RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 01-0288953

PROPOSAL FOR DECISION

THE APPLICATION OF JTC ENERGY GROUP, LLC PURSUANT TO STATEWIDE RULE 9 FOR A COMMERCIAL PERMIT TO DISPOSE OF OIL AND GAS WASTE BY INJECTION INTO A RESERVOIR NOT PRODUCTIVE OF OIL OR GAS ENGLISH LEASE, WELL NO. 1 WAELDER SOUTH AUSTIN CHALK FIELD GONZALES COUNTY, TEXAS

HEARD BY: Karl Caldwell - Technical Examiner
Terry Johnson - Legal Examiner

PROCEDURAL HISTORY

Application Filed:	February 14, 2014
Protest Received:	February 4, 2014
Request for Hearing:	May 1, 2014
Notice of Hearing:	February 6, 2014, September 18, 2014
Hearing Held:	June 27, 2014, October 10, 2014
Transcript Received:	October 21, 2014
Applicant's Late-Filed Exhibits Received:	October 16, 2014
Proposal for Decision Issued:	March 31, 2015

APPEARANCES:	**REPRESENTING:**
APPLICANT:	JTC Energy Group, LLC
David Nelson (Attorney)	
Brandon Durrett (Attorney)	
Nguyen Ngoc, P.E. (Consulting Engineer)	
PROTESTANTS:	
J.R. Kip Fair Jr. (Attorney)	Rodney Sklar, Terry Sklar, Ann Sklar
J. Dale Moore	Self
Dixie Basquez	Self
Ken Dernehl	Self, Mildred Dernehl, Mike Dernehl
Virginia Mae Nealy	Berry Nealy
Gloria Dean Nealy Pineda	Berry Nealy
INTERVENOR:	
Charles English	Eather Nealy Estate

PROPOSAL FOR DECISION

CASE SUMMARY

JTC Energy Group, LLC (JTC) applies for a permit to conduct disposal operations pursuant to Statewide Rule 9. The application is opposed by adjoining surface owners.

The Examiners find that JTC has failed to demonstrate that use of the proposed injection well will not endanger oil, gas or other formations, a requirement of statute. The record also fails to support the conclusion that the well is in the public interest, another requirement of statute. It is recommended that the Commission enter an order denying the application.

DISCUSSION OF THE EVIDENCE

JTC's Evidence

English Lease, Well No.1 Location

JTC's evidence showed that the proposed English No. 1 disposal well would be located approximately 1.5 miles east-southeast of Waelder, Texas in Gonzales County. The applied-for injection interval is 7,900 feet to 9,000 feet. Nguyen "Nick" Ngoc, JTC's engineering expert, testified that this interval is in the Georgetown and Edwards Formations.

Injection Interval

Mr. Ngoc testified that he relied on two well completion reports to estimate the depth of the Georgetown Formation. One well, the Fisher No. 1 (API No. 177-30845), located 1.72 miles northwest of the proposed well, reported the top of the Georgetown Formation to be 7,448 feet. The other, the Dewitt Neighbors No. 1 (API No. 177-30699), located 0.66 miles southeast of the proposed well, lists the top of the Georgetown Formation at 8,270 feet. These two wells are 2.33 miles apart along a northwest to southeast regional formation dip which JTC's expert calculated to be 350 feet per mile. From this, he estimated the top of the Georgetown Formation to be at a depth of 8,000 feet at the location of the proposed well. Based on his review of approximately 20 wells in the area, JTC's expert estimated the local thickness of the Georgetown Formation to the top of the Edwards Formation to be between 200 feet and 300 feet. JTC's expert testified that JTC will determine the specific interval to perforate after the well has been drilled and logged.

Mr. Ngoc testified that the injection interval listed for the El Cruce SWD Lease, Well No. 1 (API No. 177-33322) disposal well is similar to that proposed for the English No. 1. The El Cruce

No.1 well is perforated from 7,892 feet to 8,292 feet.[1] The El Cruce No. 1 is located approximately 2.5 miles southwest of the proposed English No. 1 location. This disposal well is permitted for a maximum volume of 25,000 bpd.

The Groundwater Advisory Unit (GAU) identified the base of usable-quality groundwater (BUQW) at a depth of 3,200 feet and the base of the underground source of drinking water (USDW) at a depth of approximately 3,800 feet. The proposed injection interval is deeper than both the BUQW and USDW.

Well Construction

10.75-inch, 40.5 lb per foot surface casing will be set at a depth of 3,250 feet, 50 feet below the BUQW and cemented in place with cement circulated to surface. A 7-inch long string of casing will be set at a depth of 9,100 feet and cement will be circulated to surface. 4.5-inch tubing will be run inside the long string casing and a packer will be set at a depth of 7,805 feet. (Attachment A)

Maximum Surface Injection Pressure and Injection Volume

JTC is requesting a maximum injection volume of 25,000 barrels per day (bpd). Mr. Ngoc considers a volume of 25,000 bpd to be typical of a commercial water disposal well, but does not believe injection volumes will reach 25,000 bpd. Mr. Ngoc estimated an average injection volume of 15,000 bpd. The maximum surface injection pressure requested is 3,950 psi; a pressure gradient of 0.5 psi per foot to the top of the injection interval at 7,900 feet.

Review of Nearby Wellbores

Commission records show no active or inactive wells within a one-quarter or one-half mile radius of the proposed English No. 1 location. Commission records show two dry holes located greater than one-half mile from the proposed English No. 1 location. The Commission does not have any records concerning the status of these two dry holes.

Area Production

Superimposing a trend line on an area map showed the current western advancement of Eagle Ford drilling activity to run southwest and northeast of the English No. 1 location. However, there is Eagle Ford drilling activity within 5 miles of the English No. 1 location. Mr. Ngoc stated that Eagle Ford activity has not extended northwest of the English No. 1 location, but with the level of drilling activity and technology, it may extend in that direction in the future.

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[1] JTC Exhibit No. 7

Productive formations in the nearby area of the English No. 1 include the Eagleford, Austin Chalk, and Escondido Formations, and possibly the Wilcox Formation.[2] Within a two-mile radius of the English No. 1 location, productive formations include the Wilcox, Austin Chalk, and Buda Formations.[3] Mr. Ngoc counted approximately 160 producing wells and 100 permitted well locations within 15 miles of the English No. 1. More specifically, there are atleast 10 producing Eagleford wells and an additional 20 permitted locations within a 5 mile radius of the English No. 1. An additional 50 Eagleford wells and an additional 40 permitted well locations are located between 5 and 10 miles from the English No. 1. An additional 100 producing Eagleford wells and an additional 50 permitted well locations are located between 10 and 15 miles of the English No. 1.

Nearby Commercial Disposal Wells

The El Cruce No. 1 is a recently permitted commercial disposal well located approximately 2.5 miles southwest of the English No. 1 location. Details of this commercial disposal well are discussed in the *Injection Interval* section.

The Flatonia SWD Lease, Well No. 1 (API No. 149-33242) is a commercial disposal well located approximately 12 miles east of the English No. 1 location. This well is permitted in the Wilcox Formation from 6,350 feet to 7,000 feet for a maximum disposal volume of 18,000 bpd. Disposal volumes of 10,000 to 14,000 bpd have been reported. In Mr. Ngoc's opinion, the Flatonia No. 1 "is in a good area in relation to the producing Eagle Ford wells that make a lot of water and that's why they are taking a lot of water." [4]

The Gonzo Lease, Well No. 1 (API No. 177-32065) is a commercial disposal well located approximately 12 miles southwest of the English No. 1 location. This disposal well was permitted for disposal of 15,000 bpd in the Wilcox Formation from 3,020 feet to 3,880 feet in 2011, but has "not been doing anything at all...it's almost...inactive".[5] According to Mr. Ngoc there is a problem with the wellbore. No injection volumes were reported on Form H-10 between Mr. Ngoc's study period of August 2013 through May 2014.

The TE Gonzales SWD Lease, Well No. 1 (API No. 177-32795) is a commercial disposal well located approximately 13 miles southwest of the proposed English No 1 location. This disposal well is permitted in the lower Wilcox Formation from 3,800 to 5,300 feet for a volume of 25,000

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[2] Tr. 24-25.

[3] Tr. 50.

[4] Tr. 29.

[5] Tr. 28.

bpd. According to Mr. Mr. Ngoc, this well is located "almost to the south-southwest of the trend of the Eagle Ford; therefore they don't get a whole lot of water coming to them." [6]

JTC's Experience as an Commercial Disposal Well Operator

JTC has no experience operating a saltwater disposal facility. However, the chances are "very good" that Clearwater will be the actual operator of the facility if the application is approved. Clearwater is a recognized saltwater disposal operator in the state of Texas. JTC has an active P-5 Organizational Report on file with the Commission.

Charles English, Intervenor

Charles English, appeared at the hearing representing the Estate of Eather L. Nealy, et. al. Mr. English supports JTC's application.

Protestants Evidence

The application is protested by varies parties consisting of adjacent land owners as well as parties claiming to own a percentage of the surface and mineral rights of the English Lease, which includes the tract where the subject well is located. The Protestants are Rodney Sklar, Terry Sklar, Ann Sklar, Virginia Mae Nealy and Gloria Jean Nealy, J. Dale Moore, Dixie Basquez, Ken Dernehl, Mildred Dernehl, and Mike Dernehl.

Dixie Basquez

Dixie Basquez was identified by JTC as an adjacent surface owner and received notice of the application by certified mail. Ms. Basquez does not want this disposal well across from her property. Ms. Basquez claimed that in addition to Mr. English, there are other owners of the property where the proposed disposal well will be located. No evidence was offered to support this claim.

J. Dale Moore

J. Dale More was identified by JTC as an adjacent surface owner and received notice of the application by certified mail. Mr. Moore does not want salt water pumped under his land. He also contends that there are two county roads (CR 415 and CR 416), across from his property and the truck traffic to get to the disposal well on CR 415 and CR 416 would be far more than the roads can handle. The disposal well would be detrimental to the community "because the trucks run up and

[6] Tr. 29.

down a caliche road resulting in dust and chuckholes." Unlike the El Cruce (SWD) well, the English well is not in a location "where you can drive right up to it." [7]

Virginia Mae Nealy and Gloria Jean Nealy (Nealy Protestants)

The Nealy Protestants identified themselves as landowners affected by the application and testified to be heirs to the Estate of Berry Nealy, which is allegedly the surface estate owner. JTC did not provide notice of the application to the Nealy Protestants, however, JTC did not object to their request to be identified as Protestants.

Rodney Sklar, Terry Sklar and Ann Sklar (Sklar Protestants)

The Sklar Protestants were identified by JTC as an adjacent surface owner and received notice of the application by certified mail. The Sklar Protestants claimed to be one of the property owners of the drill site tract, were never contacted as a property owner, and JTC does not have a lease agreement with them. The Sklar Protestants believe the permit should be denied because in their opinion, JTC does not have a good faith claim to the English Lease. The Sklar Protestants claim Mr. English has no authority to lease the property. No evidence was provided to support this claim. Mr. English signed the lease as an executor of the Estate of Eather Nealy, which is allegedly another surface estate owner.

Ken Dernehl

Ken Dernehl was identified by JTC as an adjacent surface owner, received notice of the application by certified mail, and JTC did not object to their status as an affected party. The family property of Mr. Dernehl is situated approximately 2,000 feet north of the proposed site. Mr. Dernehl is concerned that JTC's W-14 permit application specified an injection interval from 7,900 feet to 9,000 feet within the Georgetown and Edwards Formations. The Commission's Statewide Rule 13 (SWR 13) formation data published in December of 2013 lists the shallowest top of the Edwards Formation in Gonzales County at 9,310 feet, which is 310 feet deeper than the lower injection interval depth for the English No. 1. Based on this information, Mr. Dernehl concluded that the Edwards Formation is too deep to be utilized.

Mr. Ngoc responded that Gonzales County is a large county and the geological trend is tilting; deepening to the southeast occurs somewhere in the range of 100 to 300 feet per mile. In Mr. Ngoc's opinion, the Commission SWR 13 formation depth listing is an average for somewhere in the middle of Gonzales County and does not apply to the northeast. As an example, Mr. Ngoc stated that the El Cruce No. 1 was perforated in the Edwards Formation from approximately 7,900 feet to 8,400 feet.

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[7] Tr. 72.

Mr. Dernehl also referenced a memorandum (memo), dated December 17, 2013, from Jim Shotwell, Professional Geologist, addressed to JTC.[8] This memo stated that the nearest disposal well was located 11 miles east of the proposed English location. The memo also stated that there were few to no deep penetrations into the Georgetown and Edwards Formation in the area. Mr Shotwell recommended that JTC's proposed disposal well be conditionally permitted in the Georgetown and Edwards Formations, estimated to be at a depth from 10,900 feet to 12,000 feet.

Mr. Dernehl does not believe there is a need for another disposal well in the area and the English No. 1 would not be in the public interest. Mr. Dernehl stated that there are already two commercial disposal wells permitted less than 2.5 miles from the proposed location of the English No. 1. The El Cruce No. 1 disposal well is located approximately 2.3 miles southwest of the proposed English No.1 and is currently in operation. The Beeman SWD Lease, Well No.1 well has been granted a disposal permit and a drilling permit has been issued, but the well has not yet been drilled. The Beeman SWD Lease, Well No. 1 is located approximately 2.1 miles west-southwest of the proposed English No. 1.

EXAMINERS' OPINION

Pursuant to Texas Water Code § 27.051(b), the Commission has authority to permit disposal and injection wells if it finds:

(1) that the use or installation of the injection well is in the public interest;

(2) that the use or installation of the injection well will not endanger or injure any oil, gas, or other mineral formation;

(3) that, with proper safeguards, both ground and surface fresh water can be adequately protected from pollution; and

(4) that the applicant has made a satisfactory showing of financial responsibility if required by Section 27.073.

In the Examiners' opinion, the Applicant has failed to adequately demonstrate that the proposed disposal is in the public interest and that the use of the injection well will not endanger or injure any oil, gas, or other mineral formation.

Public Interest

Pursuant to Texas Water Code § 27.051(d), in determining whether the proposed application demonstrates a public interest, several factors may be considered, which include: whether there is

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[8] The memo is in the official file for Oil and Gas Docket No. 01-0288953 dated December 17, 2013.

a practical, economic, and feasible alternative to an injection well reasonably available; compliance history; as well as other considerations raised by the Commission in consideration of the application.[9] The Applicant's evidence fails to justify a need for additional disposal capacity in this area at this time. The Applicant's basis for additional disposal capacity consisted solely on the number of active Eagle Ford wells and the number of permitted wells within a 5, 10, and 15-mile radius from the English No. 1 location. There is an active commercial disposal well (El Cruce SWD No. 1) permitted for 25,000 bpd, located approximately 2.3 miles southwest of the English No. 1. In addition, a drilling permit has been issued for an injection well (Beeman SWD No. 1), located approximately 2.1 miles west-southwest of the English No. 1. JTC's evidence showed that there were only 10 active Eagle Ford wells and 20 permitted wells within 5 miles of the English No. 1. The Examiners find that the record does not contain sufficient persuasive evidence to demonstrate that the proposed well is in the public interest.

Endanger or Injure Any Oil, Gas, or Other Mineral Formation

In the Examiners' opinion, the Applicant failed to demonstrate that injected fluids will be confined to the disposal interval and will not endanger or injure any oil, gas or mineral formation. The Applicant has requested an injection interval from 7,900 feet to 9,000 feet into the Georgetown and Edwards Formations. However, the Applicant estimated the top of the Georgetown Formation to be at a depth of 8,000 feet. This estimate was not based on well log analysis but on an interpolation from completion documents of two wells lying 2.33 miles apart that appear to show a variation of 822 feet in Georgetown Formation depth running between them. This is insufficiently persuasive to determine the depth of the target formation at the proposed injection location. In the Examiners' opinion the record fails to support a finding that the injected fluids will be properly confined to the permitted interval.

A listing, from shallowest to deepest, of the relative position of several of the productive formations in the area, as well as the requested disposal formations in the area, are as follows:

(1) Austin Chalk Formation;
(2) Eagleford Formation;
(3) Buda Formation;
(4) Del Rio Formation;
(5) Georgetown Formation; and
(6) Edwards Formation.

The Applicant provided no well logs to estimate the depth, thickness and rock properties of the disposal formations, or confining intervals. The Applicant listed the Del Rio Formation as a

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[9] The "public interest" finding required by Texas Water Code 27.051(b) is limited to matters related to oil and gas production, and does not include issues such as traffic safety and road conditions.

confining interval to prevent the upward migration of injected fluids.[10] However, the Applicant provided no estimate on the depth or thickness of the Del Rio Formation. This is of particular concern since the top of the disposal interval is 7,900 feet while the Applicant's engineering witness estimated the top of Georgetown Formation to be at a depth of 8,000 feet. Therefore, the top of the injection interval is 100 feet above the Georgetown Formation. There is insufficient evidence to ascertain whether the Del Rio Formation at the English No. 1 location would prevent the migration of fluids into the Buda, Eagleford, or Austin Chalk Formations. Furthermore, there is no evidence identifying what formation(s), fluids injected between 7,900 feet and 8,000 feet would be injected into.

Protestant Mr. Dernehl believes the Georgetown and Edwards Formations are located deeper than estimated by the Applicant. Dernehl Exhibit No. 2 contained a Commission Statewide Rule (SWR) 13 formation data table for Gonzales County that listed the shallow top of the Edwards Formation at 9,310 feet. This is 310 feet below the lower injection interval requested by the Applicant. The Applicant's engineering witness stated that the Commission's SWR 13 formation depth list is based on an average depth for the middle of Gonzales County and does not apply to the area northeast of central Gonzales County. However, no evidence was provided to support this statement. The Applicant's testimony was insufficiently persuasive to conclude that fluids injected at a depth from 7,900 feet to 9,000 feet at the English No. 1 location will be in the Georgetown and Edwards Formations and will not escape this interval.

FINDINGS OF FACT

1. Applicant, JTC Energy Group, LLC (JTC), seeks a permit authorizing commercial disposal operations pursuant to 16 Tex. Admin. Code § 3.9 for the English Lease, Well No. 1, (English No. 1) Waelder South Austin Chalk Field, Gonzales County, Texas.

2. Notice of the JTC's original application was published in the *Gonzales Inquirer*, a newspaper of general circulation in Gonzales County, Texas on February 4, 2014. On July 1, 2014 notice of JTC's amended application was published in the *Gonzales Inquirer*.

3. Notice of the original application and the amended application was mailed to the county clerk, to the owner of the drill site surface tract, and to the owners of each surface tract that adjoins the proposed disposal tract. No offset operators are located within one-half mile of the proposed disposal well.

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[10] The Applicant's Exhibit No. 2 provided an overview of the application, which contained the statement "Geologically, there are the Del Rio shale (above the Georgetown and the Edwards) and the thick Midway Shale (below the Wilcox) and which generally provide sustainably good separation between the base of the Usable Source of Drinking Water at 3,800 feet to the estimated top of the proposed injection interval of 7,900 feet."

4. JTC did not meet its burden to demonstrate that the proposed disposal well is in the public interest.

   a. The El Cruce SWD No. 1 is an active commercial disposal well permitted for 25,000 bpd, located approximately 2.3 miles southwest of the English No. 1;

   b. A drilling permit has been issued for the Beeman SWD No. 1 injection well, located approximately 2.1 miles west-southwest of the English No. 1.

   c. There are 10 active Eagle Ford wells and 20 permitted wells within 5 miles of the English No. 1;

   d. There are an additional 50 Eagleford wells and an additional 40 permitted well locations are located between 5 and 10 miles from the English No. 1;

   e. There are an additional 100 producing Eagleford wells and an additional 50 permitted well locations are located between 10 and 15 miles of the English No. 1;

   f. There are three additional commercial disposal wells located between 10 and 15 miles from the English No. 1 location;

   g. The Flatonia SWD No. 1 disposal well is located in an area surrounded by Eagle Ford activity and receives water disposal volumes ranging from 10,000 to 14,000 bpd;

   h. The TE Gonzales SWD No. 1 is located towards the edge of the Eagle Ford activity and receives little to no water on a daily basis;

   i. The location of the English Lease is not within the current western advancement of Eagle Ford drilling.

5. JTC did not meet its burden to sufficiently demonstrate that the proposed fluid disposal operations will not endanger oil, gas or other formations.

   a. The injection interval is 7,900 feet to 9,000 feet in the Georgetown and Edwards Formations;

   b. There is insufficient evidence of the depth and thickness of the Georgetown Formation at the English No. 1 location;

c. There is insufficient evidence of the depth and thickness of the Edwards Formation at the English No. 1 location;

d. The Austin Chalk and Buda are productive intervals, within two miles of the English No. 1, that may be effected by migration of disposal fluids from the proposed disposal well;

e. Geologically, the Buda and Austin Chalk Formations are located above the Georgetown and Del Rio Formations;

f. The Del Rio Formation is located between the Buda and Georgetown Formations;

g. It is uncertain whether the Del Rio Formation will act as an impervious barrier to prevent the upwards migration of fluids from the proposed disposal well; and

h. There is no evidence of the depth and thickness of the Del Rio Formation at the English No. 1 location.

CONCLUSIONS OF LAW

1. Resolution of the subject application is a matter committed to the jurisdiction of the Railroad Commission of Texas. TEX. NAT. RES. CODE § 81.051.

2. All notice requirements have been satisfied. 16 TEX. ADMIN. CODE § 3.9.

3. JTC did not meet its burden to sufficiently demonstrate that the use or installation of the proposed commercial disposal well is in the public interest. Texas Water Code § 27.051(b)(1).

4. JTC did not meet its burden to sufficiently demonstrate that the proposed fluid disposal operations will not endanger oil, gas or geothermal resources. 16 TEX. ADMIN. CODE § 3.9, TEX. NAT. RES. CODE § 81.051.

5. JTC Energy Group, LLC has not met its burden of proof and its application does not satisfy 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 of fact and conclusions of law, the examiners recommend that the application of JTC Energy Group, LLC for commercial disposal authority pursuant to Statewide Rule 9 for the for the English Lease, Well No. 1, (English No. 1) Waelder South Austin Chalk Field, Gonzales County, Texas be denied, as set out in the attached Final Order.

Respectfully submitted,

Karl Caldwell
Technical Examiner

Terry Johnson
Legal Examiner

Attachment A

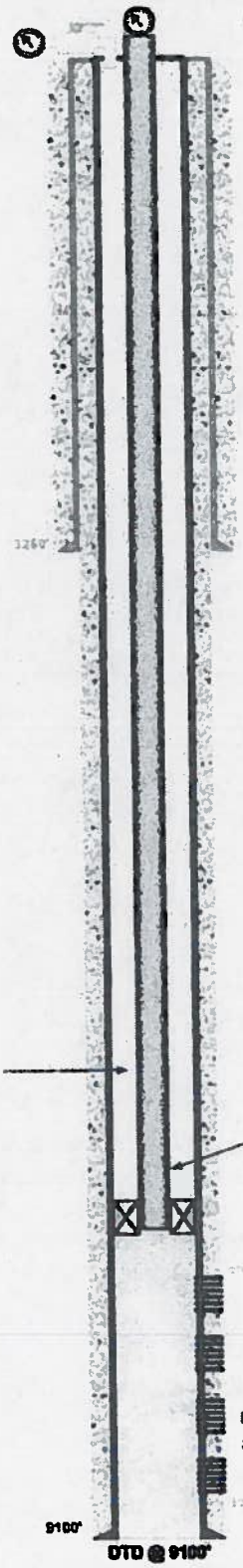
WELL SCHEMATIC - PROPOSED

English Well No.1 - SWD

API 42-177-00000

179' FSL & 540' FWL, S. Smith Survey, A-415
GONZALES COUNTY, TEXAS

Proposed Spud Date: TBD for 2014



Surface Casing
10.75", 40.5# Csg. (14.75" Hole) @ 3250'
1600 sx - Circulated to Surface

Drill and Equip by RRD:
Upon approval of APD, spud date to be determined.
Set casing and cement as described.
Run logs from TD to 7000'
Perf suitable porosity interval between 7,900' - 9,000'.
Run TBG & PKR, MI Test
Commence Disposal Operations.

Note: Facility (tanks, equipment, pumps, berms, etc.) will be constructed concurrently or as drilling site configuration allows so that operations will commence at the earliest possible date.

EXHIBIT # 11
Docket # 01-0288953 10/10/2014
JTC ENERGY GROUP LLC
English #1, Gonzales Co., TX

Annulus Loaded
w/ Inert Packer Fluid

4.5" IPC Tubing set in PKR @ 7805'
(Within 100' of Uppermost Disposal Interval)

Long String Casing
7.0", 26.0# P-110 Csg. (9.875" Hole) @ 9100'
2000 sx - Circulated to Surface

Perforated Interval: 7,900' to 9,000'
Specific Intervals Determined after Log Analysis

9100'
DTD @ 9100'

Drawn by Ben Stone, 10/09/2014 (revised)