west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

UIC Permit

HALL DRILLING, LLC
P O BOX 249
ELLENBORO, WV 26346-

Dear Applicant:

Enclosed you will find Underground Injection Control Permit Number UIC2D0859909 dated June 07, 2013. Be advised that the duration of the permit is for a period of five (5) years.

Also be advised that all conditions established by UIC Permit Number UIC2D0859909 either expressly or incorporated by reference, must be strictly adhered to. All monitoring forms shall be submitted to the Office of Oil and Gas in the manner and frequency prescribed. The monitoring forms will be compared with the scope of permitted activity to verify compliance.

Please review the permit carefully and be aware of all permit conditions. Compliance of all permit conditions will be strictly enforced.

The operation of this injection well facility in general, including maintenance of all related surface equipment, shall be conducted so as to preclude any unlawful discharge of waste materials into the surface or ground waters of the state.

If permit should expire before a determination is made regarding re-issuance of a new permit company/operator may continue injection activities under current conditions required within expired permit during permit renewal process.

James Martin
Chief,
Office of Oil and Gas

Enclosures as stated

UIC PERMIT NO. UIC2D0859909
WELL NO. Tech Service Center #3H

UNDERGROUND INJECTION CONTROL PERMIT
FOR
DEPARTMENT OF ENVIRONMENTAL PROTECTION,
OFFICE OF OIL AND GAS AND DIVISION OF WATER AND WASTE MANAGEMENT
FOR
CLASS II COMMERCIAL DISPOSAL WELL

This document consists of the Underground Injection Control (UIC) Permit required by the Department of Environmental Protection, Office of Oil and Gas, and Division of Water and Waste Management. The permittee is allowed to engage in underground injection in accordance with the terms and conditions of this permit based upon an approved UIC Permit.

The Underground Injection Control Permit No. **UIC2D0859909** consists of Forms WW-3A and WW-3B and the terms and conditions below:

1. The underground injection activity authorized by this permit shall not allow the movement of fluid, as per (47CSR13-2.26), containing any contaminant into any subsurface area other than that which is specified and may not cause a violation of any primary drinking water regulation promulgated under 40 CFR Chapter 1, Part 141 or any water quality standard promulgated by the Department of Environmental Protection.

2. This permit is issued in accordance with the provisions of Article 11 and 12, Chapter 22 of the Code of West Virginia and the Legislative Rule 47CSR13.

3. All reports required by this permit shall be submitted to the Office of Oil and Gas with the exception to paragraph 4 below.

4. The following activities require the immediate cessation of facility operations and prompt notification of the Director of Water and Waste Management (47CSR13-13.6.d and 47CSR13-13.12.1.6).

    a) Any monitoring or other information which indicates that any contaminant has caused or may cause an endangerment to an underground source of drinking water;

    b) Any non-compliance with a permit condition or any malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water; and

    c) Any non-compliance which may endanger health and environment.

5. This permit is for authorization of injection of only fluids as defined for Class II wells in 47CSR13-4.2. The fluids to be injected shall only be from those sources listed in the permit application. Additional sources of fluids may be approved upon written request by the permittee.

6. The permit must satisfy the requirements of the Office of Oil and Gas regarding any corrective action needed on all known wells penetrating the injection zone within the area of review.

7. Any production well within a ¼ mile radius of disposal well# 47-85-09909 which does not have cemented production casing shall be plugged immediately upon becoming inactive. Any temporarily inactive well shall be monitored at a frequency and by a method prescribed by the Office of Oil and Gas upon notice by the permittee of such activity. Any well shut-in more than one (1) week shall be considered inactive.

8. The area of review is designated as a 1 / 4 mile radius around the injection well.

9. This permit approves the Oriskany formation for injection from 6,480' to 6,491'.

10. The maximum wellhead injection pressure shall be established at 2,520 PSI based on a Step-Rate test conducted on February 6, 2013.

11. The permittee shall provide for security at the injection facility to guard against illegal or unauthorized dumping and injection at the injection facility. The facility, including well(s), pump house, tanks, and impoundments, shall be fenced and monitored on a 24 hour basis.

12. The permittee shall monitor the 2 7/8" X 4 1/2" and 4 1/2" X 7" casing annuli with pressure sensitive devices or with such a method as approved or required by the Office of Oil and Gas to allow early detection on any leaks from the injection zone or casing. The results of such monitoring shall be reported on Form WR-40.

13. Authorization to inject is contingent upon submission and approval of the Office of Oil and Gas Form WR-37 for each well. Construction modifications from the proposed work plan (O&G Form WW-3) and mechanical integrity will be evaluated at this time. Operational conditions will be finalized at this time. Upon approval of Form WR-37, conditions established on this form are incorporated by reference as conditions of this permit. FORM WR-37 SHALL BE SUBMITTED WITHIN 30 DAYS OF THE EFFECTIVE DATE OF THE UIC PERMIT. A mechanical integrity test must be performed at least once every five years per 35CSR4-7.7.b.

14. If a mechanical integrity test should fail, the permittee shall cease operation/injection and shut-in the well immediately until repaired or permanently plugged and abandoned per regulation. The well must be repaired or permanently plugged within 90 days of the failure date. If repaired, the well must be re-tested making sure to submit a WR-37 Form to the Office of Oil and Gas. The Office of Oil and Gas should be notified 24 hours in advance of the re-test date to witness said test.

15. A well head pressure gauge shall be installed and maintained on the injection tubing / casing to facilitate inspection and ensure compliance of maximum injection pressures as approved on Oil and Gas Form WR-37. A daily reading of the injection pressure shall be taken and reported monthly on Form WR-40 to the Office of Oil and Gas.

16. The permittee shall sample and analyze injection fluids upon request by the Office of Oil and Gas at a frequency not to exceed twice a year. Analyses shall cover all parameters listed on Attachment A of this permit. Results of all analyses shall be submitted to the Office of Oil and Gas. Permittee shall submit a letter of explanation for any parameter which exceeds the ranges on Attachment A.

17. All injection lines shall be inspected, maintained, operated and monitored to allow early detection of any leakage and so that the occurrence of leaks will be minimized. Pipelines connection UIC well and tank battery shall be tested for tightness at least once every five years.

18. All above-ground storage tanks on location shall have secondary containment per regulation to protect against leaks.

19. Permittee shall monitor existing impoundment for releases following groundwater monitoring plan proposed within UIC application. Wells shall be constructed per regulation and monitored for those parameters stated within plan submitted. Injection shall not begin until background samples are taken for groundwater per plan submitted. All water well monitoring shall be reported to the Office of Oil and Gas on a semi-annual basis.

21. Impoundment(s) on location shall be inspected at least once a week recording integrity. An inspection shall be conducted within 24 hours of a significant rain event, meaning rainfall of two (2) inches or more within a 6 hour period. If an inspection discloses a potential hazard the permittee shall notify the Office of Oil and Gas of the findings. Permittee shall maintain at least a two (2) foot freeboard within impoundment(s).

20. Permittee shall immediately cease injection if any monitoring results indicate contamination of a freshwater aquifer. The permittee shall make every reasonable effort to identify, remove, or mitigate the source of such contamination. Within (30) days the permitte shall submit to the Office of Oil and Gas a groundwater remediation plan.

21. All solids/sludge removed from impoundment shall be disposed of properly taking to an approved landfill.

22. The permittee shall fulfill the requirements of the Office of Oil and Gas regarding maintaining financial responsibility and resources to close, plug, and abandon permitted wells. An additional five-thousand dollar performance bond shall be maintained on permitted UIC well #85-09909.

23. The herein-described activity is to be extended, modified, added to, made, enlarged, acquired, constructed or installed, and operated, used and maintained strictly in accordance with the terms and conditions of this permit; with the information submitted with the Permit Application No. **UIC2D0859909** with the plan of maintenance and method of operation thereof submitted with such application(s); and with any applicable rules and regulations promulgated by the Department of Environmental Protection.

24. This permit is issued in accordance with the provisions of Article 11 and 12, Chapter 22, of the Code of West Virginia and Legislative Rule 47CSR13.

25. Failure to comply with the terms and conditions of this permit, with the plans and specifications submitted with the Permit Application No. **UIC2D0859909** and with the plan of maintenance and method of operation thereof submitted with such application(s) shall constitute grounds for the revocation or suspension of this permit and for the invocation of all the enforcement procedures set forth in Article 11 and 12, Chapter 22, of the Code of West Virginia and Legislative Rule 47CSR13.

26. The operation of this injection well facility in general, including maintenance of all unrelated surface equipment, shall be conducted so as to preclude any unlawful discharge of waste materials into the surface or ground waters of this State.

27. The permittee must satisfy the requirement of the Office of Oil and Gas for plugging and abandonment of permitted injection wells in such a manner as to ensure that no fluid movement occurs either from the injection zone into an underground source of drinking water or from one underground source of drinking water to another.

28. Permittee shall implement a manifesting system to record all loads hauled to the facility making sure to document the source of the waste fluid and hauler identification. The Office of Oil and Gas shall approve the instrument, prior to the transportation of any fluids.

29. Permittee must ensure that a monthly composite / representative fluid sample is taken from water brought to the facility to be injected into disposal well API#85-09909 from each operator and associated wells testing for pH, Iron, Manganese, Chlorides, Sodium, Sulfate, TDS, TOC, and Barium. Each sample must list the formation(s) that the water originated from. Test results must be submitted to the Office of Oil and Gas.

ATTACHMENT A

Injection Fluid Analyses Parameters

Parameter	Ranges
PH	>2 – 10
TDS	0 - 265,000 mg/1
TSS	0 - 1000 mg/1
Aluminum	0 - 10 mg/1
Arsenic	0 – 10 mg
Barium	0 – 1500 mg/1
Cadmium	0 – 2 mg/1
Chromium	0 – 1 mg/1
Iron	0 – 1000 mg/1
Lead	0 – 7.5 mg/1
Magnesium	0 – 5000 mg/1
Manganese	0 – 15 mg/1
Potassium	0 – 5000 mg/1
Sodium	0 – 110,000 mg/1
Zinc	0 – 15 mg/1
Surfactants	0 – 10 mg/1
TKN	0 – 25 mg/1
Oil and Grease	0 – 100 mg/1
TOC	0 – 10,000 mg/1
COD	0 – 30,000 mg/1
Acidity	0 – 500 mg/1
Chloride	0 – 250,000 mg/1
Sulfate	0 – 500 mg/1
Cyanide	0 – 1 mg/1
Phenols	0 – 10 mg/1
Calcium	0 – 60,000 mg/1
BNA – Extractables	Trace
Purgeable Aromatics	Trace
Purgeable Halocarbons	Trace
PCBs	<MDL or 50 ppm
TPHs (ORO, DRO, GRO)	
NORM	