



RAILROAD COMMISSION OF TEXAS

Form W-2

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

Status: Approved
Date: 02/15/2018
Tracking No.: 177795

OIL WELL POTENTIAL TEST, COMPLETION OR RECOMPLETION REPORT,

OPERATOR INFORMATION			
Operator	SHELL WESTERN E&P	Operator	774719
Operator	PO BOX 576 HOUSTON, TX 77001-0000		

WELL INFORMATION			
API	42-301-33170	County:	LOVING
Well No.:	1503H	RRC District	08
Lease	UNIVERSITY 19 PW UNIT	Field	PHANTOM (WOLFCAMP)
RRC Lease	42401	Field No.:	71052900
Location	Section: 8, Block: 19, Survey: UL, Abstract:		
Latitude	31	Longitud	-103
This well is	9.7	miles in a	SOUTHEAST
direction from	MENTONE,		
which is the nearest town in the			

FILING INFORMATION			
Purpose of	Well Record Only		
Type of	New Well		
Well Type:	Shut-In Producer	Completion or Recompletion	04/12/2017
<u>Type of Permit</u>		<u>Date</u>	<u>Permit No.</u>
Permit to Drill, Plug Back, or		05/12/2017	821060
Rule 37 Exception			0304941
Fluid Injection			
O&G Waste Disposal			
Other:			

COMPLETION INFORMATION			
Spud	01/29/2017	Date of first production after rig	04/12/2017
Date plug back, deepening, drilling operation	01/29/2017	Date plug back, deepening, recompletion, drilling operation	04/12/2017
Number of producing wells on this lease this field (reservoir) including this	21	Distance to nearest well in lease & reservoir	386.0
Total number of acres in	8588.11	Elevation	2736 GL
Total depth TVD	11550	Total depth MD	19580
Plug back depth TVD		Plug back depth MD	
Was directional survey made other inclination (Form W-	Yes	Rotation time within surface casing Is Cementing Affidavit (Form W-15)	97.0 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	1266.0 Feet from the	Off Lease :	No
	586.0 Feet from the	SW Line and	
		SE Line of the	
		UNIVERSITY 19 PW UNIT Lease.	

FORMER FIELD (WITH RESERVOIR) & GAS ID OR OIL LEASE NO.			
Field & Reservoir	Gas ID or Oil Lease	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	1050.0	Date	11/30/2016
SWR 13 Exception	Depth	4895.0		

INITIAL POTENTIAL TEST DATA FOR NEW COMPLETION OR RECOMPLETION

Date of		Production
Number of hours	24	Choke
Was swab used during this	No	Oil produced prior to

PRODUCTION DURING TEST PERIOD:

Oil		Gas
Gas - Oil	0	Flowing Tubing
Water		

CALCULATED 24-HOUR RATE

Oil		Gas
Oil Gravity - API - 60.:		Casing
Water		

CASING RECORD

<u>Ro</u>	<u>Type of Casing</u>	<u>Casing Size (in.)</u>	<u>Hole Size</u>	<u>Setting Depth</u>	<u>Multi - Stage</u>	<u>Multi - Stage Shoe</u>	<u>Cement Class</u>	<u>Cement Amoun</u>	<u>Slurry Volume (cu.)</u>	<u>Top of Cement (ft.)</u>	<u>TOC Determined By</u>
1	Surface	9 5/8	12 1/4	4895	1225		C	3130	5584.0	0	Circulated to Surface
2	Intermediate	7	8 3/4	11900			C,H	740	1571.0	1450	Calculation

LINER RECORD

<u>Ro</u>	<u>Liner Size</u>	<u>Hole Size</u>	<u>Liner Top</u>	<u>Liner Bottom</u>	<u>Cement Class</u>	<u>Cement Amoun</u>	<u>Slurry Volume (cu.)</u>	<u>Top of Cement (ft.)</u>	<u>TOC Determined</u>
1	4 1/2	6 1/8	10950	19580	H	750	903.0	1095 0	Calculation

TUBING RECORD

<u>Ro</u>	<u>Size (in.)</u>	<u>Depth</u>	<u>Size (ft.)</u>	<u>Packer Depth (ft.)/Type</u>
N/A				/

PRODUCING/INJECTION/DISPOSAL INTERVAL

<u>Ro</u>	<u>Open hole?</u>	<u>From (ft.)</u>	<u>To (ft.)</u>
N/A		L	

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

Was hydraulic fracturing treatment	No
Is well equipped with a downhole sleeve?	No
	If yes, actuation pressure
Production casing test pressure (PSIG) during hydraulic fracturing	Actual maximum pressure (PSIG) during fracturin
Has the hydraulic fracturing fluid disclosure been	No

<u>Ro</u>	<u>Type of Operation</u>	<u>Amount and Kind of Material Used</u>	<u>Depth Interval (ft.)</u>
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FORMATION RECORD

<u>Formations</u>	<u>Encountere</u>	<u>Depth TVD</u>	<u>Depth MD</u>	<u>Is formation</u>	<u>Remarks</u>
RED BLUFF	No			No	FORMATION NOT GEOLOGICALLY PRESENT
BELL CANYON	Yes	4946.0	5016.0	Yes	
BRUSHY CANYON	Yes	7055.0	7128.0	Yes	
DELAWARE	Yes	4921.0	4991.0	Yes	
CHERRY CANYON	Yes	5899.0	5971.0	Yes	
BONE SPRINGS	Yes	8484.0	8557.0	Yes	
WOLFCAMP	Yes	11270.0	11383.0	Yes	
PENNSYLVANIAN	No			No	BELOW WELLBORE DEPTH
STRAWN	No			No	BELOW WELLBORE DEPTH
ATOKA - HIGH PRESSURE	No			No	BELOW WELLBORE DEPTH
MORROW	No			No	BELOW WELLBORE DEPTH
DEVONIAN	No			No	BELOW WELLBORE DEPTH
FUSSELMAN	No			No	BELOW WELLBORE DEPTH
ELLENBURGER	No			No	BELOW WELLBORE DEPTH

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: 10991.1

RRC REMARKS

PUBLIC COMMENTS:

CASING RECORD :

DV TOOL SET AT 1225' BUT NOT OPENED AS APPROVED IN SWR 13 EXCEPTION

TUBING RECORD:

WELL NOT COMPLETED.

PRODUCING/INJECTION/DISPOSAL INTERVAL :

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

POTENTIAL TEST DATA:

OPERATOR'S CERTIFICATION

Printed Maureen Kovacic
Telephone (832) 337-0953

Title: Regulatory Specialist
Date 02/13/2018



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 shaded areas,
Operator: Fill in other items.

OPERATOR INFORMATION

Operator Name: Shell Exploration & Production Co	Operator P-5 No.: 774719
Cementer Name: Baker Hughes Inc	Cementer P-5 No.: 048262

WELL INFORMATION

District No.: 08	County: LOVING	
Well No.: UNIT #1603H	API No.: 42301331700000	Drilling Permit No.: 821060
Lease Name: UIVERSITY 10 PW	Lease No.:	
Field Name: Phantom (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.): 12 1/4"	Depth of drilled hole (ft.): 4895	Est. % wash-out or hole enlargement: 29%
Size of casing in O.D. (in.): 9 5/8"	Casing weight (lbs/ft) and grade: #40 J-55	No. of centralizers used: 31
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.): 4895	Top of liner (ft.):
Hrs. waiting on cement before drill-out: +12	Calculated top of cement (ft.): 0	Setting depth liner (ft.):
Cementing date: 2/2/2017		

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	2630	C	SEE REMARKS	4920	16709
2	600	C	SEE REMARKS	664	2120
Total	3190			664	17829

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	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.) 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	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

LEAD: 95% FLY ASH + 85% CEMENT PREMIUM 'C' + 4% BENTONITE + 5% SODIUM CHLORIDE + .05% BMS + .75% R-21 + .01 ggs FP-6L + .005 lb/sk STATIC FREE
 TAIL: 100% CEMENT PREMIUM 'C' + .16% BMS + 0.25% R-21 + .01 ggs FP-6L + .005 lb/sk STATIC FREE
 CIRCULATED CEMENT TO SURFACE 234 BBLS = 702 SACKS

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.

Field Specialist-GUADALUPE E GARCIA BAKER HUGHES, INC *[Signature]*
 Name and title of cementer's representative Cementing Company Signature
 2929 ALLEN PARKWAY SUITE 2100 HOUSTON, TEXAS 77019 (713) 439-8600 2/2/2017
 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.

Sondra Bienvenu US Onshore Waste SME *[Signature]*
 Typed or printed name of operator's representative Title Signature
 150 N. Dairy Ashford Houston, TX 77079 832-337-2100 08/24/2017
 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 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_ploc=&p_tloc=&p_ploc=&pg=1&p_fac=&tl=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_ploc=&p_tloc=&p_ploc=&pg=1&p_fac=&tl=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.
- 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 shaded areas.
Operator: Fill in other items.

OPERATOR INFORMATION					
Operator Name: SHELL EXPLORATION & PRODUCTION CO			Operator P-5 No.: 774719		
Cementer Name: BJ SERVICES, LLO			Cementer P-5 No.: 403101		
WELL INFORMATION					
District No.: 08			County: LOVING		
Well No.: 1503H			API No.: 42301331700000		
Lease Name: UNIVERSITY 10 PW UNIT			Drilling Permit No.: 821060		
Field Name: Phantom (Wolfcamp)			Lease No.:		
			Field No.:		
INTERMEDIATE 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.): 8 3/4"		Depth of drilled hole (ft.): 11,915		Est. % wash-out or hole enlargement: 15%	
Size of casing in O.D. (in.): 7		Casing weight (lbs/ft) and grade: 29, P-110		No. of centralizers used: 67	
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.): 11,900		Top of liner (ft.):
Hrs. waiting on cement before drill-out: +12			Calculated top of cement (ft.): 13883 1450		Setting depth liner (ft.):
Cementing date: 03/02/2017					
SLURRY					
Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	275	O	SEE REMARK #1	1,011	9,726
2	465	H	SEE REMARK #2	660	9,726
Total	740			1,671	10,450
MULTI-STAGE 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					
MULTI-STAGE CEMENT/DV TOOL 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					



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Form W-15

Rev. 08/2014

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

CEMENTING REPORT

Operator Name: SHELL EXPLORATION & PRODUCTION COU		Operator P-5 No.: 774719
Cementer Name: BJ SERVICES, LLC		Cementer P-5 No.: 409101

District No.: 09	County: LOVING	
Well No.: #1603H	API No.: 42301331260000	Drilling Permit No.: 821060
Lease Name: UNIVERTY 10 PW UNIT	Lease No.:	
Field Name: Phantom (Wolfcamp)	Field No.:	

Type of casing: <input type="checkbox"/> Conductor <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input checked="" type="checkbox"/> Liner <input type="checkbox"/> Production		
Drilled hole size (in.): 6 1/8"	Depth of drilled hole (ft.): 19500	Est. % wash-out or hole enlargement: 15%
Size of casing in O.D. (in.): 4 1/2	Casing weight (lbs/ft) and grade: P-110/ 13.5	No. of centralizers used:
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.): 19580'	Top of liner (ft.): 10950
		Setting depth liner (ft.): 19580
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.): 10950	Cementing date: 03-15-17

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	760	H	SEE REMARKS	903	0589
2					
3					
Total	760	H	SEE REMARKS	903	0589

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:
Tapered string size of casing in O.D. (in.)	Tapered string casing weight (lbs/ft) and grade	Tapered string no. of centralizers used
Upper:	Lower:	Upper:
Was cement circulated to ground surface (or bottom of cellar) outside casing? <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 No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

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:
Tapered string size of casing in O.D. (in.)	Tapered string casing weight (lbs/ft) and grade	Tapered string no. of centralizers used
Upper:	Lower:	Upper:
Was cement circulated to ground surface (or bottom of cellar) outside casing? <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 No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

CEMENTING TO SQUEEZE PLUG BACK OF PILES 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

SLURRY:50:50:POZ+H+0.005#/SKSF+0.65%R-3+0.65%FL-60+2%GEL+0.35%SMS+0.30%GD-32
CIRCULATED:36 BBLS /163 SK

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.

FIELD SPACIALIST III VICTOR M ROSAS BJ SERVICES, LLC

Name and title of cementer's representative: 11211 FM 2920 TOMBALL, TEXAS 77375
Cementing Company: BJ SERVICES, LLC
Signature: [Signature]
Tel: Area Code Number: (281) 408-2361
Date: mo. day yr. 03-15-17

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.

Sandra Blenvenu US Onshore Waste SME
Typed or printed name of operator's representative Title Signature: [Signature]
Address: 150 N. Dairy Ashford Houston, TX 77079
Tel: Area Code Number Date: 08/24/2017

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=N&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=N&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.
- 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.

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

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

This exception is based on information provided when the application was submitted on 02/08/2018 .
If any information has changed, you must contact the appropriate Railroad Commission of Texas District Office, and submit a new application if applicable. If you have questions, please contact the appropriate Oil and Gas District office.

RRC APPROVAL BY: Wade Goode

DATE: 02/12/2018

D. CRAIG PEARSON

DISTRICT DIRECTOR

Tracking No.: 177795

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: SHELL WESTERN E&P	District No. 08	Completion Date: 04/12/2017
Field Name PHANTOM (WOLFCAMP)	Drilling Permit No. 821060	
Lease Name UNIVERSITY 19 PW UNIT	Lease/ID No. 42401	Well No. 1503H
County LOVING	API No. 42- 301-33170	

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). _____

Maureen Kovacic
Signature
SHELL WESTERN E&P
Name (print)

Regulatory Specialist
Title
(832) 337-0953
Phone
09/06/2017
Date

-FOR RAILROAD COMMISSION USE ONLY-



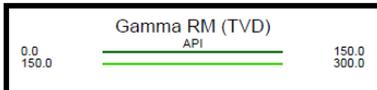
M17030_Vertical-Curve-Lateral

MD
1":100'

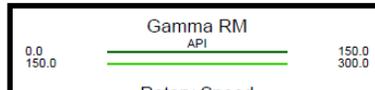
Company: Shell Western E&P Well Name: University 19 PW Unit 1503H API: 42301331700000 County/Parish: Loving County State: Texas Country: United States Job number: M17030 Field: Delaware Basin Rig Id: Precision 563 Survey Company: Premier Directional Drilling	Log measurements: EVO-One Depth measured from: Pason ft Maximum temperature: 212	
	Depth Start: 138 ft End: 19580 ft	Date Start: 01/29/17 End: 03/13/17
	Casing Surface: 4900 ft Intermediate: 11903 ft	Depth End: 11915 ft
	Size Surface: 9 5/8" Intermediate: 7"	
Mud Type: Brine - OBM Density: 9.1 - 13.4 Viscosity: 28 - 71 Rm: N/A Rmf: N/A Rmc: N/A		Elevations KB: 2761.20 ft DF: 2761.20 ft GL: 2736.20 ft

Run	Bit Size	Offsets		Depths		Dates	
		Gamma	Survey	Start	End	Start	End
1	12 1/4"	79.14 ft	80.00 ft	138 ft	4900 ft	01/29/17	02/01/17
2	8 3/4"	76.43 ft	78.00 ft	4900 ft	10992 ft	02/24/17	02/27/17
3	8 3/4"	54.43 ft	56.00 ft	10992 ft	11915 ft	02/27/17	03/01/17
4	6 1/8"	56.80 ft	58.00 ft	11915 ft	13395 ft	03/04/17	03/06/17
5	6 1/8"	55.73 ft	57.00 ft	13395 ft	19580 ft	03/06/17	03/13/17
6							
7							
8							
9							
10							
11							

Premier Directional Drilling uses its best efforts to provide its customers with accurate information and interpretations in conjunction with services performed but will not be held liable or responsible for the accuracy of such information or interpretation.



MD



Date: Speed

CERTIFICATE OF COMPLIANCE
 AND TRANSPORTATION AUTHORITY

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.: 177795

1. Field name exactly as shown on proration schedule PHANTOM (WOLFCAMP)		2. Lease name as shown on proration schedule UNIVERSITY 19 PW UNIT		
3. Current operator name exactly as shown on P-5 Organization Report SHELL WESTERN E&P		4. Operator P-5 no. 774719	5. Oil Lse/Gas ID no. 42401	6. County LOVING
8. Operator address including city, state, and zip code PO BOX 576 HOUSTON, TX 77001		9. Well no(s) (see instruction E) 1503H		
		10. Classification <input checked="" type="checkbox"/> Oil <input type="checkbox"/> Gas <input type="checkbox"/> Other (see instruction A)		11. Effective Date 04/12/2017
12. Purpose of Filing. (Complete section a or b below.) (See instructions B and G)				
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 <input type="checkbox"/> other well (specify) _____ Due to: <input checked="" type="checkbox"/> new completion or recompletion <input type="checkbox"/> reclass oil to gas <input type="checkbox"/> reclass gas to oil <input type="checkbox"/> consolidation, unitization, or subdivision (oil lease only)				
13. Authorized GAS WELL GAS or CASINGHEAD GAS Gatherer(s) and/or Purchaser(s). (See instruction G).				
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
X		DELAWARE BASIN JV GATHERING LLC(211490)		
	X	SHELL ENERGY NORTH AM. (US), LP(773822)		100.0
				100.0
14. Authorized OIL or CONDENSATE Gatherer(s). (See instruction G).				
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
SHELL WESTERN E&P(774719)				100.0
RRC USE ONLY: Reviewer's initials: <u>RRC Staff</u> Approval date: <u>02/15/2018</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 _____		Signature _____		
Name (print) _____		<input type="checkbox"/> Authorized Employee of previous operator		<input type="checkbox"/> Authorized agent of previous operator (see instruction G)
Title _____		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.				
SHELL WESTERN E&P _____		Maureen Kovacic _____		
Name (print) _____		Signature _____		
Regulatory Specialist _____		<input checked="" type="checkbox"/> Authorized Employee of current operator		<input type="checkbox"/> Authorized agent of current operator (see instruction G)
Title _____		Date <u>09/06/2017</u>		Phone with area code <u>(832) 337-0953</u>
E-mail Address (optional) <u>maureen.kovacic@shell.com</u>		Date _____		Phone with area code _____

**CERTIFICATE OF
 POOLING AUTHORITY**

P-12

Revised 05/2001

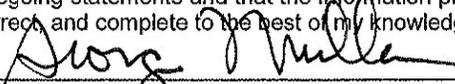
1. Field Name(s) Phantom (Wolfcamp)	2. Lease/ID Number (if assigned) 42401	3. RRC District Number 08
4. Operator Name Shell Western E&P	5. Operator P-5 Number 774719	6. Well Number 1503H
7. Pooled Unit Name University 19 PW Unit	8. API Number	9. Purpose of Filing <input checked="" type="checkbox"/> Drilling Permit (W-1) <input type="checkbox"/> Completion Report
10. County Loving & Ward	11. Total acres in pooled unit 8588.1	

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
Tr. 1	University Lands	160.23	<input type="checkbox"/>	<input type="checkbox"/>
Tr. 2	University Lands	480.72	<input type="checkbox"/>	<input type="checkbox"/>
Tr. 3	University Lands	520.93	<input type="checkbox"/>	<input type="checkbox"/>
Tr. 4	University Lands	641.05	<input type="checkbox"/>	<input type="checkbox"/>
Tr. 5	University Lands	280.50	<input type="checkbox"/>	<input type="checkbox"/>
Tr. 6	University Lands (below 11710')	40.07	<input type="checkbox"/>	<input type="checkbox"/>
Tr. 7	University Lands	320.50	<input type="checkbox"/>	<input type="checkbox"/>
Tr. 8	University Lands	641.06	<input type="checkbox"/>	<input type="checkbox"/>
Tr. 9	University Lands	566.27	<input type="checkbox"/>	<input type="checkbox"/>
Tr. 10	University Lands	641.31	<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 _____ Print Name George Mullen
 Sr. Reg. Specialist george.mullen@shell.com 12/07/2016 (832) 337-0549
 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.

**CERTIFICATE OF
 POOLING AUTHORITY**

P-12

Revised 05/2001

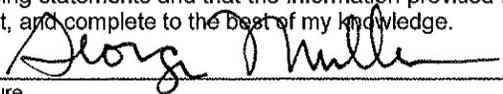
1. Field Name(s) Phantom (Wolfcamp)	2. Lease/ID Number (if assigned) 42401	3. RRC District Number 08
4. Operator Name Shell Western E&P	5. Operator P-5 Number 774719	6. Well Number 1503H
7. Pooled Unit Name University 19 PW Unit	8. API Number	9. Purpose of Filing <input checked="" type="checkbox"/> Drilling Permit (W-1) <input type="checkbox"/> Completion Report
10. County Loving & Ward	11. Total acres in pooled unit 8588.1	

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
Tr. 11	University Lands	641.23	<input type="checkbox"/>	<input type="checkbox"/>
Tr. 12	University Lands	320.60	<input type="checkbox"/>	<input type="checkbox"/>
Tr. 13	University Lands	320.61	<input type="checkbox"/>	<input type="checkbox"/>
Tr. 14	University Lands	640.92	<input type="checkbox"/>	<input type="checkbox"/>
Tr. 15	University Lands	640.99	<input type="checkbox"/>	<input type="checkbox"/>
Tr. 16	University Lands	465.23	<input type="checkbox"/>	<input type="checkbox"/>
Tr. 17	University Lands	640.96	<input type="checkbox"/>	<input type="checkbox"/>
Tr. 18	University Lands	624.93	<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.



George Mullen

Signature

Print Name

Sr. Reg. Specialist

george.mullen@shell.com

12/07/2016

(832) 337-0549

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.



RAILROAD COMMISSION OF TEXAS

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

Form P-16

Page 1

Rev. 01/2016

Acreage Designation

SECTION I. OPERATOR INFORMATION

Operator Name: Shell Western E&P	Operator P-5 No.: 774719
Operator Address: P.O. Box 576, Houston, Texas 77001	

SECTION II. WELL INFORMATION

District No.: 08	County: Loving and Ward	Purpose of Filing: <input type="checkbox"/> Drilling Permit Application (Form W-1) <input checked="" type="checkbox"/> Completion Report (Form G-1/W-2)
Well No.: 1503H	API No.: 42-301-33170	
Total Lease Acres: 8588.11	Drilling Permit No.: 821060	
Lease Name: University 19 PW Unit	Lease No.: 42401	
Field Name: Phantom (Wolfcamp)	Field No.: 71052900	

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

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

RRC ID No. or Lease No.	Well No.	H-Horizontal D-Directional V-Vertical	Lease Name	API No.	Acres Assigned	SWR 38 Except. (Y/N)	Operator Name and Operator No. (if different from filing operator)
42401	1902H	H	University 19 PW Unit	42-301-31709	160	N	
42401	2202H	H	University 19 PW Unit	42-301-31708	160	N	
42401	1702H	H	University 19 PW Unit	42-301-31703	160	N	
42401	2502H	H	University 19 PW Unit	42-475-35995	160	N	
42401	2802H	H	University 19 PW Unit	42-475-35996	160	N	
42401	1302H	H	University 19 PW Unit	42-301-31705	160	N	
42401	1502H	H	University 19 PW Unit	42-301-31872	160	N	
42401	1802H	H	University 19 PW Unit	42-301-32460	160	N	
42401	2302H	H	University 19 PW Unit	42-301-32579	160	N	
42401	2304H	H	University 19 PW Unit	42-301-32849	160	N	
DP# 813604	2303H	H	University 19 PW Unit	42-301-32848	160	N	
DP# 819356	2503H	H	University 19 PW Unit	301-33047	160	N	
DP# 819356	2504H	H	University 19 PW Unit	301-33048	160	N	
DP# 819392	2505H	H	University 19 PW Unit	301-33049	160	N	
DP# 819392	2506H	H	University 19 PW Unit	301-33054	160	N	
DP# 820924	1506H	H	University 19 PW Unit	301-33126	160	N	
DP# 821114	1507H	H	University 19 PW Unit	301-33144	160	N	

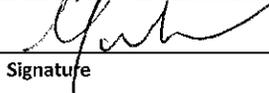
Total Well Count >	21	3360	< A. Total Assigned Horiz. Acreage	3360	< C. Total Assigned Acreage
		5228.11	< Total Remaining Horiz. Acreage	5228.11	< Total Remaining Acreage
			< B. Total Assigned Vert./Dir. Acreage		
			< Total Remaining Vert./Dir. Acreage		

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

This well should be assigned to University 19 PW Unit, lease ID 42401

Attach Additional Pages As Needed. No additional pages Additional Pages: 1 (No. of additional pages)

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

Signature:  Name and title (type or print): Maureen Kovacic, Regulatory Specialist Email (include email address only if you affirmatively consent to its public release): maureen.kovacic@shell.com

Address: 150 N. Dairy Ashford City, State, Zip Code: Houston TX 77079 Tel: Area Code Number Date: mo. day yr. 832 337-2100 09/06/2017

GROUNDWATER PROTECTION DETERMINATION

Form GW-2



Groundwater Advisory Unit

Date Issued: 30 November 2016 **GAU Number:** 163817

Attention:	SHELL WESTERN E&P PO BOX 576 HOUSTON, TX 77001	API Number:	
Operator No.:	774719	County:	LOVING
		Lease Name:	University 19 PW Unit
		Lease Number:	
		Well Number:	1503H
		Total Vertical Depth:	12000
		Latitude:	31.692625
		Longitude:	-103.434239
		Datum:	NAD27

Purpose: New Drill
Location: Survey-University Lands; Block-19; Section-8

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

Water-bearing strata from the land surface to a depth of 250 feet and the Rustler, which is estimated to occur from 550 to 1050 feet must be protected.

Please send Gamma Ray/Porosity log of this well when it is available.

This recommendation is applicable to all wells within a radius of 300 feet of this location.

Note: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. This recommendation is 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 11/29/2016. 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

UNIVERSITY 19 PW UNIT

8588.11 ACRES (MEASURED)

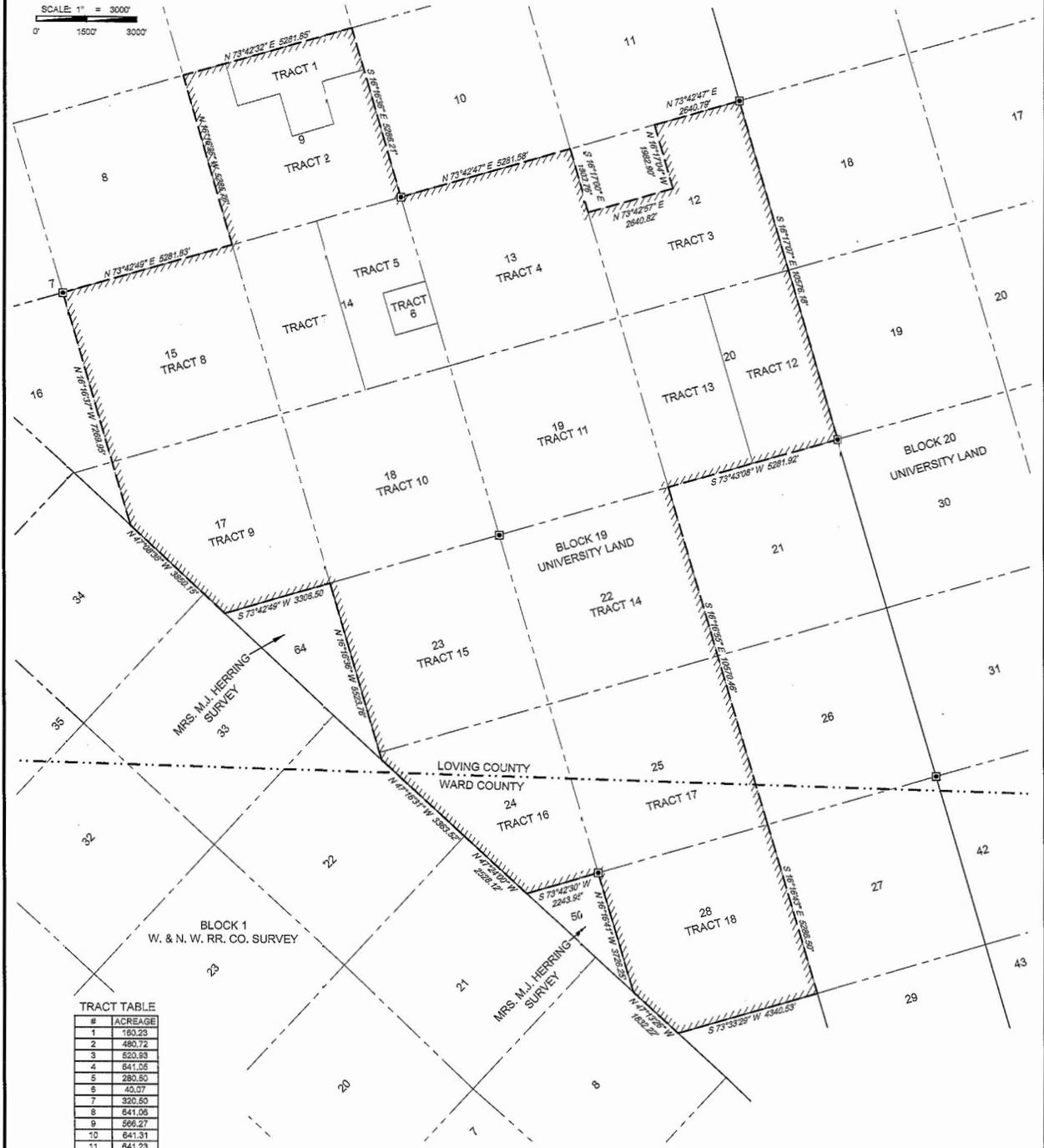
SECTIONS 9, 15, 14, 13, 12, 17, 18, 19, 20, 22, 23, 24, 25 & 28,
 SAVE & EXCEPT NW/2 NW/4 AND NW/2 SE/2 NW/4 OF SECTION 12
 BLOCK 19, UNIVERSITY LAND
 LOVING & WARD COUNTIES, TEXAS

SHELL WESTERN
 E&P

LEGEND

- UNIT BOUNDARY
- COUNTY LINE
- BLOCK/TOWNSHIP LINE
- MINERAL TRACT
- SURVEY/SECTION LINE
- CONCRETE MONUMENT

SCALE: 1" = 3000'
 0' 1500' 3000'



TRACT TABLE

#	ACREAGE
1	183.23
2	480.72
3	520.93
4	641.06
5	280.50
6	42.07
7	320.50
8	641.06
9	566.27
10	641.31
11	641.23
12	320.60
13	320.61
14	640.92
15	640.99
16	468.23
17	640.96
18	624.93
TOTAL	8588.11

I certify this plat is true and correct to the best of my knowledge.

George Mullen
 George Mullen
 Senior Regulatory Specialist



SHELL WESTERN E&P

WELL LOCATION

LEASE NAME & WELL NO:
UNIVERSITY 19 PW UNIT 1503H

UNIT/LEASE ACREAGE:
8588.11 ACRES

NEAREST TOWN IN COUNTY:
±9.7 MILES SOUTHEAST OF MENTONE, TEXAS

DESCRIPTION:
SECTIONS 15 & 17, BLOCK 19, UNIVERSITY LAND SURVEY
LOVING COUNTY, TEXAS

This location and/or unit/lease boundary has been carefully surveyed on the ground under my supervision and is true and correct to the best of my knowledge according to the evidence, official survey records, maps, and other data provided by Shell Western E&P. This plat was created for the sole purpose of filing a permit with the Railroad Commission of Texas and should not be construed as a "Boundary Survey" in compliance with T.B.P.L.S. Minimum Standards of Procedures for Boundary Surveys. This certification is made and limited to those persons or entities shown on the face of this plat is non-transferable. This Survey is Certified for this transaction only.
Survey date of October 26, 2016.



John R. Anderson 1/10/17
John R. Anderson, R.P.L.S. No. 6442

I, John R. Anderson, a Registered Professional Land Surveyor, and an authorized agent of Topographic Land Surveyors, do hereby certify that the above described well location was surveyed on the ground as shown herein.
This plat is for Texas Railroad Commission permitting only.

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE OF THE NORTH AMERICAN DATUM 1927, U.S. SURVEY FEET.
ALL ELEVATION VALUES CONTAINED HEREON ARE ORTHOMETRIC ONLY, BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), U.S. SURVEY FEET.
ALL INSTRUMENTS, PREPOST DRILLING DATA, PREPOST COMPLETION DATA, HARD LINE INFORMATION, LEASE INFORMATION, AND ANY PERTINENT INFORMATION USED IN THE PREPARATION OF THIS MAP WAS PROVIDED BY SHELL WESTERN E&P OR ITS SUBSIDIARIES & AFFILIATES.

ORIGINAL DOC. SIZE: 8.5"x14"



1400 EVERMAN PARKWAY, Ste. 197 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7548
TEXAS FIRM REGISTRATION NO. 10042504
WWW.TOPOGRAPHIC.COM

DATE:	11/22/2016
DRAWN BY:	O.M.
LQ_UNIVERSITY_19_PW_UNIT_1503H_OPT_1_REV2	
SHEET:	1 OF 1

REV#	BY	DATE REVISED
0.M.		12/16/2016
0.M.		01/10/2017

TIES TABLE

POINT	UNIT	SURVEY/SECTION
S.H.L.	586' FNWL 1395' FWC	1266' FSWL & 586' FSEL
P.P.	377' FNWL 572' FWC	430' FSWL & 377' FSEL
F.T.P.	200' FNWL 430' FSWL	200' FNWL & 430' FSWL
L.T.P. / B.H.L.	368' FSWL 7273' FNWL	1986' FNWL & 368' FSWL

LEGEND:

- Unit Boundary
- Survey/Section line
- Proposed Well Path
- Existing/Permitted Well Path
- Mineral Tract Boundary
- Monument Found
- Calculated Corner
- Well Point

