RAILROAD COMMISSION OF TEXAS

Form W-2

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

Status: Approved
Date: 04/13/2018
Tracking No.: 184372

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 42-301-33203 **County:** LOVING
Well No.: 1407H **RRC District** 08
Lease UNIVERSITY 19 PW UNIT **Field** PHANTOM (WOLFCAMP)
RRC Lease 42401 **Field No.:** 71052900
Location Section: 9, Block: 19, Survey: UL, Abstract: U9

Latitude 31 **Longitud** -103
This well is 11.1 **miles in a** SE
direction from MENTONE,
which is the nearest town in the

FILING INFORMATION

Purpose of Initial Potential
Type of New Well
Well Type: Producing **Completion or Recompletion** 01/06/2018

Type of Permit	Date	Permit No.
Permit to Drill, Plug Back, or	03/06/2017	822471
Rule 37 Exception		
Fluid Injection		
O&G Waste Disposal		
Other:		

COMPLETION INFORMATION

Spud 05/11/2017 **Date of first production after rig** 01/06/2018
Date plug back, deepening, drilling operation 05/11/2017 **Date plug back, deepening, recompletion, drilling operation** 08/18/2017
Number of producing wells on this lease this field (reservoir) including this 25 **Distance to nearest well in lease & reservoir** 1441.0
Total number of acres in 8588.11 **Elevation** 2766 GL
Total depth TVD 11721 **Total depth MD** 20500
Plug back depth TVD **Plug back depth MD**
Was directional survey made other inclination (Form W- Yes **Rotation time within surface casing** 50.5
Is Cementing Affidavit (Form W-15) 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 4638.0 **Feet from the** NW **Line and** 1448.0 **Feet from the** NE **Line of the** UNIVERSITY 19 PW UNIT **Lease.** **Off Lease :** No

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**	1000.0	**Date**	01/02/2017
SWR 13 Exception		**Depth**	4900.0		

INITIAL POTENTIAL TEST DATA FOR NEW COMPLETION OR RECOMPLETION

Date of	01/19/2018	**Production**	Flowing
Number of hours	24	**Choke**	32/64
Was swab used during this	No	**Oil produced prior to**	4294.00

PRODUCTION DURING TEST PERIOD:

Oil	1302.00	**Gas**	1620
Gas - Oil	1244	**Flowing Tubing**	2452.00
Water	4522		

CALCULATED 24-HOUR RATE

Oil	1302.0	**Gas**	1620
Oil Gravity - API - 60.:	44.2	**Casing**	2984.00
Water	4522		

CASING RECORD

Ro	Type of Casing	Casing Size (in.)	Hole Size	Setting Depth	Multi - Stage Tool	Multi - Stage Shoe	Cement Class	Cement Amoun	Slurry Volume (cu.	Top of Cement (ft.)	TOC Determined By
1	Surface	9 5/8	12 1/4	4972	1162		CLASS C	3205	5738.0	0	Circulated to Surface
2	Intermediate	7	8 3/4	12068			CLASS C AND CLASS H	750	1608.0	3972	Calculation

LINER RECORD

Ro	Liner Size	Hole Size	Liner Top	Liner Bottom	Cement Class	Cement Amoun	Slurry Volume (cu.	Top of Cement (ft.)	TOC Determined
1	4 1/2	6 1/8	11108	20482	CLASS H	840		11108	Calculation

TUBING RECORD

Ro	Size (in.)	Depth Size (ft.)	Packer Depth (ft.)/Type
1	2 7/8	11078	11048 / VERSASET PACKER

PRODUCING/INJECTION/DISPOSAL INTERVAL

Ro	Open hole?	From (ft.)	To (ft.)
1	No	L1 12069	20253.0

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

Was hydraulic fracturing treatment Yes

Is well equipped with a downhole sleeve? Yes

If yes, actuation pressure 8206.0

Production casing test pressure (PSIG) hydraulic fracturing 9800

Actual maximum pressure (PSIG) during fracturin 9789

Has the hydraulic fracturing fluid disclosure been Yes

Ro	Type of Operation	Amount and Kind of Material Used	Depth Interval (ft.)

1	Fracture	WELL DATA HAS BEEN UPLOADED TO FRAC FOCUS	12069	20253

FORMATION RECORD

Formations	Encountere	Depth TVD	Depth MD	Is formation	Remarks
RED BLUFF	No			No	FORMATION NOT GEOLOGICALLY PRESENT
BELL CANYON	Yes	5042.0	5094.0	Yes	
BRUSHY CANYON	Yes	7175.0	7230.0	Yes	
DELAWARE	Yes	5017.0	5069.0	Yes	
CHERRY CANYON	Yes	5968.0	6023.0	Yes	
BONE SPRINGS	Yes	8626.0	8681.0	Yes	
WOLFCAMP	Yes	11395.0	11473.0	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 AT 11113

RRC REMARKS

PUBLIC COMMENTS:

[RRC Staff 2018-02-20 14:02:38.805] EDL=8184 feet, max acres=704, PHANTOM (WOLFCAMP) oil or gas well

CASING RECORD :

DV TOOL SET, BUT NOT OPENED AS APPROVED IN SWR 13.

TUBING RECORD:

PRODUCING/INJECTION/DISPOSAL INTERVAL :

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

POTENTIAL TEST DATA:

OPERATOR'S CERTIFICATION			
Printed	Maureen Kovacic	**Title:**	Regulatory Specialist
Telephone	(832) 337-0953	**Date**	04/11/2018

RAILROAD COMMISSION OF TEXAS

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

CEMENTING REPORT

Form W-15
Rev. 08/2014

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

OPERATOR INFORMATION

Operator Name: SHELL EXPLORATION & PRODUCTION CO	**Operator P-5 No.:** 774719
Cementer Name: BJ SERVICES, LLC	**Cementer P-5 No.:** 403101

WELL INFORMATION

District No.: 08	**County:** LOVING	
Well No.: 1407H	**API No.:** 42301332030000	**Drilling Permit No.:** 822471
Lease Name: UNIVERSITY 19 UNIT	**Lease No.:** 42401	
Field Name: Phantom (Wolfcamp)	**Field No.:** 71052900	

I CASING CEMENTING DATA

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

Drilled hole size (in.): 12.25	**Depth of drilled hole (ft.):** 4,972	**Est. % wash-out or hole enlargement:** 11%
Size of casing in O.D. (in.): 9.625	**Casing weight (lbs/ft) and grade:** 40 LB/FT, J-55	**No. of centralizers used:** 32
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☑ YES ☐ NO If no for surface casing, explain in Remarks.	**Setting depth shoe (ft.):** 4972	**Top of liner (ft.):** / **Setting depth liner (ft.):**
Hrs. waiting on cement before drill-out: +12	**Calculated top of cement (ft.):** 0	**Cementing date:** 05/13/2017

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	2,705	C	SEE REMARK #1	5,074	16,201
2	500	C	SEE REMARK # 2	664	2,120
3					
Total	3,205			5,738	18,321

II CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☐ Multi-stage cement shoe ☐ Multiple parallel strings

Drilled hole size (in.):	**Depth of drilled hole (ft.):**	**Est. % wash-out or hole enlargement:**
Size of casing in O.D. (in.):	**Casing weight (lbs/ft) and grade:**	**No. of centralizers used:**
Tapered string drilled hole size (in.) Upper: Lower:	**Tapered string depth of drilled hole (ft.)** Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	**Tapered string casing weight(lbs/ft) and grade** Upper: Lower:	**Tapered string no. of centralizers used** Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO		**Setting depth shoe (ft.):**
Hrs. waiting on cement before drill-out:	**Calculated top of cement (ft.):**	**Cementing date:**

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

III CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☐ Multi-stage cement/DV tool ☐ Multiple parallel strings

Drilled hole size (in.):	**Depth of drilled hole (ft.):**	**Est. % wash-out or hole enlargement:**
Size of casing in O.D. (in.):	**Casing weight (lbs/ft) and grade:**	**No. of centralizers used:**
Tapered string drilled hole size (in.) Upper: Lower:	**Tapered string depth of drilled hole (ft.)** Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	**Tapered string casing weight(lbs/ft) and grade** Upper: Lower:	**Tapered string no. of centralizers used** Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO		**Setting depth tool (ft.):**
Hrs. waiting on cement before drill-out:	**Calculated top of cement (ft.):**	**Cementing date:**

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

CEMENTING TO SQUEEZE, PLUG BACK OR PLUG AND ABANDON							
	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Cementing Date							
Size of hole or pipe (in.)							
Depth to bottom of tubing or drill pipe (ft.)							
Cement retainer setting depth (ft.)							
CIBP setting depth (ft.)							
Amount of cement on top of CIBP (ft.)							
Sacks of cement used							
Slurry volume pumped (cu. ft.)							
Calculated top of plug (ft.)							
Measured top of plug, if tagged (ft.)							
Slurry weight (lbs/gal)							
Class/type of cement							
Perforate and squeeze (YES/NO)							

REMARKS

REMARK #1: C65/35POZ+ 4% BENTONITE+ 1.1% R-3+ 0.65% SMS+ 5% SALT+ 0.01 GAL/SK FP-6L+ 0.005 LB/SK STATIC FREE. REMARK #2: C+ 0.35% R-3+ 0.15% SMS+ 0.01 GAL/SK FP-6L+ 0.005 LB/SK STATIC FREE. CIRCULATED 580 BBLS @ 12.8 PPG (1,736 SACKS) BACK TO SURFACE.

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

JESUS ALFREDO ESPARZA	BJ SERVICES, LLC	Alfredo Esparza	
Name and title of cementer's representative	Cementing Company	Signature	
11211 FM 2920 RD.	TOMBALL, TX 77375	(281) 408-2361	05/13/2017
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.

Maureen Kovacic	Regulatory Specialist		
Typed or printed name of operator's representative	Title	Signature	
150 N. Dairy Ashford	Houston TX 77079	832-337-0953	01/15/2018
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_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.

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Form W-15
Rev. 08/2014

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

CEMENTING REPORT

OPERATOR INFORMATION

Operator Name: SHELL	**Operator P-5 No.:** 774719
Cementer Name: BJ SERVICES, INC.	**Cementer P-5 No.:** 046292

WELL INFORMATION

District No.: 08	**County:** LOVING	
Well No.: UNIT 1407H	**API No.:** 42-301-33203	**Drilling Permit No.:** 822471
Lease Name: UNIVERSITY 19	**Lease No.:**	
Field Name: Phantom (Wolfcamp)	**Field No.:** 71052900	

I. CASING CEMENTING DATA

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

Drilled hole size (in.): 8.75	**Depth of drilled hole (ft.):** 12087	**Est. % wash-out or hole enlargement:** 10%
Size of casing in O.D. (in.): 7	**Casing weight (lbs/ft) and grade:** 29 P110	**No. of centralizers used:** 52
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☑ NO **If no for surface casing, explain in Remarks.**	**Setting depth shoe (ft.):** 12068	**Top of liner (ft.):** / **Setting depth liner (ft.):**
Hrs. waiting on cement before drill-out: +12	**Calculated top of cement (ft.):** 3972	**Cementing date:** 5/20/2017

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	285	C	SEE REMARK	1048	6946
2	465	H	SEE REMARKS	560	3697
3					
Total	750	C&H	SEE REMARKS	1608	10643

II. CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☐ Multi-stage cement shoe ☐ Multiple parallel strings

Drilled hole size (in.):	**Depth of drilled hole (ft.):**	**Est. % wash-out or hole enlargement:**
Size of casing in O.D. (in.):	**Casing weight (lbs/ft) and grade:**	**No. of centralizers used:**
Tapered string drilled hole size (in.) Upper: Lower:	**Tapered string depth of drilled hole (ft.)** Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	**Tapered string casing weight(lbs/ft) and grade** Upper: Lower:	**Tapered string no. of centralizers used** Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO		**Setting depth shoe (ft.):**
Hrs. waiting on cement before drill-out:	**Calculated top of cement (ft.):**	**Cementing date:**

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

III. CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☐ Multi-stage cement/DV tool ☐ Multiple parallel strings

Drilled hole size (in.):	**Depth of drilled hole (ft.):**	**Est. % wash-out or hole enlargement:**
Size of casing in O.D. (in.):	**Casing weight (lbs/ft) and grade:**	**No. of centralizers used:**
Tapered string drilled hole size (in.) Upper: Lower:	**Tapered string depth of drilled hole (ft.)** Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	**Tapered string casing weight(lbs/ft) and grade** Upper: Lower:	**Tapered string no. of centralizers used** Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO		**Setting depth tool (ft.):**
Hrs. waiting on cement before drill-out:	**Calculated top of cement (ft.):**	**Cementing date:**

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

CEMENTING TO SQUEEZE, PLUG BACK OR PLUG AND ABANDON							
	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Cementing Date							
Size of hole or pipe (in.)							
Depth to bottom of tubing or drill pipe (ft.)							
Cement retainer setting depth (ft.)							
CIBP setting depth (ft.)							
Amount of cement on top of CIBP (ft.)							
Sacks of cement used							
Slurry volume pumped (cu. ft.)							
Calculated top of plug (ft.)							
Measured top of plug, if tagged (ft.)							
Slurry weight (lbs/gal)							
Class/type of cement							
Perforate and squeeze (YES/NO)							

REMARKS

LEAD 35:65 CLASS C POZ + 10% BA-10 + 5% A-10 + 1.5% FL-52 + 1% CD-32 + 2.25% SMS + 3% KCL + 1.4% R-3 + .0005# STATIC FREE + .01 FP-6L
TAIL 50:50 CLASS H POZ + .6% FL-66 + .35% CD-32 + .35% SMS + .3% R-3 + .005# STATIC FREE + .01 FP-6L

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CODY COLEMAN FIELD SUPERVISOR I — Name and title of cementer's representative
BJ Services Inc. — Cementing Company
Cody Coleman — Signature

6165 W Murphy St Odessa, Texas, 79763 — Address, City, State, Zip Code
(432) 248-3200 — Tel: Area Code Number
5/20/2017 — Date: mo. day yr.

OPERATOR'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that 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.

Maureen Kovacic — Typed or printed name of operator's representative
Regulatory Specialist — Title
Signature

150 N. Dairy Ashford — Address
Houston TX 77079 — City, State, Zip Code
832-337-0953 — Tel: Area Code Number
01/15/2018 — Date: mo. day yr.

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

E. **Multi-stage cement:** An operator must report the multi-stage cement shoe in 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
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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, LLC	**Cementer P-5 No.:** 403101

WELL INFORMATION

District No.: 08	**County:** LOVING	
Well No.: 1407H	**API No.:** 42301332030000	**Drilling Permit No.:** 822471
Lease Name: UNIVERSITY 19 UNIT	**Lease No.:** 42401	
Field Name: Phantom (Wolfcamp)	**Field No.:** 71052900	

I. CASING CEMENTING DATA

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

Drilled hole size (in.): 6.125	**Depth of drilled hole (ft.):** 20,500	**Est. % wash-out or hole enlargement:** 15%
Size of casing in O.D. (in.): 4.5	**Casing weight (lbs/ft) and grade:** 11.6, P-110	**No. of centralizers used:**
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☑ NO **If no for surface casing, explain in Remarks.**	**Setting depth shoe (ft.):** 20482	**Top of liner (ft.):** 11108 / **Setting depth liner (ft.):** 20482
Hrs. waiting on cement before drill-out: n/a	**Calculated top of cement (ft.):** 11108	**Cementing date:** 08/17/2017

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	840	H	SEE REMARK #1	1,032	10,474
2					
3					
Total	840			1,032	10,474

II. CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☐ Multi-stage cement shoe ☐ Multiple parallel strings

Drilled hole size (in.):	**Depth of drilled hole (ft.):**	**Est. % wash-out or hole enlargement:**
Size of casing in O.D. (in.):	**Casing weight (lbs/ft) and grade:**	**No. of centralizers used:**
Tapered string drilled hole size (in.) Upper: Lower:	**Tapered string depth of drilled hole (ft.)** Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	**Tapered string casing weight(lbs/ft) and grade** Upper: Lower:	**Tapered string no. of centralizers used** Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO		**Setting depth shoe (ft.):**
Hrs. waiting on cement before drill-out:	**Calculated top of cement (ft.):**	**Cementing date:**

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

III. CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☐ Multi-stage cement/DV tool ☐ Multiple parallel strings

Drilled hole size (in.):	**Depth of drilled hole (ft.):**	**Est. % wash-out or hole enlargement:**
Size of casing in O.D. (in.):	**Casing weight (lbs/ft) and grade:**	**No. of centralizers used:**
Tapered string drilled hole size (in.) Upper: Lower:	**Tapered string depth of drilled hole (ft.)** Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	**Tapered string casing weight(lbs/ft) and grade** Upper: Lower:	**Tapered string no. of centralizers used** Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO		**Setting depth tool (ft.):**
Hrs. waiting on cement before drill-out:	**Calculated top of cement (ft.):**	**Cementing date:**

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

CEMENTING TO SQUEEZE, PLUG BACK OR PLUG AND ABANDON							
	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Cementing Date							
Size of hole or pipe (in.)							
Depth to bottom of tubing or drill pipe (ft.)							
Cement retainer setting depth (ft.)							
CIBP setting depth (ft.)							
Amount of cement on top of CIBP (ft.)							
Sacks of cement used							
Slurry volume pumped (cu. ft.)							
Calculated top of plug (ft.)							
Measured top of plug, if tagged (ft.)							
Slurry weight (lbs/gal)							
Class/type of cement							
Perforate and squeeze (YES/NO)							

REMARKS

REMARK #1: H50/50POZ+ 2% BENTONITE+ 0.65% FL-66+ 0.35% R-3+ 0.35% SMS+ 0.3% CD-32+ 0.01 GAL/SK FP-6L+ 0.005 LB/SK STATIC FREE. RIG CIRCULATED 20 BBLS @ 14.5 PPG (91 SACKS) FROM THE TOP OF THE LINER TO SURFACE

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

JESUS ALFREDO ESPARZA	BJ SERVICES, LLC			
Name and title of cementer's representative	Cementing Company	Signature		
11211 FM 2920 RD.	TOMBALL, TX 77375	(281) 408-2361		08/17/2017
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.

Maureen Kovacic	Regulatory Specialist			
Typed or printed name of operator's representative	Title	Signature		
150 N. Dairy Ashford	Houston TX 77079	832-337-0953		01/15/2018
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_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.

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

OPERATOR Name: SHELL WESTERN E&P
Address1: PO BOX 576
Address2:
City: HOUSTON
State: TX

RE: Lease: UNIVERSITY 19 PW UNIT
Well No: 1407H
Sec: 9 **Block:** 19
County: LOVING
Survey Name: UL

SWR13EX Application Number: 13432 **Drilling Permit No:** 822471

SWR 13 CASING EXCEPTION APPLICATION/ALTERNATIVE REQUEST APPROVED

The Proposed Casing and Cementing Program submitted for the **LEASE NAME:** UNIVERSITY 19 PW UNIT ; **WELL NUMBER:** 1407H has been approved by the Railroad Commission of Texas District Office.

a. A copy of this approved letter must be kept on location during all phases of drilling and/or plugging operations. Once approved, changes CANNOT be made to the Proposed Casing Program on the original application without additional approval from the Railroad Commission of Texas District Office.

b. Any substantive modifications to the cement program require prior approval from the Railroad Commission of Texas District Office, and may require re-submission of the SWR 13 (Statewide Rule 13) Alternate Surface Casing Application. Contact the Railroad Commission of Texas District Office for more information.

c. The tail slurry must be sufficient to fill the Zone of Critical Cement as described in Statewide Rule 13(b)(1)(H)(i). In addition, all cement slurries must be mixed on location as described in Application for Alternate Surface Casing Program.

d. The casing and cement program shall adhere to the following specifications:

Set 4900 feet of surface casing with a multistage tool set at a depth of not less than 1150 feet. Circulate cement from the multistage tool to the ground surface. If cement does not circulate to surface during the first stage, the multistage tool MUST be opened and neat cement be circulated from the tool to the surface.

The proposed alternative drilling fluid program for the fresh water protected interval is hereby approved.

The multistage tool is included as a contingency measure to achieve cement returns to surface.

Please notify the Midland District Office immediately if any gas, H2S or otherwise, is encountered before surface casing is set.

IF CEMENT IS NOT CIRCULATED TO THE GROUND SURFACE AS REQUIRED BY THIS EXCEPTION, YOU MUST CONTACT THE RAILROAD COMMISSION OF TEXAS DISTRICT OFFICE IMMEDIATELY AND FOLLOW THE PROCEDURES SET OUT IN RULE 13(b)(1)(H)(iii) OR AS REQUIRED BY THE RAILROAD COMMISSION OF TEXAS DISTRICT OFFICE.

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 03/06/2017 .
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: Erik Hanson DATE: 03/09/2017

D. CRAIG PEARSON

DISTRICT DIRECTOR

APPLICATION FOR APPROVAL OF SURFACE CASING > 3500 FEET
Statewide Rule 13(b)(1)(A)
RAILROAD COMMISSION OF TEXAS

Operator's Name and Address: Shell Western E&P
150 N. Dairy Ashford
Houston, Texas 77079

P5 Number: 774719

Area for review: District 8

Lease Name: University 19 PW UNIT 1407H

Field Name: Phantom (Wolfcamp) County: Loving

Survey: University Lands Abstract: A-U9

Drilling Permits: 822471

Note: Attach a map if the request is for more than one pad.

How will the operator maintain well control during drilling operations:

While drilling the surface hole Shell utilizes drilling fluid of sufficient weight to overbalance the formations being penetrated. In the event that flow is encountered a low-pressure rotating head is rigged-up under the rig floor to divert flow to the reserve pit.

How will the operator ensure cement is circulated to surface and that there is adequate bonding of cement:

A DV tool is placed below the water table (as defined by the GAU), and Shell pumps a minimum of 250% excess cement for the second stage of the surface cement job. Depending on nearby offsets the amount of excess pumped has been as high as 300%. Adequate bonding of cement is achieved by utilizing the centralizer program as outlined in RRC Rule 3.13 (b) (1) (G). A second stage of cement is only included in this request plan as a contingency measure to achieve cement returns to surface, in which case the DV tool would be opened.

How will the operator prevent the migration of formation fluids thru the annular space:

All cement slurries pumped by Shell comply with RRC Rule 3.13 (b) (1) (D) and Rule 3.13 (b) (1) (E). These slurries have been effective in preventing migration of formation fluids after the cement has been placed in the 100+ wells Shell has drilled in the Permian.

Signature: Sondra Bienvenu Name: Sondra Bienvenu Date: 03/06/2017 Phone: 832-337-3100

RRC Use Only►

RRC District Office Action:				
☒Approved	☐Approved as Modified	☐Denied	By: Erik Hanson	Date: 3-9-17
Remarks/Modifications:				

RAILROAD COMMISSION OF TEXAS
Oil and Gas Division

ELECTRIC LOG STATUS REPORT

FORM L-1

This facsimile L-1 was generated electronically from data submitted to the RRC.

Tracking No.: 184372

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: 01/06/2018
Field Name PHANTOM (WOLFCAMP)	Drilling Permit No. 822471	
Lease Name UNIVERSITY 19 PW UNIT	Lease/ID No. 42401	Well No. 1407H
County LOVING	API No. **42-** 301-33203	

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	Regulatory Specialist Title
SHELL WESTERN E&P Name (print)	(832) 337-0953 Phone 12/14/2017 Date

-FOR RAILROAD COMMISSION USE ONLY-

PHOENIX TECHNOLOGY SERVICES

MD
1:1200
Feet

MWD Gamma / ROP (1")

Client: *Swepi*

Well Name: University 19 PW Unit 1407H
API/UWID: 42301332030000
County: Loving **Field:** Permian
Permit #: 302 64950
State: Texas **Country:** USA

Longitude: 103° 24' 37.01165 W
Latitude: 31° 41' 57.8885 N

Rig Name: Precision 559
Job Number: 60958
Ground Level: 2766.70 ft
Kelly Bushing: 2792.70 ft
Drill Floor: 26.00 ft
Permanent Datum: Mean Sea Level
Drilling Measured From: Kelly Bushing
Spud Date: May 10, 2017
Bottom Hole Temp: N/A °F
Log Start Depth: 100.00 ft
Log End Depth: 20500.00 ft

Reference Data

North Reference: Grid North
Magnetic Declination: 7.02
Grid Convergence: -1.58
Total Mag Correction: 8.60

Personnel

Company Representative
Denis Morgan

Geologist

Directional Driller(s)
John Hill
Dustin ST.Clair
Stephen Phillips

MWD Operator(s)
Gatlin Finley
Pete Mavrelis
Jonas Perez

Comments:
-

Main Leg

Operational Run Summary — 60958

	Run 1	Run 2	Run 3	Run 4	Run 5	Run 6
Run Start Depth (ft)	0.00	4972.21	8426.77	11174.00	12087.03	14220.89
Run End Depth (ft)	4972.21	8426.77	11174.00	12087.03	14220.89	20500.20
Run Start Date	5/10/2017	5/13/2017	5/15/2017	5/17/2017	8/5/2017	8/9/2017
Run Start Time	1:00 AM	9:30 AM	9:32 PM	6:05 PM	8:38 AM	2:49 PM
Run End Date	5/12/2017	5/15/2017	5/17/2017	5/18/2017	8/9/2017	8/14/2017
Run End Time	2:53 AM	9:00 PM	5:34 AM	7:11 PM	1:34 PM	3:16 AM

Tool Information Summary — 60958

	Run 1	Run 2	Run 3	Run 4	Run 5	Run 6
Gamma Probe Serial No	EGNF0061	EGNF0061	EGNF0061	EGNF0182	EGNF0090	EGNF0061
Probe Cal Ratio	1	1	1	1	1	1
Gamma Scale Factor	2.875	2.875	2.875	2.875	2.875	2.875
Tool Carrier ID (in)	6.050	4.500	4.500	4.490	3.630	3.630
Tool Carrier OD (in)	8.000	6.500	6.500	6.620	5.060	5.060
Survey-to-Bit (PTB) (ft)	73.00	65.00	61.00	54.00	51.00	51.00
Gamma-to-Bit (GTB) (ft)	70.27	61.92	57.88	51.05	47.02	47.56
Annular Pressure-to-Bit (APTB) (ft)	0.00	0.00	0.00	0.00	0.00	0.00

RAILROAD COMMISSION OF TEXAS
Oil and Gas Division
PO Box 12967
Austin TX 78711-2967
www.rrc.texas.gov

CERTIFICATE OF COMPLIANCE AND TRANSPORTATION AUTHORITY

P-4

This facsimile P-4 was generated electronically from data submitted to the RRC.
A certification of the automated data is available in the RRC's Austin office.

Tracking No.: 184372

1. Field name exactly as shown on proration schedule	2. Lease name as shown on proration schedule			
PHANTOM (WOLFCAMP)	UNIVERSITY 19 PW UNIT			
3. Current operator name exactly as shown on P-5 Organization Report	4. Operator P-5 no.	5. Oil Lse/Gas ID no	6. County	7. RRC district
SHELL WESTERN E&P	774719	42401	LOVING	08
8. Operator address including city, state, and zip code	9. Well no(s) *(see instruction E)*			
PO BOX 576 HOUSTON, TX 77001	1407H			
	10. Classification: ☒ Oil ☐ Gas ☐ Other *(see instruction A)*		11. Effective Date	01/06/2018

12. Purpose of Filing. (Complete section a or b below.) *(See instructions B and G)*

a. Change of: ☐ operator ☐ oil or condensate gatherer ☐ gas gatherer ☐ gas purchaser ☐ gas purchaser system code
☐ field name from _____
☐ lease name from _____

OR

b. New RRC Number for: ☒ oil lease ☐ gas well ☐ other well (specify) _____ **Due to:** ☒ new completion or recompletion ☐ reclass oil to gas ☐ reclass gas to oil ☐ 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 *(Attach an additional sheet in same format if more space is needed)*	Purchaser's RRC Assigned System Code	Percent of Take	Full-well stream
X		DELAWARE BASIN JV GATHERING LLC(211490)		100.0	
	X	SHELL ENERGY NORTH AM. (US), LP(773822)	0001	100.0	

14. Authorized OIL or CONDENSATE Gatherer(s). *(See instruction G).*

Name of OIL or CONDENSATE Gatherer(s) - List Highest Volume Gatherer First *(Attach an additional sheet in same format if more space is needed)*	Percent of Take
SHELL WESTERN E&P(774719)	100.0

RRC USE ONLY: Reviewer's initials: RRC Staff Approval date: 04/13/2018

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) _____ ☐ **Authorized Employee of previous operator** ☐ **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 — Name (print) — Maureen Kovacic — Signature

Regulatory Specialist — Title — ☒ **Authorized Employee of current operator** ☐ **Authorized agent of current operator** *(see instruction G)*

maureen.kovacic@shell.com — E-mail Address (optional) — 12/14/2017 — Date — (832) 337-0953 — Phone with area code

RAILROAD COMMISSION OF TEXAS
Oil and Gas Division
PO Box 12967
Austin, Texas 78711-2967
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CERTIFICATE OF POOLING AUTHORITY

Revised 05/2001

P-12

1. Field Name(s)	2. Lease/ID Number *(if assigned)*	3. RRC District Number
Phantom (Wolfcamp)	42401	08
4. Operator Name	**5. Operator P-5 Number**	**6. Well Number**
Shell Western E&P	774719	1407H
7. Pooled Unit Name	**8. API Number**	**9. Purpose of Filing**
University 19 PW Unit		☑ Drilling Permit (W-1)
10. County	**11.Total acres in pooled unit**	☐ Completion Report
Loving & Ward	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	☐	☐
Tr. 2	University Lands	480.72	☐	☐
Tr. 3	University Lands	520.93	☐	☐
Tr. 4	University Lands	641.05	☐	☐
Tr. 5	University Lands	280.50	☐	☐
Tr. 6	University Lands (below 11710')	40.07	☑	☐
Tr. 7	University Lands	320.50	☐	☐
Tr. 8	University Lands	641.06	☐	☐
Tr. 9	University Lands	566.27	☐	☐
Tr. 10	University Lands	641.31	☐	☐

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		
Title	**E-mail** *(if available)*	**Date**	**Phone**
Sr. Reg. Specialist	george.mullen@shell.com	02/07/2017	(832) 337-0549

INSTRUCTIONS — Reference: Statewide Rules 31, 38 and 40

1. 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.
2. 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.
3. If within an individual tract, a non-pooled and/or unleased interest exists, indicate by checking the appropriate box.
4. 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.
5. If the Purpose of Filing is to file completion paperwork, enter the applicable field name in box #1 for the completion.
6. Identify the drill site tract with an * to the left of the tract identifier.
7. The total number of acres in the pooled unit in #11 should equal the total of all acres in the individual tracts listed.

[redacted]

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CERTIFICATE OF POOLING AUTHORITY

Revised 05/2001

P-12

1. Field Name(s)	2. Lease/ID Number *(if assigned)*	3. RRC District Number
Phantom (Wolfcamp)	42401	08
4. Operator Name	**5. Operator P-5 Number**	**6. Well Number**
Shell Western E&P	774719	1407H
7. Pooled Unit Name	**8. API Number**	**9. Purpose of Filing**
University 19 PW Unit		☑ Drilling Permit (W-1)
10. County	**11.Total acres in pooled unit**	☐ Completion Report
Loving & Ward	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	☐	☐
Tr. 12	University Lands	320.60	☐	☐
Tr. 13	University Lands	320.61	☐	☐
Tr. 14	University Lands	640.92	☐	☐
Tr. 15	University Lands	640.99	☐	☐
Tr. 16	University Lands	465.23	☐	☐
Tr. 17	University Lands	640.96	☐	☐
Tr. 18	University Lands	624.93	☐	☐
			☐	☐
			☐	☐

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		
Title	E-mail *(if available)*	Date	Phone
Sr. Reg. Specialist	george.mullen@shell.com	02/07/2017	(832) 337-0549

INSTRUCTIONS — Reference: Statewide Rules 31, 38 and 40

1. 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.
2. 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.
3. If within an individual tract, a non-pooled and/or unleased interest exists, indicate by checking the appropriate box.
4. 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.
5. If the Purpose of Filing is to file completion paperwork, enter the applicable field name in box #1 for the completion.
6. Identify the drill site tract with an * to the left of the tract identifier.
7. The total number of acres in the pooled unit in #11 should equal the total of all acres in the individual tracts listed.

[redacted]

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:**
Well No.: 1407H	**API No.:** 42-301-33203	☐ Drilling Permit Application (Form W-1)
Total Lease Acres: 8588.11	**Drilling Permit No.:** 819356	■ Completion Report (Form G-1/W-2)
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	640.00	N	
42401	2202H	H	University 19 PW Unit	42-301-31708	160.23	N	
42401	1702H	H	University 19 PW Unit	42-301-31703	566.65	N	
42401	2502H	H	University 19 PW Unit	42-475-35995	151.24	N	
42401	2802H	H	University 19 PW Unit	42-475-35996	160.33	N	
42401	1302H	H	University 19 PW Unit	42-301-31705	640.00	N	
42401	1502H	H	University 19 PW Unit	42-301-31872	640.00	N	
42401	1802H	H	University 19 PW Unit	42-301-32460	640.00	N	
42401	2302H	H	University 19 PW Unit	42-301-32579	640.00	N	
42401	2304H	H	University 19 PW Unit	42-301-32849	640.00	N	
42401	2303H	H	University 19 PW Unit	42-301-32848	160	N	
42401	2503H	H	University 19 PW Unit	301-33047	160	N	
42401	2504H	H	University 19 PW Unit	301-33048	160	N	
42401	2505H	H	University 19 PW Unit	301-33049	160	N	
42401	2506H	H	University 19 PW Unit	301-33054	160	N	
42401	1506H	H	University 19 PW Unit	301-33126	160		
42401	1507H	H	University 19 PW Unit	301-33144	160		

Total Well Count >	25	6958.45	< A. Total Assigned Horiz. Acreage	6958.45	< C. Total Assigned Acreage
		1629.66	< Total Remaining Horiz. Acreage	1629.66	< 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)	Email (include email address *only* if you affirmatively consent to its public release)
	Maureen Kovacic, Regulatory Specialist	maureen.kovacic@shell.com

Address	City, State, Zip Code	Tel: Area Code	Number	Date: mo. day yr.
150 N. Dairy Ashford	Houston TX 77079	832	337-0953	03/27/2018

RAILROAD COMMISSION OF TEXAS

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

Acreage Designation Attachment

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

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

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

RRC ID No. or Lease No.	Well No.	H-Horizontal D-Directional V-Vertical	Lease Name	API No.	Acres Assigned	SWR 38 Except. (Y/N)	Operator Name and Operator No. (if different from filing operator)
42401	1508H	H	University 19 PW Unit	42-301-33124	160	N	
42401	1503H	H	University 19 PW Unit	42-301-33170	160	N	
42401	1504H	H	University 19 PW Unit	42-301-33171	160	N	
42401	1505H	H	University 19 PW Unit	42-301-33172	160	N	
42401	1803H	H	University 19 PW Unit	42-301-33262	0	N	
42401	1804H	H	University 19 PW Unit	42-301-33264	0	N	
42401	1406H	H	University 19 PW Unit	42-301-33213	160	N	
42401	1407H	H	University 19 PW Unit	42-301-33203	160	N	

Total Well Count >	25	6958.45	< A. Total Assigned Horiz. Acreage	6954.45	< C. Total Assigned Acreage	
		1629.66	< Total Remaining Horiz. Acreage	1629.66	< Total Remaining Acreage	
			< B. Total Assigned Vert./Dir. Acreage			
			< Total Remaining Vert./Dir. Acreage			

GROUNDWATER PROTECTION DETERMINATION

Form GW-2

Groundwater Advisory Unit

Date Issued:	01 February 2017	**GAU Number:**	166499

Attention:	SHELL WESTERN E&P PO BOX 576 HOUSTON, TX 77001	**API Number:**	
		County:	LOVING
		Lease Name:	University 19 PW Unit
		Lease Number:	
Operator No.:	774719	**Well Number:**	1407H
		Total Vertical Depth:	12000
		Latitude:	31.699414
		Longitude:	-103.410281
		Datum:	NAD27

Purpose: New Drill

Location: Survey-UL; Block-19; Section-9

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

The interval from the land surface to a depth of 300 feet, and the Rustler, the top of which is estimated to occur from 500 to 550 feet depth and the base of which is estimated to occur from 950 to 1000 feet depth by reconnaissance-level evaluation, must be protected.

This recommendation is applicable for all wells drilled in this sec. 9.

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).

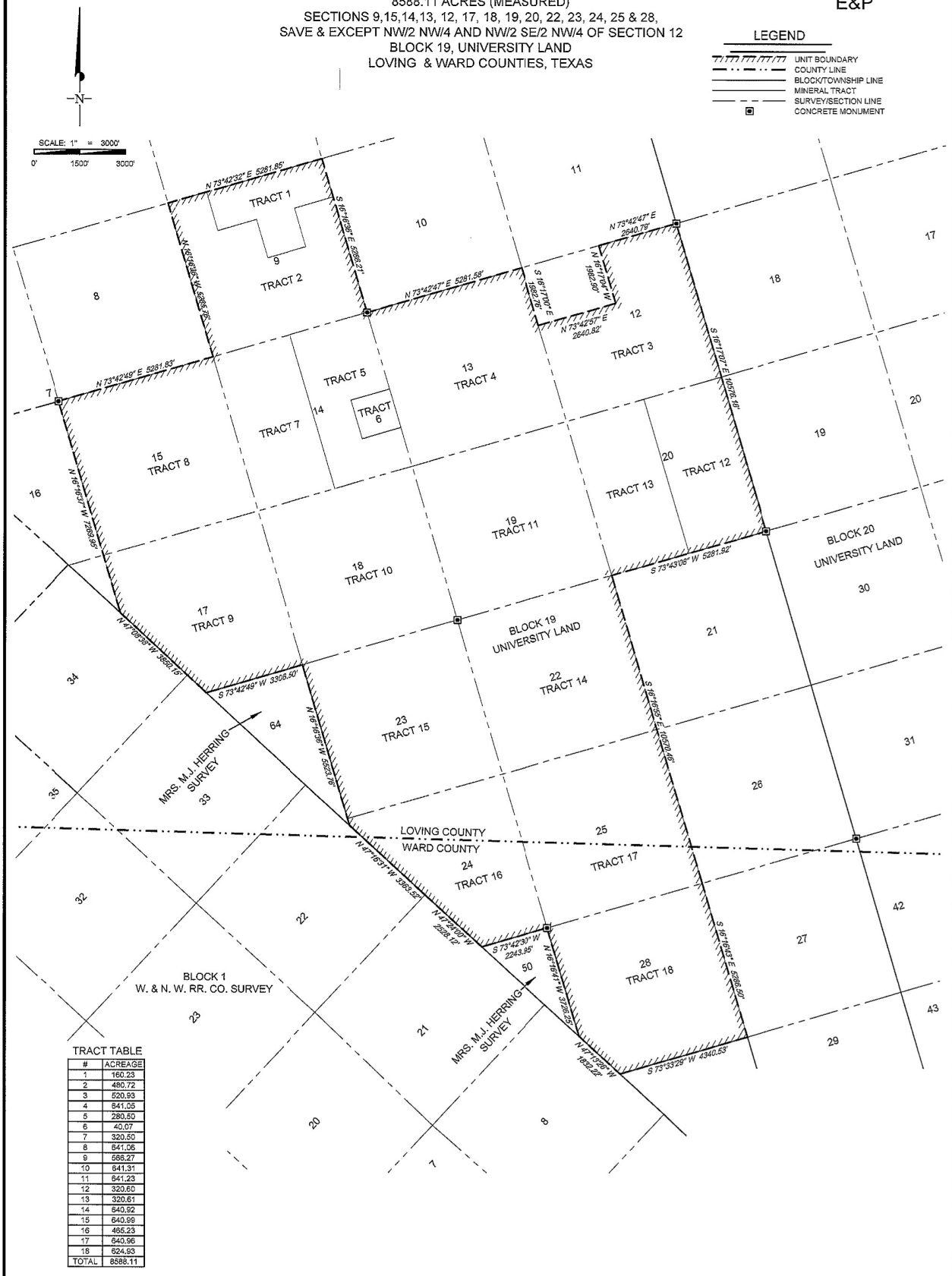
This determination is based on information provided when the application was submitted on 01/25/2017. If the location information has changed, you must contact the Groundwater Advisory Unit, and submit a new application if necessary. If you have questions, please contact us at 512-463-2741 or gau@rrc.texas.gov.

Groundwater Advisory Unit, Oil and Gas Division

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



TRACT TABLE

#	ACREAGE
1	160.23
2	480.72
3	520.93
4	641.05
5	280.50
6	40.07
7	320.50
8	641.06
9	666.27
10	641.31
11	641.23
12	320.60
13	320.61
14	640.92
15	640.99
16	465.23
17	640.96
18	624.93
TOTAL	8588.11

S:\SURVEY\SHELL\PERMIAN_BASIN\UNIVERSITY_19_22_LOV\FINAL_PRODUCTS\SKETCH\SK_UNIVERSITY_19_PW_UNIT.DWG 11/15/2016 5:02:45 PM mlewin

SHELL WESTERN E&P

WELL LOCATION

LEASE NAME & WELL NO.:

UNIVERSITY 19 PW UNIT 1407H

UNIT/LEASE ACREAGE:

8588.11 ACRES

NEAREST TOWN IN COUNTY:

±11.1 MILES SOUTHEAST OF MENTONE, TEXAS

DESCRIPTION:

SECTIONS 9,14, & 18, 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 if made and limited to those persons or entities shown on the face of this plat is non-transferrable. This Survey is Certified for this transaction only.
Survey date of November 04, 2016.

STATE OF TEXAS
REGISTERED
JOHN R. ANDERSON
6442
PROFESSIONAL
LAND SURVEYOR

John R. Anderson 1/24/17

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, PRE/POST DRILLING DATA, PRE/POST 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"

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
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:	12/14/2016
DRAWN BY:	MML
LO_UNIVERSITY_19_PW_UNIT_1407H_REV4	
SHEET:	1 OF 1

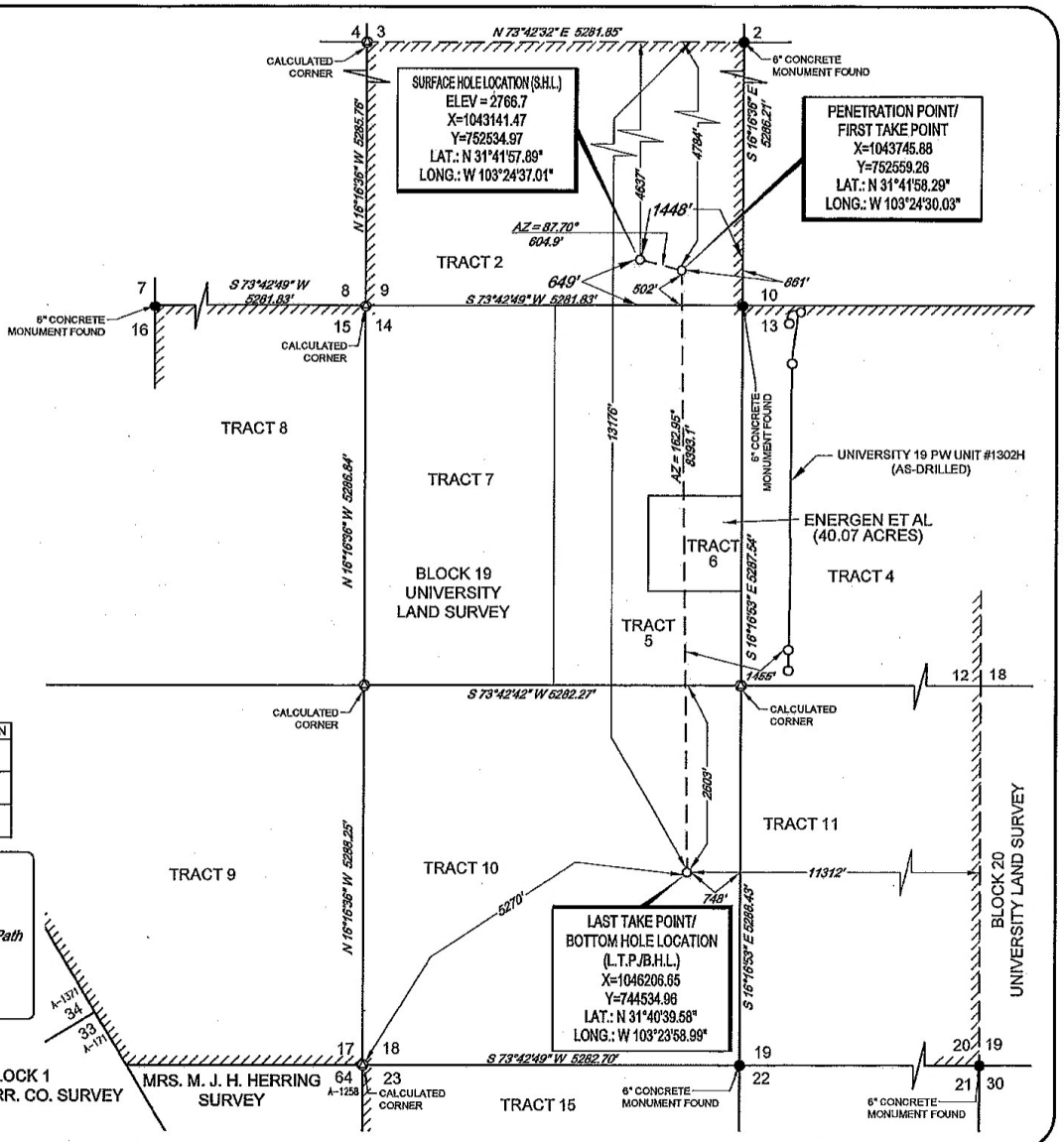
REV#-BY	DATE REVISED
O.M.	12/27/2016
O.M.	01/05/2017
O.M.	01/12/2017
J.R.A.	01/24/2017

NAD 27
GRID BEARINGS
SCALE: 1" = 2000'
0' 1000' 2000'

TIES TABLE

POINT	UNIT	SURVEY/SECTION
S.H.L.	1448' FNEL	1448' FNEL & 649' FSEL
	4637' FNWL	
P.P./ F.T.P.	861' FNEL	861' FNEL & 502' FSEL
	4784' FNWL	
L.T.P. / B.H.L.	11312' FNEL	748' FNEL & 2603' FNWL
	13176' FNWL	

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



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SHELL WESTERN E&P

AS-DRILLED LOCATION

LEASE NAME & WELL NO.:

UNIVERSITY 19 PW UNIT 1407H

UNIT/LEASE ACREAGE:

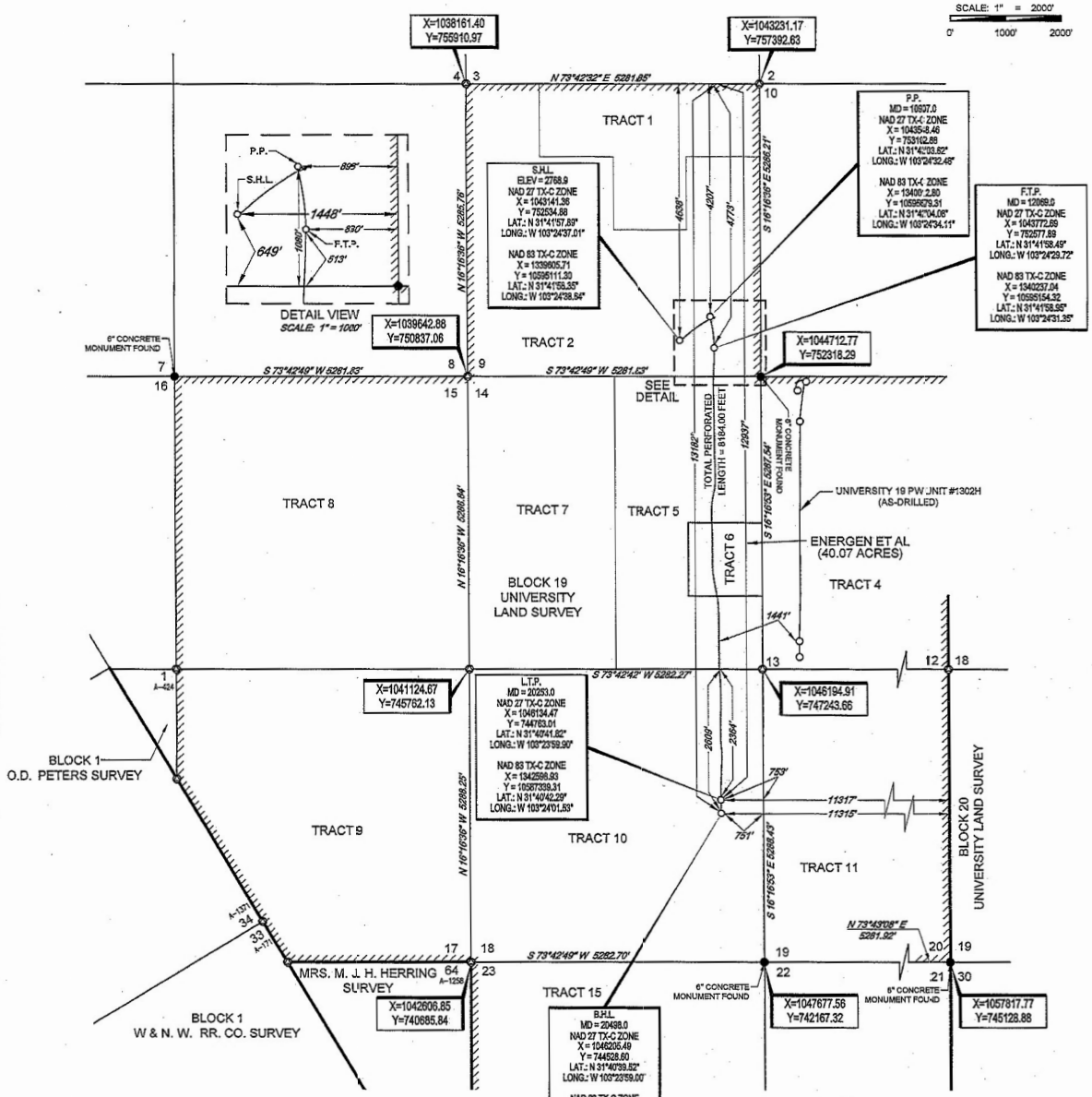
8588.11 ACRES (MEASURED)

NEAREST TOWN IN COUNTY:

±11.1 MILES SOUTHEAST OF MENTONE, TEXAS

DESCRIPTION:

SECTIONS 9,14, & 18, BLOCK 19, UNIVERSITY LAND SURVEY
LOVING COUNTY, TEXAS



TIES TABLE

POINT	UNIT	SURVEY/SECTION
S.H.L.	1448' FNEL 4638' FNWL	1448' FNEL & 649' FSEL
P.P.	898' FNEL 4207' FNWL	898' FNEL & 1080' FSEL
F.T.P	830' FNEL 4773' FNWL	830' FNEL & 513' FSEL
L.T.P.	11317' FNEL 12937' FNWL	753' FNEL & 2364' FNWL
B.H.L	11315' FNEL 13182' FNWL	751' FNEL & 2609' FNWL

LEGEND:

- Unit Boundary
- Block/Township Line
- Section line
- Proposed Well Path
- Existing/Permitted Well Path
- Mineral Tract Boundary
- Monument Found
- Calculated Corner
- Wall Point

STATE OF TEXAS
REGISTERED
JOHN R. ANDERSON
6442
PROFESSIONAL
LAND SURVEYOR

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7548
TEXAS FIRM REGISTRATION NO. 10042504
WWW.TOPOGRAPHIC.COM

John R. Anderson 3/7/18
John R. Anderson, R.P.L.S. No. 6442

UNIVERSITY 19 PW UNIT 1407H	REVISION: INT	DATE
DATE: 02/20/2018		
FILE: AD_UNIVERSITY_19_PW_UNIT_1407H		
DRAWN BY: T.D.H.		
SHEET: 1 OF 1		

NOTES:
1. ORIGINAL DOCUMENT SIZE: 11" X 17"
2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, U.S. SURVEY FEET, NORTH AMERICAN DATUM 1927, UNLESS OTHERWISE NOTED.
3. 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 7.B.P.L.S. MINIMUM STANDARDS OF PROCEDURES FOR BOUNDARY SURVEYS. THIS CERTIFICATION IF MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT IS NON-TRANSFERRABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.
4. ALL ELEVATION VALUES CONTAINED HEREON ARE ORTHOMETRIC ONLY, BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), U.S. SURVEY FEET.
5. ALL MINERAL OWNERSHIP DATA SHOWN HEREIN IS BASED ON INFORMATION PROVIDED BY SHELL WESTERN E&P OR ITS SUBSIDIARIES & AFFILIATES.

NOTES CONT'D:
6. THE AS-DRILLED SURFACE LOCATION HAS BEEN CAREFULLY SURVEYED ON THE GROUND DURING THE DATE OF APRIL 05, 2017.
7. THE SUBSURFACE WELL PATH DATA SHOWN HEREIN IS BASED ON INFORMATION PROVIDED BY SHELL WESTERN E&P OR ITS SUBSIDIARIES & AFFILIATES.
8. S.H.L. = SURFACE HOLE LOCATION
9. P.P. = POINT OF PENETRATION
10. F.T.P. = FIRST TAKE POINT
11. L.T.P. = LAST TAKE POINT
12. B.H.L. = BOTTOM HOLE LOCATION

S:\SURVEY\SHELL\PERMIAN_BASIN\UNIVERSITY_19_9_LOV\FINAL_PRODUCTS\AD_UNIVERSITY_19_PW_UNIT_1407H.DWG 3/7/2018 3:40:48 PM thyde