



State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
CONTAMINATED SITE REMEDIATION & REDEVELOPMENT
BUREAU OF GROUNDWATER POLLUTION ABATEMENT

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SHAWN M. LATOURETTE
Commissioner

July 25, 2025

Edward Meeks, Remediation Manager
Hercules Incorporated
500 Hercules Road, Bldg. 8145
Wilmington, DE 19808

Re: Discharge to Ground Water Authorization
Hercules Inc.
100 Howard Boulevard
Roxbury Township, Morris County
Program Interest Number: 000741
Subject Item ID: DGWD0000167640

Dear Edward Meeks:

This New Jersey Pollutant Discharge Elimination System/Discharge to Ground Water (NJPDES/DGW) authorization is hereby issued under the authority of the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq. and the implementing regulations, N.J.A.C. 7:14A-1 et seq. N.J.A.C. 7:14A-7.5 authorizes the discharge described below which will allow application of amendment, treated soil and enhanced recycled water to treat explosive and energetic (E&E) compounds at the above referenced site.

Pursuant to N.J.A.C. 7:14A-22.4(b)5, a Treatment Works Approval is not required for discharges to ground water authorized pursuant to N.J.A.C. 7:14A-7.5 and a licensed operator is not required pursuant to N.J.A.C. 7:10A-1.10(c)1. The discharge approved through this authorization will be to excavation bases and the ground surface. The discharge shall be conducted as proposed in the July 2021 Discharge to Groundwater Permit-by-Rule Authorization Request and DGW proposal, received on 8/10/21 and clarified and revised by email on 11/18/21, 2/26/25, 3/6/25, 3/12/25, 3/26/25, 4/9/25, 5/5/25, 5/7/25, 5/19/25, 5/20/25, 5/28/25, 5/29/25, 6/4/25, 6/6/25, 6/11/25, 6/30/25, 7/15/25, 7/16/25 and 7/23/25. The proposal was originally submitted on your behalf by LSRP Anita Locke of Ramboll. The current LSRP is Caryn Barnes of Langan.

A public notice describing this discharge was published in the Morristown Daily Record on 6/13/25 which initiated a 30-day public comment period. In addition, a copy of the public notice was sent to the municipal clerks and health officers of Roxbury Township and Mount Arlington Borough. The Department did not receive any comments on the DGW proposal.

Pursuant to N.J.A.C. 7:14A-2.7, the maximum approved discharge duration is five years and shall not extend beyond five years from the date of this letter; regardless of the date the discharge first occurs.

The Department shall be notified of the date when the discharge begins as instructed in Section IV of this letter. Only the discharge described in Section I below is authorized. The discharge shall be conducted in conformance with the DGW proposal and shall comply with the requirements of Sections II, III and IV farther below.

I. DISCHARGE DESCRIPTION

The authorized discharge is the application of DARAMEND OE®, treated soil and enhanced recycled water. DARAMEND OE® is a bioremediation amendment comprised of organic material and zero valent Iron. It will be applied to the excavation bases. Treated soil will be used as backfill. Enhanced recycled water (from onsite soil treatment) will be applied to the ground surface.

Soil requiring remediation will be removed from 16 TNT excavation areas (Exhibit A). The areal extent of these excavations is roughly 400,000 ft². The project will occur in two phases. The first phase is ex-situ soil processing to physically reduce the particle size of the solid TNT along with bioremediation to reduce target constituent mass. The second phase will occur in-situ in which treated material is backfilled to the excavation areas where bioremediation will continue to reduce contaminant mass. The project is anticipated to last approximately five (5) years.

Before backfilling, DARAMEND OE® will be added to the excavation bases. Up to 4,700 tons of DARAMEND OE® are planned to be applied. Soil that has undergone ex-situ processing and treatment will be used as excavation backfill. Up to 90,000 tons of treated soil will be applied. Water that has been recirculated in the ex-situ soil treatment process is rich in microbes and nutrients. This enhanced recycled water will be applied to the surface of the excavations annually to maintain required moisture levels. It is anticipated that up to 7 million gallons of enhanced recycled water will be used over the course of the project.

As a necessary part of the in-situ remediation process, the discharge may cause minor, temporary and localized noncompliance with the ground water quality criteria for Iron. As such, a Classification Exception Area (CEA) for the discharge is approved pursuant to N.J.A.C. 7:9C-1.6(c) for the duration of this permit action and the remediation process for the area monitored by the wells indicated in Section III below. If levels elevated above background conditions for these contaminants persist beyond the permit monitoring period, they will be included in the site remediation CEA for the plume.

II. SYSTEM OPERATION AND MONITORING

The area of discharge shall be monitored for evidence of malfunction. Said evidence shall include, but is not limited to: breakout; wet areas; ponding; odors; and elevated PID readings in the nearby work area or building.

The discharge shall not cause any of the following negative impacts: adversely impact the behavior of free product or the plume; adversely impact a water supply well or have a long-term adverse impact on ground water quality; create an unpermitted discharge to any surface water of the State or violation of Surface Water Quality Standards; create a persistent standing, ponded or surface-flowing fluid condition; or cause adverse vapor intrusion to occur.

Pursuant to N.J.A.C. 7:14A-6.2(a)5 and 11, if free product in ground water, vapors or odors in any building or any malfunction resulting in a potential impact to a receptor are detected and are a result of the discharge authorized by this approval, the discharger will immediately: (1) cease the discharge or make necessary adjustments to the discharge rate or system operation; and (2) repair or mitigate any negative impacts.

After completion of the discharge, the property should be returned to its previous condition or as agreed to with the property owner if the permittee is not the property owner.

III. GROUND WATER MONITORING REQUIREMENTS

The Permittee shall perform the following ground water sampling as specified in the DGW proposal (including all addendums and modifications) for the purpose of complying with this Discharge to Ground Water Permit-By-Rule authorization.

Monitoring points in the project area consist of wells beyond the footprint of the E&E plume (delineation wells) and those within the plume (plume wells). Delineation wells are MW-21, MW-24, MW-29 (MW-29S), MW-29D, MW-42, MW-50 (MW-50S), MW-50D, MW-54S (MW-54), MW-54D, MW-56S and MW-56D. Plume wells include MW-19, MW-28, MW-28D, MW-39R, MW-44, MW-44D, MW-45, MW-46, MW-49 (MW-49S) and MW-49D. See attached Exhibit A.

Existing data from the above-referenced wells will be used to define baseline conditions.

Delineation wells will be sampled annually and sampling will occur roughly 30 days after the end of seasonal intrusive soil activities (e.g., excavation, backfilling). Sampling is anticipated to occur between September and November each year.

Plume wells may be sampled periodically throughout the course of the soil treatment work. Sampling may include one, some or all plume wells. It would be conducted to evaluate the influence of excavation and backfilling on localized ground water quality and/or to monitor reductions of target constituent concentrations in wells proximate to excavation areas backfilled with treated material (to supplement soil monitoring data).

All samples will be analyzed for 2,4,6-Trinitrotoluene, 2,4-/2,6-Dinitrotoluene mixture, 2-Amino-4,6-Dinitrotoluene, 4-Amino-2,6-Dinitrotoluene, TDS, Ammonia Nitrogen and Iron. Samples will also be analyzed for any compounds above Migration to Ground Water Soil

Remediation Standards (MGWSRS) in the treated material. Likewise, samples will also be analyzed for any compounds above Ground Water Quality Standards (GWQS) and/or EPA Regional Screening Levels (RSL) in the enhanced recycled water samples.

Samples from MW-44 and MW-46 will be analyzed for per- and polyfluoroalkyl substances (PFAS). If PFAS are detected at concentrations exceeding GWQS, then PFAS analysis in the delineation wells would be contingent upon exceedances of the MGWSRS in the treated material and/or exceedances of the GWQS in the enhanced recycled water.

As such (apart from the E&E compounds, TDS, Ammonia Nitrogen & Iron), the list of analytes will be dynamic throughout the course of the project. Water Quality Indicator Parameters (Dissolved Oxygen, Conductivity, Oxidation-Reduction Potential, pH, Temperature & Turbidity) shall be recorded at all sampled wells.

The Permittee shall measure ground water elevations at all sampled wells upon each sampling event and shall construct ground water flow maps with the water elevation data to document the direction of ground water flow pursuant to N.J.A.C. 7:26E-1.5(b). Pursuant to N.J.A.C. 7:26E-2.1(a)14 and N.J.A.C. 7:14A-6.2(a)14, any product observed (including sheen) shall be documented. If measurable product is observed, discharges shall be suspended until all recoverable product is removed from the treatment area.

Pursuant to N.J.A.C. 7:26E-1.5(b), all sampling shall be performed as proposed and consistent with the methods specified in the most current edition of the Department's Field Sampling Procedures Manual. Pursuant to N.J.A.C. 7:26E-2.1, all samples shall be analyzed by a New Jersey Certified Laboratory certified for the methods being used to analyze groundwater samples. Analytical Method Detection Limits (MDLs) shall be less than or equal to the ground water quality standards (N.J.A.C. 7:9C-1.7). Parameters determined in the field (pH, specific conductance, dissolved oxygen, temperature) are to be measured by a certified contractor or laboratory.

Comparison to the vapor intrusion (VI) screening levels is necessary to monitor whether the discharge activities have the potential to cause VI issues within any nearby structures by means of adversely impacting the behavior of the ground water contaminants (e.g., unexpected contaminant movement). Pursuant to the requirements specified in Section II above, if there are any exceedances of the VI screening levels caused by the authorized discharge, a VI evaluation shall be conducted of any potentially impacted structures.

Contingency compliance ground water sampling is required if ground water sampling results indicate that ground water quality criteria (GWQC) have been contravened because of the authorized discharge (e.g., the GWQC for Iron is exceeded due to application of DARAMEND OE) or that ground water quality has not returned to baseline conditions (when baseline concentrations are greater than GWQC) in the expected timeframe. Ground water sampling must continue until it can be demonstrated that the GWQC have been met or until the ground water quality has returned to baseline conditions. To demonstrate either of these conditions, a minimum of two consecutive ground water sampling events (spaced far enough apart to account for seasonal fluctuations) must be conducted.

Furthermore, if the Permittee is planning to apply for a Ground Water Remedial Action Permit for Natural Attenuation in the future and exceedances of the GWQC that are due to the discharge remain,

those exceedances must be treated similarly to any other site-related contaminants (i.e., a sufficient number of samples are required and a decreasing concentration trend must be evident) consistent with the Department's Remedial Action Permits for Ground Water Guidance.

IV. REPORTING REQUIREMENTS AND INFORMATION SUBMITTALS

All information, including a detailed summary of the discharge and ground water sampling results, as well as the QA/QC package specified at N.J.A.C. 7:26E-2.1(a)15 shall be submitted with the next key document due following completion of the discharge monitoring program.

Consistent with N.J.A.C. 7:14A-2.11(a) and 6.2(a)14, within 14 days after initiation of the discharge, notify the Department of the "start date" of the discharge. To report this date, send an email to Marc Romanell at Marc.Romanell@dep.nj.gov stating the start date of the discharge.

Consistent with N.J.A.C. 7:14A-2.11(a) and 6.2(a)14, any malfunctions or non-compliance should be reported by telephone within 24 hours to the Bureau of Ground Water Pollution Abatement at (609) 633-6801 and in writing within seven days. Written submissions must include the facility name and PI Number. Failure to report this information is a violation of N.J.A.C. 7:14A and the permit-by-rule.

Nothing in this correspondence affects your potential liability and obligations to the State Trustee, the Department or its Commissioner regarding natural resource injuries, restoration or damages.

If you have any questions or concerns associated with this Discharge Authorization, please contact Marc Romanell at Marc.Romanell@dep.nj.gov.

Sincerely,



Joel Fradel, Bureau Chief
Bureau of Ground Water Pollution Abatement

Enclosure

c: Caryn Barnes, Langan
Hercules Inc % Tax Division
Amy Rhead, Roxbury Township Clerk
Courtney Sartain, Roxbury Township Health Officer



	Plume Wells		TNT Excavation Area
	Delineation Wells		Extent of Shallow Groundwater in Exceedance of TNT
	Site Boundary		Extent of Deep Groundwater in Exceedance of TNT

TNT DGW Permit Proposal -
Groundwater Monitoring Plan
Hercules LLC, Former Kenvil Works Facility
Kenvil, New Jersey

Monitoring Well Locations

Kennedy Jenks

Exhib
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