RAILROAD COMMISSION OF TEXAS

Form W-2

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

Status: Approved
Date: 06/15/2018
Tracking No.: 191820

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.: 42-105-42194 **County:** CROCKETT
Well No.: 1216HC **RRC District No.:** 7C
Lease Name: UNIVERSITY 42 **Field Name:** HOLT RANCH (CONSOLIDATED)
RRC Lease No.: 17265 **Field No.:** 42341300
Location: Section: 12, Block: 42, Survey: UL, Abstract: U362

Latitude: **Longitude:**
This well is located 18 **miles in a** NW **direction from** OZONA, **which is the nearest town in the county.**

FILING INFORMATION

Purpose of filing: Initial Potential
Type of completion: Other/Recompletion
Well Type: Producing **Completion or Recompletion Date:** 08/26/2017

Type of Permit	Date	Permit No.
Permit to Drill, Plug Back, or Deepen	03/31/2017	824048
Rule 37 Exception		
Fluid Injection Permit		
O&G Waste Disposal Permit		
Other:		

COMPLETION INFORMATION

Spud date: 04/08/2017 **Date of first production after rig released:** 08/26/2017
Date plug back, deepening, recompletion, or drilling operation commenced: 04/08/2017 **Date plug back, deepening, recompletion, or drilling operation ended:** 05/02/2017
Number of producing wells on this lease in this field (reservoir) including this well: 124 **Distance to nearest well in lease & reservoir (ft.):** 350.0
Total number of acres in lease: 7780.12 **Elevation (ft.):** 2593 GL
Total depth TVD (ft.): 6451 **Total depth MD (ft.):** 14236
Plug back depth TVD (ft.): 6451 **Plug back depth MD (ft.):** 14148
Was directional survey made other than inclination (Form W-12)? No **Rotation time within surface casing (hours):** 81.0 **Is Cementing Affidavit (Form W-15) attached?** Yes
Recompletion or reclass? Yes **Multiple completion?** No
Type(s) of electric or other log(s) run: None
Electric Log Other Description:
Location of well, relative to nearest lease boundaries of lease on which this well is located: 10547.0 **Feet from the** North **Line and** 1650.0 **Feet from the** West **Line of the** UNIVERSITY 42 **Lease.** **Off Lease :** No

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

Field & Reservoir	Gas ID or Oil Lease No.	Well No.	Prior Service Type

PACKET: N/A

W2: N/A

FOR NEW DRILL OR RE-ENTRY, SURFACE CASING DEPTH DETERMINED BY:

GAU Groundwater Protection Determination **Depth (ft.):** 750.0 **Date:** 01/20/2015

SWR 13 Exception **Depth (ft.):**

INITIAL POTENTIAL TEST DATA FOR NEW COMPLETION OR RECOMPLETION

Date of test: 08/31/2017 **Production method:** Flowing

Number of hours tested: 24 **Choke size:** 1.0

Was swab used during this test? No **Oil produced prior to test:**

PRODUCTION DURING TEST PERIOD:

Oil (BBLS): 367.00 **Gas (MCF):** 907

Gas - Oil Ratio: 2471 **Flowing Tubing Pressure:** 140.00

Water (BBLS): 2325

CALCULATED 24-HOUR RATE

Oil (BBLS): 367.0 **Gas (MCF):** 907

Oil Gravity - API - 60.: 42.0 **Casing Pressure:** 760.00

Water (BBLS): 2325

CASING RECORD

Row	Type of Casing	Casing Size (in.)	Hole Size (in.)	Setting Depth (ft.)	Multi - Stage Tool Depth (ft.)	Multi - Stage 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	1256			C	735	1272.0	0	Circulated to Surface
2	Conventional Production	5 1/2	8 3/4	14234			H	2720	3790.0	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

Row	Size (in.)	Depth Size (ft.)	Packer Depth (ft.)/Type
1	2 7/8	6032	6032 / AS-1X PACKER

PRODUCING/INJECTION/DISPOSAL INTERVAL

Row	Open hole?	From (ft.)	To (ft.)
1	No	L1 6704	14132.0

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

Was hydraulic fracturing treatment performed? Yes

Is well equipped with a downhole actuation sleeve? No

If yes, actuation pressure (PSIG):

Production casing test pressure (PSIG) prior to hydraulic fracturing treatment: 8500

Actual maximum pressure (PSIG) during hydraulic fracturing: 8000

Has the hydraulic fracturing fluid disclosure been reported to FracFocus disclosure registry (SWR29)? Yes

Row	Type of Operation	Amount and Kind of Material Used	Depth Interval (ft.)	
1	Fracture	330806 BBLS FLUID; 52500 GALS 15% HCL; 10781662 LBS 100 MESH; 3378860 LBS 40/70	6704	14132

FORMATION RECORD

Formations	Encountered	Depth TVD (ft.)	Depth MD (ft.)	Is formation isolated?	Remarks
QUEEN	Yes	1174.0	1174.0	Yes	CEMENTED CASING
SAN ANDRES	Yes	1597.0	1597.0	Yes	CEMENTED CASING
LEONARD	Yes	4179.0	4189.0	Yes	CEMENTED CASING
WOLFCAMP	Yes	5549.0	5561.0	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

KOP 5,875'

RRC REMARKS

PUBLIC COMMENTS:

[RRC Staff 2018-06-08 16:10:18.392] EDL=7400 feet, max acres=520, HOLT RANCH (CONSOLIDATED) oil well;

take points: 6704-14132 feet

CASING RECORD :

SURFACE CSG DIDN'T CIRCULATE DURING JOB - TOPPED OUT W/200 SKS AND GOT CEMENT TO SURFACE.

TUBING RECORD:

PRODUCING/INJECTION/DISPOSAL INTERVAL :

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

POTENTIAL TEST DATA:

OPERATOR'S CERTIFICATION

Printed Name: Erin Childs **Title:** Sr Engineering Technician

Telephone No.: (817) 989-9000 **Date Certified:** 05/09/2018

RAILROAD COMMISSION OF TEXAS

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

CEMENTING REPORT

Form W-15
Rev. 08/2014

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.:	186898

WELL INFORMATION

District No.:	7C	County:	Crockett
Well No.:	1216HC	API No.:	42-105-42194
Drilling Permit No.:	824048		
Lease Name:	University 42	Lease No.:	17245
Field Name:	Holt Ranch (Consolidated)	Field No.:	42341300

I. CASING CEMENTING DATA

Type of casing: ☐ Conductor ☒ Surface ☐ Intermediate ☐ Liner ☐ Production

Drilled hole size (in.):	12 1/4	Depth of drilled hole (ft.):	1257'
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? ☐ YES ☒ NO If no for surface casing, explain in Remarks.		Setting depth shoe (ft.):	1256'
		Top of liner (ft.):	
		Setting depth liner (ft.):	
Hrs. waiting on cement before drill-out:		Calculated top of cement (ft.):	0'
		Cementing date:	4/9/2017

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	200	Class C	See Remarks	270	862
Total	735			1,272	4,061

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.) Upper: Lower:		Tapered string depth of drilled hole (ft.) Upper: Lower:
Tapered string size of casing in O.D. (in.) Upper: Lower:	Tapered string casing weight(lbs/ft) and grade Upper: Lower:	Tapered string no. of centralizers used 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.) Upper: Lower:		Tapered string depth of drilled hole (ft.) Upper: Lower:
Tapered string size of casing in O.D. (in.) Upper: Lower:	Tapered string casing weight(lbs/ft) and grade Upper: Lower:	Tapered string no. of centralizers used 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. 2% Calcium Chloride, 6% Bentonite Gel, 1% CPT-45, 0.25 lbs/sk Cellophane Flake,
2. 0.1% CPT-51A
3. 2% Calcium Chloride
4. Didn't circulate cement during job - Topped out with 200 sks and got cement to surface

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.

John Sanders / Cementer — Name and title of cementer's representative
Crest Pumping Technologies — Cementing Company
John Sanders — Signature

P.O. Box 117 Jacksboro, TX 76458 — Address, City, State, Zip Code
940-567-3392 — Tel: Area Code, Number
4/9/2017 — 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 — Typed or printed name of operator's representative
Business Analyst — Title
Erin Childs — Signature

6500 W. Frwy, Ste. 800, Ft. Worth, TX 76116 — Address, City, State, Zip Code
817-989-9000 — Tel: Area Code, Number
10/20/17 — 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.

A. **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 on form.

The Form W-15 should be filed with the form W-3, Plugging Record, unless the Form W-3 si 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.

B. **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.rrc.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).

C. **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/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&ptac=&ti=16&pt=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.

D. **Estimated % wash-out:** If the estimated % wash-outis 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.

E. **Multi-stage cement:** An operator must report the multi-stage cement shoe in II. 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 II. Casing Cementing Data section by selecting the type of casing and Multi-stage cement/DV tool.

F. **Multiple parallel strings:** An operator should file the Form W-15 as and attachment to the Form W-4, Application for Multiple Completion. An operator may be required to submit multiple Form W15's to show all data for multiple parallel strings.

G. **Slurry data:** If cement job exceeds three slurries, continue the list of slurries in the Slurry table in the subsequent Casing Cementing Data box.

RAILROAD COMMISSION OF TEXAS

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

CEMENTING REPORT

Form W-15
Rev. 08/2014

Cementer: Fill in
Operator: Fill in other

OPERATOR INFORMATION

Operator Name: Approach Operating	**Operator P-5 No.:** 028625
Cementer Name: Crest Pumping Technologies	**Cementer P-5 No.:** 189898

WELL INFORMATION

District No.: 7C	**County:** Crockett		
Well No.: 1216HC	**API No.:** 42-105-42194	**Drilling Permit No.:** 824048	
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.):** 14,236'	**Est. % wash-out or hole enlargement:** 10%	
Size of casing in O.D. (in.): 5 1/2	**Casing weight (lbs/ft) and grade:** #17 P-110	**No. of centralizers used:** 218	
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.):** 14,234	**Top of liner (ft.):**	**Setting depth liner (ft.):**
Hrs. waiting on cement before drill-out:	**Calculated top of cement (ft.):** 0	**Cementing date:** 04/29/2017	

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	835		See Remarks	1,453	5,752
2	1885		See Remarks	2,337	9,252
Total	2,720			3,790	15,004

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.) Upper: Lower:	**Tapered string depth of drilled hole (ft.)** Upper: Lower:	
Tapered string size of casing in O.D.(in.) Upper: Lower:	**Tapered string casing weight(lbs/ft) and grade** Upper: Lower:	**Tapered string no. of centralizers used** Upper: Lower:
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.):**
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.)
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.) Upper: Lower:	**Tapered string depth of drilled hole (ft.)** Upper: Lower:	
Tapered string size of casing in O.D.(in.) Upper: Lower:	**Tapered string casing weight(lbs/ft) and grade** Upper: Lower:	**Tapered string no. of centralizers used** Upper: Lower:
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.):**
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.)
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 lb/bbl GXT Spacer, 0.1 gal/bbl CPT-503L, 203.03 lb/bbl Barite, 1.5 gal/bbl Plexaid 830L,
5 bwow Sodium Chloride, 3 % Bentonite Gel, 0.5 % CPT-12, 0.4 % CPT-503P, 0.15 % CPT-20A, 0.15 % CPT-51A,
5 bwow Sodium Chloride, 2 % Bentonite Gel, 0.6 % CPT-12, 0.15 % CD-3, 0.1 % CPT-51A, 0.1 % CPT-20A,

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.

Nathan Hall/Cementer	Crest Pumping Technologies	Nathan Hall
Name and title of cementer's representative	Cementing Company	Signature

P.O. Box 117 Jacksboro, TX 76458	940-567-3392	04/29/2017
Address City, State, Zip Code	Tel: Area Code Number	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 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	Erin Childs
Typed or printed name of operator's representative	Title	Signature

6500 W. Fwy, Ste 800, Ft. Worth, TX 76116	817-989-9800	10/20/17
Address City, State, Zip Code	Tel: Area Code Number	Date: mo. day yr.

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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/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=16&pt=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.

D. Estimated % wash-out: If the estimated % wash-out is less than 20% (or 30% along the Gulf Coast), provide supporting documentation such as a caliper log to show how the estimated % wash-out was obtained.

E. Multi-stage cement: An operator must report the multi-stage cement shoe in II. 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 III. Casing Cementing Data section by selecting the type of casing and Multi stage cement/DV tool, and Multi-stage cement shoe. The operator must

F. 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-15s to show all data for multiple parallel strings.

G. Slurry data: If cement job exceeds three slurries, continue the list of slurries in the Slurry table in the subsequent Casing Cementing Data box.

RAILROAD COMMISSION OF TEXAS

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

Acreage Designation

P-16 Data Sheet
Page 1

Rev. 01/2016

SECTION I. OPERATOR INFORMATION

Operator Name: Approach Operating, LLC	Operator P-5 No.: 028625
Operator Addr One Ridgmar Centre, 6500 West Freeway, Suite 800, Fort worth, TX 76116	

SECTION II. WELL INFORMATION

District No.: 7C	County: Crockett			Purpose of Filing:
Well No.: 1216HC	API No.: 42-105-42194			☐ Drilling Permit Application (Form W-1)
Total Lease Acr 7780.13	Drilling Permit No.:	824048		
Lease Name: University 42	Lease No.: 17265			☑ Completion Report
Field Name: Holt Ranch (Consolidated)	Field No.: 42341300			

Filer is the owner or lessee, or has been authorized by the owner or lessee, of all or an undivided portion of the mineral estate under each tract for which filer is listed as operator below. For all leases operated by other entities, the number of assigned acres shown are reflected on current Commission records or the filer has been authorized by the current operator to change the assigned acreage of that operator as shown below.

SECTION III. LISTING OF ALL WELLS IN THE APPLIED-FOR FIELD ON THE SAME ACREAGE AS THE LEASE, POOLED UNIT, OR UNITIZED TRACT DESIGNATED IN SECTION II ABOVE BY FILER

RRC ID No. or Lease No.	Well No.	H -Horizontal D-Directional V-Vertical	Lease Name	API No.	Acres Assigned	SWR 38 Except. (Y/N)	Operator Name and Operator No. (if different from filing operator)
17265	1216HC	H	University 42	105-42194	84.57		
247150	1101X	V	University 42	105-41206	82.28		
17265	1102R	V	University 42	105-41206	82.28		
17265	1103	V	University 42	105-41324	82.28		
256802	1201	V	University 42	105-40677	82.28		
247118	1202	V	University 42	105-40791	82.28		
249468	1203	V	University 42	105-40966	82.28		
256781	1204	V	University 42	105-41068	82.28		
263325	1205	V	University 42	105-41284	82.28		
243913	1301	V	University 42	105-40683	82.28		
246751	1303	V	University 42	105-40786	82.28		
247116	1304	V	University 42	105-40787	82.28		
17265	1305	V	University 42	105-40793	82.28		
17265	1306	V	University 42	105-40912	82.28		
247121	1307	V	University 42	105-40934	82.28		
17265	1308	V	University 42	105-40997	82.28		
17265	1309	V	University 42	105-41197	82.28		
Total Well Count>	94	1691.4	< A. Total Assigned Horiz. Acreage		7780.13		< C. Total Assigned Acreage
		0	< Total Remaining Horiz. Acreage		0		< Total Remaining Acreage
		6088.73	< B. Total Assigned Vert./Dir. Acreage				
		0	< Total Remaining Vert./Dir. Acreage				

SECTION IV. REMARKS / PURPOSE OF FILING (see instructions)

Attach Additional Pages As Needed. ☐ No additional pages ☑ Additional Pages: 2 (No. of additional pages)

CERTIFICATION: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that this report was prepared by me or under my supervision or direction, that I am authorized to make this report, and that the information contained in this report is true, correct, and complete to the best of my knowledge.

Signature	Erin Childs, Business Analyst Name and title (type or print)	echilds@approachresources.com Email (include email address *only* if you affirmatively consent to its public release)

Address	City, State,	Zip Code	Tel: Area Code	Number	Date: mo. day yr.
6500 West Freeway, Suite 800, Fort Worth, TX		76116	817-989-9000		5/9/2018

RAILROAD COMMISSION OF TEXAS

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

Form P-16
Attachment
Page 1A
Rev. 01/2016

Acreage Designation Attachment

Filer is the owner or lessee, or has been authorized by the owner or lessee, of all or an undivided portion of the mineral estate under each tract for which filer is listed as operator below. For all leases operated by other entities, the number of assigned acres shown are reflected on current Commission records or the filer has been authorized by the current operator to change the assigned acreage of that operator as shown below.

SECTION III (CONTINUED). LISTING OF ALL WELLS IN THE APPLIED-FOR FIELD ON THE SAME ACREAGE AS THE LEASE, POOLED UNIT, OR UNITIZED TRACT DESIGNATED IN SECTION II ABOVE BY FILER

RRC ID No. or Lease No.	Well No.	H -Horizontal D-Directional V-Vertical	Lease Name	API No.	Acres Assigned	SWR 38 Except. (Y/N)	Operator Name and Operator No. (if different from filing operator)
256801	1310	V	University 42	105-41067	82.28		
17265	1311	V	University 42	105-41145	82.28		
17265	1312	V	University 42	105-41155	82.28		
17265	1313	V	University 42	105-41198	82.28		
17265	1314	V	University 42	105-41236	82.28		
280962	1315	V	University 42	105-41237	82.28		
280961	1317	V	University 42	105-41238	82.28		
17265	1318	V	University 42	105-41239	82.28		
239761	1401	V	University 42	105-40502	82.28		
240948	1402	V	University 42	105-40527	82.28		
242419	1403	V	University 42	105-40599	82.28		
243914	1404	V	University 42	105-40657	82.28		
246756	1405	V	University 42	105-40659	82.28		
280960	1407	V	University 42	105-41091	82.28		
258236	1408	V	University 42	105-41088	82.28		
280963	1409	V	University 42	105-41147	82.28		
17265	1410	V	University 42	105-41199	82.28		
17265	1411	V	University 42	105-41200	82.28		
280964	1414	V	University 42	105-41360	82.28		
280943	1501	V	University 42	105-40528	82.28		
17265	1502	V	University 42	105-40775	82.28		
17265	1503	V	University 42	105-41131	82.28		
260171	1504	V	University 42	105-41171	82.28		
17265	1505	V	University 42	105-41173	82.28		
17265	1506	V	University 42	105-41205	82.28		
237560	2201	V	University 42	105-40467	82.28		
239764	2202	V	University 42	105-40492	82.28		
241402	2203	V	University 42	105-40532	82.28		
247117	2204	V	University 42	105-40887	82.28		
17265	2205	V	University 42	105-40998	82.28		
256243	2206	V	University 42	105-41044	82.28		
256804	2207	V	University 42	105-41069	82.28		
256803	2208	V	University 42	105-41070	82.28		
258301	2209	V	University 42	105-41071	82.28		
258296	2210	V	University 42	105-41072	82.28		
17265	2211	V	University 42	105-41134	82.28		
258244	2212	V	University 42	105-41133	82.28		
259162	2213	V	University 42	105-41135	82.28		
17265	2214	V	University 42	105-41130	82.28		
17265	2215	V	University 42	105-41152	82.28		
17265	2217	V	University 42	105-41246	82.28		
240944	2301	V	University 42	105-40529	82.28		
244872	2302	V	University 42	105-40684	82.28		
248169	2303	V	University 42	105-40795	82.28		

Total Well Count >	94	1691.4	< A. Total Assigned Horiz. Acreage	7780.13	< C. Total Assigned Acreage
		0	< Total Remaining Horiz. Acreage	0	< Total Remaining Acreage
		6088.73	< B. Total Assigned Vert./Dir. Acreage		
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RAILROAD COMMISSION OF TEXAS

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Form P-16
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Acreage Designation Attachment

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SECTION III (CONTINUED). LISTING OF ALL WELLS IN THE APPLIED-FOR FIELD ON THE SAME ACREAGE AS THE LEASE, POOLED UNIT, OR UNITIZED TRACT DESIGNATED IN SECTION II ABOVE BY FILER

RRC ID No. or Lease No.	Well No.	H -Horizontal D-Directional V-Vertical	Lease Name	API No.	Acres Assigned	SWR 38 Except. (Y/N)	Operator Name and Operator No. (if different from filing operator)
17265	2304	V	University 42	105-40794	82.28		
17265	2305	V	University 42	105-40796	82.28		
247077	2306	V	University 42	105-40885	82.28		
17265	2307	V	University 42	105-40886	82.28		
248473	2308	V	University 42	105-40906	82.28		
256780	2309	V	University 42	105-41045	82.28		
17265	2310	V	University 42	105-41084	82.28		
17265	2311	V	University 42	105-41159	82.28		
17265	2312	V	University 42	105-41156	82.28		
17265	2313	V	University 42	105-41224	82.28		
17265	2314	V	University 42	105-41244	82.28		
17265	2315	V	University 42	105-41245	82.28		
248472	2401	V	University 42	105-40935	82.28		
248477	2402	V	University 42	105-40936	82.29		
17265	1001HC	H	University 42	105-41307	84.57		
17265	101HB	H	University 42	105-41362	84.57		
17265	1215HC	H	University 42	105-42185	84.57		
17265	1217HB	H	University 42	105-42186	84.57		
17265	1218HB	H	University 42	105-42195	84.57		
17265	1320HB	H	University 42	105-41859	84.57		
17265	1416HB	H	University 42	105-42236	84.57		
17265	1420HB	H	University 42	105-42237	84.57		
17265	1439HC	H	University 42	105-42202	84.57		
17265	1440HB	H	University 42	105-42228	84.57		
17265	1441HB	H	University 42	105-42203	84.57		
17265	1444HC	H	University 42	105-42229	84.57		
17265	1507X	H	University 42	105-41589	84.57		
17265	1509HC	H	University 42	105-42286	84.57		
17265	1511HB	H	University 42	105-42887	84.57		
17265	2101HB	H	University 42	105-41255	84.57		
17265	2111HC	H	University 42	105-42183	84.57		
17265	2113HB	H	University 42	105-42182	84.57		
17265	2131HB	H	University 42	105-41827	84.57		

Total Well Count >	94	1691.4	< A. Total Assigned Horiz. Acreage	7780.13	< C. Total Assigned Acreage
		0	< Total Remaining Horiz. Acreage	0	< Total Remaining Acreage
		6088.73	< B. Total Assigned Vert./Dir. Acreage		
		0	< Total Remaining Vert./Dir. Acreage		

RAILROAD COMMISSION OF TEXAS
Oil and Gas Division

ELECTRIC LOG STATUS REPORT

FORM L-1

Tracking No.: 191820

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: APPROACH OPERATING LLC	District No. 7C	Completion Date: 08/26/2017
Field Name HOLT RANCH (CONSOLIDATED)	Drilling Permit No. 824048	
Lease Name UNIVERSITY 42	Lease/ID No. 17265	Well No. 1216HC
County CROCKETT	API No. 42- 105-42194	

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

05/03/2018
Date

-FOR RAILROAD COMMISSION USE ONLY-

Scout Downhole Inc.

University 42 1216 HC
Scale 5":100' - MD
4/28/2017 1:41 AM

Oper. Company: Approach Resources, LLC
Well: University 42 1216 HC
Field: Holt Ranch (Consolidated)
Rig: Nomac #133
Well ID: 42-105--42194
Job Number: 4060

State: Texas
County: Crockett
Country: USA
Location: X 1725990 / Y 464398
Start Date: 04/20/2017 03:00:00
End Date: 04/28/2017 01:00:00

Latitude: 30° 56' 26.288 N
Longitude: 101° 12' 26.588 W

Elev GL: 2593
Elev DF: 2615.5
Elev KB: 2615.5

Operator 1: Joe Sammarco
Operator 2: Kevin Whittington

Tool Run Data	Run #1	Run #2	Run #3	Run #4	Run #5
Tool S/N	457	457	457	457	
Bit Size	8 3/4	8 3/4	8 3/4	8 3/4	
Cal Factor	4.0	4.0	4.0	4.0	
Survey Offset	61.00	52.00	55.00	51.00	
Gamma Offset	52.00	43.00	46.00	42.00	
Resisitivity Offset	0.00	0.00	0.00	0.00	
Start Depth	1396.00	5853.00	7791.00	9842.00	
StartDate	4/20/2017	4/21/2017	4/23/2017	4/25/2017	
StartTime	03:00	13:00	00:00	17:30	
EndDepth	5852.00	7790.00	9841.00	14236.00	
EndDate	4/21/2017	4/23/2017	4/25/2017	4/28/2017	
EndTime	05:00	23:00	16:30	01:00	
Mud Type	DOBM	DOBM	DOBM	DOBM	
Mud Weight	9.0	9.05	9.1	9.2	
Funnel Viscosity	68	63	59	62	
Plastic Viscosity	18	19	18	18	
Yield Point	14	12	13	16	
Gel Strength	13 / 18	12 / 18	12 / 20	14 / 23	
Solids Content	9.1	9.6	9.8	10.2	
Sand Content	0	0	0	0	
Mud Alkalinity	3.7	3.9	4.2	3.9	
Filtrate Alkalinity	16	12	11	16	
Chlorides	58000	57000	57000	54000	
Temperature	162	178	196	203	

Hole Data			Casing Data		
Size	From	To	Size	From	To
12 1/4	0.00	1257.00	9.625	0.00	1257.00
8 3/4	1258.00	14236.00			

0.00 GR(API) 150.00 MD 0.00 ROP(FT/HR) 200.00

Groundwater Advisory Unit

GROUNDWATER PROTECTION DETERMINATION

Form GW-2

Date: January 20, 2015

GAU File No.: 15803

***** EXPEDITED APPLICATION *****

API Number: 10542194

Attention: CAROL ADLER

RRC Lease No.: 000000

SC_028625_10542194_000000_15803.pdf

APPROACH OPERATING LLC
6500 WEST FRWY
STE 800
FORT WORTH TX 76116

P-5# 028625

--Measured--
1650 ft FWL
330 ft FSL
MRL:SECTION

Digital Map Location:
X-coord/Long: 1725990
Y-coord/Lat: 464398
Datum: 27 Zone: C

County: CROCKETT

Lease & Well No.: UNIVERSITY 42 #1216HC&RAD

Purpose: ND

Location: SUR-UL,BLK-42,SEC-12,--[TD=7800],[RRC 7C],

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 a depth of 750 feet must be protected.

This recommendation is applicable to all wells within a radius of 300 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 intended for normal drilling, production, and plugging operations only. It does not apply to saltwater disposal operation into a nonproductive zone (RRC Form W-14).**

If you have any questions, please contact us at 512-463-2741 gau@rrc.state.tx.us, or by mail.

Sincerely,

George Dunfield

Digitally signed by George Dunfield
DN: c=US, st=TEXAS, l=Austin, o=Railroad Commission of Texas, cn=George Dunfield, email=george.dunfield@rrc.state.tx.us
Date: 2015.01.20 17:44:32 -06'00'

George Dunfield, P.G.

Geologist, Groundwater Advisory Unit
Oil & Gas Division

GEOLOGIST SEAL

STATE OF TEXAS
George Dunfield
Geology
413
LICENSED
PROFESSIONAL GEOSCIENTIST

The seal appearing on this document was authorized by George Dunfield on 1/20/2015
Note: Alteration of this electronic document will invalidate the digital signature.