Maverick Brothers Energy LLC

City of Clinton
Oklahoma Class V Disposal Well Permit

Prepared for

BURNS & MCDONNELL

November 2015
014466
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**FIGURE 1.** TRACT LOCATION MAP
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November 19, 2015

Ms. Hillary Young, P.E.
Chief Engineer
Land Protection Division
Oklahoma Department of Environmental Quality

RE: City of Clinton, Oklahoma Class V Disposal Well Permit

Dear Ms. Young:

The City of Clinton, Oklahoma has contracted with the engineering firm of Burns and McDonnell Engineering Company, Inc. (BMCD) to design a new water treatment plant utilizing the reverse osmosis process. ENVIROTECH ENGINEERING AND CONSULTING, INC. (ENVIROTECH) has been retained by BMCD to assist with the design, permitting and construction of a Class V Injection well. ENVIROTECH has further enlisted the help of an oil and gas operating company that specializes in saltwater disposal wells, Maverick Brothers Operating, Inc (Maverick Bros). In addition, Maverick Bros. expertise in saltwater disposal well site criteria and geology has been helpful in site selection.

It is understood that this well will be permitted by the Oklahoma Department of Environmental Quality as a Class V Injection well under Tier III permitting rules. It has also been agreed that the Oklahoma Corporation Commission (OCC) rules and regulations as per 165:10-5-5 Application for approval of enhanced recovery injection and disposal operations will be utilized for permitting. Each of the required items in the OCC regulations shall be covered in this submittal.

The plant design mentioned above, will generate a waste stream of heavy brine. The BMCD plan includes disposal of this waste in a Class V disposal well. The BMCD plant design will generate a waste stream volume in the range of 15,000 – 20,000 bbls per day (bbl = 42gals. Note this is an oilfield unit of volume). ENVIROTECH and Maverick Brothers therefore, have designed the saltwater disposal system (well and surface facility) for this volume.

The proposed location of the disposal well is a 35 acre tract described as the SE/4 SE/4 SW/4 of Section 16-T12N-R17W Custer County, Oklahoma and is owned by the City of Clinton. This tract will also be utilized for the new water treatment plant mentioned above. Both the 35 acre tract, the plant site (green rectangle) and the proposed injection well (red circle) are shown on Figure 1. The 35 acre tract is bordered by agricultural ground however residential and commercial structures are found in the quarter section to the east.

In selecting the site for the disposal well there are two (2) primary criteria considered. First, was the ability for the target geologic horizon to accept the designed volume of water/waste.
Secondly, was the potential impact to existing oil wells in the area. Each of these items will be discussed in detail.

**Geologic Report**

Attached in *Appendix A* is a report prepared by Maverick Bros. geologist Doug Pethoud. Upon review of the report, one may deduce that there are suitable geologic sections found in the Custer County area, in both the Permian and Pennsylvanian strata, that are suitable for this type of disposal. Further review will reveal that there are existing injection wells in the areas capable of disposing the design volume.

**Site Evaluation**

Attached *Figure 2* (Injection Well Site Map) provides a look at all of the existing wells located in all adjoining sections. A ½ mile radius red circle has been scribed around the proposed injection well site. This is commonly known as a radius of endangerment (ROE) and defines an area within which an existing well might be impacted if a saltwater disposal were drilled and operated. A review of *Figure 2* will reveal that the proposed injection well location will impact both the Enervest Operating Joe Smith #1 and Heard #3-16 wells. Currently the City of Clinton is working with Enervest Operating to obtain an agreement to allow the drilling and operations of the proposed injection well.

**Oklahoma Corporation Commission Rules required items:**

**Application** – UIC Department Form 1015 – see *Appendix B* – OCC Forms

**Pfet** – Commercial Disposal Well – Plat showing all the location and total depth of each active or abandoned well or dry hole within one-half (1/2) mile of the disposal well. Name of the Landowner of tract containing the disposal well site. Operator of each producing well located within one (1) mile of the producing well. (See *Figure 2*).

**Completion Report** – Provide a Completion Report (Form 1002A) and available electric or radioactivity logs for the well if the well has been drilled. **Note:** This well has not yet been drilled.

**Schematic Diagram** – See attached *Figure 3*.

**Proposed Zone Information** –

a. Maximum Injection Rate: 20,000 bpd
b. Maximum surface injection pressure: 4,060 psig (pounds per square inch-gage).
c. Injection fluid – brine waste from City of Clinton RO water treatment system.
d. Lithology and rock characteristics of the injection zones and overlying strata: see Geologic Cross Sections (*Appendix C*)
Proposed Operating Data:

a. Daily Injection rates and pressures: 12,000 bpd at 2,500 psi
b. Geologic name, depth and location of injection fluid source: RO waste from the City of Clinton Water Treatment Facility
c. Water samples from two (2) or more water wells within 1 mile of the proposed well: See attached Figure 4 - Water Well Sampling Map and analysis (Appendix D)
d. Injection fluid analysis: (Appendix E)

Application for Approval

Copies of the Application for Approval shall be sent to the following:

a. Surface owner of land where well is to be located
b. Surface owners and surface lease of record on each tract adjacent and contiguous to the proposed site.
c. For a disposal well with a requested rate of five thousand (5,000) barrels per day or more, or a commercial well, to each operators of a producing spacing unit or well with 1 mile of the lateral of such a proposed well (See Operator List – Appendix F)

Notice of Application

The notice of application shall be performed pursuant to the ODEQ Tier III rules.

Surety requirements for commercial disposal well facilities

To be determined by ODEQ.

Surface Facility

As mentioned previously the water treatment plant is planned to be located in the SW/4 of Section 16-T12N-R17W, generally west of the injection well site. Waste will be pumped from the treatment plant via a buried 6” SDR 11 HDPE transfer line (See Figure 5). This line will connect to a header located within the tank storage system (tank battery). Water will either proceed directly to an injection pump for disposal or may be stored in one of the storage tanks for future disposal.

A horizontal injection pumps will be installed as shown on Figure 6 - Surface Facility Detail. These pumps will be plumbed and designed to act as a redundant system.

The tank storage system will consist of two (2) thousand (1,000) barrel storage tanks with a total storage capacity of 2,000 bbls (84,000 gals). The tanks will be plumbed to act as one unit or system.
The tank storage system will be constructed totally within a concrete secondary containment system. This containment system will be designed to meet the volume requirements of the Spill Prevention Control and Countermeasures regulations.

There will be control systems on the tanks for level sensing and automatic/emergency shut-down.

Detail plans and specification for the tank storage system will be supplied at a later time.

If you have any questions, please feel free to contact me at your convenience.

Sincerely yours,

EnviroTech Engineering and Consulting Inc.

Rob Stallings, PE
Principal Engineer
CITY OF CLINTON SWD
Sec 21-12N-17W
TBD FSL & TBD FWL of NE/4
Custer County, OK

GL : 1,600'
KB : TBD
Spud : TBD

BTWD = 620'

13 3/8" J-55 Surface Casing
Set @ 750' w/ 550 Sx
Circ to Surf
17 1/2" Hole

9 5/8" 40# Special Drift N-80
Intermediate Casing
Set @ 4,000' w/ 600 Sx
12 1/4" Hole

Estimated TOC – 7,600'

4 1/4" Tubing
Pkr set @ 8,100'

DV Tool TBD

Estimated Perforation Interval
From 8,120'-9,480'
- Waubee Sh: 8100'
- Endicott Sh: 8120'
- Douglass Sh: 8300'
- Tonkawa Sh: 8650'
- Avent Lm: 9500'

Plugback : 9,560'
Drillers TD : 9,600'

7" Production Casing
Set @ 9,600'
(350 Sx Total - both Stages)
8 3/4" Hole
Appendix A

Geologic Report
Purpose

Maverick Brothers Operating has been contracted by Envirotech Engineering and Consulting, Inc. to examine the feasibility of drilling and completing one or more disposal wells within or near the city of Clinton, Oklahoma, with a total injection capacity of up to 12,000 barrels of water per day.

Results

An examination of existing disposal wells in Custer and Washita Counties, indicates that there are geologic strata in Pennsylvanian-age marine and fluvo-deltaic sands and Permian-age carbonates capable of receiving injected fluids. While no existing disposal well has fully demonstrated the capability of injecting the target volumes for a sustained period, neither have they tested the upper limits of their permitted injection pressures. The maximum monthly injection volumes demonstrated by any disposal well in the study set is 219,000 barrels per month (7300 bpd average), in Permian strata, with a reported injection pressure of 0 psi at depths of 4100-5030 feet. The second best well reported 195,005 barrels per month (6500 bpd), in Pennsylvanian strata with a reported injection pressure of 1800 psi (47% of permitted pressure) at depths of 7910-9030 ft. Either of these zones individually, with increased injection pressure, may meet the required injection capacity, and it is very likely that the required injectivity can be met by injecting into both Pennsylvanian and Permian strata simultaneously. The attached map and table shows the characteristics and results of all identified disposal wells in Custer and Washita Counties.

Also at issue, is the ability to locate a disposal well at least one mile from wells that are actively producing oil or gas. The attached aerial photograph identifies a one-mile radius around each active producer and demonstrates that there are locations available within and near the city of Clinton that would meet or exceed this criteria.
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<th>Rate (b/d)</th>
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Appendix B

OCC Forms
OKLAHOMA CORPORATION COMMISSION
Oil & Gas Conservation Division, UIC Department
Post Office Box 52000
Oklahoma City, Oklahoma 73152-2000

Application For Administrative Approval
OAC 165:10-5-5

Does well have an existing order? Y N

Previous Order No(s). 

Applicant
City of Clinton, OK

Address
P.O. Box 1177
City Clinton, OK 73601-1177

Well Name/No. City of Clinton SWD #1

Well Location
SHL 1/4, SE 1/4, SE 1/4, SW 1/4,
BHL 1/4, 1/4, 1/4, 1/4,

Section 16 Township 12N Range 17W

Latitude 35.509818 Longitude 99.003815

County Custer

Application No. 

PD No. 

(If emergency order is used or application is protested)

COMMERCIAL DISPOSAL WELL
ENHANCED RECOVERY INJECTION WELL
DISPOSAL WELL
LPG

WELL TO BE:

PERMIT MODIFICATION REASON: 

DRILLED 
CONVERTED
DIRECTIONAL (GIVE THE BHL)
MORE THAN ONE LATERAL

Type of fluids to be disposed or injected:
Salt Water CO2 H2S Fresh Water Natural Gas

Is well within 1/2 mile of an active or reserve municipal water well? Y N

Does injection zone contain oil, gas, or fresh water within 1/2 mile? Y N

Location of source of fluids: Brine waste from City of Clinton Water Treatment Plant

Geologic name(s) and depth of source(s): n/a

Geologic name or names of formations of injection zone: B/Hebner Sh, Endicott Sd, Douglas Sd, Tonkawa Sd, Avant Lm

Perforation of injection interval: top 8120 bottom 9480

Unit Order Number

Base of treatable water x Commission map

Intervening thickness (top perforation minus base of treatable water)

Average porosity % Average permeability (Kw) 

Prefrac formation pressure or Short-in-static fluid level from surface PSI PSI

Injection rates and pressures Requested Injection Rate 20,000 BPD/MCF Requested Injection Pressure 4,060 PSI

Approved Injection Rate BPD/MCF Approved Injection Pressure

Name of string Size Setting Depth Sacks of Cement Top of Cement Determined By

SURFACE 13 3/8" 750 550 Surface Curt
INTERMEDIATE 9 5/8" 4000 600 Fill up calc
PRODUCTION 7" 9600 350 7600 Bond Log
LINER TUBING 4 1/2" 8100

PACKER TYPE ASX-1 PACKER DEPTH 8100 TOTAL DEPTH 9600 PLUG BACK TOTAL DEP 9560

I declare that I have knowledge of the contents of this report and am authorized by my organization to make this report, which was prepared by me or under my supervision and direction with the data and facts stated herein to be true, correct and complete to the best of my knowledge and belief.

Signature 

Date

Name & Title (Typed or Printed) 

Phone A/C Number: 
1. Attach $100.00 filing fee for injection and noncommercial disposal; or $1,000.00 for commercial disposal well application.

2. Notice that an application has been filed shall be published by the applicant in a newspaper of general circulation in the county in which the well is located and in a newspaper of general circulation published in Oklahoma City, Oklahoma. The applicant shall file proof of publication before the application is approved. The notice shall include the application number, depth of injection interval zone, injection pressure, and volume. If no written objection is received within 15 days (30 days for commercial) from the date of publication, the application may be approved administratively.

3. In addition to filing Form 1015, an affidavit of mailing or delivery with names and addresses of those notified shall be filed not later than five days after the application is filed.

4. The well must be in the applicant's name and the applicant must have appropriate surety before the application may be approved.

5. Attach signed analysis of fresh water from two or more producing wells within a one mile radius of the injection well or a notarized statement as to why samples were not submitted. The analysis must include at least Na+, Cl- and TDS.

6. Attach signed analysis of representative sample of water to be injected. The analysis must include at least Na+, Cl- and TDS, and must have the exact legal location where the sample was taken.

7. Attach plat showing subject well and total depths of all known oil and gas wells, abandoned, drilling and dry holes within 1/4 radius mile for noncommercial wells and within a 1/2 mile radius for commercial wells.

8. Attach Completion Report Form 1002A. If well is not in applicant's name, attach a 1073i or 1073 as needed.

9. Attach electric or radioactivity log of the subject well.

10. Attach schematic drawing of subsurface facilities including: casing size, setting depth, amount of cement used, measured or calculated, tops of cement, intermediate (if any) and production casings; size and setting depth of tubing; type and setting depth of packer; geologic name of injection zone, showing top and bottom of injection interval.

11. The original application and one complete set of attachments shall be mailed to the Corporation Commission's Underground Injection Control Department.

12. Delivery of application to surface owner(s) and offset operators. New rules for commercial and a non-commercial well exceeding 5000 BBLS a day, refer to OAC 165:10-5-5(c). Non-commercial Under 5000 BBLS deliver to offset-operators within 1/2 mile.

13. A well shall not be used for injection or disposal unless annual fluid injection report Form 1012A is filed by April 1st each year.

14. A well must have an API Number.

15. Permit Modification: The application shall state the reason for the modification. If the only modification is tubing and/or packer, then only the information in OAC 165:5-7-30(c) shall be required.

The names and addresses of those to whom copies of this application and attachments have been sent.
March 16, 2015

DRAFT – INITIAL REVIEW

Oklahoma Corporation Commission
Oil and Gas Conservation Division
Jim Thorpe Building
2101 N. Lincoln Blvd
Oklahoma City, OK 73105-4993

RE: City of Clinton SWD #1
Section 21-12N-17W.
SE NE/4
Custer County, OK

Maverick Brothers Operating respectfully requests an exemption to the 250 feet below the base of the treatable water depth limitation as specified by Rule 165:10-3-4 as requested in order that the surface casing can be set at 750' feet. This deeper setting depth will provide for a higher degrees of pressure control, help reduce sloughing of the formations found, and protect the water sands. The 750' feet of casing will be cemented with sufficient amount of cement to circulate cement from 750' feet to the surface. This cement will provide sufficient protection for the freshwater sands from any contamination. Any lost circulation problems will be handled with the use of lost circulation material that will be at the drill site. If circulation is lost, the OCC District office will be immediately notified. It is estimated that the surface hole will be drilled in 15 hours.

Research of all wells in the nine-section area surrounding the proposed location found no instances of lost circulation.

Sincerely,

[Signature]
Bret Brickman
President
APPLICATION TO DRILL, RECOMPLETE OR REENTER

OKLAHOMA CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION
JIM THORPE BUILDING
P.O. BOX 52000
OKLAHOMA CITY, OK 73152-2000

(RULE 165:10-3-1)

FILE ORIGINAL ONLY

PLEASE TYPE OR USE BLACK INK

1. API NUMBER

2. API NUMBER

3. NOTICE OF INTENT TO:
   (CHECK ONLY ONE)
   X DRILL
   RECOMPLETE
   REENTER
   DEEPEN
   AMEND - REASON

   NOTE: ATTACH COPY OF 1002.A IF RECOMPLETION OR REENTRY.

4. TYPE OF DRILLING OPERATION:
   (NOTE: If directional or horizontal, see reverse side for bottom hole location)
   X STRAIGHT HOLE
   DIRECTIONAL HOLE
   HORIZONTAL HOLE

5. WELL LOCATION:
   SECTION
   TOWNSHIP
   RANGE
   COUNTY
   Custer
   SPOT LOCATION:
   SE 1/4 | SE 1/4 | SE 1/4 | SW 1/4
   FEET FROM QUARTER | from | from
   SOUTH LINE | WEST LINE
   SECTION LINES: 460 | 2290

   7. Well will be 350° test from nearest unit or property boundary.

   8. LEASE NAME:
      City of Clinton SWD #1
      WELL NUMBER:

   9. NAME OF OPERATOR:
      City of Clinton, OK
      EMAIL ADDRESS:
      P.O. Box 1177
      PHONE (ACONUMER3)
      CITY
      CITY
      STATE
      OK
      ZIP CODE
      73601-1177

   10. SURFACE OWNER (SEE ATTACHED SHEET FOR ADDITIONAL OWNER):
      City of Clinton, OK
      ADDRESS
      P.O. Box 1177
      CITY
      STATE
      OK
      ZIP CODE
      73601-1177

   11. Is well located on lands under federal jurisdiction? ___________________________ X

   12. Will a water well be drilled? ___________________________ Y
      Will surface water be used? ___________________________ Y

   13. Date Operation to Begin:

   14. LIST TARGET FORMATIONS AND DEPTHS (LIMITED TO TEN)

   15. SPACING ORDER NUMBER(S) AND SIZE UNIT(S):
      N/A

   16. PENDING APPLICATION C.O. NO.
      N/A
      17. LOCATION EXCEPTION ORDER NO.
      N/A
      18. INCREASED DENSITY ORDER NO.
      N/A

   24. ALTERNATIVE CASING PROCEDURE, check box and fill in blank (AFFIRMATIVE REQUIRED, see reverse side, line 31.)
      A. Cement will be circulated from total depth to bottom surface on the production casing string.
      B. Cement will be circulated from depth to depth by use of a two stage cementing tool.

   25. 1. PIT INFORMATION: Using more than one pit or mud system? ___________________________ X

      A. TYPE OF MUD SYSTEM:
         WATER BASED
         OIL BASED
         GAS BASED (AIR DRILL)
      B. EXPECTED MUD CHLORIDE CONTENT: maximum: ___________________________ X
         ppm; average: ___________________________ X
      C. TYPE OF PIT SYSTEM: on-site
         off-site
         closed
         open
      D. DEPTH TO TOP OF GROUND WATER GREATER THAN 10 FT BELOW BASE OF PIT? ___________________________ Y
      E. WITHIN 1 MILE OF MUNICIPAL WATER WELL? ___________________________ X
      F. WELLHEAD PROTECTION AREA? ___________________________ Y

   26. 1. A. CATEGORY
      B. PIT LOCATION:
         Alluvial Plain
         Terrace Deposit
         Bedrock Aquifer
         Other H.S.A.
         Non-H.S.A.
      C. Special area or field rule?
      D. DEEP SCA? ___________________________ Y
      E. CBL required? ___________________________ Y
      F. SOIL COMPACTED LINER REQUIRED? ___________________________ Y
      G. 20 ft H/D Geosynthetic Liner Required? ___________________________ Y

   27. PROPOSED METHOD FOR DISPOSAL OF DRILLING FLUIDS (MUST BE COMPLETED)
      A. Evaporation/Drainage and backfilling of reserve pit.
      B. Public Landfill Location
      C. Annular Injection (REQUIRES PERMIT and surface casing set 200 feet below base of treatable water-bearing formation.)
      D. One time land application (REQUIRES PERMIT)
      E. Haul to Commercial pit facility; Specify site:
      F. Haul to Commercial soil farming facility; Specify site:
      G. Haul to recycling/reuse facility; Specify site:
      H. Other, Specify:

   I hereby certify I am authorized to submit this two page application prepared by me or under my supervision.
   The facts and proposals made herein are true, correct and complete to the best of my knowledge and belief.

   SIGNATURE
   NAME (PRINT OR TYPE)
   PHONE (ACONUMER)
   FAX (ACONUMER)
   DATE

NOTICE: Approval is void if operations have not commenced within six months of the date of approval. An approved permit must be posted at the location during drilling and completion operations.

File the Form 1001A, Spud Report, within fourteen days of commencement of operations.
NOTIFY DISTRICT OFFICE 24 HOURS PRIOR TO CEMENTING SURFACE CASING.

25.2. PIT INFORMATION:
A. TYPE OF MUD SYSTEM: WATER BASED ___ OIL BASED ___ GAS BASED (AIR DRILL) ___
B. EXPECTED MUD CHLORIDE CONTENT: maximum: __ppm; average: __ppm.

PIT #2 C. TYPE OF PIT SYSTEM: on-site ___ off-site ___ closed ___ If off-site, specify location: ________________
D. IS DEPTH TO TOP OF GROUND WATER GREATER THAN 16 FT BELOW BASE OF PIT? Y ___ N ___
E. WITHIN 1 MILE OF MUNICIPAL WATER WELL? Y ___ N ___
F. WELLHEAD PROTECTION AREA? Y ___ N ___

26.2 OCC USE ONLY
A. CATEGORY: 1A 1B 2 3 A C Fm: ________________
B. PIT LOCATION: Alluvial Plain ___ Terrace Deposit ___ Bedrock Aquifer ___ Other HSA ___ Non-HSA ___
C. Special area or field rule? Y ___ N ___ E. CFB? Y ___ N ___
D. SOIL COMPACTED LINER REQUIRED? Y ___ N ___ G. 20 mil GEOMEMBRANE LINER REQUIRED Y ___ N ___

29. Bottom Hole Location: SEC __ TWP __ RG: __ COUNTY __

30. Bottom Hole Location for Horizontal Hole (LATERALS)

31. AFFIDAVIT FOR ALTERNATIVE CASING PROGRAM
(Signature on front of this form attests to this affidavit)
1. The well will __ WILL __ WILL NOT __ penetrate any known fault zone.
2. During the drilling of this well, withdrawals from any water well within 1/4 mile __ WILL __ WILL NOT __ exceed 50 gallons per minute.
3. The projected depth of the well __ IS NOT __ is not less than 100 feet from the top of any enhanced recovery project or gas storage facility.
4. Used the following for all water wells within 1/4 mile of this well. (Information concerning some water wells may be obtained from the OKLAHOMA WATER RESOURCES BOARD, 3900 N. Classen Blvd., Oklahoma City, OK 73118. If NO WATER WELLS FOUND, SO STATE. ATTACH ADDITIONAL SHEET IF NECESSARY)

5. A cement bond log is required to be run and submitted from not less than 100 feet below the base of the permeable formation to the surface. OCC USE ONLY
6. If casing depth is more than 250 feet deeper than base of the permeable formation, operator must submit a letter of request listing reasons and precautions to be taken.

INTENT TO DRILL CHECKLIST
APPROVED ______ OCC USE ONLY
REJECTED ______ OCC USE ONLY

1. SAFETY
A. NONE filed.
B. EXPIRED: Date __________
C. OUTSTANDING CONTEMPT ORDER:

4. GEOLOGY

DO NOT WRITE INSIDE THIS BOX
Appendix C

Geologic Cross Sections
Appendix D

Water Well Sampling
### Analytical Results

<table>
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<tr>
<th>Sample ID</th>
<th>Sample Date</th>
<th>Chloride (mg/L)</th>
<th>Sodium (mg/L)</th>
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*Mg/L - Milligrams per Liter*
16 April 2015
Ms. Missy Harmon
Envirotech Engineering and Consulting
P.O. Box 6029
Enid, OK 73702

WO: E5D0150
RE: Clinton, OK

Enclosed are the results of analyses for samples received by the laboratory on 04/09/15 09:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

[Signature]

Russell Britten
President
Clinton High School  
E5D0150-01 (Aqueous) - Sampled: 04/07/15 11:45

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The results in this report apply to the samples analysed in accordance with the chain of custody document and meet all laboratory accreditation requirements unless noted otherwise. This analytical report must be reproduced in its entirety.
Acme Park South Well
ESD0150-02 (Aqueous) - Sampled: 04/07/15 12:07

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ESD0150-03 (Aqueous) - Sampled: 04/07/15 13:58

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Russell Britten, President
Wilson Sample  
ESD0150-04 (Aqueous) - Sampled: 04/07/15 14:15

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Wheeler Sample
E5D0150-05 (Aqueous) - Sampled: 04/07/15 14:30

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Conventional Chemistry Parameters by Standard Methods - Quality Control

Environmental Testing, Inc.

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Anions by EPA Method 300.0 - Quality Control

Environmental Testing, Inc.

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<th>Units</th>
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<th>Source</th>
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<th>%REC Limits</th>
<th>RPD Limit</th>
<th>RPD</th>
<th>Qualifiers</th>
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Non-Certified Analyses included in this Report

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Certifications

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<td>2013-083</td>
<td>08/31/2015</td>
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<td>T104704498-15-5</td>
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Russell Britten, President
Qualifiers and Definitions

COM  Completed
DET  Analyte DETECTED
ND   Analyte NOT DETECTED at or above the reporting limit
NR   Not Reported
dry  Sample results reported on a dry weight basis
RPD  Relative Percent Difference
\( x \) Non-Certified analyte

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<th>CONTAINER SIZE</th>
<th>CONTAINER TYPE</th>
<th>#</th>
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<th>TIME</th>
<th>PRESERVATIVES</th>
<th>CHLORIDE</th>
<th>SODIUM</th>
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RECEIVED ON ICE: [X] [ ] [ ]
EQUIPMENT #: [ ] [ ] [ ]
RUSH REQUIRED: (ADDITIONAL FEES MAY APPLY) [ ] [ ] [ ]
REGULAR (3 DAYS) [ ] [ ] [ ]
3 DAYS [ ] [ ] [ ]
2 DAYS [ ] [ ] [ ]
1 DAY [ ] [ ] [ ]
RECEIVED BY: [ ] [ ] [ ]
DATE: 4-8-15
TIME: 0330

RECEIVED BY: [ ] [ ] [ ]
DATE: 4-9-15
TIME: 0945
COMMENTS: [ ] [ ] [ ]
DATE: [ ] [ ] [ ]
TIME: [ ] [ ] [ ]
REMARKS: [ ] [ ] [ ]
LOG IN REVIEW: [ ] [ ] [ ]
SAMPLE RECEIPT FORM

Client:  Envirotech Engineering and Consulting
Project:  Clinton, OK

Report By:
Envirotech Engineering and Consulting
Ms. Missy Harmon
P.O. Box 6029
Enid, OK 73702
Phone: (580) 234-8780
Fax: (580) 237-4302

Date Due:  04/16/15 17:00 (5 day TAT)
Received By:  Andra Hoot
Logged In By:  Andra Hoot

Date Received:  04/09/15 09:45
Date Logged In:  04/09/15 10:02

Samples Received on:
2,6°C
Custody seals  No  Received on ice  Yes  Sufficient sample  Yes
Container intact  Yes  Sample unbroken/untampered  Yes
OCC/Labels agree  Yes  Headspace in VOA valid  Yes
Preservation confirmed  Yes  Correct containers  Yes

Notes:

Preservation Confirmation

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<th>Container Type</th>
<th>pH</th>
<th>Date/Time</th>
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</table>

Preservation Confirmed By

Reviewed By

Date
1. Ensure there are no other shipping or tracking labels attached to your package. Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. Fold the printed label at the solid line below. Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. GETTING YOUR SHIPMENT TO UPS
UPS locations include the UPS Store®, UPS drop boxes, UPS customer centers, authorized retail outlets and UPS drivers.
Schedule a same day or future day Pickup to have a UPS driver pickup all of your Internet Shipping packages.
Hand the package to any UPS driver in your area.
Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you.
Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the 'Find Locations' Quick link at ups.com.

Customers with a Daily Pickup
Your driver will pickup your shipment(s) as usual.

Appendix E

Injection Water Analysis
### Injection Well Application

**Injection Water Estimated Quality**

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<th>Parameter</th>
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<td>Potassium</td>
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<td>Sodium</td>
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<td>Sp Gr (est)</td>
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**Note:** Discharge waste water quality by Burns and McDonnell
Appendix F

Offset Operator List
OFFSET OPERATORS

Enervest Operating, LLC
4405 NW 4th Street, Suite 120
Oklahoma City, OK

Chesapeake Energy, Inc.
P.O. Box 18496
Oklahoma City, OK