

STATE OF OHIO  
DEPARTMENT OF NATURAL  
RESOURCES

Division of Oil and Gas  
Resources Management  
WELL PERMIT

API WELL NUMBER  
34-099-2-3171-00-00

OWNER NAME, ADDRESS D & L ENERGY INC 2761 SALT SPRINGS RD YOUNGSTOWN OH 44509	DATE ISSUED 11/10/2011	PERMIT EXPIRES 11/9/2013
	TELEPHONE NUMBER	(330) 792-9524

IS HEREBY GRANTED PERMISSION TO: Salt Water Injection Well New Well AND ABANDON WELL IF UNPRODUCTIVE  
PURPOSE OF WELL: Water Injection - Disposal  
COMPLETION DATE IF PERMIT TO PLUG:



DESIGNATION AND LOCATION:	SURFACE NAD27	TARGET NAD27
LEASE NAME NORTHSTAR COLLINS (SWIW #13)	X: 2538036	
WELL NUMBER 6	Y: 524870	
COUNTY MAHONING	LAT: 41.0911077510738	
CIVIL TOWNSHIP COITSVILLE	LONG: -80.5479115873136	
TRACT OR ALLOTMENT		
SURFACE FOOTAGE LOCATION 238' SL & 2219' EL, SECTION 12		
TARGET FOOTAGE LOCATION		

TYPE OF TOOLS: Air Rotary/Fluid Rotary	GEOLOGICAL FORMATION(S):
PROPOSED TOTAL DEPTH 9300 FEET	KNOX - MT. SIMON SANDSTONE
GROUND LEVEL ELEVATION 1133 FEET	

SPECIAL PERMIT CONDITIONS Salt Water Injection Well (Class II) Construction and Operating Conditions

**CONDITIONALLY APPROVED CASING PROGRAM (SUBJECT TO APPROVAL OF THE OIL AND GAS WELL INSPECTOR):**

- 13-3/8 " APPROX. 100' WITH CEMENT CIRCULATED TO SURFACE
- 9-5/8 " APPROX. 1010' WITH CEMENT CIRCULATED TO SURFACE
- 7" CASING 8215' CEMENTED TO A MINIMUM OF 300' ABOVE INJECTION ZONE
- 4-1/2" TUBING SET ON A PACKER APPROX. 85' ABOVE INJECTION ZONE

This permit is NOT TRANSFERABLE. This permit, or an exact copy thereof, must be displayed in a conspicuous and easily accessible place at the well site before permitted activity commences and remain until the well is completed. Ample notification to inspector is necessary.

**OIL AND GAS WELL INSPECTOR:**

ROBERTS CARL (330) 451-9921  
EUGENE CHINI - Supervisor (330) 284-2942  
DISTRICT #: (330) 898-0616

**INSPECTOR NOTIFICATION**

The oil and gas inspector must be notified at least 24 hours prior to:

1. Commencement of site construction
2. Pit excavation and closure
3. Commencement of drilling, reopening, converting or plugback operations
4. Installation and cementing of all casing strings
5. BOP testing
6. Well stimulation

The oil and gas inspector must be notified immediately upon:

1. Discovery of defective well construction
2. Detection of any natural gas or H2S gas during drilling in urban areas
3. Discovery of defective well construction during well stimulation
4. Determination that a well is a lost hole
5. Determination that a well is a dry hole

**FIRE AND EMERGENCY NUMBERS:**

FIRE: ( ) - 911  
MEDICAL SERVICE: ( ) - 911

**J. MICHAEL BIDDISON**

ACTING CHIEF, Division of Oil and Gas  
Resources Management



# Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

SCOTT A. ZOLY, INTERIM DIRECTOR

Division of Oil and Gas Resource Management  
J. Michael Biddison, Acting Chief  
2045 Morse Road—Bldg H-2  
Columbus, OH 43229-6693  
Phone: (614) 265-6893, Fax: (614) 265-7999

November 10, 2011

D & L Energy, Inc.  
2761 Salt Springs Road  
Youngstown, Ohio 44509

**RE: Permit #3171, SWIW #13, Northstar Collins No. 6, Coitsville  
Township, Mahoning County, Ohio**

Dear Sir/Madam:

The enclosed saltwater injection well permit is issued subject to the following construction and operational conditions.

**Constructional conditions:**

1. The **7" casing** must be enclosed in cement from the total depth to approximately **7915 feet** (minimum of 300 feet above the top of the injection zone).
2. Injection tubing must be set on a packer at approximately **5850 feet**. A **¼"**, female, threaded fitting with a stop valve must be installed on the tubing and accessible at the surface.
3. The **annular space between the injection tubing and the 7" production casing** must be filled with a fluid (e.g., freshwater with a corrosion inhibitor additive), pressure tested to at least **1890 psi**, and monitored for at least **15 minutes with no more than a five percent decline in pressure**. Additionally, the injection line must also be tested to **1890 psi for 15 minutes with no more than a five percent decline**.
4. The UIC Section and the Mineral Resources Inspector must be notified at a minimum of 48 hours in advance of the time of cementing, placing and removing of casing, installation of the tubing and packer, testing of the casing, construction of the surface facilities, pressure testing of the injection line, and initial injection so that a representative of the Division can be present to witness the operations. The Division must also be notified in advance of any subsequent removal of the injection tubing or resetting the packer. A pressure test will also be required.
5. Surface facilities as proposed in the application are satisfactory and must be constructed under the supervision of a representative of the Division. A concrete pad with drain must be constructed so as to contain any spillage of saltwater

- during unloading from the trucks. Any proposed changes in the surface facilities must be submitted in writing and must have prior approval of the UIC Section.
6. **If an unloading pad is to be constructed, the underground concrete vault associated with the catch basin on the unloading pad shall be of one-piece construction and if the concrete vault has a detached lid, the lid must be exposed above the ground level. Additionally, the inside walls of the concrete vault shall be sealed with a salt-corrosion type material such as an asphalt-based coating to prevent deterioration of the vault from the brine water.**
  7. **A Well Construction Record (Form 8) must be submitted within 30 days after completion describing how the well was completed for injection operations. This report should include the amount and grade of tubing, type and depth of packer, treatment of the injection formation, testing of the system integrity, method used to monitor pressure in the annulus and injection tubing, and method used to monitor volumes of injected fluid.**
  8. **Prior to setting the tubing and packer, D & L Energy, Inc. shall run a radioactive tracer test to demonstrate that the injection fluids are going into the permitted injection zones. The Division recommends using the radioactive fluid versus the radioactive beads.**
  9. **Due to the close proximity of surface bodies of water at this site, D & L Energy, Inc. shall install a double-walled injection pipeline (pipe within a larger diameter pipe) from the injection pump to the injection well to ensure containment of fluids.**

#### Operational Conditions:

1. **Surface injection pressure must not exceed 1890 psi.**
2. **No liquids or waste matter from any source other than saltwater from oil and gas operations or standard well treatment fluid may be injected into this well. All fluids must be stored in approved tanks and allowed to settle before injection.**
3. **The annulus between the injection tubing and the 7" production casing must be monitored either continuously during injection of fluids or at least monthly at a minimum pressure of 200 psi. If such monitoring indicates a leak in the casing, tubing, or packer, the UIC Section must be immediately notified at (614) 265-1032.**
4. **Injection pressures and volumes must be monitored on a daily operational basis with average and maximum injection pressures and volumes compiled and recorded on a monthly basis and filed annually with the Division.**
5. **All injection pressures and annulus pressures must be continuously recorded on a tamper-proof continuous recording device such as a two-pen recorder.**
6. **A Murphy Switch or other cut-off switch device must be in-line with the injection pump and set at the maximum allowable injection pressure, so that the pump will automatically shut-down upon exceeding maximum allowable injection pressure.**
7. **As of July 1, 2010, an injection disposal fee is required to be submitted to the Division each quarter. The form and guidelines are attached for your convenience.**

8. Results of the monitoring required in paragraphs three and four above must be filed with the Division annually on Form 204. This report is due no later than 45 days after the last day of each calendar year.
9. Upon discontinuance of injection operations, the owner/operator must apply for a permit to plug and abandon the well. The well must be plugged and abandoned within 60 days after discontinuance of operations.
10. Any proposed changes in the procedures or plans outlined here or in the saltwater injection well application must be submitted in writing to the UIC Section. If such changes are approved, they will be authorized in writing.

If there are any questions concerning this well or the above conditions, please feel free to contact me at (614) 265-1032.

For the Chief of the Division of Oil and Gas Resources Management

Sincerely,

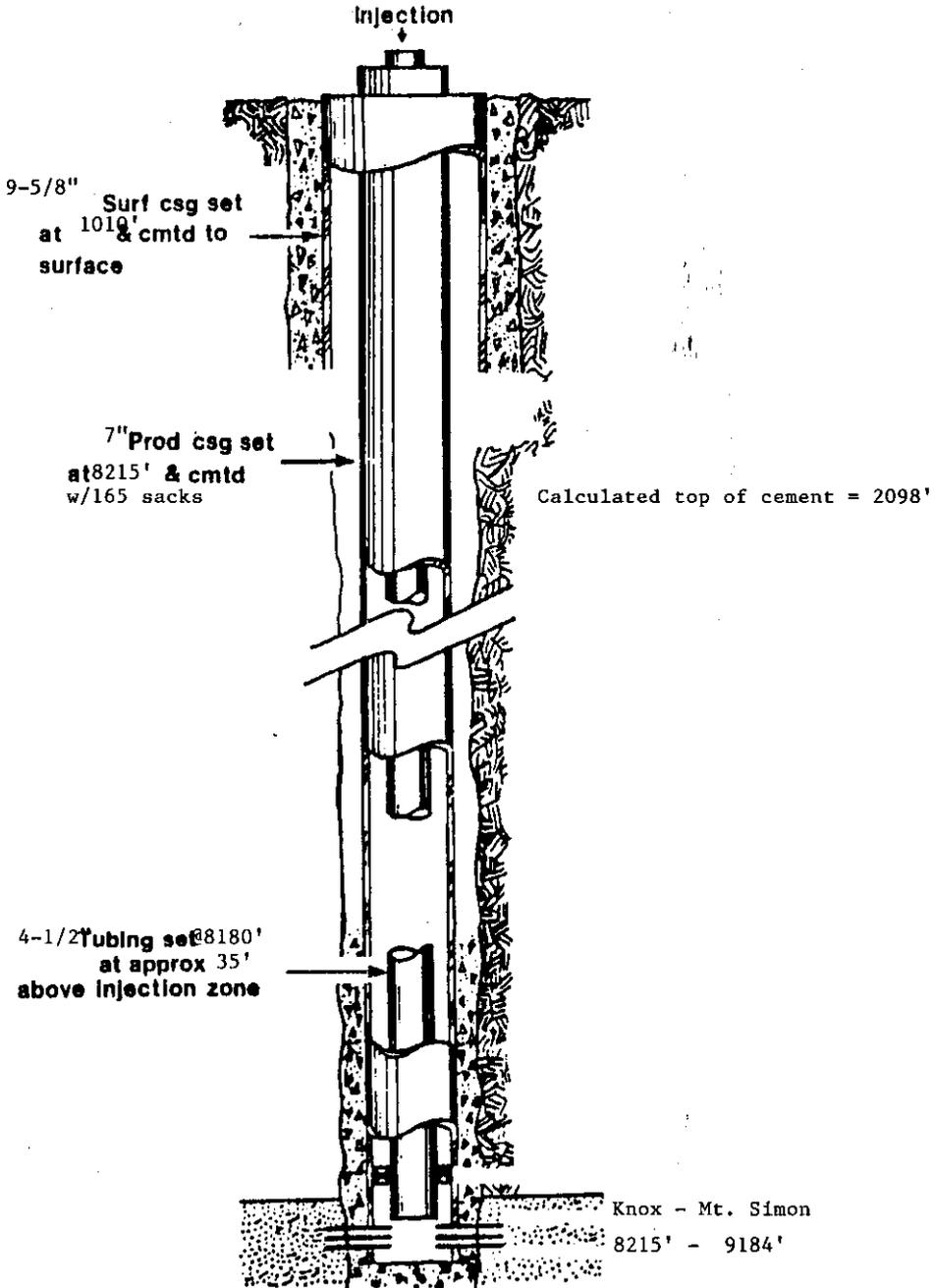


Tom Tomastik, Geologist 4  
Division of Oil and Gas Resources Management  
2045 Morse Road, H-3  
Columbus, Ohio 43229-6693

Cc: Carl Roberts, Mineral Resources Inspector  
Permitting File  
UIC File

### Subsurface Construction For Injection Well

Maximum Injection Pressure: 1890 psi



Total Depth: 9184 feet