

## 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**

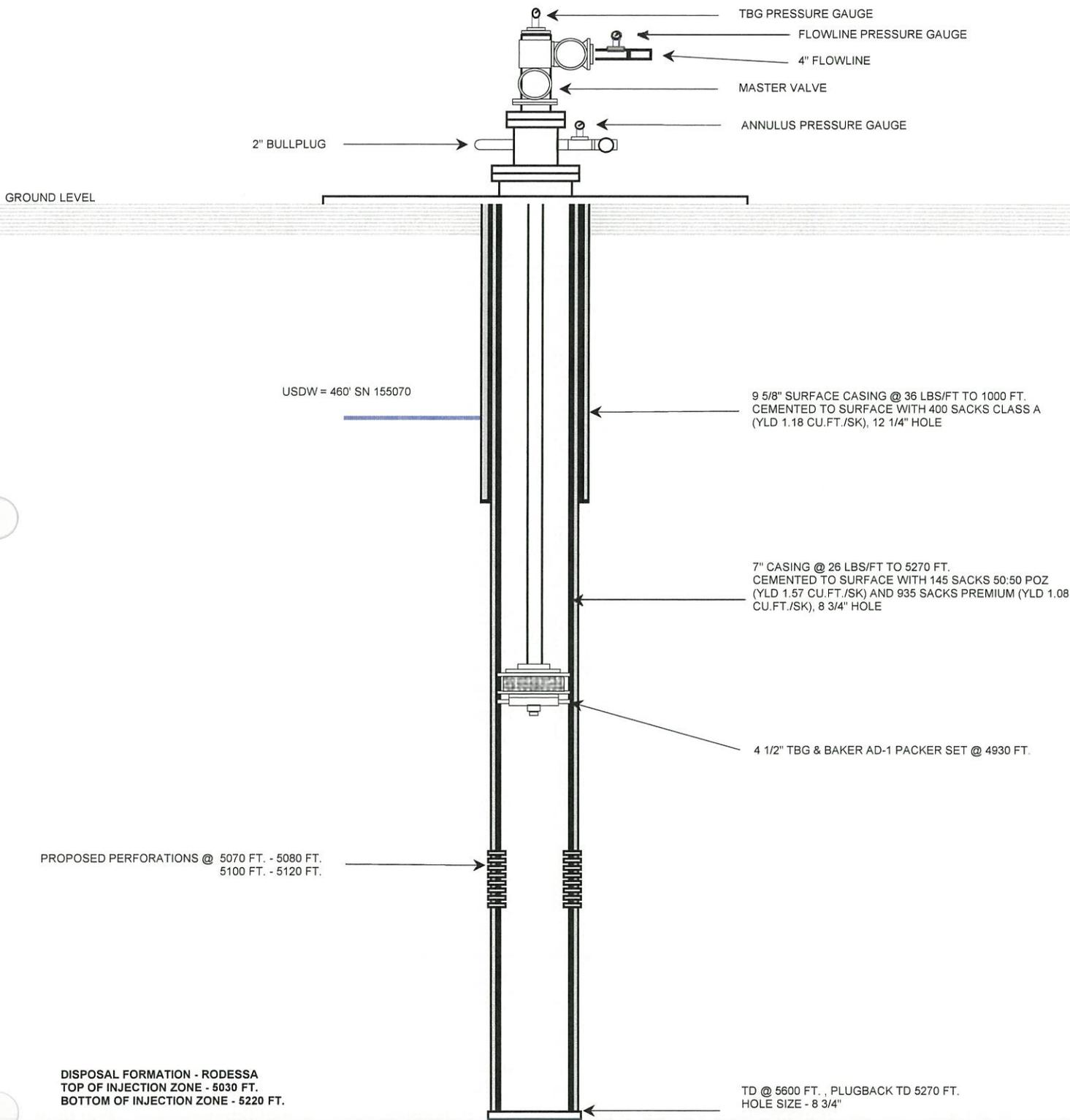
1. Contact Conservation Enforcement Specialist (CES) agent to witness plugging and abandoning procedure.
2. Pressure test casing/tubing annulus. Bleed off pressure in both annulus and tubing. Use weighted fluid to kill well if necessary.
3. Pull wellhead and surface equipment to remove injection string – (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) EDWARDS SWD NO. 001 (PROPOSED) SECTION 20, TOWNSHIP 13 NORTH, RANGE 9 WEST BRACKY BRANCH FIELD (1843) RED RIVER PARISH, LOUISIANA	ATT. 4A EDWARDS SWD NO. 001 PROPOSED WELL SCHEMATIC DIAGRAM (rev. 4.8.20)
	SA03994	NTS		
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	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.

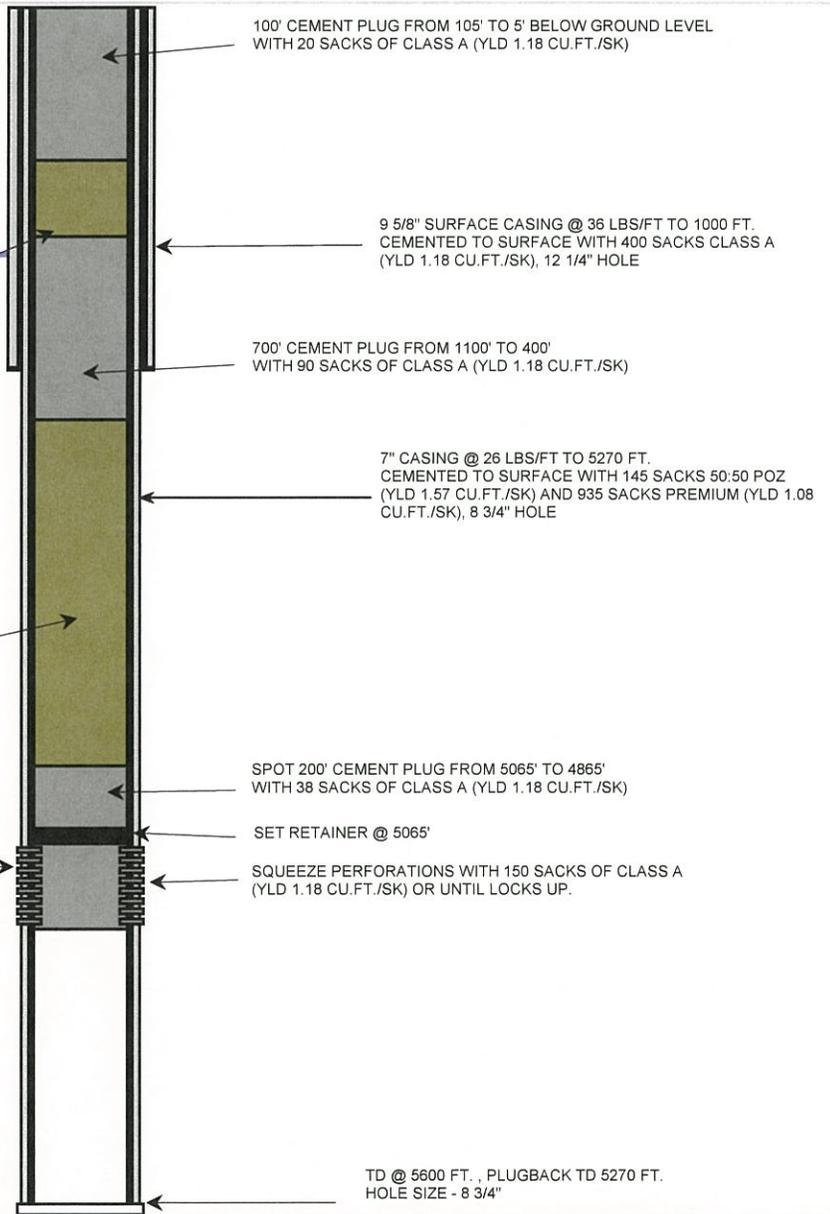
USDW = 460'

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"

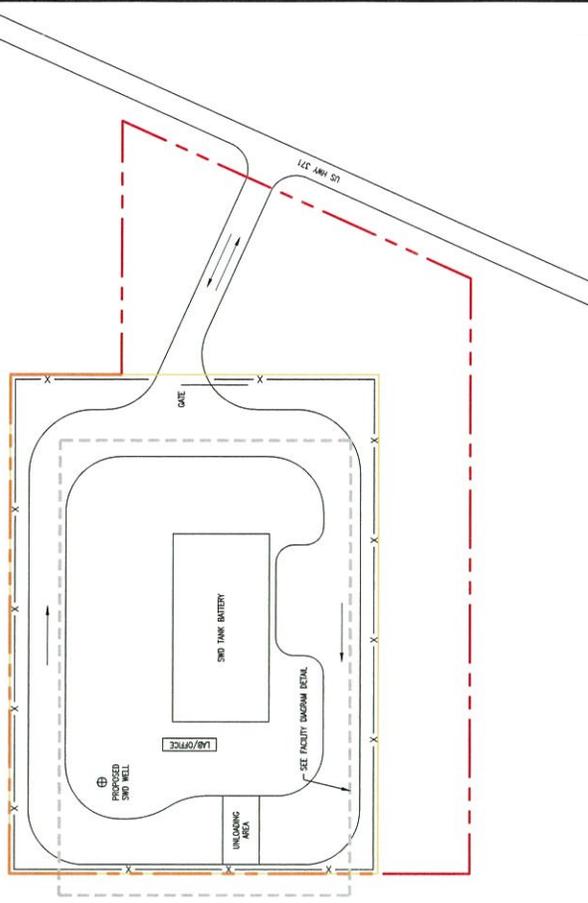


PROJECT	SA03994	SCALE	NTS
PAGE	1	DRAWN BY	CR
SHEET	A	DATE	3/12/2019

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

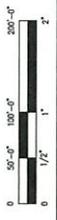
APPENDIX N  
 EDWARDS SWD NO. 001  
 PROPOSED P&A  
 SCHEMATIC DIAGRAM  
 (rev. 4.8.20)

FACILITY DIAGRAM

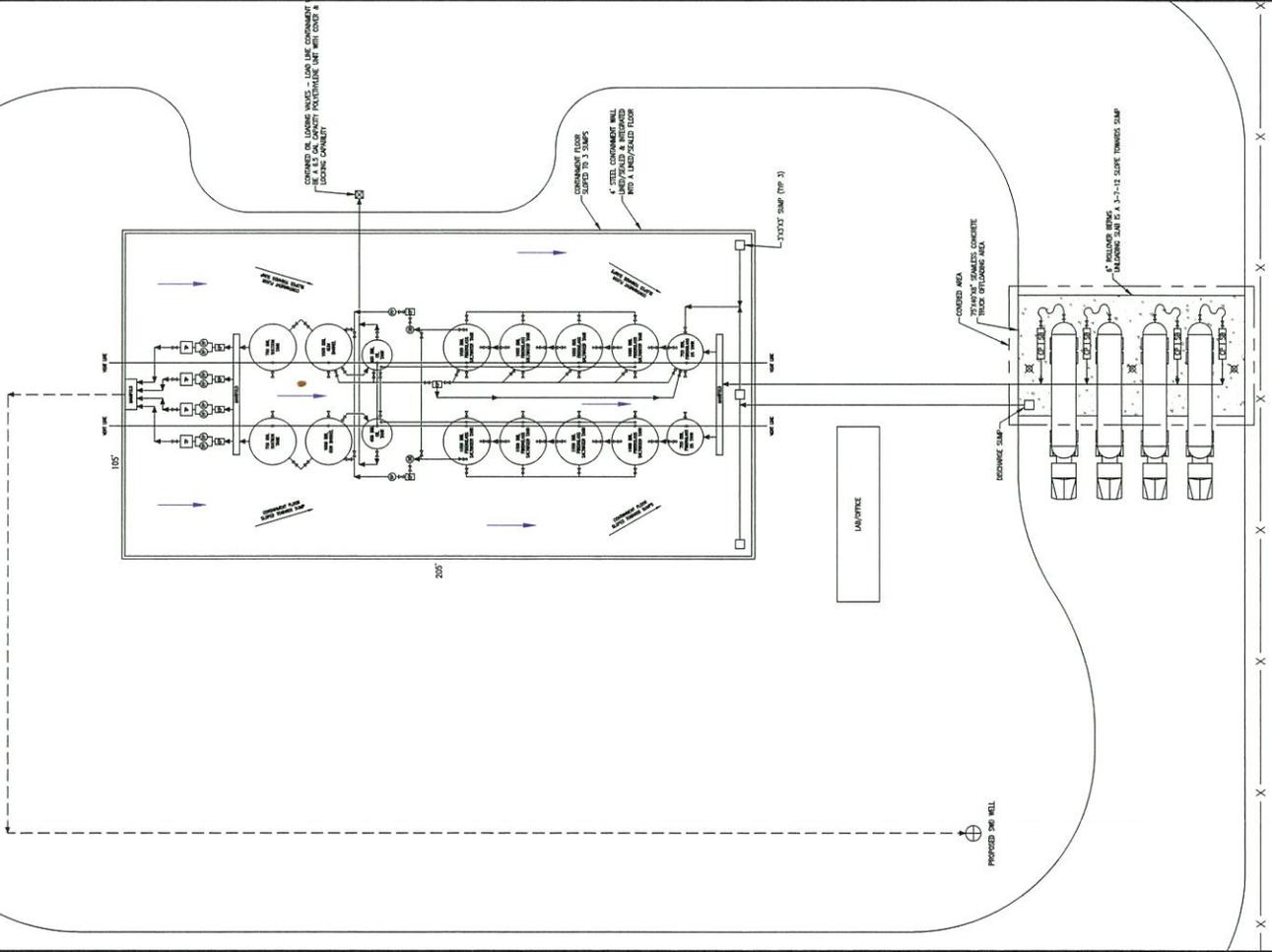


	PROPERTY BOUNDARY		PERMITTED BOUNDARY		6" CHAIN LINK FENCE		CONCRETE		UNDERGROUND FUTURE		DRAINAGE DIRECTION		LET MONITOR
	CONTINGENTIAL PUMP		TRIPLE PUMP		CONCRETE		CONCRETE		UNDERGROUND FUTURE		DRAINAGE DIRECTION		LET MONITOR

**PROJECT NO.** 540394  
**SCALE** AS SHOWN  
**DATE** 6/17/20  
**DATE** 6/17/20  
**SCALE** 6" = 17' x 22"  
**LOCATION** RED BANK INDUSTRIAL LOGSKANA



FACILITY DIAGRAM DETAIL



**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 barrel .....	\$7,500.00
5. Transportation for disposal of solids.....	\$2,000.00
6. Demolition of concrete, metal retaining walls, geotextile liner, dismantling & 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 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

**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, 20 19.

Notary Public

Notary #



Tana Gros Walsh  
DeSoto Parish, Louisiana  
Notary Public  
Commission No. 66595  
My Commission Expires At Death

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

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\_\_\_\_\_  
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(I)(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**