive waste from other facilities or haulers and requires an attendant on duty unless the Permittee can monitor or inspect the loads prior to disposal. This section requires the Permittee to not discharge hydrocarbon-contaminated soil to any of the surface disposal cells during periods of precipitation or when surface soils are frozen or saturated. Proper operation and maintenance of the discharge system is critical for the Discharge Permit to achieve the performance criteria established in Subsection C of 20.6.2.3109 NMAC.

This Section contains standard operating conditions restricting acceptance of hazardous waste using EPA's sample preparation Method 1311, the Toxicity Characteristics Leaching Procedure (TCLP), in accordance with 40 CFR §261.24. This Section contains standard operating conditions restricting acceptance of hydrocarbon contaminated soil that does not pass the Paint Filter Liquids Test for disposal at the Facility. This Section prohibits adding amendments to the contaminated soil, such as proprietary microorganisms or fertilizer, without prior written approval by NMED. This Section contains standard operating conditions restricting acceptance of wastes generated from oil and natural gas exploration or production activities.

This Section contains operating conditions typically required for ensuring a manifest accompanies each load of waste received and disposed of at the Facility. Proper maintenance of manifests is critical for the Discharge Permit to achieve the performance criteria established in Subsection A of 20.6.2.3107 NMAC.

This Section contains operating conditions requiring land application of the hydrocarbon-contaminated soils in lifts of twelve inches or less (approximately 1,000 cubic yards per acre) and incorporating the contaminated soil by disking. This Section requires the Permittee to disk the

contaminated soil lifts at least once every 14 days until analytical results indicate that the Permittee has remediated the soil to the standards required by this Discharge Permit.

The conditions associated with the discharging hydrocarbon contaminated soil include requirements to mix either domestic septage or domestic wastewater treatment plant sludge with hydrocarbon contaminated soil to moisten soils in the remediation cells to enhance remediation and reduce dust. This Section includes requirements to apply either domestic septage or domestic wastewater treatment plant sludge evenly throughout each cell such that the volume of total nitrogen applied does not exceed 200 pounds per acre in any rolling 12-month period. This Section prohibits applying either domestic septage or domestic wastewater treatment plant sludge to areas outside of the remediation cells. Proper operation and maintenance of the discharge system is critical for the Discharge Permit to achieve the performance criteria established in Subsections B and C of 20.6.2.3109 NMAC.

This draft permit establishes the following discharge limitations: 1000 mg/kg for Total Petroleum Hydrocarbons (TPH), 17.8 mg/kg for Benzene, 5,230 mg/kg for Toluene, 75.1 mg/kg for Ethylbenzene and 871 mg/kg for Xylenes.

2. Monitoring and Reporting Conditions (pages 8 – 12 in the Draft Permit)

Conditions in this Section require the Permittee to monitor and report on various aspects of the discharge system and groundwater to demonstrate that operations are compliant with the Discharge Permit and that the Discharge Permit is achieving the expected results. Monitoring and reporting requirements are authorized by Subsection A of 20.6.2.3107 NMAC. A discharge permit may not be approved without provisions for sampling, pursuant to Subsection H of 20.6.2.3109 NMAC.

The Groundwater Monitoring and Reporting subsection requires monitoring groundwater downgradient and upgradient of the landfarm. The Permittee is required on a semi-annual basis to sample for TPH, BTEX, total Kjeldahl nitrogen, nitrate-nitrogen, total dissolved solids and chloride in five groundwater monitoring wells designated to monitor the landfarm. This Section requires the development of a groundwater elevation contour map, i.e., potentiometric surface map, on a semi-annual basis using the top of casing elevation data from the monitoring well survey and semi-annual the most recent depth-to-most-shallow groundwater measurements, referenced to mean sea level, obtained during the groundwater sampling required by this draft Permit

This Section requires the maintenance of a monthly log detailing wastes discharged to the Facility and submittal to NMED in the semi-annual monitoring reports.

This Section requires prior to opening a new landfarm cell, the Permittee sample a minimum of one composite background soil sample consisting of 16 discrete samples taken from at least six inches below the original ground surface for every two acres to establish background

concentrations for TPH, BTEX, PAH's, MTBE and the remaining constituents listed in Subsections A and B of 20.6.2.3103 NMAC by appropriate EPA methods. Prior to adding additional twelve-inch lifts, the Permittee shall demonstrate soil remediation completion to the standards listed in this draft Permit. To make this demonstration, the Permittee shall collect a composite soil sample consisting of four discrete samples taken from the treatment zone for each landfarm treatment cell semi-annually for TPH using EPA SW-846 method 8015. This Section requires the Permittee submit a description of the remediation demonstration, a copy of the laboratory analytical results that includes the laboratory QA/QC summary report, and a map outlining the sampling locations to NMED in the semi-annual monitoring reports.

On an annual basis, the Permittee shall conduct Vadose zone monitoring. The Permittee shall collect vadose zone monitoring (from three to four feet below the cell's original ground surface). This Section requires the Permittee analyze a minimum of four randomly selected grab samples for: TPH using EPA SW-846 method 8015 and BTEX using EPA SW-846 methods 8021 or 8260. This Section requires the Permittee submit analytical results and a map outlining the sampling locations to NMED on an annual basis. This Section also requires the Permittee to conduct Vadose zone monitoring once during the third year of this draft Permit for four randomly selected grab samples for constituents listed in Subsections A and B of 20.6.2.3103 NMAC and submit the analytical results and a map outlining the sampling locations to NMED.

This Section requires the submittal of complete Surface Disposal Data Sheets (SDDS) on a monthly basis that document the amount of either domestic septage or domestic wastewater treatment plant sludge applied to the hydrocarbon contaminated soil. This Section requires the Permittee submit the SDDS to NMED in the subsequent semi-annual monitoring reports.

3. Contingency Plan Conditions (pages 12 -16 in the Draft Permit)

This Section requires the Permittee implement specified actions, or to propose corrective actions for NMED's approval, in the case of failure of any aspect of the discharge system. The conditions, which reflect standard language used in other industrial discharge permits, address the exceedance of groundwater standards, exceedance of soil remediation standards and monitoring well deficiencies (e.g., improper construction, improper location for monitoring the intended source, insufficient water for sampling). If any of the conditions listed occur, the Permittee is required to submit a Corrective Action Plan resolving the issue to NMED for approval. Contingency plans are authorized by Subsection A(10) of 20.6.2.3107 NMAC. The Permittee is required to report and address unauthorized discharges in accordance with 20.6.2.1203 NMAC.

4. Closure Conditions (pages 17 – 23 in the Draft Permit)

This draft Discharge Permit Section contains specific closure conditions requiring the submission of a detailed plan for complete closure, a detailed and complete closure cost estimate for financial assurance purposes, and a proposed financial assurance instrument(s) in accordance with Subsection A(11) of 20.6.2.3107 NMAC.

This Section prescribes measures and timeframes for closing part, or all, of the Facility so that discharges can no longer occur and so that the exceedance of groundwater standards does not occur after the cessation of the operation. NMED understands that the Permittee does not plan to close the Facility during the term of this Discharge Permit, however general closure conditions are always included in discharge permits. Closure requirements are authorized by Subsection A(11) of 20.6.2.3107 NMAC, which also stipulates that closure requirements survive the termination or expiration of the Discharge Permit.

Groundwater monitoring is required after a discharge ceases. This period after “closure” is commonly referred to as “post-closure” and generally continues until a minimum of eight consecutive quarters of groundwater sampling and analysis confirm no exceedance of standards. This two-year period allows for the potential movement of contaminants through the vadose zone and is consistent with the time period established in remediation programs for demonstrating that remediation is complete, e.g., 20.6.2.4103 NMAC (abatement plans) and 20.5.119.1929 NMAC (petroleum storage tank systems).

5. General Terms and Conditions (pages 23 – 27 in the Draft Permit)

This Section’s general terms and conditions are standard conditions in all discharge permits.

The Permittee is required to maintain certain records and provide them if requested to NMED, as authorized by Subsections A and D of 20.6.2.3107 NMAC. The Permittee is required to notify NMED of proposed changes to the volume, location, or character of the discharge, as this may require a “discharge permit modification” as defined in Subsection D of 20.6.2.7 NMAC and is consistent with the notification requirement in Subsection C of 20.6.2.3107 NMAC.

This Section identifies the Permittee’s obligations, pursuant to the Ground and Surface Water Protection Regulations, regarding the transfer of the discharge permit, permit fees, and submittal of construction plans and specifications. The Section also cites New Mexico Water Quality Act provisions allowing for inspections, civil and criminal penalties, and the duty to comply with other laws.

Comment Period / Request for Hearing

NMED will allow at least thirty days during which time the public or the Facility may submit written comments and request a public hearing regarding the draft Discharge Permit. NMED will allow for these activities after publishing notice of the availability of this draft Permit and Fact Sheet. Requests for public hearing shall be in writing and shall set forth the reasons why a hearing should be held. A hearing will be held if the NMED Secretary determines that there is substantial public interest. To obtain a copy of the Draft Permit, to submit a comment, or to request a hearing on this matter, contact the GWQB Contact listed at the beginning of this Fact Sheet.