

OIL AND GAS DOCKET NO. 05-0230770

THE APPLICATION OF VALENCE OPERATING COMPANY TO DISPOSE OF OIL AND GAS WASTE BY INJECTION INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL AND GAS, WORTHY LEASE, WELL NO. 1D, DONIE (PETTIT) FIELD, FREESTONE COUNTY, TEXAS

Heard By: Donna K. Chandler, Technical Examiner
Mark J. Helmueller, Hearings Examiner

Appearances:

For Applicant:	Applicant:
David Gross David Willis	Valence Operating Company

For Protestant:	Protestant:
David Nelson	XTO Energy, Inc.

Procedural History of Case:

Application Filed:	January 15, 2002
Protest Received:	February 6, 2002
Request for Hearing:	February 20, 2002
Notice of Hearing:	March 12, 2002
Hearing Held:	March 27, 2002
Transcript Received:	May 2, 2002
Proposal for Decision Issued:	May 17, 2002

EXAMINERS' REPORT AND PROPOSAL FOR DECISION

STATEMENT OF THE CASE

Valence Operating Company ("Valence") requests a permit to dispose of oil and gas waste into a non-productive formation in the Worthy No. 1D in Freestone County.

This application is protested by XTO Energy, Inc. ("XTO"). XTO operates the offsetting tracts to the north and west of the Worthy lease.

DISCUSSION OF THE EVIDENCE

Valence Evidence

Valence requests authority to dispose of produced saltwater into the non-productive Woodbine formation in the Worthy No. 1D in Freestone County at a depth of 4,600-5,150 feet. The requested maximum injection volume is 5,000 barrels of water per day (BWPD). The maximum requested injection pressure is 2,325 psi.

The Worthy No. 1D has not yet been drilled. Valence plans to drill the well to a total depth of approximately 5,150 feet. The well will have 1,100 feet of 8 5/8" casing cemented to surface and 5,150 feet of 5 1/2" casing, with top of cement estimated to be at 1,500 feet. Injection will be through 2 7/8" tubing set on a packer at approximately 4,600 feet. The Texas Natural Resource Conservation Commission recommends protection of useable quality water resources to a depth of 1,075 feet in the area of the subject well. At least two hundred feet of impermeable shale separate the useable quality water interval from the Woodbine.

There are six wellbores within a 1/4 mile radius of the proposed disposal well. All six wells are producing wells. Three are operated by XTO and three are operated by Valence. All six wells are drilled deeper than 10,000 feet and therefore penetrate the Woodbine. The closest production from the Woodbine is approximately 11 miles away.

Valence has many wells in the immediate area which produce from the Pettit, Travis Peak, and Cotton Valley and will use the Worthy No. 1D to dispose of produced salt water from its leases in the area. The shallowest producing horizon is the Pettit, which occurs at approximately 8,200 feet in this area.

At least four other wells in the area have been permitted for disposal into the Woodbine. All four are within three miles of the Worthy No. 1D location. The most recently approved permit was for the XTO - Cochrum Gas Unit No. 1 approximately two miles from the Worthy No. 1D. This permit was approved in August 2001 with a maximum disposal volume of 15,000 barrels per day. This well has not yet been used for disposal. The Pollard No. 1, also operated by XTO, is approximately one mile from the Worthy No. 1D. The Pollard No. 1 is authorized to dispose of a maximum of 7,000 barrels per day into the Woodbine. In 2001, total injection into the Pollard No. 1 was about 1.5 million barrels of water. The Brumlow No. 1D is a commercial disposal well approximately 2.5 miles to the north of the Worthy No. 1D. This well is operated by Freestone Disposal and has authority to dispose of up to 8,000 barrels per day into the Woodbine. In 2001, total injection into the Brumlow No. 1D was over 2 million barrels of water. The fourth Woodbine disposal well in the area was the Donie No. 1 operated by Texas Saltwater Disposal, Inc. This well was also a commercial disposal well but was plugged in 1999. When this well was first used as a disposal well, over 100,000 barrels of month were disposed of into the Woodbine.

Valence presented a cross-section showing its Worthy No. 1, which is a producing well on the Worthy Unit, and the Donie No. 1 commercial salt water disposal well approximately three miles away. The cross-section demonstrates that the Woodbine sand is much better developed in the Worthy No. 1, indicating that the Woodbine at the proposed location for the Worthy No. 1D would be better suited for disposal than at any alternate

location further to the south and east toward the Donie No. 1.

XTO Evidence

XTO believes that the proposed location for the Worthy No. 1D, being only 140 feet from its lease line, is unreasonable. XTO plans to drill additional wells in the area, specifically on its Newsom lease adjacent to the Worthy Unit to the north. XTO does not typically cement production casing over the Woodbine interval and XTO believes it is possible that the proposed injection may cause casing corrosion in the Woodbine interval in XTO's wells.

XTO proposes a location to the southwest of the proposed location at a distance of 500 feet from the lease line. This location would actually result in moving produced water over a shorter distance to the disposal well. XTO submitted an isopach map of the Woodbine which demonstrates that the same amount of Woodbine Sand would be encountered both at the proposed location and at a location further to the south away from XTO's lease line, perhaps even more at a more southerly location.

EXAMINERS' OPINION

The examiners recommend that the application be approved. Useable quality water resources will be protected because the subject well has surface casing cemented through the useable quality water and all wells in the area of review are completed or plugged in such a manner as to protect useable quality water.

The only dispute in this case is the location of the well, which is proposed to be 140 feet from the XTO Newsom lease. Commission rules do not require disposal wells to be located any minimum distance from lease lines. Valence has chosen a location on the Worthy Unit which it believes is the best location for encountering a thick, highly permeable Woodbine Sand which will be suitable for disposing of its produced water. The evidence shows that the Woodbine Sand thickens to the north and west from the Donie well and for this reason, Valence has chosen a location as far north and west on the Worthy Unit as is reasonable to build a location. The nearest producing well is the Newsom No. 16 approximately 800 feet to the north of the proposed disposal well. XTO's isopach map indicates this well to have 57 feet of Woodbine Sand. Moving the location of the Worthy No. 1D to the location proposed by XTO would be moving toward wells with less than 40 feet of Woodbine Sand. The examiners agree with Valence that the proposed location is reasonable and will encounter a more suitable Woodbine disposal interval than other locations further from the Newsom lease line.

There is no evidence that past disposal operations into the Woodbine have caused casing corrosion problems in producing wells. There are numerous producing wells operated by XTO within 1,000 feet of other disposal wells in the area, none of which have cement across the Woodbine. XTO always has the option to cement production casing through the Woodbine in its producing wells.

Valence is currently hauling its produced water to a commercial facility for disposal. A disposal well on the Worthy Unit will decrease disposal costs and prevent waste by improving the economics of operating the producing wells on the Unit.

FINDINGS OF FACT

1. Notice of this application and hearing was provided to all persons entitled to notice at least ten (10) days prior to the date of the hearing.
2. Notice of this application was published in *The Fairfield Recorder*, a newspaper of general circulation in Freestone County on January 3, 2002.
3. The proposed disposal operations into the Worthy No. 1D will not endanger any oil, gas or other mineral formation and will not endanger useable quality water.
 - a. The Texas Natural Resource Conservation Commission recommends protection of useable quality water resources to a depth of 1,075 feet in the area of this well.
 - b. The subject well will have 1,100 feet of 8 5/8" casing cemented to the surface.
 - c. The subject well will have 5½" casing set at total depth of approximately 5,150 feet, with top of cement proposed to be at approximately 1,500 feet.
4. Injected fluids will be confined to the injection interval between 4,600 and 5,150 feet.
 - a. Injection will be through tubing set on a packer at approximately 4,600 feet.
 - b. Several hundred feet of shale are present above the Woodbine.
5. The proposed location for the Worthy No. 1D is a reasonable location which will encounter a thick Woodbine interval suitable for disposal of water. The thickness of the Woodbine decreases to the south and east.
6. The use of the proposed disposal well is in the public interest because it will provide a more economical means of disposing of produced salt water from producing wells, thereby increasing ultimate recovery from the wells.

CONCLUSIONS OF LAW

1. Proper notice was issued in accordance with the applicable statutory and regulatory requirements.

2. All things necessary to give the Railroad Commission jurisdiction to consider this matter have occurred.
3. Valence Operating Company met its burden of proof and satisfied the requirements of Chapter 27 of the Texas Water Code and the Railroad Commission's Statewide Rule 9.
4. Approval of the application will prevent waste of hydrocarbons that otherwise would remain unrecovered.
5. Approval of the application will not harm useable quality water resources and will not present a hazard to other mineral bearing formations.

EXAMINERS' RECOMMENDATION

Based on the above findings and conclusions, the examiners recommend that the application of Valence Operating Company for authority to dispose of oil and gas waste into its Worthy No. 1D be approved as set out in the attached Final Order.

Respectfully submitted,

Donna K. Chandler
Technical Examiner

Mark J. Helmueller
Hearings Examiner