RAILROAD COMMISSION OF TEXAS

OFFICE OF GENERAL COUNSEL

OIL AND GAS DOCKET NO. 08-0275733

THE APPLICATION OF HYDRO WASTE CORP. FOR COMMERCIAL DISPOSAL AUTHORITY PURSUANT TO STATEWIDE RULE 46 FOR THE JENKINS LEASE, WELL NO. 1, RODNEY (WOLFCAMP) FIELD, ANDREWS COUNTY, TEXAS

HEARD BY: Richard D. Atkins, P.E. - Technical Examiner
Marshall F. Enquist - Legal Examiner

APPEARANCES:	**REPRESENTING:**
APPLICANT:	
Mickey Olmstead James M. Clark Frank Muser	Hydro Waste Corp.
PROTESTANTS:	
George C. Neale Christopher Hotchkiss Jarvis Moore	Clearfork Production, LLC
Russell Pantermuehl	Windsor Permian, LLC

PROCEDURAL HISTORY

Application Filed:	December 14, 2011
Protest Received:	December 12, 2011
Request for Hearing:	April 11, 2012
Notice of Hearing:	April 25, 2012
Hearing Held:	June 1, 2012
Transcript Received:	June 18, 2012
Proposal for Decision Issued:	July 5, 2012

EXAMINERS' REPORT AND PROPOSAL FOR DECISION

STATEMENT OF THE CASE

Hydro Waste Corp. ("Hydro") requests commercial disposal authority pursuant to Statewide Rule 46 for the Jenkins Lease, Well No. 1, Rodney (Wolfcamp) Field, Andrews County, Texas.

Notice of the subject application was published in the *Andrews County News*, a newspaper of general circulation in Andrews County, on March 22, 2012. Notice of the application was sent to the Andrews County Clerk, offset operators within ½ mile and to the surface owners of each tract which adjoins the disposal tract on December 7, 2011.

The application is protested by the two offset operators located within the 1/2 mile radius of review.

DISCUSSION OF THE EVIDENCE

Applicant's Evidence

The proposed disposal well, the Jenkins Lease, Well No. 1, is currently a marginally economic producing oil well in the Rodney (Wolfcamp) Field. The proposed disposal well will be located on a 3.61 acre tract that is part of a larger unleased 40 acre tract. Access to the facility will be off of County Road 1 which connects to State Highway 176 to the north. The tract is relatively flat and open and is situated approximately five miles southeast of the town of Andrews, Texas.

Hydro proposes to convert the producing oil well to a commercial disposal well in the Wolfcamp formation. The well has 13 3/8" surface casing set at 365 feet with cement circulated to the ground surface with 385 sacks of cement. The well has 8 5/8" intermediate casing set at 5,107 feet with a DV tool at 2,051 feet and cement circulated to the ground surface with 1,210 sacks of cement. The 5 1/2" longstring casing is set at 10,790 feet with a DV tool at 7,484 feet and is cemented with 1,750 sacks of cement. The top of cement is inside the 8 5/8" intermediate casing at 4,200 feet (See attached Hydro Exhibit No. 11 - Wellbore Diagram).

The Commission Groundwater Advisory Unit ("GAU") recommends that usable-quality ground water be protected down to a depth of 1,725 feet below the land surface. The proposed injection will be through 2 7/8" tubing set on a packer at approximately 8,875 feet, but no higher than 100 feet above the top of the injection interval. The proposed injection interval is the Wolfcamp formation between 8,975 feet and 9,870 feet. The proposed maximum injection volume is 10,000 BWPD, with an estimated average of 5,000 BWPD. The proposed maximum surface injection pressure is 4,450 psig. To mitigate the

protests at the hearing, Hydro reduced the proposed maximum injection volume down to 5,000 BWPD.

There are no wells located within the 1/4 mile radius of review for the proposed disposal well. There are three permitted Wolfberry oil wells and one plugged dry hole located within the 1/2 mile radius of review. The dry hole is properly plugged and abandoned and will not provide a conduit for the migration of injected water from the injection interval into other oil, gas or mineral bearing formations or useable quality groundwater zones.

Hydro plans to use the proposed well to dispose of produced water and frac water generated as a result of the active and future development of the Wolfberry play in eastern Andrews county. In the Wolfberry play wells, the thick Spraberry trend interval is combined with the thick Wolfcamp zones, which are usually commingled with the Strawn formation. The wells require large, multi-stage fracs that use large quantities of water that will require disposal. Hydro believes that additional disposal facilities are necessary to accommodate the active drilling, as current commercial wells in the area are either private (not open to the public) or are located west of the town of Andrews. Hydro presented a map showing that there has been over 200 permitted or drilled wells since June 2010 within an eight mile square box of the proposed disposal well.

Hydro believes their facility is necessary to accommodate ongoing and active drilling occurring in the Wolfberry play which is expanding into eastern Andrews County. Although there are 17 commercial disposal wells located in Andrews County, only one commercial disposal well is located east of the town of Andrews, Texas which is where the Wolfberry play is occurring. There is also one recently approved commercial disposal well located approximately three miles to the northwest of the proposed disposal well. As a result, saltwater haulers will either have to use the two eastern disposal wells or drive an additional 30 to 60 mile round trip through the town of Andrews. In addition, the disposal well located west of Andrews and seven miles to the northwest is at capacity and waste haulers are not able to unload there most of the time. Hydro believes that the location of the proposed disposal well in an area without any source for disposal services will reduce the number of trucking miles necessary to move fluids to disposal wells west of the town of Andrews, which will result in reducing the disposal costs for the operators in the area.

Hydro's expert engineering witness performed a water displacement calculation to determine the distance from the proposed disposal well that the injected water front would be after 20 years of injection. The available reservoir data for the Wolfcamp formation showed an average porosity of 8%, an average salt water saturation of 30% and an average net pay thickness of 600 feet. The expert calculated that the injected water front would be approximately 1,400 feet from the disposal well after injection of 5,000 BWPD for 20 years, or 36.5 MMBW. The closest producing well is currently approximately 1,860 feet from the proposed disposal well. In addition, there is already injection into the Wolfcamp formation in the Bakke (Wolfcamp) Field, which is located approximately four miles to the southwest.

At a total injection rate of 5,000 BWPD, there will be approximately 40 loads per day delivered to the facility. The facility will be constructed to accommodate numerous trucks at any one time and will be large enough to allow trucks access without waiting on the County Road. The surface facility will be manned 24 hours per day. A firewall will be constructed around the entire facility to contain any spilled fluids. The tanks will be equipped with high water level switches to prevent overflows. Additionally, the facility will comply with all of the permit conditions required by the Commission staff.

Hydro submits that it has the expertise to build and manage the proposed facility. Hydro has a current approved Form P-5 (Organization Report), has posted financial assurance in the form of a $25,000 bond and has no pending Commission enforcement actions.

Protestants' Evidence

The application is protested by the two offset operators located within the 1/2 mile radius of review, Clearfork Production, LLC ("Clearfork") and Windsor Permian, LLC ("Windsor"). Clearfork operates approximately 4,000 acres surrounding the 40 acre disposal tract and Windsor operates1,760 acres beginning one third of a mile to the east the 40 acre disposal tract. The operators are primarily concerned that the injected fluids will adversely affect the development of their offset acreage.

Clearfork submitted a cross section showing that it was producing from the proposed injection interval. From the available reservoir data for the Wolfcamp formation, Clearfork's expert geological witness determined an average porosity of 10% and an average net pay thickness of 128 feet. The expert calculated that the water front would also be approximately 1,400 feet from the disposal well after injection of 5,000 BWPD for only 8 years, or 14.6 MMBW. Based on his calculation, the expert opined that further development of the Wolfberry trend in this area would be jeopardized by injection into the proposed disposal well.

EXAMINERS' OPINION

The examiners recommend approval of the application for commercial disposal authority pursuant to Statewide Rule 46 for the Jenkins Lease, Well No. 1. The proposed injection well is completed in a manner which will protect useable-quality water resources and will confine the injected fluids to the injection interval. There are only three permitted Wolfberry oil wells and one plugged dry hole located within a 1/2 mile radius of review. The dry hole is properly plugged and abandoned and will not provide a conduit for the migration of injected water from the injection interval into other oil, gas or mineral bearing formations or useable quality groundwater zones.

Approval of the application is in the public interest, as it will promote the development of the Wolfberry play in eastern Andrews County. The Wolfberry development core area encompasses Andrews and surrounding Counties and disposal wells are the best means for disposing of produced frac and salt water. Although there are

17 commercial disposal wells in Andrews County, only one active and one approved commercial disposal wells are located east of the town of Andrews, where the Wolfberry play is occurring. Without the proposed disposal well, saltwater haulers will have to drive an additional 30 to 60 mile round trip through the town of Andrews.

The proposed disposal well will reduce truck miles driven and reduce truck traffic through the town of Andrews. Drilling is increasing in the Wolfberry play and the wells require large, multi-stage fracs to extract the oil. Having a disposal facility close to the Wolfberry activity will increase competition and reduce disposal costs. Over 200 wells have been permitted or drilled wells since June 2010 within an eight mile square box of the proposed disposal well. The proposed disposal well is closer to a vast majority of recently permitted wells than any other commercial disposal well.

There is already injection into the Wolfcamp formation in the Bakke (Wolfcamp) Field, which is located approximately four miles to the southwest. Based on the injection in this field and Hydro's log analysis, the examiners believe that Hydro's estimated net pay in the Wolfcamp formation of 600 feet is more credible. This estimate will result in the injection front only moving out to a distance of 1,400 feet, which will have a limited effect on the offset Wolfberry producing wells. Additionally, there are many areas in the Spraberry (Trend Area) Field where injection is occurring into the producing formations without any detrimental effects to the surrounding oil production.

Access to the disposal facility will be off of County Road 1, which is a public road that has minimal traffic. The surface facility will be newly constructed and is of sufficient size to accommodate trucks hauling saltwater to the facility without backing trucks up on the highway that provides access to the facility. Because the proposed injection well will be closer to the point of production, use of the proposed well for disposal of produced saltwater will reduce truck traffic and use of public highways for hauling produced saltwater through the town of Andrews to a disposal site. Compliance with permit conditions will minimize the risk of spills at the facility and will prevent the migration of any spills that occur, thereby protecting both ground and surface water.

FINDINGS OF FACT

1. Notice of hearing was given to all affected persons, the Andrews County Clerk, all surface owners of adjoining tracts and all operators within one-half mile. Notice of the subject application was published in the *Andrews County News*, a newspaper of general circulation in Andrews County, on March 22, 2012.

2. The proposed injection into the Jenkins Lease, Well No. 1, will not endanger useable quality water.

    a. The Commission Groundwater Advisory Unit ("GAU") recommends that usable-quality ground water be protected down to a depth of 1,725 feet below the land surface.

b. The well has 13 3/8" surface casing set at 365 feet with cement circulated to the ground surface with 385 sacks of cement.

c. The well has 8 5/8" intermediate casing set at 5,107 feet with a DV tool at 2,051 feet and cement circulated to the ground surface with 1,210 sacks of cement.

3. The proposed injection into the Jenkins Lease, Well No. 1, will not endanger production from other oil, gas or mineral bearing formations.

a. The 5 1/2" longstring casing is set at 10,790 feet and is cemented with 1,750 sacks of cement with a top of cement at 4,200 feet.

b. The proposed injection will be through 2 7/8" tubing set on a packer at approximately 8,875 feet, but no higher than 100 feet above the top of the injection interval.

c. There are no wells located within the 1/4 mile radius of review for the proposed disposal well. There are three permitted Wolfberry oil wells and one plugged dry hole located within a 1/2 mile radius of review. The dry hole is properly plugged and abandoned and will not provide a conduit for the migration of injected water from the injection interval into other oil, gas or mineral bearing formations or useable quality groundwater zones.

d. The calculated injected water front would be approximately 1,400 feet from the proposed disposal well after injection of 5,000 BWPD for 20 years, or 36.5 MMBW.

e. The closest producing well is currently approximately 1,860 feet from the proposed disposal well.

f. There is already injection into the Wolfcamp formation in the Bakke (Wolfcamp) Field, which is located approximately four miles to the southwest.

g. There are many areas in the Spraberry (Trend Area) Field where injection is occurring into the producing formations without any detrimental affects to the surrounding oil production.

4. Use of the Jenkins Lease, Well No. 1, as commercial disposal well is in the public interest, as it will promote the development of the Wolfberry play in eastern Andrews County.

a. The Wolfberry development core area encompasses Andrews and surrounding Counties and disposal wells are the best means for disposing of produced frac and salt water.

b. Although there are 17 commercial disposal wells in Andrews County, only one active and one approved commercial disposal wells are located east of the town of Andrews, where the Wolfberry play is occurring.

c. Without the proposed disposal well, saltwater haulers will have to drive an additional 30 to 60 mile round trip through the town of Andrews, Texas.

d. A facility located at the proposed location, would reduce the round trip haul time by two hours.

e. The proposed disposal well will reduce truck miles driven and reduce truck traffic through the town of Andrews.

f. Drilling is increasing in the Wolfberry play and the wells require large, multi-stage fracs to extract the oil. Having a disposal facility close to the Wolfberry activity will increase competition and reduce disposal costs.

g. There has been over 200 permitted or drilled wells since June 2010 within an eight mile square box of the proposed disposal well.

h. The proposed disposal well is closer to a vast majority of recently permitted wells than any other commercial disposal well.

5. Hydro Waste Corp. has a current approved Form P-5 (Organization Report), has posted financial assurance in the form of a $25,000 bond and has no pending Commission enforcement actions.

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. Approval of the application will not harm useable quality water resources, will not endanger oil, gas, or geothermal resources, will promote further

development in this area of Andrews County and is in the public interest pursuant to Sec. 27.051 of the Texas Water Code.

4. Hydro Waste Corp. has met its burden of proof and its application satisfies the requirements of Chapter 27 of the Texas Water Code and the Railroad Commission's Statewide Rule 46.

EXAMINERS' RECOMMENDATION

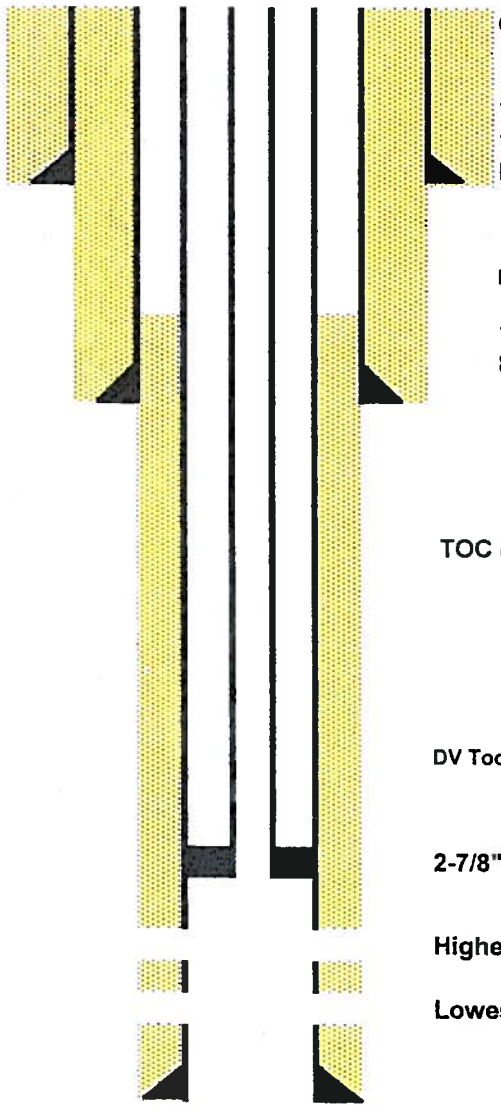
Based on the above findings of fact and conclusions of law, the examiners recommend that the Commission approve the application of Hydro Waste Corp. for commercial disposal authority pursuant to Statewide Rule 46 for the Jenkins Lease, Well No. 1, as set out in the attached Final Order.

Respectfully submitted,

Richard D. Atkins, P.E.
Technical Examiner

Marshall F. Enquist
Legal Examiner

Hydro Waste Corp.
Jenkins #1 (42-003-39017)
Proposed Disposal Well



Cement Circulated

17-1/2" Hole
13-3/8" @ 365'
Note: Useable Groundwater @ 250'; 1,300'-1,725'

DV Tool @ 2,051'

11" Hole
8-5/8" @ 5,107'

TOC @ 4,200'

DV Tool @ 7,484'

2-7/8" Tbg on Packer @ 8,875'

Highest Perf @ 8,975'

Lowest Perf @ 9,870'

7-7/8" Hole
5-1/2" @ 10,790'
TD @ 10,790'