RAILROAD COMMISSION OF TEXAS

OFFICE OF GENERAL COUNSEL

OIL AND GAS DOCKET NO. 03-0271126

THE APPLICATION OF BEECH CREEK DISPOSAL TO CONSIDER AN ADMINISTRATIVELY DENIED APPLICATION FOR A COMMERCIAL PERMIT TO DISPOSE OF OIL AND GAS WASTE BY INJECTION INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL OR GAS, H & TC FEE SEC 201 LEASE WELL NO. 3, JACKSON-DOTY (YEGUA-T-SD.) FIELD, HARDIN COUNTY, TEXAS

HEARD BY: Andres J. Trevino P.E., Technical Examiner
Gene Montes, Hearings Examiner

APPEARANCES:

APPLICANT:	**REPRESENTING:**
David Gross Dale E. Miller Billy Peavy	Beech Creek Disposal, LLC
PROTESTANTS:	
Nadine Zvolanek Irvine Zvolanek	Themselves
David Cooney Jr. Doug Johnson	Railroad Commission Staff

PROCEDURAL HISTORY

Application Filed:	October 28, 2010
Request for Hearing:	May 12, 2011
Notice of Hearing:	June 23, 2011
Date of Hearing:	July 18, 2011
Proposal For Decision Issued:	July 11, 2012

EXAMINERS' REPORT AND PROPOSAL FOR DECISION

STATEMENT OF THE CASE

Beech Creek Disposal, LLC requests authority pursuant to Statewide Rule 9 to operate Well No. 3 on its H&TC Fee Section 201 Lease in Hardin County as a commercial disposal well. The application was protested by Nadine Zvolanek, an adjacent property owner. Additionally, the application was administratively denied by the Commission's Technical Permitting staff because commercial disposal wells will not be approved administratively if the well has short surface casing that does not cover at least 95 percent of the depth of the usable quality water. The H&TC Fee Section 201 Well No. 3 has 1,140 feet of surface casing while the base of the usable quality water is found at a depth of 1,850 feet. The Staff were also concerned about the well's compliance status, the possibility of the proposed cement squeeze may be ineffective due to the well's age, and the existence of a plugged well 100 feet to the east without cementing records may become a conduit for injected fluids to travel up the well's casing and reach the usable quality water.

DISCUSSION OF THE EVIDENCE

Applicant's Evidence

The subject well is currently a temporarily abandoned oil well drilled and completed in July 1953. The well was drilled to a depth of 6,510 feet and completed at a depth of 6,479 feet into the Jackson Doty (Yegua "C" Lower) Field. The well produced from 1953 through 2002. Beech Creek Disposal will recomplete and convert the well into a saltwater disposal well. The well has 1,140 feet of 9⅝" surface casing with cement circulated from the casing shoe to the ground surface, and 5½" casing set at 6,510 feet. The top of cement behind the longstring casing is estimated to be 5,529 feet. A DV tool was set at a depth of 2,032 feet and cemented with 215 sacks of cement which was circulated to the surface. (See Wellbore Diagram attachment). During the recompletion of the well, a cement squeeze will be performed at a depth of 3,500 feet with 120 sacks of cement and a cement squeeze at a depth of 2,450 feet with 120 sacks of cement. The cement squeezes will be performed to isolate the proposed injection interval with cement. A cement bond log will be run to determine the actual top of cement and quality of cement prior to putting the well into service. The Texas Commission on Environmental Quality recommends that usable-quality ground water be protected to a depth 1,850 feet. TCEQ further states the base of the USDW is approximately 2,025 feet.

The proposed injection will be through 2⅞" tubing set on a packer at approximately 2,400 feet, but no higher than 100 feet above the top of the injection interval. The proposed injection interval is the Frio formation, the top of which occurs at about 2,450 feet. The proposed injection interval is between 2,450 and 3,400 feet. The proposed maximum injection volume is 3,000 BWPD, with an estimated average of 2,000 BWPD. The proposed maximum injection pressure is 1,225 psig.

There are five wellbores within a ¼ mile radius of the proposed disposal well. Four of the wells were plugged and abandoned between 1976 and 1986. The wells were drilled to depths between 7,507 feet and 6,500 feet. The fifth well, the H&TC Fee Section 201 Well No 6 is an active commercial disposal well operated by Beech Creek Disposal. The Commission Staff had confinement issues with one of the plugged and abandoned wells located within 100 feet of the proposed disposal well. The well is identified as the Joe W. Elsbury, H&TC Fee Section 201 Well No. 9. The original application submittal did not present any cementing records for this well other than the plugging report. The well also has short surface casing set at 579 feet. Without cementing records, Staff could not evaluate if the well could be a conduit for injected fluids to travel to the base of the usable quality water. During the hearing, a cementing affidavit for the H&TC Fee Section 201 Well No. 9 was presented that stated a DV tool was set at a depth of 2,015 feet and was cemented with 690 sacks of cement. The three other plugged and abandoned wells also had DV tools set between 2,012 feet and 2,023 feet. All of the wells identified and studied within a ¼ mile radius of the proposed disposal well had adequate cement behind the surface casing and or the production casing to isolate the BUQW and USDW from the proposed injection interval.

Beech Creek Disposal plans to use the proposed well as a back up well in case the existing disposal well, that Beech Creek Disposal currently operates, the H&TC Fee Section 201 Well No 6 should need to be shut down for any reason. Beech Creek Disposal currently operates another disposal well in the area, the Sternenberg (NCOC) Well No.1 The well is located approximately 4 miles to the west of the proposed injection well. Beech Creek is planning to plug the Sternenberg (NCOC) Well No.1 in the future as it is prone to flooding and maintaining the private road to the well is not cost effective. This well is therefor not a viable back up to the existing H&TC Fee Section 201 Well No. 6.

An area map of commercial disposal wells in Hardin County shows that there are six permitted disposal wells in the 900 square mile area of Hardin County or one commercial disposal well for every 150 square miles. The map also shows the nearest disposal well to the two Beech Creek disposal wells are 40 miles away. Should the Beech Creek No. 6 well go down for maintenance and the No. 1 is plugged, operators would need to travel an additional 40 miles to get to the nearest disposal well.

Beech Creek Disposal believes there is a need for the proposed disposal well. Drilling permits issued in Hardin County show a steady rise since 2003. With an average of 45 drilling permits issued per year prior to 2003 and an average of 90 permits issued per year from 2006 to 2011. Beech Creek Disposal believes the increased level of drilling activity will lead to an increased need for disposal services. The proposed disposal well will have direct access to Farm to Market Road 2937.

Although the Commission has a policy to administratively deny a commercial disposal well permit if the well was granted a Statewide Rule 13-B2 exception and has short surface casing that does not cover at least 95 percent of the depth of the usable

quality water, the Commission has issued commercial disposal well permits in the past through the technical hearings process. Beech Creek provided an example in Oil and Gas Docket No. 01-0267764 issued on February 8,2011 for the Pro Field Services, Good Lease No.1 in the Pearsall (Austin Chalk) Field. In the Examiners' Report the examiners found no evidence that disposal wells granted a Statewide Rule 13-B2 exception presented a greater risk of groundwater contamination.

Beech Creek Disposal LLC has an active P-5 on file with the Commission, with $25,000 financial assurance. Beech Creek Disposal has resolved all non compliance issues with the lease. Beech Creek performed and passed a mechanical integrity test on the proposed disposal well on June 14, 2011. Additionally, Beech Creek paid all assessed fees on July 15, 2011. There are no pending compliance issues or fees due on this lease. There are no pending enforcement dockets for Beech Creek Disposal LLC.

Notice of the subject application was published in *The Beaumont Enterprise*, a newspaper of general circulation in Hardin County, on September 15, 2010. A copy of the application was mailed on October 28, 2010 to the Hardin County Clerk's Office and the offsetting surface owners and operators within ½ mile of the proposed well.

Zvolaneks' Position

Nadine and Irvin Zvolanek were present to represent their and other Protestants' concerns. The Zvolaneks own property adjoining the proposed disposal well's tract. The Zvolaneks had concerns about the potential for surface and groundwater contamination. They are concerned about surface water breakouts, salt seeping to the surface and surface spills. Mrs. Zvolanek raised concerns of truck traffic, truck ingress and egress to the property, impacted property values and a general concern over facility operations if the disposal facility is approved. Mrs. Zvolanek stated she is most concerned that water runoff from the facility might contaminate her property. Mrs. Zvolanek is concerned about the potential health effects from the listed RCRA exempt wastes on herself and her neighbors. The Applicant stated he would agree to remove disposal authority for the listed RCRA exempt waste in order to appease the Zvolaneks.

Staff Position

The Technical Permitting Section staff administratively denied the permit application in part because of a new policy implemented in April 2011 to administratively deny any commercial disposal well permit if the well had received a Statewide Rule 13-B2 exception and has short surface casing that does not cover at least 95 percent of the depth of the usable quality water. The H&TC Fee Section 201 Well No. 3 has 1,140 feet of surface casing while the base of the usable quality water is found at a depth of 1,850 feet. Staff is of the opinion that commercial disposal wells that have short surface casing pose a greater risk than non-commercial disposal wells as commercial wells may have an infinite life. A non-commercial well usually ceases to operate once producing wells in the lease cease production.

The staff were also concerned about the well's compliance status. At the time the hearing was set, the H&TC Fee Section 201 lease was not in compliance with the Commission rules. The lease had pipeline severances issued in 2007, 2009, 2010, and in May 4, 2011 for delinquent mechanical integrity tests (Form H-15) required by Statewide Rule 14. The severances in 2007, 2009 and 2010 were resolved. However, at the time of the administrative denial the lease remained severed for the current delinquent H-15 and associated fees and penalties remained unpaid.

The applicant proposes to isolate the injection interval by performing a cement squeeze with a 120 sack squeeze at 3,500 feet and a 120 sack squeeze at 2,450 feet. The staff are concerned that the proposed cement squeeze may be ineffective due to the well's age, as the nature of the shallow Miocene and Frio formations have long closed in around the uncemented portions of the casing and would not allow the cement to effectually seal around the casing.

Further, the staff are concerned the plugged well, the H&TC Fee Section 201 Well No. 9, located 100 feet to the east of the proposed well may become a conduit for injected fluids as no cementing records were found at the time of the application. The well was drilled in 1960 and plugged and abandoned in 1986. The well has 579 feet of surface casing. Plugging records indicate the longstring was left in place, however there were no records of any cement in place between 2,450 feet (top of the injection interval) to 579 feet (Base of the surface casing). Without the cementing records it is unknown if there will be confinement above the injection interval.

EXAMINERS' OPINION

The examiners believe that this application should be approved. The H&TC Fee Section 201 Well No. 3 will be recompleted in a manner which will confine disposal fluids to the proposed disposal interval in the Frio. The base of usable quality water at 1,850 feet and the USDW depth of 2,025 feet are protected with the cemented surface casing set at a depth of 1,140 feet and the cemented production string cement with a DV tool set at a depth of 2,032 feet. The longstring production casing will also be cemented with two cement squeeze operations to be performed at depths of 3,400 feet and 2,450 feet to prevent migration from the injection interval. The examiners recommend a segmented cement bond log to be run to determine the actual quality of cement of the cement squeeze operations prior to putting the well into service. The segmented bond log will provide a more accurate "view" of the cement quality around the well bore. There are no oil or gas wells within the ¼ mile radius of review that may be a likely conduit for fluids from the injection interval. All wells with the ¼ mile radius of review were properly plugged with internal plugs isolating production perforation and isolating the base of the usable quality water. Additionally, a deeper review of wells records show all plugged wells had DV tools set below both the BUQW and USDW depths and setting cement to surface or through the base of the surface casings. The cement above the DV tools isolate the injection interval (Frio formation) from subsurface fresh waters and places cement across the base of the usable quality water and the USDW. The examiners find that Beech Creek Disposal has met it's burden of proof in showing that injected fluids will be confined to the Frio interval.

Beech Creek Disposal has addressed all the concerns raised by Commission Staff in the denial letter. Staff was concerned about the well's compliance status, the possibility the proposed cement squeeze may be ineffective due to the well's age, and the existence of a plugged well 100 feet to the east without cementing records may become a conduit for injected fluids. Beech Creek Disposal was able to find a cementing affidavit for the Joe W. Elsbury, H&TC Fee Section 201 Well No. 9 that indicates a DV tool was set at a depth of 2015 feet and was circulated to the surface with 690 sacks of cement. Beech Creek Disposal has resolved all issues with the non compliance of the lease. Beech Creek performed and passed a mechanical integrity test on the proposed disposal well on June 14, 2011. Additionally, Beech Creek paid all assessed fees on July 15, 2011.

Approval of the requested permit is in the public interest given it is in the public interest to promote the development of the safe and cost efficient disposal in Hardin County. The H&TC Fee Section 201 Well No. 3 will be a back up well to the disposal well that Beech Creek currently operates. Should the primary disposal well be shut down for any reason, the proposed H&TC Fee Section 201 Well No. 3 will be available to take disposal water and prevent the diversion of truck traffic to other disposal facilities 40 miles away. Drilling in Hardin County is increasing, increasing the demand for disposal well services. Having a disposal facility with a redundant disposal close to area wells will reduce disposal cost and increase hydrocarbon recovery. The well will be a low volume (by most commercial well standards) commercial disposal well with a special permit condition that will require an annual mechanical integrity tests which will further minimize any environmental risks. The disposal well will be limited to the disposal of salt water only in order to reduce the fears of adjacent property owners of disposing of listed RCRA exempt waste. The Applicant does not consider this an adverse decision. The evidence indicates that the operation of the subject disposal well and facility will not adversely impact any surface or subsurface useable quality water.

FINDINGS OF FACT

1. Notice of this hearing was given to all persons entitled to notice at least ten (10) days prior to the hearing. Notice of the application was published in *The Beaumont Enterprise*, a newspaper of general circulation in Hardin County, on October 28, 2010.

2. The H&TC Fee Section 201 Well No. 3 is a temporarily abandoned oil well drilled and completed in July 1953. Beech Creek Disposal plans to recomplete the well to inject into the Frio formation. The top of the Frio is expected to occur at approximately 2,450 feet.

3. The maximum requested injection volume is 3,000 barrels of water per day and the maximum requested surface injection pressure is 1,225 psi. The requested disposal interval is the Frio formation between approximately 2,450 feet and 3,400 feet.

4. The H&TC Fee Section 201 Well No. 3 is cased and will be cemented in a manner to protect usable quality water, the USDW and injection will be confined to the injection interval.

a. The subject well has 1,140 feet of 9⅝" surface casing cemented to surface.

b. The subject well has approximately 6,510 feet of 5½" casing, cemented with the top of cement at approximately 5,529 feet. A DV tool was set at a depth of 2,032 feet and cemented with 215 sacks of cement which was circulated to the surface.

c. During the recompletion of the well, a cement squeeze will be performed at a depth of 3,500 feet with 120 sacks of cement and a cement squeeze at a depth of 2,450 feet with 120 sacks of cement. A segmented cement bond log will be run to determine the actual quality of cement placed during the squeeze operation prior to putting the well into service.

d. Injection will be through tubing set on a packer no higher than 100 feet above the top of the injection interval.

e. The Texas Commission on Environmental Quality recommends that usable-quality ground water be protected to a depth 1,850 feet. TCEQ further states the base of the USDW is approximately 2,025 feet.

f. Disposal fluid will be restricted to produced saltwater only.

g. A special permit condition will require annual mechanical integrity tests to be performed on the well.

5. There are five wellbores within one-quarter mile of the proposed disposal well. Four of the wells are plugged and abandoned between 1976 and 1986 at depths between 7,507 feet and 6,500 feet. The fifth well, the H&TC Fee Section 201 Well No 6 is an active commercial disposal well operated by Beech Creek Disposal. None of the wells pose a likely risk to fluid confinement.

6. The Commission has a policy to administratively deny a commercial disposal well permit if the well was granted a Statewide Rule 13-B2 exception and has short surface casing that does not cover at least 95 percent of the depth of the usable quality water. Additionally, the Staff were also concerned about the well's compliance status, the possibility of the proposed cement squeeze may be ineffective due to the well's age, and the existence of a plugged well 100 feet to the east without cementing records may become a conduit for injected fluids.

7. Beech Creek Disposal operates two disposal wells near the proposed disposal well, the H&TC Fee Section 201 Well No. 6 and the Sternenberg (NCOC) Well No. 1.

8. Beech Creek Disposal plans to use the proposed well as a back up well in case the H&TC Fee Section 201 Well No 6 should need to be shut down for any reason.

9. Beech Creek is planning to plug the Sternenberg (NCOC) Well No.1 in the future as it is prone to flooding and maintaining the private road to the well is not cost

effective. This well is not a viable back up to the existing H&TC Fee Section 201 Well No. 6.

10. There are six permitted disposal wells in the 900 square mile area of Hardin County or one commercial disposal well for every 150 square miles. The nearest disposal well to the two Beech Creek disposal wells are 40 miles away.

11. Drilling permits issued in Hardin County show a steady rise since 2003. An average of 45 drilling permits were issued prior to 2003 and an average of 90 permits were issued from 2006 to 2011. The increased level of drilling activity will lead to an increased need for disposal facilities. Use of the H&TC Fee Section 201 Well No. 3 as a commercial disposal well is in the public interest to promote this development by providing a safe and economic means of disposal of the fluids associated with production.

12. Redirecting truck traffic from the proposed H&TC Fee Section 201 Well No. 3 area to disposal wells 40 miles away will increase disposal costs and reduce ultimate hydrocarbon recovery.

13. Beech Creek Disposal has met the concerns raised by Commission Staff in the denial letter.

14. The nearest plugged and abandoned wellbore penetrating the Frio, Joe W. Elsbury, H&TC Fee Section 201 Well No. 9 has adequate cement above (from 2,015 feet) the Frio injection interval and isolates both the base of the usable quality water and the USDW. Cementing affidavit submitted during the hearing indicates a DV tool was set at a depth of 2,015 feet and was cemented with 690 sacks of cement.

15. At the time the hearing was set, the H&TC Fee Section 201 lease was not in compliance with the Commission rules.

    a. The lease had pipeline severances issued in 2007, 2009, 2010, and in May 4, 2011 for delinquent mechanical integrity tests (Form H-15) required by Statewide Rule 14. .

    b. The severances in 2007, 2009 and 2010 were resolved.

    c. At the time of the administrative denial was issued, the lease remained severed for the current delinquent H-15 and associated fees remained unpaid.

16. Beech Creek Disposal has resolved all issues associated with the non compliance of the lease.

    a. Beech Creek performed and passed a mechanical integrity test on the proposed disposal well on June 14, 2011.

b. Additionally Beech Creek paid all assessed fees and penalties on July 15, 2011.

c. There are no pending compliance issues or fees due on this lease.

17. Special permit conditions placed in the permit will require a segmented cement bond log be run to determine the effectiveness of the required cement squeeze operation at depths of 2,450 feet and 3,500 feet, the well will require an annual mechanical integrity test, and the disposal fluid will be limited to salt water only.

18. The Commission has issued a commercial disposal well permit in the past through the technical hearings process for disposal wells with short surface casing. An example is Oil and Gas Docket No. 01-0267764 issued on February 8,2011 for the Pro Field Services, Good Lease No.1 in the Pearsall (Austin Chalk) Field.

19. Beech Creek Disposal, LLC has an active P-5 on file with the Commission, with $25,000 financial assurance.

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. The use or installation of the proposed injection well is in the public interest.

4. The use or installation of the proposed injection well will not endanger or injure any oil, gas, or other mineral formation.

5. With proper safeguards, as provided by terms and conditions in the attached final order which are incorporated herein by reference, both ground and surface fresh water can be adequately protected from pollution.

6. Beech Creek Disposal, LLC has made a satisfactory showing of financial responsibility to the extent required by Section 27.073 of the Texas Water Code.

7. Beech Creek Disposal, LLC has 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.

EXAMINERS' RECOMMENDATION

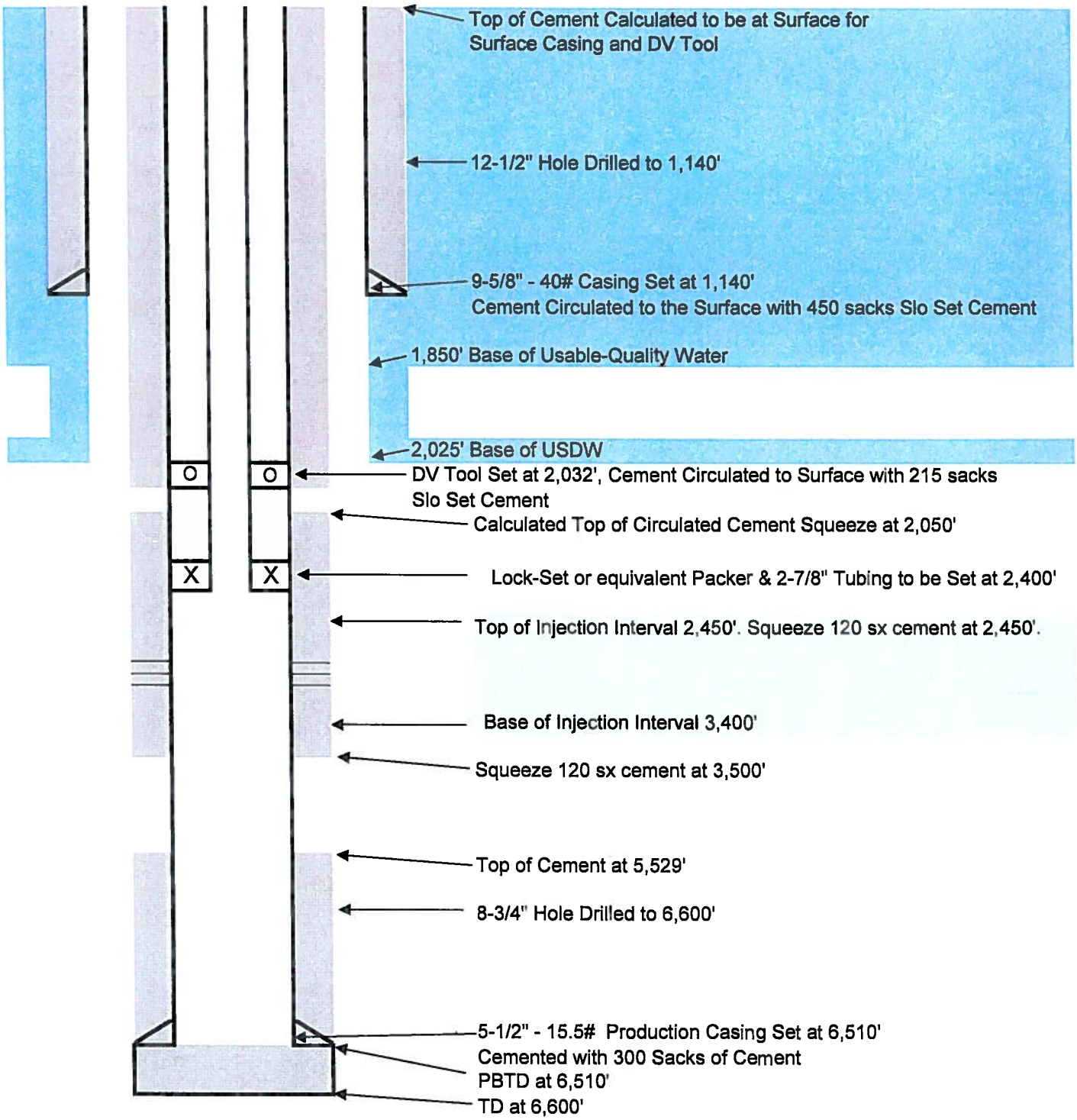
Based on the above findings and conclusions, the examiners recommend that the application be approved as set out in the attached Final Order.

Respectfully submitted,

Andres J. Trevino
Technical Examiner

Gene Montes
Hearings Examiner

PROPOSED WELLBORE DIAGRAM
BEECH CREEK DISPOSAL
H&TC FEE, SECTION 201 LEASE WELL NO. 3
JACKSON-DOTY (YEGUA -T- SD.) FIELD
HARDIN COUNTY, TEXAS



OPERATOR: BEECH CREEK DISPOSAL
EXHIBIT NO.: //
DOCKET NO.: 03-0271126
DATE: JULY 18, 2011