

**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 TO CONSIDER:**

**APPLICATION OF CROWNQUEST OPERATING, LLC TO REINSTATE THE
INJECTION AUTHORIZED BY ORDER NO. R-4007, LEA COUNTY, NEW
MEXICO.**

**CASE NO. 15766
ORDER NO. R-4007-A**

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on July 20, 2017, at Santa Fe, New Mexico, before Examiner William V. Jones.

NOW, on this 12th day of September, 2017, 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 the subject matter.

(2) Crownquest Operating, LLC ("Applicant" or "Crownquest") seeks authority to reinstate the authority to inject for its State 27 Well No. 2 (API No. 30-025-22932; the "subject well"), located 660 feet from the South line and 660 feet from the East line (Unit P) of Section 27, Township 14 South, Range 32 East, NMPM, Lea County, New Mexico, for disposal of produced water into the Upper Pennsylvanian formation through a perforated interval from approximately 9789 feet to 9924 feet below surface. The original authority to inject for the subject well was approved by Order No. R-4007 issued in Case No. 4389 on August 12, 1970.

(3) The Division, in a correspondence dated June 30, 2016, notified Crownquest that the authority to inject for the subject well had terminated *ipso facto* pursuant to Rule 19.15.26.12(C) NMAC. The loss of authority was determined using the last month of reported injection of May 2015 followed by 12 consecutive months with no reported injection.

(4) On June 1, 2017, Crownquest submitted an administrative application (Application No. pMAM1715338760) to the Division for approval of the subject well for disposal of produced water as had been previously permitted by Order No. R-4007. The review of the application by the Division identified issues including possible impacts to hydrocarbon resources which occur in the same interval as proposed for disposal. As a result, the Division denied the approval of the application by administrative process and requested that Crownquest seek approval for the authority to inject by means of a Division hearing.

(5) Additionally, Crownquest Operating, LLC (OGRID No. 213190) was identified as being out of compliance with Division Rule 19.15.5.9 NMAC for the allowable inactive well count.

(6) On June 20, 2017, Crownquest submitted the application for the subject well to be placed on a hearing docket.

(7) The Applicant appeared through counsel and presented the following testimony:

- (a) The subject well was spud January 1, 1969, and is constructed with the following three casing strings: a 13 $\frac{3}{4}$ -inch surface casing set at 382 feet; an 8 $\frac{3}{4}$ -inch intermediate casing string set at 4050 feet, and a 5 $\frac{1}{2}$ -inch production casing set at 10,009 feet.
- (b) The subject well has cement circulated to surface for the surface casing and to a calculated depth of 2300 feet behind the 8 $\frac{3}{4}$ -inch intermediate casing string. The 5-1/2-inch production casing was reported to have a top of cement at 8020 feet based on a cement bond log.
- (c) The subject well has 2-7/8-inch tubing with 5-1/2-inch packer installed at 9,699 feet and has recently passed a witnessed mechanical integrity test.
- (d) The prior injection interval and the corresponding perforations approved under Order No. R-4007 would not be changed with the approval of this application. The perforated interval extends from 9789 to 9924 feet in the Bough A and B members of the Upper Pennsylvanian
- (e) Order No. R-4007 has no limitations on injection tubing pressure, and during the previous operation of the subject well, the maximum surface injection pressure was rarely reported. Applicant's witness agreed to comply with the pressure reporting requirement and to limit the injection tubing pressure to the Division's 0.2 psi per foot surface pressure gradient.

- (f) Applicant's witness stated at hearing that the only source of produced water for disposal in the subject well will be from Applicant's State 26 Com Well No. 5 (API No. 30-025-28612) and State 22 Well No. 2 (API No. 30-025-28452), and there were no intentions to dispose of water from other wells into the subject well.
- (g) Division records indicate these wells together produce a total of approximately 30 barrels of water per day from completions in the Upper Pennsylvanian and Abo formations, respectively. Applicant is proposing 100 barrels of water per day as the average disposal rate.
- (h) The State 26 Com Well No. 5 is located approximately one-half mile from the subject well and produces from the same interval as the subject (proposed disposal) well. There has been no effect on the producing well from previous disposal into the subject well and none is expected in the future.
- (i) Applicant submitted water analysis from fresh-water wells identified within a one-half mile radius of the subject well.
- (j) The results of the half-mile Area of Review (AOR) around the subject well found a total of eight wells that penetrate the proposed injection interval. Seven of these wells are plugged, and the remaining well is an active producer. All are properly cemented to protect underground sources of drinking water and not to allow migration of injected fluids from the proposed injection interval.
- (k) Applicant provided analysis of formation waters for the Upper Pennsylvanian formation in the area that demonstrated a total dissolved solids concentration of approximately 85,000 milligrams per liter.
- (l) Applicant's witness testified that he has examined the available geological and engineering data and found no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- (m) Applicant's witness testified that Crownquest has wells under an Inactive Well Agreed Compliance Order and with the subject well returning to active service, it will comply with Division Rule 19.15.5.9 NMAC.
- (n) Applicant stated that the economic necessity for disposal in the subject well is to support production.

- (o) Applicant stated that it has no logs for this well and none appear for this well on the Division's web site. Applicant did include in its application the cross section submitted for the original Case No. 4389 showing a small copy of a log for the subject well.
 - (p) Applicant provided evidence of proper notification including return receipts and affidavit of publication in a local newspaper of general circulation in the same county as the subject well.
- (8) No other party appeared at the hearing, or otherwise opposed the granting of this application.

The Division concludes as follows:

- (9) The Applicant submitted a revised C-108 application at hearing that resolved content issues identified in the administrative review of the original application.
- (10) The Applicant provided a summary of oil and gas production in the Upper Pennsylvanian formation near the subject well that indicated no impacts to offsetting hydrocarbon production due to the disposal operation.
- (11) The disposal fluids are compatible with existing formation fluids based on analytical results provided by Applicant.
- (12) The application has been duly filed under the provisions of Division Rule 19.15.26.8 NMAC.
- (13) Applicant has presented satisfactory evidence that all requirements prescribed in Division Rule 19.15.26.8 NMAC have been met.
- (14) Division records indicate Crownquest (OGRID 213190) operates 18 wells and as of the date of this order has three wells inactive. The return of the subject well to service will result in two wells inactive which will comply with Division Rule 19.15.5.9 NMAC.
- (15) Approval of disposal in the subject well will enable Applicant to support production from the State 26 Com Well No. 5 (API No. 30-025-28612) and the State 22 Well No. 2 (API No. 30-025-28452), thereby preventing waste, and will not impair correlative rights.
- (16) The application for renewal of the authority to inject should be approved.

IT IS THEREFORE ORDERED THAT:

- (1) Crownquest Operating, LLC ("Crownquest" or "operator") is hereby authorized to utilize the State 27 Well No. 2 (API No. 30-025-22932; the "subject well"),

located 660 feet from the South line and 660 feet from the East line (Unit P) of Section 27, Township 14 South, Range 32 East, NMPM, Lea County, New Mexico, for disposal of oil field produced water from only the State 26 Com Well No. 5 (API No. 30-025-28612) and the State 22 Well No. 2 (API No. 30-025-28452).

(2) Disposal shall be through a perforated interval in the Upper Pennsylvanian formation from approximately 9789 feet to 9924 feet below surface. Disposal is to be through 2-7/8-inch or small diameter plastic-lined tubing set in a packer within 100 feet above the top perforation of the permitted interval.

(3) The operator may apply administratively for an amendment to this permit to allow disposal of waters from additional or alternate wells into this disposal well. However, the maximum disposal rate into this disposal interval in this well shall not exceed 500 barrels of water per day unless approved after submittal of another form C-108 with proper notice and after another examiner hearing.

(4) The operator shall run a cement bond log and cased hole porosity log on this well at the next time the disposal tubing is pulled from the well. Those logs shall be provided to the Division.

(5) The operator shall take all steps necessary to ensure that the disposed water enters only the permitted disposal interval and is not permitted to escape to other formations or onto the surface.

(6) After installation of tubing, the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved leak detection device to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

(7) The well shall pass a mechanical integrity test ("MIT") prior to initially commencing disposal and prior to resuming disposal each time the disposal packer is unseated. All MIT procedures and schedules shall follow the requirements in Division Rule 19.15.26.11(A) NMAC.

(8) The wellhead injection pressure on the well shall be limited to **no more than 1958 psi**. The disposal well shall be equipped with a pressure limiting device in workable condition which shall always limit surface tubing pressure to the maximum allowable pressure for this well.

(9) The Director of the Division may authorize an increase in tubing pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the disposed fluid from the approved injection interval and not exceed the limitation in Ordering Paragraph (3). Such proper showing shall be demonstrated by sufficient evidence including but not limited to an acceptable Step-Rate Test.

(10) The operator shall notify the supervisor of the Division's Hobbs District

office of the date and time of the installation of disposal equipment and of any MIT test so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of disposal to the Division's Hobbs District office. The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Division Rules 19.15.26.13 NMAC and 19.15.7.24 NMAC.

(11) Without limitation on the duties of the operator as provided in Rules 19.15.29 NMAC and 19.15.30 NMAC, or otherwise, the operator shall immediately notify the Division's District office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

(12) The injection authority granted under this order is not transferable except upon approval of the Division Director. The Director shall only approve a change of operator if the conditions of all Ordering Paragraphs are agreed to in writing by the new operator. If the operator of this well does not comply with the Ordering Paragraphs, then the injection authority granted under this order shall terminate *ipso facto*. The Division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

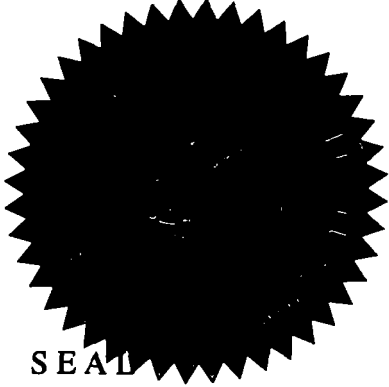
(13) The disposal authority granted herein shall terminate two years after the effective date of this order if the operator has not commenced injection operations into the subject well, provided however, the Division, upon written request, mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

(14) One year after disposal into the subject well has ceased, the well will be considered abandoned and the authority to dispose will terminate *ipso facto*.

(15) Compliance with this order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

(16) 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 or protectable waters or (2) consistent with the requirements in this order; whereupon the Division may, after notice and hearing or prior to notice and hearing in event of an emergency, terminate the disposal authority granted herein.

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



SEAL

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

David R. Catanach

DAVID R. CATANACH
Director