

NORTH DAKOTA DEPARTMENT OF ENVIRONMENTAL QUALITY
PUBLIC NOTICE TO
RENEW AN UNDERGROUND INJECTION CONTROL PERMIT

July 19, 2024

PURPOSE OF PUBLIC NOTICE

THE PURPOSE OF THIS NOTICE IS TO STATE THE DEPARTMENT'S INTENTION TO RENEW A CLASS I UNDERGROUND INJECTION CONTROL PERMIT UNDER THE AUTHORITY OF ARTICLE 33.1-25 OF THE NORTH DAKOTA ADMINISTRATIVE CODE.

PERMIT INFORMATION

APPLICANT NAME: Tesoro Refining & Marketing Company LLC

MAILING ADDRESS: 500 Old Red Trail NE
Mandan, ND 58554-5306

FACILITY LOCATION: Marathon Mandan Refinery
Mandan, ND

APPLICANT CONTACT: Jesse Roth
Advanced Environmental Engineer

CONTACT TELEPHONE NUMBER: 701-667-2485

PERMIT NUMBER: ND-UIC-105

UNDERGROUND INJECTION CONTROL PERMIT

It is the intent of the Department of Environmental Quality, Division of Water Quality, to renew a Class I underground injection control permit (Permit) for two Class I non-hazardous waste underground injection well located at the Marathon Mandan Refinery. Both wells are located near the center of the southwest quarter of Section 15, Range 81 West, Township 139 North.

The permitted waste streams consist of inorganic wastewater produced as a byproduct from a wet gas scrubber and firefighting water (clarified raw Missouri river water). The wet gas scrubber wastewater consists primarily of water with minor chemical constituents, including sodium sulfite, sodium bisulfite, sodium sulfate, sodium bisulfate, sodium carbonate, and sodium bicarbonate. The wastewater is pre-treated via a set of filters to remove larger particles and insure injectivity into the formation. Prior to injection, various chemicals may be added to the waste stream to limit scale buildup, assist in dispersing suspended particles, aid in particulate settling, reduce corrosion, and to reduce hydrogen sulfide production and

bacteria growth. An evaluation of the wet gas scrubber waste stream indicates that it is classified as a nonhazardous.

The firefighting water (Firewater) consists of Missouri River water that has been clarified via cold lime softening. This water will only be injected when the annual pressure falloff test is being conducted. Laboratory analysis of the firewater indicates that it is classified as nonhazardous.

The Permittee currently discharges the wet gas scrubber waste fluids in accordance with NDPDES Permit Number ND0000248 which expires on March 31, 2028. Although the Permittee is authorized to discharge other plant wastewater streams in accordance with their NDPDES Permit, the only waste streams authorized for injection into Well #1 and Well #2 is wastewater produced as a byproduct of the wet grass scrubber and Firewater when the well is being tested. The injection of both waste streams simultaneously is prohibited.

The Permittee will keep Injection Permit ND-UIC-105 active to allow injection into the wells if required by facility operations.

Injection Well #1. Injection into Well #1 is into the middle to lower Lodgepole Limestone and Nisku Dolomite in the interval from 5,120 to 6,144 feet, the Upper Lodgepole Limestone (5,094 to 5,108 feet), the Tilston Limestone (4,938 to 4,954 and 4,958 to 4,992 feet), and the Mission Canyon Limestone (4,790 to 4,900 feet). The uppermost perforated injection interval in Well #1 is approximately 1,670 feet below the uppermost portion of the Swift Shale confining layer and is approximately 4,470 feet below the closest currently identified underground source of drinking water (USDW), the Fox Hills Sandstone.

Injection Well #2. Injection into Well #2 is into the Kibbey Sandstone in the interval between 4,274 and 4,309 feet and the Minnelusa Sandstone in the interval from 3,795 and 3,950.5 feet. The uppermost perforated injection interval in Well #2 is approximately 445 feet below the uppermost portion of the Swift Shale confining layer and is approximately 3,245 feet below the closest currently identified underground source of drinking water (USDW), the Fox Hills Sandstone.

The Permit authorizes injection for one well, or both wells simultaneously. The maximum permitted instantaneous injection rate shall be 200 gallons per minute (gpm) in Well #1 and 250 gpm in Well #2. The permit will be issued for a five-year period, beginning on the date the permit is signed by the Director of the Division of Water Quality.

PUBLIC COMMENTS

The Permit Application Package and Draft Permit will be available for public review and comment for thirty (30) days following publication of the Public Notice. The public comment period begins July 19, 2024 and ends August 19, 2024. Interested persons may submit written comments to the Department on the Draft Permit during this period. Interested persons may request a public hearing by stating the nature of the specific issues to be raised.

The Department will consider all comments prior to taking any action on the permit. Comments, questions, and written communication should be directed to:

Karl Rockeman, Director
North Dakota Department of Environmental Quality
Division of Water Quality
4201 Normandy Street
Bismarck, ND 58503-1324

The Permit Application Package and the Draft Permit are available for review during the hours of 8:30 a.m. to 4:30 p.m., Monday through Friday, at the North Dakota Department of Environmental Quality, Division of Water Quality, 4201 Normandy Street, Bismarck, North Dakota. Copies of this Public Notice and the Draft Permit are also on the Department's website at: <http://deq.nd.gov>. Anyone requiring special access or accommodations to review the documents may contact the Department at 701-328-5210.

NDDEQ Non-Discrimination Statement

The Department will consider every request for reasonable accommodation to provide an accessible meeting facility or other accommodation for people with disabilities, language interpretation for people with limited English proficiency (LEP), and translations of written material necessary to access programs and information. To request accommodations, contact Ann Fritz, Non-discrimination Coordinator at 701-328-5162 or afritz@nd.gov. TTY users may use Relay North Dakota at 711 or 1800-366-6888.

PUBLIC NOTICE NUMBER: ND-2024-011

Permit No.: ND-UIC-105

Effective Date: August 20, 2024
Expiration Date: August 20, 2029

PERMIT

AUTHORIZATION TO INJECT UNDER THE NORTH DAKOTA UNDERGROUND INJECTION CONTROL PROGRAM

In compliance with Chapter 33.1-25-01 (Underground Injection Control Program) of the North Dakota Department of Environmental Quality (Department) rules, as promulgated under Chapter 61-28 (North Dakota Water Pollution Control Act) of the North Dakota Century Code, Tesoro Refining & Marketing Company LLC's Mandan Refinery is authorized to inject waste fluids in accordance with limitations, monitoring requirements, and other conditions set forth in this Permit.

This Permit shall become effective on August 20, 2024 and shall expire at midnight on August 20, 2029, unless amended or terminated by the Department.

Karl H. Rockeman
Director
Division of Water Quality

Date: _____

I. NAME OF PERMITTEE

Tesoro Refining & Marketing Company, LLC.
Mandan Refinery
900 Old Red Trail N.E.
Mandan, ND 58554

II. NATURE OF BUSINESS

The Tesoro Mandan Refinery processes raw crude oil to manufacture refined petroleum products such as gasoline, aviation fuel, diesel, and propane liquid. The refinery processes approximately 76,000 barrels per day of primarily sweet (low-sulfur) crude oil. Approximately 98 to 100 percent of the crude oil originates from domestic sources and up to two percent is obtained from Canadian sources. Most of the refined products are shipped via pipeline to eastern North Dakota and Minnesota markets.

III. DESCRIPTION AND LOCATION OF INJECTION ACTIVITY

Permit ND-UIC-105 (Permit) authorizes Tesoro Refining & Marketing Company LLC (Permittee) to dispose of inorganic wastewater produced as a byproduct from a wet gas scrubber and firefighting water (clarified raw Missouri river water) into two Class I non-hazardous waste underground injection wells (Injection Well #1 and Injection Well #2). The injection wells are located within the refinery boundaries, near the center of the southeast quarter of Section 15, Range 81 West, Township 139 North

The wet gas scrubber wastewater consists primarily of water with minor chemical constituents, including sodium sulfite, sodium bisulfite, sodium sulfate, sodium bisulfate, sodium carbonate, and sodium bicarbonate. The wastewater is pre-treated via a set of filters to remove larger particles and insure injectivity into the formation. Prior to injection, various chemicals may be added to the waste stream to limit scale buildup, assist in dispersing suspended particles, aid in particulate settling, reduce corrosion, and to reduce hydrogen sulfide production and bacteria growth. An evaluation of the wet gas scrubber waste stream indicates that it is classified as a nonhazardous.

The firefighting water (Firewater) consists of Missouri River water that has been clarified via cold lime softening. This water will only be injected when the annual pressure falloff test being conducted. Laboratory analysis of the firewater indicates that it is classified as nonhazardous.

The Permittee currently discharges the wet gas scrubber waste fluids in accordance with NDPDES Permit Number ND0000248 which expires on March 31, 2028. Although the Permittee is authorized to discharge other plant wastewater streams in accordance with their NDPDES Permit, the only waste streams authorized for injection into Well #1 and Well #2 is wastewater produced as a byproduct of the wet grass scrubber and Firewater when the well is being tested in accordance with Sections V(B) and VII(A) of this Permit. The

injection of both waste streams simultaneously is prohibited.

The Permittee will keep Injection Permit ND-UIC-105 active to allow injection into the wells if required by facility operations.

Injection Well #1. Injection into Well #1 is into the middle to lower Lodgepole Limestone and Nisku Dolomite in the interval from 5,120 to 6,144 feet, the Upper Lodgepole Limestone (5,094 to 5,108 feet), the Tilston Limestone (4,938 to 4,954 and 4,958 to 4,992 feet), and the Mission Canyon Limestone (4,790 to 4,900 feet). The uppermost perforated injection interval in Well #1 is approximately 1,670 feet below the uppermost portion of the Swift Shale confining layer and is approximately 4,470 feet below the closest currently identified underground source of drinking water (USDW), the Fox Hills Sandstone.

Injection Well #1 is constructed with a 16-inch outside diameter (OD) conductor casing set from ground surface to an approximate depth of 67 feet below ground surface (bgs), a 9 5/8-inch OD surface casing set from ground surface to approximately 3,372 feet bgs, and a 7-inch OD protection casing that extends from ground surface to a depth of approximately 5,120 feet bgs. Wastewater is injected through 4 1/2 -inch OD tubing with a packer set at a depth of 4,685 feet below ground surface, or approximately 105 feet above the targeted injection zone. The annulus between the injection tubing and protection casing is filled to the surface with sodium chloride brine, and a seal pot is attached to the annulus to detect and well malfunctions. Injection pressure, flow rate, and tubing/long string annulus pressure are continuously monitored. The maximum permitted injection rate for Well #1 is 200 gallons per minute (gpm).

Injection Well #2. Injection into Well #2 is into the Kibbey Sandstone in the interval between 4,274 and 4,309 feet and the Minnelusa Sandstone in the interval from 3,795 and 3,950.5 feet. The uppermost perforated injection interval in Well #2 is approximately 445 feet below the uppermost portion of the Swift Shale confining layer and is approximately 3,245 feet below the closest currently identified underground source of drinking water (USDW), the Fox Hills Sandstone.

Injection Well #2 is constructed with a 16-inch outside diameter (OD) conductor casing set from ground surface to a depth of 76.5 feet bgs, a 9 5/8-inch OD surface casing set from ground surface to approximately 3,376 feet bgs, and a 7-inch OD protection casing that extends from ground surface to a depth of approximately 4,421 feet bgs. Wastewater is injected through 4 1/2 -inch OD tubing with a packer set at a depth of 3,569 feet below ground surface, or approximately 226 feet above the targeted injection zone. The annulus between the injection tubing and protection casing is filled to the surface with sodium chloride brine, and a seal pot is attached to the annulus to detect well malfunctions. Injection pressure, flow rate, and tubing/long string annulus pressure are continuously monitored. The maximum permitted injection rate for Well #2 is 250 gpm.

Injection is authorized for one well, or both wells simultaneously. Should both wells need corrective maintenance or are shut-in for testing, the effluent will be diverted to holding tanks located at the facility. The tanks shall have enough capacity to contain all waste fluids

generated during continued plant operation.

The Permittee is authorized to conduct injection activity in Injection Well #1 and Injection Well #2 in accordance with the provisions of Chapter 33.1-25-01 (Underground Injection Control Program) of the North Dakota Administrative Code and with the limitations, requirements, and other conditions set forth in this Permit.

IV. WELL CONSTRUCTION REQUIREMENTS

- A. Casing and cementing. The construction details submitted with the Injection Well Completion Reports are hereby incorporated into this Permit, and are binding on the Permittee. Any proposed changes to the construction of the wells must be submitted to the Department for review and written approval.
- B. Tubing and Packer Specifications. The wells shall have a tubing and packer construction of materials of sufficient quality and strength for the proposed injection activity.
- C. Monitoring Devices. The primary method of monitoring shall be continuous pressure monitoring of the injection and casing tubing annulus pressure (at the wellhead) and continuous monitoring of the injection rate and volume. Prior to commencement of injection activities, the operator shall install and maintain in good operation condition the following equipment:
 - (1) Injection Pressure Monitoring Device. The injection pressure will be monitored using a digital, continuous reading pressure monitoring device in the injection tubing at the wellhead.
 - (2) Wellhead Annulus Pressure Monitoring Device. The wellhead pressure of the tubing/casing annular space will be monitored using a digital continuous reading pressure monitoring device in the wellhead casing/tubing annulus. The tubing/casing annulus shall be maintained with an inhibited brine fluid that is under a differential pressure of at least 100 psi. The annulus pressure may be maintained above or below the wellhead injection pressure as long as the absolute differential pressure is at least 100 psi. The annulus pressure can be transitioned from positive differential (annulus pressure greater than the wellhead tubing pressure) to a negative differential (annulus pressure less than the wellhead tubing pressure) or the reverse in 30 minutes without being in violation of the minimum 100 psi differential pressure requirement. The minimum annulus differential pressure of 100 psi must be restored within 30 minutes. A mineral oil freeze blanket, or other fluid as approved in writing by the Director, may be circulated from surface to below frost level at completion to prevent freezing and possible equipment failure during winter months.
 - (3) Well Shutdown Switch. The maximum surface injection (tubing) pressures with fresh water specific gravity fluid shall be less than 600 psi in Well #1 and

less than 1,100 psi in Well #2. Any increase in pressure that exceeds the allowable injection pressure in each well shall result in an immediate shutdown of the injection pump.

- (4) Flow Meters. Flow meters and digital, continuous recording devices shall be installed in the injection line immediately upstream of the wellhead to track and document disposal fluid flow rates and total fluid volumes.
- (5) Fluid Sampling Ports. The injection line shall be equipped with sampling ports and appropriate connections to facilitate the periodic collection of injection fluid samples for chemical analysis. The sampling point shall be in an unobstructed portion of the injection line between the tanks and the injection wells.

V. WELL LOGGING AND TESTING REQUIREMENTS

The Permittee shall give at least a two week, advance written notice to the Director of any planned well logging or testing. This notice shall include a plan for conducting the proposed test or log.

- A. Cement Bond Log. The Permittee shall run a cement bond log following any remedial work or repair work that involves cementing.
- B. Pressure Fall-Off Test. A pressure fall-off test is required for Class I operations [40 CFR 146.13 (d) (1)] and must be performed at least once every twelve months to detect any significant loss of fluids due to fracturing in the injection and/or confining zone and to aid in determining the lateral extent of the injection plume. The test shall conform to the test plan provided to the Department. The Permittee shall analyze test results and provide a report with an appropriate narrative interpretation of the test results, including an estimate of reservoir parameters, information on any reservoir boundaries, an estimate of the well skin effect, and a summary of reservoir flow conditions. The report shall also compare the test results with the previous year's test data and shall be prepared by a knowledgeable analyst.
- C. Mechanical Integrity Testing. Mechanical integrity testing (MIT) must be performed to demonstrate that (1) there is no significant leak in the casing, tubing, or packer, and (2) there is no significant fluid movement into an underground source of drinking water through vertical channels adjacent to the well bore. All mechanical integrity testing must be conducting in accordance with 40 CFR 146.8. Prior to conducting mechanical integrity testing, the Permittee must submit a Mechanical Integrity Workplan to the Department for review and approval. Mechanical integrity testing must be conducted at least every five years and whenever there has been a well workover.

VI. WELL OPERATING PARAMETERS

- A. Injection Rate. This Permit authorizes injection for one well, or both wells simultaneously. The maximum instantaneous injection rate shall be 200 gpm in Well #1 and 250 gpm in Well #2.
- B. Injection Interval. Injection into Well #1 is limited to the middle to lower Lodgepole Limestone and Nisku Dolomite in the interval from 5,120 to 6,144 feet, the Upper Lodgepole Limestone (5,094 to 5,108 feet), the Tilston Limestone (4,938 to 4,954 and 4,958 to 4,992 feet), and the Mission Canyon Limestone (4,790 to 4,900 feet). The uppermost perforated injection interval in Well #1 is approximately 1,670 feet below the uppermost portion of the Swift Shale confining layer and is approximately 4,470 feet below the closest currently identified underground source of drinking water (USDW), the Fox Hills Sandstone.
- Injection into Well #2 is limited to the Kibbey Sandstone in the interval between 4,274 and 4,309 feet and the Minnelusa Sandstone in the interval from 3,795 and 3,950.5 feet. The uppermost perforated injection interval in Well #2 is approximately 445 feet below the uppermost portion of the Swift Shale confining layer and is approximately 3,245 feet below the closest currently identified underground source of drinking water (USDA), the Fox Hills Sandstone.
- C. Injection Pressure. The wellhead injection pressure with fresh water specific gravity fluid shall not exceed 600 psi in Well #1 and 1,100 psi in Well #2 to assure that fracturing of the injection zone and confining zone does not occur.
- D. Annular Fluid. The tubing/long string casing annulus of each well shall be filled with a fluid containing corrosion inhibitors. A pressure with a differential (positive or negative) from injection pressure of at least 100 psi, measured at the surface, shall be maintained on the annulus to detect well malfunctions. The annulus pressure can be transitioned from positive differential (annulus pressure greater than the wellhead tubing pressure) to a negative differential (annulus pressure less than the wellhead tubing pressure) or the reverse within 60 minutes without being in violation of the minimum 100 psi differential pressure requirement. The minimum annulus differential pressure of 100 psi must be restored within 60 minutes. For 60 minutes after the pressure differential drops below 100 psig, the Permittee can conduct troubleshooting and proceed to restore a minimum 100 psig pressure differential. If a minimum 100 psig pressure differential cannot be achieved within 60 minutes, the Permittee shall notify the Department and commence shut-in procedures on the well. The Permittee may continue to operate the well under flow conditions that maintain a minimum 100 psig pressure differential.
- E. Injection Fluid. The injected wastewater stream shall consist of the streams specified in Section III of this Permit. However, with prior written approval from the Department, injection of wastewater streams other than those specified may be allowed if they meet the following conditions:

1. The wastewater stream is compatible to those streams outlined in Section III.
2. The wastewater is nonhazardous.
3. The wastewater stream will not interfere with the operation of the facility or its ability to meet Permit conditions.

VI. INJECTION WELL MONITORING

- A. Pressure Gauges. Pressure gauges shall be installed and maintained in proper operating conditions at all times on the injection tubing and on the tubing/long string casing annulus at each wellhead.
- B. Recording Devices. Continuous recording devices shall be installed and maintained in proper operating conditions at all times to record injection tubing pressures, injection flow rates, injection volumes, and tubing/long string casing annulus pressure for each well.
- C. Mechanical Integrity. The mechanical integrity of each well shall be verified by the continuous monitoring of the tubing/long string casing annulus pressure. Mechanical integrity testing must be conducted at least every five years and whenever there has been a well workover. All mechanical integrity testing must be conducted in accordance with 40 CFR 146.8. Prior to conducting mechanical integrity testing, the Permittee must submit a Mechanical Integrity Workplan to the Department for review and approval.
- D. Monitoring. When the well is operating, a grab sample of injected fluids shall be analyzed quarterly for the following parameters:
 1. TDS
 2. Sodium
 3. Specific Gravity
 4. pH
 5. Temperature
 6. Sulfate
 7. Chloride
 8. Specific Conductivity.
- E. Wastewater Sample Analysis. Sampling of each permitted waste stream is required to confirm that the waste fluids injected into the well are not classified as a hazardous waste. The sampling requirements of this Permit may be modified by the Department.
 1. Firewater. Firewater will only be injected into the well during annual pressure fall-off testing. Prior to each test, a sample of the Firewater shall be analyzed for the parameters specified in List A of Attachment A.

2. Wet Gas Scrubber Wastewater. Wet gas scrubber water is typically discharged in accordance with an NDPDES permit. If this waste stream is injected into the deep wells, a sample must be analyzed for the parameters specified in Lists A and B of Attachment A.
- F. Groundwater Monitoring. The groundwater monitoring well(s) identified in the Permit application shall be sampled on a semi-annual basis; the samples will be analyzed for:
1. Water Elevation
 2. pH
 3. Specific Conductivity
 4. TDS
 5. Sulfate
 6. Chloride
 7. Sodium

VII. AMBIENT MONITORING PROGRAM

- A. Pressure Fall-Off Test. Minimum requirements are annual monitoring of the pressure buildup in the injection zone, including a shutdown of the well for a time sufficient to conduct a valid observation of the pressure fall-off curve. The zone of influence to date, the reservoir transmissivity, and the reservoir skin factor shall be calculated and submitted with the results of the pressure fall-off test.
- B. Additional Testing. The Department may also require any additional monitoring, based on a site-specific assessment of the potential for fluid movement from the well or injection zone and on the potential value of monitoring wells to detect such movement.

VIII. PROPOSED CHANGES AND WELL WORKOVERS

The Permittee shall give at least two (2) week advance notice to the Department of any planned physical alterations or additions to the permitted well(s). A major alteration or workover shall be considered any work performed that affects the well casing, packer, or tubing. The notification shall be in writing and shall include plans for the workover. For emergency workover or well service, 24-hour prior notification to the Department will be provided with the proposed work plan also submitted for review.

The Permittee shall provide all records of well workovers, logging, or other test data to the Department as part of the quarterly report for the period in which the activity was completed. The report should include the reason for the workover or change and the details of the work performed.

A demonstration of mechanical integrity (tubing/casing annulus pressure test) shall be

performed within thirty (30) days of completion of any change or workover and prior to resuming injection activities.

IX. REPORTING

A. The Permittee shall file quarterly reports within thirty (30) days after the last day of March, June, September, and December of each year. The report should include:

1. Monthly average, maximum and minimum values for injection pressure, injection rate and volume, and annular pressure for each well. The report should include summary graphs of the data collected during the reporting period.
2. Results of analyses of the injected fluids.
3. Results of the groundwater monitoring well analyses.
4. Graphical plots of continuous injection and annulus pressures (shown on the same plot) for each well.
5. Graphical plots showing continuous injection rates for each well.
6. Graphical plots showing the cumulative injection volumes for each well.
7. Any other information relevant to the injection wells that is requested in writing by the Department. The Department will allow a reasonable amount of time to allow for the inclusion of the requested information into the quarterly report.

The results of periodic tests of mechanical integrity, annual ambient monitoring, and well workovers shall be submitted as part of the first quarterly report following their completion.

B. The Permittee shall report orally within twenty-four (24) hours from the time these circumstances are made aware of:

1. Any monitoring or other information which indicates that any contaminant may cause an endangerment to an USDW.
2. Any noncompliance with a Permit condition or malfunction of the injection system such as loss of mechanical integrity which may cause fluid migration into or between USDWs.

A written report shall follow within five (5) days. The written report shall contain a description of the noncompliance and its causes, the period of noncompliance (including exact date and times), and if the noncompliance has not been corrected, the anticipated time it is expected to continue. Steps should be taken or planned to

reduce, eliminate, and prevent recurrence of the noncompliance.

- C. The Permittee shall report all other instances of noncompliance at the time monitoring reports are submitted. The report shall contain the information listed above.
- D. In the event that the Permittee is placed on a compliance schedule, report of compliance or noncompliance with the requirements of the schedule shall be submitted no later than fourteen (14) days following each schedule date.
- E. If the Permittee becomes aware that he failed to submit any relevant facts in a Permit application or submitted incorrect information he shall promptly submit such facts and information.
- F. The Permittee shall notify the director at least (sixty) 60 days before conversion or abandonment of any disposal well.

X. RECORDKEEPING

- A. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this Permit, and records of all data used to complete the application for this Permit for a period of at least five (5) years from the date of the sample measurement, report, or application. Records of monitoring information shall include:
 - 1. The date, exact place and time of sampling or measurements.
 - 2. The name of individual(s) who performed the sampling or measurements.
 - 3. The date(s) analyses were performed.
 - 4. The name of the laboratory and individual(s) who performed the analyses.
 - 5. The analytical techniques or methods used.
 - 6. The results of such analyses.
- B. The Permittee shall retain all records concerning the nature and composition of injected fluids for five (5) years after completion of plugging and abandonment procedures.

XI. PLUGGING AND ABANDONMENT

- 1. Notification. The Permittee shall notify the Department in writing sixty (60) days

prior to commencing plugging operations. The notification will include the following information:

- A. The type, number, and placement (including the elevation of the top and bottom) of the plugs.
 - B. The type, grade, and quantity of cement to be used, including any additives to be used,
 - C. The method used to place plugs, including the method used to place the well in a state of static equilibrium prior to placement of the plugs, and
 - D. The procedures to meet the requirements of 40 CFR §146.10.
2. Plugging and Abandonment Report. Within sixty (60) days after plugging the well, the Permittee shall submit a report to the Department. The person who performed the plugging operation shall certify the report as accurate and the report should consist of either (1) a statement that the well was plugged in accordance with the plan, or (2) where actual plugging differed from the plan, a statement that specifies the different procedures followed.

XII. FINANCIAL RESPONSIBILITY

The Permittee is required to maintain continuous financial responsibility and resources to close, plug, and abandon the injection well as provided in the plugging and abandonment plan. The estimated cost to abandon both wells at the end of the Permit period is \$443,608. The Permittee has submitted financial statements to the Department which document that they have the financial resources to plug and abandon the two injection wells. Updated financial statements must be submitted annually.

XIII. GENERAL CONDITIONS

- A. Duty to Comply. The Permittee must comply with all conditions of this Permit. Any permit noncompliance constitutes a violation of Chapter 33.1-25-01 of the N.D.A.C. and is grounds for enforcement action; for Permit termination, revocation and reissuance or modification; or for denial of a Permit renewal application.
- B. Injection Period. The injection period will be five (5) years from the effective date of this Permit. The Permittee must apply for and obtain a new Permit in order to continue injection after the expiration date of this Permit.
- C. Halting or Reducing Injection. The Permittee must halt or reduce injection if necessary to maintain compliance with the conditions of this Permit.
- D. Duty to Mitigate. The Permittee shall minimize or correct any adverse impact on the

environment resulting from noncompliance with this Permit.

- E. Proper Operation and Maintenance. The Permittee shall at all times properly operate and maintain the wells and all related appurtenances. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures.
- F. Modification, Reissuance, or Termination. This Permit may be modified, revoked, and reissued or terminated for cause. The filing of a request by the Permittee for a Permit modification, revocation, and reissuance or termination, or a notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any Permit condition.
- G. Conveyance of Rights. This Permit does not convey any property rights of any sort or any exclusive privilege.
- H. Duty to Provide Information. The Permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this permit. The Permittee shall also furnish to the Department, upon request, copies of records required to be kept by this Permit.
- I. Inspection and Entry. The Permittee shall allow the Department or an authorized representative upon the presentation of credentials to:
 - 1. Enter upon the Permittee's premises where the wells or the records that must be kept under the conditions of this Permit are located.
 - 2. Have access to and copy, at reasonable times, the records that must be kept under the condition of this Permit.
 - 3. At reasonable times, inspect the wells and the monitoring and control equipment.
 - 4. Sample or monitor, at reasonable times, for the purpose of assuring Permit compliance.
- J. Report Certification. All reports or information submitted to the Department under the terms of this Permit shall be signed and certified as follows:
 - 1. By a principal executive officer of at least the level of vice-president, or a duly authorized representative.
 - 2. A person is a duly authorized representative only if:

- a. The authorization is made in writing by a person described above.
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the wells.
 - c. The written authorization is submitted to the Department.
3. If an authorization is no longer accurate because a different individual has responsibility for the overall operation of the wells, a new authorization must be submitted to the Department prior to, or together with, any document signed by an authorized representative.
4. The person signing the document shall make the following certification:
- "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."
- K. Reporting on Noncompliance. The Permittee shall give advance notice to the Department of any planned changes in the operation of the wells which may result in noncompliance with Permit requirements.
- L. Transfers. This Permit is not transferable to any person except after information is provided to the Department. The Department may require modification or revocation and reissuance of the Permit to change the name of the Permittee and to incorporate such other requirements as may be necessary under the Safe Drinking Water Act.

ATTACHMENT A
Parameters for Chemical Analysis

List A – Hazardous Waste Classification

Corrosivity by pH
 Setflash Flashpoint

Complete Toxicity Characteristic Leaching Procedure (TCLP)

TCLP Metals

Arsenic
 Barium
 Cadmium
 Chromium
 Lead
 Mercury
 Selenium
 Silver

TCLP Pesticides

Endrin
 Chlordane
 Heptachlor
 Heptachlor Epoxide
 Methoxychlor
 Meptachlorepoxide
 Toxaphene
 Lindane

TCLP Herbicides

2,4-D
 2,4,5-TP

TCLP Volatile Organic Compounds

Benzene
 Carbon Tetrachloride
 Chlorobenzene
 Chloroform
 1,2-Dichloroethane
 1,1-Dichloroethylene
 Methyl Ethyl Ketone
 Tetrachloroethylene
 Trichloroethylene
 Vinyl Chloride

TCLP Semi Volatile Compounds

Cresol
 o-Cresol
 m-Cresol
 p-Cresol
 Pentachlorophenol
 1,4-Dichlorobenzene
 2,4-Dinitrotoluene
 Hexachlorobenzene
 Nitrobenzene
 Pyridine
 2,4,5-Trochlorophenol
 2,4,6-Trichlorophenol

List B – General Waste Characterization

Volatile Organic Compounds (VOCs)
 Semi Volatile Organic Compounds (SVOCs)
 Total Suspended Solids (TSS)
 Total Dissolved Solids (TDS)
 pH
 Specific Gravity
 Specific Conductivity
 Temperature
 Hardness
 Total Organic Carbon (TOC)
 Chemical Oxygen Demand (COD)
 Turbidity
 Sulfate
 Sulfite
 Nitrogen (Nitrate)
 Nitrogen (Nitrite)
 Total Kjeldahl Nitrogen
 Ammonia (as N)
 Viscosity
 Alkalinity
 Carbonate
 Bicarbonate
 Aluminum
 Bromide
 Antimony
 Boron
 Corrosivity

Arsenic (dissolved)
 Barium (dissolved)
 Cadmium (dissolved)
 Calcium
 Chloride
 Total Chromium (dissolved)
 Silver (dissolved)
 Fluoride
 Iron
 Lead (dissolved)
 Magnesium
 Cyanide
 Copper
 Strontium
 Manganese (dissolved)
 Molybdenum (dissolved)
 Nickel (dissolved)
 Phosphorus (dissolved)
 Potassium (total)
 Selenium (dissolved)
 Silver (dissolved)
 Sodium
 Mercury (dissolved)
 Zinc (dissolved)
 Calcium Carbonate