

BEFORE THE NEBRASKA OIL AND GAS CONSERVATION COMMISSION

IN THE MATTER OF THE APPLICATION OF)
TEREX ENERGY CORP., FOR APPROVAL TO)
CONVERT THE LAUCOMER 13-1, LOCATED) CASE NO. UIC 14-14
IN THE NE NW OF SECTION 13, T. 25)
N., R. 56 W., SIOUX COUNTY,) ORDER NO. R-890
NEBRASKA, TO A SALT WATER DISPOSAL)
WELL, IN ACCORDANCE WITH CHAPTER 4)
OF THE RULES AND REGULATIONS OF THE)
NEBRASKA OIL AND GAS CONSERVATION)
COMMISSION.)

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 2:00 p.m., March 24, 2015, at Sidney, Nebraska, before the Nebraska Oil and Gas Conservation Commission, hereinafter referred to as the "Commission."

NOW, on this 24th day of March, 2015, the Commission, a quorum being present, having considered the application; the application; the evidence presented by the Applicant, represented by Steven F. Mattoon and Justin Huber, Attorneys at Law; the Commission's Well File on the Laucomer 13-1; the objections of Lee M. Hughson and Jenny M. Hughson, owners of the Hughson Flying "A" Ranch, Inc., Rick and Jane Grove, represented by Thomas Sonntag, Attorney at Law, and Stevan V. Johnson; the testimony of David Laucomer, Vice President and Manager of FX Land Company, the surface owner of the proposed salt water disposal well, represented by John A. Selzer, Attorney at Law;; the recommendation of the Commission staff; and being fully advised in the premises, the Commission finds as follows:

FINDING OF FACTS

1. The application with supporting exhibits (together "the Application") of Terex Corp for conversion of the Laucomer 13-1 well, in the NE NW of Section 13, T. 25 N., R. 56 W., Sioux County, Nebraska, to a commercial salt water disposal well was received by the Commission November 10, 2014.

2. The Application provided the following:

- a. A plat outlining the area which will be affected by the proposed operation and showing all governmental quarter sections or equivalent lots thereto directly or diagonally offsetting said area. The names of the owner or operator of each separate tract of land shall be shown, and all wells, including dry, abandoned or drilling wells shall be properly located and designated on said plat.
- b. The names and addresses of each person owning a fee, leasehold, mineral or royalty interest within one-half (1/2) mile of each injection well or within the area required to be shown on the plat, whichever is the greater.
- c. A full description of the operation for which approval is sought.
- d. The name and address of the operator of the project.
- e. A copy of the completion report and any available

electric or radioactivity logs for the Laucomer 13-1.

- f. A schematic diagram of each well showing:
 - i. The total depth or plug-back of the well.
 - ii. The depth of the injection or disposal interval.
 - iii. The geological name of the injection or disposal zone.
 - iv. A geologic description of the injection or disposal zone including the location and extent of any known faults or fracture systems.
 - v. The depths of the tops and bottoms of the casing and cement used in the well.
 - vi. The size and specifications of the casing and tubing, and the setting depth and type of packer.
- g. Information showing that injection into the proposed zone would not initiate vertical fractures into or through the overlying strata which could enable the injected fluids or formation fluids to enter any fresh water strata.
- h. Information that no unplugged wells exist which would allow the migration of the injected fluids or formation fluids to enter any fresh water strata.
- i. Information regarding the fracture pressures of the injection zone and the overlying strata, including the source of such information.
- j. Proposed operating data:
 - i. Maximum designed or proposed daily injection rates and injection pressures.
 - ii. The source of any fluids to be injected.
 - iii. Analysis of a representative sample of the fluids to be injected.
 - iv. Analysis of fresh water from two or more freshwater wells within one mile of the proposed injection well showing the location of the wells and the dates the samples were collected.
 - v. Geological name of the lowest freshwater zone, if known, and the depth to the base of the freshwater zone.
 - vi. The vertical distance separating top of the injection zone and the base of the lowest freshwater strata.

3. A Certificate of Mailing and Notice were received from Applicant on January 13, 2015, stating they had mailed on December 8, 2014, a copy of the Notice of Hearing, which hearing was set for January 27, 2014, to those persons ("the Interested Person") required to receive notice by the Rules and Regulations of the Nebraska Oil and Gas Conservation Commission.

4. Notice of filing of the application and time and place of hearing was given in a legal notice published December 24, 2014, in the Crawford Clipper/Harrison Sun. That objections were filed to said case by Ross and Sharon Corman, Bruce Corman, Rick and Jane Grove, Hughson Flying "A" Ranch, Inc., and Stevan A. Johnson.

5. The Applicant supplied a Certificate of Mailing and Notice stating Notice of the hearing set for January 27, 2014, was mailed to Interested Parties on January 5, 2014.

6. A Notice of Continuance dated January 20, 2015, was signed by William H. Sydow, Director of the Commission, continuing hearing of the Application until February 24, 2015, for lack of a quorum.

7. A Notice of Continuance dated February 13, 2015, was signed by William H. Sydow, Director, continuing hearing on the Application until March 24, 2015, again, for lack of a quorum.

8. Hearing on the Application was held March 24, 2015, at the offices of the Commission in Sidney, Nebraska.

9. The Commission has jurisdiction of this cause and of all persons interested therein and is authorized by law to enter this Order.

10. The subject matter of the Application is the operation of one salt water disposal well, located as follows:

T. 25 N., R. 56 W., Sioux County, Nebraska
Section 13: NE NW

11. The proposed salt water disposal well is to be a commercial disposal well and the injected water will be the produced water from various oil and gas wells delivered to the disposal well by truck.

12. The trucks delivering the water will not be owned or operated by the Applicant.

13. Analyses of water from the Silo Field, one of the possible sources of produced water proposed to be injected, were offered and accepted into evidence.

14. Analyses of fresh water from two freshwater wells within one mile of the proposed injection well showing the location of the wells and the dates the samples were collected, were offered and accepted into evidence.

15. The Chadron and Arikaree formations are water bearing formations of less than 3,000 ppm in the location of the Laucomer 13-1 with the base of the Arikaree formation found at 300 feet below the surface. There is an interval of 5,800 feet between the base of the Arikaree formation and the top of the proposed disposal zone in the Spearfish Formation.

16. There are no known faults or fracture systems in any formation above the Spearfish Formation which would allow injected fluids to migrate into any fresh water zone.

17. Analysis of water from the Spearfish Formation in the Laucomer 13-1 indicated 21,200 ppm.

18. No evidence was produced that the Ogallala aquifer exists in the Laucomer 13-1. The Chadron and Arikaree formations are water bearing formations of less than 3,000 ppm in the location of the Laucomer 13-1 which must be protected.

19. In the Laucomer 13-1, 10³/₄" surface casing extends from the surface to 603 feet below the surface and is cemented to the

surface; and 7" intermediate casing is cemented from 7,926 feet to the surface.

20. The fracture pressure of the Spearfish Formation is more than 4,329 psig.

21. No unplugged wells exist which would serve as a conduit to allow injected water to flow from the Spearfish Formation into any overlying fresh water zone.

22. A security plan is proposed so that the facility site will be physically secured at all times.

23. Lack of salt water disposal wells inhibits production of oil and gas. Only one other commercial disposal well exists in the panhandle of Nebraska and it is located near Kimball, Nebraska. Waste will occur if exploration and production cannot occur because there is no local site to dispose of produced water in the northern panhandle of Nebraska.

24. All Interested Parties were allowed to testify.

25. The FX Land Company owns the surface where the Laucomer 13-1 is located along with 30,000 additional acres. The family which owns the FX Land Company has owned the surface for 108 years and plan to continue owning and operating it in succeeding generations. The surface owner has no objection to the Application and supports the project.

26. The Nebraska Department of Roads filed no objection to the Application.

27. The Scotts Bluff County Commissioners, the Sioux County Commissioners, the Village of Harrison, the City of Mitchell, the Mitchell Public Schools, the North Platte NRD, the Panhandle Public Health District, and the Oglala Sioux Tribe do not own a fee, leasehold, mineral, or royalty interest within one-half mile of the Laucomer 13-1 well, and therefore do not have standing as "Interested Parties".

28. The disposal of water into the Spearfish Formation is feasible, protective of correlative rights, will prevent waste, will not flow from the receiving zone into any other zone or formation, and should be approved.

CONCLUSIONS OF LAW

1. It is in the public interest to foster, to encourage and to promote the development, production and utilization of natural resources of oil and gas in the state in such a manner as will prevent waste; to authorize and to provide for the operation and development of oil and gas properties in such a manner that the greatest ultimate recovery of oil and gas be had; and that the correlative rights of all owners be fully protected; and to encourage and to authorize cycling, recycling, pressure maintenance and secondary recovery operations in order that the greatest possible economic recovery of oil and gas be obtained within the state to the end that the landowners, the royalty owners, the producers and the general public realize and enjoy the greatest possible good from these vital irreplaceable natural resources. Neb. Rev. Stat. § 57-901.

2. All rules and regulations of a general nature promulgated to prevent waste and to conserve oil and gas in the State of Nebraska shall be effective throughout the State of Nebraska and be in force in all pools and fields except as they may be amended, modified, altered or enlarged generally or in specific individual pools or fields by orders issued by the Commission and except where special field rules apply, in which case the special field rules shall govern to the extent of any conflict. Rule 2-001 of Title 267 Rules and Regulations of the Nebraska Oil and Gas Conservation Commission.
3. The Commission shall have jurisdiction and authority over all persons and property, public and private, necessary to enforce effectively the provisions of sections 57-901 to 57-921. Neb. Rev. Stat. § 57-905(1)
4. The Commission shall have authority, and it is its duty, to make such investigations as it deems proper to determine whether waste exists or is imminent or whether other facts exist which justify action by the commission. Neb. Rev. Stat. § 57-905(2)
5. The Commission shall have authority in order to prevent waste, to regulate:
 - (a) The drilling, producing and plugging of wells, or test holes, and all other operations for the production of oil or gas;
 - (b) the shooting and chemical treatment of wells;
 - (c) the spacing of wells;
 - (d) operations to increase ultimate recovery such as, but without limitation, the cycling of gas, the maintenance of pressure, and the introduction of gas, water, or other substances into producing formations; and
 - (e) disposal of oilfield wastes, including salt water. Neb. Rev. Stat. § 57-905(4)
6. In the conduct of oil and gas operations, each owner shall exercise due care in the protection of water-bearing formations as required by the applicable statutes of the State of Nebraska. Rule 2-006 of Title 267 Rules and Regulations of the Nebraska Oil and Gas Conservation Commission.
7. Waste of oil and gas, or either of them, is prohibited in the State of Nebraska. Neb. Rev. Stat. § 57-902.
8. Waste is defined in the Nebraska Revised Statutes as:
 - (a) Waste, as applied to oil, shall include underground waste, inefficient, excessive, or improper use, or dissipation of reservoir energy, including gas energy and water drive, surface waste, open pit storage, and waste incident to the production of oil in excess of the producer's aboveground storage facilities and lease and contractual requirements, but excluding storage, other than open pit storage, reasonably necessary for building up or maintaining crude stocks and products thereof for consumption, use, and sale;
 - (b) waste, as applied to gas shall include (i) the escape, blowing, or releasing, directly or indirectly, into the open air of gas from wells productive of gas only, or gas

from wells producing oil or both oil and gas and (ii) the production of gas in quantities or in such manner as will unreasonably reduce reservoir pressure or unreasonably diminish the quantity of oil or gas that might ultimately be produced, but excluding gas that is reasonably necessary in the drilling, completing, testing, and producing of wells and gas unavoidably produced with oil if it is not economically feasible for the producer to save or use such gas; and

(c) waste shall also mean the abuse of the correlative rights of any owner in a pool due to nonuniform, disproportionate, unratable, or excessive withdrawals of oil or gas therefrom causing reasonably avoidable drainage between tracts of land or resulting in one or more owners in such pool producing more than his or her just and equitable share of the oil or gas from such pool. Neb. Rev. Stat. § 57-903.

9. Interested Party means any person owning a fee, leasehold, mineral or royalty interest within one-half (1/2) mile of the proposed disposal well. Rule 6-006.05 of Chapter 6 Title 267 Rules of Practice and Procedure before the Oil and Gas Conservation Commission of the State of Nebraska.
10. There is no prohibition in Nebraska law concerning disposal of produced water from oil and gas wells outside of Nebraska in a Nebraska salt water disposal well.
11. The Commission does not have jurisdiction over usage of the roads and highways of the State of Nebraska, Sioux County, or Scottsbluff County.

ORDER

IT IS THEREFORE ORDERED:

1. That the application of Terex Energy Corp. for conversion of the Laucomer 13-1 well in the NE NW of Section 13, T. 25 N., R. 56 W., Sioux County, Nebraska, to a commercial salt water disposal well, is hereby approved subject to the following conditions:

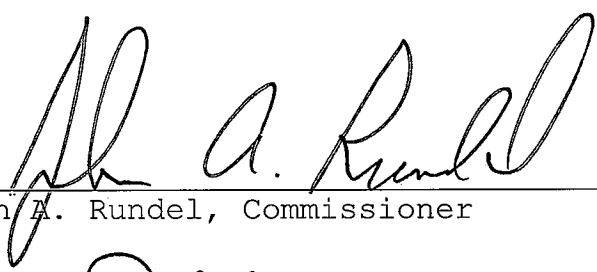
- a. That the proposed commercial disposal well shall be operated and monitored at all times in accordance with the appropriate rules and regulations of the Commission and the terms of this Order.
- b. That the proposed commercial disposal well is constructed as follows: In the Laucomer 13-1, API#26165211640000, approximately 603 feet of 10³/₄" 40.4 LB/FT J-55 steel casing is cemented to the surface with 360 sacks. The injection casing is 7" LTC 23 LB/FT J-55 steel casing that has been run through the Spearfish Formation to approximately 7,904 feet and cemented with 1,275 sacks, bringing the cement top to the surface. That the cement bond shall be sufficient to ensure that no injected fluids will migrate from the disposal zone into any fresh water zone before further completion operations or injection are commenced.
- c. That injection shall be through tubing and packer with the packer set at approximately 6000-6050 feet.

- d. That the maximum authorized injection pressure at the surface shall not exceed 1,500 pounds at the surface and the rate of injection shall not exceed 5,000 barrels per day.
 - e. That upon completion of the well, all reports shall be filed as required by the rules and regulation of the Commission and the casing shall be pressure tested as required by Chapter 4, Rule 006.01C, or as required by any subsequent orders issued by the Commission.
 - f. That aboveground extensions shall be installed in each annulus in the well and on each injection tubing string with each extension fitted with a valve and a one-fourth inch female fitting for pressure monitoring.
 - g. That the injection pressure and the casing annulus pressure shall be monitored no less than once each week and reported monthly.
 - h. That all monitoring and reporting shall be in compliance with the appropriate rules and regulations.
 - i. That the injection casing shall be pressure tested, or the mechanical integrity proven by other tests approved by the Director, not less than once each year under the supervision of the Director.
2. That the Commission shall retain jurisdiction of this matter and may modify, revoke, and reissue or terminate this authority for cause upon the request of any Interested Person or at the Commission's initiative.


DONE, at Sidney, Nebraska, on the 22nd day of April 2015.

STATE OF NEBRASKA

OIL AND GAS CONSERVATION COMMISSION



John A. Rundel, Commissioner



Thomas D. Oliver, Commissioner