

June 13, 2006

OIL AND GAS DOCKET NO. 06-0247181

THE APPLICATION OF SOUTHWEST OPERATING, INC. - TYLER FOR A COMMERCIAL PERMIT TO DISPOSE OF OIL AND GAS WASTE INTO RESERVOIR PRODUCTIVE OF OIL OR GAS, SUSAN B. CHANDLER LEASE WELL NO. 1, IN THE GARRISON, N.E. (HILL) FIELD, RUSK COUNTY, TEXAS

HEARD BY: Thomas H. Richter, P.E., Technical Examiner
Mark Helmueller, Hearings Examiner

APPLICANT:

Steve Towns
John Musselman
Bob J. Barton

REPRESENTING:

Southwest Operating, Inc. - Tyler

Self

PROTESTANTS:

Glenda S. Oxsheer

Self

PROCEDURAL HISTORY

Date of Application:	April 19, 2006
Date of Notice:	May 2, 2006
Date of Hearing:	May 24, 2006
Date of Transcript:	No Transcript
Date PFD Issued:	June 13, 2006

EXAMINERS' REPORT AND PROPOSAL FOR DECISION
STATEMENT OF THE CASE

This is the application of Southwest Operating, Inc. - Tyler ("Southwest") to convert an existing shut-in well for disposal of saltwater and operate a commercial disposal facility. The saltwater will come from producing wells in the area. The Protestant (Mr. & Mrs. Oxsheer) live adjacent to the proposed site and oppose the facility because of various environmental reasons.

DISCUSSION OF THE EVIDENCE

APPLICANT'S EVIDENCE

The Susan B. Chandler Well No. 1 was drilled and completed by Tyler Workover, Inc. on March 23, 1985 in the Toolan (Travis Peak) Field through perforations from 7,760' to 7,770'

subsurface depth.¹ The well is completed as follows:

- Surface casing (8-5/8") set at 1250' and cemented with 489 sacks of cement from the casing shoe to the ground surface.
- Longstring casing (4-1/2") set at 8,000' and cemented with 725 sacks of cement (250 sk of 50/50 PozMix and 475 sk of Class H). A bond log shows the top of the Class H cement is at 6,450' and the top of the PozMix cement to be at 6,000'.

Southwest proposes to dispose of saltwater into the Hill Sand (Rodessa Formation) from 6,000' to 6,200'. Injection will be through 2-7/8" tubing set on packer at 6,000'. The well log shows that the top of the Massive Anhydrite is 5,942 and several hundred feet of shale above the Anhydrite. There are at least 250' of shale below the base of the proposed injection interval. The shale is an impermeable barrier to fluid migration. The base of the deepest usable quality water is 1175 feet and the superior fresh water must be protected from the ground surface to a depth of 375' (TCEQ Letter dated January 11, 2006). The proposed maximum injection volume is 10,000 (estimated average 5,000) barrels per day and a maximum injection pressure of 3,000 psig.

Environmental Services recommends for assurance of injection zone isolation, that the longstring casing be block squeezed with 35 sacks of cement immediately below and 100 sacks of cement immediately above the proposed injection interval. It is also recommended that the perforations in the Travis Peak (top perforation at 7,760') be isolated with a bridge plug and 20 feet of cement. Southwest submits that it has already set a cast iron bridge plug and 20 feet of cement above the Travis Peak perforations. Southwest further states that the block squeeze will be performed per Commission instructions. This will confine the injected fluid to the proposed interval from 6,000' to 6,200'.

A review was made of all well completions, producing or plugged, within a 1/4 mile of the subject well and there are no wells within the required area of review pursuant to Statewide Rule 46.

In addition, all operators within 1/2 mile radius of review were noticed of the application. The surface owner of the 75 acre tract, Bob J. Barton, was present and supports the application. All offset surface owners of the tract were provided notice of the hearing. Southwest states that its water front calculation estimates that 4.4 MMBW would have to be injected before water from the proposed injection well reaches the location of the Oxsheer water well. Indeed the water well is only ±900' in depth and the subject disposal zone is some 5,500' deeper thus there is no accessible path of migration.

The proposed disposal well will serve the public interest. There is a need for a commercial disposal well in this area. The safe and proper disposal of produced saltwater is necessary and serves the public interest to insure that the usable quality water (surface and subsurface) is

¹ The subject well is currently shown on the Commission's Schedule as being operated by Atlantis Oil Co., Inc. and no production has been reported since July 2005.

protected. There are numerous producing wells in this area. Further, disposal costs will be reduced for these wells which in effect lowers the economic limit allowing for the additional recovery of reserves.

The Commission requires additional special conditions for a commercial facility such as: catch basins made of concrete, steel or fiberglass; all fabricated waste storage and pretreatment facilities (tanks, separators, etc. shall be constructed of concrete, steel or fiberglass; dikes around the tank battery; property will be sufficiently fenced and gated (attendant or key controlled access) to prevent unauthorized dumping.

Southwest Operating, Inc. - Tyler does have a current approved Form P-5 and maintains adequate financial assurance as required by the Commission. Notice was given to the surface owner, all surface owners of adjoining tracts and all operators within one-half mile. Notice of this application was published in the *Henderson Daily News*, a newspaper of general circulation in Rusk County, on March 28, 2006. Notice of the application was submitted to the Rusk County Clerk.

PROTESTANTS EVIDENCE

The Oxsheers own the surface and minerals of their tract. The proposed injection well is adjacent to Oxsheer's property and there is a fresh water well that was drilled by Bass Enterprises in 1981 to a depth of 900'. Oxsheer asserts there is always the potential that saltwater injection may find a way to migrate to the usable quality water aquifer. There is also the concern of surface pollution from the proposed commercial disposal well. There should be mandates and guarantees that the subject well and disposal facility will be operated in a safe manner.

Oxsheer has executed an oil and gas lease to an operator who plans on drilling a well to approximately 9,000'. The proposed water injection may potentially have adverse effects on the drilling and completion of this proposed new drill well.

Oxsheer submits the promises that had been made by a previous lease operator did not stand good on its agreements. Examples include cattle guards that have rusted and tank batteries that have not been maintained and painted. If this application is approved, it is requested that a third party written communication be delivered stating that all the restrictions and conditions as set forth by the Commission have been accomplished before injection is commenced.

Southwest submits that before injection may commence, the Commission issues a letter stating that all conditions have been met and that Southwest will send a copy of the Commission's letter to the Oxsheers. In addition, the Commission makes unannounced inspections during the year. Also monthly disposal information statistics are filed annually with the Commission.

EXAMINERS' OPINION

The examiners recommend the application be approved pursuant to §27.051 of the Texas Water Code and Commission Statewide Rule 46. The proposed commercial disposal well will be

completed in such a manner as to prevent the migration of injected fluids to zones other than the intended zone. Notice has been provided to all operators within ½ mile of the subject commercial disposal well pursuant to Commission Rules and no protest was made. The Oxsheers stated that “an operator” has proposed a well on their tract. The alleged proposed well will be a Travis Peak Formation well at ±9,000' (over 2,500' deeper than the injection interval) which may or may not be drilled and no location was offered at the hearing. The required block squeeze will provide for zonal isolation as there are no other wells within 1/4 mile of the subject well thus preventing any avenue for fluid migration and the protection of the usable quality water. Therefore, the usable quality water above and below the ground surface will not be placed at risk of pollution or contamination.

The safe and proper disposal of produced saltwater and waste water serves the public interest. The production of hydrocarbons serves the public interest. The Commission’s Rules concerning underground injection and surface commercial disposal facilities are in place to assure the protection of fresh water above and below the ground surface (well completion technique, proper cementing, proper plugging and saltwater handling).

The requirements and restrictions of a commercial disposal facility permit addresses concerns as to security and the surface handling of fluids. Indeed, the Commission District offices routinely inspect commercial disposal facilities. There is no evidence to indicate that the operation of the subject disposal well will adversely impact the water quality of any nearby surface water or subsurface usable quality water.

The protestant’s concern over potential pollution of the ground surface or surface waters is understandable. The Commission adopted Statewide Rules (specifically 8, 9, 13, and 46), environmental policies, and established special permit requirements that specifically address these matters to minimize and mitigate the possibility of an adverse occurrence. The examiners believe that the subject well meets the regulatory requirements, and the additional special permit requirements will provide additional protection.

It is recommended that Southwest notify the Commission prior to the cement block squeeze operations for the opportunity to witness same.

FINDINGS OF FACT

1. Notice of this hearing was given to all persons required to be given notice by the provisions of Statewide Rule 9. Notice of this hearing was given to all affected persons, at least ten (10) days prior to the date of the hearing. Notice was given to the surface owner, all surface owners of adjoining tracts and all operators within one-half mile. The *Henderson Daily News*, a newspaper of general circulation in Rusk County, on March 28, 2006. Notice of the application was submitted to the Rusk County Clerk.
2. The Susan B. Chandler Well No. 1 was drilled and completed by Tyler Workover, Inc. on March 23, 1985 in the Toolan (Travis Peak) Field through perforations from 7,760' to 7,770' subsurface depth. The well is completed as follows:

- a. Surface casing (8-5/8") set at 1250' and cemented with 489 sacks of cement from the casing shoe to the ground surface.
 - b. Longstring casing (4-1/2") set at 8,000' and cemented with 725 sacks of cement (250 sk of 50/50 PozMix and 475 sk of Class H). A bond log shows the top of the Class H cement is at 6,450' and the top of the PozMix cement to be at 6,000'.
3. Southwest Operating, Inc.-Tyler proposes to dispose of saltwater into the Hill Sand (Rodessa Formation) from 6,000' to 6,200'.
- a. Injection will be through 2-7/8" tubing set on packer at 6,000'.
 - b. The Massive Anhydrite is 5,942 and there are several hundred feet of shale above the Anhydrite and at least 250' of shale below the base of the proposed injection interval.
 - c. The base of the deepest usable quality water is 1175 feet and the superior fresh water must be protected from the ground surface to a depth of 375' (TCEQ Letter dated January 11, 2006).
 - d. The proposed maximum injection volume is 10,000 BWPD and a maximum injection pressure of 3,000 psig.
4. Zonal isolation has been/shall be accomplished to prevent the migration of injected fluids to zones other than the intended zone of injections and for the protection of usable quality water.
- a. A review was made of all well completions, producing or plugged, within a 1/4 mile radius of the subject well and there are no wells within the area of review pursuant to Statewide Rule 46.
 - b. The longstring casing of the subject well shall be block squeezed with 35 sacks of cement immediately below and 100 sacks of cement immediately above the proposed injection interval.
 - c. The Travis Peak Formation shall be isolated with a bridge plug and 20 feet of cement.
5. The proposed method of operation and the requirements and restrictions of the recommended commercial disposal facilities permit address these jurisdictional issues and concerns for the surface handling of fluids.
- a. The Commission District offices routinely inspects commercial disposal facilities.
 - b. The Commission adopted Statewide Rules (specifically 8, 9, 13, 46), and

environmental policies, and established special permit requirements that specifically address these issues and matters to minimize and mitigate the possibility of an adverse environmental impact on usable water.

- c. Catch basins shall be made of concrete, steel or fiberglass; all fabricated waste storage and pretreatment facilities (tanks, separators, etc. shall be constructed of concrete, steel or fiberglass; dikes around the tank battery; property will be sufficiently fenced and gated (attendant or key controlled access) to prevent unauthorized dumping.
6. Use of the proposed disposal well is in the public interest.
 - a. Disposal costs will be reduced which in effect lowers the economic limit of producing wells allowing for the additional recovery of reserves.
 - b. The safe and proper disposal of produced saltwater is necessary for the protection of surface and subsurface water.
 7. Southwest Operating, Inc. - Tyler does have a current approved Form P-5 and maintains adequate financial assurance as required by the Commission.

CONCLUSIONS OF LAW

1. Proper notice was timely given to all parties entitled to notice pursuant to applicable statutes and rules.
2. All things have occurred and have been accomplished to give the Commission jurisdiction in this case.
3. The use of the proposed disposal well will not endanger oil, gas, or geothermal resources or cause the pollution of surface water or fresh water strata.
4. The applicant has complied with the requirements for approval set forth in Statewide Rule 46 and the provisions of Sec. 27.051 of the Texas Water Code.
5. The use of the proposed disposal well is in the public interest pursuant to Sec 27.051 of the Texas Water Code.

EXAMINERS' RECOMMENDATION

Based on the above findings and conclusions, the examiners recommend that the application of Southwest Operating, Inc. - Tyler to operate a commercial facility to dispose of field produced saltwater into the Susan B. Chandler Lease Well No. 1 into a zone not productive of oil and gas in

Rusk County be approved as set out in the attached Final Order.

Respectfully submitted,

Thomas H. Richter, P.E.
Technical Hearings Examiner
Office of General Counsel

Mark Helmueller
Hearings Examiner
Office of General Counsel