

**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. 13293
ORDER NO. R-12171**

**APPLICATION OF GANDY CORPORATION FOR APPROVAL OF A DISPOSAL
WELL, LEA COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on July 8, 2004, at Santa Fe, New Mexico, before Examiner William V. Jones.

NOW, on this 9th day of July, 2004, 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, Gandy Corporation ("Gandy"), seeks authority to utilize its State "T" Well No. 2 (API No. 30-025-03735) located 4,290 feet from the South line and 500 feet from the West line, Lot 12 of Section 6, Township 16 South, Range 36 East, NMPM, Lea County, New Mexico, to dispose of produced water into the San Andres and Glorieta formations from a depth of 4,810 feet to 6,880 feet.

(3) On April 30, 2002, the New Mexico Oil Conservation Division ("Division") granted Pronghorn Management Corporation ("Pronghorn") a permit (SWD-836) to utilize the State "T" Well No. 2 as a saltwater disposal well to inject for disposal purposes into the San Andres and Glorieta formations from a depth of 6,000 to 6,200 feet through plastic lined tubing. This permit was contingent upon first plugging back the well to 6,500 feet, squeezing cement from the existing cement top to the surface, and supplying a cement bond log to the Hobbs district office of the Division. Subsequently the Division became aware of an offset operator who was not properly notified. The offset operator, DKD, LLC ("DKD"), filed a letter of objection to the application and the application to inject was set to hearing.

(4) Division hearing order R-11855 issued in Case No. 12905 on October 28th, 2002, rescinded SWD-836, and denied Pronghorn's application - which was to inject into this well for disposal purposes from 6,000 to 6,400 feet.

(5) Pronghorn applied "de novo" to the Oil Conservation Commission to reinstate SWD-836 and permit injection from 6,000 to 6,400 feet. This application was approved on May 15th, 2003 by Commission hearing Order No. R-11855-B.

(6) Division records indicate that operation of the well was transferred from Pronghorn to Gandy (OGRID 8426), a sundry notice-of-intent was filed with the Division to plug back the well, cement squeeze, run a cement bond log, and perforate from 6,200 to 6,400 feet.

(7) During August, 2003, the following well work was done during conversion to salt water disposal. A cast iron bridge plug and cement were placed at 10,288 feet. Holes were found in the casing from 7,650 to 7,700 feet and from 4,750 to 4,815 feet. Cement was placed over the lower holes and over the upper holes without obtaining adequate squeeze operations on either one. Cement was tagged inside the well at 7,690 feet. The casing was perforated at 4,320 feet and cement was circulated from that depth to the surface. During cleanout operations, 1000 gallons of acid was pumped into the casing and the casing went on a vacuum. The well was perforated from 4,810 feet to 6,880 feet. Plastic coated 3-1/2 inch tubing was installed into an injection packer set at 4,720 feet.

(8) On May 3, 2004, the Division director signed a letter to Gandy ordering this well to be shut-in, until either; (i) all perforation depths not permitted under Commission Order No. R-11855-B are squeezed off to the satisfaction of the Hobbs district office of the Division, or; (ii) Gandy obtains an approved permit from the Division for injection into depths already perforated.

(9) Gandy subsequently applied to the Division on May 11, 2004, to utilize this well for saltwater disposal through a perforated interval from 4,810 to 6,880. DKD, an offsetting operator of record within the NW/4 of Section 6, Township 16 South, Range 36 East, NMPM, filed a letter of objection to the application and the application to inject was set to hearing.

(10) DKD appeared at the hearing through legal counsel to oppose the application and presented one witness who testified as follows.

- (a) During plugging operations, an offset well to the subject well produced 50 barrels of oil the first day then 30 barrels of oil the second day from the San Andres formation at depths equivalent to the upper perforated interval of the subject well.

- (b) DKD is the operator of at least two plugged wells within ½ mile of the subject well and intends to attempt completions in the San Andres in the future as money and pulling units become available.
 - (c) DKD is a small operator with adequate saltwater disposal capability in the vicinity and can afford to produce the San Andres at a relatively high water cut.
- (11) The applicant presented exhibits and testimony showing the following.
- (a) Within this Section 6 and the offsetting Section 1 to the west, there are no production from, and no productive intervals in, the San Andres, the **Blinebry**, the Tubb, or the **Drinkard** formations.
 - (b) Log analysis information was presented on the subject well, using logs from the subject well and more modern logs from offset wells, showing the probability of commercial production from the Glorieta and San Andres formations is extremely low. There are no indications in the available data that any operator has chosen to test the San Andres in this area.
 - (c) The expanded interval for saltwater disposal is practical in this well due to the casing problems found in the upper San Andres and lower Glorieta.
- (12) The Division finds the following.
- (a) Within the ½ mile area of review, there has not been production from above 10,500 feet subsurface. The evidence in this case indicates there is likely a very small amount of moveable oil in the upper San Andres within this area.
 - (b) Much time and many opportunities existed in the past for DKD and other operators to have tested the upper San Andres. To-date, no one has tested it for **commerciality**.
 - (c) Several indications are the upper San Andres is not taking very much injection water at this time and the best **injection** target is the lower Glorieta.
 - (d) The injection interval is separated from the shallow drinking water with two casing strings, both circulated with cement.
 - (e) Additional well work is needed to ensure injected fluid remains in the proposed injection interval from 4,810 feet to 6,880 feet.

(13) Approval of this application will protect the environment, prevent waste, and protect correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Gandy Corporation, is hereby authorized to utilize its State "T" Well No. 2 (API No. 30-025-03735) located 4,290 feet from the South line and 500 feet from the West line, Lot 12 of Section 6, Township 16 South, Range 36 East, NMPM, Lea County, New Mexico, in such a manner as to permit the injection of produced water for disposal purposes into the San Andres and Glorieta formations from 4,810 feet to 6,880 feet through 3-1/2 inch plastic-lined tubing set in a packer located within 100 feet above the top perforation.

IT IS FURTHER ORDERED THAT:

(2) 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.

(3) The wellhead injection pressure on the well shall be limited to **no more than 962-psi**. In addition, the injection well or system 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 this well.

(4) 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.

(5) 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 this well.

(6) 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 well or the leakage of water, oil or gas from or around this well 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.

(7) 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.

(8) Within 30 days of this order, the operator shall verify to the Division director with evidence and in writing that injection fluid is not exiting the 5-1/2 inch casing below the

bottom of the 6,880foot perforated interval. This determination shall be done by tracer surveys or other means; however, the determination shall also consist of a temperature survey log run from the plugged back depth up into the tubing with and without injection into the well. If holes in the casing are found below the 6,880 foot injection interval, the operator shall pull the injection tubing, plug back the well using cement squeeze operations witnessed by personnel from the Hobbs district office and run a cement bond log from the plugged back total depth to the surface. This log shall be sent both to the Division office and to the Hobbs district office.

PROVIDED FURTHER THAT,

(9) 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.

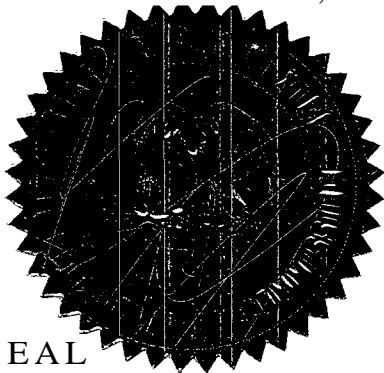
(10) In accordance with Rule No 705.C, the injection authority granted herein shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the well, and will terminate *ipso facto*, one year after injection operations have ceased.

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

(12) 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.

(13) Jurisdiction is hereby retained for the entry of such further orders as the Division may deem necessary.

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



SEAL

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

A handwritten signature in black ink, appearing to read "Mark E. Fesmire".

MARK E. FESMIRE, P.E.
Director