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INTRADEPARTMENTAL MEMORANDUM

FILE: GMHR Acquisitions Co., LLC (0179)

TO: Charles R. Hyatt, Director CRH
Division of Waste Management

THROUGH: Diana A. Trussell, Manager DAT
Solid Waste Program
Division of Waste Management

FROM: Anthony Quach, Environmental Scientist AQ
Solid Waste Program
Division of Waste Management

SUBJECT: Permit Application Review

DATE: September 3, 2024

Introduction

On February 29, 2024, the North Dakota Department of Environmental Quality (Department) received a permit application for a modification for GMHR Acquisitions Co., LLC's (GMHR) inert waste landfill, petroleum contaminated soil treatment (composting) facility, waste pile storage areas, and railroad car cleaning area facility.

GMHR currently owns and operates an inert waste landfill, petroleum contaminated soil treatment (composting) facility, waste pile storage areas, and railroad car cleaning area facility, regulated under Permit 0179 on approximately 697 acres located in the Tract I (484 acres) and Tract II (213 acres) in portions of Section 27 and Section 34, Township 131 North, Range 99 West in Bowman County, ND. The main access road and office/shop areas for the facility are located in Tract III (portion of Section 34). A portion of the rail yard is dually located in Tract III. Tract III is not included in the permit application. Full legal descriptions can be found in the Department's records. GMHR is proposing to modify their permit to change their facility name from Gascoyne Material Handling & Recycling, LLC, to GMHR Acquisitions Co., LLC. The facility was first permitted in 1997.

Design

Access to the facility is provided via a gravel road which perpendicularly intersects U.S. Highway 12. A sign of the facility is located here. The office is located in a building approximately 0.75 miles north of the intersection, and other buildings are also located within the facility which include additional offices and shops for other entities.

Immediately west of the access road is Tract II/IIA which contains the rail yard operations. Tract III contains the site office and other shops/offices. Tract I is located to the north of Tract III and contains the inert landfill, material stockpiles, and petroleum contaminated soil treatment (composting) area. This area is fenced, gated, and has additional signage identifying the inert waste landfill.

Department records identify that the facility is located in a previously mined and reclaimed area. The landfill and composting area overlie about 40-80 feet of reclaimed spoils composed primarily of argillaceous silt and the base of the spoils are underlain by clay with Basal Tongue sand at depth. Shallow groundwater underlying the landfill and composting area is recharged from the unmined Harmon Lignite to the north. The water table is about 10-20 feet below land surface in the landfill and compost area. Surface water management ponds are in place as part of the former mine operation.

In a letter received by the Department on July 1, 1999, the required removal of topsoil from the initial composting area (approximately 15.5 acres), prior to any impacted soils placement, was completed. This was done as a "soil swap" with Knife River which needed to reclaim surface mining affected lands that were adjacent to GMHR. Topsoil from GMHR was placed as part of the surface mining reclamation (Permit KRGC-8101) by Knife River and GMHR was provided access to the available topsoil and subsoil stockpiles located in S ½ of the NE1/4 of section 26, Township 131N, and Range 99W. The letter identified that Knife River revised the land use for surface mining Permit KRGC-8101, permitted under the North Dakota Public Service Commission (PSC), to indicate the stockpiles located at the above-mentioned area would be used for the eventual closure of the inert waste landfill site. Neither a copy of the revised land use document nor available quantities were identified.

Per Department records, the topsoil from the compost expansion area was stockpiled around the perimeter. Results of the soil survey show that the landfill has 460,509 square feet or over 10.5 acres of area where topsoil can be stripped from. The composting area has a total of approximately 120 acres of where soils can be stripped from.

Groundwater monitoring is required for the compost facility (NDAC Subsection 33.1-20-04.1-07(3)). A monitoring well installation work plan (dated August 2014) was approved by the Department on June 1, 2015. A Groundwater Sampling and Analysis Plan was submitted as part of the permit application. Additional information can be found in **j. Demonstration of capability to fulfill the groundwater monitoring** section of this memo.

Operation

The most recent permit renewable application and permit identifies an inert waste landfill, a petroleum contaminated soil treatment (composting) facility, and animal carcass disposal at the facility given that a procedure plan is submitted to the department and that carcasses are placed four (4) feet below grade and covered with at least twelve (12) inches of cover material by the end of the working day. Prior permitting also includes a condition allowing grain-related materials such as cereal grains and grain screening as long as it is covered by at last six (6) inches of cover material at the end of each working day. Other units identified in Department records include concrete, wood, rock, aggregate, metal, and tires. Railroad ties are removed form the contaminated soils via a screener, periodically removed from the site and disposed of properly. Also, the composting site drains to a 'sump area' which fit the definition of a surface impoundment.

A Plan of Operation and Closure document was included with the permit application. It covers both the inert landfill and the compost facility. Additional information can be found in **g. The plan of operation** section of this memo.

The inert waste landfill accepts the following wastes for disposal: inert waste, rock, bentonite, coal, non-treated cereal grains, and sand. Tires and railroad ties are accepted and set aside for recycling. Creosote- treated ties are not acceptable for disposal. They are either separated for resale, chipped for energy recovery or loaded into railcars for transport to Derrider, LA for energy recovery. The compost facility accepts refined petroleum hydrocarbon impacted contaminated soil with the majority being impacted with diesel fuel.

The petroleum contaminated soil treatment (composting) area is currently permitted to accept up to 130,000 tons of hydrocarbon-impacted soil at any given time. This number averages to approximately 356 tons per day of industrial waste. The permit conditions (effective October 11, 2011) identify that the composted soils, once treated and meeting target levels of 100 parts per million (ppm) or less Total Petroleum Hydrocarbons (TPH), and having received approval by the Department, may be used as daily cover or disposed of within the inert landfill. Only soils contaminated with refined hydrocarbons may be accepted. Composted soils are not allowed to be utilized for final cover.

As of July 30, 2018, GMHR is covered under a General Industrial Stormwater Permit with the Division of Water Quality. Previously they were under an individual NPDES (ND0026182) permit which was administratively terminated by the Department.

Closure

The application for permit renewal included an updated Closure Plan for the facility.

According to the site closure and post closure plan, final closure for the inert landfill will occur sequentially in a similar manner to the planned use of the cells. Final cover is described as a four-foot-thick cover of clay-rich earthen material that will not be compacted. At least six inches of suitable plant growth material (SPGM) will be placed over the landfill and planted with adaptive grasses. A seed mixture was included. The final use of the closed landfill will be wildlife habitat.

Compliance History

The following items of noncompliance have been noted since 2022:

- Missing information in the 2023 Annual Report
- Missing information in the 2022 Annual Groundwater Report

The above items of noncompliance have been appropriately addressed by the facility, and no formal notices of violations have been issued to the facility.

Solid Waste Management Rules (NDAC Article 33.1-20)

NDAC Section 33.1-20-02.1-05. Record of notice.

A copy of the notarized affidavit indicating the facility is permitted to accept waste for disposal, was found in the Department's files for Tract I. A copy of the notarized affidavit, signed and dated June 29, 2022, was submitted with the previous revised permit application for Tract II/IIA.

NDAC Section 33.1-20-02.1-06. Property rights.

Copies of documents related to the land to be used for waste management operations and containing their legal description were submitted to the Department. Those documents show that GMHR has property rights.

NDAC Section 33.1-20-03.1-01. Preapplication procedures.

A preapplication is not required for an inert waste landfill.

NDAC Section 33.1-20-03.1-02. Permit application procedures.

NDAC Subsections 33.1-20-03.1-02(1) – (3)

An application, signed by the owner with supporting documents, was received by the Department. A $25,000 application processing fee was submitted as well.

NDAC Subsection 33.1-20-03.1-02(4)

A public notice by the facility was published in two separate occasions: June 7, 2024, and June 14, 2024 on the Bowman County Pioneer Newspaper. An affidavit confirming these instances was sent to the Department on June 19, 2024.

NDAC Subsection 33.1-20-03.1-02(5)

Notification to the North Dakota Public Service Commission is not required as the facility is not proposing to dispose of coal processing wastes in a mining permit area.

NDAC Subsection 33.1-20-03.1-02(6)

Applications for a solid waste management unit or facility permit must include the following information where applicable:

a. **A completed application form, subsection 1;**

   An application, signed by the owner with supporting documents, was received by the Department. A $25,000 application processing fee was submitted as well.

b. **A description of the anticipated physical and chemical characteristics, estimated amounts, and sources of solid waste to be accepted, including the demonstration required by North Dakota Century Code section 23.1-08-14;**

A Plan of Operation and Closure plan was included as part of the permit application. It included a section on acceptable waste and unacceptable wastes for the inert landfill and the compost facility.

The facility accepts wastes from mainly the BNSF Railway Company. The wastes accepted into their facility are listed as follows:

- Inert Waste: Construction and demolition materials such as steel rails, bolts, steel plates, spikes, wood, bricks, masonry and cement concrete, trees, dirt, concrete ties and pieces, wood ties and pieces, coke, limestone.
- Rock
- Bentonite
- Coal
- Non-Treated Cereal Grains
- Sand
- Tires (accepted and set aside for recycling)
- Railroad Ties (accepted and set aside for recycling)
- Other wastes may be allowed by permit or special circumstances by the NDDEQ

Refined Petroleum Hydrocarbon Impacted Soils are also permitted to be confilled.

The following wastes are unacceptable for acceptance at both the inert landfill and the compost facility:

- Hazardous waste
- Bulk chemical containers with free product residue
- Asbestos
- Lead
- Waste containing PCBs
- Radioactive Waste
- Rendering and slaughterhouse wastes
- Waste that could spontaneously combust
- Foundry waste
- Ash from incinerators, resource recovery facilities and power plants
- Paint residues, paint filters, and paint dust
- Sludges, including ink sludges, lime sludge, wood sludge, and paper sludge
- Fiberglass, urethane, polyurethane, epoxy resin waste
- Spent activated carbon filters
- Wastes containing free liquids
- Special waste
- Non-refined hydrocarbon impacted soils

- Regulated infectious waste
- Household garbage or municipal solid waste
- Putrescible waste
- Industrial waste except:
    - Inert industrial wastes
    - Petroleum contaminated soils
    - Damaged cereal grains
    - Treated wood and pieces

c. The site characterization of section 33.1-20-13-01 and a demonstration that the site fulfills the location standards of section 33.1-20-04.1-01;

Historically:

The North Dakota State Water Commission stated:

"Favorable aspects of the proposed location for developing a landfill include the in-place surface water management ponds and the ground water monitoring wells, and the already disturbed landscape. The hydrogeologic and topographic setting is thought to be suitable for an inert waste landfill. For a leachate generating type of landfill a topographically higher location would have been preferred. The location is therefore thought to be suitable for the proposed use."

The North Dakota Geological Survey determined that:

"The composting area is well situated in the middle of the old mine where it is surrounded by spoils which should minimize any impact on the area as long as surface runoff is carefully controlled."

The facility is also not within a one mile radius of any domestic or livestock wells.

The facility does not lie near any location where one hundred-year floodplains have been established.

The upper most aquifer, the Harman lignite, was removed as part of the mining process. The landfill and confill areas were reclaimed with 60 feet of silty clay. Depths to the shallow groundwater table ranges from 15-20 feet below ground surface (bgs) in the confill area.

A falling head permeability test was conducted in 1979. The undisturbed sample was collected in a Shelby tube and consisted of light to medium grey silty clay. The results show a permeability of the silty clay at 2.9 x 10^-7 cm/sec.

GMHR presents minimal potential for adverse impact to surface and/or groundwater quality. The general inert nature of the waste accepted would indicate that very little potential for leachate generation from this waste stream exists.

d. **Soil survey and segregation of suitable plant growth material;**

The facility has stockpiles of SPGM and has sufficient quantities for closure of the inert landfill and the composting facility.

e. **Demonstrations of capability to fulfill the general facility standards of section 33.1-20-04.1-02;**

Pollution of water is not expected from the inert landfill. The composting area has three monitoring wells. The site has surface water management ponds.

A facility sign meeting Department requirements will be placed at the entrance of the facility. The facility will conduct monthly inspections for compliance with approved plan of operation and Department requirements.

Dust will be addressed by watering the access roads. Access roads will be maintained by rock surfacing. Odor may be a concern when handling hydrocarbon impacted soil, due to the incorporation of manure and putrescible wastes. Therefore, the piles are turned weekly during the treatment season. Windblown litter should be a minimal issue due to the type of waste accepted at the facility. However, waste will be covered to prevent it from being blown outside of the designated area by the wind. Windblown litter that is outside of the designated area will be picked up.

f. **Facility engineering specifications adequate to demonstrate the capability to fulfill performance, design, and construction criteria provided by this article and enumerated in this subdivision;**

1) **Transfer stations and drop box facilities, section 33.1-20-04.1-06.**

The rail yard operations have been included in the Plan of Operation and Closure plan. The plan includes procedures for off-loading railroad cars including equipment and stating that the railcars are moved to appropriate off-loading locations based on the type of waste being off-loaded.

2) **Waste piles, section 33.1-20-04.1-07.**

The rail yard operations have been included in the Plan of Operation and Closure plan. The plan includes procedures for off-loading railroad cars including equipment and stating that the railcars are moved to appropriate off-loading locations based on the type of waste being off-loaded.

3) **Resource recovery, section 33.1-20-04.1-08.**

The requirements of this section are not applicable as the facility is not proposing any resource recovery activities.

4) **Land treatment, section 33.1-20-04.1-09 and chapter 33.1-20-09.**

The facility composts only refined petroleum hydrocarbon impacted soils. Laboratory analysis from the generator are required and reviewed prior to acceptance of any soils for treatment. Manure is the main additive that is incorporated into the hydrocarbon impacted soils that drive the treatment process. Composting procedure comprises soil screening, addition of manure, placement of soil in windows when being turned weekly and water is added to keep moisture of at least 30%, soil treatment continue until Total Petroleum hydrocarbons (TPH) is at or under 100 mg/kg, soil is hauled to landfill for daily cover.

The land treatment facility will be inspected daily.

The land treatment area has an earthen berm of at least 2 feet high to prevent run-on and run-off. Leachate from composting operations is directed to a natural depression area (surface impoundment) in the southwest corner of the compost area. Leachate will evaporate or will be applied to the windrows.

5) **Non-CCR surface impoundments, section 33.1-20-04.1-09 and chapter 33.1-20-08.1.**

The 'sump' within the composting area and the pond in the rail car cleaning area meet the definition of a surface impoundment and were included as part of the permit application documents. The surface impoundments have a natural in-place liner and are capable of maintaining a minimum of 2-foot freeboard. The facility inspects the surface impoundments annually.

6) **Any disposal, section 33.1-20-04.1-09.**

The requirements of this section are addressed in the Plan of Operation and Closure plan. Additional information can be found in **g. The plan of operation** section of this memo.

7) **Inert waste landfill, chapter 33.1-20-05.1.**

The requirements of this section are addressed in the Plan of Operation and Closure plan. Additional information can be found in **g. The plan of operation** section of this memo.

8) **Municipal waste landfill, chapter 33.1-20-06.1.**

The requirements of this section are not applicable as the facility is not proposing a municipal waste landfill.

9) **Industrial waste landfill, chapters 33.1-20-07.1 or 33.1-20-10.**

The requirements of this section are not applicable as the facility is not proposing an industrial waste landfill.

10) **TENORM waste landfill, chapters 33.1-20-07.1 or 33.1-20-10 and 33.1-20-11**

The requirements of this section are not applicable as the facility is not proposing a TENORM waste landfill.

11) **Special waste landfill, chapter 33.1-20-07.1;**

The requirements of this section are not applicable as the facility is not proposing a special waste landfill.

12) **CCR unit, chapter 33.1-20-08;**

The requirements of this section are not applicable as the facility is not proposing a CCR unit.

13) **Municipal solid waste ash landfills, chapter 33.1-20-10;**

The requirements of this section are not applicable as the facility is not proposing a municipal solid waste ash landfill.

14) **Regulated infectious waste unit, chapter 33.1-20-12;**

The requirements of this section are not applicable as the facility is not proposing a regulated infectious waste unit.

g. The plan of operation of section 33.1-20-04.1-03;

The permit application included a Plan of Operation and Closure plan. The plan includes the following sections:

- Site Description
- Plan of Operation:
  - Waste Acceptance Procedures
  - Waste Handling Procedures
  - Inspection and Monitoring Plan
  - Contingency Plan
  - Leachate Removal System Operations and Maintenance Procedures
  - Safety Procedures
  - Partial Closure Procedures
  - Industrial/Special Waste Management Procedures
  - Inspection by Owner/Operator
  - Recordkeeping and Reporting
- Closure Plan
  - Closure Criteria

    - Maintenance Minimization
    - Waste Control Methods
    - Partial Closure Plan
    - Closure Timing
    - Closure Reporting
    - As-Built Drawings
    - Closure Certification
    - Beneficial Uses
    - Written Closure Plan
- Post Closure Plan

h. Demonstration of the treatment technology of section 33.1-20-01.1-12;

The requirements of this section are not applicable as the facility is not proposing to treat waste.

i. The place where the operating record is or will be kept, section 33.1-20-04.1-04;

GMHR will maintain an operating record at the facility.

j. Demonstration of capability to fulfill the groundwater monitoring, sections 33.1-20-08-06 or 33.1-20-13-02;

The plan addresses the requirements of this section and includes the following sections:

- Plan Objectives
- Background Information
- Routine Groundwater Monitoring:
    - Groundwater Conditions
    - Current Network
    - Monitoring Frequency
    - Staff Qualifications
    - Monitoring Procedures
    - Sampling and Handling
    - Analytical Procedures
    - Data Validation
    - Laboratory Date Deliverables
    - Statistical Approach
    - Assessment Monitoring

There are three groundwater monitoring wells. One upgradient (MW-1) and two downgradient (MW-2 and MW-3). Because the groundwater monitoring wells are monitoring the compost facility, which is for petroleum contaminated soils, the wells are monitored once a year for TPH-DRO and water levels are also taken. In addition, general and field parameters (pH, specific conductivity, and temperature) are collected. Other parameters may be added by the facility or by the Department.

k. **Construction quality assurance and quality control;**

The permit application included a Plan of Operation and Closure plan that address the requirements of this section. The plan includes the following sections:

- Closure Criteria
- Maintenance Minimization
- Waste Control Methods
- Partial Closure Plan
- Closure Timing
- Closure Reporting
- As-Built Drawings
- Closure Certification
- Beneficial Uses
- Written Closure Plan
- Post Closure Plan

l. **Demonstrations of capability to fulfill the closure standards, section 33.1-20.1-04.1-05 and otherwise provided by this article;**

The permit application included a Plan of Operation and Closure plan that address the requirements of this section. The plan includes the following sections:

- Closure Criteria
- Maintenance Minimization
- Waste Control Methods
- Partial Closure Plan
- Closure Timing
- Closure Reporting
- As-Built Drawings
- Closure Certification
- Beneficial Uses
- Written Closure Plan
- Post Closure Plan

The surface impoundments will be closed by removal and financial assurance is not required for those. Financial assurance is required for the compost facility and the facility currently maintains financial assurance. A new financial assurance mechanism was submitted to the Department as of April 24, 2024.

m. **Demonstrations of capability to fulfill the postclosure standards, section 33.1-20-04.1-09 and otherwise provided by this article; and**

The application states that GMHR will provide for post closure care of the facility for a period of 30 years; the period for the inert landfill will last for 5 years, and the composting area will be inspected quarterly over 30 years. If

substantial erosion has occurred, additional topsoil will be placed and compacted, and erosional control measures will be taken to prevent further erosion.

n. **A disclosure statement as required by North Dakota Century Code section 23.1-08-17.**

A disclosure statement that meets the requirements of this section was submitted to the Department.

Conclusion

Based on the submitted application and items discussed above, GMHR Acquisitions Co., LLC has shown that the modification meets the requirements of the North Dakota Solid Waste Management Rules. It is proposed that the Department grant GMHR Acquisitions Co., LLC a permit with the conditions listed in Permit 0179. The proposed permit length is through the existing expiration date of November 14, 2032 as it is a permit modification not a renewal.

CRH:DAT:AQ
Attachment