



RAILROAD COMMISSION OF TEXAS

Form W-2

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

Status: Approved
Date: 01/12/2017
Tracking No.: 166228

OIL WELL POTENTIAL TEST, COMPLETION OR RECOMPLETION REPORT,

OPERATOR INFORMATION			
Operator	PERMIAN RESOURCES, LLC	Operator	655836
Operator	700 MILAM STE 3100 HOUSTON, TX 77002-0000		

WELL INFORMATION			
API	42-383-39595	County:	REAGAN
Well No.:	0620HD	RRC District	7C
Lease	UNIVERSITY 10 RE	Field	LIN (WOLFCAMP)
RRC Lease	18869	Field No.:	53613750
Location	Section: 6, Block: 10, Survey: UL, Abstract: U212		
Latitude		Longitud	
This well is	6.74	miles in a	NORTH
direction from	BIG LAKE,		
which is the nearest town in the			

FILING INFORMATION			
Purpose of	Initial Potential		
Type of	New Well		
Well Type:	Producing	Completion or Recompletion	09/20/2016
Type of Permit	Date	Permit No.	
Permit to Drill, Plug Back, or	04/06/2016	814372	
Rule 37 Exception			
Fluid Injection			
O&G Waste Disposal			
Other:			

COMPLETION INFORMATION			
Spud	03/15/2016	Date of first production after rig	09/20/2016
Date plug back, deepening, drilling operation	03/15/2016	Date plug back, deepening, recompletion, drilling operation	04/20/2016
Number of producing wells on this lease this field (reservoir) including this	5	Distance to nearest well in lease & reservoir	292.0
Total number of acres in	630.90	Elevation	2538 GL
Total depth TVD	8390	Total depth MD	18628
Plug back depth TVD	8390	Plug back depth MD	18628
Was directional survey made other inclination (Form W-	Yes	Rotation time within surface casing Is Cementing Affidavit (Form W-15)	197.5 Yes
Recompletion or	No	Multiple	No
Type(s) of electric or other log(s)	Gamma Ray (MWD)		
Electric Log Other Description:			
Location of well, relative to nearest lease of lease on which this well is	674.0 Feet from the	Off Lease :	No
	1303.0 Feet from the	South Line and	
		East Line of the	
		UNIVERSITY 10 RE Lease.	

FORMER FIELD (WITH RESERVOIR) & GAS ID OR OIL LEASE NO.			
Field & Reservoir	Gas ID or Oil Lease	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	550.0	Date 03/14/2016
SWR 13 Exception	Depth		

INITIAL POTENTIAL TEST DATA FOR NEW COMPLETION OR RECOMPLETION		
Date of	10/24/2016	Production
Number of hours	24	Gas Lift
Was swab used during this	No	Choke
		64
		Oil produced prior to
		7107.00
PRODUCTION DURING TEST PERIOD:		
Oil	398.00	Gas
		1140
Gas - Oil	2864	Flowing Tubing
		180.00
Water	3191	
CALCULATED 24-HOUR RATE		
Oil	398.0	Gas
		1140
Oil Gravity - API - 60.:	41.0	Casing
		1169.00
Water	3191	

CASING RECORD										
		Casing Hole	Setting	Multi -	Multi -	Cement	Cement	Slurry	Top of	TOC
	Type of	Size	Size	Depth	Stage Tool	Stage Shoe	Class	Amoun	Volume	Determined
Ro	Casing	(in.)							(cu.	By
									(ft.)	
1	Surface	13 3/8	17 1/2	728			CLASS C	900	1444.0	0
							65/35			Circulated to Surface
2	Intermediate	9 5/8	12 1/4	7204			CLASS C	1300	3210.0	0
							50/50 C			Circulated to Surface
3	Conventional Production	5 1/2	8 3/4	18616			PLUS			
							CLASS H	4085	5281.0	21
							50/50			Calculation

LINER RECORD									
	Liner	Hole	Liner	Liner	Cement	Cement	Slurry	Top of	TOC
	Size	Size	Top	Bottom	Class	Amoun	Volume	Cement	Determined
Ro							(cu.	(ft.)	
N/A									

TUBING RECORD			
Ro	Size (in.)	Depth	Size (ft.)
1	2 7/8	8616	Packer Depth (ft.)/Type
			/

PRODUCING/INJECTION/DISPOSAL INTERVAL			
Ro	Open hole?	From (ft.)	To (ft.)
1	No	L1 8758	18523.0

ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC.			
Was hydraulic fracturing treatment	Yes		
Is well equipped with a downhole sleeve?	No	If yes, actuation pressure	
Production casing test pressure (PSIG)		Actual maximum pressure (PSIG) during	
hydraulic fracturing	8500	fracturin	8029
Has the hydraulic fracturing fluid disclosure been	Yes		
Ro	Type of Operation	Amount and Kind of Material Used	Depth Interval (ft.)

FORMATION RECORD					
Formations	Encountere	Depth TVD	Depth MD	Is formation	Remarks
GRAYBURG	Yes	2698.0	2716.0	Yes	
QUEEN	Yes	2151.0	2158.0	Yes	
SAN ANDRES - SALTWATER FLOW, POSSIBLY HEAVY CLEARFORK	Yes	2864.0	2885.0	Yes	
	No			No	PINCHED OUT IN AREA
SPRABERRY	Yes	5527.0	5587.0	Yes	
WOLFCAMP	Yes	7089.0	7150.0	Yes	
STRAWN	No			No	BELOW TD
FUSSELMAN	No			No	BELOW TD
ELLENBURGER	No			No	BELOW TD
Do the producing interval of this well produce H2S with a concentration in excess of 100 ppm					No
Is the completion being downhole commingled			No		

REMARKS
KOP FOR THIS WELL IS 7,858

RRC REMARKS
<p>PUBLIC COMMENTS:</p> <p>[RRC Staff 2016-12-20 13:41:59.357] EDL=9765 feet, max acres=380, LIN (WOLFCAMP) oil well</p>
<p>CASING RECORD :</p>
<p>TUBING RECORD:</p>
<p>PRODUCING/INJECTION/DISPOSAL INTERVAL :</p>
<p>ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC. :</p>
<p>POTENTIAL TEST DATA:</p>

OPERATOR'S CERTIFICATION			
Printed	Rian Hinds	Title:	Regulatory Technician
Telephone	(405) 968-4451	Date	12/19/2016

**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:	American Energy Permian	Operator P-5 No.:	017996
Cementer Name:	Crest Pumping Technologies	Cementer P-5 No.:	189898

WELL INFORMATION

District No.:	7C	County:	Reagan		
Well No.:	0620HD	API No.:	42-383-39595	Drilling Permit No.:	814372
Lease Name:	University 10RE		Lease No.:		
Field Name:	Lin (Wolfcamp)		Field No.:		

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.):	17 1/2	Depth of drilled hole (ft.):	728	Est. % wash-out or hole enlargement:	
Size of casing in O.D. (in.):	13 3/8	Casing weight (lbs/ft) and grade:	54.5# J-55	No. of centralizers used:	5
Was cement circulated to ground surface (or bottom of cellar) outside casing?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Setting depth shoe (ft.):	728	Top of liner (ft.):	
	If no for surface casing, explain in Remarks.			Setting depth liner (ft.):	
Hrs. waiting on cement before drill-out:		Calculated top of cement (ft.):		Cementing date:	3/16/2016

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	475	Class C 65/35	Remarks 1	879	1,265
2	425	Class C	Remarks 2	565	814
3					
Total	900			1,444	2,079

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/DV 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 of 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)							

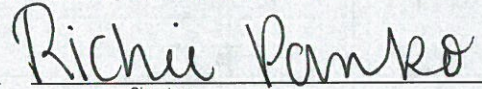
REMARKS

- 1 3% Salt; 6% Bentonite Gel; 0.25# Cellophane Flakes
- 2 2% Calcium Chloride; 0.25# Cellophane Flakes
- 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.

Richie Panko / Cementer

Crest Pumping Technologies



Name and title of cementer's representative

Cementing Company

Signature

P.O. Box 117 Jacksboro, TX 76458

940-567-3392

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 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.

Rian Hinds

Regulatory Technician



Typed or printed name of operator's representative

Title

Signature

Po Box 13710 OKC, OK 73113

405-608-5477

04/04/2016

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.

- 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 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.

- 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](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-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.
- 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.
- 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-15'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.



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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:	American Energy Permian	Operator P-5 No.:	
Cementer Name:	Crest Pumping Technologies	Cementer P-5 No.:	189898

WELL INFORMATION

District No.:	7C	County:	Reagan		
Well No.:	0620HD	API No.:	42-383-39595	Drilling Permit No.:	814372
Lease Name:	University 10 RE		Lease No.:		
Field Name:	Lin (Wolfcamp)		Field No.:		

I. CASING CEMENTING DATA

Type of casing:	<input type="checkbox"/> Conductor	<input type="checkbox"/> Surface	<input checked="" type="checkbox"/> Intermediate	<input type="checkbox"/> Liner	<input type="checkbox"/> Production
Drilled hole size (in.):	12 1/4	Depth of drilled hole (ft.):	7204	Est. % wash-out or hole enlargement:	
Size of casing in O.D. (in.):	9 5/8	Casing weight (lbs/ft) and grade:	40# J-55	No. of centralizers used:	53
Was cement circulated to ground surface (or bottom of cellar) outside casing?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Setting depth shoe (ft.):	7204	Top of liner (ft.):	
	If no for surface casing, explain in Remarks.			Setting depth liner (ft.):	
Hrs. waiting on cement before drill-out:		Calculated top of cement (ft.):	0	Cementing date:	4/3/2016

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	1,095	Class C 50/50	Remarks 1	2,880	9,195
2	205	C PLUS	Remarks 2	330	1,054
3					
Total	1,300			3,210	10,249

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/DV 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 of 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% Salt; 7% Bentonite Gel; 0.05% GXT-C; 0.25% CPT-503p; 4# Kol Seal; 2# Dura Fiber-X
2	3% Salt; 1% Bentonite Gel; 0.5% CPT-19; 0.4% CPT-35; 4# Kol Seal; 0.1% 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.

Richie Panko / Cementer

Name and title of cementer's representative

Crest Pumping Technologies

Cementing Company

Richie Panko

Signature

P.O. Box 117 Jacksboro, TX 76458

Address

City, State, Zip Code

940-567-3392

Tel: Area Code Number

Date: mo. day yr.

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Rian Hinds

Typed or printed name of operator's representative

Regulatory Technician

Title

Rian Hinds

Signature

PO Box 13710 OKC, OK 73113

Address

City, State, Zip Code

405-968-4451

Tel: Area Code Number

04/29/2016

Date: mo.

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 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.
- 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).
- 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](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.
- Estimated % wash-out:** If the estimated % wash-out is 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 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.
- 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.
- 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: Permian Resources			Operator P-5 No.:		
Cementer Name: Crest Pumping Technologies			Cementer P-5 No.: 189898		
WELL INFORMATION					
District No.: 7C		County: Reagan			
Well No.: 0620HD		API No.: 42-383-39595		Drilling Permit No.: 814372	
Lease Name: University 10 RE		Lease No.:			
Field Name: Lin (Wolfcamp)		Field No.:			
I. CASING CEMENTING DATA					
Type of casing: <input type="checkbox"/> Conductor <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Liner <input checked="" type="checkbox"/> Production					
Drilled hole size (in.): 8 3/4		Depth of drilled hole (ft.): 18618		Est. % wash-out or hole enlargement:	
Size of casing in O.D. (in.): 5 1/2		Casing weight (lbs/ft) and grade: 17# P-110		No. of centralizers used: 155	
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.): 18616		Top of liner (ft.):
Setting depth liner (ft.):					
Hrs. waiting on cement before drill-out:		Calculated top of cement (ft.): 21		Cementing date: 4/20/2016	
SLURRY					
Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	1,415	Class H 50/50	Remarks 1	2,023	8,011
2	2,670	Class H 50/50	Remarks 2	3,257	12,896
3					
Total	4,085			5,281	20,907
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/DV 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% Bentonite Gel; 0.25% CPT-503p; 1% CPT-16 A; 0.3% CPT-35; 0.3% CPT-45; 0.1% CPT-20A; 0.1% Citric Acid
- 2 2% Bentonite Gel; 0.25% CPT-503p; 1% CPT-16 A; 0.2% CPT-35; 0.25% 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.

Jody Damron / Cementer
Name and title of cementer's representative

Crest Pumping Technologies
Cementing Company

Jody Damron
Signature

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

940-567-3392
Tel: Area Code Number

4/20/2016
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.

Rian Hinds
Typed or printed name of operator's representative

Regulatory Technician
Title

Rian Hinds
Signature

PO Box 13710 OKC, OK 73113
Address City, State, Zip Code

405-968-4451
Tel: Area Code Number

04/29/2016
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 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.
- 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_loc=&p_loc=&p_ploc=&pg=1&ptac=&ti=16&pt=1&ch=3&rl=14](http://info.sos.state.tx.us/pls/pub/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_loc=&p_loc=&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-out is 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 III. 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 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.
- 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.

Tracking No.: 166228

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: PERMIAN RESOURCES, LLC	District No. 7C	Completion Date: 09/20/2016
Field Name LIN (WOLFCAMP)	Drilling Permit No. 814372	
Lease Name UNIVERSITY 10 RE	Lease/ID No. 18869	Well No. 0620HD
County REAGAN	API No. 42- 383-39595	

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). _____

Rian Hinds

Signature

PERMIAN RESOURCES, LLC

Name (print)

Regulatory Technician

Title


(405) 968-4451

Phone

12/13/2016

Date

-FOR RAILROAD COMMISSION USE ONLY-

	Gamma Ray Build and Lateral		
Job #:	168046	Well ID:	814372
Scale:	5"/100	Type:	MD

Well Site Information	
Oil Company	American Energy-Perm Basin, LLC
Surface Location	674.0' FSL & 1282.0' FEL
Well Name	University 10 RE 0620HD
API	42-383-39595
Field	Lin (Wolfcamp)
State	Texas
Country	USA

Surface Coordinates	
Well Type	Horizontal
Latitude	31.288956° N
Longitude	101.470446° W
N / S Coordinates	591,819.67 ft
E / W Coordinates	1,644,819.61 ft
Azimuth Reference	True North
Grid Convergence	0.59°

MWD Engineers	
Lead Hand	T. Studer
Second Hand	H. Corrales

Perm Datum	Mean Sea Level	Elevation	2,538.00 ft		
Log depth measured from KB is	21.00 ft	above perm datum	KB = 2559.00 ft		
Total Depth	18628.00 ft	Spud Date	Mar/27/2016	End Date	Apr/15/2016
(MD) Log Interval		Start Depth	813.00 ft	End Depth	18628.50 ft

Bore Hole Record		
Hole Size	From	To
12 1/4"	699.00 FT	7,216.00 FT
8 3/4"	7,217.00 FT	18,628.00

Casing Record				
Type	Size	WGT	From	To
Surface	13 3/8"	54.5	0.00 FT	721.00 FT
Intermediate	8 5/8"	40.0	0.00 FT	7,216.00 FT

CERTIFICATE OF COMPLIANCE AND TRANSPORTATION AUTHORITY

P-4

This facsimile P-4 was generated electronically from data submitted to the RRC.

A certification of the automated data is available in the RRC's Austin office.

Tracking No.: 156487

1. Field name exactly as shown on proration schedule LIN (WOLFCAMP)		2. Lease name as shown on proration schedule UNIVERSITY 10 RE																																													
3. Current operator name exactly as shown on P-5 Organization Report PERMIAN RESOURCES, LLC		4. Operator P-5 no. 655836	5. Oil Lse/Gas ID no 18869	6. County REAGAN	7. RRC district 7C																																										
8. Operator address including city, state, and zip code PO BOX 14670 OKLAHOMA CITY, OK 73113		9. Well no(s) <i>(see instruction E)</i> 0620HD																																													
12. Purpose of Filing. (Complete section a or b below.) <i>(See instructions B and G)</i> a. Change of: <input type="checkbox"/> operator <input type="checkbox"/> oil or condensate gatherer <input type="checkbox"/> gas gatherer <input type="checkbox"/> gas purchaser <input type="checkbox"/> gas purchaser system code <input type="checkbox"/> field name from _____ <input type="checkbox"/> lease name from _____ --- OR --- b. New RRC Number for: <input checked="" type="checkbox"/> oil lease <input type="checkbox"/> gas well Due to: <input type="checkbox"/> new completion or recompletion <input type="checkbox"/> reclass oil to gas <input type="checkbox"/> reclass gas to oil <input type="checkbox"/> other well (specify) _____ <input type="checkbox"/> consolidation, unitization, or subdivision (oil lease only)		10. Classification <input checked="" type="checkbox"/> Oil <input type="checkbox"/> Gas <input type="checkbox"/> Other <i>(see instruction A)</i>		11. Effective Date 04/20/2016																																											
13. Authorized GAS WELL GAS or CASINGHEAD GAS Gatherer(s) and/or Purchaser(s). <i>(See instruction G).</i> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">Gatherer</th> <th style="width: 5%;">Purchaser</th> <th style="width: 65%;">Name of GAS WELL GAS or CASINGHEAD GAS Gatherer(s) or Purchaser(s) As Indicated in Columns to the Left <i>(Attach an additional sheet in same format if more space is needed)</i></th> <th style="width: 15%;">Purchaser's RRC Assigned System Code</th> <th style="width: 10%;">Percent of Take</th> <th style="width: 5%;">Full-well stream</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">X</td> <td></td> <td>LUCID ENERGY WESTEX, LLC(511943)</td> <td></td> <td style="text-align: center;">100.0</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> <td>LUCID ENERGY WESTEX, LLC(511943)</td> <td style="text-align: center;">0001</td> <td style="text-align: center;">100.0</td> <td></td> </tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>						Gatherer	Purchaser	Name of GAS WELL GAS or CASINGHEAD GAS Gatherer(s) or Purchaser(s) As Indicated in Columns to the Left <i>(Attach an additional sheet in same format if more space is needed)</i>	Purchaser's RRC Assigned System Code	Percent of Take	Full-well stream	X		LUCID ENERGY WESTEX, LLC(511943)		100.0			X	LUCID ENERGY WESTEX, LLC(511943)	0001	100.0																									
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	X	LUCID ENERGY WESTEX, LLC(511943)	0001	100.0																																											
14. Authorized OIL or CONDENSATE Gatherer(s). <i>(See instruction G).</i> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 85%;">Name of OIL or CONDENSATE Gatherer(s) - List Highest Volume Gatherer First <i>(Attach an additional sheet in same format if more space is needed)</i></th> <th style="width: 15%;">Percent of Take</th> </tr> </thead> <tbody> <tr> <td>MEDALLION OPERATING COMPANY, LLC(558336)</td> <td style="text-align: center;">100.0</td> </tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </tbody> </table>						Name of OIL or CONDENSATE Gatherer(s) - List Highest Volume Gatherer First <i>(Attach an additional sheet in same format if more space is needed)</i>	Percent of Take	MEDALLION OPERATING COMPANY, LLC(558336)	100.0																																						
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MEDALLION OPERATING COMPANY, LLC(558336)	100.0																																														
RRC USE ONLY: Reviewer's initials: <u>RRC Staff</u> Approval date: <u>08/01/2016</u>																																															
15. PREVIOUS OPERATOR CERTIFICATION FOR CHANGE OF OPERATOR P-4 FILING. Being the PREVIOUS OPERATOR, I certify that operating responsibility for the well(s) designated in this filing, located on the subject lease has been transferred in its entirety to the above named Current Operator. I understand, as Previous Operator, that designation of the above named operator as Current Operator is not effective until this certificate is approved by the Commission.																																															
Name of Previous Operator _____ Name (print) _____ Title _____		Signature <input type="checkbox"/> Authorized Employee of previous operator <input type="checkbox"/> Authorized agent of previous operator <i>(see instruction G)</i> _____ Date _____ Phone with area code _____																																													
16. CURRENT OPERATOR CERTIFICATION. By signing this certificate as the Current Operator, I certify that all statements on this form are true and correct and I acknowledge responsibility for the regulatory compliance of the subject lease including plugging of well(s) pursuant to Rule 14. I further acknowledge that I assume responsibility for the physical operation, control, and proper plugging of each well designated in this filing. I also acknowledge that I will remain designated as the Current Operator until a new certificate designating a new Current Operator is approved by the Commission.																																															
PERMIAN RESOURCES, LLC Name (print) <u>Regulatory Technician</u> Title <u>rian.hinds@permianresources.com</u> E-mail Address (optional)		Rian Hinds Signature <input checked="" type="checkbox"/> Authorized Employee of current operator <input type="checkbox"/> Authorized agent of current operator <i>(see instruction G)</i> _____ Date <u>06/06/2016</u> Phone with area code <u>(405) 968-4451</u>																																													

CERTIFICATE OF POOLING AUTHORITY

Revised 05/2001

P-12

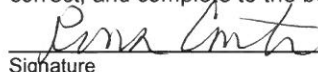
1. Field Name(s) Lin (Wolfcamp)	2. Lease/ID Number (if assigned)	3. RRC District Number 7C
4. Operator Name American Energy-Perm Basin, LLC	5. Operator P-5 Number 017996	6. Well Number 0620HD
7. Pooled Unit Name University 10 RE	8. API Number 42-383-39595	9. Purpose of Filing <input checked="" type="checkbox"/> Drilling Permit (W-1) <input type="checkbox"/> Completion Report
10. County Reagan	11. Total acres in pooled unit 630.90	

DESCRIPTION OF INDIVIDUAL TRACTS CONTAINED WITHIN THE POOLED UNIT

TRACT/PLAT IDENTIFIER	TRACT NAME	ACRES IN TRACT (See inst. #7 below)	INDICATE UNDIVIDED INTERESTS	
			UNLEASED	NON-POOLED
1	University Lands	313.100	<input type="checkbox"/>	<input type="checkbox"/>
2	University Lands	317.800	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>

CERTIFICATION:

I declare under penalties prescribed pursuant to the Sec. 91.143, Texas Natural Resources Code, that I am authorized to make the foregoing statements and that the information provided by me or under my direction on this Certificate of Pooling Authority is true, correct, and complete to the best of my knowledge.



Signature

Rena Carter

Print Name

Sr. Regulatory Specialist

rena.carter@aep-lp.com

03/11/2016

(405) 607-5559

Title

E-mail (if available)

Date

Phone

INSTRUCTIONS — Reference: Statewide Rules 31, 38 and 40

- When two or more tracts are pooled to form a unit to obtain a drilling permit, file completion paperwork, or reform a pooled unit pursuant to Rule 38(d)(3) the operator must file an original Certificate of Pooling Authority and certified plat.
- The certified plat shall designate each tract with an outline and a tract identifier. The tract identifier on the plat shall correspond to the tract identifier and associated information listed on the Certificate.
- If within an individual tract, a non-pooled and/or unleased interest exists, indicate by checking the appropriate box.
- If the Purpose of Filing is to obtain a drilling permit, in box #1 list all applicable fields separately or enter "All Fields" if the Certificate pertains to all fields requested on Form W-1.
- If the Purpose of Filing is to file completion paperwork, enter the applicable field name in box #1 for the completion.
- Identify the drill site tract with an * to the left of the tract identifier.
- The total number of acres in the pooled unit in #11 should equal the total of all acres in the individual tracts listed.

Clear Form

STATEMENT OF PRODUCTIVITY OF ACREAGE
ASSIGNED TO PRORATION UNITS

Form P-15

Tracking No.: 166228

This facsimile P-15 was generated electronically
from data submitted to the RRC.

The undersigned states that he is authorized to make this statement; that he has knowledge of the facts concerning the PERMIAN RESOURCES, LLC ,

UNIVERSITY 10 RE , No. 0620HD ; that such well is
LEASE OPERATOR WELL

completed in the LIN (WOLFCAMP) Field, REAGAN County,

Texas and that the acreage claimed, and assigned to such well for proration purposes as authorized by special rule and as shown on the attached certified plat embraces _____

157.725 acres which can reasonably be considered to be productive of hydrocarbons.

- CERTIFICATE -

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge,

Date 12/13/2016 Signature Rian Hinds

Telephone (405) 968-4451 Title Regulatory Technician
AREA CODE

SECTION VII. REMARKS

GROUNDWATER PROTECTION DETERMINATION

Form GW-2



Groundwater Advisory Unit

Date Issued: 14 March 2016**GAU Number:** 152286**Attention:** AMERICAN ENERGY-PERM
PO BOX 13710
OKLAHOMA CITY, OK 73113**Operator No.:** 017996**API Number:**
County: REAGAN
Lease Name: University 10 RE
Lease Number:
Well Number: 0620HD
Total Vertical Depth: 13000
Latitude: 31.288955
Longitude: -101.470382
Datum: NAD27**Purpose:** New Drill**Location:** Survey-UL; Block-10; Section-6

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 550 feet must be protected.

This recommendation is applicable to all wells within a radius of 500 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 03/14/2016. 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
Rev. 02/2014

NAD 27, Central Zone 4203

Surface Hole Location (SEC. 6)
Latitude: 31.288956° N
Longitude: 101.470446° W
X=1644819.61
Y=591819.67
Elev.=2538'
674' FSL & 1303' FEL

Point of Penetration (SEC. 6)
Latitude: 31.287201° N
Longitude: 101.471474° W
X=1644491.93
Y=591184.99
33' FSL & 1621' FEL

First Take Point (SEC. 6)
Latitude: 31.289044° N
Longitude: 101.471504° W
X=1644489.36
Y=591855.10
703' FSL & 1633' FEL

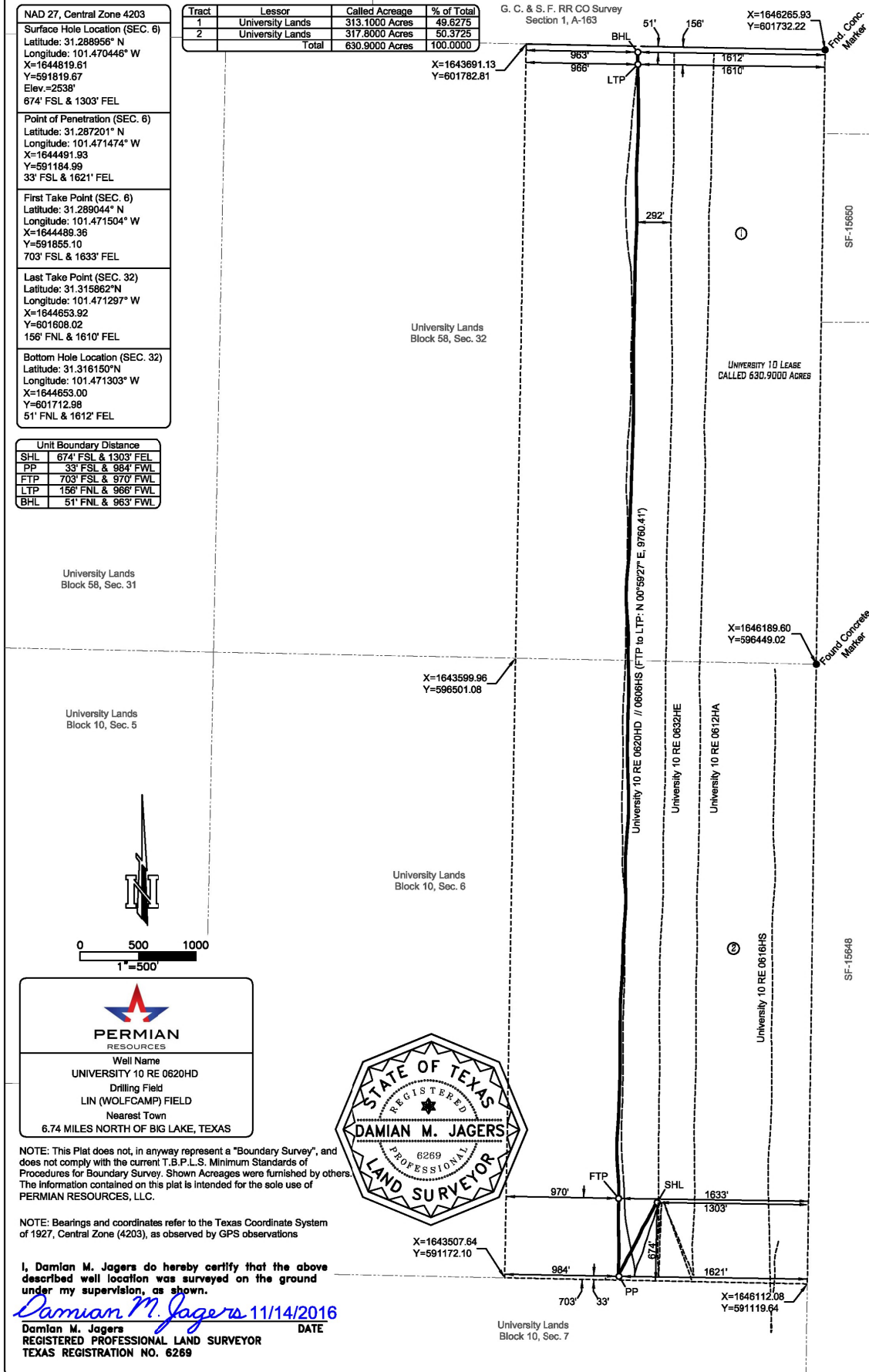
Last Take Point (SEC. 32)
Latitude: 31.315862° N
Longitude: 101.471297° W
X=1644653.92
Y=601608.02
156' FNL & 1610' FEL

Bottom Hole Location (SEC. 32)
Latitude: 31.316150° N
Longitude: 101.471303° W
X=1644653.00
Y=601712.98
51' FNL & 1612' FEL

Unit Boundary Distance	
SHL	674' FSL & 1303' FEL
PP	33' FSL & 984' FWL
FTP	703' FSL & 970' FWL
LTP	156' FNL & 968' FWL
BHL	51' FNL & 963' FWL

Tract	Lessor	Called Acreage	% of Total
1	University Lands	313.1000 Acres	49.8275
2	University Lands	317.8000 Acres	50.3725
	Total	630.9000 Acres	100.0000

G. C. & S. F. RR CO Survey
Section 1, A-163



NOTE: This Plat does not, in anyway represent a "Boundary Survey", and does not comply with the current T.B.P.L.S. Minimum Standards of Procedures for Boundary Survey. Shown Acreages were furnished by others. The information contained on this plat is intended for the sole use of PERMIAN RESOURCES, LLC.

NOTE: Bearings and coordinates refer to the Texas Coordinate System of 1927, Central Zone (4203), as observed by GPS observations

I, Damian M. Jaggers do hereby certify that the above described well location was surveyed on the ground under my supervision, as shown.

Damian M. Jaggers 11/14/2016
DATE
Damian M. Jaggers
REGISTERED PROFESSIONAL LAND SURVEYOR
TEXAS REGISTRATION NO. 6269



As-Drilled Plat
for
Permian Resources, LLC

UNIVERSITY 10 RE 0620HD
University Lands Block 10, Section 6
University Lands Block 58, Section 32
Reagan County, Texas