



RAILROAD COMMISSION OF TEXAS

OFFICE OF GENERAL COUNSEL

OIL AND GAS DOCKET NO. 01-0262406

THE APPLICATION OF KIDD PRODUCTION COMPANY FOR A COMMERCIAL PERMIT TO DISPOSE OF OIL AND GAS WASTE BY INJECTION INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL OR GAS, IN THE SILVA LEASE, WELL NO. 1, PEARSALL (AUSTIN CHALK) FIELD, FRIO COUNTY, TEXAS

HEARD BY: Andres J. Trevino, P.E., Technical Examiner
Mark J. Helmueller, Legal Examiner

APPEARANCES:

REPRESENTING:

APPLICANT:

Lloyd Muennink
Roland Baker
Jerry Kidd

Kidd Production Company

PROTESTANTS:

Tim George
James M. Clark, P.E.
Hermina M. Siller
Juan Siller
J.T. Jones
Penny Jones
Caroline Siller Carter

J.T. Jones et al

Siller Ranch

Self

Self

Self

OBSERVER:

Frank J. Mujer

Self

PROCEDURAL HISTORY

Date of Application:	July 16, 2009
Date of Notice:	July 23, 2009
Date of Hearing:	September 8, 2009
Record Closed:	September 22, 2009
Proposal For Decision Issued:	December 1, 2011

EXAMINERS' REPORT AND PROPOSAL FOR DECISION**STATEMENT OF THE CASE**

On May 1, 2009, the Commission acknowledged receipt of Herminia M. Siller's letter dated April 1, 2009 objecting to the application of Kidd Production Co.'s (Kidd) for a commercial disposal well on the Silva Lease in Frio County. Additional protests were received prior to the Commission receiving Kidd Production's application. On July 14, 2009, the Commission determined that Kidd's application was administratively and technically complete, however the application could not be approved due to the protests received by the Commission. On June 29, 2009, William (Curtis) Boyles representing Kidd Production requested that a hearing be held to consider the subject application.

At the call of the hearing, Tim George, attorney and Jim Clark, consulting engineer, appeared representing J.T. Jones Et Al and Herminia and Juan Siller. J.T and Penny Jones and Caroline Siller Carter, area landowners, also appeared in protest to the proposed commercial disposal well application.

DISCUSSION OF THE EVIDENCE**APPLICANT'S EVIDENCE**

Kidd Production Company requests authority pursuant to Statewide Rule 9 to operate Well No. 1 on its Silva Lease in Frio County as a commercial disposal well. Kidd Production seeks authority to dispose of produced water generated as a result of ongoing development of the Austin Chalk in the area into the non productive Olmos formation at a depth from 4,670 feet to 4,710 feet. Kidd Production seeks authority to inject a maximum of 5,000 BWPD with a maximum injection pressure of 2,335 psi. The produced salt water will come from producing Austin Chalk wells in the area. The proposed disposal well was initially drilled and completed as a producing well. Kidd proposes to reenter and recomplete the well into a disposal well.

The Silva Well No. 1 was drilled in July 1981 to a total depth of 6,026 feet. The well has 354 feet of 9 $\frac{5}{8}$ " surface casing with cement circulated from the casing shoe to the ground surface and 7" casing set through the Olmos, set at 5,552 feet. The 7" casing was cemented with 900 sacks of Class H and light weight cement with the cement circulated to surface. Additionally, there is an uncemented 4 $\frac{1}{2}$ " liner set from 5,540 feet to 6,026 feet, set across the Austin Chalk productive interval. Kidd Production proposes to set a bridge plug at 4,810 feet. (See attached Wellbore Diagram). The Texas Commission on Environmental Quality (TCEQ) recommends that usable-quality groundwater be protected to a depth of 2,900 feet. The TCEQ further defines the interval from the surface to 100 feet and the zone from 750 feet to 1,950 feet as containing water of usable-quality which must be protected. Furthermore, the Carrizo from 1,200 feet to 1,900 feet contains superior quality water which must be isolated from water in underlying and overlying beds. The

proposed injection would be through 2 $\frac{7}{8}$ " tubing set above the proposed injection interval at approximately 4,566 feet.

Kidd Production submitted a log of a well, the Riggs "A" Well No. 1, located 0.42 miles to the north of the Silva well. The log shows there are approximately 1,575 feet of shale between the proposed top of the injection interval at 4670 feet to the base of the usable quality water at 2,900 feet.

There are no wellbores within the $\frac{1}{4}$ mile radius of review as plotted on the Commission's geographical information system (GIS).

Kidd Production plans to use the proposed well to dispose of produced water generated west of Interstate 35 as a result of the Austin Chalk activity in that area. Jerry Kidd believes that additional disposal facilities are necessary to accommodate the active drilling occurring near Big Wells, Texas. The current commercial well in the area that he has access to is 50 miles to the east, south of Jourdanton near Cross, Texas. Kidd Production presented a map showing over 150 new drilling permits issued between 2007 and 2009 within the Pearsall (Austin Chalk) Field near the proposed disposal well. Mr. Kidd estimated each truck load of water from the Big Wells area to Cross, TX would save 100 miles round trip if the Silva well is in operation. He estimates the Silva well will save 2,000 truck miles per day (at 20 loads per day) or 720,000 truck miles per year. Mr. Kidd believes his facility will redirect truck traffic to his well from the Cross area. This redirection will improve public safety overall and reduce wear and tear on roads and save fuel. Other commercial disposal wells in the area, the Cactus well and the RCLJ well, are private commercial wells that only allow their own trucks to dispose of water into these disposal wells.

Notice of the application was published in the *Frio-Nueces Current*, a newspaper of general circulation in Frio County, on May 14, 2009. A copy of the application was mailed on March 16, 2009 to the Frio County Clerk's Office, the surface owner, adjacent landowners and all offsetting operators within $\frac{1}{2}$ mile.

Kidd Production has an active Organization Report and a \$50,000 financial assurance letter of credit on file with the Commission. Kidd Production has no pending enforcement actions at the Commission.

PROTESTANTS' EVIDENCE AND POSITION

Area landowners are concerned that improperly completed and unplugged wells near the proposed Silva well will become a conduit for disposal water from the Olmos sand and may flow behind the casing of wells that have inadequate cement and contaminate fresh water resources. The location of the Silva well was questioned by the Protestants and was repositioned on the Commission base map using the original survey plat measurements used to locate and drill the Silva well in 1981. The surveyed plat shows the

well to be 2,467 feet from the southwest line and 721 feet from the northwest line of the survey. The applicant's application also gave the location of the well with the same survey measurements. The Commission's GIS generated maps have a disclaimer that map data is for informational purposes only and are not a survey grade product. The original ¼ mile area of review performed from the Commission GIS location by the administrative staff failed to show any problem wells within the review area. There are however, three wells within approximately ½ mile from the corrected location that the Protestants believe are improperly plugged and are completed in a manner that the wells may become a conduit for injected fluids from the Olmos formation (proposed disposal interval) to overlying fresh water strata.

The wells are identified as the J.L. Williams Hollis Beall No. 1, the T.I. Larsen Hollis Beall No. 1 and the SEPSCO Hollis Beall No. 1. The J.L. Williams Hollis Beall No. 1, which is believed to be improperly plugged, is located within a ¼ mile of the Silva well's location. The T.I. Larsen Hollis Beall No. 1 has never been plugged and is located within a ½ mile of the Silva well's location. The SEPSCO Hollis Beall No. 1, which is believed to be improperly plugged, is located just outside of a ½ mile of the Silva well's location. The Protestants presented as evidence a Commission issued commercial disposal permit and Examiners' Report that raised fluid confinement concerns about the same wells. A commercial disposal permit was issued to Overly Operating Company for the Howard J. Henley Well No.1 per Oil and Gas Docket No. 1-95,376 on June 10, 1991. The Howard J. Henley Well No.1 is located within a ½ mile radius of the Silva well. The Howard J. Henley Well No.1 was to dispose of 5,000 BWPD into the Olmos sand formation. A condition was placed on the permit that required the three wells to be reentered and either to confirm cement across the Olmos or to be replugged prior to using the Howard J. Henley Well No.1 for disposal. To date the Howard J. Henley Well No.1 has never been used for injection and the three wells have not been reentered or replugged.

The concern of the 1991 Overly hearing was whether or not there was sufficient cement to prevent the migration of fluids from the Olmos sands into the fresh water sands found at a depth of 2,900 feet. The Examiners' Report for the Overly's Howard J. Henley Well No.1 commercial disposal application determined the same wells had questionable quantity of cement across the Olmos. With no washout factor, the well was calculated to have the top of cement at 4,068 feet. With a 20% washout factor the Howard J. Henley Well No.1 was calculated to have the top of cement at 4,446 feet. A cement bond log run on the Howard J. Henley Well No.1 showed the well had a top of cement at 5,436 feet. The significantly lower level of cement is believed to be caused by the Austin Chalk's naturally fractured formation which causes cement slurry volumes to be drained into the zone, reducing the cement volume available to cement up the cased hole. Using the cement volumes used in the Howard J. Henley Well No.1 and the height of the cement verified by the cement bond log, a 31% fill up factor was calculated by the examiners in the 1991 Overly hearing.

Additionally, the Protestants are concerned that the unplugged wells do not have plugs inside the casing between the injection interval and the surface, therefore if a casing

leak were to occur disposal water may travel through the casing leak, into the wellbore and up the unplugged well. The T.I Larsen Hollis Beall No. 1 has a short surface casing set at 200 feet leaving useable quality ground water exposed to uncemented casing from a depth of 2,900 feet to 200 feet. The T.I Larsen Hollis Beall No. 1 last produced in April 1965. The last attempt to inspect the well was in March 1991. The Commission inspectors were unable to locate the well. However there is no evidence the well was plugged and no plugging reports were filed. The Commission's GIS shows the well as being unplugged.

The SEPSCO Hollis Beall No. 1's records indicate the well is improperly plugged according to current standards. The well has a bottom plug set at 5,546 feet and a surface plug from 24 feet to surface. The well lacks an internal plug and a perf and squeeze at 2,900 feet (BUQW level) to squeeze cement behind the casing and isolate the freshwater zone. The well also has a short surface casing at 215 feet, leaving the freshwater zone from 215 feet to 2,900 feet exposed to uncemented casing.

The J.L. Williams Hollis Beall No. 1's records indicate the well is improperly plugged as it has a short surface casing set at 200 feet and does not have a perf and squeeze at 2,900 feet to isolate the BUQW. This well has no cement across the fresh water zone and down to a depth below 4,500 feet.

The Protestants are also concerned that if the permit is issued, the well will not be properly operated and may cause groundwater contamination due to improper operations. The Protestants are concerned that Curtis Boyles, an operator with a disposal well in the area will operate the well. The Protestants submitted the surface lease agreement for the Kidd Production's Silva well. The lessee is shown as Mattco Resources, Inc., of Austin Texas. The lease was executed and signed by Curtis Boyles. The Protestants identified the A.E. McKinley Well No. 3 as a commercial disposal well permitted in the Olmos. The well is located 1.5 miles to the southeast from the Silva well. The well is operated by Tiza Energy Inc., of which Curtis Boyles is the president. The proration schedule shows all leases operated by Tiza Energy, Inc. are severed by the Commission. The leases were severed for either H-15 violations or delinquent W-10s. An enforcement order was issued by the Commission against Tiza Energy, Inc., for the McKinley, A.E. Well No. 3, the commercial disposal well, on January 25, 2005. The enforcement order stated the well was not properly plugged and is not in compliance with Statewide Rule 14, and that usable quality groundwater in the area is likely to be contaminated by migrations or discharges of saltwater or other oil and gas wastes from the subject well. Three more enforcement orders against Tiza Energy Inc. and Kama Energy d/b/a Pace Oil & Gas Company were presented for one well in the Pilgrim (Austin Chalk) Field, one well in the Nuvalco (Escondido) Field and a well in the Trull (Tex-Miss 2-A, N) Field. In all four orders, Curtis Boyles was identified as a person in a position of ownership or control. All four orders found that Curtis W. Boyles, and any other organization in which he may hold a position of ownership or control, shall be subject to the restrictions of Texas Natural Resources Code Section 91.114(a)(2) for a period of no more than seven years or until the conditions are corrected.

The Protestants questioned whether the Silva No. 1's fluid level was properly tested. A H-15 test submitted by Kidd Production shows the well was tested on August 8, 2009, one month before the hearing. The top of the fluid was found at 5,150 feet. The H-15 was signed by Curtis Boyles as having performed an echometer test. A photo taken by the protestant's representative, one weekend before the hearing shows the condition of the wellhead. The wellhead consists of a cap with a welded piece of pipe and a valve on top of the pipe. There is no pressure gauge or side entry for the tubing casing annulus. Mr. Kidd had testified there was no tubing in the well. The threads inside the valve were badly rusted and contained mesquite tree debris inside the valve.

On rebuttal, Curtis Boyles stated he was not going to be involved with the operation of the Silva well. He stated he prepared the application as a consultant for a fee. He also stated he tested the well by timing the echo reflections within the well. The echometer results indicate the fluid level was at 5,150 feet and tubing in the well was not needed to perform this calculation. A check with Commission staff from the Field Operations Section confirmed that tubing was not necessary to measure the fluid level in the well.

EXAMINERS' OPINION

The examiners recommend that this application be denied. Kidd Production did not meet its burden of proof in showing that the proposed injection well would not cause pollution of surface water or fresh water strata and that disposal fluids will be confined to the proposed disposal interval. The examiners considered an expanded area of review as the existence of improperly plugged wells and wells with unknown cement levels call for it. There are several wells within a ½ mile radius of review that contain unknown cementing levels behind the longstring and there are wells with incomplete plugging records and or improper plugging methods. With unknown levels of cement behind the longstring it is unknown if there is cement across the Olmos disposal interval.

The issue of inadequate cement in wells completed in the Austin Chalk is a known problem to industry and Commission Staff. The Protestants provided an example of a proposed disposal well that was calculated to have cement circulated to the surface but was found to have inadequate cement behind the longstring after a required cement bond log (CBL) was run. The case was documented in Pro Field Services, Inc.'s Good Lease Well No. 1, Pearsall (Austin Chalk) Field in Frio County. In Oil and Gas Docket 01-0267764 issued February 8, 2011 to Pro Field Services the examiners required a CBL to be run to verify the height and quality of the cement column behind the longstring prior to beginning disposal operations. The CBL showed there was inadequate cement behind the longstring of the Good Lease Well No.1. The application for the commercial disposal well was withdrawn by the applicant. It was believed in that case that the cement reached surface, however the cement behind the long string "fell" or settled to a much lower level. Any of the improperly plugged or completed wells in question could be a potential conduit for injected fluids to contaminate surface and subsurface usable quality water if there is no cement across the Olmos sand. This issue is more critical as the improperly plugged or completed

wells in question have short surface casing, averaging 200 feet deep leaving the freshwater zone from 200 feet to 2,900 feet exposed to any fluids that may escape the Olmos disposal zone.

Additionally, the proposed Silva No. 1 well would not meet current standards for a commercial disposal well. Commission staff currently administratively deny any commercial disposal permit when the subject well had received a Statewide Rule 13(b)(2) exception and does not have surface casing set through the base of the usable quality groundwater. The Silva No. 1 has surface casing set at 354 feet, not at 2,900 feet. The staff believes that commercial disposal wells that have short surface casing pose a greater risk to the usable quality groundwater, even though the long string is required to be cemented to the surface.

With the uncertainty of the cement levels, improper or incomplete plugging records and short surface casing of several wells within ½ mile radius of the proposed disposal well the examiners recommend that the application be denied and that the Commission adopt the following Findings of Fact and Conclusions of Law.

FINDINGS OF FACT

1. Kidd Production Company gave notice of this application and hearing to all persons entitled to notice pursuant to Statewide Rule 9. A copy of the application was mailed on March 16, 2009 to the Frio County Clerk's Office, the surface owner, adjacent surface owners and all offsetting operators within ½ mile.
2. Notice of the application was published in *Frio-Nueces Current*, a newspaper of general circulation in Frio County, on May 14, 2009.
3. Kidd Production Company requests authority pursuant to Statewide Rule 9 to operate Well No. 1 on its Silva Lease in Frio County as a commercial disposal well, at a depth of 4,670 feet. This well was initially drilled and completed as a producing Pearsall (Austin Chalk) oil well.
4. The maximum requested injection volume is 5,000 barrels of produced saltwater water per day and the maximum requested surface injection pressure is 2,335 psi. The requested disposal interval is the Olmos formation between approximately 4,670 feet to 4,710 feet.
5. The Silva No. 1 is cased and is cemented in a manner inconsistent with current commercial disposal well standards designed to protect usable quality water and to ensure injection will be confined to the injection interval. The well does not have surface casing protecting the Carrizo freshwater formation.
 - a. The subject well has 354 feet of 9⁵/₈" surface casing cemented to surface.

- b. The Texas Commission on Environmental Quality recommends that usable-quality water be protected to 2,900 feet in the area of the proposed well and that the Carrizo, which is estimated to occur from 1,200 feet to 1,900 feet is of superior quality and must be isolated from other water zones.
 - c. The subject well has 5,552 feet of 7" casing cemented with 900 sacks of cement circulated to surface.
 - d. Commission staff currently follow a policy of administratively denying any commercial disposal permit when the subject well has received a Statewide Rule 13(b)(2) exception and does not have surface casing set through the base of the usable quality groundwater.
 - e. Commercial disposal wells that have short surface casing pose a greater risk to the usable quality groundwater.
6. The examiners may consider an area of review beyond the $\frac{1}{4}$ mile radius if circumstances warrant it.
 7. The location of the proposed commercial disposal well as identified on the Commission's GIS mapping system appears in error.
 8. The Commission's GIS mapping system has a disclaimer that map data is for informational purposes only and is not a survey grade product.
 9. A survey plat prepared for the drilling permit for the Silva No.1 and the W-14 in the disposal application show the well is located 720.67 feet from the northwest survey line and 2,464.4 feet from the southwest survey line.
 10. Kidd Production failed to show that the proposed injection fluids would be confined within the proposed injection interval.
 - a. There are three wellbores with improper plugging methods, incomplete plugging records or unknown cement levels within $\frac{1}{2}$ mile of the proposed disposal well surveyed location.
 - b. The J.L. Williams Hollis Beall No. 1, the T.I. Larsen Hollis Beall No. 1 and the SEPSCO Hollis Beall No. 1 are located within $\frac{1}{2}$ mile of the proposed disposal well.
 - c. The J.L. Williams Hollis Beall No. 1 is improperly plugged. There is no cement plug outside the longstring adjacent to the base of the usable quality water and there is unknown cement height above the longstring's casing shoe.

- d. It is unknown whether the T.I. Larsen Hollis Beall No. 1 is plugged. Commission records show the well is unplugged. There are no plugging records for this well. In 1991, Commission Field Staff were unable to find the well in the field. There is unknown cement height above the longstring's casing shoe.
 - e. The SEPSCO Hollis Beall No. 1 is improperly plugged. There are no cement plugs inside or outside the longstring adjacent to the base of the usable quality water and there is unknown cement height above the longstring's casing shoe.
 - f. All three wells have short surface casing between 200 feet and 215 feet and do not protect the base of the usable quality water found at a depth of 2,900 feet.
 - g. It is unknown if the cement behind the longstring reaches the top of the proposed disposal interval in the Olmos formation.
 - h. An uncemented Olmos disposal zone could create a conduit for fluids to reach the base of the usable quality water.
11. The Austin Chalk is a naturally fractured formation known to cause lost circulation of mud and cementing problems.
- a. Wells that penetrate the Austin Chalk could lose cement into the natural fractures, lowering the top of cement behind the longstring.
 - b. An Examiners' report prepared for the Overly Operating Company for the Howard J. Henley Well No.1 commercial disposal permit per Oil and Gas Docket No. 1-95,376 issued on June 10, 1991, raised concerns of inadequate cement for the same improperly plugged or completed wells near Kidd Production's Silva well.
 - c. A condition of the permit was placed for Overly Operating to reenter the same three improperly plugged or completed wells and either to confirm cement across the Olmos or to be replugged prior to using the Howard J. Henley Well No.1 for disposal. To date the Howard J. Henley Well No.1 has never been used for injection and the three wells have not been reentered or replugged.
 - d. It is documented in Oil and Gas Docket 01-0267764 issued February 8, 2011, for Pro Field Services, Inc.'s Good Lease Well No.1, Pearsall (Austin Chalk) Field in Frio County that a well that appeared to contain cement circulated to the surface was found to have inadequate cement after a cement bond log was run.

CONCLUSIONS OF LAW

1. Proper notice was issued in accordance with the applicable statutory and regulatory requirements.
2. All things have occurred to give the Railroad Commission jurisdiction to consider this matter.
3. Kidd Production Company has not satisfied the requirements of Chapter 27 of the Texas Water Code and the Railroad Commission's Statewide Rule 9 for the injection of produced water into the Silva Lease, Well No. 1.
 - a. Kidd Production Company failed to show that the use of the proposed commercial disposal Well No. 1 would not cause pollution of surface water or fresh water strata as required under Texas Water Code §27.051(b)(3).
 - b. Kidd Production Company did not meet its burden of proof in showing that injected fluids will be confined to the proposed injection interval as required under Texas Water Code §27.051(b)(3).

EXAMINERS' RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiners recommend that the application of Kidd Production Company for a commercial disposal well for its Silva Lease, Well No. 1, be denied.

Respectfully submitted,



Andres J. Trevino, P.E.
Technical Examiner



Mark J. Helmueller
Hearings Examiner