

STATE OF WYOMING
DEPARTMENT OF ENVIRONMENTAL QUALITY
UNDERGROUND INJECTION CONTROL PERMIT ISSUED UNDER
WYOMING WATER QUALITY RULES AND REGULATIONS
CHAPTER 16

CLASS V INJECTION WELL

<input checked="" type="checkbox"/> New	Permit Number 14-009
<input type="checkbox"/> Modified	Facility Number WYS-007-00192
<input type="checkbox"/> Renewal	State Subclass 5E3

In compliance with the Wyoming Environmental Quality act (W.S. 35-11-101 through 1104, specifically 301(a)(i) through 301 (a)(iv), Laws 1973, Ch. 250, Section 1) and Wyoming Water Quality Rules and Regulations, Chapter 16.

Applicant: Sinclair Wyoming Refining Company
Attn: John Moore
PO Box 277
Sinclair, WY 82334-0277
(307) 324-3404

Sinclair Wyoming Refining Company, hereafter referred to as the permittee, is authorized to operate the proposed leach field in the SW¼ of Section 16, Township 21 North, Range 86 West, of the 6th Principal Meridian, Carbon County, according to the procedures and conditions of application 14-009, including the and requirements and conditions of this permit. This permit shall become effective on the date of issuance and is valid for ten (10) years.

Kevin Frederick, Administrator
Water Quality Division
Herschler Building, 122 West 25th Street
Cheyenne, WY 82002

Date

Todd Parfitt, Director
Department of Environmental Quality
Herschler Building, 122 West 25th Street
Cheyenne, WY 82002

Date

KS/rm/14-0967

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A. Discharge Zone

This injection facility (leach field) is authorized to inject 12,000 gallons/day average, and 24,000 gallons/day maximum from twenty-two (22) employee showers, several restrooms and locker rooms, maintenance areas, administration buildings and break rooms. There are approximately 400 employees that work at the refinery. The wastewater system consists of two (2) influent lift stations, two (2) ten (10) foot diameter, 22,000 gallon, baffled fiberglass septic tanks, an Orenco Advantex AX-MAX treatment system, which is a multiple-pass, packed bed, aerobic wastewater treatment system, and is comprised of fiberglass tanks with textile treatment media. The system will also have a TCOM (telemetry-based) control panel, and a leachfield consisting of twelve (12) zones, each with seven (7) laterals, with twenty (20) infiltrators per lateral, for a total of 1,680 infiltration chambers. The wastewater will be injected into weathered portions of the Steele Shale/Niobrara Formation which are found within 170 feet of land surface, and are undifferentiated at the facility location. Depth to groundwater at this facility is between 10 and 35 feet below ground surface.

B. Well and Area of Review

The injection wells authorized by this permit is located as follows:

SW¹/₄ of Section 16, Township 21 North, Range 86 West, of the 6th Principal Meridian, Carbon County.

The Area of Review is defined as a circular area of 360 acres with the injection facility located near its center. The Area of Review is based upon the following assumptions:

Table 1 (Area of Review Inputs)

Description	Inputs	Units
Permit Duration	10	Years
Porosity	5	Percent
Maximum Injection Rate	24,000	GPD
Thickness of Receiver	170	Feet
Area of Review	360	Acres
Hydraulic Conductivity	0.00019	Feet/Day

C. Groundwater Classification

The groundwater in the unconfined alluvial aquifer is classified as Class IV(A) according to Wyoming Water Quality Rules and Regulations, Chapter 8. This classification is made because the groundwater in this formation has a total dissolved solids concentration of 7,030 mg/L, a sulfate concentration of 4,290 mg/L, a sodium adsorption ratio greater than 9, and a nitrate as N concentration of 18.2 mg/L. An aquifer that contains less than 10,000 mg/L total dissolved solids (and is not exempted) can be considered an underground source of drinking water.

D. Authorized Operations

The operator is authorized to inject at a pressure of no more than atmospheric pressure as measured at the leachfields. This does not preclude the operation of dosing pumps. The wastewater system consists of two (2) influent lift stations, two (2) ten (10) foot diameter, 22,000 gallon, baffled fiberglass septic tanks, an Orenco Advantex AX-MAX treatment system, which is

a multiple-pass, packed bed, aerobic wastewater treatment system, and is comprised of fiberglass tanks with textile treatment media. The system will also have a TCOM (telemetry-based) control panel, and a leachfield consisting of twelve (12) zones, each with seven (7) laterals, with twenty (20) infiltrators per lateral, for a total of 1,680 infiltration chambers. The permittee is authorized to inject 12,000 gallons/day average, and 24,000 gallons/day maximum, of wastewater into the injection well system. The wastewater is described as domestic sewage from twenty-two (22) employee showers, restrooms and locker rooms, maintenance areas, administration buildings and break rooms. There will be about 400 employees at the refinery, on average, per day. The permittee is prohibited from injecting any sump waste, equipment washdown water, or any other wastewater derived from industrial processes into the septic system.

If additional sewage flows are added beyond those identified in the permit application, or the permittee desires to install a different system than that described in their permit application, the permittee must submit a revised application and receive a new permit prior to addition/modification of the leach field(s) or treatment system(s).

E. Hazardous Waste

This permit does not allow for the injection of any hazardous waste as defined in 40 CFR 261.3 and in Wyoming Solid Waste Management Rules and Regulations, Chapter 2. Injection of any substance defined as a hazardous waste, whether hazardous by listing or by characteristic is a violation of this permit.

F. Proper Operation and Maintenance

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit. The permittee shall operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes: effective performance, adequate funding, operator staffing and training, and laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this permit. The injection wells covered by this permit shall meet all construction requirements outlined in Wyoming Water Quality Rules and Regulations, Chapter 11 and Chapter 16.

The permittee is required to operate in accordance with statements, representations and procedures presented in the complete permit application and supporting documents as accepted and approved by the Administrator. Any modifications which will result in a violation of permit conditions shall be reported by submission of a new or amended permit application and shall not be implemented until a new or modified permit has been issued. Injection into a well may not begin until construction is complete and the permit is approved.

G. Entry and Inspection

The permittee shall allow the Administrator (upon presentation of credentials and during normal working hours) to enter the premises where a regulated facility is located, or where records are kept under the conditions of this permit and inspect and photograph the discharge and related facilities, review and copy reports and records required by this permit, collect fluid samples for

analysis, measure and record water levels, and perform any other function authorized by law or regulation.

H. Environmental Monitoring Program for Groundwaters of the State

General Requirements:

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. A groundwater sample is considered representative of the aquifer being monitored when the well has been purged to remove stagnant water prior to collection of a sample for laboratory analysis. Purging can be considered complete when a sufficient volume of water has been removed from the well and stabilization of select groundwater parameters has been achieved. It is important to record the circumstances surrounding each sample collection event at your facility. These records can help resolve analytical discrepancies. Both purging methods below shall be used prior to sample collection:

a. Purge by Volume Method

Removal of a *minimum* of three casing volumes of water from the well should be completed prior to collecting a groundwater sample. Minimum purge volume can be calculated by the following equation:

Minimum Purge Volume

$$= 3 * ((\text{Total Well Depth in feet} - \text{Depth to Water in feet}) * \text{Well Capacity})$$

Where Well Capacity (gallons per foot) is based on well diameter:

2 inch well = 0.163	6 inch well = 1.47
4 inch well = 0.653	8 inch well = 2.61

b. Stabilization of Parameters Method

Purging of groundwater until select field parameters have stabilized can be used to demonstrate that a representative sample was collected. Field parameters measured during purging should include at a minimum temperature, pH, and specific conductance. Field parameters should be measured after removal of every half casing volume of water.

Half Casing Volume

$$= 0.5 * ((\text{Total Well Depth in feet} - \text{Depth to Water in feet}) * \text{Well Capacity})$$

Where Well Capacity (gallons per foot) is based on well diameter:

2 inch well = 0.163	6 inch well = 1.47
4 inch well = 0.653	8 inch well = 2.61

A minimum of six (6) parameter measurements should be collected. If field parameters have not stabilized between the last three readings, purging and parameter measurement should continue until stabilization has been achieved. Stabilization can be demonstrated by a variance of no more than +/- 10% for temperature and specific conductance, and +/- 0.2 standard units for pH.

2. The permittee shall retain records of all monitoring information including all calibration and maintenance records, copies of the reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample measurement, report, or application. This period may be extended by request of the Administrator at any time.
3. The permittee shall use electronic data deliverable (EDD) reporting when required by the Administrator.
4. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The initials or name(s) of the individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed;
 - d. The time(s) analyses were initiated;
 - e. The initials or name(s) of the individual(s) who performed the analyses;
 - f. References and written procedures for the analytical techniques or methods used;
 - g. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results.
5. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.
6. The permittee shall retain all records concerning the nature and composition of injected fluids until five (5) years after completion of any specified plugging and abandonment procedures. The administrator may require the owner/operator to deliver the records to the administrator at the conclusion of the retention period.
7. The permittee shall report any noncompliance which may endanger health or the environment within 24 hours from the time the operator becomes aware of the circumstances. The report should include:
 - a. Any monitoring or other information which indicates that any contaminant may cause an endangerment to a usable groundwater of the state;
 - b. Any noncompliance with a permit condition or malfunction of the discharge (injection) system which may cause fluid migration into or between usable ground waters of the state;
 - c. A written submission shall be provided within 5 days of the time the operator becomes aware of the circumstances. This written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

8. The permittee shall report all instances of noncompliance not reported otherwise, at the time monitoring reports are submitted.
9. The monitoring reports shall be submitted on forms provided by the Department. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 45 days following each schedule date.
10. The permittee is required to collect one (1) baseline groundwater resample at MW-2 prior to commencement of operations. The permittee shall sample for all constituents identified in Wyoming Water Quality Rules and Regulations, Chapter 8, Table 1.

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I. Requirements for Monitoring the Discharge

The septic tanks shall be sampled and the following parameters analyzed according to the schedule identified in **Table 2**.

Table 2 (Semi-Annual Groundwater Sampling Schedule)

WELL NAME OR NUMBER	SAMPLING SCHEDULE	REPORTING SCHEDULE	PARAMETER ANALYZED	STANDARD METHOD	PERMIT LIMIT or Upper Control Limit (UCL) ¹
Septic Tanks ²	Monthly	Quarterly (January-March) (April-June) (July-September) (October-December)	Total Monthly Volume (gallons per month)	Flow meter reading	N/A
	Annually	Annually	Maximum daily volume (gpd)	Flow meter reading	24,000 (maximum daily discharge)
	Annually	Annually	Sludge depth in tank (ft)	Visual	2

NOTES:

All annual reports are to be submitted within forty-five (45) days of the last day of the year.

¹The above upper control limit (UCL) can not be exceeded in any sample. Exceedance of this value is a violation of this permit and shall require notification under Section K of this permit. Failure to perform and report analyses in accordance with the prescribed schedule and method is also a violation of this permit.

²The septic tanks are to be inspected annually and must be pumped as necessary based on sludge depth at bottom of the septic tanks, and at least once every five (5) years. A copy of the invoice for pumping the tanks is to be included with the annual report. Sludge depth is not to exceed 2 feet in the septic tanks.

J. Test Procedures

All samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. All samples taken shall include a trip blank of distilled water for each sampling date and a duplicate sample at least once per year. All required analyses shall be conducted in compliance with Wyoming Water Quality Rules and Regulations, Chapter 8, Section 7.

K. Records and Reports

The permittee shall furnish to the Administrator within a specified time any information which the Administrator may request relating to the operation of the facility, including copies of records required to be kept by this permit. The permittee shall retain copies of all records and reports required by this permit for a period of three (3) years following permanent well abandonment. After that time, those records shall be delivered to the Administrator for disposal or archive at his discretion. Confirmed noncompliance resulting in the migration of injected fluid into any zone outside the permitted receiver shall be reported to the Administrator within twenty-four (24) hours, and a written submission (via certified mail) shall be provided within five (5) days of the time the permittee becomes aware of the excursion. The written submission shall contain: a description of the noncompliance; the period of noncompliance, including exact dates and times, and if the noncompliance has not been controlled, the anticipated time it is expected to continue; and a list of the steps taken or planned to reduce, eliminate, and prevent the recurrence of the noncompliance. Confirmed noncompliance not already reported under this section shall be reported at the time monitoring reports are submitted. The reports shall contain the same information as required by the paragraph above. The permittee shall notify the Administrator thirty (30) days in advance of any planned alteration, conversion, or abandonment of the well covered by this permit.

L. Permit Actions

This permit is authorized for a period of ten (10) years. If the permittee wishes to continue injection after the expiration date of this permit he shall apply to the Administrator and obtain a new permit. The application should be submitted at least 180 days before the expiration date of this permit. Under this permit, the Department may consider injection after the expiration date a violation of the permit.

It shall not be a defense for the permittee in an enforcement action that it would be necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. The filing of a request by the permittee, or at the instigation of the Administrator, for permit modification, revocation, termination, or notification of planned changes or anticipated noncompliance shall not stay any condition of this permit.

After notice and opportunity for a hearing, a permit may be modified, suspended or revoked in whole or part during its term for cause which includes, but is not limited to any of the following:

1. Violation of this permit; or
2. Obtaining a permit by misrepresentation of facts in the application.

This permit will be reviewed at least once every five (5) years, and may be reviewed more frequently. A permit may be modified at any time as may be required, including for conformity with changes in regulations or standards which occur after the permit was issued. A permit may be modified in whole or part in order to apply more or less stringent standards; or prohibitions for toxic or other substances present in the permittees discharge as may be ordered by the Environmental Quality Council.

To comply with the Governor's Executive Order 2008-2 on Greater Sage Grouse Core Area Protection, the permittee shall ensure that all activities and habitat disturbances related to the injection well(s) authorized by this permit are covered by the relevant Wyoming Game and Fish Department stipulations to protect sage grouse habitat.

M. Abandonment

General Requirements:

1. The permittee shall notify the administrator at least thirty (30) days prior to abandonment of the facility.
2. An abandonment report, detailing the compliance with abandonment procedures outlined in the original application for coverage under this permit, or describing any deviations from the original plan, shall be submitted as soon as practicable after abandonment. The abandonment shall include reclamation of the well site.
3. Injection wells covered by this permit shall be abandoned in accordance with Wyoming Water Quality Rules and Regulations, Chapter 16, Section 12.

N. Duties of the Permittee

The permittee shall give advance notice to the Administrator as soon as possible of any planned physical alteration or additions, other than authorized operation and maintenance, to the permitted facility and receive authorization prior to implementing the proposed alternation or addition. The permittee shall furnish the Administrator within a reasonable time any information which the Administrator may request to determine whether cause exists for modifying, revoking, or reissuing, or terminating this permit, or to determine compliance with this permit; and to furnish to the Administrator upon request, copies of records required to be kept by this permit. Any modification which may result in a violation of a permit condition shall be reported to the Administrator, and any modification that will result in a violation of any permit conditions shall be reported to the Administrator through the submission of a new or amended permit application. The permittee shall report all instances where he becomes aware that he failed to submit any relevant facts in the permit application, or where he submitted incorrect information in a permit application or in any report to the Administrator, and shall promptly submit such facts or information.

If any cultural materials are discovered during construction, work in the area should halt immediately. The Administrator and the Wyoming State Historic Preservation Office shall be contacted (777-7697) and the materials shall be evaluated by an archaeologist or historian

meeting the Secretary of the Interior's Professional Qualification Standards (48 FR 22716, Sept. 1983).

O. Signatories Requirement

All reports filed in conjunction with this permit shall contain the following certification:

"I certify, under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

All reports required by this permit and other requested information shall be signed as follows:

For a corporation – by a principal executive officer of at least the level of vice-president;

For a partnership or sole proprietorship – by a general partner or the proprietor, respectively;

For a municipality, state, federal, or other public agency – by either a principal executive officer or ranking elected official; or

By a duly authorized representative for any of the above. A person is a duly authorized representative only if:

1. The authorization is made in writing by one of the prescribed principals;
2. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity; and
3. The written authorization is submitted to the Administrator.

If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be submitted to the Administrator prior to or together with any reports or information, to be signed by the new authorized representative.

P. Noncompliance

The permittee shall comply with all conditions of the permit. Any permit noncompliance constitutes a violation of Wyoming Water Quality Rules and Regulations, Chapter 16 and is grounds for enforcement action, permit termination, revocation, or modification. Conformed noncompliance resulting in an excursion shall be reported to the Administrator orally within twenty-four (24) hours, and a written submission shall be provided within five (5) days of the time the permittee becomes aware of the excursion. The written report shall contain the sections

specified in Section K of this permit. Any permit noncompliance constitutes a violation of this permit.

The filing of any request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

Q. Permit Transfer

Any transfer of this permit shall be accomplished by the submission of the proper forms for permit transfer to the Administrator. Transfer of this permit must first be approved by the Administrator and the Director. No transfer shall be approved unless the proposed permittee agrees to bring any and all noncompliance issues into compliance with this permit. The permittee is alone responsible for the operation of the facility covered by this permit. Sale of the facility and subsequent operation of this facility by another is a violation of this permit unless a transfer of this permit has first been accomplished.

R. Property Rights

This permit does not convey any property rights of any sort or any exclusive privilege. This permit does not authorize injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

S. Severability

Nothing in this permit shall be construed to preclude the institution of any legal action or to relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation.

END OF PERMIT