

## **APPENDIX F – DISPOSAL WELL APPLICATIONS**

*Submission of disposal well application, Form UIC-2 COM SWD, Form UIC-2 SFI COM, or Form UIC-43; if applicable (Section 519.C.6)*

### *Disposal Well Application*

Form UIC-2 COM SWD for the Edwards SWD #1, New Well, is included in this section.

*Strike and dip geologic cross-sections at a minimum of a two mile radius (Section 519.C.6)*

Strike and dip geologic cross-sections at a minimum of a two-mile radius included in this section.



## Memorandum

Date: 3/20/2019

To: Stephen Olivier – LDNR / Office of Conservation, Environmental Division

From: Charlie Reynolds – ALTEC Oil & Gas Div. Manager / Geologist

Subject: Defiance Energy Services (D6423) / Class II Commercial SWD Well  
Edwards SWD No. 001

Section 20, Township 13 North, Range 9 West

Bracky Branch Field (1843), Red River Parish, LA

The Appendix F – UIC 2 COMM SWD APPLICATION has been submitted to the Injection & Mining Division of the Louisiana Department of Natural Resources Office of Conservation for Technical Review.

A handwritten signature in blue ink, appearing to be "C. Reynolds", is written above a horizontal line.

Charlie Reynolds  
Oil and Gas Division Manager / Geologist

4/1/19

Date



JOHN BEL EDWARDS  
GOVERNOR

State of Louisiana  
DEPARTMENT OF NATURAL RESOURCES  
OFFICE OF CONSERVATION

THOMAS F. HARRIS  
SECRETARY

RICHARD P. IEYOUB  
COMMISSIONER OF CONSERVATION

June 17, 2020

Scott Wooten  
Defiance Energy Services, LLC (D6423)  
415 Texas Street, Suite 400  
Shreveport, LA 71101

Re: Application No. 40942/ Class II Commercial SWD Well  
Edwards SWD Well No. 001  
Bracky Branch Field, Red River Parish

Dear Mr. Wooten:

This Office has completed the technical review of the referenced application and deemed it to be administratively complete. You must provide the Office of Conservation/Environmental Division one original and one copy of the documentation as approved by the Injection & Mining Division and as required in Section F of the Office of Conservation/Environmental Division document, *Commercial Facility & Transfer Station Permit Application Checklist*. Please include a copy of this letter with that submittal.

Please be advised, injection will only be permitted in distinct intervals exhibiting sufficient porosity and permeability to support radial flow of injected fluids as demonstrated by the open-hole logs and the analyses of the sidewall cores.

Please contact Steve Lee at (225) 342-5569 if you have any questions.

Yours very truly,

Richard P. Ieyoub  
Commissioner of Conservation

Stephen H. Lee, Director  
Injection & Mining Division

RPI:SHL

F:\Injection\Engineering\Letter Library\Commercial\Env Adm Complete\Application 40942, sidewall core disclaimer.docx



March 12, 2019

Mr. Gary Snellgrove  
Office of Conservation  
Injection and Mining Division  
P. O. Box 94275  
Baton Rouge, Louisiana 70804-9275

RE: Defiance Energy Services, LLC  
Commercial E and P Waste Treatment Facility  
Edwards SWD No. 001  
Bracky Branch Field, Red River Parish, Louisiana  
APN SA03994

Dear Mr. Snellgrove,

ALTEC Environmental Consulting, LLC, on behalf of our client, has enclosed an original and one (1) copy of a Commercial Saltwater Disposal Well Application for the above referenced commercial facility, including all required fees and attachments.

Thank you for your assistance in processing this application. If you need any additional information, please feel free to contact me at (318) 687-3771.

Sincerely,

A handwritten signature in blue ink that reads "Charles Reynolds".

Charles Reynolds, Geologist/Agent



## COMMERCIAL SALTWATER DISPOSAL WELL PERMIT APPLICATION

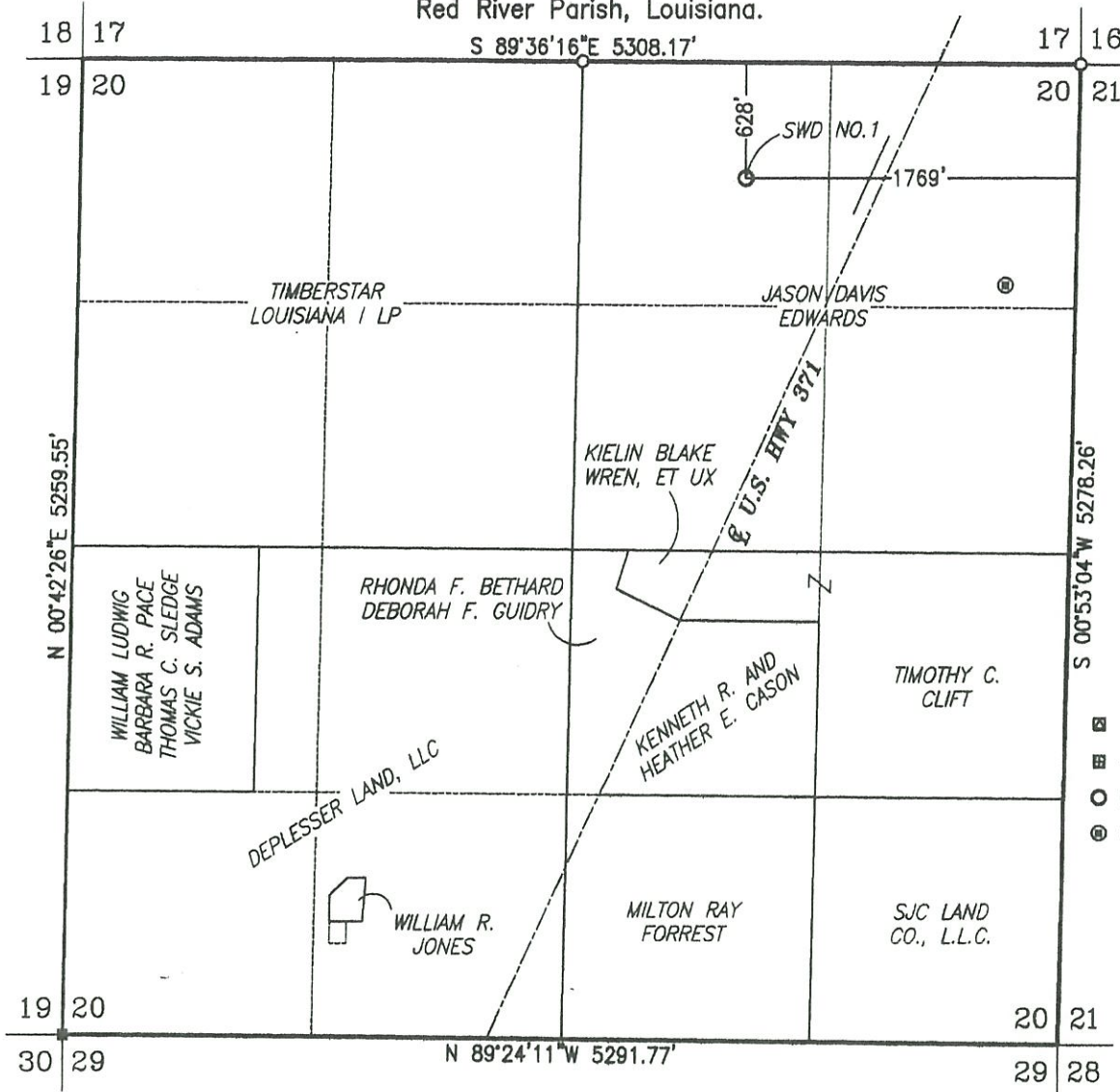
**MAILING ADDRESS:**  
 OFFICE OF CONSERVATION  
 INJECTION & MINING DIVISION  
 P.O. BOX 94275-CAPITOL STATION  
 BATON ROUGE, LA 70804-9275

**PHYSICAL ADDRESS:**  
 OFFICE OF CONSERVATION  
 INJECTION & MINING DIVISION  
 617 N. THIRD ST., SUITE 817  
 BATON ROUGE, LA 70802

| UIC-2 COM SWD                                                                                                                                                                                                                                 |                 | PLEASE READ APPLICATION PROCEDURES TYPE ONLY |                                      |                                                                                                                                                                      |                                                                                         | TYPE ONLY                              |                                    |               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------------------------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------|------------------------------------|---------------|
| 1. APPLICATION TO:<br><input type="checkbox"/> DRILL NEW COM SWD WELL <input type="checkbox"/> RE-DRILL FOR COM SWD DISPOSAL (SN. _____ )<br><input type="checkbox"/> CONVERT TO COM SWD WELL <input type="checkbox"/> RE-PERMIT COM SWD WELL |                 |                                              |                                      |                                                                                                                                                                      | 2. CONSERVATION ORDER NO.      ORDER 29-B                                               |                                        |                                    |               |
| 3. OPERATOR NAME: DEFIANCIE ENERGY SERVICES, LLC<br>ADDRESS: 415 Texas Street, Suite 400<br>CITY, STATE, ZIP: SHREVEPORT, LA 71101<br>EMAIL: s.wooten@defiancellc.com                                                                         |                 |                                              |                                      |                                                                                                                                                                      | 4. OPERATOR CODE:      D6423<br>5. PHONE:      318-377-5755      FAX:      318-625-0531 |                                        |                                    |               |
| WELL INFORMATION                                                                                                                                                                                                                              |                 |                                              |                                      |                                                                                                                                                                      |                                                                                         |                                        |                                    |               |
| 6. PROPOSED WELL NAME AND NUMBER:<br>Edwards SWD      No. 001                                                                                                                                                                                 |                 |                                              |                                      |                                                                                                                                                                      | 7. SERIAL NO. (CONVERSION & RE-PERMIT ONLY)<br>NEW WELL                                 |                                        |                                    |               |
| 8. FIELD:<br>Bracky Branch, 1843                                                                                                                                                                                                              |                 | 9. PARISH:<br>Red River Parish      ( 41 )   |                                      | 10. SEC.      20                                                                                                                                                     | TWP.      13N                                                                           | RNG.      9W                           |                                    |               |
| 11. LEGAL LOCATION DESCRIPTION (FROM PLAT)<br>Located 628 feet from the North line and 1769 feet from the East line of Section 20, Township 13 North, Range 9 West, Red River Parish, Louisiana                                               |                 |                                              |                                      |                                                                                                                                                                      |                                                                                         |                                        |                                    |               |
| 12. GEOGRAPHIC COORDINATE SYSTEM (NAD27)<br>LATITUDE:      32° DEG      6 MIN      8.476 SEC<br>LONGITUDE:      93° DEG      18 MIN      37.552 SEC                                                                                           |                 |                                              |                                      | STATE PLANE COORDINATES (LAMBERT, NAD 27)<br>NORTH ZONE <input checked="" type="checkbox"/> SOUTH ZONE <input type="checkbox"/><br>x: 1749049.742      y: 523166.811 |                                                                                         |                                        |                                    |               |
| WELL CONSTRUCTION INFORMATION                                                                                                                                                                                                                 |                 |                                              |                                      |                                                                                                                                                                      |                                                                                         |                                        |                                    |               |
| 13. CASING SIZE (IN.)                                                                                                                                                                                                                         | HOLE SIZE (IN.) | CASING WEIGHT                                | DEPTH SET                            |                                                                                                                                                                      | SACKS CEMENT                                                                            |                                        | TYPE CEMENT                        | TOP OF CEMENT |
| 9 5/8                                                                                                                                                                                                                                         | 12 1/4          | 36.0                                         | TOP (FT.): 0                         | BOTTOM (FT.): 1000                                                                                                                                                   | 400                                                                                     |                                        | Class A                            | Surface       |
| 7                                                                                                                                                                                                                                             | 8 3/4           | 26.0                                         | 0                                    | 5270                                                                                                                                                                 | 145                                                                                     | 935                                    | 50/50 POZ PREMIUM                  | Surface       |
|                                                                                                                                                                                                                                               |                 |                                              |                                      |                                                                                                                                                                      |                                                                                         |                                        | 1.57 cu.ft./sk      1.08 cu.ft./sk |               |
| 14. TUBING: <input checked="" type="checkbox"/> STEEL <input type="checkbox"/> OTHER (IDENTIFY)      SIZE: 4 1/2 IN.      DEPTH (FT.): 4930                                                                                                   |                 |                                              |                                      |                                                                                                                                                                      |                                                                                         |                                        |                                    |               |
| 15. PACKER: <input checked="" type="checkbox"/> TENSIONAL <input type="checkbox"/> PERMANENT <input type="checkbox"/> COMPRESSIONAL      MAKE: Baker MODEL: AD-1      DEPTH SET (FT.): 4930                                                   |                 |                                              |                                      |                                                                                                                                                                      |                                                                                         |                                        |                                    |               |
| 16. PLUG-BACK DEPTH (FT.):<br>5270                                                                                                                                                                                                            |                 |                                              | 17. DRILLED-OUT DEPTH (FT.):<br>5600 |                                                                                                                                                                      |                                                                                         | 18. TOTAL DEPTH OF WELL (FT.):<br>5600 |                                    |               |
| PROPOSED INJECTION INTERVAL INFORMATION                                                                                                                                                                                                       |                 |                                              |                                      |                                                                                                                                                                      |                                                                                         |                                        |                                    |               |
| 19. DEPTH OF PROPOSED INJECTION ZONE (MD IN FT.):<br>TOP: 5030      BOTTOM: 5220                                                                                                                                                              |                 |                                              |                                      | 20. INJECTION FORMATION(S):<br>Rodessa                                                                                                                               |                                                                                         |                                        |                                    |               |
| 21. INJECTION THROUGH:<br><input checked="" type="checkbox"/> Perforations <input type="checkbox"/> Open Hole <input type="checkbox"/> Screen                                                                                                 |                 |                                              |                                      | 22. PROPOSED PERFORATED OR OPEN HOLE INTERVAL (MD IN FT.):<br>TOP: 5070      BOTTOM: 5120                                                                            |                                                                                         |                                        |                                    |               |

| PRESSURE CALCULATION DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| 23. INJECTION RATE (BARRELS/MINUTE):<br>NORMAL: 10.4 BPM      MAXIMUM: 17.4 BPM                                                                                                                                                                                                                                                                                                                                                                                                                              | 24. INJECTION FLUID EXPECTED TEMPERATURE (°F):<br>SUMMER: 85 °F      WINTER: 80 °F |
| 25. INJECTION FORMATION PROPERTIES: <input checked="" type="checkbox"/> ESTIMATED <input type="checkbox"/> MEASURED    IF MEASURED, LIST SOURCE: _____<br>PERMEABILITY: 1000      MILLIDARCYS (MD)      PEROSITY: 30%    PERCENT:                                                                                                                                                                                                                                                                            |                                                                                    |
| 26. CALCULATE THE MASIP BASED ON THE FRACTURE GRADIENT OF THE:<br><input checked="" type="checkbox"/> INJECTION FORMATION (SEE ATTACHMENT 7) <input type="checkbox"/> CONFINING FORMATION (SEE ATTACHMENT 7)                                                                                                                                                                                                                                                                                                 |                                                                                    |
| OTHER INFORMATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                    |
| 27. DESCRIBE THE CONTIGENCT PLANS FOR SALTWATER DISPOSAL WHEN THE WELL IS DOWN:<br>In the event the well/facility is down, water will be transported to another facility owned and operated by<br>DEFIANCE ENERGY SERVICES, LLC                                                                                                                                                                                                                                                                              |                                                                                    |
| 28. IS THE PROPOSED WELL LOCATED ON INDIAN LANDS UNDER THE JURISDICTION OR PROTECTION OF THE FEDERAL GOVERNMENT?                                                                                                                                                                                                                                                                                                                                                                                             | <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No             |
| 29. IS THE PROPOSED WELL LOCTED ON STATE WATER BOTTOMS OR OTHER LANDS OWNED OR UNDER JURISDICTION OF THE STATE?                                                                                                                                                                                                                                                                                                                                                                                              | <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No             |
| AUTHORIZED AGENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                    |
| 30. AGENT OR AUTHORIZED TO ACT FOR THE OPERATOR DURING PROCESSING OF THIS APPLICATION.<br><br>THE SIGNATURE BY THE OPERATOR CERTIFYING THIS APPLICATION WILL AUTHORIZE THIS AGENT OR CONTACT TO SUBMIT ADDITIONAL INFORMATION AS REQUESTED AND TO GIVE ORAL STATEMENTS IN SUPPORT OF THIS APPLICATION.<br><br>Name: CHARLIE REYNOLDS<br>Company: ALTEC ENVIRONMENTAL CONSULTING, LLC<br>Address: 10100 WOOLWORTH ROAD, KEITHVILLE, LA 71047<br>Phone: (318) 687-3771<br>email: CHARLIE.REYNOLDS@ALTECENV.COM |                                                                                    |
| WRITTEN CORRESPONDACE SHOULD BE SENT TO (CHOOSE ONE): <input type="checkbox"/> Operator <input checked="" type="checkbox"/> Authorized Agent                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |
| CERTIFICATION BY OPERATOR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                    |
| <i>I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my personal knowledge or inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.</i>            |                                                                                    |
| 31. NAME (PRINT)      Scott H Wooten                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 32. TITLE (PRINT)      CFO                                                         |
| 33. SIGNATURE <i>Scott H Wooten</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 34. DATE      2/7/19                                                               |

Section 20, Township 13 North, Range 09 West,  
Red River Parish, Louisiana.

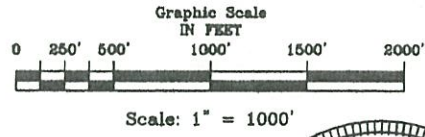


- LEGEND**
- FOUND 1" ANGLE IRON PIN
  - 6" WOOD FENCE POST
  - PROPOSED SWD WELL
  - ⊙ EXISTING OIL/GAS WELL  
 JUR RB SUE  
 BROWN SW MIN 20 H #1  
 Latitude: 32°6'1.82"  
 Longitude: 93°18'32.01"  
 RED RIVER PARISH, LA

PLAT SHOWING LOCATION  
**DEFIANCE ENERGY SERVICES ----- EDWARDS SWD NO. 001**  
 Located 628 feet from the North line and 1769 feet from the East line of Section 20,  
 Township 13 North, Range 09 West, Red River Parish, Louisiana.

Latitude = 32°06'08.47666" North  
 Longitude = 93°18'37.55229" West  
 Latitude = 32.10235463" North  
 Longitude = 93.31043119" West  
 NAD 27  
 X = 1,749,049.742  
 Y = 523,166.811  
 State Plane Grid, LA North 1701

Latitude = 32°06'09.05231" North  
 Longitude = 93°18'38.16770" West  
 Latitude = 32.10251453" North  
 Longitude = 93.31060214" West  
 NAD 83  
 X = 3,029,835.947  
 Y = 583,874.199  
 State Plane Grid, LA North 1701



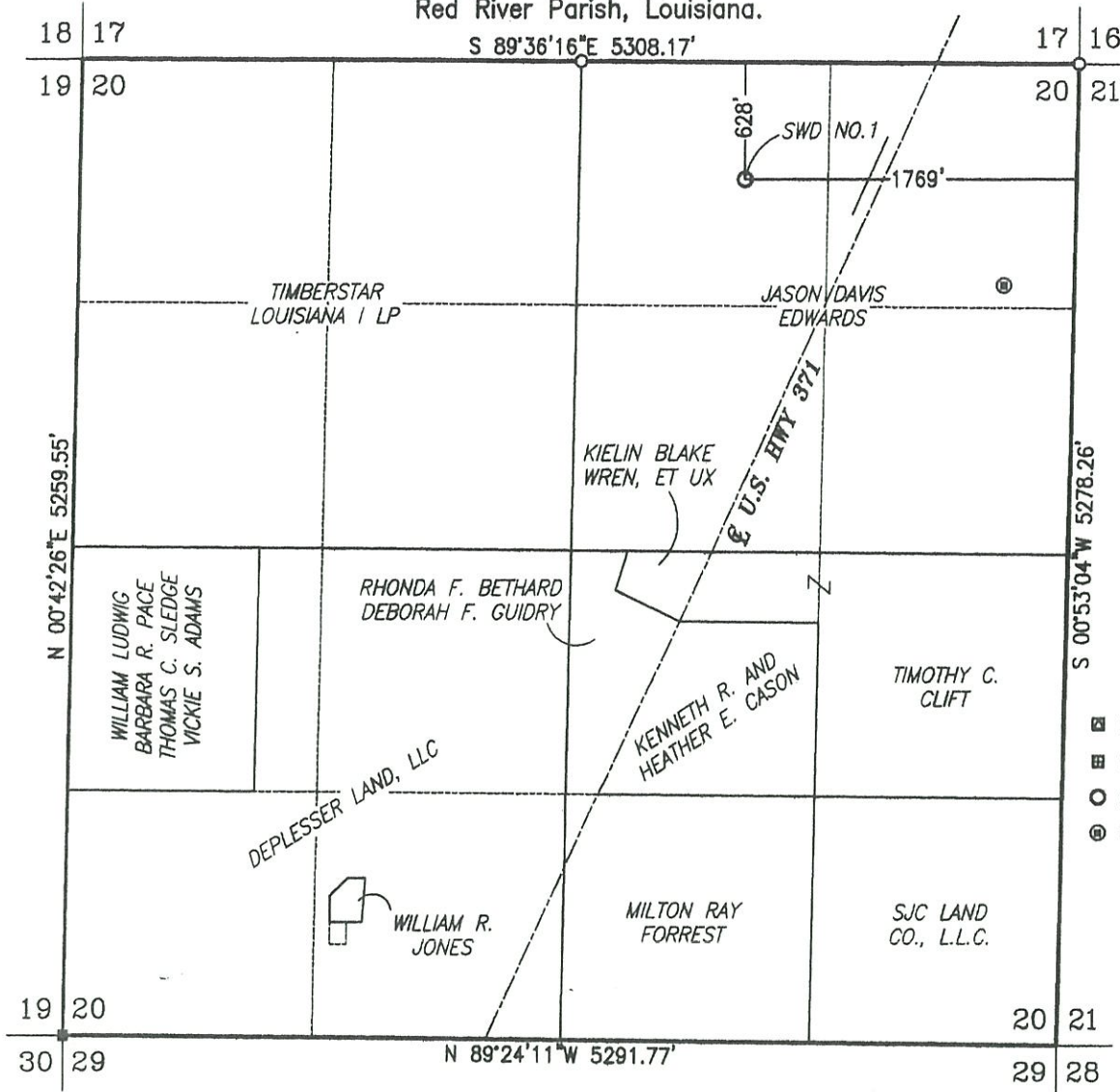
Ground Elevation = 193.19  
 (NAVD 88)

*I, Paul W. Culpepper, Professional Land Surveyor, certify that the well location depicted and described in this plat was stated and surveyed in the field by me or under my direction with accuracy and precision to the nearest foot. I have properly examined the survey and plot, and have determined that it meets the minimum standards of practice for land surveying in the State of Louisiana.*

DATE: FIELD: JANUARY 29, 2019  
 DRAWING: JANUARY 30, 2019

|                        |                                                                                                      |
|------------------------|------------------------------------------------------------------------------------------------------|
| SCALE: 1" = 1000'      | <b>Landmark Land Surveying, Inc.</b><br>114 Pearl St., Minden, Louisiana<br>(318) 371-9100<br>19-013 |
| LOCATION: 20-13-9      |                                                                                                      |
| DATE: JANUARY 30, 2019 |                                                                                                      |

Section 20, Township 13 North, Range 09 West,  
Red River Parish, Louisiana.

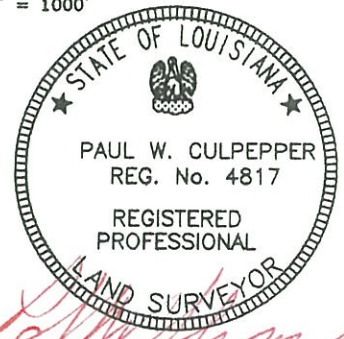
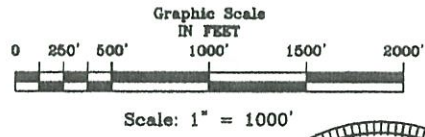


- LEGEND**
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  - 6" WOOD FENCE POST
  - PROPOSED SWD WELL
  - ⊙ EXISTING OIL/GAS WELL
- JUR RB SUE  
BROWN SW MIN 20 H #1  
Latitude: 32°6'1.82"  
Longitude: 93°18'32.01"  
RED RIVER PARISH, LA

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**DEFIANCE ENERGY SERVICES ----- EDWARDS SWD NO. 001**  
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Y = 523,166.811  
State Plane Grid, LA North 1701

Latitude = 32°06'09.05231" North  
Longitude = 93°18'38.16770" West  
Latitude = 32.10251453" North  
Longitude = 93.31060214" West  
NAD 83  
X = 3,029,835.947  
Y = 583,874.199  
State Plane Grid, LA North 1701



Ground Elevation = 193.19  
(NAVD 88)

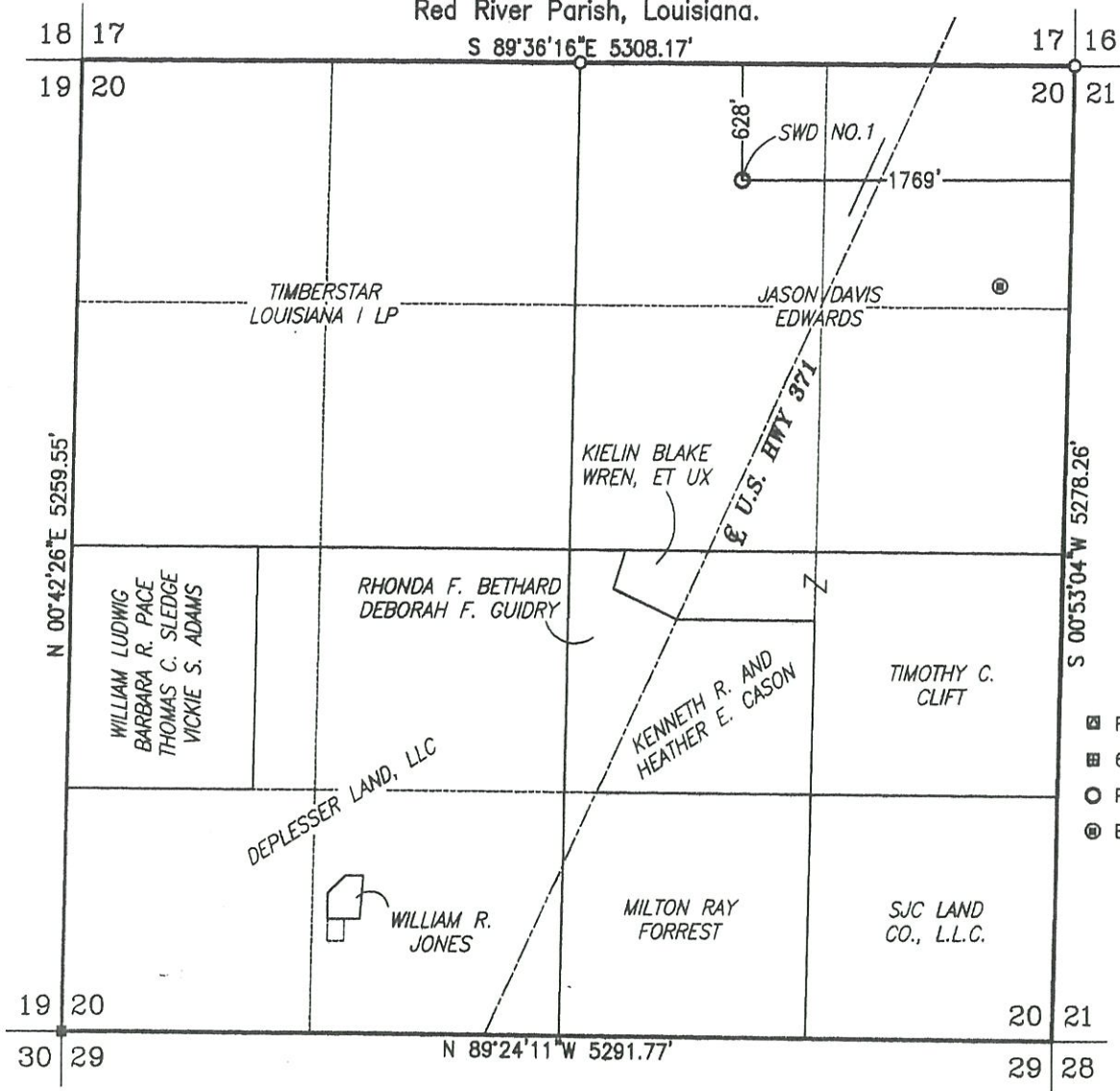
*I, Paul W. Culpepper, Professional Land Surveyor, certify that the well location depicted and described in this plat was stated and surveyed in the field by me or under my direction with accuracy and precision to the nearest foot. I have properly examined the survey and plat, and have determined that it meets the minimum standards of practice for land surveying in the State of Louisiana.*

DATE: FIELD: JANUARY 29, 2019  
DRAWING: JANUARY 30, 2019

|                        |                                                                                                      |
|------------------------|------------------------------------------------------------------------------------------------------|
| SCALE: 1" = 1000'      | <b>Landmark Land Surveying, Inc.</b><br>114 Pearl St., Minden, Louisiana<br>(318) 371-9100<br>19-013 |
| LOCATION: 20-13-9      |                                                                                                      |
| DATE: JANUARY 30, 2019 |                                                                                                      |



Section 20, Township 13 North, Range 09 West,  
Red River Parish, Louisiana.



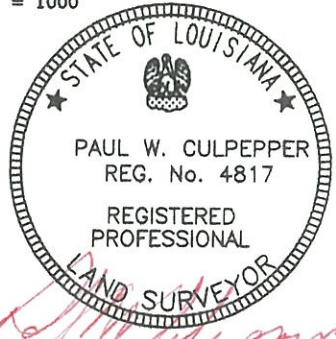
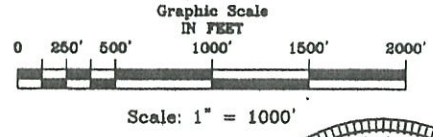
- LEGEND**
- ▣ FOUND 1" ANGLE IRON PIN
  - 6" WOOD FENCE POST
  - PROPOSED SWD WELL
  - ⊙ EXISTING OIL/GAS WELL  
JUR RB SUE  
BROWN SW MIN 20 H #1  
Latitude: 32°6'1.82"  
Longitude: 93°18'32.01"  
RED RIVER PARISH, LA

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Longitude = 93.31060214" West  
NAD 83  
X = 3,029,835.947  
Y = 583,874.199  
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Ground Elevation = 193.19  
(NAVD 88)

*I, Paul W. Culpepper, Professional Land Surveyor, certify that the well location depicted and described in this plat was stated and surveyed in the field by me or under my direction with accuracy and precision to the nearest foot. I have properly examined the survey and plat, and have determined that it meets the minimum standards of practice for land surveying in the State of Louisiana.*

DATE: FIELD: JANUARY 29, 2019  
DRAWING: JANUARY 30, 2019

|                        |                                                                                                      |
|------------------------|------------------------------------------------------------------------------------------------------|
| SCALE: 1" = 1000'      | <b>Landmark Land Surveying, Inc.</b><br>114 Pearl St., Minden, Louisiana<br>(318) 371-9100<br>19-013 |
| LOCATION: 20-13-9      |                                                                                                      |
| DATE: JANUARY 30, 2019 |                                                                                                      |

TITLE

ATTACHMENT 2A  
AREA OF REVIEW

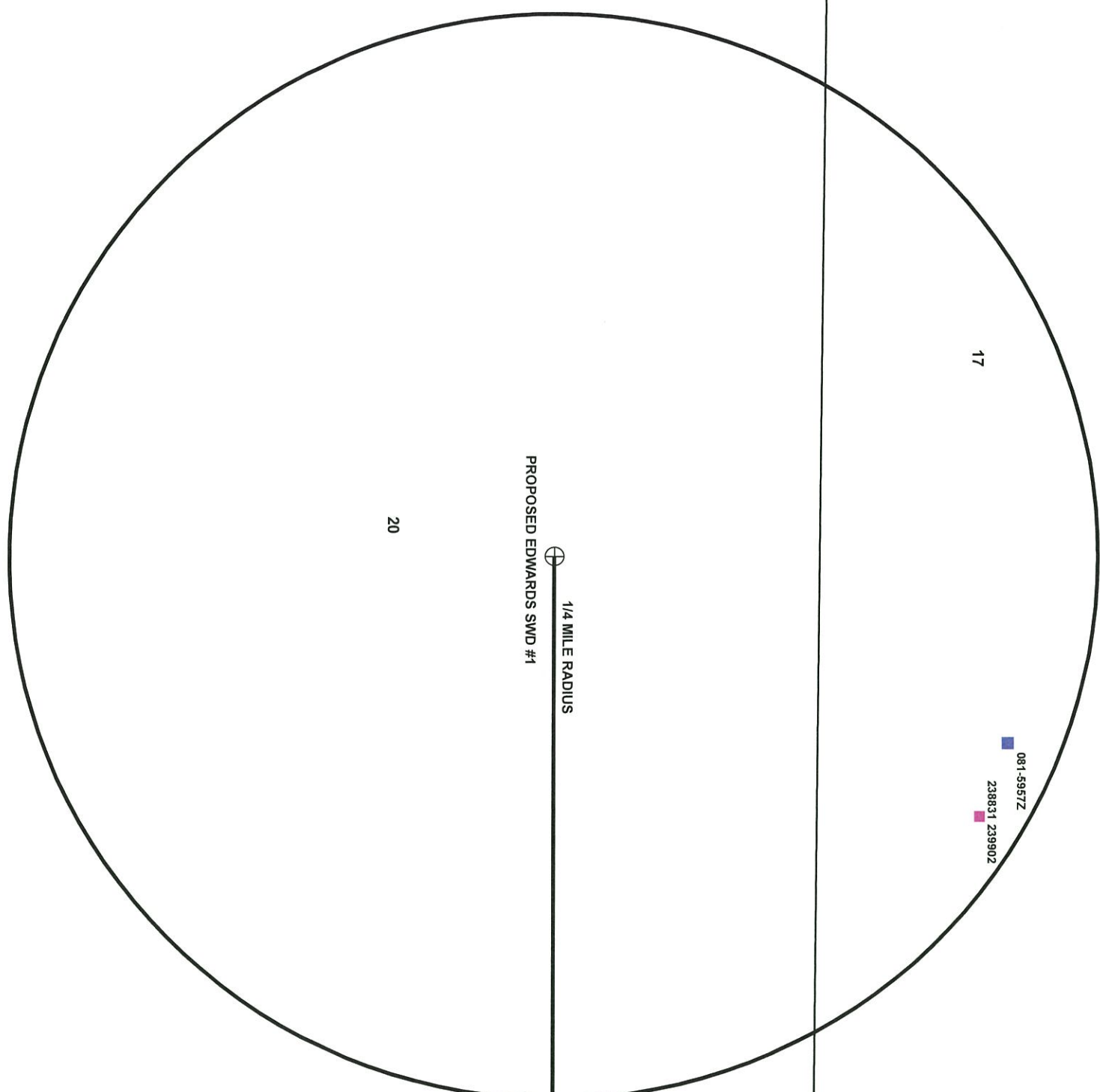
LOCATION

DEFIANCE ENERGY SERVICES,  
LLC (D6423)  
EDWARDS SMD #1  
NEW WELL  
SECTION 20 T13N R9W  
BRACKY BRANCH FIELD  
RED RIVER PARISH, LOUISIANA

LEGEND

⊕ NEW WELL

⊕ DIRECTIONAL WELL



PROJECT NO. SCALE

SA03994 1" = 350'

PAGE DRAWN BY

1 JKW

SHEET REVISED DATE

A - 8.5 X 11 11/04/19

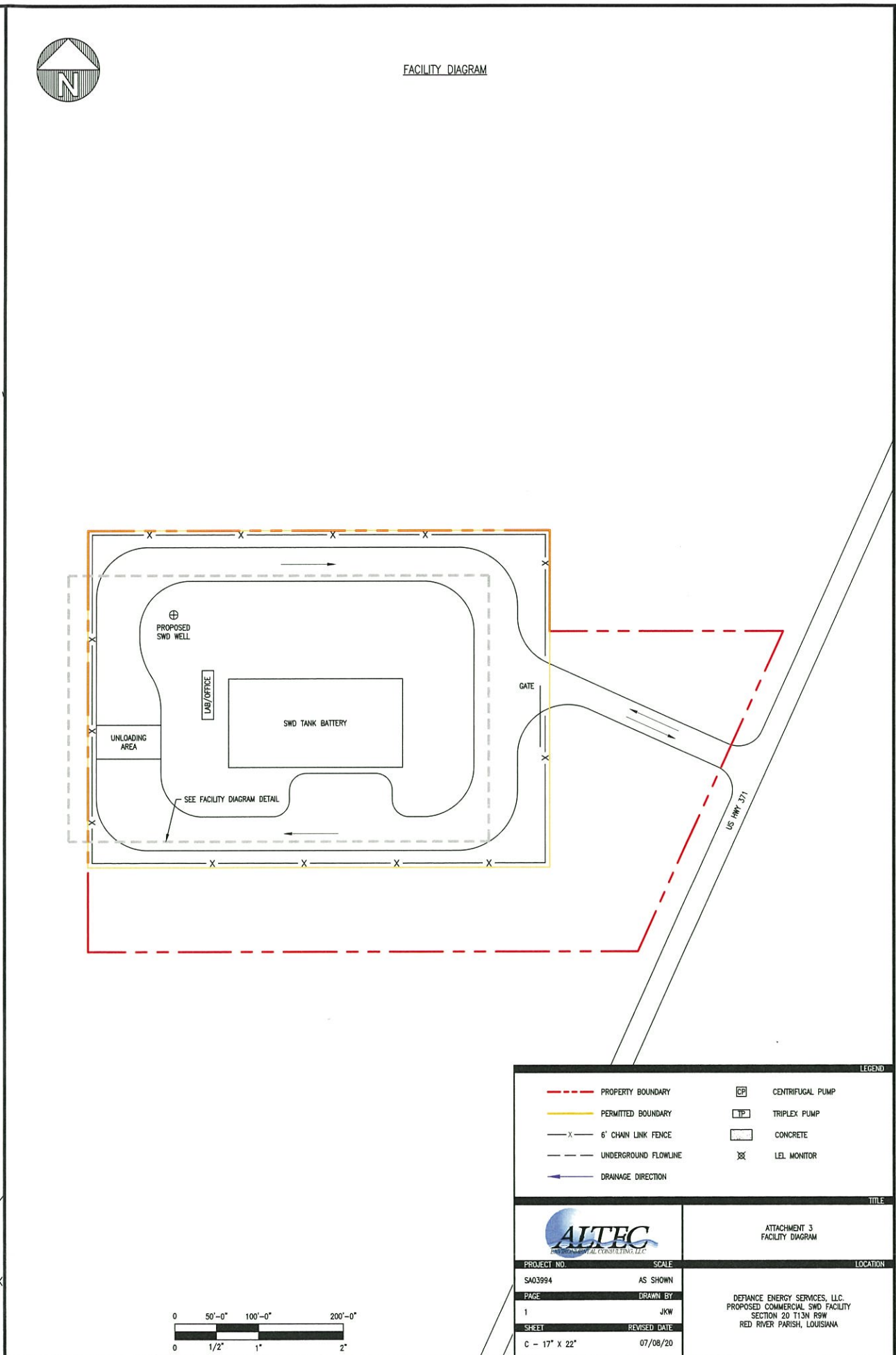
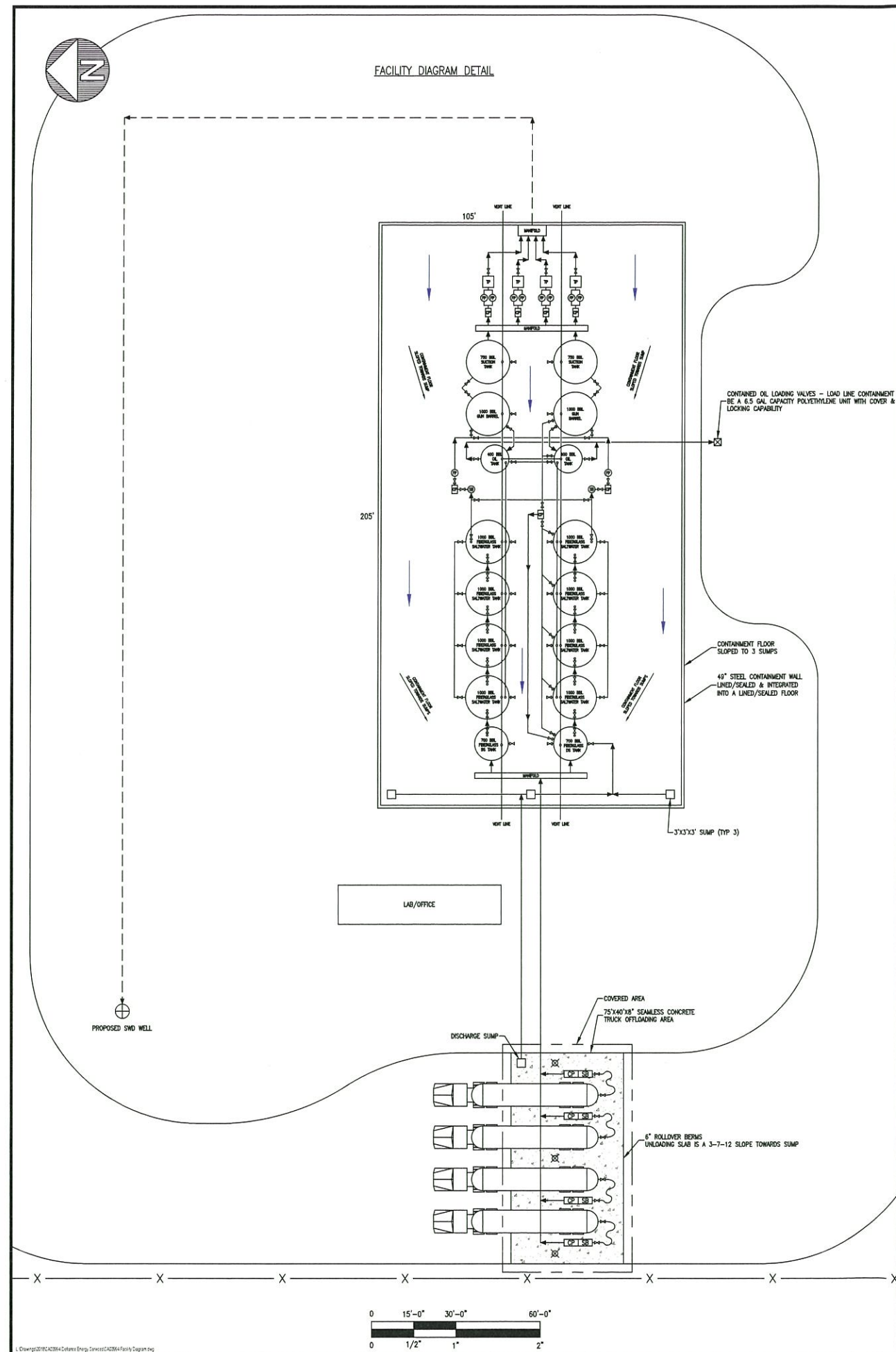




# Water Wells By LATITUDE / LONGITUDE Report

Latitude Longitude Radius Ft  
 32.10222222 -93.31027778 1320 Found 1 records

| Well Distance Ft | SECTION | TOWNSHIP | RANGE     | PARISH | NA | PARISH_NUM | LOCAL_WEL | WELL_USE   | DESCRIPTION           | WELL_STAT | OWNERS_NU | OWNERS_N | DRILLERS_N     | WELL_DEPT | CASING_DIA | DATE_COMP | WATER_LEV | DATE_MEASURE | GEOLOGIC_UNIT | LATITUDE | LONGITUDE |
|------------------|---------|----------|-----------|--------|----|------------|-----------|------------|-----------------------|-----------|-----------|----------|----------------|-----------|------------|-----------|-----------|--------------|---------------|----------|-----------|
| 1261.53          | 17 13N  | 09W      | RED RIVER | ME     |    | 81 5957Z   | S         | Rig Supply | Plugged and Abandoned | US        | ENGANA    | AME      | PINENERGY, LTD | 300       | 4          | 9-Jun     | 45        | 6/15/2009    | 124WLCX       | 320620   | 931833    |



| LEGEND |                      |
|--------|----------------------|
|        | PROPERTY BOUNDARY    |
|        | PERMITTED BOUNDARY   |
|        | 6" CHAIN LINK FENCE  |
|        | UNDERGROUND FLOWLINE |
|        | DRAINAGE DIRECTION   |
|        | CENTRIFUGAL PUMP     |
|        | TRIPLEX PUMP         |
|        | CONCRETE             |
|        | LEL MONITOR          |

| TITLE                            |  |
|----------------------------------|--|
| ATTACHMENT 3<br>FACILITY DIAGRAM |  |

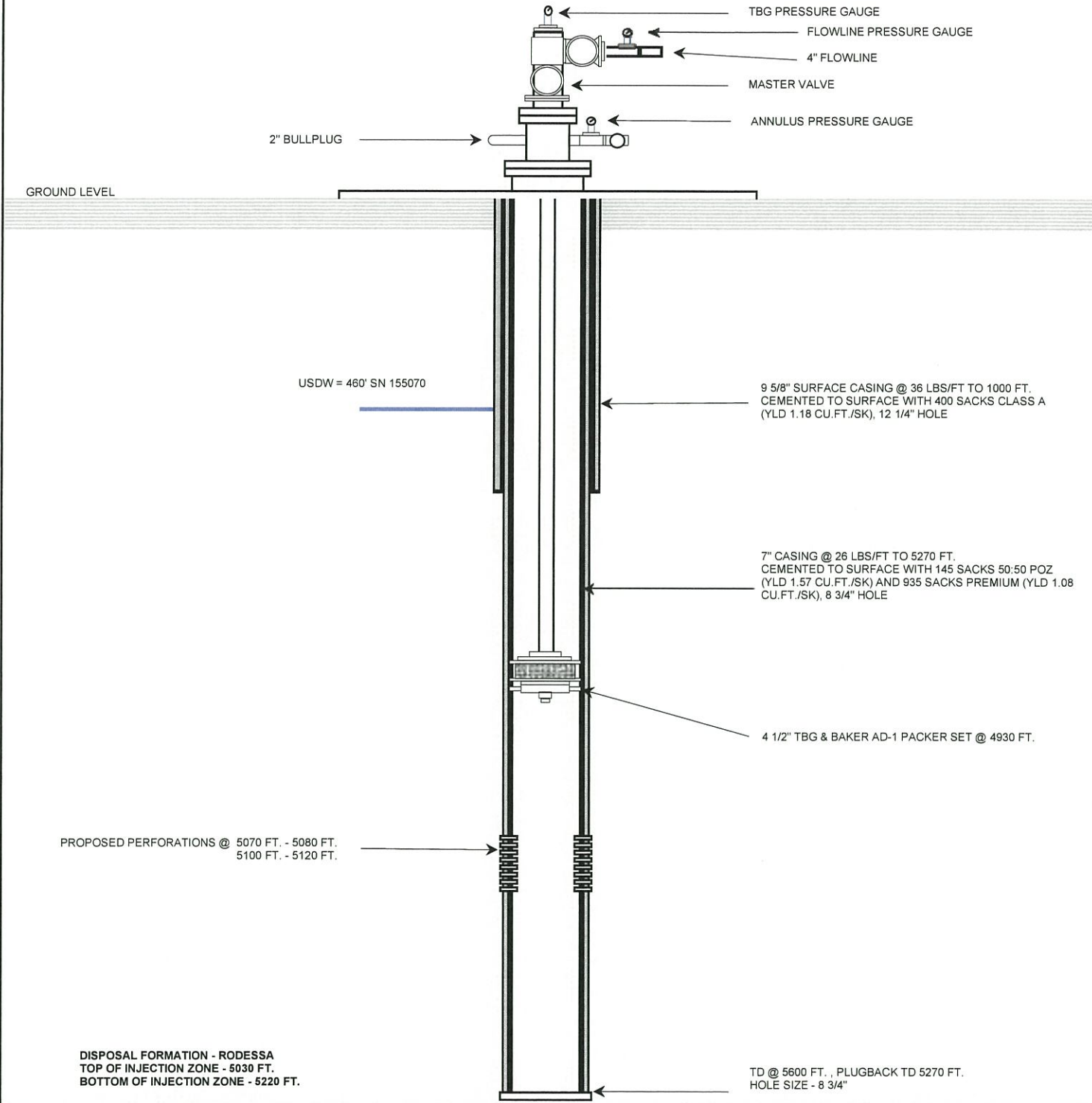
| PROJECT NO.   | SCALE        | LOCATION |
|---------------|--------------|----------|
| SA03994       | AS SHOWN     |          |
| PAGE          | DRAWN BY     |          |
| 1             | JKW          |          |
| SHEET         | REVISED DATE |          |
| C - 17" X 22" | 07/08/20     |          |

ATTACHMENT 3  
FACILITY DIAGRAM

DEFIANCE ENERGY SERVICES, LLC  
 PROPOSED COMMERCIAL SWD FACILITY  
 SECTION 20 T13N R9W  
 RED RIVER PARISH, LOUISIANA

L:\Drawing\2019\2019-08-28\2019-08-28\2019-08-28\Facility Diagram.dwg

DEFIANCE ENERGY SERVICES, LLC (D6423)  
 EDWARDS SWD NO. 001  
 SECTION 20, TOWNSHIP 13 NORTH, RANGE 9 WEST  
 BRACKY BRANCH FIELD (1843)  
 RED RIVER PARISH, LOUISIANA



|   |           |          |                                                                                                                                                                                     |                                                                                       |
|---|-----------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|   | PROJECT   | SCALE    | DEFIANCE ENERGY SERVICES, LLC (D6423)<br>EDWARDS SWD NO. 001 (PROPOSED)<br>SECTION 20, TOWNSHIP 13 NORTH, RANGE 9 WEST<br>BRACKY BRANCH FIELD (1843)<br>RED RIVER PARISH, LOUISIANA | ATT. 4A<br>EDWARDS SWD NO. 001<br>PROPOSED WELL<br>SCHEMATIC DIAGRAM<br>(rev. 4.8.20) |
|   | SA03994   | NTS      |                                                                                                                                                                                     |                                                                                       |
|   | PAGE      | DRAWN BY |                                                                                                                                                                                     |                                                                                       |
|   | 1         | CR       |                                                                                                                                                                                     |                                                                                       |
|   | SHEET     | DATE     |                                                                                                                                                                                     |                                                                                       |
| A | 3/12/2019 |          |                                                                                                                                                                                     |                                                                                       |

Defiance Energy Services, LLC (D6423)  
Edwards SWD NO. 001, New Well  
Section 20, Township 13 North, Range 9 West  
Bracky Branch Field (1843)  
Red River Parish, Louisiana

### WORK PROGNOSIS

1. Notify Louisiana Department of Natural Resources prior to spud and 24 hours prior to cementing all casing strings.
2. Install location sign - make sure sign is in compliance with Louisiana Department of Natural Resources regulations and denotes the well to be an SWD.
3. Move in rig and equipment and rig up.
4. RIH with 12 1/4 in. bit drilling to 1000 ft. Circulate and condition hole. R/U Wireline and run Open Hole/Triple Combo Log (GR/SP/RES) from TD to Surface.
5. Run 9 5/8 in. surface casing, 36 lbs/ft. to 1000 ft. and cement to surface with 400 sacks Class A (Yld 1.18 cu.ft./Sack). WOC 12 hrs. Pressure test casing to a minimum of 1000 psi with not more than 5% loss in pressure in a 30 min. time period to determine casing integrity. Complete and sign Form CSG-T, submit originals upon completion of well (IMD requires the original).
6. Install and Test BOP according to Injection and Mining regulations; LAC 43:XIX.111.A & LAC 43:XIX.111.C.
7. RIH with 8 3/4 in. bit drilling to 5600 ft. Circulate and condition hole. R/U Wireline and run open hole w/triple combo log (GR/SP/RES) from TD through Surface Casing Shoe. Shoot Percussion Sidewall Cores in Proposed Injection Intervals.
8. Run 7 in. longstring casing, 26 lbs/ft. to 5270 ft. and cement to surface with 145 sacks 50:50 POZ (Yld 1.57 cu.ft./Sack) and 935 sacks Premium (Yld 1.08 cu.ft./Sack). WOC 12 hrs. Pressure test casing to a minimum of 1000 psi with not more than 5% loss in pressure in a 30 min. time period to determine casing integrity. Complete and sign Form CSG-T, submit originals upon completion of well (IMD requires the original).
9. Run CBL/VDL/GR from total depth to surface casing. Evaluate cement bond log for possible squeezes. The log must show a minimum of 11 continuous feet of not less than 60% bond across from the first isolating shale immediately above the top of the proposed injection zone and must show evidence of cement below the bottom of the injection zone. The CBL will be submitted to Injection and Mining, Engineering Department prior to perforating and setting the packer in the well to verify adequate cement isolation. If no additional cementing work is required, proceed with constructing the well. If additional cement work is required, perforate and squeeze as required by Injection and Mining Division and re-run the cement bond log after the squeeze. Submit the CBL to the Injection and Mining Division for approval before completing the well.



Defiance Energy Services, LLC (D6423)  
 Edwards SWD NO. 001, New Well  
 Section 20, Township 13 North, Range 9 West  
 Bracky Branch Field (1843)  
 Red River Parish, Louisiana

10. With approval from IMD, R/U Wireline & perforate injection interval from 5070 – 5120 ft. with 6 spf. After perforating; Contact appropriate CES Agent to schedule the fluid level measurement for purposes of calculating the formation pressure. Take a measurement of the reservoir pressure of the injection zone. This pressure can be obtained by direct measurement from a downhole pressure gauge or by taking a static fluid level reading in the well and calculating the pressure at the perforations. This is reported on the UIC-WH1 and is now required in order to receive a permit to inject.
11. Pick up Baker model AD1 packer and go in hole with 4 1/2" tubing & set packer on tension at 4930'. The packer must be set at a depth that is equal to or deeper than the cement in the wellbore that is bonded to the first isolating shale immediately above the approved injection zone. (No higher than 150' above TOZ)
12. Contact appropriate CES Agent to schedule the Mechanical Integrity Pressure Test (MIPT) and fluid level measurement for purposes of calculating the formation pressure. Pressure test tubing/casing annulus to 400 psi for 30 minutes. A Conservation Enforcement Specialist must be present to witness the test.
13. Submit all required paperwork within 20 days of completing the well as stated in the "Permit to Construct" and wait on "Permit to Inject" approval from IMD before injection and disposal of any fluids.
14. Monitor injection pressure and volumes to stay within the guidelines of the permit.

**Louisiana Office of Conservation – Injection & Mining Division: Cement Bond Logging Guidelines:**

|                                                                                                                                                                                            |                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1. Gamma-ray curve</li> <li>2. Casing Collar locator</li> <li>3. Travel Time on the 3-foot receiver</li> <li>4. 0-100 mv Amplitude curve</li> </ol> | <ol style="list-style-type: none"> <li>5. X5 or X10 Amplified Amplitude curve (Important)</li> <li>6. Variable Density log (VDL) or Waveform (for pipe within a pipe)</li> <li>7. A free pipe section</li> <li>8. The most recent shop calibration &amp; date</li> </ol> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

# Gulf States Environmental Laboratories

222 Spring St. Shreveport, La. 71101 · 800-256-6110 · 318-220-9067 · Fax 318-221-3296  
LELAP CERTIFICATION # 02082

**Client:** ALTEC ENVIRONMENTAL CONSULTANTS  
10100 WOOLWORTH RD.  
KEITHVILLE, LA 71047

**Report Date:** 02/18/19 (SN 240814)  
**Sample ID:** SN 24014 SEPERATOR @ WELLHEAD  
**Project Name:** EDWARDS COMMERCIAL SWD  
**Collected By:** CLIENT  
**Time/Date Collected:** 1515 02/04/19  
**Date Received:** 02/04/19

Page 1 of 1

## ANALYTICAL RESULTS

**GSEL ID#: 107999**

### GENERAL CHEMISTRY

**Sample Matrix:** WATER

| Analyte:         | Result  | Units | Qualifier | Reporting Limit | Dil. Factor | Method        | Time/Date Analyzed | Analyst |
|------------------|---------|-------|-----------|-----------------|-------------|---------------|--------------------|---------|
| TDS              | 170,858 | mg/L  |           | 10.0            |             | SM 2540C      | 1015 - 02/05/19    | MR      |
| CHLORIDE         | 88,085  | mg/L  |           | 10.0            | 10          | H 8225        | 1415 - 02/13/19    | MR      |
| SPECIFIC GRAVITY | 1.105   |       |           |                 |             | ASTMD 1298-99 | 1722 - 02/07/19    | MR      |
| TEMPERATURE      | 19.9    | °C    |           |                 |             | EPA 170.1     | 1722 - 02/07/19    | MR      |
| pH               | 4.89    | SU    |           |                 |             | EPA 150.1     | 1628 - 02/04/19    | CY      |

\*The above results relate only to the items tested.

\*Test reports meet all requirements of LAC 33:1

\*This test report shall not be reproduced except in full, without the written approval of the laboratory.

Approval: 

U - Analyte not on current Scope of Accreditation  
A - Analyte detected in the associated method blank  
B - Estimated value between the detection limit and the reporting limit  
C - Estimated value exceeds the calibration curve  
D - Surrogate recovery outside advisable QC limits

TNTC - Too numerous to count  
E - Surrogate recovery unreportable due to dilution  
F - Matrix interference  
G - Method specific criteria not met  
H - Some of the QC was outside limits

01  
**ATTACHMENT 5**

107999

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST



ALTEC ENVIRONMENTAL CONSULTANTS, LLC  
10100 WOOL WORTH RD.  
KEITHVILLE, LA 71047

Phone # (318) 687-3771  
Fax # (318) 687-9923

ALTEC's Client:

Project Name:  
Edwards Commercial SWID

Defiance Energy Services, LLC  
Address:

Project Manager:  
Charlie Reynolds

City & State:

Brackley Branch Field, LA

Sampler Name (Print):  
Charlie Reynolds

| Field Sample ID | Source or Sample Description | # of containers | Matrix |      |        |        |       | G=grab, C=composite | Date Sampled | Time Sampled | PARAMETERS  | PRESERVATIVE | P/C |
|-----------------|------------------------------|-----------------|--------|------|--------|--------|-------|---------------------|--------------|--------------|-------------|--------------|-----|
|                 |                              |                 | Water  | Soil | Sludge | Liquid | Solid |                     |              |              |             |              |     |
| SN 240814       | Separator @ well             | X               |        |      |        |        |       | 2/4                 | 155          | X            | ice/4 deg C |              |     |
|                 |                              |                 |        |      |        |        |       |                     |              | X            | ice/4 deg C |              |     |
|                 |                              |                 |        |      |        |        |       |                     |              | X            | ice/4 deg C |              |     |
|                 |                              |                 |        |      |        |        |       |                     |              | X            | ice/4 deg C |              |     |
|                 |                              |                 |        |      |        |        |       |                     |              | X            |             |              |     |
|                 |                              |                 |        |      |        |        |       |                     |              | X            |             |              |     |

EMAIL RESULTS TO:  
STACI.PRICE@ALTECENV.COM  
CHARLIE.REYNOLDS@ALTECENV.COM

TAT  
SA03994

Special Instructions:

QC Deliverables

- None
- X Level 2 (Batch QC)
- Level 3
- Level 4

REMARKS:

| Relinquished by:           |  | Date: | Time:             | Received by:           | Date: | Time:              | CUSTODY RECORD |
|----------------------------|--|-------|-------------------|------------------------|-------|--------------------|----------------|
|                            |  |       |                   |                        |       |                    |                |
|                            |  |       |                   |                        |       |                    |                |
| Relinquished by: <i>CR</i> |  | Date: | Time: 2/4/19 1620 | Received by: <i>CR</i> | Date: | Time: 2-4-19 16:20 |                |

# Gulf States Environmental Laboratories

222 Spring Street; Shreveport, LA 71101 Phone: (318) 220-9067 Fax: (318) 221-3296  
LELAP Certification No.: 02083

## SAMPLE RECEIPT FORM

Client: Altec GSEL# 107999  
Received By/Date and Time: CD 2-4-19 16:20  
Sample Brought in By: Client  GSEL  Other   
Temperature: 15.4°C Thermometer ID: IR-1  
Logged in By: M. Dell

- |                                                          |                                         |                             |                                                   |
|----------------------------------------------------------|-----------------------------------------|-----------------------------|---------------------------------------------------|
| 1. Shipping container/cooler arrive in good condition?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/>              |
| 2. Was sufficient ice used? (If appropriate)             | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                   |
| 3. Were custody seals intact on sample bottles?          | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/>   |
| 4. Were custody papers (Chain of Custody) with samples?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                   |
| 5. Were custody papers properly filled out?              | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/>              |
| 6. Were custody papers signed by the client?             | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                   |
| 7. Were custody papers signed by the lab?                | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                   |
| 8. Did all sample containers arrive in good condition?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                   |
| 9. Were all container labels complete?                   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                   |
| 10. Were correct containers used for requested analysis? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                   |
| 11. Did all container labels agree with custody papers?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                   |
| 12. Was sufficient sample sent for requested analysis?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                   |
| 13. Were all samples received within holding times?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                   |
| 14. Do VOA vials have zero headspace?                    | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | None Received <input checked="" type="checkbox"/> |
| 15. Was preservation checked upon receipt?               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Initials <u>CD</u>                                |
| *VOA preservation checked after sample analysis.         |                                         |                             |                                                   |
| *Oil and Grease and TOC checked during sample analysis.  |                                         |                             |                                                   |
| 16. Was the correct preservative used?                   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                   |

Non-Conformance Issues: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

GSEL Rep/Contact Date & Time: \_\_\_\_\_

Person Contacted: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# MASIP CALCULATION REQUEST

(Check the box next to the appropriate request and complete the requested information)

The applicant requests to calculate the Maximum Authorized Surface Injection Pressure (MASIP) based on the fracture gradient of the injection formation. As described in the Intra-Office Policy Statement No. IMD 1999-03, the MASIP will be calculated not to exceed 90% of the calculated fracture pressure of the injection zone based on the Eaton's Correlation of 9 ppg formation fluid. The following information has been provided:

- The specific gravity of the injection fluid is 1.105, as reported in Attachment 6 - Fluid Source Analyses.
- The top of the proposed perforations is 5070 feet, as given in item No. 21 of the Form UIC-2 SWD application.
- An area of review of review of **one-quarter (1/4) mile** (1,320 feet) has been conducted and all of the wells located within a radius have been identified in Attachment 2B. Each well in the AOR will be evaluated for deficiencies. If deficiencies exist, the well(s) will be properly plugged and abandoned or remediated using another approved corrective action plan to protect the USDW.

The signature provided at the bottom of this page certifies the applicant understands this requirement.

The applicant requests to calculate the MASIP based on the fracture gradient of the confining formation. As described in Intra-Office Policy Statement No. IMD-GS-09, the MASIP will be calculated by limiting the pressure at the depth of injection to 75% the pressure needed to fracture the confining formation. The following information has been provided:

- The specific gravity of the injection fluid is \_\_\_\_\_, as reported in the fluid source analyses (Attachment 6).
- The top of the proposed perforations, \_\_\_\_\_ feet, as given in item No. 22 of the Form UIC-2 SWD application.
- The geomechanical data of the confining zone above the proposed injection zone  has been or  will be derived from one of the following methods:
  - Subsurface acquisition and testing of the confining beds,
  - Wireline logging to generate mechanical properties,
  - Leak-off testing of the confining beds using fluid with timed velocity, or
  - Other acceptable procedure:

The results of the proposed procedure  have been submitted as Attachment 7A, or \_\_\_\_\_ will be submitted prior to issuance of a permit to inject for the proposed well.

- An area of review of **one-half (1/2) mile** (2,640 feet) has been conducted and all of the wells located within the radius have been identified in Attachment 2B. Each well in the AOR will be evaluated for deficiencies. If deficiencies exist, the well(s) will be properly plugged and abandoned or remediated using another approved corrective action plan to protect the USDW.

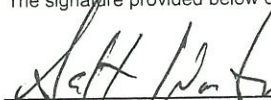
- The proposed top of the injection zone is approximately 4,505 feet from the base of the USDW. If the difference between the top of the proposed injection zone and base of the USDW is less than 1,000 feet, then the MASIP will be based on a surface pressure gradient not to exceed 0.25 psi/ft., calculated with respect to the top of the proposed perforations or the top of the open-hole completion.

- The surface casing is set at least 100 feet below the base of the USDW.

- A groundwater monitoring plan has been submitted as Attachment 7B and includes all the following provisions:

- Installation of a monitoring well or wells, that is screened or perforated at the base of the USDW.
- Collection of fluid from the monitoring well or wells, which will be sampled by a third party and analyzed by a LDEQ, LEAP accredited laboratory on a quarterly basis for
  - Chlorides
  - BTEX
  - Temperature
  - Total dissolved solids
  - Specific gravity
  - pH
- Collection of a fluid level in the monitoring well or wells on a monthly basis.
- Submission of a quarterly report, which includes all laboratory analytical data and fluid level measurements. The report will be submitted to the Injection and Mining Division within 30 days of the end of the quarter in which the sampling and measurements were performed. It is understood that failure to file reports or delinquent filings will result in enforcement actions.

The signature provided below certifies the applicant understands this requirement.

  
OPERATOR'S SIGNATURE

3/12/19  
DATE

|                     |                 |                    |    |
|---------------------|-----------------|--------------------|----|
| Date                | 4-28-77         |                    |    |
| Run No.             | ONE             | GEOLOGICAL SECTION |    |
| Depth-Driller       | 4000            |                    |    |
| Depth-Logger        | 3998            |                    |    |
| Btm. Log Interval   | 3995            |                    |    |
| Top Log Interval    | 291             |                    |    |
| Casing-Driller      | 8-5/8 @ 300     |                    |    |
| Casing-Logger       | 291             |                    |    |
| Bit Size            | 7-7/8           |                    |    |
| Type Fluid in Hole  | GEL             |                    |    |
| Dens. Visc.         | 10.6 40         |                    |    |
| pH Fluid Loss       | NA NA ml        |                    |    |
| Source of Sample    | FLOWLINE        |                    |    |
| Rm @ Meas. Temp.    | 1.75 @ 75 °F    | @                  | °F |
| Rmf @ Meas. Temp.   | 1.25 @ 75 °F    | @                  | °F |
| Rmc @ Meas. Temp.   | 1.75 @ 75 °F    | @                  | °F |
| Source: Rmf Rmc     | C C             |                    |    |
| Rm @ BHT            | 1.1 @ 128°F     | @                  | °F |
| Circulation Stopped | 1500            |                    |    |
| Logger on Bottom    | 2100            |                    |    |
| Max. Rec. Temp.     | 128 °F          |                    |    |
| quip. Location      | 7713 SHV        |                    |    |
| Recorded By         | HAMMOND, KINMAN |                    |    |
| Witnessed By        | GEDNETZ         |                    |    |

Permanent Datum: \_\_\_\_\_; Department of Co. \_\_\_\_\_; Elev.: \_\_\_\_\_; Separation: \_\_\_\_\_; B. \_\_\_\_\_; 194  
 Log Measured From: RKB RKB; Z.Ft. Above Perm. Datum: \_\_\_\_\_; D.F.: \_\_\_\_\_; 193  
 Drilling Measured From: RKB RKB; G.I.: \_\_\_\_\_; 187

LOCATION: 1650' FSL, 1150' FROM EL  
 SE NE SE  
 APT SERIAL NO. SEC. TWP. RANGE  
 17 13N 9W

Other Services: ML, CST

COUNTY: RED RIVER STATE, LOUISIANA

COMPANY: RELMM CORPORATION

WELL: PRITCHARD # 1

FIELD: BRACKY BRANCH

Seal # 155070

COUNTY: RED RIVER, LA.  
 FIELD: BRACKY BRANCH  
 LOCATION: -  
 WELL: PRITCHARD # 1  
 COMPANY: RELMM CORP.

Schlumberger

DUAL INDUCTION **SEI-E**  
 WITH LINEAR CORRELATION LOG


FOLD HERE The well name, location and borehole reference data were furnished by the customer.

|                    |       |               |        |               |
|--------------------|-------|---------------|--------|---------------|
| Run No.            | ONE   | SCALE CHANGES |        |               |
| Service Order No.  | 46746 | Type Log      | Depth  | Scale Up Hole |
| Fluid Level        | FULL  |               |        |               |
| Salinity - PPM CL. | NA    | 7,119         | 155070 | 1             |
| Speed - F.P.M.     | 100   |               |        |               |

|                       |        |
|-----------------------|--------|
| EQUIPMENT DATA        |        |
| Panel No.             | DD-485 |
| Cart No.              | "      |
| Sonde No.             | "      |
| Mem. Panel No.        | "      |
| G.R. Panel No.        | "      |
| G.R. Cart. No.        | "      |
| Tape Recorder - (TTR) | "      |
| Depth Encoder - (DRE) | "      |
| Pressure Wheel (CPW)  | "      |
| Type Centralizers     | "      |
| Stand Off - Inches    | "      |

|                   |      |
|-------------------|------|
| CALIBRATION DATA  |      |
| Sonde Error - ILM | 3.8  |
| Sonde Error - ILD | -2.8 |
| G.R. BKG. - CPS   | "    |
| G.R. Source - CPS | "    |

|                |     |
|----------------|-----|
| LOGGING DATA   |     |
| S.E. Log - ILM | 3.8 |

|                                                                                       |  |  |  |
|---------------------------------------------------------------------------------------|--|--|--|
| REMARKS                                                                               |  |  |  |
|  |  |  |  |
| *LSN71190100000155070*                                                                |  |  |  |

318777 HLN046740

|                            |      |
|----------------------------|------|
| S.E. Log -ILD              | -2.8 |
| S.E. - Set in Hole - Depth | 3.8  |
| S.E. Corr. - Hole Size     | -2.8 |
| G.R. Scale per 100 Div.    | -    |
| G.R. - T.C.                | -    |
| G.R. Sens.                 | -    |

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to Clause 4 of our General Terms and Conditions as set out in our current Price Schedule.

### SPONTANEOUS-POTENTIAL

15  
- | + MILLIVOLTS

### CONDUCTIVITY

MILLIMHOS/M =  $\frac{1000}{\text{OHMS M}^2/\text{M}}$

DEEP INDUCTION

2000

0

### RESISTIVITY OHMS M<sup>2</sup>/M

DEEP INDUCTION

0 20

0 200

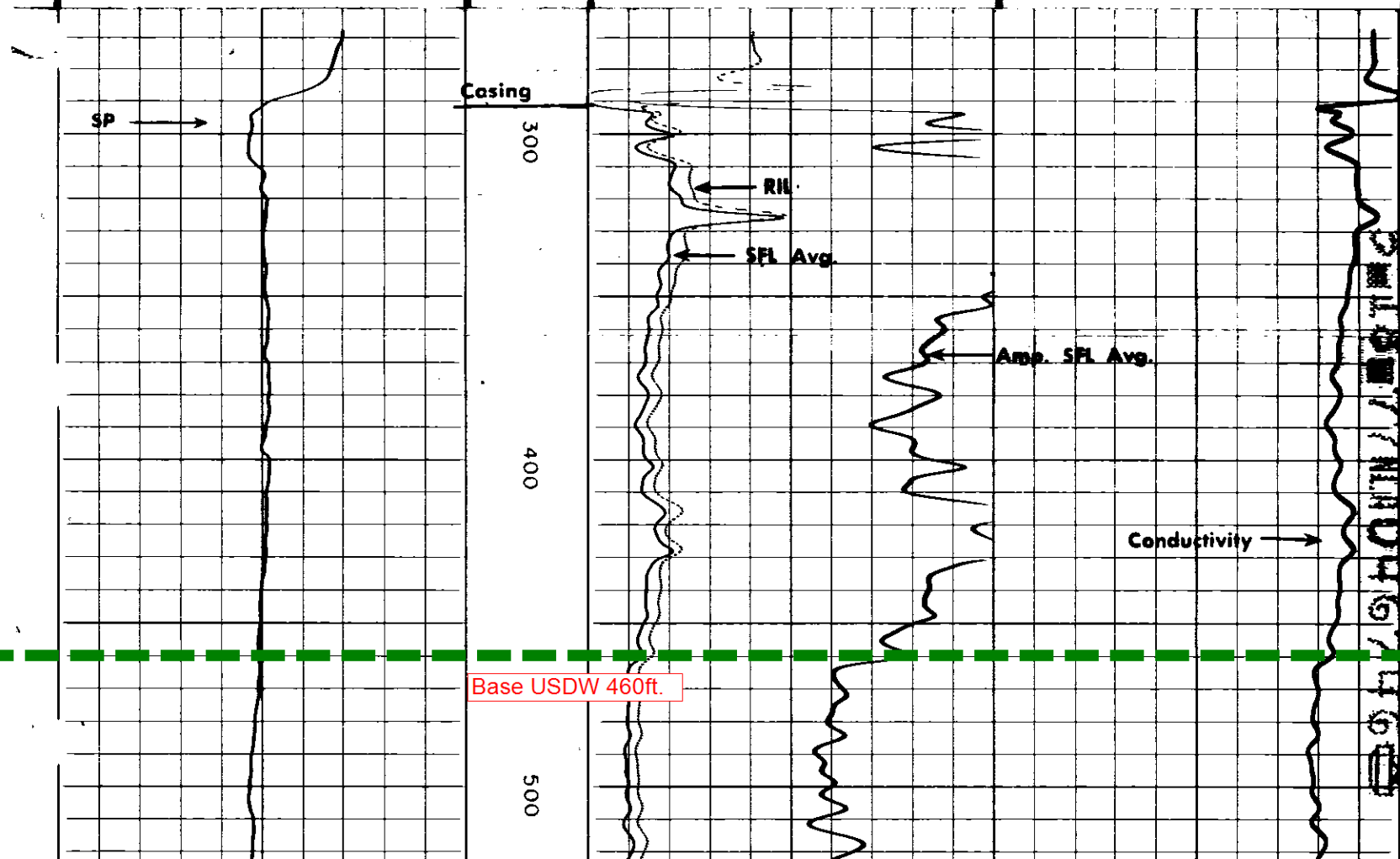
AVERAGED SFL

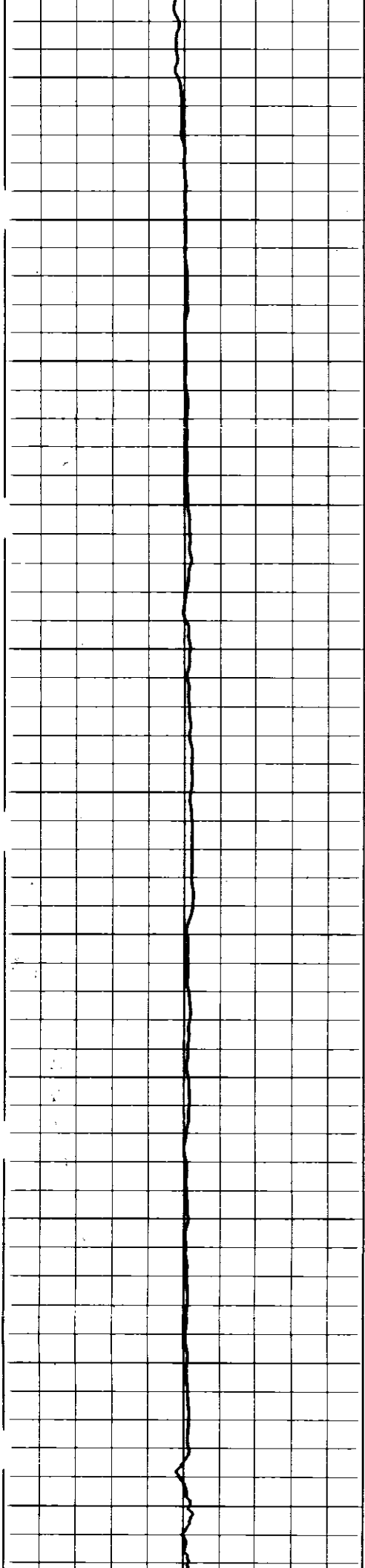
0 20

0 200

AMP. AVE. SFL

0 4





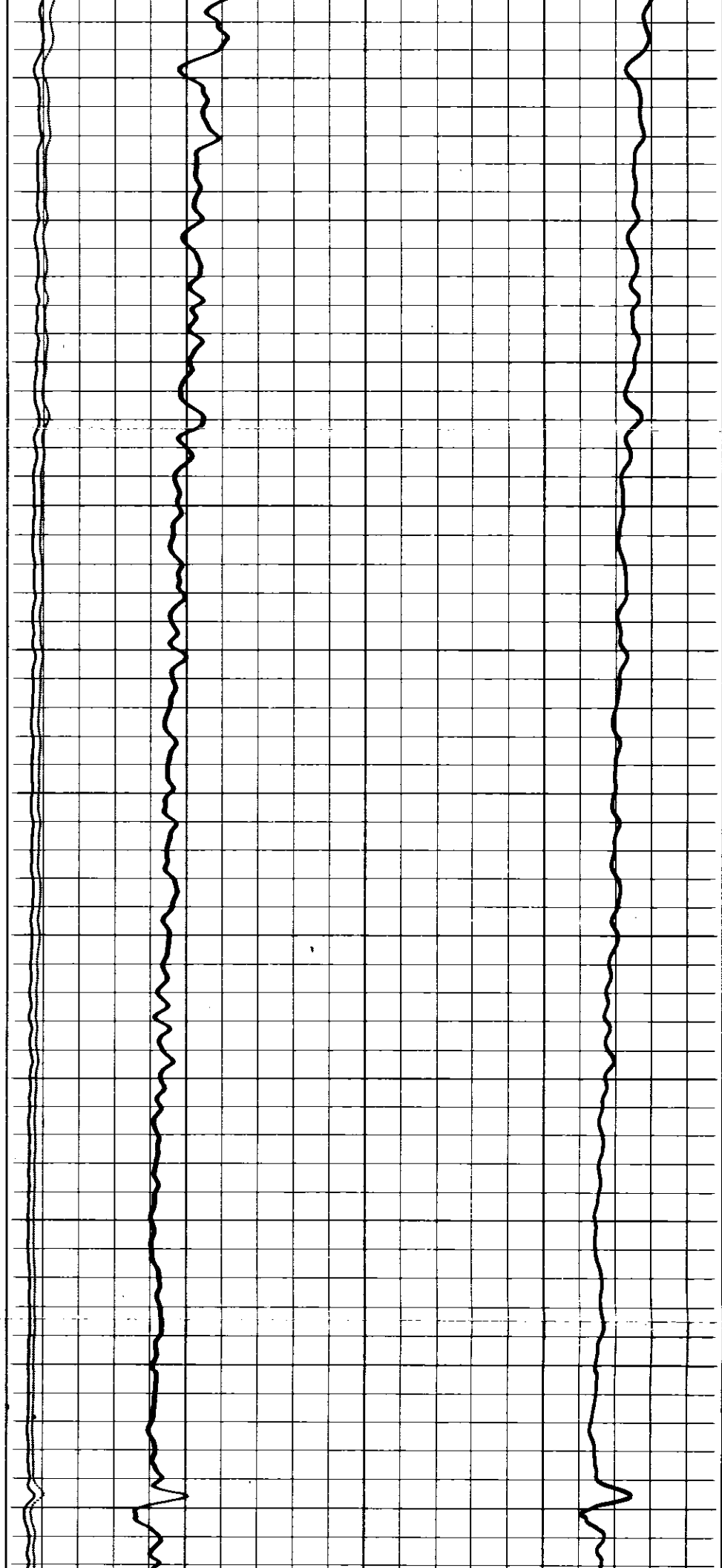
600

700

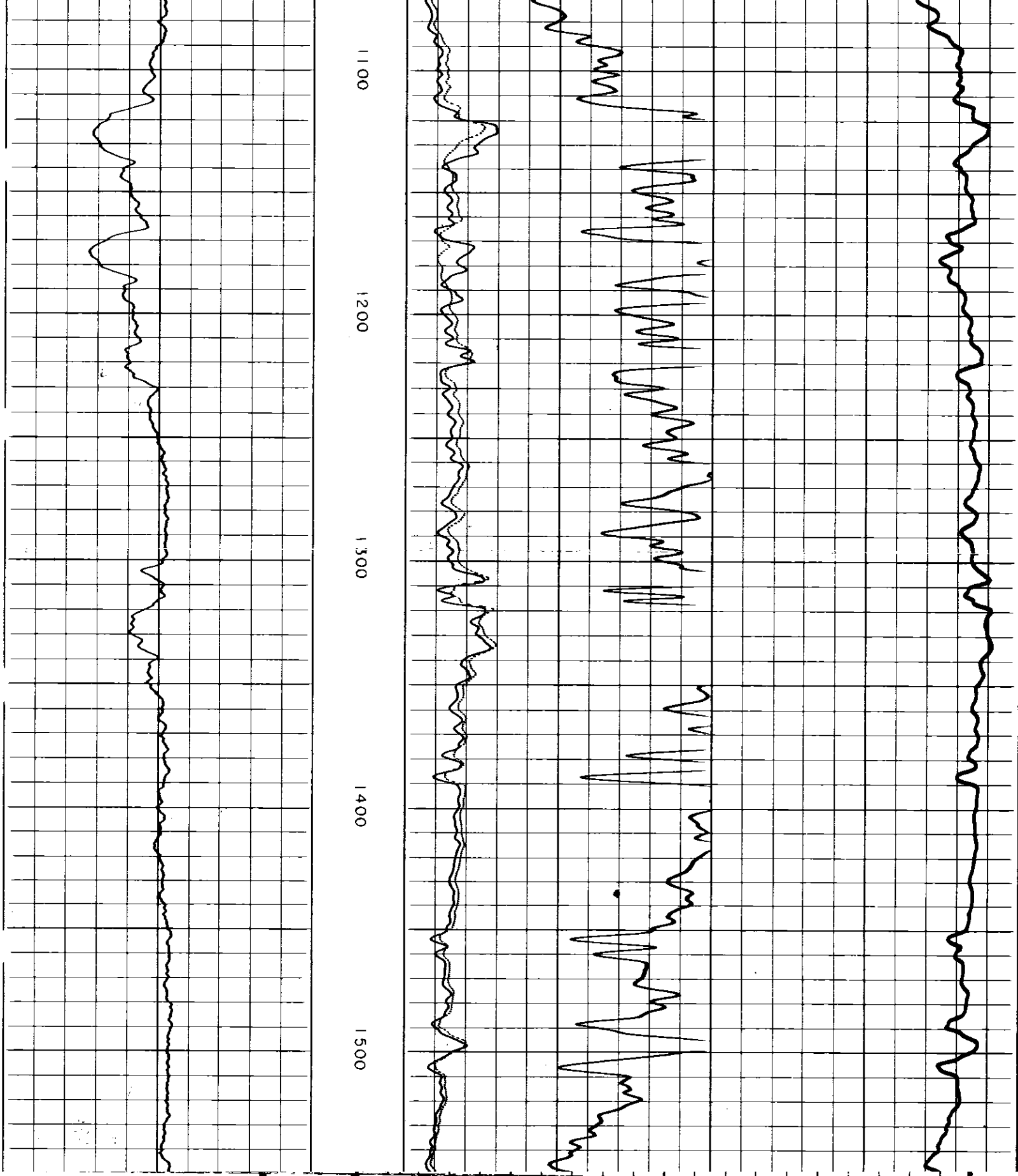
800

900

1000







RESISTIVITY OHMS. M<sup>2</sup>/M  
DEEP INDUCTION LOG

0 20

0 200

AVERAGED SFL

**SPONTANEOUS-POTENTIAL**

-  $\overbrace{\left| \right|}^{15}$  + MILLIVOLTS

DEPTH

0 20

0 200

AMP. AVE. SFL

0 4

**CONDUCTIVITY**MILLIMHOS/M =  $\frac{1000}{\text{OHMS. M}^2/\text{M}}$ 

DEEP INDUCTION LOG

2000

0



*Dual Production  
Focused Log*

FILE NO. T-2747

COMPANY LYONS PETROLEUM-EVERETT-PETROFUNDS

WELL Hoss RA 50 L, 142505  
PLUMA SMITH NO. 1

FIELD BRACKY BRANCH

COUNTY RED RIVER STATE LOUISIANA

LOCATION: 1210' FNL & 330' FEL OF

SEC 17 TWP 13N RGE 9W

Other Services  
BHC ALC  
CDL C GR  
& CNP

Permanent Datum G.L.

Log Measured from K.B. 16.0 Ft. Above Permanent Datum

Elevations:  
KB 179.0  
DF 194.0  
GL 179.0

Drilling Measured from K.B.

Date 8-4-73

Run No. ONE

Depth-Driller 9119

Depth-Logger 9113

Bottom Logged Interval 9111

Top Logged Interval 1430

Casing-Driller 8-5/8 @ 1430

Casing-Logger 7-7/8"

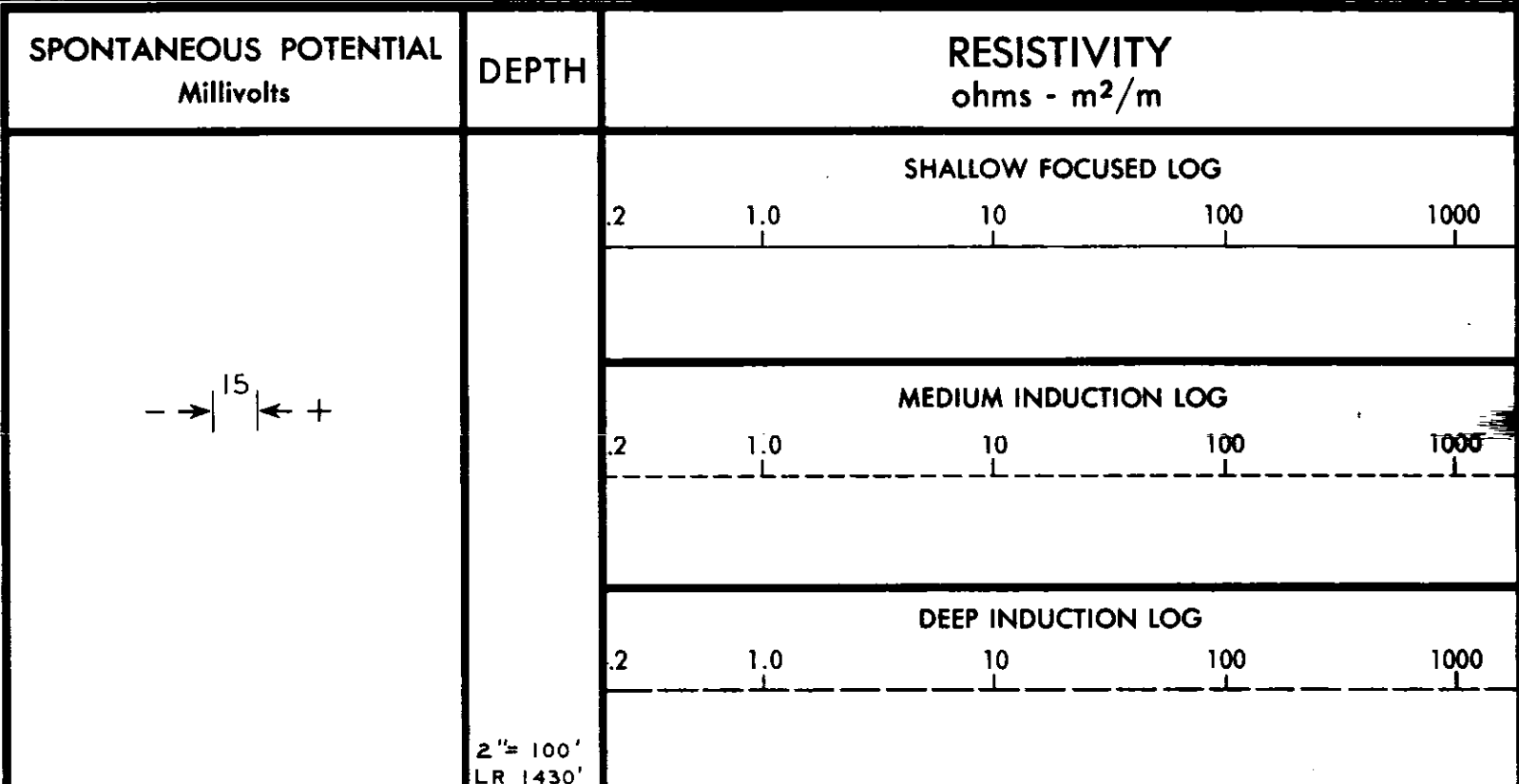
Bit Size MUD

Fluid in Hole

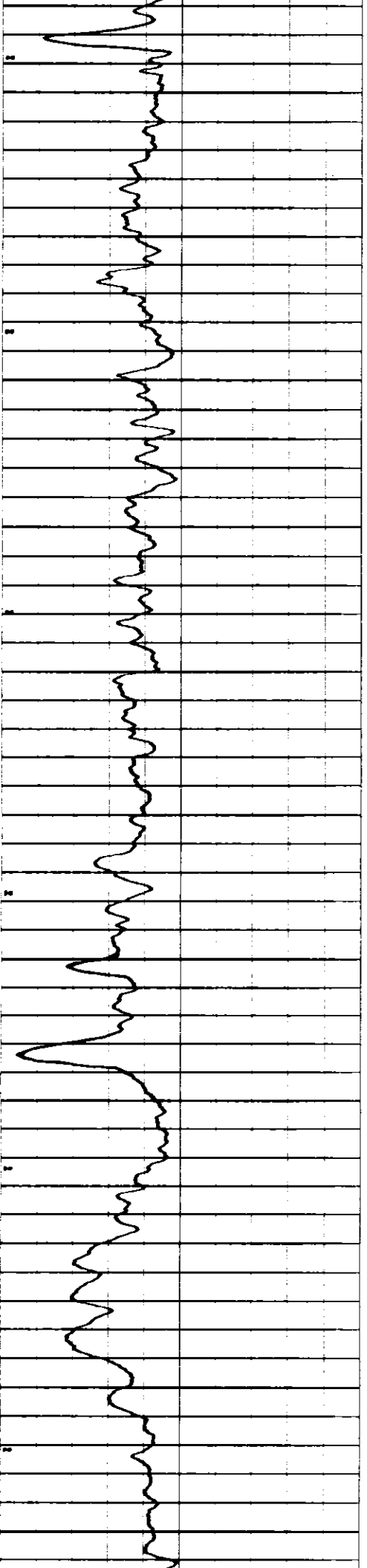
LYONS PETROLEUM, INC.  
1500 BECK BUILDING  
SHREVEPORT, LA 71101

Attachment 7B/SN142505/SA03994

|                        |                        |         |   |   |   |   |   |   |
|------------------------|------------------------|---------|---|---|---|---|---|---|
| Density and Viscosity  | 10.6                   | 43      |   |   |   |   |   |   |
| pH and Fluid Loss      | 9.5                    | 14.8 cc |   |   |   |   |   |   |
| Source of Sample       | CIRCULATED             |         |   |   |   |   |   |   |
| Rm @ Meas. Temp.       | 2.89 @ 74 °F           | @       | @ | @ | @ | @ | @ | @ |
| Rmf @ Meas. Temp.      | 2.10 @ 74 °F           | @       | @ | @ | @ | @ | @ | @ |
| Rmc @ Meas. Temp.      | 3.61 @ 74 °F           | @       | @ | @ | @ | @ | @ | @ |
| Source of Rmf and Rmc  | MEAS MEAS              |         |   |   |   |   |   |   |
| Rm @ BHT               | 1.11 @ 191 °F          | @       | @ | @ | @ | @ | @ | @ |
| Time Since Circ.       | 5 HOURS                |         |   |   |   |   |   |   |
| Ex. Rec. Temp. Deg. F. | 191                    | °F      |   |   |   |   |   |   |
| Sup. No. and Location  | 6064 TYLER             |         |   |   |   |   |   |   |
| Recorded By            | J. WORRELL             |         |   |   |   |   |   |   |
| Inspected By           | MESSRS. HOLLOWAY-WILEY |         |   |   |   |   |   |   |



2" x 100'  
LR 1430'  
3600



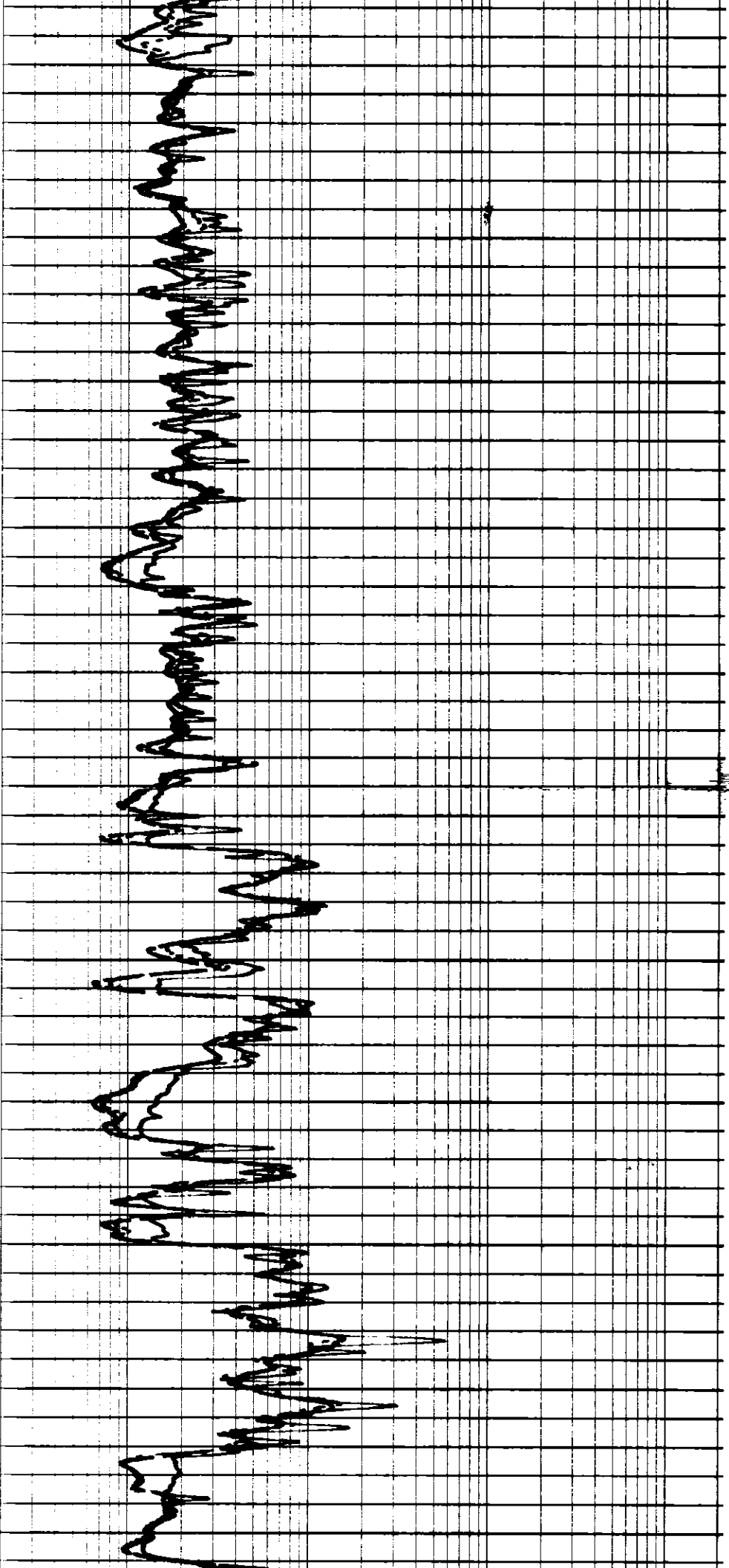
3700

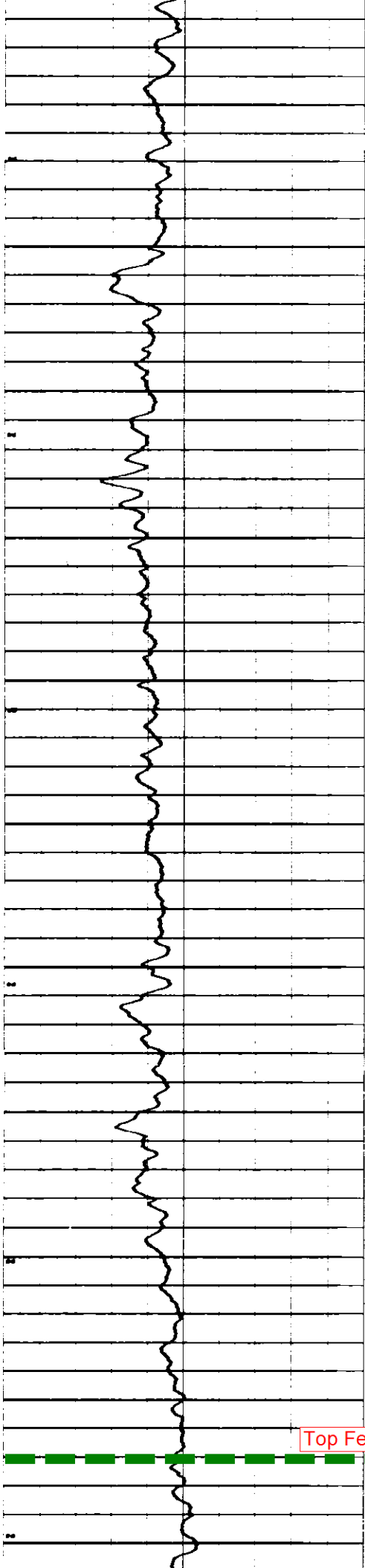
3800

3900

4000

4100





4200

4300

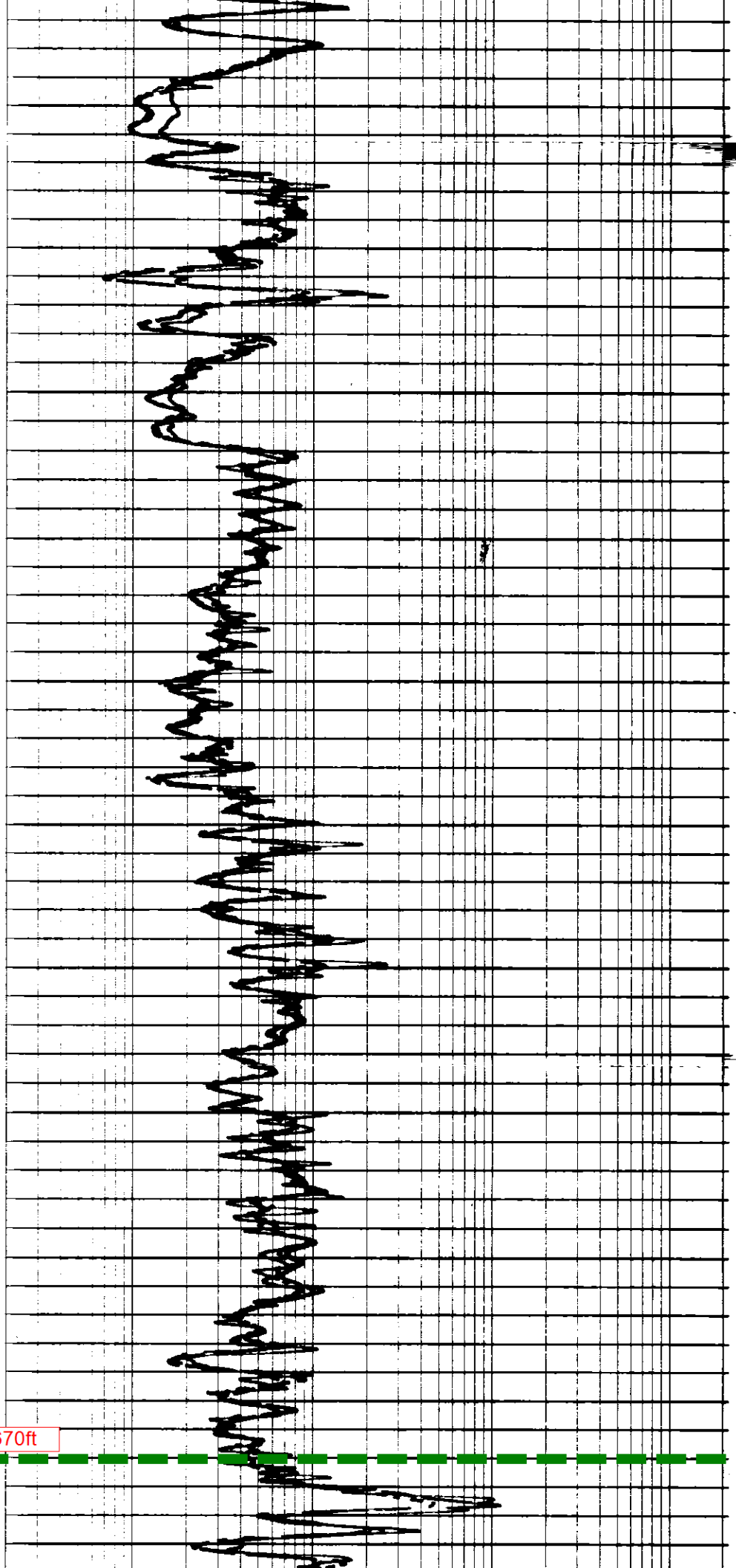
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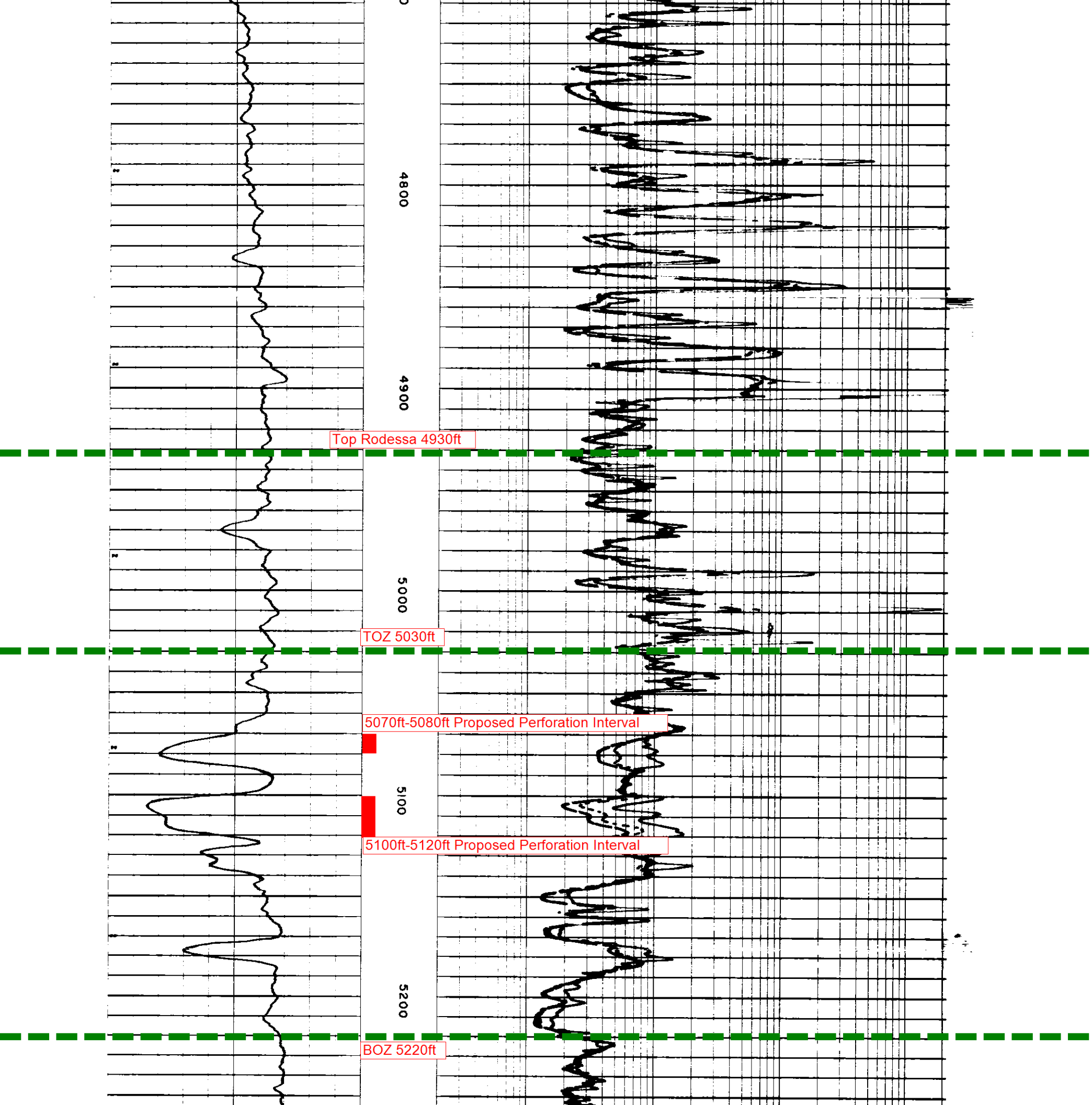
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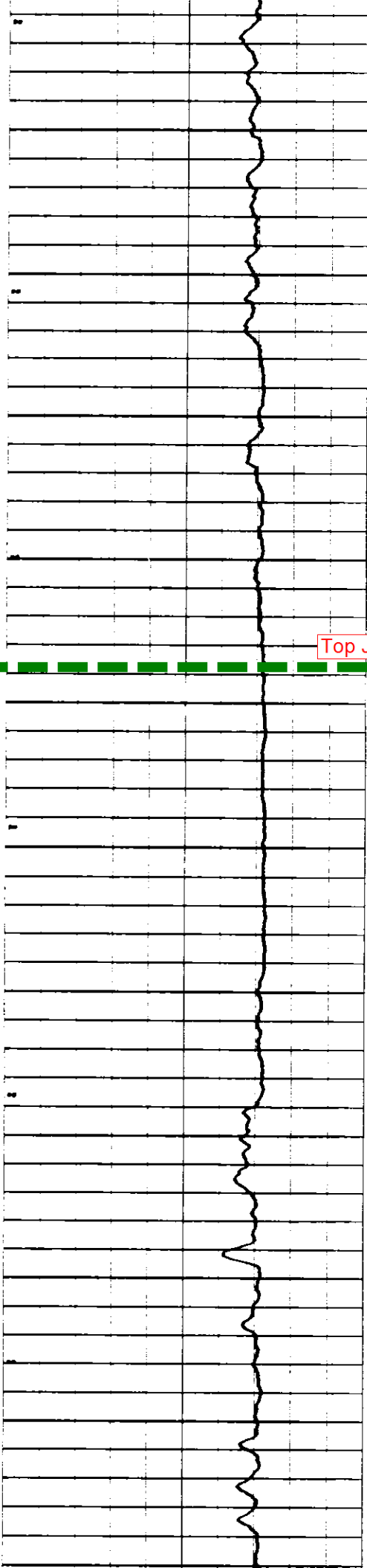
4600

4700

Top Ferry Lake 4670ft







5300

5400

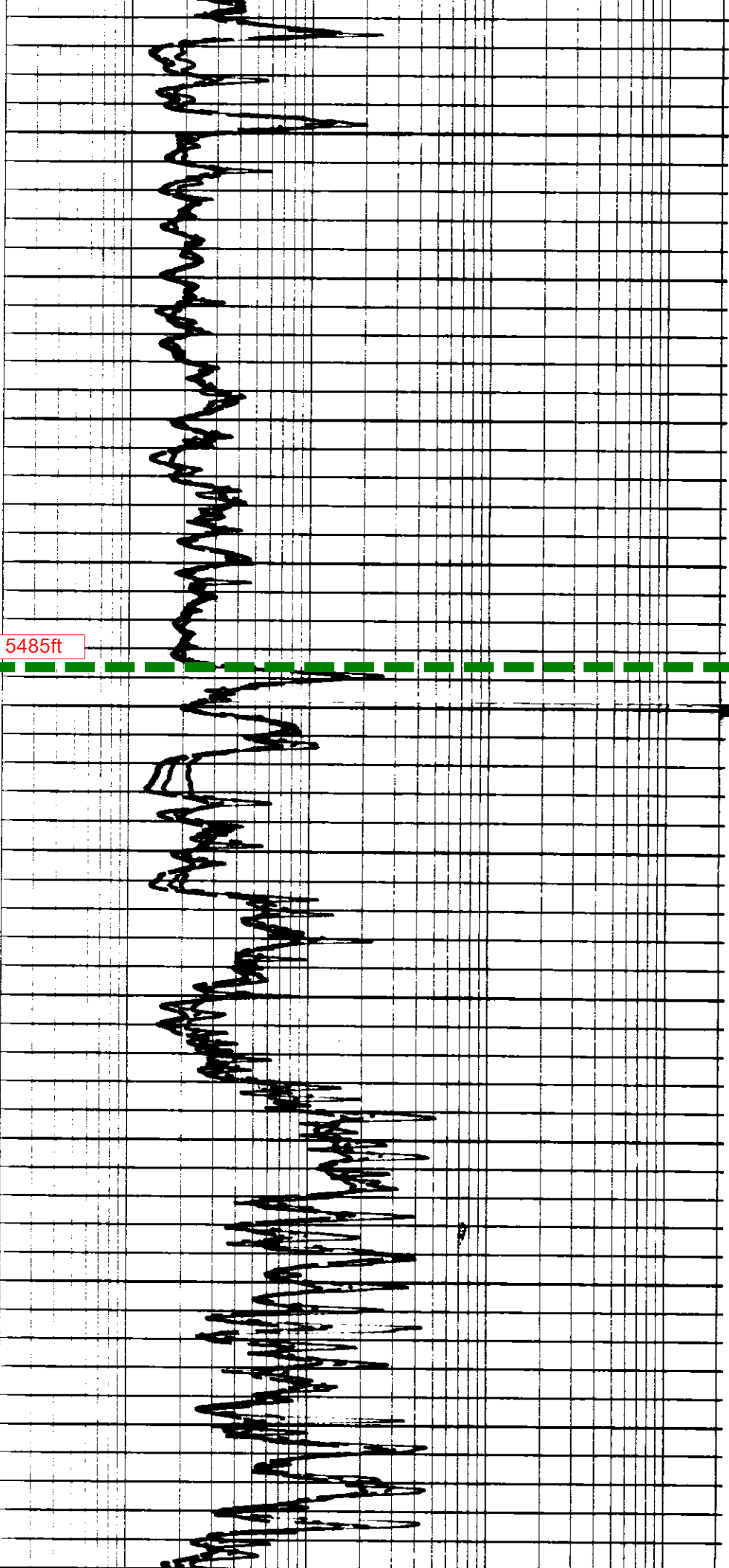
Top James Lime 5485ft

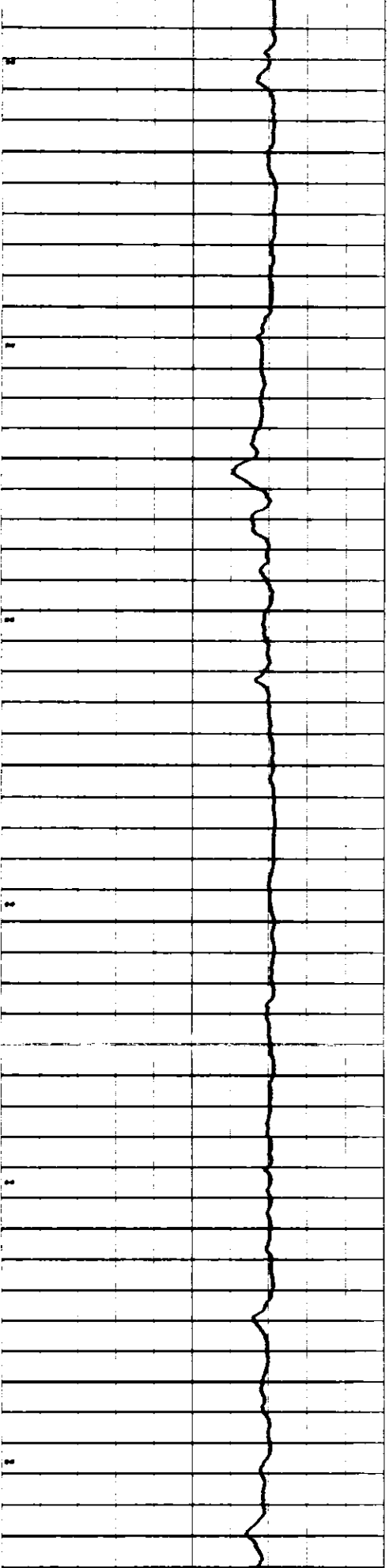
5500

5600

5700

5800





6000

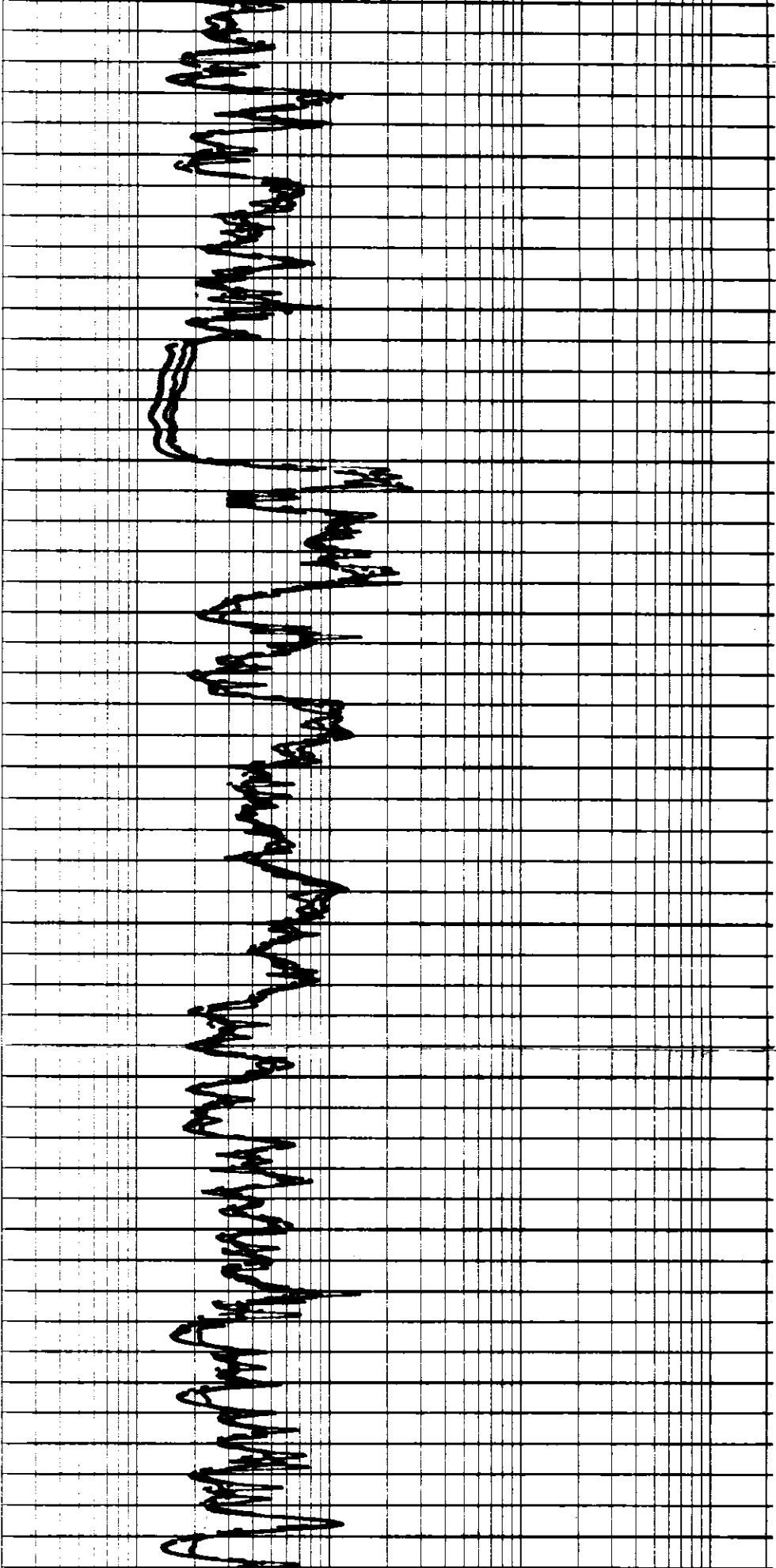
5900

6000

6100

6200

6300





**APPENDIX N – CLOSURE FUNDING*****Closure plan and cost estimate {Section 519.C.14.(a)}***

Defiance Energy Services, LLC will maintain a Surety Bond to be on file with the Office of Conservation to provide for adequate closure of the Defiance Energy Services, LLC Commercial SWD Well Facility.

Following is a description of the closure plan, cost estimate, and verification that these documents were provided by an independent professional consultant.

***Draft documentation of closure funding {Section 519.C.14.(b)}***

Following the closure plan, cost estimate, and verification is draft documentation of closure funding.



**DEFIANCE ENERGY SERVICES, LLC (D6423)**

415 Texas Street, Suite 400  
Shreveport, LA 71101  
(318) 377-5755

**Proposed  
Closure Plan  
& Cost Estimate**

**For  
DEFIANCE ENERGY SERVICES, LLC (D6423)**

**EDWARDS SWD FACILITY  
Section 20, T13N – R9W  
Bracky Branch Field, Red River Parish, Louisiana**

**By  
Charlie Reynolds  
ALTEC Environmental Consulting, LLC  
April 2020**

**DEFIANCE ENERGY SERVICES, LLC  
EDWARDS SWD NO. 001, NEW WELL  
RED RIVER PARISH, LOUISIANA**

**Plugging and Abandoning Procedure - EDWARDS SWD NO. 001**

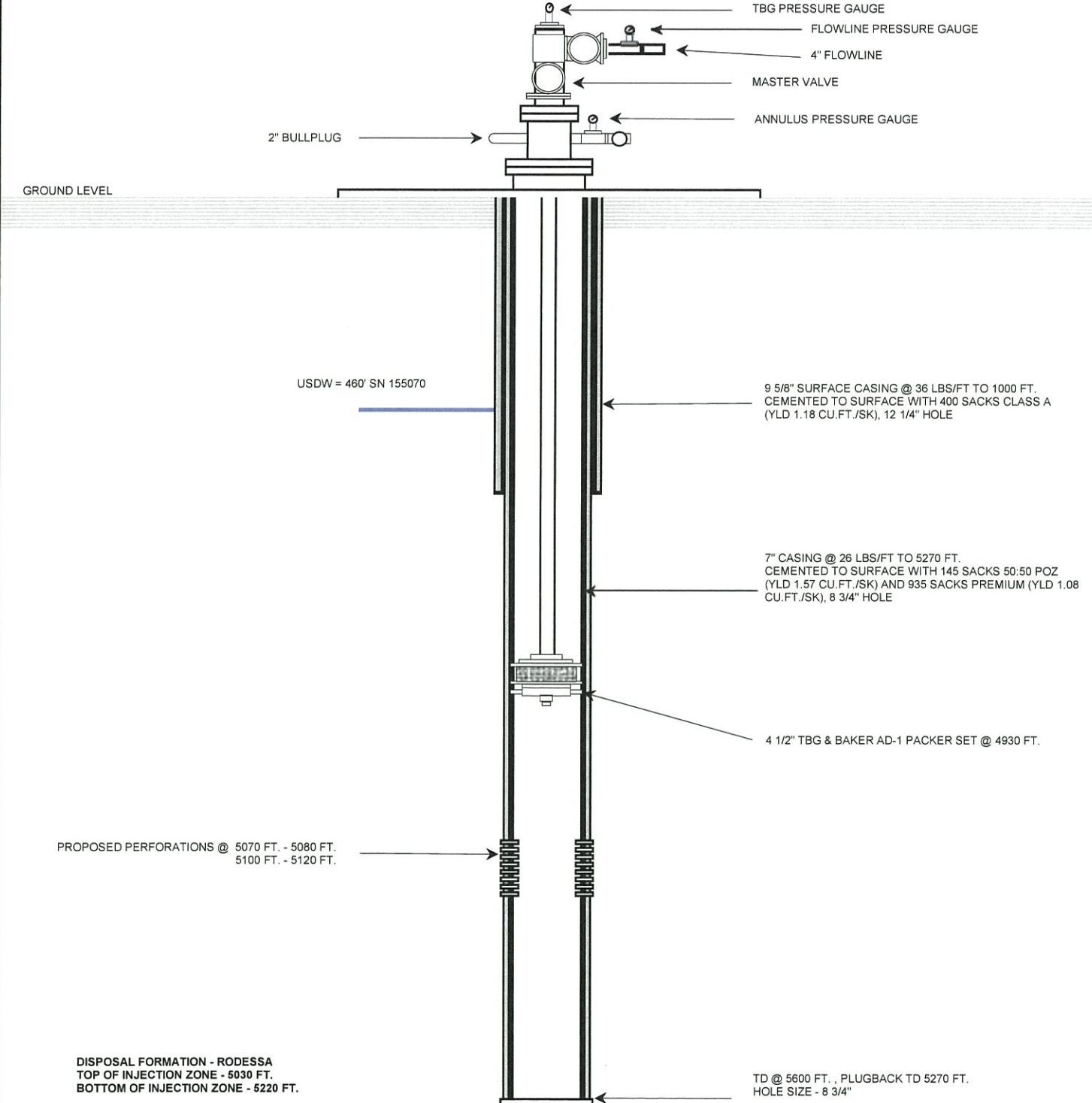
1. Contact Conservation Enforcement Specialist (CES) agent to witness plugging and abandoning procedure.
2. Pressure test casing/tubing annulus. Bleed off pressure in both annulus and tubing. Use weighted fluid to kill well if necessary.
3. Pull wellhead and surface equipment to remove injection string – (4 1/2" tubing). Release tension packer and pull 4 1/2 in. tubing.
4. Run and set retainer at 5065 ft. Run 2 7/8 in. tubing and string into retainer. Break down formation.
5. Squeeze perforations with 150 sacks of Class A cement or until locks up. Spot 200 ft. of cement on top of retainer (4,865') with 38 sacks of Class A cement. Wait 12 hours on cement.
6. Go in hole and tag cement. Pressure test to a minimum of 300 psi without more than 5% loss in pressure in a 30 min. period.
7. Pump 10#/gal mud on top of cement plug within wellbore.
8. Spot 700' cement plug from 1100 ft. – 400 ft. with 90 sacks of Class A cement (100' outside of surface casing to 60' above the base USDW.). Wait 12 hours on cement.
9. Go in hole and tag cement. Pressure test plug to a minimum of 300 psi without more than 5% loss in pressure within a 30 min. period.
10. Pump 10#/gal mud on top of cement plug in wellbore.
11. Spot 100 ft. cement plug from 100' – 5' with 20 sacks of Class A cement.
12. Cut all casing 5 ft. below ground surface. Weld ½ in. steel plate on each casing string. Weld SN and P&A date on top of plate.
13. Cover steel plate and remediate area, restoring location.

**DEFIANCE ENERGY SERVICES, LLC  
EDWARDS SWD NO. 001  
RED RIVER PARISH, LOUISIANA**

**Closure Cost Estimate to Plug and Abandon - Edwards SWD No. 001**

|                                                                         |                    |
|-------------------------------------------------------------------------|--------------------|
| 1. Mobilization of Equipment .....                                      | \$3,500.00         |
| 2. Work Over Rig Equipment and Expenses (5 days at \$2,250.00/day)..... | \$28,000.00        |
| 3. Supervisor (5 days at \$1,200.00 per day).....                       | \$8,400.00         |
| 4. Wireline services.....                                               | \$9,500.00         |
| 5. Cementing Equipment and Services .....                               | \$27,500.00        |
| 6. Weighted mud between plugs.....                                      | \$4,500.00         |
| 7. Vacuum truck services (2 days at \$850.00 per day) .....             | \$1,700.00         |
| 8. Backhoe .....                                                        | \$650.00           |
| 9. Welder.....                                                          | \$600.00           |
| <b>Estimated Total to Plug and Abandon .....</b>                        | <b>\$84,350.00</b> |

DEFIANCE ENERGY SERVICES, LLC (D6423)  
 EDWARDS SWD NO. 001  
 SECTION 20, TOWNSHIP 13 NORTH, RANGE 9 WEST  
 BRACKY BRANCH FIELD (1843)  
 RED RIVER PARISH, LOUISIANA



|       |           |          |                                                                                                                                                                                     |                                                                                       |
|-------|-----------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|       | PROJECT   | SCALE    | DEFIANCE ENERGY SERVICES, LLC (D6423)<br>EDWARDS SWD NO. 001 (PROPOSED)<br>SECTION 20, TOWNSHIP 13 NORTH, RANGE 9 WEST<br>BRACKY BRANCH FIELD (1843)<br>RED RIVER PARISH, LOUISIANA | ATT. 4A<br>EDWARDS SWD NO. 001<br>PROPOSED WELL<br>SCHEMATIC DIAGRAM<br>(rev. 4.8.20) |
|       | SA03994   | NTS      |                                                                                                                                                                                     |                                                                                       |
|       | PAGE      | DRAWN BY |                                                                                                                                                                                     |                                                                                       |
|       | 1         | CR       |                                                                                                                                                                                     |                                                                                       |
| SHEET | DATE      |          |                                                                                                                                                                                     |                                                                                       |
| A     | 3/12/2019 |          |                                                                                                                                                                                     |                                                                                       |

DEFIANCE ENERGY SERVICES, LLC (D6423)  
 EDWARDS SWD NO. 001  
 SECTION 20, TOWNSHIP 13 NORTH, RANGE 9 WEST  
 BRACKY BRANCH FIELD (1843)  
 RED RIVER PARISH, LOUISIANA

GROUND LEVEL

Cut all casing 5' below ground level. Weld 1/2" steel plate on each casing string. Weld SN and P&A date on top of plate. Cover Wellhead and remediate area around wellhead. Restore Location.

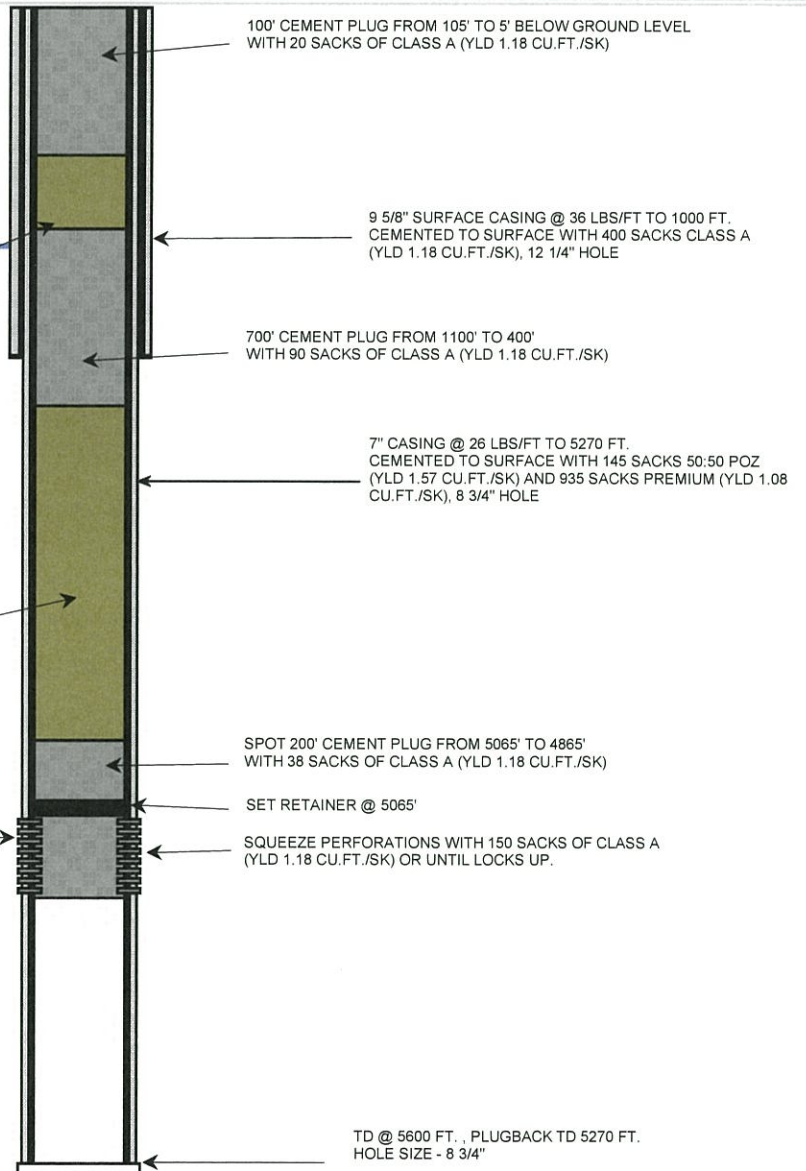
USDW = 460'

FILL WELLBORE WITH 10#/GAL MUD ON TOP OF CEMENT PLUG.


FILL WELLBORE WITH 10#/GAL MUD ON TOP OF CEMENT PLUG.

PERFORATIONS @ 5070 FT. - 5080 FT.  
 5100 FT. - 5120 FT.

DISPOSAL FORMATION - RODESSA  
 TOP OF INJECTION ZONE - 5030 FT.  
 BOTTOM OF INJECTION ZONE - 5220 FT.



TD @ 5600 FT. , PLUGBACK TD 5270 FT.  
 HOLE SIZE - 8 3/4"

|                                                                                    |           |          |                                                                                                                                                                                     |                                                                                         |
|------------------------------------------------------------------------------------|-----------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
|  | PROJECT   | SCALE    | DEFIANCE ENERGY SERVICES, LLC (D6423)<br>EDWARDS SWD NO. 001 (PROPOSED)<br>SECTION 20, TOWNSHIP 13 NORTH, RANGE 9 WEST<br>BRACKY BRANCH FIELD (1843)<br>RED RIVER PARISH, LOUISIANA | APPENDIX N<br>EDWARDS SWD NO. 001<br>PROPOSED P&A<br>SCHEMATIC DIAGRAM<br>(rev. 4.8.20) |
|                                                                                    | SA03994   | NTS      |                                                                                                                                                                                     |                                                                                         |
|                                                                                    | PAGE      | DRAWN BY |                                                                                                                                                                                     |                                                                                         |
|                                                                                    | 1         | CR       |                                                                                                                                                                                     |                                                                                         |
| SHEET                                                                              | DATE      |          |                                                                                                                                                                                     |                                                                                         |
| A                                                                                  | 3/12/2019 |          |                                                                                                                                                                                     |                                                                                         |

**DEFIANCE ENERGY SERVICES, LLC  
EDWARDS SWD NO. 001, NEW WELL  
RED RIVER PARISH, LOUISIANA**

**Closure Cost Estimate to Abandon Edwards - Tank Battery & Facility**

|                                                                                                                                                                        |                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| 1. Two (2) vacuum trucks to clean tanks (4 days at \$1,800.00 per day).....                                                                                            | \$7,200.00          |
| 2. Labor to clean tanks (7 days at \$1,500.00 per day) .....                                                                                                           | \$10,500.00         |
| 3. Disposal of 5,000 barrels of saltwater at \$1.25 per barrel .....                                                                                                   | \$6,250.00          |
| 4. Disposal of approximately 600 barrels of solids, tank bottoms at \$12.50 per<br>barrel .....                                                                        | \$7,500.00          |
| 5. Transportation for disposal of solids.....                                                                                                                          | \$2,000.00          |
| 6. Demolition of concrete, metal retaining walls, geotextile liner, dismantling &<br>Disposal of tanks and equipment, and other materials related to site cleanup..... | \$175,000.00        |
| 7. Demolition and disposal or recycling of facility piping .....                                                                                                       | \$6,000.00          |
| 8. Removal of lab and trailer.....                                                                                                                                     | \$5,000.00          |
| 9. Backfill and level site and plant grass.....                                                                                                                        | \$10,000.00         |
| 10. Miscellaneous expenses .....                                                                                                                                       | \$10,000.00         |
| <b>Estimated Total of Closure of Tank Battery &amp; Facility .....</b>                                                                                                 | <b>\$239,450.00</b> |

**DEFIANCE ENERGY SERVICES, LLC  
COMMERCIAL FACILITY CLOSURE COSTS  
SECTION 20 – T13N – R9W  
RED RIVER PARISH, LOUISIANA**

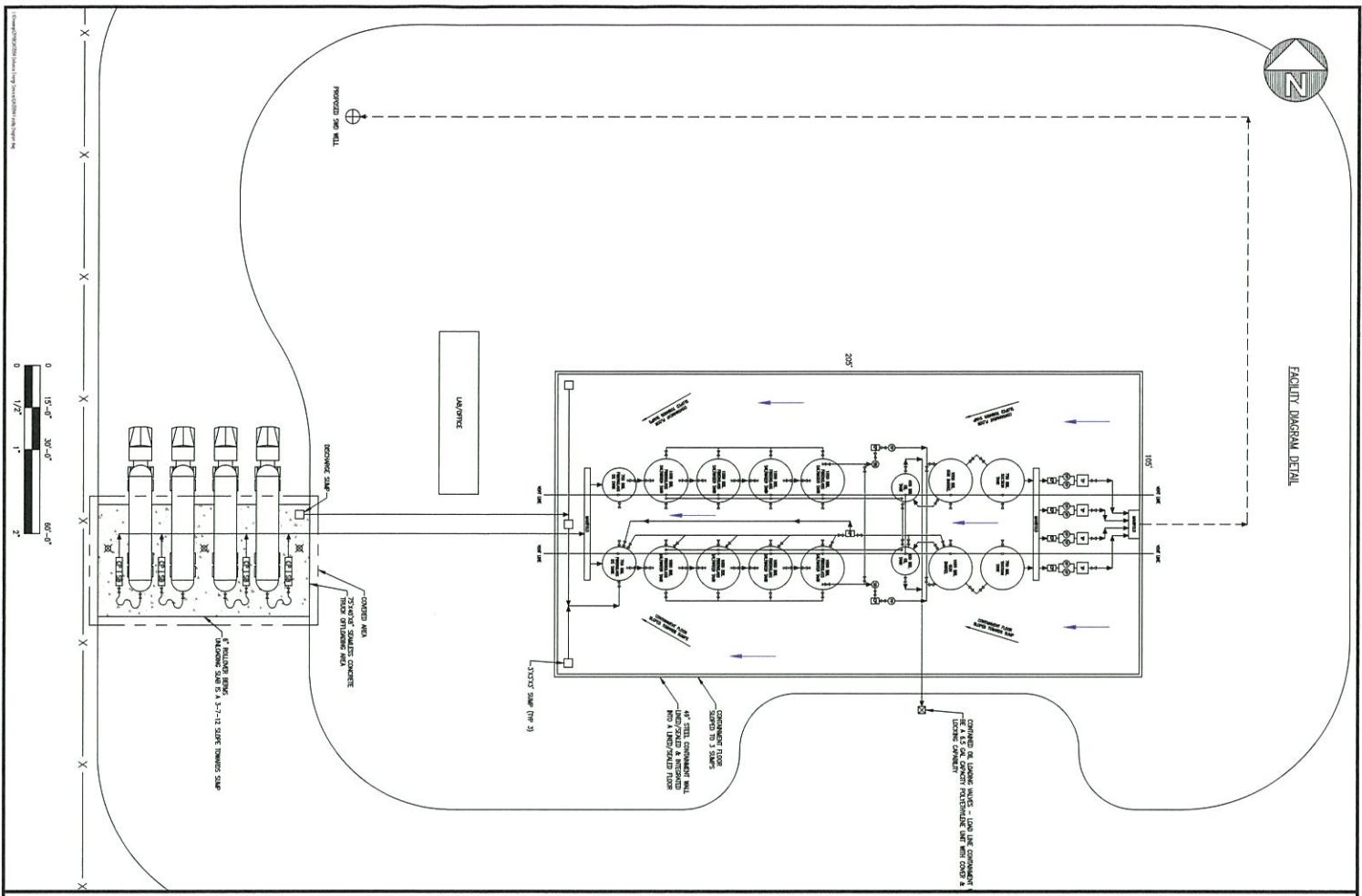
**Summary Cost of Plugging and Abandoning Edwards SWD No. 001, Tank Battery & Facility**

|                                                                                                         |                     |
|---------------------------------------------------------------------------------------------------------|---------------------|
| 1. Estimated Total to Plug and Abandon Edwards SWD No. 001 .....                                        | \$84,350.00         |
| 2. Estimated Total of Closure of Tank Battery & Facility .....                                          | \$239,450.00        |
| 3. Supervision (15% of TB Facility Total).....                                                          | \$48,570.00         |
| 4. Contingency (10%).....                                                                               | \$37,237.00         |
| <b>Total Estimated Cost to Plug and Abandon Well, Close Site and Remove<br/>Surface Equipment .....</b> | <b>\$409,607.00</b> |

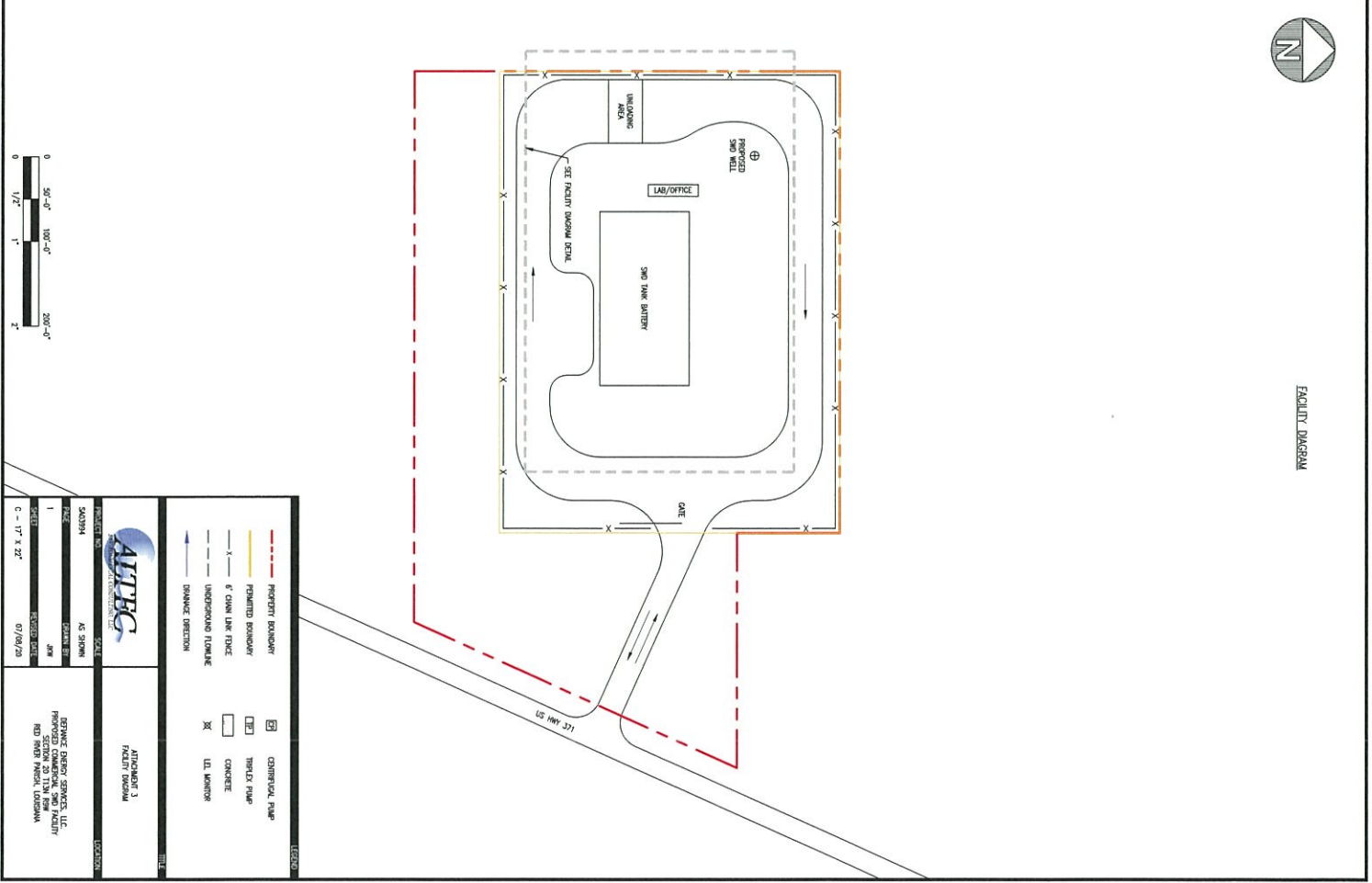
If the site is approved, once in operation this cost will be updated every year in accordance with LAC 43:XIX.513.C



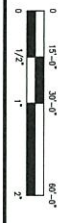
FACILITY DIAGRAM DETAIL



FACILITY DIAGRAM



| PROJECT INFORMATION                                                                                                               |          | SCALE                                                                      |                  | LOCATION                                    |                         |
|-----------------------------------------------------------------------------------------------------------------------------------|----------|----------------------------------------------------------------------------|------------------|---------------------------------------------|-------------------------|
| CLIENT                                                                                                                            | AS SHOWN | DATE                                                                       | 07/08/23         | PROJECT NAME                                | PROCESSED SUMP FACILITY |
| DATE                                                                                                                              | 07/08/23 | SCALE                                                                      | C - 1" = 1' x 2" | PROJECT NUMBER                              | 113                     |
|                                                                                                                                   |          |                                                                            |                  |                                             |                         |
| <p>PROJECT BOUNDARY</p> <p>PERMITTED BOUNDARY</p> <p>6" COIN LINE THICK</p> <p>UNDERGROUND FLOWLINE</p> <p>FLOWLINE DIRECTION</p> |          | <p>CENTRICAL PUMP</p> <p>TRIPLE PUMP</p> <p>CONCRETE</p> <p>LD MONITOR</p> |                  | <p>ATTACHMENT 3</p> <p>FACILITY DIAGRAM</p> |                         |



**AFFIDAVIT OF INDEPENDENT PROFESSIONAL CONSULTANT**

STATE OF LOUISIANA

PARISH OF CADDO

Charlie Reynolds, being duly sworn, deposes and says:

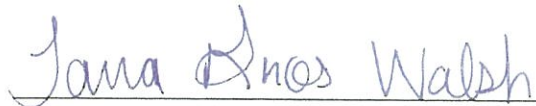
I am the Oil and Gas Division Manager of ALTEC Environmental Consulting, LLC, a Louisiana Limited Liability Company; and

This affidavit is being executed for the purpose of notifying the Louisiana Department of Natural Resources certifying that the closure plan and cost estimate included within this application were provided by ALTEC Environmental Consulting, LLC, an independent professional consultant.



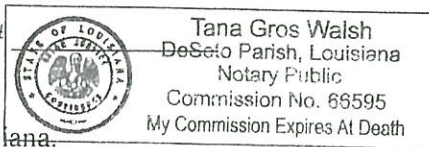
\_\_\_\_\_  
Charlie Reynolds, Agent

Sworn to before me this 12<sup>th</sup> day of March, 2019.



\_\_\_\_\_  
Notary Public

Notary #



Notary Public in and for DeSoto Parish, Louisiana.

My commission expires At Death.

Address of agent signing this Affidavit:

Charlie Reynolds  
ALTEC Environmental Consulting, LLC  
10100 Woolworth Road  
Keithville, LA 71047

**AFFIDAVIT OF INDEPENDENT PROFESSIONAL CONSULTANT**

STATE OF LOUISIANA

PARISH OF CADDO

Charlie Reynolds, being duly sworn, deposes and says:

I am the Oil and Gas Division Manager of ALTEC Environmental Consulting, LLC, a Louisiana Limited Liability Company; and

This affidavit is being executed for the purpose of notifying the Louisiana Department of Natural Resources certifying that the closure plan and cost estimate included within this application were provided by ALTEC Environmental Consulting, LLC, an independent professional consultant.

\_\_\_\_\_  
Charlie Reynolds, Agent

Sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Notary Public

Notary # \_\_\_\_\_

Notary Public in and for DeSoto Parish, Louisiana.

My commission expires \_\_\_\_\_.

Address of agent signing this Affidavit:

Charlie Reynolds  
ALTEC Environmental Consulting, LLC  
10100 Woolworth Road  
Keithville, LA 71047

Upon completion of the application process, the commissioner will set the amount of the required bond or irrevocable letter of credit in accordance with LAC 43:XIX.519.C.14b. The applicant will obtain the required bond or irrevocable letter of credit in that amount set by the commissioner. A draft irrevocable letter of credit and Surety Bond are attached.

**DRAFT IRREVOCABLE LETTER OF CREDIT**

Dears Sirs:

We hereby establish our Irrevocable Letter of Credit No. \_\_\_\_\_ in your favor, at the request and for the account of Defiance Energy Services, LLC up to the aggregate amount of **(amount)** available upon presentation by the Commissioner of Conservation, Office of Conservation, Department of Natural Resources, State of Louisiana, on:

- 1) your sight draft, bearing reference to this letter of credit No. \_\_\_\_\_; and
- 2) your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued in accordance with the requirements of Louisiana R.S.30:1 et seq."

This letter of credit is effective as of \_\_\_\_\_, 20\_\_\_\_, and shall expire on October 1, 20\_\_\_\_, but such expiration date shall be automatically extended for a period of at least one year on October 1, 20\_\_\_\_, and on each successive expiration date, unless at least 120 days before the current expiration date, we notify both you and Defiance Energy Services, LLC by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and Defiance Energy Services, LLC as shown on the signed return receipts.

This letter is subject to the Uniform Customs and Practice for Documentary Credits (2007 Revision), International Chamber of Commerce Publication No. 600 ("UCP 600").

We hereby agree with you and negotiating banks or bankers that drafts drawn under and in compliance with the terms of this credit shall be duly honored on due presentation to the drawee.

{Signatures(s) and title(s) of official(s) of issuing institution and date}

(Two Bank signatures required)

**(Note: Beneficiary is Office of Conservation, Department of Natural Resources, State of Louisiana.)**

STATE OF LOUISIANA  
PARISH OF EAST BATON ROUGE

**DRAFT SURETY BOND**

FROM: DEFIANCE ENERGY SERVICES, LLC  
AND  
SURETY

TO: OFFICE OF CONSERVATION  
DEPARTMENT OF NATURAL RESOURCES  
STATE OF LOUISIANA

THIS SURETY BOND is given by Defiance Energy Services, LLC, principal, and [surety name], Surety, to Office of Conservation, Department of Natural Resources, State of Louisiana, 70804-9275, pursuant to the following terms and conditions:

Principal and surety are bound to creditor in the sum of \$[TBD] Dollars, for the payment of which principal and surety jointly and severally bind themselves, their successors, and assigns.

Principal has applied to Creditor to receive a permit or has in effect a permit issued by Creditor to operate a commercial facility, Site Code TBD, for the receipt, storage, treatment and/or disposal of exploration and production waste in RED RIVER Parish, Louisiana pursuant to the provisions of LSA-R.S. 30:4(1)(10), and LAC43:XIX.Subpart 1.Chapter 5, Sections 513 and 567. Principal is required to provide bonding to insure the adequate closure of such facility and this bond is issued for said purpose.

This obligation shall run continuously and shall remain in full force and effect until and unless the bond is canceled as provided herein or as otherwise provided by law.

Surety may cancel the bond only by sending notice of cancellation by certified mail to both Principal and Creditor. Cancellation cannot occur or be effective until 120 days after the date of receipt of notice of cancellation by both Principal and Creditor. Further, such notice of cancellation or cancellation shall not affect this surety bond in respect to any obligation which may have arisen prior thereto.

Surety shall become liable on this bond obligation if and when Principal fails to perform his obligation to adequately close the facility as determined by Creditor after notice and in accordance with administrative procedures.

Following such determinations, Creditors shall draw on the surety bond by requesting payment by certified mail, and Surety shall pay the amount thereof within 30 days of receipt of said demand. If payment is not made within said 30 days period Surety shall also be liable for legal interest from date of receipt of demand, 10% of principal and interest as attorney's fees and all court cost incurred to collect the obligation.

The amount of the bond liability is as expressed herein, but Principal and Surety take notice of the legal requirements for annual review of the closure bond amounts, which is based upon cost estimates for adequate closure. Following this review Creditor may increase, decrease or allow the amount to remain the same. Upon notice from Creditor, if an increase is required, Principal shall cause the bond amount to be increased or shall otherwise provide the added security within 60 days after notice.

I WITNESS WHEREOF, the principal and Surety have executed this surety bond at \_\_\_\_\_ on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
WITNESS

\_\_\_\_\_  
PRINCIPLE

\_\_\_\_\_  
WITNESS

\_\_\_\_\_  
WITNESS

\_\_\_\_\_  
SURETY

\_\_\_\_\_  
WITNESS

Approved, accepted and executed by Creditor at Baton Rouge, Louisiana this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
WITNESS

OFFICE OF CONSERVATION

\_\_\_\_\_  
WITNESS

By: \_\_\_\_\_  
Commissioner of Conservation

**THIS DOCUMENT IS A DRAFT SURETY BOND**

# AFFIDAVIT OF PUBLICATION

STATE OF LOUISIANA

Parish of Natchitoches

Before me, a Notary Public, personally came and appeared Vickie Feazell

who, being duly sworn, did depose and say that she/he is Bookkeeper of

The *Coushatta Citizen*, a newspaper of general circulation published within the Parish of Red River ,

and that Notice of Intent – Defiance Energy Services, LLC (D6-423) is publishing a Notice of Intent to file an application with the Commissioner of the Office of Conservation for approval to construct and operate a commercial deep well injection waste disposal facility for disposal of exploration & production waste (E&P Waste) fluids. Located in Red River Parish, Section 20, Township 13 North, Range 9 West, approx. 5.0 miles Northeast of Coushatta, Louisiana #20-19

as per copy attached hereto, was published in said newspaper in the issues of 2/14, 2/21 & 2/28/19

(S) Vickie Feazell

SWORN AND SUBSCRIBED to before me this 28<sup>th</sup> day of February, 2019.

Tammy E. Raynes  
Notary Public

Tammy E. Raynes  
#035617



# NOTICE OF INTENT

IN ACCORDANCE WITH THE LAWS OF THE STATE OF LOUISIANA AND THE RULES AND REGULATIONS OF THE DEPARTMENT OF NATURAL RESOURCES, OFFICE OF CONSERVATION,

DEFIANCE ENERGY SERVICES, LLC (D6423)

100 ANGELA LANE

MINDEN, LA 71055

(318) 377-5755

IS HEREBY PUBLISHING A NOTICE OF INTENT TO FILE AN APPLICATION WITH THE COMMISSIONER OF THE OFFICE OF CONSERVATION, POST OFFICE BOX 94275, BATON ROUGE, LOUISIANA 70804-9275. SAID APPLICATION WILL REQUEST APPROVAL FROM THE ENVIRONMENTAL DIVISION TO CONSTRUCT AND OPERATE A COMMERCIAL DEEP WELL INJECTION WASTE DISPOSAL FACILITY FOR DISPOSAL OF EXPLORATION & PRODUCTION WASTE (E & P WASTE) FLUIDS.

THE PROPOSED FACILITY WILL BE LOCATED IN RED RIVER PARISH, SECTION 20, TOWNSHIP 13 NORTH, RANGE 9 WEST, APPROXIMATELY 5.0 MILES NORTHEAST OF COUSHATTA, LOUISIANA.

APPLICANT INTENDS TO DISPOSE OF EXPLORATION AND PRODUCTION WASTE FLUIDS GENERATED FROM THE DRILLING AND PRODUCTION OF OIL AND GAS WELLS BY MEANS OF DEEP WELL INJECTION INTO THE SUBSURFACE AFTER INITIAL STORAGE IN TANKS.

#020-19

2/14, 2/21, 2/28

**The Times**  
State of Louisiana  
Parish of Caddo  
**AFFIDAVIT OF PUBLICATION**

ALTEC ENVIRONMENTAL CONSULTING  
10100 WOOLWORTH RD  
KEITHVILLE, LA 71047

Account No.: SHR-CA2245

Ad No.: 0003372426

Ad Total: \$1,306.56

PO #: Defiance NOI

*Diana Figueroa*, personally known to me who being duly sworn, deposes and says that she is the LEGAL CLERK, for The Times, and that the attached advertisement published entitled:

NOTICE OF INTENT IN ACCORDANCE WITH THE  
LAWS OF THE STATE OF LOUISIANA AND THE  
RULES AND REGULATIONS OF THE DEPARTMENT  
OF NATURAL RESOURCES, OFFICE OF CONSERVA  
**Notice published in the Times on 02/07/19, 02/08/19, 02/09/19**

(Signed)

*Diana Figueroa*

*Kathleen A. Gibson*

2/11/2019

(Notary)



NOTICE OF INTENT

IN ACCORDANCE WITH THE LAWS OF THE STATE OF LOUISIANA AND THE RULES AND REGULATIONS OF THE DEPARTMENT OF NATURAL RESOURCES, OFFICE OF CONSERVATION,

DEFIANCE ENERGY SERVICES, LLC  
(D6423)  
100 ANGELA LANE  
MINDEN, LA 71055  
(318) 377-5755

IS HEREBY PUBLISHING A NOTICE OF INTENT TO FILE AN APPLICATION WITH THE COMMISSIONER OF THE OFFICE OF CONSERVATION, POST OFFICE BOX 94275, BATON ROUGE, LOUISIANA 70804-9275. SAID APPLICATION WILL REQUEST APPROVAL FROM THE ENVIRONMENTAL DIVISION TO CONSTRUCT AND OPERATE A COMMERCIAL DEEP WELL INJECTION WASTE DISPOSAL FACILITY FOR DISPOSAL OF EXPLORATION & PRODUCTION WASTE (E & P WASTE) FLUIDS.

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The Times  
February 7, 2019  
February 8, 2019  
February 9, 2019

CAPITAL CITY PRESS

Publisher of  
THE ADVOCATE

PROOF OF PUBLICATION

The hereto attached notice was published in THE ADVOCATE, a daily newspaper of general circulation published in Baton Rouge, Louisiana, and the Official Journal of the State of Louisiana, City of Baton Rouge, and Parish of East Baton Rouge or published daily in THE NEW ORLEANS ADVOCATE, in New Orleans Louisiana, or published daily in THE ACADIANA ADVOCATE in Lafayette, Louisiana, in the following issues:

02/11/2019, 02/12/2019, 02/13/2019



Kristi Bunch, Public Notices Representative

Sworn and subscribed before me by the person  
whose signature appears above

2/13/2019



M. Monic McChristian,  
Notary Public ID# 88293  
State of Louisiana  
My Commission Expires: Indefinite



|                      |           |
|----------------------|-----------|
| ALTEC ENVIRONMENTAL  | 328662-01 |
| STACI PRICE          |           |
| 10100 WOOLWORTH ROAD |           |
| KEITHVILLE, LA 71047 |           |

# **NOTICE OF INTENT**

**IN ACCORDANCE WITH THE LAWS OF THE STATE OF LOUISIANA AND THE RULES AND REGULATIONS OF THE DEPARTMENT OF NATURAL RESOURCES, OFFICE OF CONSERVATION,**

**DEFIANCE ENERGY SERVICES, LLC (D6423)  
100 ANGELA LANE  
MINDEN, LA 71055  
(318) 377-5755**

**IS HEREBY PUBLISHING A NOTICE OF INTENT TO FILE AN APPLICATION WITH THE COMMISSIONER OF THE OFFICE OF CONSERVATION, POST OFFICE BOX 94275, BATON ROUGE, LOUISIANA 70804-9275. SAID APPLICATION WILL REQUEST APPROVAL FROM THE ENVIRONMENTAL DIVISION TO CONSTRUCT AND OPERATE A COMMERCIAL DEEP WELL INJECTION WASTE DISPOSAL FACILITY FOR DISPOSAL OF EXPLORATION & PRODUCTION WASTE (E & P WASTE) FLUIDS.**

**THE PROPOSED FACILITY WILL BE LOCATED IN RED RIVER PARISH, SECTION 20, TOWNSHIP 13 NORTH, RANGE 9 WEST, APPROXIMATELY 5.0 MILES NORTHEAST OF COUSHATTA, LOUISIANA.**

**APPLICANT INTENDS TO DISPOSE OF EXPLORATION AND PRODUCTION WASTE FLUIDS GENERATED FROM THE DRILLING AND PRODUCTION OF OIL AND GAS WELLS BY MEANS OF DEEP WELL INJECTION INTO THE SUBSURFACE AFTER INITIAL STORAGE IN TANKS.**