



RAILROAD COMMISSION OF TEXAS

Form W-2

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

Status: Approved
Date: 04/22/2019
Tracking No.: 210240

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

OPERATOR INFORMATION

Operator Name: APACHE CORPORATION Operator No.: 027200
Operator Address: ATTN REGULATORY STE 3000 303 VETERANS AIRPARK LN MIDLAND, TX 79705-0000

WELL INFORMATION

API No.: 42-383-40327 County: REAGAN
Well No.: 5HA RRC District No.: 7C
Lease Name: UNIVERSITY 25W Field Name: SPRABERRY (TREND AREA)
RRC Lease No.: 20205 Field No.: 85279200
Location: Section: 25, Block: 58, Survey: UL, Abstract: U364

Latitude: Longitude:
This well is located 11.76 miles in a NW
direction from BIG LAE,
which is the nearest town in the county.

FILING INFORMATION

Purpose of filing: Initial Potential
Type of completion: New Well
Well Type: Producing Completion or Recompletion Date: 12/21/2018

Type of Permit Date Permit No.
Permit to Drill, Plug Back, or Deepen 06/26/2018 841724
Rule 37 Exception
Fluid Injection Permit
O&G Waste Disposal Permit
Other:

COMPLETION INFORMATION

Spud date: 08/26/2018 Date of first production after rig released: 12/21/2018
Date plug back, deepening, recompletion, or drilling operation commenced: 08/26/2018 Date plug back, deepening, recompletion, or drilling operation ended: 12/04/2018
Number of producing wells on this lease in this field (reservoir) including this well: 3 Distance to nearest well in lease & reservoir (ft.): 428.0
Total number of acres in lease: 320.00 Elevation (ft.): 2655 GL
Total depth TVD (ft.): 7785 Total depth MD (ft.): 12715
Plug back depth TVD (ft.): 7785 Plug back depth MD (ft.): 12715
Was directional survey made other than inclination (Form W-12)? Yes Rotation time within surface casing (hours): 63.0
Is Cementing Affidavit (Form W-15) attached? Yes
Recompletion or reclass? No Multiple completion? No
Type(s) of electric or other log(s) run: Gamma Ray (MWD)
Electric Log Other Description:
Location of well, relative to nearest lease boundaries Off Lease : No
of lease on which this well is located: 270.0 Feet from the North Line and
828.0 Feet from the East Line of the
UNIVERSITY 25W Lease.

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.): 475.0	Date: 06/05/2018
SWR 13 Exception		Depth (ft.):	

INITIAL POTENTIAL TEST DATA FOR NEW COMPLETION OR RECOMPLETION		
Date of test: 01/11/2019		Production method: Gas Lift
Number of hours tested: 24		Choke size:
Was swab used during this test?	No	Oil produced prior to test: 5613.00
PRODUCTION DURING TEST PERIOD:		
Oil (BBLS): 357.00		Gas (MCF): 349
Gas - Oil Ratio: 977		Flowing Tubing Pressure: 2920.00
Water (BBLS): 1288		
CALCULATED 24-HOUR RATE		
Oil (BBLS): 357.0		Gas (MCF): 349
Oil Gravity - API - 60.:	42.6	Casing Pressure: 190.00
Water (BBLS): 1288		

CASING RECORD											
Row	Type of Casing	Casing Size (in.)	Hole Size (in.)	Setting Depth (ft.)	Multi - Stage 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	13 3/8	17 1/2	530			C	550	731.0	0	Circulated to Surface
2	Intermediate	9 5/8	12 1/4	7372			TXI LITE	725	1495.0	4100	Calculation
3	Intermediate	9 5/8	12 1/4	7372	4022		TXI LITE	930	1545.0	350	Calculation
4	Conventional Production	5 1/2	8 1/2	12715			TXI LITE	1925	3513.0	692	Calculation

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.)
1	2 7/8	7442	
			Packer Depth (ft.)/Type
			7430 /

PRODUCING/INJECTION/DISPOSAL INTERVAL			
Row	Open hole?	From (ft.)	To (ft.)
1	No	L1 8184	12715.0

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: 8000		Actual maximum pressure (PSIG) during hydraulic fracturing: 8339	
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	SEE FRAC FOCUS	8184 12715

FORMATION RECORD					
Formations	Encountered	Depth TVD (ft.)	Depth MD (ft.)	Is formation isolated?	Remarks
GRAYBURG	Yes	2870.0	2875.0	Yes	
QUEEN	Yes	2540.0	2540.0	Yes	
SAN ANDRES - SALTWATER FLOW, POSSIBLY HEAVY CLEARFORK	Yes	3296.0	3301.0	Yes	
SPRABERRY	Yes	6093.0	6101.0	Yes	
WOLFCAMP	Yes	7651.0	7673.0	Yes	
STRAWN	No			No	BELOW WELLBORE
FUSSELMAN	No			No	BELOW WELLBORE
ELLENBURGER	No			No	BELOW WELLBORE
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
PARENT WELLBORE TO UNIVERSITY 25W #6HU DP# 841725 API# 42-383-40328. WET SHOE FRAC

RRC REMARKS	
PUBLIC COMMENTS: [RRC Staff 2019-04-18 16:40:17.951] EDL=4500 feet, max acres=400, SPRABERRY (TREND AREA) oil well; take points: 8184-12715 feet	
CASING RECORD :	
TUBING RECORD:	
PRODUCING/INJECTION/DISPOSAL INTERVAL : KICK OFF POINT 7422'	
ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC. :	
POTENTIAL TEST DATA:	

OPERATOR'S CERTIFICATION	
Printed Name: Sherene Starr	Title:
Telephone No.: (432) 818-1023	Date Certified: 03/22/2019



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 shaded areas.
Operator: Fill in other items.

OPERATOR INFORMATION

Operator Name: APACHE CORPORATION
Cementer Name: C&J Energy Service

Operator P-5 No.: 027800
Cementer P-5 No.: 120531

WELL INFORMATION

District No.: 7C
Well No.: 5HA
Lease Name: UNIVERSITY 25W
Field Name: Sperryberry (Trend Area)

County: REAGAN
API No.: 42-383-40327
Lease No.:
Field No.: 85280300
Drilling Permit No.: 841724

I. CASING CEMENTING DATA

Type of casing: ☐ Conductor ☒ Surface ☐ Intermediate ☐ Liner ☐ Production
Drilled hole size (in.): 17.5 Depth of drilled hole (ft.): 535' Est. % wash-out or hole enlargement: 100%
Size of casing in O.D. (in.): 13.375 Casing weight (lbs/ft) and grade: 48# H-40 No. of centralizers used: 5
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.): 529.50' 530' Top of liner (ft.):
Setting depth liner (ft.):
Hrs. waiting on cement before drill-out: 20.5 Calculated top of cement (ft.): SURFACE Cementing date: 8/27/2018

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	550	CLASS C	NEAT	731.5	1052+M321052
2					
3					
Total	550			731	

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 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					

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

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

JUSTIN SMITH

Name and title of cementer's representative

C&J Energy Services

Cementing Company

Signature

2601 E I-20

Midland, TX, 79706

Address

City, State, Zip Code

432-686-8559

Tel: Area Code Number

8/27/2018

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

Margaret Brennan

Typed or printed name of operator's representative

Drilling Tech III

Title

Margaret Brennan

Signature

303 VETERANS AIRPARK LN., STE 1000
MIDLAND, TX 79705

432-818-1150

Tel: Area Code Number

11-6-18

Date: mo. day yr.

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).

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 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

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.nrc.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 787112967).

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 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

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 H. Casing Cementing Data section by selecting the type of casing and Multi-stage cement shoe. The operator must report the multi-

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

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.



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Form W-15

Rev. 08/2014

CEMENTING REPORT

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

OPERATOR INFORMATION					
Operator Name: APACHE CORPORATION			Operator P-5 No.: 027200		
Cementer Name: C&J Energy Service			Cementer P-5 No.: 120531		
WELL INFORMATION					
District No.: 7C			County: REAGAN		
Well No.: 5HA			API No.: 42-383-40327		
Lease Name: UNIVERSITY 25W			Drilling Permit No.: 841724		
Field Name: Strawberry (Trend Area)			Lease No.:		
			Field No.: 85280300		
I. CASING CEMENTING DATA					
Type of casing: <input type="checkbox"/> Conductor <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Liner <input type="checkbox"/> Production					
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:	
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input type="checkbox"/> YES <input type="checkbox"/> NO If no for surface casing, explain in Remarks.				Setting depth shoe (ft.):	
				Top of liner (ft.):	
				Setting depth liner (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					
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 checked="" type="checkbox"/> Multi-stage cement shoe <input type="checkbox"/> Multiple parallel strings					
Drilled hole size (in.): 12 1/4		Depth of drilled hole (ft.): 7382		Est. % wash-out or hole enlargement: 30%	
Size of casing in O.D. (in.): 9 5/8		Casing weight (lbs/ft) and grade: 40# HCL-80		No. of centralizers used: 24	
Tapered string drilled hole size (in.)		Tapered string depth of drilled hole (ft.)			
Upper:		Lower:		Upper:	
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:	
Was cement circulated to ground surface (or bottom of cellar) outside casing? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		Setting depth shoe (ft.): 7372		Lower:	
Hrs. waiting on cement before drill-out: 14.5		Calculated top of cement (ft.): 4100'		3341 Cementing date: 9/1/2018	
SLURRY					
Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	405	TXI LW	SEE REMARKS	1098	3495
2	320	TXI LW	SEE REMARKS	397	4642
3					
Total	725			1495	8137
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 checked="" type="checkbox"/> Multi-stage cement/DV tool <input type="checkbox"/> Multiple parallel strings					
Drilled hole size (in.): 12 1/4		Depth of drilled hole (ft.): 7382		Est. % wash-out or hole enlargement: 30%	
Size of casing in O.D. (in.): 9 5/8		Casing weight (lbs/ft) and grade: 40# J-55		No. of centralizers used: 23	
Tapered string drilled hole size (in.)		Tapered string depth of drilled hole (ft.)			
Upper:		Lower:		Upper:	
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:	
Was cement circulated to ground surface (or bottom of cellar) outside casing? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		Setting depth shoe (ft.): 4025.74		4022	
Hrs. waiting on cement before drill-out: 14.5		Calculated top of cement (ft.): 350'		1168 Cementing date: 9/1/2018	
SLURRY					
Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	655	TXI LW	SEE REMARKS	1179	2829
2	275	C	SEE REMARKS	366	1165
3					
Total	930			1545	3994

CEMENTING TO CASE PLUG BACK OF 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

1ST STAGE LEAD: TXI LW+10SGEL+2%SILOA FUME+1%RHEOLOGY MODIFIER.55%LT/LT RETARDER

1ST STAGE TAIL: TXI LW+.25%DISPERSANT+.35%LT/MT RETARDER

2ND STAGE LEAD: TXI LW+10%GEL+2%SILOA FUME+1%RHEOLOGY MODIFIER+.25%SMS

2ND STAGE TAIL: C+.15%LT RETARDER

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

JAMES PAYNE, SERVICE SUPERVISOR

Name and title of cementer's representative

C&J Energy Services

Cementing Company

Signature

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

Margaret Brennan

Drilling Tech III

Title

Margaret Brennan

Signature

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MIDLAND, TX 79705

432-818-1150

Tel: Area Code

Number

11-6-18

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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 the Casing Cementing Data section by selecting the type of casing and Multi-stage cement shoe. The operator must report the multi-

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

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.



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

OPERATOR INFORMATION

Operator Name: APACHE CORPORATION

Operator P-S No.: 027200

Cementer Name: C&J Energy Service

Cementer P-S No.: 120531

WELL INFORMATION

District No.: 7C

County: REAGAN

Well No.: # 5HA

API No.: 42-383-40327

Drilling Permit No.: 841724

Lease Name: UNIVERSITY 25 W

Lease No.:

Field Name: Sperryberry (Trend Area)

Field No.: 85280300

I. CASING CEMENTING DATA

Type of Casing:	Conductor	Surface	Intermediate	Uner	<input checked="" type="checkbox"/> Production
Drilled hole size (in.):	8 1/2	Depth of drilled hole (ft.):	12,715'	Est. % wash-out or hole enlargement:	30%
Size of casing in O.D. (in.):	5 1/2	Casing weight (lbs/ft) and grade:	17# P110	No. of centralizers used:	115
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.):	12,715'	Top of liner (ft.):	
Mrs. waiting on cement before drill-out:		Calculated top of cement (ft.):	12,228'	Setting depth liner (ft.):	
		Cementing date:	9/7/2018		

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	670	TXI LITE	REMARK 1	1668	6401
2	1255	TXI LITE	REMARK 2	1845	7713
3					
Total	1925			3513	14114

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? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Setting depth shoe (ft.):				
Mrs. 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? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Setting depth shoe (ft.):				
Mrs. 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					5

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.) 100% TXI+10% GEL+0.1% RHEOLOGY MODIFIER+0.55% LT/MT RETARDER
 2.) 100% TXI+0.3% FLUET LOSS+0.1% ANTISETTING+.25% LT/MT RETARDER

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

Anthony Polvon - Service Supervisor
 Name and title of cementer's representative

C&J Energy Services
 Cementing Company


 Signature

2601 E. I-20
 Address

Midland, TX 79706
 City, State, Zip Code

(432) 686-8559
 Tel: Area Code Number

9/7/2018
 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

Margaret Brennan
 Typed or printed name of operator's representative

Drilling Tech III
 Title

Margaret Brennan
 Signature

303 VETERANS AIRPARK LN., STE 1000
 MIDLAND, TX 79705

432-818-1150
 Tel: Area Code Number

11-6-18
 Date: mo. day yr.

Form W-15, Cementing Report

NOTE: The Form W-15 must be submitted as an attachment to the Completion or Recompletion Report, and Log, Form W-2 (Oil Well Potential Test, Completion or Recompletion Report, and Log).

- 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. 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 the Form W-3.
- 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 787112967).
- 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 casing and abandon a well, operators must use only cementers approved by the Commission's Director of Field Operations in accordance with SWR 14.
- 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.
- Multi-stage cements: 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 shoe in the Casing Cementing Data section.
- 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 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.

Tracking No.: 210240

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: APACHE CORPORATION	District No. 7C	Completion Date: 12/21/2018
Field Name SPRABERRY (TREND AREA)	Drilling Permit No. 841724	
Lease Name UNIVERSITY 25W	Lease/ID No. 20205	Well No. 5HA
County REAGAN	API No. 42- 383-40327	

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). _____

Sherene Starr

Signature

Name (print)

Title

(432) 818-1023

Phone

03/19/2019

Date

-FOR RAILROAD COMMISSION USE ONLY-

QUALITY LOGGING, INC

P.O. Box 2463
MIDLAND, TX 79702
(432)682-7168

COMPANY: APACHE CORP

WELL: UNIVERSITY 25W 5HA

FIELD: _____ COUNTY: REAGAN STATE: TX

LOCATION: _____

Interval Logged: 7382 To: 12715 G.L.: _____ K.B: _____

Date Logged: 9/1/18 To: 9/6/18 Spud Date: _____

Rig: TRINIDAD 138 Unit No.: 12

Loggers: David Pittman, Debby Burch

Api No.: 42383403270000

Filename: university_25w_5ha.mlw

Geologist: SANDRA ELLIOTT

Created By MainLog

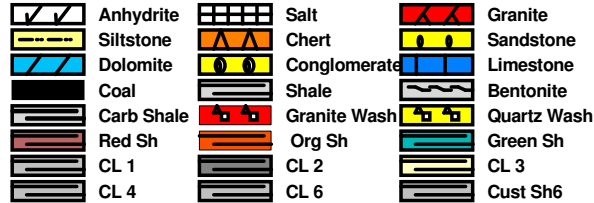
Abbreviations

NB...New Bit
CO...Circ Out
NR...No Returns
TG...Trip Gas
WOB...Wt on Bit
RPM...Rev/Min
SG...Survey Gas
DST...Drill Stem Test
DS...Directional Survey
CG...Connection gas
LAT...Logged After Trip
PP...Pump Pressure
SPM...Strokes/Min
DTG...Down Time Gas

Mud Data

WT..Weight
PH..Acidity
CHL...Chlorides
PV..Plastic Vis
V..Viscosity
F..Filtrate
SC..Solids Content
YP..Yield Point

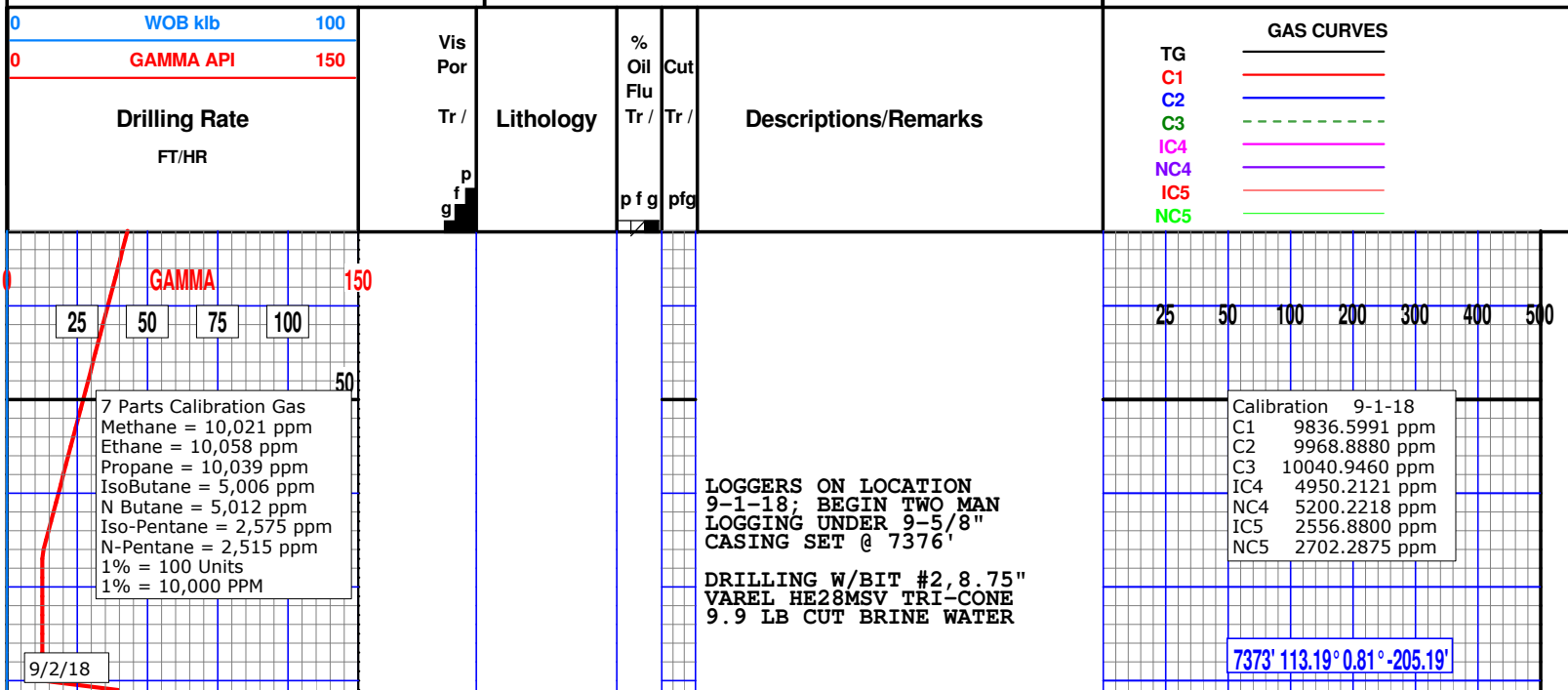
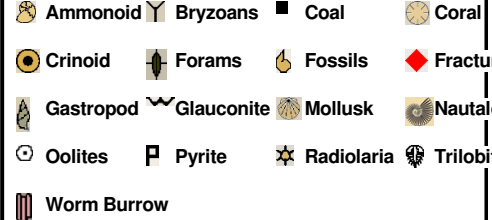
Lithology Symbols



Accessories



Accessories



Name (print)	Sherene Starr	
Title	Signature <input checked="checked" type="checkbox"/> Authorized Employee of current operator	<input type="checkbox"/> Authorized agent of current operator (<i>see instruction G</i>)
E-mail Address (optional)	03/19/2019 Date	(432) 818-1023 Phone with area code

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:	APACHE CORPORATION	Operator P-5 No.:	27200
Operator Address:	303 VETERANS AIRPARK LANE, SUITE 1000, MIDLAND, TEXAS 79705		

SECTION II. WELL INFORMATION			
District No.:	7C	County:	REAGAN
Well No.:	5HA	API No.:	42-383-40327
Total Lease Acres:	320	Drilling Permit No.:	841724
Lease Name:	UNIVERSITY 25W	Lease No.:	
Field Name:	SPRABERRY (TREND AREA)	Field No.:	85279200

Purpose of Filing:

☐ Drilling Permit Application (Form W-1)

☒ Completion Report

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)
	R1HA	H	UNIVERSITY 25W		80	N	
SL Child to R1HA	R2HU	H	UNIVERSITY 25W		0	N	
	R3HA	H	UNIVERSITY 25W		80	N	
SL Child to R3HA	R4HU	H	UNIVERSITY 25W		0	N	
	5HA	H	UNIVERSITY 25W		80	N	
SL Child to 5HA	6HU	H	UNIVERSITY 25W		0	N	
Total Well Count>	3	240	< A. Total Assigned Horiz. Acreage		240	< C. Total Assigned Acreage	
		80	< Total Remaining Horiz. Acreage		80	< Total Remaining Acreage	
			< B. Total Assigned Vert./Dir. Acreage				
			< Total Remaining Vert./Dir. Acreage				

SECTION IV. REMARKS / PURPOSE OF FILING (see instructions)	
This is the Parent wellbore to University 25W #6HU DP# 841725 API# 42-383-40328.	

Attach Additional Pages As Needed.

☒ **No additional pages**

Additional Pages:

(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.

Shirley Storr

Sherene Starr - Sr Regulatory Analyst

Name and title (type or print)

sherene.starr@apachecorp.com

Email (include email address only if you affirmatively consent to its public release)

303 VETERANS AIRPARK LANE, SUITE 1000, MIDLAND, TX 79705

432-818-1023

3/19/2019

Address

City. State.

Zip Code

Tel: Area Code

Number

Date: mo. day yr.

**GROUNDWATER PROTECTION DETERMINATION**

Form GW-2

Groundwater Advisory Unit

Date Issued:	05 June 2018	GAU Number:	196278
Attention:	APACHE CORPORATION ATTN ELAINE RUEDA HOUSTON, TX 77056	API Number:	38340263
Operator No.:	027200	County:	REAGAN
		Lease Name:	UNIVERSITY 25W
		Lease Number:	
		Well Number:	1HA
		Total Vertical Depth:	11000
		Latitude:	31.316514
		Longitude:	-101.598615
		Datum:	NAD27

Purpose: New Production Well
Location: Survey-UL; Abstract-U364; Block-58; Section-25

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 475 feet must be protected.

This recommendation is applicable for all wells drilled in this Section 25.

Note: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. Unless stated otherwise, this recommendation is for normal drilling, production, and plugging operations only.

This determination is based on information provided when the application was submitted on 05/08/2018. 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

Drawn By:	MV: 03/08/2019
Revision: ()	Date Revised: /