20-023

FOR AGENCY USE ONLY	APPLICATION NUMBER		
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	YEAR	MO.	DAY

NEBRASKA

DEPT. OF ENVIRONMENT AND ENERGY

APPLICATION FOR A CLASS I NON-HAZARDOUS UNDERGROUND INJECTION WELL PERMIT

This application is required in accordance to Title 122, Chapter 7, Section 001. This application must be submitted at least 180 days prior to any testing, drilling, or planned construction at the application site. Every item on this application must be completed. **An incomplete application may be returned.** If you have questions while filling out this application, please refer to Title 122, Chapter 11 or call **(402) 471-4290** and someone will assist you.

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1. Did you include the $25,000.00 non-refundable permit fee made payable to the State of Nebraska?:

2. Describe the activities conducted at the facility and the nature of the business (attach if necessary):

3. List up to 4 North American Industry Classification System (NAICS) codes that best reflect the facility or process:

4. Facility Information:

Name of Facility:			
Operator's Name:			
Street Address:		City/Zip:	
Telephone Number:		County:	
Entity Status (i.e. Federal, State, Private, Other):			

5. Owner Information:

Owner's Name:			
Mailing Address:		City/Zip:	
Telephone Number:		County:	
Ownership Status (i.e. President, Partner, Stockholder):			
Entity Status (i.e. Federal, State, Private, Other):			
Owner's Signature:			

6. Legal Location of the Injection Well including county and GPS Coordinates of Injection Well:

County:

LEGAL LOCATION:	
GPS (Decimal Lat/Long):	

7. Is the facility located on Indian lands, historic and/or archaeological sites? If yes, please list below (attach if necessary):

8. List all environmental permits, construction approval, or any other relevant permit received or applied for from the Department or any other federal, state, or local regulatory agency for this site (attach if necessary):

9. Proposed operating data:

Average and maximum daily volume of fluid to be injected:

Average:		Maximum:	

Average and maximum injection pressure:

Average:		Maximum:	

10. The zone of endangering influence (refer to Title 122, Chapter 14). Attach all calculations and assumptions used in calculations.

11. Name and signature of the person completing this form.

Name of the person completing this form:	
Telephone Number:	
Email Address:	
Signature:	

IMPORTANT! In addition to the information provided above, provide the following information in letter or report form and attach it to this application:

A. A detailed description of the operator's technological expertise to construct and operate the facility and to conduct the necessary well closure, plugging, or abandonment, reclamation, and aquifer restoration.

B. A description of all related underground injection projects, other than that for which a permit is being applied for, in which the operator is or has been involved as an operator. The description shall include but not be limited to the following items:

- **B1.** The name of each project.
- **B2.** The location of each project by county, state, and country
- **B3.** Nature of the project.
- **B4.** All regulatory aspects of the project including permits, compliance issues, and permitting agency (Refer to Title 122, Chapter 11, Section 006.06).

C. A scaled map of the entire property on which the injection is proposed. The map should include but not be limited to the following items: (Refer to Title 122, Chapter 11, Section 006.09)

- **C1.** The area of review around the injection well (a minimum of 2 miles beyond the zone of endangering influence).
- **C2.** All other injection wells (i.e. septic systems, heat pump returns).
- **C3.** All water wells (i.e. irrigation, drinking, monitoring, abandoned).
- **C4.** All surface features (i.e. water bodies, quarries, springs).
- **C5.** All major structures (i.e. buildings, streets, property lines).
- **C6.** All underground features (i.e. utilities, mines, faults).

D. A tabulation of all available data on wells within the area of review which penetrate the injection zone. Data should include but not be limited to each well's type, construction, date drilled, location, depth, water level, and plugging or completion records.

E. Maps and cross sections indicating the general vertical and lateral limits of all water resources within the area of review. Data should include but not be limited to:

- **E1.** Available or substantiating background water quality for any Underground Source of Drinking Water (USDW).
- **E2.** The available amounts of potential uses of the USDW's.
- **E3.** The position of the USDW in relation to the injection zone.
- **E4.** The direction of ground water movement.

F. Maps and cross sections detailing the geologic structure of the local area including faults if known or suspected.

G. Generalized maps and cross sections illustrating the regional geologic setting.

H. A narrative evaluating the geologic and hydrologic conditions of the area that may be effected by the injection activities.

I. A narrative describing the local topography, industry, agriculture, population densities, culture, wildlife, and fish and other aquatic life within the area of review and existing economic activities of the region including, but not limited to, agriculture, recreation, tourism and industry with a projection as to the probable effects of the system.

J. The chemical, physical, radiological and biological characteristics of the injection fluids.

K. A formation testing program to obtain an analysis of the chemical, physical, and radiological characteristics of and other information on the receiving formation and formation fluids.

L. A narrative describing the proposed aquifer/formation stimulation program (i.e. acid).

M. A narrative describing the proposed injection procedure.

N. Engineering drawings of the surface and subsurface construction details of the system.

O. A contingency plan to cope with well shut-ins or failures so as to prevent migration of injection fluids into any underground source of drinking water.

P. Proposal for calculating the fracture pressure of the injection zone.

Q. Proposal (including maps) for meeting the following requirements:

- **Q1.** Analysis of the physical and chemical characteristics of the injected fluid with sufficient frequency to yield representative data on its characteristics.
- **Q2.** Devices to continually monitor the injection pressure, flow rate, and volume of injection fluids.
- **Q3.** Devices to continually monitor the pressure on the annulus between the tubing and the long string of casing. NOTE: The injection pressure at the wellhead plus the hydrostatic pressure shall not exceed the fracture pressure of the injection zone.
- **Q4.** Mechanical integrity testing of injection well according to Title 122, Chapter 18.
- **Q5.** Number and location of monitoring wells used to monitor any migration of injection fluids into or pressure changes in the underground source of drinking water.

R. A narrative detailing the following:

- **R1.** Expected changes in formation pressures.
- **R2.** Expected formation (native) fluid displacement.
- **R3.** Direction of injection fluid movement.

S. A corrective action plan for improperly completed wells found within the area of review that are constructed into or through the proposed injection zone.

T. Design details of the proposed injection well as outlined in Title 122, Chapter 17, Section 002 including but not limited to a cement and casing program, logging procedures, deviation checks, and a drilling, testing, and coring program. All well designs should be submitted by a Professional Engineer licensed in the State of Nebraska.

U. A plugging and abandonment plan demonstrating resources necessary to close, plug, or abandon the injection well and to conduct restoration of the affected aquifer and the affected surface resources. (Refer to Title 122, Chapter 35)

V. An estimate of the costs to undertake environmental protection measures necessary to prevent contamination of the USDW during and after the cessation of operations. These measures shall include, but are not limited to (Refer to Title 122, Chapter 13):

- **V1.** The proper closing, plugging, and abandonment of a well(s)
- **V2.** The proper disassembly, decontamination, and restoration of the aquifer site.
- **V3.** The probable difficulty of completing the requirements above (V1 & V2), due to such factors as topography, geology of the site, and hydrology.
- **V4.** Any post-operational monitoring as may be required by the Environmental

Protection Act, the regulations of Title 122, and/or the permit.

V5. Additional estimated costs to the State which may arise from applicable public contracting requirements or the need to bring personnel and equipment to the permit area to complete the restoration after its abandonment by the permittee.

NOTE: The Department may request additional information after the review of the provided information.

IMPORTANT CLASS I WELL FACTS

No person shall construct or operate any Class I well in the State without a permit from the Department (Title 122, Ch. 3, § 001).

- Groundwater having 10,000 mg/l or less Total Dissolved Solids is considered a source of drinking water (Title 122, Ch. 1 § 080).
- A Class I well shall be sited in such a fashion that it injects into a formation that is beneath the lowermost formation containing a USDW that is located within ¼ mile of the proposed injection well bore (Title 122, Ch. 17 §002).
- Injection activities can only take place below the lowermost USDW (Title 122, Ch. 17 §002).
- There must be a natural aquitards between the injection zone and the lowermost USDW (Title 122, Ch. 17 §002).
- Only non-hazardous fluids will be allowed to be injected (Title 122, Ch. 3 §010).
- Review of the permit application may require more than 180 days before it is approved. If the permit application is approved, a draft permit will be written and public noticed for 30 days. The public may request a hearing, which in turn will require a 30-day public notice. There are no guarantees that a Class I permit will be issued (Title 122, Ch. 32 §002, Ch. 4 §001).
- A permit will be written for a fixed term not to exceed 10 years (Title 122, Ch. 25 §001).
- Permit administration fees (in addition to the initial application fee) may be assessed to the permittee during the life of the permit (Title 122, Ch. 12 §002).
- A Class I well may be required to demonstrate continuous mechanical integrity (Title 122 Ch. 18 §003.01, Ch. 20 §002.02).
- The Department may require the Class I well to be abandoned at any time if the well were to endanger the health and safety of persons of the State of Nebraska or the environment (Title 122, Ch. 4 §002).

Questions about this application: (402) 471-4290

Return completed Application to:

Nebraska Department of Environment and Energy
Ground Water Unit/UIC Program
P.O. Box 98922
Lincoln, Nebraska 68509