



RAILROAD COMMISSION OF TEXAS

Form W-2

1701 N. Congress  
P.O. Box 12967  
Austin, Texas 78701-2967

Status: Approved  
Date: 12/22/2017  
Tracking No.: 182311

OIL WELL POTENTIAL TEST, COMPLETION OR RECOMPLETION REPORT, AND LOG

OPERATOR INFORMATION

Operator Name: APPROACH OPERATING LLC Operator No.: 028625  
Operator Address: ONE RIDGMAR CENTRE 6500 WEST FREEWAY SUITE 800 FORT WORTH, TX 76116-0000

WELL INFORMATION

API No.: 42-105-42381 County: CROCKETT  
Well No.: 2119HB RRC District No.: 7C  
Lease Name: UNIVERSITY 42 Field Name: HOLT RANCH (CONSOLIDATED)  
RRC Lease No.: 17265 Field No.: 42341300  
Location: Section: 21, Block: 42, Survey: UL, Abstract: U371  
  
Latitude: 30.9131 Longitude: -101.1498  
This well is located 14 miles in a N direction from OZONA, which is the nearest town in the county.

FILING INFORMATION

Purpose of filing: Well Record Only  
Type of completion: New Well  
Well Type: Shut-In Producer Completion or Recompletion Date: 05/17/2017  

Type of Permit	Date	Permit No.
Permit to Drill, Plug Back, or Deepen	04/13/2017	825013
Rule 37 Exception		
Fluid Injection Permit		
O&G Waste Disposal Permit		
Other:		

COMPLETION INFORMATION

Spud date: 05/07/2017	Date of first production after rig released: 05/17/2017
Date plug back, deepening, recompletion, or drilling operation commenced: 05/07/2017	Date plug back, deepening, recompletion, or drilling operation ended: 05/17/2017
Number of producing wells on this lease in this field (reservoir) including this well: 36	Distance to nearest well in lease & reservoir (ft.): 350.0
Total number of acres in lease: 7780.13	Elevation (ft.): 2596 GL
Total depth TVD (ft.): 5944	Total depth MD (ft.): 13655
Plug back depth TVD (ft.): 5943	Plug back depth MD (ft.): 13565
Was directional survey made other than inclination (Form W-12)? No	Rotation time within surface casing (hours): 74.5
Recompletion or reclass? No	Is Cementing Affidavit (Form W-15) attached? Yes
Type(s) of electric or other log(s) run: None	Multiple completion? No
Electric Log Other Description:	
Location of well, relative to nearest lease boundaries	Off Lease : No
of lease on which this well is located:	1032.0 Feet from the South Line and
	1828.0 Feet from the East Line of the
	UNIVERSITY 42 Lease.

FORMER FIELD (WITH RESERVOIR) & GAS ID OR OIL LEASE NO.

Field & Reservoir	Gas ID or Oil Lease No.	Well No.	Prior Service Type
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PACKET: N/A

W2:	N/A		
FOR NEW DRILL OR RE-ENTRY, SURFACE CASING DEPTH DETERMINED BY:			
GAU Groundwater Protection Determination	Depth (ft.):	770.0	Date: 04/13/2017
SWR 13 Exception	Depth (ft.):	1240.0	

INITIAL POTENTIAL TEST DATA FOR NEW COMPLETION OR RECOMPLETION	
Date of test:	Production method:
Number of hours tested: 24	Choke size:
Was swab used during this test? No	Oil produced prior to test:
PRODUCTION DURING TEST PERIOD:	
Oil (BBLs):	Gas (MCF):
Gas - Oil Ratio: 0	Flowing Tubing Pressure:
Water (BBLs):	
CALCULATED 24-HOUR RATE	
Oil (BBLs):	Gas (MCF):
Oil Gravity - API - 60.:	Casing Pressure:
Water (BBLs):	

CASING RECORD											
Row	Type of Casing	Casing Size (in.)	Hole Size (in.)	Setting Depth (ft.)	Multi - Stage Depth (ft.)	Multi - Shoe Depth (ft.)	Cement Class	Cement Amount (sacks)	Slurry Volume (cu. ft.)	Top of Cement (ft.)	TOC Determined By
1	Surface	9 5/8	12 1/4	1239			CLASS C	630	1002.0	0	Circulated to Surface
2	Conventional Production	5 1/2	8 3/4	13652			CLASS H	2611	3625.0	0	Circulated to Surface

LINER RECORD									
Row	Liner Size (in.)	Hole Size (in.)	Liner Top (ft.)	Liner Bottom (ft.)	Cement Class	Cement Amount (sacks)	Slurry Volume (cu. ft.)	Top of Cement (ft.)	TOC Determined By
N/A									

TUBING RECORD			
<u>Row</u>	<u>Size (in.)</u>	<u>Depth Size (ft.)</u>	<u>Packer Depth (ft.)/Type</u>
/			
N/A			

PRODUCING/INJECTION/DISPOSAL INTERVAL			
Row	Open hole?	From (ft.)	To (ft.)
N/A			

ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC.			
Was hydraulic fracturing treatment performed?		No	
Is well equipped with a downhole actuation sleeve?		If yes, actuation pressure (PSIG):	
No			
Production casing test pressure (PSIG) prior to hydraulic fracturing treatment:		Actual maximum pressure (PSIG) during hydraulic fracturing:	
Has the hydraulic fracturing fluid disclosure been reported to FracFocus disclosure registry (SWR29)?		No	
Row	Type of Operation	Amount and Kind of Material Used	Depth Interval (ft.)
N/A			

## FORMATION RECORD

<u>Formations</u>	<u>Encountered</u>	<u>Depth TVD (ft.)</u>	<u>Depth MD (ft.)</u>	<u>Is formation</u>	<u>Remarks</u>
				<u>isolated?</u>	
QUEEN	Yes	1058.0	1058.0	Yes	CEMENTED CASING
SAN ANDRES	Yes	1687.0	1688.0	Yes	CEMENTED CASING
LEONARD	Yes	4087.0	4090.0	Yes	CEMENTED CASING
WOLFCAMP	Yes	5426.0	5431.0	Yes	AREA OF PRODUCTION
CANYON	No			No	BELOW PRODUCTION AREA
STRAWN	No			No	BELOW PRODUCTION AREA
DEVONIAN	No			No	BELOW PRODUCTION AREA
ELLENBURGER	No			No	BELOW PRODUCTION AREA

Do the producing interval of this well produce H2S with a concentration in excess of 100 ppm (SWR 36)? No

Is the completion being downhole commingled (SWR 10)? No

REMARKS	

WELL HAS NOT BEEN COMPLETED.

## RRC REMARKS

**PUBLIC COMMENTS:**

**CASING RECORD :**

SURF - DIDN'T CIRCULATE CEMENT DURING JOB, TEMP SURVEY CONDUCTED TOC -@ 120', TOPPED OUT WITH 95 SKS AND GOT CEMENT TO SURVEY.

## TUBING RECORD:

WELL HAS NOT YET BEEN COMPLETED.

**PRODUCING/INJECTION/DISPOSAL INTERVAL :**

**ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC. :**

**POTENTIAL TEST DATA:**

## OPERATOR'S CERTIFICATION

<b>Printed Name:</b> Erin Childs	<b>Title:</b> Sr Engineering Technician
<b>Telephone No.:</b> (817) 989-9000	<b>Date Certified:</b> 11/27/2017

<b>Title:</b> Sr Engineering Technician
<b>Date Certified:</b> 11/27/2017



## RAILROAD COMMISSION OF TEXAS

1701 N. Congress

P.O. Box 12967

Austin, Texas 78701-2967

Form W-15

Rev 08/2014

## CEMENTING REPORT

Cementer: Fill in shade areas.  
Operator: Fill in other items.

## OPERATOR INFORMATION

Operator Name:	Approach Operating	Operator P-5 No.:	028625
Cementer Name:	Crest Pumping Technologies	Cementer P-5 No.:	18888

## WELL INFORMATION

District No.:	7C	County:	Crockett		
Well No.:	2119HB	API No.:	42-105-42381	Drilling Permit No.:	825013
Lease Name:	University 42	Lease No.:	17265		
Field Name:	Holt Ranch (Consolidated)	Field No.:	42391300		

## I. CASING CEMENTING DATA

Type of casing:	<input type="checkbox"/> Conductor	<input checked="" type="checkbox"/> Surface	<input type="checkbox"/> Intermediate	<input type="checkbox"/> Liner	<input type="checkbox"/> Production
Drilled hole size (in.):	12 1/4	Depth of drilled hole (ft.):	1240	Est. % wash-out or hole enlargement:	5%
Size of casing in O.D. (in.):	9 5/8	Casing weight (lbs/ft) and grade:	36 J-55	No. of centralizers used:	10
Was cement circulated to ground surface (or bottom of cellar) outside casing?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If no for surface casing, explain in Remarks.		Setting depth shoe (ft.):	1239'
Hrs. waiting on cement before drill-out:		Calculated top of cement (ft.):	120'	Top of liner (ft.):	
				Setting depth liner (ft.):	
				Cementing date:	5/9/2017

## SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	360	Class C	See Remarks	767	2,449
2	175	Class C	See Remarks	235	750
3					
Total	535			1,002	3,199

## II. CASING CEMENTING DATA

Type of casing:	<input type="checkbox"/> Surface	<input type="checkbox"/> Intermediate	<input type="checkbox"/> Production	<input type="checkbox"/> Tapered production	<input type="checkbox"/> Multi-stage cement shoe	<input type="checkbox"/> Multiple parallel strings
Drilled hole size (in.):		Depth of drilled hole (ft.):		Est. % wash-out or hole enlargement:		
Size of casing in O.D. (in.):		Casing weight (lbs/ft) and grade:		No. of centralizers used:		
Tapered string drilled hole size (in.):		Tapered string depth of drilled hole (ft.):				
Upper:	Lower:	Upper:	Lower:			
Tapered string size of casing in O.D. (in.):		Tapered string casing weight (lbs/ft) and grade:		Tapered string no. of centralizers used		
Upper:	Lower:	Upper:	Lower:	Upper:	Lower:	
Was cement circulated to ground surface (or bottom of cellar) outside casing?	<input type="checkbox"/> YES <input type="checkbox"/> NO	Setting depth shoe (ft.):				
Hrs. waiting on cement before drill-out:		Calculated top of cement (ft.):		Cementing date:		

## SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

## III. CASING CEMENTING DATA

Type of casing:	<input type="checkbox"/> Surface	<input type="checkbox"/> Intermediate	<input type="checkbox"/> Production	<input type="checkbox"/> Tapered production	<input type="checkbox"/> Multi-stage cement/OV tool	<input type="checkbox"/> Multiple parallel strings
Drilled hole size (in.):		Depth of drilled hole (ft.):		Est. % wash-out or hole enlargement:		
Size of casing in O.D. (in.):		Casing weight (lbs/ft) and grade:		No. of centralizers used:		
Tapered string drilled hole size (in.):		Tapered string depth of drilled hole (ft.):				
Upper:	Lower:	Upper:	Lower:			
Tapered string size of casing in O.D. (in.):		Tapered string casing weight (lbs/ft) and grade:		Tapered string no. of centralizers used		
Upper:	Lower:	Upper:	Lower:	Upper:	Lower:	
Was cement circulated to ground surface (or bottom of cellar) outside casing?	<input type="checkbox"/> YES <input type="checkbox"/> NO	Setting depth tool (ft.):				
Hrs. waiting on cement before drill-out:		Calculated top of cement (ft.):		Cementing date:		

## SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					



CEMENTING TO SQUEEZE, PLUG BACK OR PLUG AND ABANDON							
	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Cementing Date							
Size of hole or pipe (in.)							
Depth to bottom of tubing or drill pipe (ft.)							
Cement retainer setting depth (ft.)							
CIBP setting depth (ft.)							
Amount of cement on top of CIBP (ft.)							
Sacks of cement used							
Slurry volume pumped (cu. ft.)							
Calculated top of plug (ft.)							
Measured top of plug, if tagged (ft.)							
Slurry weight (lbs/gal)							
Class/type of cement							
Perforate and squeeze (YES/NO)							
REMARKS							
1 2% Calcium Chloride, 6% Bentonite Gel, 1% CPT-45, 0.25 lbs/sk Cellophane Flake							
2 0 1% CPT-51A							
3 Didn't circulate cement during job Temp survey conducted TOC @ 120' Topped out with 95 sacks and got cement to surface							
4							

CEMENTER'S CERTIFICATE I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers cementing data only.

Shaun Jackson / Cementer Crest Pumping Technologies  
 Name and title of cementer's representative Cementing Company  
 Address City, State, Zip Code Tel. Area Code Number Date: mo day yr  
 P.O. Box 117 Jacksboro, TX 76458 940-567-3392 5/8/2017

OPERATOR'S CERTIFICATE I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that the data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers all well data.

Erin Childs Business Analyst  
 One Radiator Center  
 6500 W. Fwy, Ste 800, Ft. Worth, TX 76116 817-989-9000 11/8/17  
 Address City, State, Zip Code Tel. Area Code Number Date

### Instructions for Form W-15, Cementing Report

NOTICE The Form W-15 must be submitted as an attachment to a Form G-1 (Gas Well Back Pressure Test, Completion or Recompletion Report, and Log), Form W-2 (Oil Well Potential Test, Completion or Recompletion Report, and Log), Form W-3 (Plugging Record), or Form W-4 (Application for Multiple Completion), any time cement is pumped in a wellbore.

- What to file: An operator should file an original and one copy of the completed Form W-15 for each cementing company used on a well. The cementing of different casing strings on a well by one cementing company may be reported on one form. The Form W-15 should be filed with the form W-3, Plugging Record, unless the Form W-3 is signed by the cementing company representative. When reporting dry holes, operators must complete Form W-15, in addition to Form W-3, to show any casing cemented in the hole.
- How to file: An oil and gas completion report and Form W-15 may be filed online using the Commission's Online System (<https://webapps.mt.state.tx.us/security/login.do>) or a paper copy of the form may be mailed to the Commission in Austin (P.O. Box 12967, Austin, Texas 78711-2967).
- Surface casing: An operator must set and cement sufficient surface casing to protect all usable-quality water strata, as defined by the Groundwater Advisory Unit in Austin. Sufficient cement shall be used to fill the annular space outside the casing from the shoe to the ground surface or to the bottom of the cellar. Before drilling a well, an operator must obtain a letter from the Groundwater Advisory Unit stating the protection depth. Surface casing should not be set deeper than 200 feet below the specified depth without prior approval from the Commission. To plug and abandon a well, operators must use only cements approved by the Commission's Director of Field Operations in accordance with SWR 14 ([http://info.sos.state.tx.us/pls/pub/readtac?ext=TacPage?sl=R&app=9&p\\_dir=&p\\_rloc=&p\\_lloc=&p\\_ploc=&pg=1&plac=&li=1&ch=3&rt=14](http://info.sos.state.tx.us/pls/pub/readtac?ext=TacPage?sl=R&app=9&p_dir=&p_rloc=&p_lloc=&p_ploc=&pg=1&plac=&li=1&ch=3&rt=14)). Cementing companies, service companies, or operators can qualify as approved cementers by demonstrating that they are able to mix and pump cement in compliance with Commission rules and regulations.
- Estimated % wash-out: If the estimated % wash-outs less than 20% (or 30% along the Gulf Coast), provide supporting documentation such as caliper log to show how the estimated % wash-out was obtained.
- Multi-stage cement: An operator must report the multi-stage cement shoe in the Casing Cementing Data section by selecting the type of casing and Multi-stage cement shoe. The operator must report the multi-stage cement tool in the Casing Cementing Data section by selecting the type of casing and Multi-stage cement/DV tool.
- Multiple parallel strings: An operator should file the Form W-15 as an attachment to the Form W-4, Application for Multiple Completion. An operator may be required to submit multiple Form W-15's to show all data for multiple parallel strings.
- Slurry data: If cement job exceeds three slurries, continue the list of slurries in the Slurry table in the subsequent Casing Cementing Data box.



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Form W-15

Rev 08/2014

## CEMENTING REPORT

Cementer: Fill in shade areas.  
Operator: Fill in other items.

## OPERATOR INFORMATION

Operator Name: Approach Operating Operator P-5 No.: 028625  
Cementer Name: Crest Pumping Technologies Cementer P-5 No.: 18888

## WELL INFORMATION

District No.: 7C County: Crockett  
Well No.: 2119HB API No.: 42-105-42381 Drilling Permit No.: 825013  
Lease Name: University 42 Lease No.: 17265  
Field Name: Holt Ranch (Consolidated) Field No.: 42341300

## I. CASING CEMENTING DATA

Type of casing: ☐ Conductor ☐ Surface ☐ Intermediate ☐ Liner ☒ Production  
Drilled hole size (in.): 8 3/4" Depth of drilled hole (ft.): 13,655' Est. % wash-out or hole enlargement: 80%  
Size of casing in O.D. (in.): 5 1/2" Casing weight (lbs/ft) and grade: 7# P110 No. of centralizers used: 238  
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☒ YES ☐ NO If no for surface casing, explain in Remarks. Setting depth shoe (ft.):  
Setting depth liner (ft.):  
Hrs. waiting on cement before drill-out: Calculated top of cement (ft.): 0 Cementing date: 5/18/2017

## SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	738	Class H	See Remarks	1,281	5,071
2	1,875	Class H	See Remarks	2,344	9,280
3					
Total	2,611			3,625	14,351

## II. CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☐ Multi-stage cement shoe ☐ Multiple parallel strings  
Drilled hole size (in.): Depth of drilled hole (ft.): Est. % wash-out or hole enlargement:  
Size of casing in O.D. (in.): Casing weight (lbs/ft) and grade: No. of centralizers used:  
Tapered string drilled hole size (in.): Tapered string depth of drilled hole (ft.):  
Upper: Lower: Upper: Lower:  
Tapered string size of casing in O.D. (in.): Tapered string casing weight (lbs/ft) and grade: Tapered string no. of centralizers used:  
Upper: Lower: Upper: Lower:  
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO Setting depth shoe (ft.):  
Hrs. waiting on cement before drill-out: Calculated top of cement (ft.): Cementing date:

## SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

## III. CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☐ Multi-stage cement/DV tool ☐ Multiple parallel strings  
Drilled hole size (in.): Depth of drilled hole (ft.): Est. % wash-out or hole enlargement:  
Size of casing in O.D. (in.): Casing weight (lbs/ft) and grade: No. of centralizers used:  
Tapered string drilled hole size (in.): Tapered string depth of drilled hole (ft.):  
Upper: Lower: Upper: Lower:  
Tapered string size of casing in O.D. (in.): Tapered string casing weight (lbs/ft) and grade: Tapered string no. of centralizers used:  
Upper: Lower: Upper: Lower:  
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO Setting depth tool (ft.):  
Hrs. waiting on cement before drill-out: Calculated top of cement (ft.): Cementing date:

## SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					



CEMENTING TO SQUEEZE, PLUG BACK OR PLUG AND ABANDON							
	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Cementing Date							
Size of hole or pipe (in.)							
Depth to bottom of tubing or drill pipe (ft.)							
Cement retainer setting depth (ft.)							
CIBP setting depth (ft.)							
Amount of cement on top of CIBP (ft.)							
Sacks of cement used							
Slurry volume pumped (cu. ft.)							
Calculated top of plug (ft.)							
Measured top of plug, if tagged (ft.)							
Slurry weight (lbs/gal)							
Class/type of cement							
Perforate and squeeze (YES/NO)							
REMARKS							
1	5 bwow Sodium Chloride, 3% Bentonite Gel, 0.5% CPT-19, 0.4% CPT-503P, 0.15% CPT-20A, 0.15% CPT-51A						
2	5 bwow Sodium Chloride, 2% Bentonite Gel, 0.5% CPT-17, 0.15% CD-3, 0.2% CPT-45, 0.2% CPT-51A, 0.2% CPT-20A						
3							
4							

CEMENTER'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers cementing data only.

Charles Overby / Cementer  
Name and title of cementer's representative

Crest Pumping Technologies  
Cementing Company

Signature: *Charles Overby*

P.O. Box 117 Jacksboro, TX 76458  
Address City State Zip Code

940-567-3392  
Tel Area Code Number

5/16/2017  
Date: mo day yr

OPERATOR'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that the data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers all well data.

Erin Childs  
Title of operator's representative

Business Analyst  
Title

Signature: *Erin Childs*

One Kidgator Centre  
6500 W. Hwy, Ste 800 Ft. Worth, TX 76116  
Address City State Zip Code

817-989-9700  
Tel Area Code Number

11/8/17  
Date

### Instructions for Form W-15, Cementing Report

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- Surface casing:** An operator must set and cement sufficient surface casing to protect all usable quality water strata, as defined by the Groundwater Advisory Unit in Austin. Sufficient cement shall be used to fill the annular space outside the casing from the shoe to the ground surface or to the bottom of the cellar. Before drilling a well, an operator must obtain a letter from the Groundwater Advisory Unit stating the protection depth. Surface casing should not be set deeper than 200 feet below the specified depth without prior approval from the Commission. To plug and abandon a well, operators must use only cementers approved by the Commission's Director of Field Operations in accordance with SWR 14 ([http://info.sos.state.tx.us/pls/pub/readac\\$exl TacPage?sl=R&app=9&p\\_d=r&p\\_rloc=&poloc=&ploc=&pg=1&plac=1&ch=3&rl=14](http://info.sos.state.tx.us/pls/pub/readac$exl TacPage?sl=R&app=9&p_d=r&p_rloc=&poloc=&ploc=&pg=1&plac=1&ch=3&rl=14)). Cementing companies, service companies, or operators can qualify as approved cementers by demonstrating that they are able to mix and pump cement in compliance with Commission rules and regulations.
- Estimated % wash-out:** If the estimated % wash-outs less than 20% (or 30% along the Gulf Coast), provide supporting documentation such as caliper log to show how the estimated % wash-out was obtained.
- Multi-stage cement:** An operator must report the multi-stage cement shoe in the Casing Cementing Data section by selecting the type of casing and Multi-stage cement shoe. The operator must report the multi-stage cement tool in the Casing Cementing Data section by selecting the type of casing and Multi-stage cement/DV tool.
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- Slurry data:** If cement job exceeds three slurries, continue the list of slurries in the Slurry table in the subsequent Casing Cementing Data box.

CHRISTI CRADDICK, CHAIRMAN  
RYAN SITTON, COMMISSIONER  
WAYNE CHRISTIAN, COMMISSIONER



LORI WROTENBERY  
DIRECTOR, OIL AND GAS DIVISION

BRIAN T. FLOYD  
DISTRICT DIRECTOR

## RAILROAD COMMISSION OF TEXAS

### OIL AND GAS DIVISION

**OPERATOR Name:** APPROACH OPERATING LLC

**RE: Lease:** UNIVERSITY 42

**Address1:** ONE RIDGMAR CENTRE

**Address2:** 6500 WEST FREEWAY SUITE 800

**City:** FORT WORTH

**State:** TX

**Well No:** 2119HB

**Sec:** 21 **Block:** 42

**County:** CROCKETT

**Survey Name:** UL

**SWR13EX Application Number:** 14432

**Drilling Permit No:** 825013

### SWR 13 CASING EXCEPTION APPLICATION/ALTERNATIVE REQUEST APPROVED

The Proposed Casing and Cementing Program submitted for the **LEASE NAME:** UNIVERSITY 42 ;  
**WELL NUMBER:** 2119HB has been approved by the Railroad Commission of Texas District Office.

- a. A copy of this approved letter must be kept on location during all phases of drilling and/or plugging operations. Once approved, changes CANNOT be made to the Proposed Casing Program on the original application without additional approval from the Railroad Commission of Texas District Office.
- b. Any substantive modifications to the cement program require prior approval from the Railroad Commission of Texas District Office, and may require re-submission of the SWR 13 (Statewide Rule 13) Alternate Surface Casing Application. Contact the Railroad Commission of Texas District Office for more information.
- c. The tail slurry must be sufficient to fill the Zone of Critical Cement as described in Statewide Rule 13(b)(1)(H)(i). In addition, all cement slurries must be mixed on location as described in Application for Alternate Surface Casing Program.
- d. The casing and cement program shall adhere to the following specifications:  
Set 1250 feet of surface casing and circulate cement from the shoe to the ground surface.

IF CEMENT IS NOT CIRCULATED TO THE GROUND SURFACE AS REQUIRED BY THIS EXCEPTION, YOU MUST CONTACT THE RAILROAD COMMISSION OF TEXAS DISTRICT OFFICE IMMEDIATELY AND FOLLOW THE PROCEDURES SET OUT IN RULE 13(b)(1)(H)(iii) OR AS REQUIRED BY THE RAILROAD COMMISSION OF TEXAS DISTRICT OFFICE.



You must comply with all other provisions of SWR 13 (Statewide Rule 13) and a representative of the cementing company who performs the cementing job for the protection of usable quality water strata must sign the Form W-15 attesting to the information regarding cementing operations performed; including circulation of cement. (Note: If surface casing is set below the approved depth, this can result in denial of future Statewide Rule 13(b)(1)(H)(i) requests.) A condition of the approved drilling permit requires notification to the Railroad Commission of Texas District Office eight (8) hours prior to the time casing is to be set/cemented in the well. If your exception request was submitted after the subject well has been drilled and completed, the operator may be referred for enforcement action.

This authorization shall expire within five (5) years from the date the Groundwater Protection Determination was issued, or at the expiration of the drilling permit (if the well is not spudded prior to expiration) for the referenced well, whichever occurs first. Furthermore, this authorization supersedes any prior authorizations issued for the referenced well.

This exception is based on information provided when the application was submitted on 04/20/2017 .  
If any information has changed, you must contact the appropriate Railroad Commission of Texas District Office, and submit a new application if applicable. If you have questions, please contact the appropriate Oil and Gas District office.

RRC APPROVAL BY: Bill Spraggins

DATE: 04/21/2017

BRIAN T. FLOYD

DISTRICT DIRECTOR

Tracking No.: 182311

*This facsimile L-1 was generated electronically from data submitted to the RRC.*

Instructions

**When to File Form L-1:**

- with Forms G-1, W-2, and GT-1 for new and deepened gas, oil, and geothermal wells
- with Form W-3 for plugged dry holes
- when sending in a log which was held under a request for confidentiality and the period for confidentiality has not yet expired.

**When is Form L-1 NOT required:**

- with Forms W-2, G-1, and GT-1 filed for injection wells, disposal wells, water supply wells, service wells, re-test wells, re-classifications, and plugbacks of oil, gas or geothermal wells
- with Form W-3 for plugging of other than a dry hole

**Where to File Form L-1:**

- with the appropriate Commission district office

**Filling out Form L-1:**

- Section I and the signature section must be filled out for all wells
- complete only the appropriate part of Section II

**Type of log required:**

- any wireline survey run for the purpose of obtaining lithology, porosity, or resistivity information
- no more than one such log is required but it must be of the subject well
- if such log is NOT run on the subject well, do NOT substitute any other type of log; just select Section II, Part A below

SECTION I. IDENTIFICATION

Operator Name: <b>APPROACH OPERATING LLC</b>	District No. <b>7C</b>	Completion Date: <b>05/17/2017</b>
Field Name <b>HOLT RANCH (CONSOLIDATED)</b>	Drilling Permit No. <b>825013</b>	
Lease Name <b>UNIVERSITY 42</b>	Lease/ID No. <b>17265</b>	Well No. <b>2119HB</b>
County <b>CROCKETT</b>	API No. <b>42- 105-42381</b>	

SECTION II. LOG STATUS (Complete either A or B)

☐ A. BASIC ELECTRIC LOG NOT RUN

☒ B. BASIC ELECTRIC LOG RUN. (Select one)

- ☒ 1. Confidentiality is requested and a copy of the header for each log that has been run on the well is attached.
- ☐ 2. Confidentiality already granted on basic electric log covering this interval (applicable to deepened wells only).
- ☐ 3. Basic electric log covering this interval already on file with Commission (applicable to deepened wells only).
- ☐ 4. Log attached to (select one):

☐ (a) Form L-1 (this form). If the company/lease name on log is different from that shown in Section I, please enter name on log here: \_\_\_\_\_

Check here if attached log is being submitted after being held confidential. ☐

☐ (b) Form P-7, Application for Discovery Allowable and New Field Designation.

☐ (c) Form W-4, Application for Multiple Completion:

Lease or ID No(s). \_\_\_\_\_

Well No(s). \_\_\_\_\_

Erin Childs

Signature

Name (print)

Sr Engineering Technician

Title

(817) 989-9000

Phone

11/17/2017

Date

-FOR RAILROAD COMMISSION USE ONLY-



Scout Downhole Inc

University 42 2119HB

Scale 5":100' - MD

5/15/2017 9:42 AM

Oper. Company: Approach Resources, LLC

Well: University 42 2119HB

Field: Holt Ranch (Consolidated)

Rig: Nomac #133

Well ID: 42-105-42381

Job Number: 4189

State: Texas

County: Crockett

Country: USA

Location: X 1743975 / Y 454230

Start Date: 05/09/2017 20:00:00

End Date: 05/15/2017 09:30:00

Latitude: 30° 54' 46.993 N

Longitude: 101° 8' 59.208 W

Elev GL: 2596'

Elev DF: 2618.5'

Elev KB: 2618.5

Operator 1: Joe Sammarco

Operator 2: Jim Taylor

Tool Run Data	Run #1	Run #2	Run #3	Run #4	Run #5
Tool S/N	590	590	590		
Bit Size	8 3/4"	8 3/4"	8 3/4"		
Cal Factor	4.0	4.0	4.0		
Survey Offset	62.00	51.00	52.00		
Gamma Offset	53.00	42.00	43.00		
Resistivity Offset	0.00	0.00	0.00		
Start Depth	1354.00	5201.00	12805.00		
StartDate	5/9/2017	5/14/2017	5/14/2017		
StartTime	08:00	10:30	16:00		
EndDepth	5200.00	12804.00	13655.00		
EndDate	5/11/2017	5/14/2017	5/15/2017		
EndTime	01:30	13:30	09:30		
Mud Type	Oilbase	Oilbase	Oilbase		
Mud Weight	9.05	9.1	9.2		
Funnel Viscosity	64	61	77		
Plastic Viscosity	22	24	20		
Yield Point	14	16	13		
Gel Strength	14 / 23	16 / 24	13 / 21		
Solids Content	9.2	9.8	10.1		
Sand Content	0	0	0		
Mud Alkalinity	3.4	3.5	3.6		
Filtrate Alkalinity	12	14	12		
Chlorides	52000	53000	53000		
Temperature	151	203	189		
Hole Data			Casing Data		
Size	From	To	Size	From	To
12 1/4"	0.00	1240.00	9 625	0.00	1240.00
8 3/4"	1241.00	13655.00			

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 interpretation and we shall not be liable or responsible for any loss, cost, damages or expenses incurred or sustained by anyone resulting from an interpretation made by any of our officers, agents, or employees.

0.00	GR(API)	150.00	MD	0.00	ROP(FT/HR)	200.00
150.00	2	300.00	FT	200.00	2	400.00
				400.00	3	600.00
				600.00	4	800.00

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Phone with area code



## GROUNDWATER PROTECTION DETERMINATION

Form GW-2



## Groundwater Advisory Unit

**Date Issued:** 13 April 2017**GAU Number:** 170390**Attention:** APPROACH OPERATING LLC  
ONE RIDGMAR CENTRE  
FORT WORTH, TX 76116**API Number:** 10542382  
**County:** CROCKETT  
**Lease Name:** UNIVERSITY 42**Operator No.:** 028625**Lease Number:**  
**Well Number:** 2121HC  
**Total Vertical Depth:** 7800  
**Latitude:** 30.913054  
**Longitude:** -101.149684  
**Datum:** NAD27**Purpose:** New Drill**Location:** Survey-UL; Block-42; Section-21

To protect usable-quality groundwater at this location, the Groundwater Advisory Unit of the Railroad Commission of Texas recommends:

The interval from the land surface to 20 feet below the base of the Cretaceous-age beds must be protected. The base of the Cretaceous is estimated to occur at a depth of 750 feet.

This recommendation is applicable to all wells within a radius of 2500 feet of this location.

Note: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. This recommendation is for normal drilling, production, and plugging operations only. It does not apply to saltwater disposal operation into a nonproductive zone (RRC Form W-14).

This determination is based on information provided when the application was submitted on 04/12/2017. If the location information has changed, you must contact the Groundwater Advisory Unit, and submit a new application if necessary. If you have questions, please contact us at 512-463-2741 or gau@rrc.texas.gov.

Groundwater Advisory Unit, Oil and Gas Division

Form GW-2      P.O. Box 12967   Austin, Texas   78771-2967      512-463-2741      Internet address: [www.rrc.texas.gov](http://www.rrc.texas.gov)  
Rev. 02/2014

## LEGEND

- = Surface Location (S.L.)  
 PP = Penetration Point  
 ● = Surface well (as drilled)  
 FTP = 1st Take Point  
 LTP = Last Take Point  
 BHL = Bottom Hole Location

## SURFACE LOCATION

Y = 454,230 ft.  
 X = 1,743,975 ft.  
 Latitude : 30.9131° N.  
 Longitude : 101.1498° W.  
 1032 ft. FSL and 1828 ft. FEL  
 University Land Survey 21, Block 42  
 1032 ft. FSL and 1828 ft. FEL of lease

## PROPOSED PENETRATION POINT

48 ft. from Surf. 2119HB  
 Y = 454,230 ft.  
 X = 1,744,023 ft.  
 Latitude : 30.9131° N.  
 Longitude : 101.1498° W.  
 1032 ft. FSL and 1780 ft. FEL  
 University Land Survey 21, Block 42  
 1032 ft. FSL and 1780 ft. FEL of lease

## PROPOSED 1st TAKE POINT

550 ft. from PP 2119HB  
 Y = 454,780 ft.  
 X = 1,744,025 ft.  
 Latitude : 30.9146° N.  
 Longitude : 101.1498° W.  
 1582 ft. FSL and 1780 ft. FEL  
 University Land Survey 21, Block 42  
 1582 ft. FSL and 1780 ft. FEL of lease

## PROPOSED LAST TAKE POINT

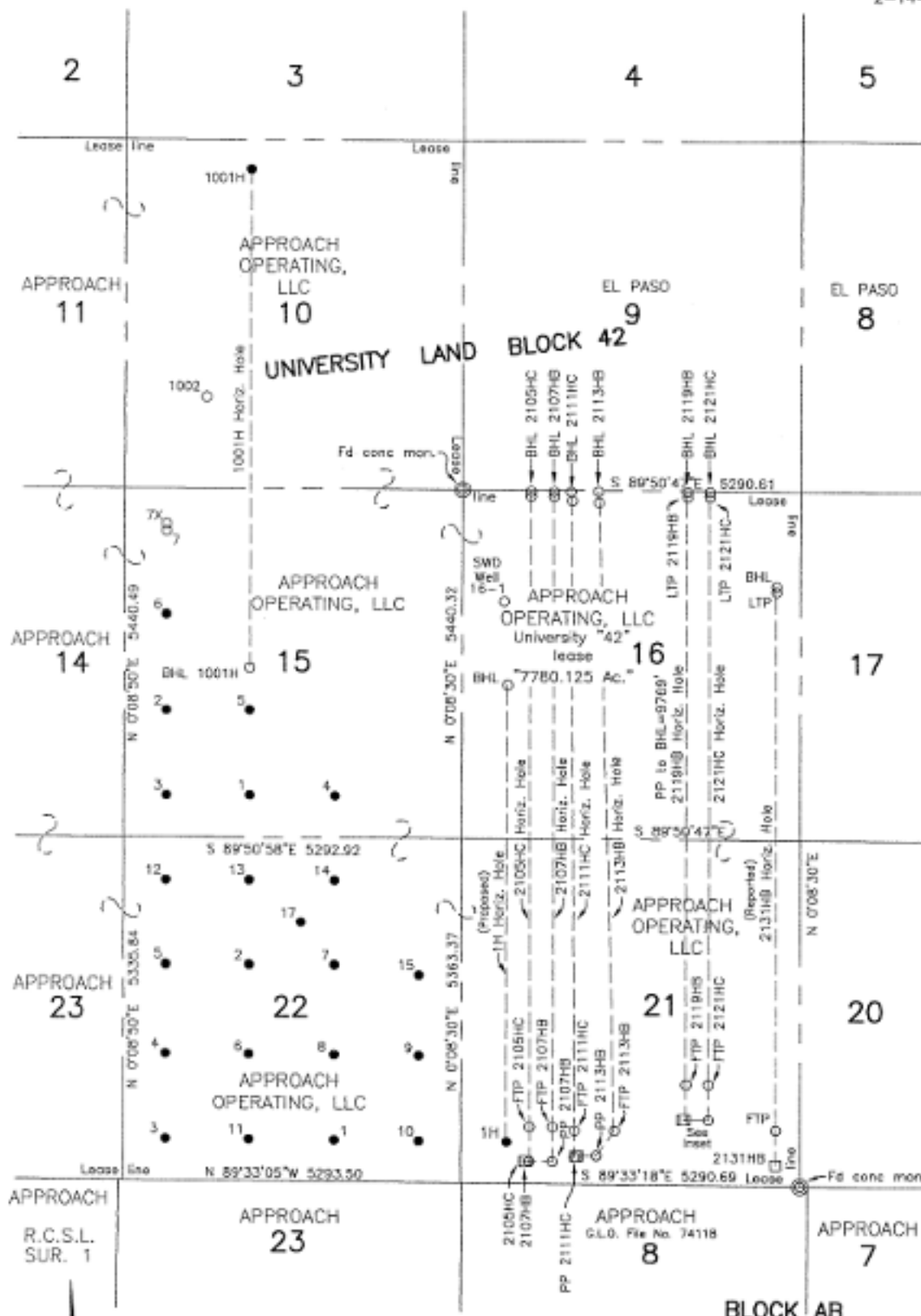
80 ft. from BHL 2119HB  
 Y = 463,919 ft.  
 X = 1,744,047 ft.  
 Latitude : 30.9397° N.  
 Longitude : 101.1498° W.  
 100 ft. FNL and 1780 ft. FEL  
 University Land Survey 16, Block 42  
 100 ft. FNL and 1780 ft. FEL of lease

## PROPOSED BOTTOMHOLE LOC.

Y = 463,989 ft.  
 X = 1,744,047 ft.  
 Latitude : 30.9399° N.  
 Longitude : 101.1498° W.  
 20 ft. FNL and 1780 ft. FEL  
 University Land Survey 16, Block 42  
 20 ft. FNL and 1780 ft. FEL of lease

Perpendicular distances off 2119HB  
 Univ. 42° horizontal hole

FTP 2121HC (proposed) = 350'  
 2113HB Horiz hole = 1135'



Located: N 10°E 14 miles from Ozona, Texas.

"Ac." = Acreage claimed by operator to be in lease.

0 2000 4000

SCALE: 1"=2000'

FIELD COUNTY : Crockett  
 COUNTY : Crockett  
 OPERATOR : Approach Operating, LLC  
 LEASE : University "42"  
 WELL NO. : 2119HB  
 ELEVATION : 2595 ft. grd.  
 LOCATION : 1032 ft. FSL and 1828 ft. FEL of University Land Survey 21, Block 42, Crockett County, Texas.

## NOTES

Courses, distances and coordinates shown hereon are of the Texas Coordinate System of 1927 - Central Zone.

The survey construction shown hereon is sufficient for staking this location and no other purpose.

The lease information shown hereon is based on information provided by operator or its representatives and was relied upon by surveyor for the purpose of staking this location. Said surveyor was not requested to verify lease and accepts no responsibility for the accuracy or status of this information.

Position of surveys shown hereon is based on Frank Friends survey of University Lands Blocks 38 to 57 dated July 24, 1937 on file in the General Land Office.

The above sketch represents the location as staked on the ground and is for permit purposes only.

Staked the 2nd day of February, 2017.



Thomas J. Houston  
 Registered Professional Land Surveyor No. 4261  
 FIRM NO. 10045600

OFFICE OF  
 WILSON LAND SURVEYING, INC.

1514 W. BEAUREGARD AVE.  
 P. O. BOX 3326 PH. 325-853-3916  
 SAN ANGELO, TEXAS 76902

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