

**STATE OF NEW MEXICO
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

**IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:**

**CASE NO. 13601
ORDER NO. R-12470**

**APPLICATION OF FASKEN OIL AND RANCH, LTD. FOR APPROVAL OF
SALT WATER DISPOSAL WELLS, LEA COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on December 15, 2005, at Santa Fe, New Mexico, before Examiner William V. Jones.

NOW, on this 27th day of December, 2005, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner,

FINDS THAT:

(1) Due public notice has been given, and the Division has jurisdiction of this case and its subject matter.

(2) The applicant, Fasken Oil and Ranch, Ltd. ("Fasken"), seeks authority to utilize the following three wells all located in Section 11, Township 15 South, Range 37 East, NMPM, Lea County, New Mexico, to dispose of produced water into the Pennsylvanian formation:

A. Denton Well No. 1 (API No. 30-025-05288) located 1,980 feet from the North line and 1,988 feet from the West line at depths from 9,557 feet to 10,350 feet through perforations in 5-1/2 inch casing.

B. Denton Well No. 5 (API No. 30-025-05292) located 658 feet from the North line and 662 feet from the East line at depths from 9,775 feet to 10,950 feet through an open hole completion.

C. Denton Well No. 11 (**API** No. 30-025-05298) located 660 feet from the North line and 1,815 feet from the East line at depths from 9,642 feet to 10,720 feet through an open hole completion.

(3) On September 19, 2005, Fasken submitted an administrative application to the Division asking for approval of these three wells for injection of salt water. On October 13, 2005, prior to a permit being issued, the Division received a letter of protest from an offsetting operator, Americo Energy Resources, LLC ("Americo"). The letter of protest was signed by Mr. Oscar Nosrati, as Vice President of operations for Americo Energy Resources, LLC. Fasken thereafter requested the matter be set for hearing on the December 15, 2005 docket.

(4) On December 8, 2005, the Division received a written statement detailing reasons for the objection from Mr. Oscar Nosrati and Mr. Ghasem Bayat, on behalf of Americo Energy Resources, LLC. Americo was never represented by an attorney in this case and did not submit a valid pre-hearing statement as is required in Division Rule 1211.B.(3). Mr. Bayat and Mr. Nosrati did appear at the hearing and were allowed to make personal statements, as permitted by Division Rule 1212.C. Americo was not allowed to participate in the hearing because it was not represented by an attorney and had not followed the procedures set out in Rule 1211.B(3) to appear *pro-se*.

(5) Fasken filed a motion in this case to strike the objection of Americo and to prevent Americo from testifying. Fasken's motion was based primarily on Americo's untimely protest of Fasken's application but also on Americo's lack of following Division rules concerning pre-hearing statements and conduct of hearings. The Division denied the motion by Fasken to strike Americo's objection.

(6) No other party appeared at the hearing or otherwise opposed this application.

(7) The applicant presented exhibits and testimony showing the following:

A. Fasken has need of additional saltwater disposal facilities to support its Wolfcamp and Devonian oil production operations within this area.

B. The Pennsylvanian interval in this vicinity is non-productive of oil or gas, highly permeable, and has been used successfully for many years by other operators for saltwater disposal.

C. Long term injection into the Pennsylvanian in this area has not been shown to harm the underlying Devonian oil production or the overlying Wolfcamp oil production.

D. The proposed injection wells are close to the crest of the recognized structure in this area.

E. Fasken is asking for all three wells in this application to be approved for injection. However, if the first conversion is successful and takes a sufficient volume of fluid, Fasken may not convert the remaining two wells and would then be content to let the other injection permits lapse after one year of inactivity. The Denton Well No. 1 will be the first well converted to injection.

F. All wells within a one-half mile area of review are protected with adequate cement above and below the injection interval and will not provide conduits for injection water to travel out of zone.

G. The proposed injection wells are all currently temporarily abandoned and the following operations are proposed on these wells to convert them to injection:

(a) The Denton Well No. 1 will be plugged back and perforated in the Pennsylvanian.

(b) The Denton Well No. 5 and the Denton Well No. 11 will have all open Wolfcamp perforations squeezed, the well deepened through the Pennsylvanian and a liner installed and cemented to cover the Wolfcamp.

(8) The Division finds the following:

A. The applicant has notified all affected parties within the one-half mile area of review of this application.

B. The Pennsylvanian interval is a known lost circulation interval, has been used since the 1950's for injection without reports of consequences to adjacent productive intervals. Most of the older Pennsylvanian injection wells have been on the flanks of the productive Devonian and Wolfcamp structures.

C. The wells within one-half mile of these proposed injection wells have adequate cement to prevent movement of injected fluid out of zone. The proposed injection wells are either already adequately cemented, or will be adequately cemented after conversion to injection.

D. The Wolfcamp and Devonian oil pools are the only producing reservoirs in this area. Both of these oil pools have an upper productive interval and a lower, permeable, water saturated interval. There are no gas reservoirs near this area or other reservoirs considered to be overly sensitive to damage from water injection, should it occur.

E. Approval of this application will protect the environment, prevent waste, and protect correlative rights.

F. This application to inject into three wells should be approved with the following major stipulations:

(a) Wolfcamp perforations should be isolated with a cemented liner extending to the top of the Pennsylvanian formation. A plug should be placed in each well within 200 feet of the bottom of the permitted injection interval.

(b) Injection should be confined to the Pennsylvanian formation through specific injection intervals. An injection profile log should be run within 6 months of commencing injection in order to determine which intervals in the Pennsylvanian are taking fluid, and to see if injection fluid is moving vertically, near the wellbore, out of the permitted injection interval.

(c) The casing-tubing annulus should be installed to within 100 feet of the top of the injection interval and constantly monitored to ensure leakage does not occur.

(d) Surface injection pressure should be constantly monitored and restricted to a maximum gradient of 0.2 psi per foot above the top permitted depth. This maximum pressure should be increased only upon proof that additional pressure will not result in fluid movement out of zone.

IT IS THEREFORE ORDERED THAT :

(1) The applicant, Fasken Oil and Ranch, Ltd., is hereby authorized to utilize the following three wells all located in Section 11, Township 15 South, Range 37 East, NMPM, Lea County, New Mexico, to dispose of produced water for disposal purposes into the **Pennsylvanian formation** at the following specific depths and maximum surface injection pressures:

Denton Well No. 1 (API No. 30-025-05288) 1,980 feet FNL and 1,988 feet FWL
Approved injection depths: 9,557 feet to 10,350 feet through casing perforations
Approved maximum wellhead pressure: 1,911 psi.

Denton Well No. 5 (API No. 30-025-05292) 658 feet FNL and 662 feet FEL
Approved injection depths: 9,775 feet to 10,950 feet through open hole interval
Approved maximum wellhead pressure: 1,955 psi.

Denton Well No. 11 (API No. 30-025-05298) 660 feet FNL and 1,815 feet FEL
Approved injection depths: 9,642 feet to 10,720 feet through open hole interval
Approved maximum wellhead pressure: 1,928 psi.

IT IS FURTHER ORDERED THAT :

(2) The operator shall report to the Division, any oil and gas shows from completion operations in the Pennsylvanian formation as well as any new electric logs.

(3) Prior to any injection, Wolfcamp perforations shall be isolated with a cemented liner extending to the top of the Pennsylvanian formation. A cast iron bridge plug or approved cement plug shall be placed in each well within 200 feet of the bottom of the permitted injection interval.

(4) Prior to injection operations, the operator shall measure the initial static pressure in the reservoir at the top perforation depth. The operator shall report this pressure to the Division in a sundry report, referencing this hearing order.

(5) Injection shall be confined to the Pennsylvanian formation through specific injection intervals as detailed above. A temperature and radioactive tracer injection profile log shall be run within 6 months of commencing injection in order to determine which intervals in the Pennsylvanian are taking fluid, and to see if injection fluid is moving vertically, near the wellbore, out of the permitted injection interval. The log of the survey results shall be supplied to the Engineering Bureau of the Division in Santa Fe.

(6) Each well shall be equipped with plastic-lined tubing set in a packer located within 100 feet of the top-most injection interval, even if tapered tubing is required. The casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing, or packer.

(7) The injection wells or systems shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface injection pressure to the maximum allowable pressure for each well.

(8) The Division Director may administratively authorize a pressure limitation in excess of the above upon a showing by the operator that such higher pressure will not result in migration of fluids out of the injection formation or the fracturing of the injection formation or confining strata.

(9) The operator shall notify in advance the supervisor of the Hobbs district office of the Division of the date and time of changes in packer, tubing, mechanical integrity tests, or any other work to be performed on these wells.

(10) The operator shall immediately notify the Supervisor of the Division's Hobbs District Office of the failure of the tubing, casing or packer in the disposal wells or the leakage of water, oil or gas from or around these wells or any producing or plugged and abandoned well within the area, and shall take all steps as may be timely and necessary to correct such failure or leakage.

(11) The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface using any conduit such as fractures or wells.

PROVIDED FURTHER THAT,

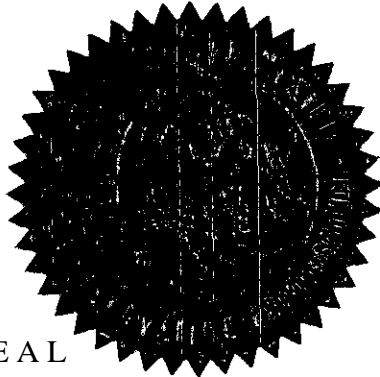
(12) In accordance with Rule No. 705.B, the operator shall provide written notice of the date of commencement of injection to the Hobbs district office of the Division.

(13) In accordance with Rule No 705.C, the injection authority granted herein for each well shall terminate one year after the effective date of this order if the operator has not commenced injection operations into that well, and will terminate *ipso facto*, one year after injection operations into that well have ceased.

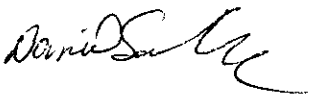
(14) In accordance with Rule Nos. 706 and 1120, the operator shall submit monthly reports of the disposal operations on Division Form C-115.

(15) Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh water or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the injection authority granted herein.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


for MARK E. FESMIRE, P.E.
Director