



RAILROAD COMMISSION OF TEXAS

Form W-2

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

Status: Approved  
Date: 07/14/2017  
Tracking No.: 174278

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

OPERATOR INFORMATION

Operator Name: PERMIAN RESOURCES, LLC Operator No.: 655836  
Operator Address: PO BOX 14670 OKLAHOMA CITY, OK 73113-0000

WELL INFORMATION

API No.: 42-383-39829 County: REAGAN  
Well No.: 932HA RRC District No.: 7C  
Lease Name: UNIVERSITY 11 RE Field Name: LIN (WOLFCAMP)  
RRC Lease No.: 18457 Field No.: 53613750  
Location: Section: 33, Block: 10, Survey: UL, Abstract: U239  
  
Latitude: Longitude:  
This well is located 2.97 miles in a NORTH WEST  
direction from BIG LAKE,  
which is the nearest town in the county.

FILING INFORMATION

Purpose of filing: Well Record Only  
Type of completion: New Well  
Well Type: Shut-In Producer Completion or Recompletion Date: 05/01/2017  
  
Type of Permit Date Permit No.  
Permit to Drill, Plug Back, or Deepen 03/17/2017 824235  
Rule 37 Exception  
Fluid Injection Permit  
O&G Waste Disposal Permit  
Other:

COMPLETION INFORMATION

Spud date: 03/28/2017 Date of first production after rig released: 05/01/2017  
Date plug back, deepening, recompletion, or drilling operation commenced: 03/28/2017 Date plug back, deepening, recompletion, or drilling operation ended: 05/01/2017  
Number of producing wells on this lease in this field (reservoir) including this well: 0 Distance to nearest well in lease & reservoir (ft.): 428.0  
Total number of acres in lease: 3214.82 Elevation (ft.): 2666 GL  
Total depth TVD (ft.): 7313 Total depth MD (ft.): 17833  
Plug back depth TVD (ft.): 7313 Plug back depth MD (ft.): 17833  
Was directional survey made other than inclination (Form W-12)? Yes Rotation time within surface casing (hours): 136.5  
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: 548.0 Feet from the South Line and  
567.0 Feet from the East Line of the  
UNIVERSITY 11 RE Lease.

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

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

W2: N/A

PACKET:	N/A		
FOR NEW DRILL OR RE-ENTRY, SURFACE CASING DEPTH DETERMINED BY:			
GAU Groundwater Protection Determination	Depth (ft.):	850.0	Date: 03/17/2017
SWR 13 Exception	Depth (ft.):		

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

CASING RECORD											
Row	Type of Casing	Casing Size (in.)	Hole Size (in.)	Setting Depth (ft.)	Multi - Stage Depth (ft.)	Multi - 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	1020			CLASS C	1290	2127.0	0	Circulated to Surface
2	Intermediate	9 5/8	12 1/4	4224			CLASS C	1400	3466.0	2079	Calculation
3	Conventional Production	5 1/2	8 3/4	17832			CLASS H	3160	5031.0	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.)
N/A			

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

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

N/A
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## FORMATION RECORD

<u>Formations</u>	<u>Encountered</u>	<u>Depth TVD (ft.)</u>	<u>Depth MD (ft.)</u>	<u>Is formation isolated?</u>	<u>Remarks</u>
GRAYBURG	Yes	2364.0	2378.0	Yes	
QUEEN	Yes	1801.0	1807.0	Yes	
SAN ANDRES - SALTWATER FLOW, POSSIBLY HEAVY	Yes	2868.0	2890.0	Yes	
CLEARFORK	No			No	PINCHED OUT IN THE AREA
SPRABERRY	Yes	5669.0	5727.0	Yes	
WOLFCAMP	Yes	7222.0	7296.0	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 (SWR 36)?	No
Is the completion being downhole commingled (SWR 10)?	No

REMARKS	

## RRC REMARKS

**PUBLIC COMMENTS:**

**CASING RECORD :**

TUBING RECORD:

TUBING WILL BE RECORDED WITH W2-IP

**PRODUCING/INJECTION/DISPOSAL INTERVAL :**

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

**POTENTIAL TEST DATA:**

## OPERATOR'S CERTIFICATION

<b>Printed Name:</b> Rena Carter	<b>Title:</b> Sr. Regulatory Specialist
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**Title:** Sr. Regulatory Specialist

**Telephone No.:** (405) 968-4450 **Date Certified:** 06/07/2017

**Date Certified:** 06/07/2017





## RAILROAD COMMISSION OF TEXAS

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

Form W-15

Rev. 08/2014

## CEMENTING REPORT

Cementer: Fill in  
Operator: Fill in other

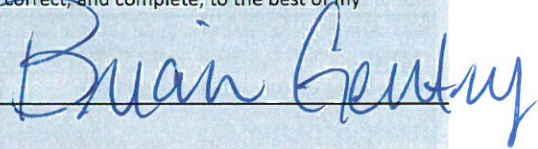
OPERATOR INFORMATION					
Operator Name: Permian Resources LLC			Operator P-5 No.: 655836		
Cementer Name: Crest Pumping Technologies			Cementer P-5 No.: 189898		
WELL INFORMATION					
District No.: 7C			County: Reagan		
Well No.: 932HS			API No.: 42-383-39829		Drilling Permit No.: 824235
Lease Name: University 11 RE			Lease No.:		
Field Name: Lin (Wolfcamp)			Field No.: 53613750		
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.): 1022		Est. % wash-out or hole enlargement:	
Size of casing in O.D. (in.): 13 3/8		Casing weight (lbs/ft) and grade:		No. of centralizers used: 6	
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If no for surface casing, explain in Remarks.			Setting depth shoe (ft.): 1020		Top of liner (ft.):
					Setting depth liner (ft.):
Hrs. waiting on cement before drill-out:		Calculated top of cement (ft.):		Cementing date: 03/30/17	
SLURRY					
Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	790	Class C	See Remarks	1,462	2,105
2	500	Class C	See Remarks	665	957
Total	1,290			2,127	3,062
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.) 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? <input type="checkbox"/> YES <input type="checkbox"/> 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: <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.) 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? <input type="checkbox"/> YES <input type="checkbox"/> 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							

3 bwow Sodium Chloride, 6 % Bentonite Gel, 0.5 lbs/sk Cellophane Flake,  
2 % Calcium Chloride, 0.5 lbs/sk Cellophane Flake,

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.

Brian Gentry/Cementer	Zachary Leatherwood/Cementer	Crest Pumping Technologies	
Name and title of cementer's representative	Cementing Company	Signature	
P.O. Box 117 Jacksboro, TX 76458		940-567-3392	03/29/2017
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.

Rian Hinds	Regulatory Technician	
Typed or printed name of operator's representative	Title	Signature
PO Box 14670 OKC, OK 73113		4059684451
Address City, State, Zip Code		5/30/2017
	Tel: Area Code Number	Date: mo. day yr.

### 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&p\\_tac=&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&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.



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

Form W-15

Rev. 08/2014

## CEMENTING REPORT

Cementer: Fill in  
Operator: Fill in other


OPERATOR INFORMATION						
Operator Name: Permian Resources LLC			Operator P-5 No.: 655836			
Cementer Name: Crest Pumping Technologies			Cementer P-5 No.: 189898			
WELL INFORMATION						
District No.: 7C			County: Reagan			
Well No.: 932HA			API No.: 42-383-39829		Drilling Permit No.: 824235	
Lease Name: University 11 RE			Lease No.:			
Field Name: Lin (Wolfcamp)			Field No.: 53613750			
I. CASING CEMENTING DATA						
Type of Casing:	Conductor	Surface	Intermediate	Liner	Production	
Drilled hole size (in.):	12 1/4	Depth of drilled hole (ft.):	4,228	Est. % wash-out or hole enlargement: 70%		
Size of casing in O.D. (in.):	9 5/8	Casing weight (lbs/ft) and grade:	No. of centralizers used: 37			
Was cement circulated to ground surface (or bottom of cellar) outside casing? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> If no for surface casing, explain in Remarks.			Setting depth shoe (ft.):	Top of liner (ft.):		
			4,224			
Hrs. waiting on cement before drill-out:		Calculated top of cement (ft.):	2079	Cementing date: 04/18/17		
SLURRY						
Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)	
1	1200	Class C	See Remarks	3,144	10,039	
2	200	Class C	See Remarks	322	1,028	
Total	1,400			3,466	11,067	
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:		Upper: Lower:		
Was cement circulated to ground surface (or bottom of cellar) outside casing? YES <input type="checkbox"/> NO <input type="checkbox"/> 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.)		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? YES <input type="checkbox"/> NO <input type="checkbox"/> 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							

5 lbw Sodium Chloride, 7 % Bentonite Gel, 0.05 % Geovis XT, 0.25 % CPT-503P, 0.7 lbs/sk Dura Fiber, 4 lbs/sk Kol Seal,  
 3 lbw Sodium Chloride, 1 % Bentonite Gel, 0.3 % CPT-19, 0.4 % CD-3, 4 lbs/sk Kol Seal, 0.15 % 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.

Deseree McCarter/Cementer	Juan Garza/Cementer	Crest Pumping Technologies	
Name and title of cementer's representative	Cementing Company		Signature
P.O. Box 117 Jacksboro, TX 76458		940-567-3392	04/17/2017
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.

Rian Hinds	Regulatory Technician	
Typed or printed name of operator's representative	Title	Signature
PO Box 14670 OKC OK 73113		405-968-4451 5/30/2017
Address City, State, Zip Code		Tel: Area Code Number Date: mo. day yr.

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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&p\\_tac=&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&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.



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Form W-15

Rev. 08/2014

## CEMENTING REPORT

Cementer: Fill in  
Operator: Fill in other

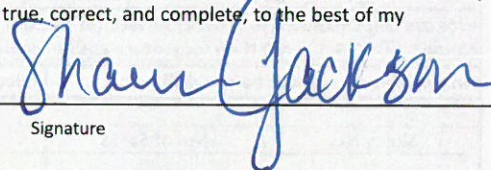
OPERATOR INFORMATION					
Operator Name: Permian Resources LLC			Operator P-5 No.: 655836		
Cementer Name: Crest Pumping Technologies			Cementer P-5 No.: 189898		
WELL INFORMATION					
District No.: 7C		County: Reagan			
Well No.: 932 HA		API No.: 42-383-39829		Drilling Permit No.:	
Lease Name: University 11 RE		Lease No.:			
Field Name: Lin (Wolfcamp)		Field No.: 53613750			
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.): 17,833		Est. % wash-out or hole enlargement:	
Size of casing in O.D. (in.): 5 1/2		Casing weight (lbs/ft) and grade:		No. of centralizers used: 165	
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If no for surface casing, explain in Remarks.				Setting depth shoe (ft.): 17,832	
				Top of liner (ft.):	
				Setting depth liner (ft.):	
Hrs. waiting on cement before drill-out:		Calculated top of cement (ft.):		Cementing date: 04/30/17	
SLURRY					
Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	590	Class H	See Remarks	1,741	6,893
2	2570	Class H	See Remarks	3,290	13,025
Total	3,160			5,031	19,918
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.):	
If no for surface casing, explain in Remarks.					
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: <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 shoe (ft.):	
If no for surface casing, explain in Remarks.					
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					



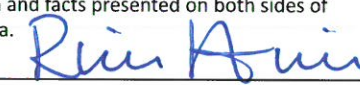
CEMENTING TO SQUEEZE, PLUG BACK OR PLUG AND ABANDON							
	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Cementing Date							
Size of hole or pipe (in.)							
Depth to bottom of tubing or drill pipe (ft.)							
Cement retainer setting depth (ft.)							
CIBP setting depth (ft.)							
Amount 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							

5 bwow Sodium Chloride, 1 % CPT-19, 2.5 % CPT-45, 0.4 % CPT-503P, 5 % Gypsum, 0.3 % CPT-20A, 0.3 % Citric Acid,  
 10 bwow Sodium Chloride, 2 % Bentonite Gel, 0.4 % CPT-12, 0.95 % CPT-15, 0.05 % CPT-20A,  
 5 Gallons CPT-21L, 38 Gallons Coreplex 300, 38 Gallons Biocide,

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

Shaun Jackson/Cementer	Crest Pumping Technologies	
Name and title of cementer's representative	Cementing Company	Signature
P.O. Box 117 Jacksboro, TX 76458	940-567-3392	04/28/2017
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.

Rian Hinds	Regulatory Technician	
Typed or printed name of operator's representative	Title	Signature
PO Box 14670 OKC, OK 73120	405-968-4451	5/8/2017
Address City, State, Zip Code	Tel: Area Code Number	Date: mo. day yr.

### 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 cements approved by the Commission's Director of Field Operations in accordance with SWR 14 ([http://info.sos.state.tx.us/pls/pub/readtac\\$ext.TacPage?sl=R&app=9&p\\_dir=&p\\_rloc=&p\\_tloc=&p\\_ploc=&pg=1&p\\_tac=&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&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.

Tracking No.: 174278

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: 05/01/2017
Field Name LIN (WOLFCAMP)	Drilling Permit No. 824235	
Lease Name UNIVERSITY 11 RE	Lease/ID No. 18457	Well No. 932HA
County REAGAN	API No. 42- 383-39829	

## 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

05/30/2017

Date

-FOR RAILROAD COMMISSION USE ONLY-



**QES DIRECTIONAL DRILLING**

Permian Resources  
PO Box 54526  
Oklahoma City, OK 73154

**UNIVERSITY 11 RE 932HA****Scale 2"=100' - MD****4/28/2017 7:17 AM**

Oper. Company: PERMIAN RESOURCES  
Well: UNIVERSITY 11 RE 932HA  
Field: WOLF CAMP  
Rig: UNIT 407  
Well ID: 42383398290000  
Job Number: WWT-170353

State: TEXAS  
County: REGAN  
Country: USA  
Location: UNIVERSITY LANDS, BLOCK 10, SEC. 33  
Start Date: 04/15/2017 10:00:00  
End Date: 04/28/2017 06:15:14

Latitude: 31° 12' 56.227" N  
Longitude: 101° 30' 8.964" W

Dev GL: 2666'  
Dev DF: 2687'  
Dev KB: 2,100'

Operator 1: Jeff Leschick

Operator 2: Wendell Sizem

Hole Data			Casing Data		
Size	From	To	Size	From	To
17 1/2	0.00	1022.00	13 3/8	0.00	1022.00
12 1/4	1022.00	4240.00	9 5/8	0.00	4229.00
8 3/4	4240.00	17833.00	5 1/2	0.00	17833.00

All interpretations are opinions based on information from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, cost, damages or expenses incurred or sustained by anyone resulting from an interpretation made by any of our officers, agents, or employees.

## GROUNDWATER PROTECTION DETERMINATION

Form GW-2



## Groundwater Advisory Unit

**Date Issued:** 17 March 2017**GAU Number:** 169038**Attention:** PERMIAN RESOURCES, LLC  
PO BOX 14670  
OKLAHOMA CITY, OK 73113**Operator No.:** 655836**API Number:** 38339829  
**County:** REAGAN  
**Lease Name:** University 11 RE  
**Lease Number:**  
**Well Number:** 932HA  
**Total Vertical Depth:** 9000  
**Latitude:** 31.215619  
**Longitude:** -101.502487  
**Datum:** NAD27**Purpose:** New Drill**Location:** Survey-UL; Block-10; Section-33

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 the base of the Santa Rosa, which is estimated to occur at a depth between 800 and 850 feet, must be protected.

This recommendation is applicable for all wells drilled in this SE/4 of sec. 33.

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 03/16/2017. If the location information has changed, you must contact the Groundwater Advisory Unit, and submit a new application if necessary. If you have questions, please contact us at 512-463-2741 or gau@rrc.texas.gov.

Groundwater Advisory Unit, Oil and Gas Division

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



NAD 27, Central Zone 4203  
Surface Hole Location (Sec. 33)  
Latitude: 31.215619° N  
Longitude: 101.502487° W  
X=1634531.51  
Y=565251.81  
Elev.=2666'  
548' FSL & 567' FEL  
Point of Penetration (Sec. 4)  
Latitude: 31.214081° N  
Longitude: 101.503842° W  
X=1634102.21  
Y=564696.83  
15' FNL & 985' FEL  
First Take Point (Sec. 4)  
Latitude: 31.213847° N  
Longitude: 101.503844° W  
X=1634100.48  
Y=564611.85  
100' FNL & 985' FEL  
Last Take Point (Sec. 9)  
Latitude: 31.185251° N  
Longitude: 101.504172° W  
X=1633888.62  
Y=554213.19  
100' FSL & 986' FEL  
Bottom Hole Location (Sec. 9)  
Latitude: 31.185017° N  
Longitude: 101.504175° W  
X=1633886.88  
Y=554128.20  
15' FSL & 986' FEL

Unit Boundary Distance	
SHL	Out Of Unit
PP	15' FNL & 985' FEL
FTP	100' FNL & 985' FEL
LTP	100' FSL & 986' FEL
BHL	15' FSL & 986' FEL

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. Acreage shown herein 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. Jagers do hereby certify that the above described well location was surveyed on the ground under my supervision, as shown.

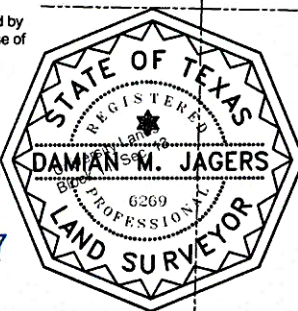
*Damian M. Jagers* 1/18/2017  
Damian M. Jagers  
REGISTERED PROFESSIONAL LAND SURVEYOR  
TEXAS REGISTRATION NO. 6269



Well Name  
UNIVERSITY 11 RE 932HA  
Drilling Field  
LIN (WOLFCAMP) FIELD  
Nearest Town  
2.97 MILES NORTHWEST OF BIG LAKE, TEXAS



0 1500 3000  
1"=3000'



University Lands  
Block 10, Sec. 35

University Lands  
Block 10, Sec. 34

University Lands  
Block 10, Sec. 33

University Lands  
Block 10, Sec. 32

University Lands  
Block 10, Sec. 31

X=1624534.44  
Y=564904.00  
Found Concrete Marker

University Lands  
Block 11, Sec. 1

University Lands  
Block 11, Sec. 2

University Lands  
Block 11, Sec. 3

University Lands  
Block 11, Sec. 4

University Lands  
Block 11, Sec. 5

University Lands  
Block 11, Sec. 6

X=1619150.83  
Y=559712.31

X=1624426.51  
Y=559606.21

University Lands  
Block 11, Sec. 12

University Lands  
Block 11, Sec. 11

University Lands  
Block 11, Sec. 10

University Lands  
Block 11, Sec. 9

University Lands  
Block 11, Sec. 8

University Lands  
Block 11, Sec. 7

X=1619097.07  
Y=557063.29

X=1624372.54  
Y=556957.32

X=1624318.57  
Y=554308.42

University Lands  
Block 11, Sec. 14

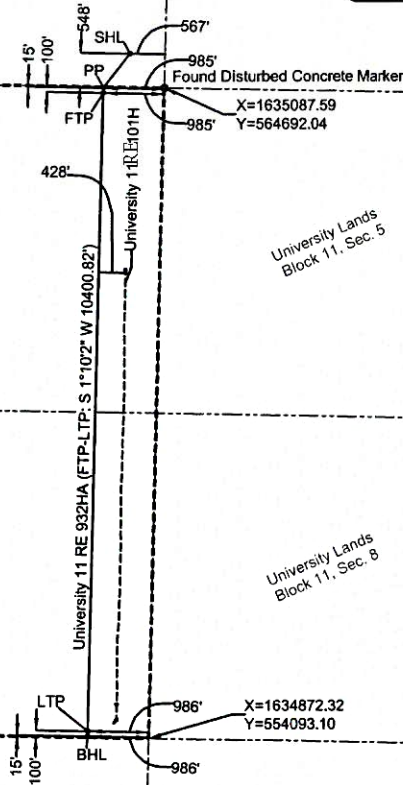
University Lands  
Block 11, Sec. 15

University Lands  
Block 11, Sec. 16

University Lands  
Block 11, Sec. 17

University Lands  
Block 11, Sec. 18

Tract	Lessor	Called Acreage	% of Total
1	University Lands	320.3750 Acres	9.9656
2	University Lands	641.5000 Acres	19.9544
3	University Lands	641.5000 Acres	19.9544
4	University Lands	641.5000 Acres	19.9544
5	University Lands	641.5000 Acres	19.9544
6	University Lands	328.4500 Acres	10.2168
Total		3214.8250 Acres	100.0000



Draft Date	12-13-16
Drawn By	D. Jagers
Revised By	
Reviewed By	B. Weisinger

Well Plat  
For  
Permian Resources, LLC

University 11 RE 932HA  
University Lands Block 11, Section 4  
University Lands Block 11, Section 9  
University Lands Block 11, Section 3  
University Lands Block 11, Section 15  
University Lands Block 11, Section 10  
University Lands Block 11, Section 11  
University Lands Block 11, Section 7  
Reagan County, Texas