THE APPLICATION OF J M OILFIELD SERVICES, INC PURSUANT TO 16 TAC §3.9 FOR A COMMERCIAL PERMIT TO DISPOSE OF OIL AND GAS WASTE BY INJECTION INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL OR GAS FOR THE RINEHART SWD LEASE, WELL NO. 1, PEACH CREEK (AUSTIN CHALK) FIELD, GONZALES COUNTY, TEXAS

HEARD BY: Brian Fancher, P.G. - Technical Examiner
Marshall F. Enquist - Legal Examiner

APPEARANCES: REPRESENTING:

APPLICANT:
George Neale  J M Oilfield Services, Inc
Christopher Hotchkiss
Rick Johnston, P.E.
Ian Riker
Shane Shows
Keith Wheeler, P.G.

PROTESTANTS:
Greg Sengelmann, P.G.  Gonzales County Underground Water Conservation District
Allen Barnes  City of Gonzales, Texas
Vicki King  Self

COMPLAINANT:
Chris Espinosa  Self
PROCEDURAL HISTORY

Application Filed: March 22, 2012
Protest Received: December 14, 2011
Request for Hearing: February 03, 2012
Notice of Hearing: March 30, 2012
Hearing Held: May 08, 2012
Transcript Received: May 21, 2012
Proposal for Decision Issued: February 26, 2013

EXAMINERS’ REPORT AND PROPOSAL FOR DECISION
STATEMENT OF THE CASE

J M Oilfield Services, Inc (“JM”) requests commercial disposal authority, pursuant to Title 16 Texas Administrative Code §3.9, for its Rinehart SWD Lease, Well No. 1 (API No. 42-177-32344), Peach Creek (Austin Chalk) Field located in the A. Winters Survey, A-471, Gonzales County, Texas.

On December 09, 2011, notice of the subject application was published in The Gonzales Inquirer, a newspaper of general circulation in Gonzales County. Notice of the application was mailed to the Gonzales County Clerk and to the surface owners of each tract which adjoins the disposal well tract on December 16, 2011. JM owns the surface of the tract comprising the subject well’s proposed location. There were no operators identified within a half-mile radius of the subject well’s proposed location.

The application was protested by adjacent surface owners, the Gonzales County Underground Water Conservation District, and the city of Gonzales, Texas.

At the hearing, counsel on behalf of JM objected to Mr. Chris Espinosa’s appearance as a protestant to the subject application. JM’s counsel alleged Mr. Espinosa failed to submit a Notice of Intent to Appear to the subject hearing, which Mr. Espinosa acknowledged. Accordingly, Mr. Espinosa was not granted party status as a protestant; however, Mr. Espinosa was granted the opportunity to make a statement regarding his reason for protesting the subject application.

The examiners take Official Notice of the Commission’s records relating the location and completion data for the Browning Oil Co.’s Rachel Lease, Well No. 3 (API No. 42-177-31575).
DISCUSSION OF THE EVIDENCE

Applicant’s Evidence

In the subject application, JM seeks a commercial disposal permit to inject salt water and RCRA\(^1\) Exempt oil and gas wastes in its Rinehart SWD Lease, Well No. 1 (API No. 42-177-32344). JM testified that the Rinehart SWD Lease, Well No. 1, has yet to be drilled. JM testified it seeks to drill the subject well on a five-acre tract that abuts Farm-to-Market Highway No. 304. JM testified the subject well’s proposed location is placed approximately four miles northeast of downtown Gonzales, Texas (Tr., P. 22, L. 4-7).

JM proposes to drill the subject well to a maximum depth of 5,000 feet. JM testified the subject well will be completed with 2,200 feet of 10-3/4" surface casing, with cement circulated from the surface casing shoe to the ground surface. JM testified it will set 7-5/8" ("long-string") casing from 5,000 feet back to surface, with cement circulated from the long-string casing shoe to approximately 2,000 feet. JM testified disposal will be through 4 1/4" tubing set on a packer one-hundred feet above the top of the proposed disposal interval (See attached JM Exhibit No. 1 - Form W-14).

JM seeks to dispose solely into the Wilcox formation from 3,300 feet to 5,000 feet. Initially, JM’s proposed injection interval was from 2,950 feet to 5,000 feet, as seen on the log for the Humble Expl., Rachel Lease, Well No. 1 (API No. 42-177-31123) ("Rachel No. 1") (Tr., P.26, L. 3-4). JM testified it seeks a maximum daily injection volume ("MDIV") of 20,000 barrels of fluid per day, and a maximum surface injection pressure ("MSIP") of 1,450 pounds per square inch ("psi").

JM submitted quarter-mile and half-mile areas of review ("AOR") that surround the proposed disposal well location. No wells were identified within the quarter-mile AOR (Tr., P. 26, L. 11-12). JM testified there are three plugged wells located within the half-mile AOR. JM testified that the three plugged wells within the half-mile AOR are plugged in accordance with the Commission’s rules, and that they will not act as conduits for the pollution of groundwater (Tr., P. 27, L. 19-22).

The nearest producing wellbore, with respect to the subject well, is the Browning Oil Co.’s Rachel Lease, Well No. 3 (API No. 42-177-31575) ("the Browning No. 3). The Browning No. 3 is situated approximately 300 feet beyond the half-mile AOR to the south of the proposed well.

JM submitted a five-well, structural cross-section ("the cross-section") that meanders north to south and traverses west to east. JM testified the nearest well on the cross-section, with reference to the subject well’s proposed location, is the plugged and abandoned Rachel No. 1. JM testified the Rachel No. 1 is approximately 1,760 feet south of the subject well location (Tr., P. 38, L. 13-18).

\(^1\)RCRA - Resource Conservation and Recovery Act. Examples of RCRA exempt oil and gas waste includes produced water, drilling fluids, frac flowback fluids, rigwash, and workover wastes.
With respect to the Rachel No. 1 well log, JM testified that although it seeks an injection interval from 2,950 feet to 5,000 feet, the subject application targets the sand intervals from 3,750 feet to 4,150 feet. JM testified it observed a shale interval from approximately 2,400 feet to 2,580 feet (Tr., P. 35, L. 13-25).

JM testified it believes that its proposed injection interval may encounter a stratigraphic difference in subsurface elevation by approximately 50 feet to 100 feet between the subject well and the Rachel No. 1 (Tr., P. 165, L. 22-25). Subsequently, JM testified it would not consider it adverse to lower the top of the injection interval to approximately 3,300 feet, as seen in the Rachel No. 1 well (Tr., P. 39, L. 5-7 & P. 166, L. 4-8).

JM submitted a water well location map based on data from the Texas Water Development Board's water well database to indicate the locations of seven water wells with respect to the subject well. Approximately three-quarters of a mile east to southeast is the City of Gonzales's public supply water well ("Hwy 97 well"). JM testified that the Hwy 97 well is completed in the Carrizo-Wilcox Aquifer at a total depth of 1,840 feet below ground surface (Tr., P. 40, L. 14-21). Next, a private water well owned by George Schumberg, located approximately one mile east to northeast is completed in the Carrizo-Wilcox Aquifer at a total depth of 1,685 feet. Also, a private water well owned by Donald Brzowszki, located approximately 1.6 miles south, is completed in the Carrizo-Wilcox Aquifer. No total depth was provided for Mr. Brzowszki's well. The remaining four water wells are completed in the Sparta Aquifer at approximately 500 feet below ground surface.

The Commission’s Groundwater Advisory Unit ("GAU"), formerly the Texas Commission on Environmental Quality ("TCEQ"), concluded that the base of usable quality water ("BUQW") occurs at 2,000 feet below ground surface at the subject well’s proposed location. Moreover, the letter indicates that the water encountered from the land surface to 750 feet, and the fresh water contained in the Carrizo formation from a depth of 1,300 feet to 1,600 feet must be isolated from water in underlying and overlying strata. Additionally, the base of the usable source of drinking water ("USDW") occurs at 2,200 feet (Tr., P. 25, L. 12-21).

JM testified that in the context of the subject application, the Commission protects groundwater to the BUQW. Further, JM testified that in general the Commission (Groundwater Advisory Unit) identifies the BUQW at the particular depth correlative to 3,000 parts per million ("ppm") total dissolved solids ("TDS"). Beyond that, the Commission determines that the base of the USDW occurs at a particular depth correlative to 10,000 ppm TDS. JM testified that the purpose of the Commission listing the USDW is so that an injection permit will not be granted for the injection of fluids between the BUQW and the USDW (Tr., P. 28, L. 5-24).

JM submitted a copy of a groundwater evaluation performed by LBG-Guyton Associates2 for the San Antonio Water System ("SAWS evaluation"). JM testified that the report indicates that the TDS can be determined by correlating the resistivity value from a geophysical well log in the following sequence:

<table>
<thead>
<tr>
<th>Resistivity (ohm-meter)</th>
<th>TDS (milligrams per liter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>&lt;1,000 - fresh water</td>
</tr>
<tr>
<td>10-20</td>
<td>1,000-3,000 - slightly brackish</td>
</tr>
<tr>
<td>6-10</td>
<td>3,000-10,000 - strongly brackish</td>
</tr>
<tr>
<td>&lt;6</td>
<td>&gt;10,000 - saline</td>
</tr>
</tbody>
</table>

JM testified it believes the log$^2$ it submitted for the Rachel No. 1 well indicates resistivity curve responses ranging from two to three ohms within the sand intervals it seeks to permit for disposal at the Rachel No. 1's location. JM testified that two to three ohms corresponds with the SAWS evaluation’s correlation to TDS beyond 10,000 ppm (Tr., P. 48, L. 20-25).

JM testified there is one active, commercial disposal well$^4$ within the 15 mile radius surrounding the subject well’s proposed location (Tr., P78, L. 11-15). Beyond that, one active, commercial disposal well is located approximately 18 miles south of the subject well, the Coastal Plains Disposal #1, LLC, Gonzales SWD Lease, Well No. 1 (API No. 42-177-32342).

Additionally, JM submitted a well tabulation of permitted, commercial disposal wells in Gonzales County. Thirteen additional commercial, disposal wells are permitted to operate in Gonzales County.

JM testified it currently operates solely as a waste hauler within the Commission’s jurisdiction. JM testified it has an approved Form P-5 (Organization Report), and has posted $25,000 financial assurance.

**Protestants’ Evidence**

**Gonzales County Underground Water Conservation District**

The Gonzales County Underground Water Conservation District ("GCUWCD") testified it protested the subject application due to the absence of an adequate impervious shale layer between the injection zone and the base of usable quality groundwater (Tr., P. 133, L. 19-23). Also, GCUWCD indicated it is concerned about permitted disposal of oil field wastes into subsurface waters that range from 1,000 to 10,000 parts per million, which is the USDW (Tr., P. 13, L. 1-2).

In support of its position, GCUWCD submitted a copy of an example salt-water disposal well log$^3$ ("the example log") that it obtained from the Commission (Tr., P. 136, L. 16-21). GCUWCD testified the Commission utilizes the example log to define a safe injection interval (Tr., P. 136, L. 21-25). GCUWCD testified that the example log also includes the following requirements:

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$^3$ See JM Exhibit No. 7

$^4$ The Bellows, Dewey Oper. Co., Ltd., Fehner, Odis Lease, Well No. 1R (API No. 42-177-31559)

$^5$ Protestants’ Exhibit No. 1 - Salt-Water Disposal Example Well Log from the Commission’s Groundwater Advisory Unit.
“At least 250 feet of impervious strata (shale/clay) with 100 feet of contiguous impervious strata is needed to ensure adequate protection from disposed fluids from migrating upward and affecting protected groundwater.”

In response to JM’s initially proposed injection interval, GCUWCD testified there is an absence of the 100 feet of continuous shale (Tr., P. 137, L. 9-11). GCUWCD testified that, with respect to the stratigraphic cross-section submitted by JM, individual sand layers above the top of the initially proposed injection interval range from approximately sixty to ninety-five feet in thickness and are continuous through the cross-sectional area (Tr., P. 139, L. 13-18).

Second, GCUWCD testified that it protested the subject application due to JM not conducting a study of possible faulting in the area encompassing the subject well’s proposed location. GCUWCD testified that faulting can be a pathway to upward migration of fluids injected in an injection interval (Tr., P. 140, L. 2-18).

Finally, GCUWCD testified it believes that disposal of waste by injection should be conducted in injection/disposal wells that are situated as reasonably close to the location of the waste production.

City of Gonzales

Mr. Barnes testified that the City of Gonzales’s (“the city”) primary concern is the traffic safety of its citizens. Mr. Barnes testified that the city believes the location of the well is ill advised and that the city is making an effort to reduce the number of waste hauler trucks coming through the city every day. Mr. Barnes testified the approval of the well will increase truck traffic and that each trip may present a potential traffic accident.

Vicki King

Ms. King is an adjacent landowner whose tract abuts the subject well’s tract at the northern boundary. Ms. King testified she is opposed to the subject application for multiple reasons. Ms. King testified she believes the subject well is proposed to be placed no more than 100 yards from her home (Tr., P. 17, L. 19-22). Ms. King testified she is concerned with possible spills, odors, and the overall safety of her family and her neighbors (Tr., P. 18, L. 5-7).

EXAMINERS’ OPINION

Based on the testimony and physical evidence submitted at the hearing, the examiners recommend that the application for the proposed subject well be denied. Primarily, the examiners believe that the applicant has failed to meet its burden of proof in establishing that fluids disposed in the proposed injection interval will be confined to the injection interval. Also, the examiners believe that JM failed to meet its burden of proof in establishing that fluids disposed in the proposed

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6 JM’s Exhibit No. 10
injection interval will not pollute subsurface waters required to be protected in the area surrounding the proposed well.

First, the examiners note that 16 Texas Administrative Code ("TAC") §3.9 ("Rule 9") governs the permitting, use, and maintenance of a disposal well under the jurisdiction of the Railroad Commission. Rule 9(1) provides oil and gas operators the following requirement:

"Every applicant who proposes to dispose of saltwater or other oil and gas waste into a formation not productive of oil, gas, or geothermal resources must obtain a permit from the Commission authorizing the disposal in accordance with this section"

The applicant has the burden of proof in demonstrating that its proposed injection interval will confine fluids solely to the injection interval it seeks to be permitted for oil and gas waste disposal. The examiners believe that the proposed injection interval's lack of confinement in the Browning Oil Co.'s Rachel Lease, Well No. 3 (API No. 42-177-31575) ("the Browning No. 3") well may act as a conduit for pollution of groundwater in the area near the subject well. This area includes the City of Gonzales's public water supply well. JM failed to meet its burden of proof that either of its proposed injection intervals would confine disposal fluids to the injection interval.

JM's half-mile AOR indicates that the nearest producing well to the subject well is the Browning No. 3. The Browning No. 3 is situated approximately 300 feet beyond the half-mile AOR to the south of the subject well. Commission records reflect that the Browning No. 3 has surface casing set at 2,094 feet with cement circulated to surface, and long-string set at 7,409 feet with a top of cement behind the long-string at 6,800 feet. That is, the Browning No. 3 well has approximately 4,705 feet of uncemented long-string casing, which provides a conduit for disposal fluids to escape both of JM's proposed injection intervals. Although the Browning No. 3 is outside the half-mile AOR, JM did not prove that fluids disposed in the subject well would not migrate beyond the half-mile AOR.

The Notice of Hearing for the subject application indicates that JM seeks an injection interval from 2,950 feet to 5,000 feet at the subject well's proposed location, based on the log of the Humble Exploration, Rachel Lease, Well No. 1 (API No. 42-177-31123) ("the Rachel No. 1"). JM testified it chose the top of this injection interval to mitigate the unknown subsurface depth of the sands it believes will be the primary recipient of disposal fluids (Tr., P. 38, L. 1-5). No evidence was submitted to indicate the porosity or permeability of the sand intervals within JM's proposed injection interval. Without this data, it is not possible to calculate the speed and extent of the migration of fluids from the subject well.

With respect to the injection interval from 2,950 feet to 5,000 feet, JM testified it believes there is over 100 feet of shale extending from 2,400 feet to 2,570 feet ("the upper shale interval"), as seen in the Rachel No. 1 well log. However, the examiners can not conclude that the upper shale interval will prevent migration of fluids out of the injection interval. The upper shale interval occurs
approximately 320 feet above the top of the proposed injection interval at 2,950 feet, and the interval immediately above the injection interval is not a continuous shale but instead includes multiple horizons comprised of interbedded sands between the 2,570 feet to 2,950 feet.

At the hearing, JM proposed to amend the top of its proposed injection interval from 2,950 feet to 3,300 feet, as seen in the Rachel No. 1 well. However, JM merely stated it would not consider it adverse to its application if the Commission were to grant this request (Tr., P. 39, L. 5-7). When asked whether the amended injection interval would prevent migration of fluids out of the proposed injection interval, JM testified there are low permeability shales and occasional interbedded sands that partly form a non-transmissive strata (Tr., P. 173, L. 7-11). This answer is equivocal and does not address the requirement of confinement of disposal fluids solely to the injection interval.

The groundwater letter JM obtained from the GAU for the subject well determined that the base of usable quality water occurs at 2,000 feet at the proposed well location, while the USDW occurs at 2,200 feet. However, the examiners note that additional information is provided by the SAWS evaluation\(^7\) and JM's cross-section\(^8\) data for the Dorchester Exploration, Davilla Unit, Well No. 1 (API No. 42-177-30883) ("the Davilla well"). JM's cross section indicates its proposed injection interval in the subject well occurs in the Davilla well from roughly 2,950 feet to 5,000 feet. The SAWS report concludes that the base to the depth of the lower Wilcox is at 4,040 feet. Moreover, the SAWS report concludes that the Davilla well contains 360 feet of sands that contain 10,000 to 3,000 ppm salinity, and 20 feet of sands that contain 3,000 to 1,000 ppm salinity in the lower Wilcox. That is, JM's own evidence indicates that the same injection interval it seeks to permit for disposal, when observed in the Davilla well, contains usable-quality water and USDW because the Davilla well log exhibits resistivity curve responses correlative to 10,000 to 1,000 ppm total dissolved solids. JM failed to demonstrate that water disposed at the subject well will not adversely affect water protected in the Davilla well. JM failed to meet its burden of proof in establishing that fluids disposed in the subject well would not pollute subsurface waters indicated to include BUQW and USDW in the Davilla well.

In response to Ms. King's protest, with respect to the distance of the proposed well location to her property line, the examiners find that Commission rules do not prevent or require a disposal well to be a minimum distance from any property or lease line in order to receive a permit for disposal by injection. However, the examiners note that with respect to the migration of disposal fluids across property boundaries, The Texas Supreme Court has indicated that a disposal permit from the State does not necessarily relieve the holder of the permit from potential liability to an

\(^7\) JM Exhibit No. 13 - See Table 1, Pg. 4, Row 17, Columns 1, 11, 15, and 16.

\(^8\) JM Exhibit No. 10 - the eastern most well of JM's cross-section.
adjacent owner. The proposed location for the subject well is 268 feet from the property line between the disposal tract and Ms. Vicki King’s property.

In response to Mr. Barnes’s protest, the examiners note that traffic concerns are properly addressed by the Texas Department of Public Safety and the Commissioner’s Court of the county affected. The Texas Supreme Court has confirmed that consideration of traffic safety related to waste hauler trucks that may potentially be associated with the subject well is not written in the “public interest” inquiry over which the Railroad Commission has jurisdiction.

In summary, the examiners believe that JM failed to meet its burden of proof to demonstrate that either of its proposed injection intervals would properly confine fluids solely to the injection interval. Additionally, evidence submitted at the hearing shows potential pollution of BUQW and USDW intervals between the subject well and the Davilla well. Accordingly, the examiners recommend that the subject application be denied.

**FINDINGS OF FACT**

1. Notice of this application and hearing was provided to all persons entitled to notice. Notice of the subject application was published in *The Gonzales Inquirer*, a newspaper of general circulation in Gonzales County, on December 09, 2011.

2. Notice of this application was sent to the Gonzales County Clerk and to the surface owners of each tract which adjoins the disposal tract on December 16, 2011.

3. JM Oilfield Services, Inc. ("JM") requests disposal authority pursuant to 16 TAC §3.9 to commercially dispose of waste in the proposed Rinart (“Rinehart”) SWD Lease, Well No. 1 (API No. 42-177-32344), Peach Creek (Austin Chalk) Field, La Salle County, Texas.

4. JM seeks to permit the correlative interval from 3,300 feet to 5,000 feet, as seen on the log for the Humble Exploration, Rachel Lease, Well No. 1 ("Rachel No. 1") (API No. 42-177-31123), as the injection interval for the Rinehart.

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10 See JM Exhibit No. 3

5. The City of Gonzales' public water supply well ("Hwy 97 well") is approximately 3/4 mile to the east, southeast of the Rinehart, and is completed in the Carrizo-Wilcox aquifer at 1,840 feet.

6. A private water well, owned by George Schomburg, located approximately one mile east to northeast of the Rinehart is completed in the Carrizo-Wilcox Aquifer at a total depth of 1,685 feet.

7. A private water well, owned by Donald Brzowszki, located approximately 1.6 miles south, is completed in the Carrizo-Wilcox Aquifer.

8. The Rachel No. 1 is located approximately 1,760 feet south of the Rinehart,

9. JM failed to demonstrate that fluids injected in the correlative interval from 3,300 feet to 5,000 feet will be confined to the injection interval in the area surrounding the Rinehart.
   a. The Browning Oil Co., Rachel Lease, Well No. 3 ("the Browning No.3") (API No. 42-177-31575) is located approximately 3,000 feet south of the Rinehart.
   b. The Browning No. 3 is currently producing from the Peach Creek (Austin Chalk) Field through perforation from 7,065 feet to 7,175 feet.
   c. The Browning No. 3 well is drilled to a total depth of 7,412 feet.
   d. The Browning No. 3 is completed with 9-5/8" surface casing to 2,094 feet with cement circulated to surface, and 5-1/2" long-string casing to 7,409 feet with top of cement at 6,800 feet.
   e. JM did not prove that fluids disposed in the Rinehart would not migrate beyond the half-mile area of review.
   f. The Browning No.3 is a potential conduit for fluids injected in the Rinehart to pollute sub-surface waters that are required to be protected.

10. The injection interval from 3,300 feet to 5,000 feet, as observed in the Rachel No. 1 well, occurs in the Dorchester Exploration, Davilla Unit, Well No. 1 (API No. 42-177-30883) ("the Davilla well").
   a. The Davilla well is placed approximately 6,300 feet from the Rinehart well.
   b. JM’s proposed injection interval, as observed in the Davilla well, contains water that is required to be protected according to Commission rules.
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. JM Oilfield Services, Inc. has not complied with the requirements for approval set forth in 16 Texas Administrative Code §3.9.

EXAMINERS’ RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiners recommend that the application of JM Oilfield Services, Inc. for commercial disposal authority in its Rinehart SWD Lease, Well No. 1 (API No. 42-177-32344), be denied, as set out in the attached Final Order.

Respectfully submitted,

Brian Fancher, P.G.                         Marshall F. Enquist
Technical Examiner                         Legal Examiner
APPLICATION TO DISPOSE OF OIL AND GAS WASTE BY INJECTION INTO A FORMATION NOT PRODUCTIVE OF OIL AND GAS

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form W-14

3. Operator Address: 2710 Haystack Lane Enid, OK 73703

4. County: Gonzales
5. RRC District No.: 01

6. Field Name: Peach Creek (Austin Chalk)
7. Field Number: 69682-500

8. Lease Name: Rinehart SWD
9. Lease/Gas ID No.: 

10. Well is 4.1 miles in a North direction from Gonzales (center of nearest town).
11. No. acres in lease 5

12. Legal description of location including distance and direction from survey line: 2662' FSL & 1321' FWL of A Winters Survey, A-471

13. Latitude/Longitude, if known (Optional)
   Lat.: 29.5631488
   Long.: -97.4190705 (NAD27)

14. New Permit: Yes ☒ No ☐ If no, amendation of Permit No. ______ UIC# ______
15. Reason for amendment: Pressure ☐ Volume ☐ Interval ☐ Commercial ☐ Other (explain) ☐

16. Well No.: 1
17. API No.: 42-177-32344
18. Date Drilled: 
19. Total Depth: 5000'
20. Plug Date, if re-entry: 

21. Surface
22. Intermedeiate
23. Long String
24. Liner
25. Other

26. Depth to base of Deepest Freshwater Zone: 2000'

27. Multiple completion? Yes ☐ No ☒

28. Multistage cement? Yes ☐ No ☒ If yes, DV Tool Depth: ____ ft. No. Sacks: ____ Top of Cement:

29. Bridge Plug Depth: ____ ft.
30. Injection Tubing Size: 4-1/2" in. and Depth 2850 ft.
31. Packer Depth: 2850 ft.
32. Cement Squeeze Operations (List all giving interval and number of sacks of cement and cement top and whether Proposed or Completed): 

33. Injection Interval from 2950 to 5000 ft.

34. Name of Disposal Formation: Wilcox

35. Any Oil and Gas Productive Zone within two miles? Yes ☒ No ☐ Austin Chalk: 6900', Buda: 7200'

36. Maximum Daily Injection Volume: 20,000 bpd
37. Estimated Average Daily Injection Volume: 7,000 bpd

38. Maximum Surface Injection Pressure: 1450 psig
39. Estimated Average Surface Injection Pressure: 500 psig

40. Source of Fluids (Combination, depths and types):

41. Are fluids from leases other than lease identified in Item 8? Yes ☒ No ☐ 42. Commercial Disposal Well? Yes ☒ No ☐

43. If commercial disposal, will non-hazardous oil and gas waste other than produced water be disposed of? Yes ☐ No ☒

44. Type(s) of Injection Fluid: Salt Water ☒ Brackish Water ☐ Fresh Water ☐ CO2 ☐ NH3 ☐ Air ☐ H2S ☐

LPG ☐ NORM ☐ Natural Gas ☐ Polymer ☐ Other (Explain): RCRA Exempt Oil and Gas Wastes

CERTIFICATE
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resource Conservation Code, that this report, that this section, and the rest of this page, is true, correct, and complete. I certify that the information contained herein is true, correct, and complete.

Signature: Rick Johnson (rickjohnson@swbell.net)
Date: 10-7-11

Exhibit No. O & G Docket No. 01-0275326
Date: May 8, 2012
J M Oilfield Services, Inc.