



RAILROAD COMMISSION OF TEXAS

Form W-2

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

Status: Approved
Date: 03/17/2017
Tracking No.: 163993

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	42-495-33705	County:	WINKLER
Well No.:	1503H	RRC District	08
Lease	UNIVERSITY 20	Field	PHANTOM (WOLFCAMP)
RRC Lease	48296	Field No.:	71052900
Location	Section: 15, Block: 20, Survey: UL, Abstract: U16		
Latitude	31	Longitud	-103
This well is 9.5 miles in a SW direction from WINK, which is the nearest town in the			

FILING INFORMATION			
Purpose of	Well Record Only		
Type of	New Well		
Well Type:	Producing	Completion or Recompletion	10/28/2016
Type of Permit	Date	Permit No.	
Permit to Drill, Plug Back, or Rule 37 Exception	07/21/2016	813467	
Fluid Injection			
O&G Waste Disposal			
Other:			

COMPLETION INFORMATION			
Spud	07/25/2016	Date of first production after rig	10/28/2016
Date plug back, deepening, drilling operation	06/25/2016	Date plug back, deepening, recompletion, drilling operation	07/25/2016
Number of producing wells on this lease this field (reservoir) including this	1	Distance to nearest well in lease & reservoir	0.0
Total number of acres in	641.23	Elevation	2779 GL
Total depth TVD	11990	Total depth MD	20050
Plug back depth TVD		Plug back depth MD	20050
Was directional survey made other inclination (Form W-	Yes	Rotation time within surface casing Is Cementing Affidavit (Form W-15)	86.0 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	543.0 Feet from the	Off Lease :	No
	537.0 Feet from the	NE Line and	
		NW Line of the	
		UNIVERSITY 20 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	300.0	Date 01/27/2016
SWR 13 Exception	Depth	5001.0	

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											
Ro	Type of Casing	Casing	Hole	Setting	Multi -	Multi -	Cement	Cement	Slurry	Top of	TOC
		Size (in.)	Size	Depth	Stage Tool	Stage Shoe	Class	Amoun	Volume (cu.	Cement (ft.)	Determined By
1	Surface	9 5/8	12 1/4	5030	498		CLASS C	3180	5723.0	0	Circulated to Surface
2	Intermediate	7	8 3/4	12363			CLASS H	790	1702.0	4030	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	11409	20050	50/50 POZ	790	982.0	11409	Calculation

TUBING RECORD			
<u>Ro</u>	<u>Size (in.)</u>	<u>Depth</u>	<u>Size (ft.)</u>
1	2 7/8	11367	
			<u>Packer Depth (ft.)/Type</u>
			11342 / 7" VERSASET HES

PRODUCING/INJECTION/DISPOSAL INTERVAL			
<u>Ro</u>	<u>Open hole?</u>	<u>From (ft.)</u>	<u>To (ft.)</u>
1	No	L1 12318	19815.0

ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC.			
Was hydraulic fracturing treatment	Yes		
Is well equipped with a downhole sleeve?	No	If yes, actuation pressure	8455.0
Production casing test pressure (PSIG) during hydraulic fracturing	9500	Actual maximum pressure (PSIG) during fracturin	10391
Has the hydraulic fracturing fluid disclosure been	Yes		
<u>Ro</u>	<u>Type of Operation</u>	<u>Amount and Kind of Material Used</u>	<u>Depth Interval (ft.)</u>

FORMATION RECORD					
Formations	Encountere	Depth TVD	Depth MD	Is formation	Remarks
RUSTLER - POSSIBLE FLOW; POSSIBLE USABLE QUALITY W COLBY-QUEEN	Yes	804.0	804.0	Yes	
YATES	No			No	FORMATION NOT GEOLOGICALLY PRESENT
QUEEN-SEVEN RIVERS	No			No	FORMATION NOT GEOLOGICALLY PRESENT
SAN ANDRES - HIGH FLOWS, H2S, CORROSIVE HOLT	No			No	FORMATION NOT GEOLOGICALLY PRESENT
DELAWARE	Yes	5091.0	5108.0	Yes	
GLORIETA	No			No	FORMATION NOT GEOLOGICALLY PRESENT
CLEARFORK	No			No	FORMATION NOT GEOLOGICALLY PRESENT
WICHITA ALBANY	No			No	FORMATION NOT GEOLOGICALLY PRESENT
BRUSHY CANYON	Yes	7400.0	7418.0	Yes	
CHERRY CANYON	Yes	6104.0	6121.0	Yes	
CANYON	No			No	FORMATION NOT GEOLOGICALLY PRESENT
BONE SPRINGS	Yes	8779.0	8797.0	Yes	
MONTOYA	No			No	FORMATION NOT GEOLOGICALLY PRESENT
WADDELL	No			No	FORMATION NOT GEOLOGICALLY PRESENT
WOLFCAMP	Yes	11761.0	11811.0	Yes	
ATOKA	No			No	BELOW WELLBORE DEPTH
STRAWN	No			No	BELOW WELLBORE DEPTH
PENNSYLVANIAN	No			No	BELOW WELLBORE DEPTH
MISSISSIPPIAN	No			No	BELOW WELLBORE DEPTH
DEVONIAN	No			No	BELOW WELLBORE DEPTH
SILURIAN	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

RRC REMARKS	
PUBLIC COMMENTS: [RRC Staff 2016-12-27 16:59:09.195] EDL=7497 feet, max acres=704, PHANTOM (WOLFCAMP) oil or gas well	
CASING RECORD : DV TOOL SET, BUT NOT OPENED AS APPROVED IN SWR 13 LETTER (ATTACHED).	
TUBING RECORD: KOP AT 11503	
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	12/22/2016



RAILROAD COMMISSION OF TEXAS

1701 N. Congress

P.O. Box 12067

Austin, Texas 78701-2067

Form W-15

Rev. 08/2014

CEMENTING REPORT

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

OPERATOR INFORMATION

Operator Name: SHELL WESTERN E&P

Operator P-S No.: 774719

Cementer Name: HALLIBURTON ENERGY SERVICES

Cementer P-S No.: 347151

WELL INFORMATION

District No.: 08

County: WINK

Well No.: 1503H

API No.: 42-495-33705

Drilling Permit No.: 813467

Lease Name: UNIVERSITY 20

Lease No.:

Field Name: Phantom (Wolfcamp)

Field No.:

I CASING CEMENTING DATA

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

Drilled hole size (in.): 12 1/4

Depth of drilled hole (ft.): 5030

Est. % wash-out or hole enlargement: 200%

Size of casing in O.D. (in.): 9 5/8

Casing weight (lbs/ft) and grade: J55/ 40

No. of centralizers used: 25

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.):
5030

Top of liner (ft.):

Setting depth liner (ft.):

Hrs. waiting on cement before drill-out: +12

Calculated top of cement (ft.): 0

Cementing date: 6/28/16

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	2680	C	SALT, HR-800	5055	15586
2	500	C	BENTONITE, HR-800	668	2025
3					
Total	3180			5723	17611

II CASING CEMENTING DATA

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

Drilled hole size (in.):

Depth of drilled hole (ft.):

Est. % wash-out or hole enlargement:

Size of casing in O.D. (in.):

Casing weight (lbs/ft) and grade:

No. of centralizers used:

Tapered string drilled hole size (in.)

Tapered string depth of drilled hole (ft.)

Upper: Lower:

Upper: Lower:

Tapered string size of casing in O.D. (in.)

Tapered string casing weight (lbs/ft) and grade

Tapered string no. of centralizers used

Upper: Lower:

Upper: Lower:

Upper: Lower:

Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ 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	0			0	0

III CASING CEMENTING DATA

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

Drilled hole size (in.):

Depth of drilled hole (ft.):

Est. % wash-out or hole enlargement:

Size of casing in O.D. (in.):

Casing weight (lbs/ft) and grade:

No. of centralizers used:

Tapered string drilled hole size (in.)

Tapered string depth of drilled hole (ft.)

Upper: Lower:

Upper: Lower:

Tapered string size of casing in O.D. (in.)

Tapered string casing weight (lbs/ft) and grade

Tapered string no. of centralizers used

Upper: Lower:

Upper: Lower:

Upper: Lower:

Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ 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	0			0	0

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

CIRCULATED 331 BBL/ 985 SKS CEMENT TO SURFACE
SO# 0903390462

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

Christopher Peacock - Service Supervisor

Halliburton

Name and title of cementer's representative

Cementing Company

Signature

6155 W. Murphy St.

Odessa, TX, 79763

432-571-8600

6/28/16

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

12/20/2016

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](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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P.O. Box 12967
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Form W-15

Rev. 08/2014

CEMENTING REPORT

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

OPERATOR INFORMATION

Operator Name: SHELL WESTERN

Operator P-5 No.: 774719

Cementor Name: HALLIBURTON ENERGY SERVICES

Cementor P-5 No.: 347151

WELL INFORMATION

District No.: 08

County: WINKLER

Well No.: 1503H

API No.: 42-495-33705

Drilling Permit No.: 813467

Lease Name: UNIVERSITY 20

Lease No.:

Field Name: Phantom (Woficamp)

Field No.:

I. CASING CEMENTING DATA

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

Drilled hole size (in.): 8 3/4"

Depth of drilled hole (ft.): 12,415

Est. % wash-out or hole enlargement: 40%

Size of casing in O.D. (in.): 7"

Casing weight (lbs/ft) and grade: 29/P110

No. of centralizers used: 61

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.):
12,363

Top of liner (ft.):

Setting depth liner (ft.):

Hrs. waiting on cement before drill-out: +12

Calculated top of cement (ft.): 4030

Cementing date: 07-10-16

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	550	H	SEE REMARKS	1407	9161
2	240	H	SEE REMARKS	295	1836
3					
Total	790			1702	10997

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	0			0	0

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	0			0	0

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=BENTONITE, SALT, D-AIR 5000, HR-800, SA-1015
TAIL=CFR-3, SA-1015, LAP-1, D-AIR 5000

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LOUIS GENOVESI SERVICE SUPERVISOR

Halliburton

Name and title of cementer's representative

Cementing Company

Signature

6155 W. Murphy St.

Odessa, TX, 79763

432-571-8600

07-10-16

Address

City, State, Zip Code

Tel: Area Code

Number

Date: mo. day yr.

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Maureen Kovacic

Regulatory Specialist

Signature

Typed or printed name of operator's representative

Title

150 N. Dairy Ashford

Houston TX 77079

832-33-0953

12/20/2016

Address

City, State, Zip Code

Tel: Area Code

Number

Date: mo. day yr.

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- Surface casing:** An operator must set and cement sufficient surface casing to protect all usable-quality water strata, as defined by the Groundwater Advisory Unit in Austin. Sufficient cement shall be used to fill the annular space outside the casing from the shoe to the ground surface or to the bottom of the cellar. Before drilling a well, an operator must obtain a letter from the Groundwater Advisory Unit stating the protection depth. Surface casing should not be set deeper than 200 feet below the specified depth without prior approval from the Commission.
To plug and abandon a well, operators must use only cementers approved by the Commission's Director of Field Operations in accordance with SWR 14 ([http://info.sos.state.tx.us/pls/pub/readtac\\$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=16&pt=1&ch=3&rl=14](http://info.sos.state.tx.us/pls/pub/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=16&pt=1&ch=3&rl=14)). Cementing companies, service companies, or operators can qualify as approved cementers by demonstrating that they are able to mix and pump cement in compliance with Commission rules and regulations.
- Estimated % wash-out:** If the estimated % wash-out is less than 20% (or 30% along the Gulf Coast), provide supporting documentation such as a caliper log to show how the estimated % wash-out was obtained.
- Multi-stage cement:** An operator must report the multi-stage cement shoe in II. Casing Cementing Data section by selecting the type of casing and Multi-stage cement shoe. The operator must report the multi-stage cement tool in III. Casing Cementing Data section by selecting the type of casing and Multi-stage cement/DV tool.
- Multiple parallel strings:** An operator should file the Form W-15 as 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.
- 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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CEMENTING REPORT

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

OPERATOR INFORMATION

Operator Name: SHELL WESTERN E&P

Operator P-5 No.: 774719

Cementer Name: HALIBURTON ENERGY

Cementer P-5 No.: 347151

WELL INFORMATION

District No.: 08

County: WINKLER

Well No.: 1503H

API No.: 42-495-33705

Drilling Permit No.: 813467

Lease Name: UNIVERSITY 20

Lease No.:

Field Name: Phantom (Wolfcamp)

Field No.:

I. CASING CEMENTING DATA

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

Drilled hole size (in.): 6 1/8"

Depth of drilled hole (ft.): 20050

Est. % wash-out or hole enlargement: 15%

Size of casing in O.D. (in.): 4 1/2"

Casing weight (lbs/ft) and grade:

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.):

Top of liner (ft.): 11409

Setting depth liner (ft.): 20050

Hrs. waiting on cement before drill-out: n/a

Calculated top of cement (ft.): 11409

Cementing date: 07/24/16

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	790	50/50 POZ	REMARKS	981.97	10159.85
2					
3					
Total	790			981.97	10159.85

II. CASING CEMENTING DATA

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

Drilled hole size (in.):

Depth of drilled hole (ft.):

Est. % wash-out or hole enlargement:

Size of casing in O.D. (in.):

Casing weight (lbs/ft) and grade:

No. of centralizers used:

Tapered string drilled hole size (in.)

Tapered string depth of drilled hole (ft.)

Upper: Lower:

Upper: Lower:

Tapered string size of casing in O.D. (in.)

Tapered string casing weight (lbs/ft) and grade

Tapered string no. of centralizers used

Upper: Lower:

Upper: Lower:

Upper: Lower:

Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ 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	0			0	0

III. CASING CEMENTING DATA

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

Drilled hole size (in.):

Depth of drilled hole (ft.):

Est. % wash-out or hole enlargement:

Size of casing in O.D. (in.):

Casing weight (lbs/ft) and grade:

No. of centralizers used:

Tapered string drilled hole size (in.)

Tapered string depth of drilled hole (ft.)

Upper: Lower:

Upper: Lower:

Tapered string size of casing in O.D. (in.)

Tapered string casing weight (lbs/ft) and grade

Tapered string no. of centralizers used

Upper: Lower:

Upper: Lower:

Upper: Lower:

Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ 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	0			0	0

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

ADDITIVES: 0.10% HR-800, 0.30% CFR-3, 0.80% LAP-1, 0.05% SA-1015, 0.50 LBM D-AIR 5000. 17 BBLS CALCULATED ABOVE LINER.

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.

MICHAEL CRUZ

Halliburton

Name and title of cementer's representative

Cementing Company

Signature

6155 W. Murphy St.

Odessa, TX, 79763

432-571-8600

07/24/16

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

Signature

Typed or printed name of operator's representative

Title

150 N. Dairy Ashford

Houston TX 77079

832-337-0953

12/20/2016

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](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

RE: Lease: UNIVERSITY 20

Address1: PO BOX 576

Address2:

City: HOUSTON

State: TX

Well No: 1503H

Sec: 15 **Block:** 20

County: WINKLER

Survey Name: UL

SWR13EX Application Number: 7368

Drilling Permit No: 813467

SWR 13 CASING EXCEPTION APPLICATION/ALTERNATIVE REQUEST APPROVED

The Proposed Casing and Cementing Program submitted for the **LEASE NAME:** UNIVERSITY 20 ;
WELL NUMBER: 1503H 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 5001 feet of surface casing with a multistage tool set at a depth of not less than 450 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.

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 03/30/2016 .
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: 04/04/2016

DISTRICT DIRECTOR

Tracking No.: 163993

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

Instructions

When to File Form L-1:

- with Forms G-1, W-2, and GT-1 for new and deepened gas, oil, and geothermal wells
- with Form W-3 for plugged dry holes
- when sending in a log which was held under a request for confidentiality and the period for confidentiality has not yet expired.

When is Form L-1 NOT required:

- with Forms W-2, G-1, and GT-1 filed for injection wells, disposal wells, water supply wells, service wells, re-test wells, re-classifications, and plugbacks of oil, gas or geothermal wells
- with Form W-3 for plugging of other than a dry hole

Where to File Form L-1:

- with the appropriate Commission district office

Filling out Form L-1:

- Section I and the signature section must be filled out for all wells
- complete only the appropriate part of Section II

Type of log required:

- any wireline survey run for the purpose of obtaining lithology, porosity, or resistivity information
- no more than one such log is required but it must be of the subject well
- if such log is NOT run on the subject well, do NOT substitute any other type of log; just select Section II, Part A below

SECTION I. IDENTIFICATION

Operator Name: SHELL WESTERN E&P	District No. 08	Completion Date: 10/28/2016
Field Name PHANTOM (WOLFCAMP)	Drilling Permit No. 813467	
Lease Name UNIVERSITY 20	Lease/ID No. 48296	Well No. 1503H
County WINKLER	API No. 42- 495-33705	

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

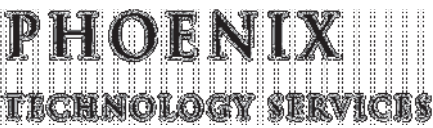
(832) 337-0953

Phone

12/22/2016

Date

-FOR RAILROAD COMMISSION USE ONLY-



TVD
1:1200
Feet

MWD Gamma / ROP (1")

ent: SWEPI

il Name: University 20 1503H

UWID: 42495337050000

ounty: Winkler

Field: Wolfcamp

mit #: 813467

te: TX

Country: USA

ude: 103° 18' 53.35234 W
e: 31° 42' 52.68722 N

Personnel

Rig Name: Precision 565
Job Number: 60153
Ground Level: 2777.40 ft
Kelly Bushing: 2804.90 ft
Drill Floor: 27.50 ft
ermanent Datum: Mean Sea Level
g Measured From: Kelly Bushing
Spud Date: June 25, 2016
ottom Hole Temp: 194.0 °F
Log Start Depth: 0.00 ft
Log End Depth: 12050.00 ft

Company Representative
Brian

Geologist

Directional Driller(s)
John Spencer
Travis Marlbrough
Dustin St.Clair

MWD Operator(s)
Shane Metcalf

Reference Data

North Reference: Grid North
netic Declination: 7.12
Grid Convergence: -1.54
al Mag Correction: 8.66

nts:

Main Leg

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Operational Run Summary

60153

	Run 1	Run 2	Run 3	Run 4	Run 5	Run 6
Run Start Depth (ft)	0.00	5029.95	7982.03	9396.89	10365.42	11454.00
Run End Depth (ft)	5029.95	7982.03	9396.89	10365.42	11454.00	12415.00
Run Start Date	6/25/2016	6/28/2016	7/1/2016	7/3/2016	7/4/2016	7/7/2016
Run Start Time	6:31 AM	5:33 AM	8:27 PM	4:46 AM	8:50 AM	11:32 AM
Run End Date	6/27/2016	7/1/2016	7/3/2016	7/4/2016	7/5/2016	7/8/2016
Run End Time	9:52 PM	5:28 PM	1:55 AM	6:50 AM	11:11 AM	1:25 PM
	Run 7	Run 8	Run 9	Run 10	Run 11	Run 12
Run Start Depth (ft)	12415.00	12649.29	13316.00	15536.60	17083.46	17848.60
Run End Depth (ft)	12649.29	13316.00	15536.60	17083.46	17848.60	18459.66
Run Start Date	7/9/2016	7/11/2016	7/13/2016	7/15/2016	7/17/2016	7/18/2016
Run Start Time	9:12 AM	3:51 PM	12:34 AM	12:16 AM	7:32 AM	9:06 PM
Run End Date	7/11/2016	7/12/2016	7/14/2016	7/17/2016	7/18/2016	7/20/2016
Run End Time	8:54 AM	4:02 PM	9:14 PM	3:52 AM	4:34 PM	4:02 AM
	Run 13					
Run Start Depth (ft)	18459.66					
Run End Depth (ft)	20050.51					
Run Start Date	7/20/2016					
Run Start Time	3:33 PM					
Run End Date	7/22/2016					
Run End Time	3:00 PM					

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.: 163993

1. Field name exactly as shown on proration schedule PHANTOM (WOLFCAMP)		2. Lease name as shown on proration schedule UNIVERSITY 20							
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 48296	6. County WINKLER	7. RRC district 08				
8. Operator address including city, state, and zip code PO BOX 576 HOUSTON, TX 77001		9. Well no(s) (see instruction E) 1503H			11. Effective Date 10/28/2016				
		10. Classification <input checked="" type="checkbox"/> Oil <input type="checkbox"/> Gas <input type="checkbox"/> Other (see instruction A)							
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 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"/> other well (specify) _____ <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 (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			
EASTEX CRUDE COMPANY(239232)						50.0			
SHELL WESTERN E&P(774719)						50.0			
RRC USE ONLY: Reviewer's initials: <u>RRC Staff</u> Approval date: <u>03/17/2017</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. <table style="width:100%;"><tr><td style="width:50%; vertical-align: top;">Name of Previous Operator _____ Name (print) _____ Title _____</td><td style="width:50%; vertical-align: top;">Signature _____ <input type="checkbox"/> Authorized Employee of previous operator <input type="checkbox"/> Authorized agent of previous operator (see instruction G) _____ Date _____ Phone with area code _____</td></tr></table>								Name of Previous Operator _____ Name (print) _____ Title _____	Signature _____ <input type="checkbox"/> Authorized Employee of previous operator <input type="checkbox"/> Authorized agent of previous operator (see instruction G) _____ Date _____ Phone with area code _____
Name of Previous Operator _____ Name (print) _____ Title _____	Signature _____ <input type="checkbox"/> Authorized Employee of previous operator <input type="checkbox"/> Authorized agent of previous operator (see instruction G) _____ 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. <table style="width:100%;"><tr><td style="width:50%; vertical-align: top;">SHELL WESTERN E&P _____ Name (print) Regulatory Specialist _____ Title maureen.kovacic@shell.com _____ E-mail Address (optional)</td><td style="width:50%; vertical-align: top;">Maureen Kovacic _____ Signature <input checked="" type="checkbox"/> Authorized Employee of current operator <input type="checkbox"/> Authorized agent of current operator (see instruction G) _____ Date 12/22/2016 _____ Phone with area code (832) 337-0953 _____</td></tr></table>								SHELL WESTERN E&P _____ Name (print) Regulatory Specialist _____ Title maureen.kovacic@shell.com _____ E-mail Address (optional)	Maureen Kovacic _____ Signature <input checked="" type="checkbox"/> Authorized Employee of current operator <input type="checkbox"/> Authorized agent of current operator (see instruction G) _____ Date 12/22/2016 _____ Phone with area code (832) 337-0953 _____
SHELL WESTERN E&P _____ Name (print) Regulatory Specialist _____ Title maureen.kovacic@shell.com _____ E-mail Address (optional)	Maureen Kovacic _____ Signature <input checked="" type="checkbox"/> Authorized Employee of current operator <input type="checkbox"/> Authorized agent of current operator (see instruction G) _____ Date 12/22/2016 _____ Phone with area code (832) 337-0953 _____								

CERTIFICATE OF POOLING AUTHORITY

Revised 05/2001

P-12

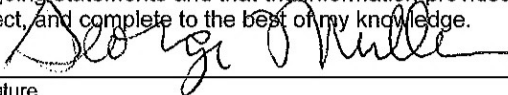
1. Field Name(s) Phantom (Wolfcamp)	2. Lease/ID Number (if assigned)	3. RRC District Number 08
4. Operator Name Shell Western E&P	5. Operator P-5 Number 774719	6. Well Number 1503H
7. Pooled Unit Name University 20	8. API Number 42-495-33705	9. Purpose of Filing <input checked="" type="checkbox"/> Drilling Permit (W-1) <input type="checkbox"/> Completion Report
10. County Winkler	11. Total acres in pooled unit 641.23	

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 (Sec. 15)	160.33	<input type="checkbox"/>	<input type="checkbox"/>
Tr. 2	University Lands (Sec. 22)	320.67	<input type="checkbox"/>	<input type="checkbox"/>
Tr. 3	University Lands (Sec. 27)	160.23	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>

CERTIFICATION:

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



George Mullen

Signature

Print Name

Sr. Reg. Specialist

george.mullen@shell.com

07/20/2016

(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.



12/20/2016
Date: mo. day yr.

GROUNDWATER PROTECTION DETERMINATION

Form GW-2



Groundwater Advisory Unit

Date Issued: 27 January 2016**GAU Number:** 149820**Attention:** SHELL WESTERN E&P
PO BOX 576
HOUSTON, TX 77001**Operator No.:** 774719**API Number:**
County: WINKLER
Lease Name: University 20
Lease Number:
Well Number: 1503H
Total Vertical Depth: 12300
Latitude: 31.714636
Longitude: -103.314819
Datum: NAD27**Purpose:** New Drill**Location:** Survey-UL; Abstract-U16; Block-20; Section-15

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 must be protected.

This recommendation is applicable to all wells within a radius of 200 feet of this location.

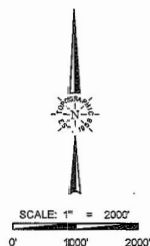
Note: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. This recommendation is for normal drilling, production, and plugging operations only. It does not apply to saltwater disposal operation into a nonproductive zone (RRC Form W-14).

This determination is based on information provided when the application was submitted on 01/26/2016. 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

UNIVERSITY 20 1503H
AS-DRILLED LOCATION
641.23 ACRES (MEASURED)
SECTIONS 15, 22 & 27, BLOCK 20, UNIVERSITY LAND SURVEY
WINKLER COUNTY, TEXAS

SHELL WESTERN
E&P

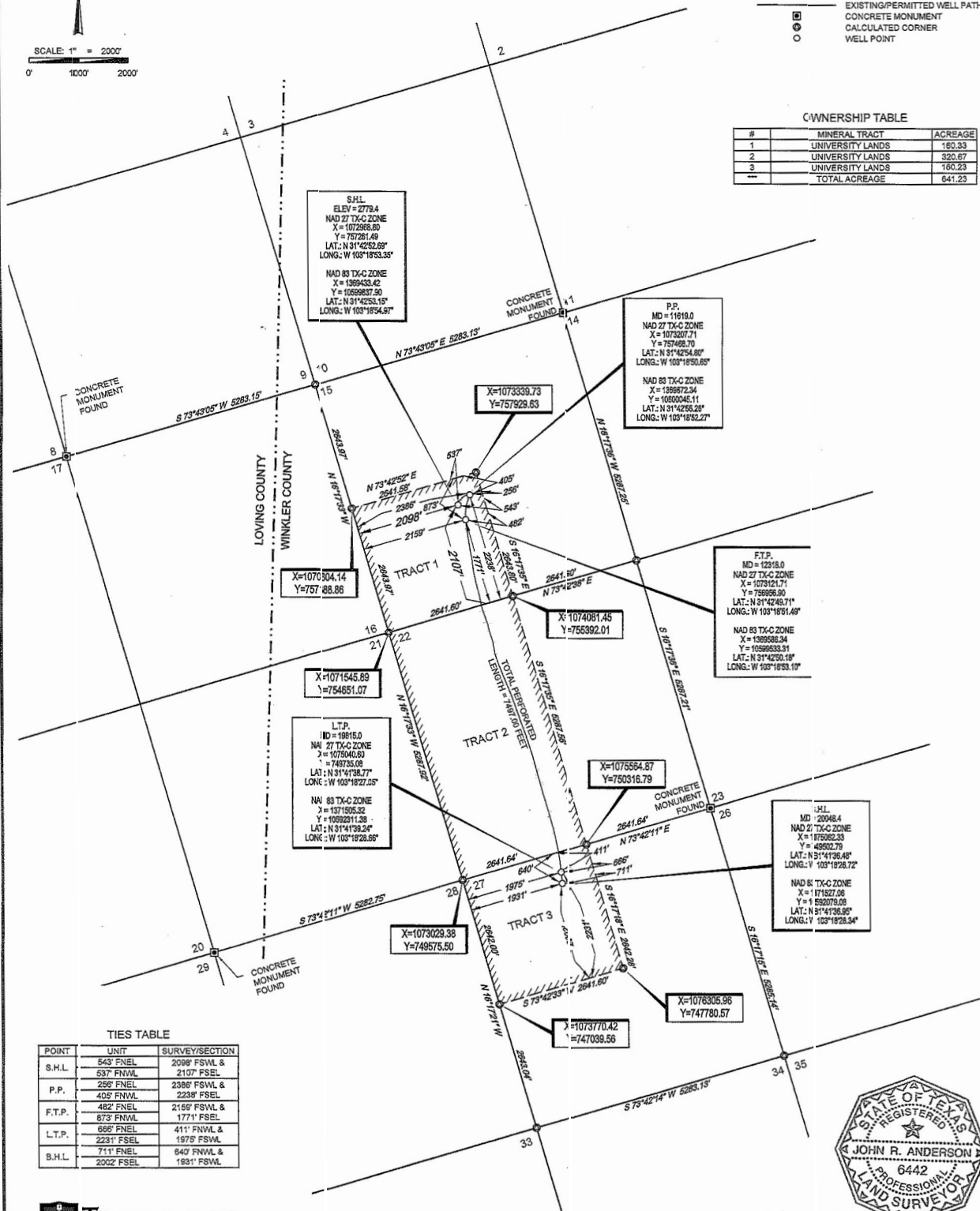


LEGEND

	UNIT BOUNDARY
	COUNTY LINE
	SURVEY/SECTION LINE
	PROPOSED WELL PATH
	EXISTING/PERMITTED WELL PATH
	CONCRETE MONUMENT
	CALCULATED CORNER
	WELL POINT

OWNERSHIP TABLE

#	MINERAL TRACT	ACREAGE
1	UNIVERSITY LANDS	160.33
2	UNIVERSITY LANDS	320.67
3	UNIVERSITY LANDS	160.23
TOTAL	TOTAL ACREAGE	641.23



TIES TABLE

POINT	UNIT	SURVEY/SECTION
S.H.L.	543' FSWL	2098' FSWL & 2107' FSEL
P.P.	405' FSWL	2588' FSWL & 2238' FSEL
F.T.P.	482' FSWL	2159' FSWL & 1771' FSEL
L.T.P.	665' FSWL	411' FSWL & 1978' FSWL
S.H.L.	711' FSWL	640' FSWL & 1891' FSWL

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 197 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX: (817) 744-7548
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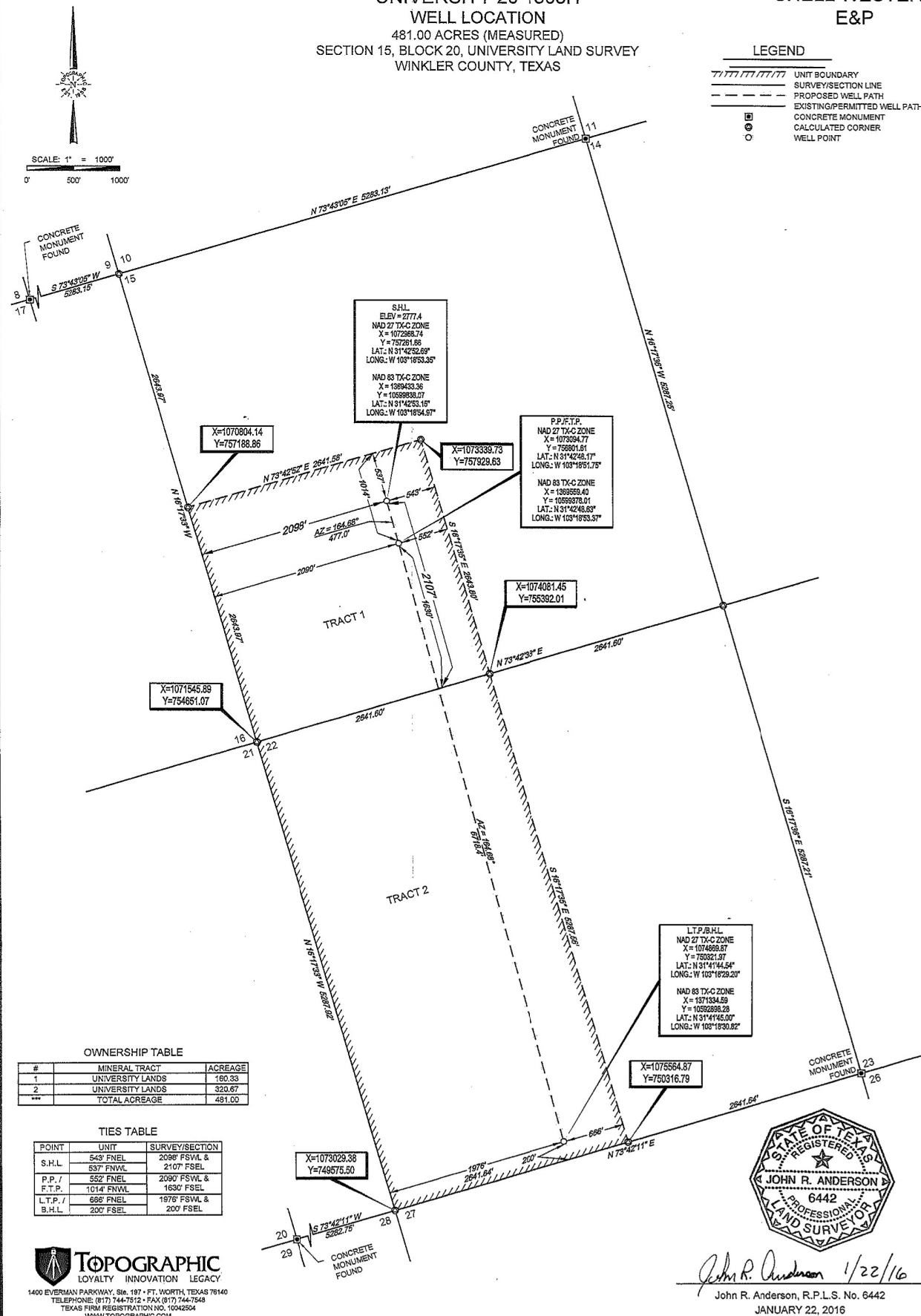
John R. Anderson 11/21/16
John R. Anderson, R.P.L.S. No. 6442
NOVEMBER 18, 2016

UNIVERSITY 20 1503H	REVISION:		NOTES:
	INT	DATE	
DATE: 11/18/2016			<p>NOTES CONT'D:</p> <p>1. THE LEASE AND WELL SHOWN HEREON ARE LOCATED APPROXIMATELY 49.5 MILES SOUTHWEST OF THE CITY/TOWNSHIP/MUNICIPALITY OF WINKLER WITHIN THE COUNTY OF WINKLER IN THE STATE OF TEXAS.</p> <p>2. THE AS-DRILLED SURFACE LOCATION HAS BEEN CAREFULLY SURVEYED ON THE GROUND DURING THE DATE OF APRIL 2, 2016, AT A GROUND LEVEL ELEVATION OF 2778.4 SURVEY FEET.</p> <p>3. THE SUBSURFACE WELL PATH DATA SHOWN HEREIN IS BASED ON INFORMATION PROVIDED BY SHELL WESTERN E&P OR ITS SUBSIDIARIES & AFFILIATES.</p> <p>4. S.H.L. = SURFACE HOLE LOCATION</p> <p>5. P.P. = POINT OF PENETRATION</p> <p>6. F.T.P. = FIRST TAKE POINT</p> <p>7. L.T.P. = LAST TAKE POINT</p> <p>8. B.H.L. = BOTTOM HOLE LOCATION</p>
FILE: AD_UNIVERSITY_20_1503_H			
DRAWN BY: MML			
SHEET: 1 OF 1			

SHELL WESTERN
E&P

LEGEND

=====	UNIT BOUNDARY
-----	SURVEY/SECTION LINE
- - - - -	PROPOSED WELL PATH
_____	EXISTING/PERMITTED WELL PATH
■	CONCRETE MONUMENT
⊙	CALCULATED CORNER
○	WELL POINT



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

John R. Anderson, R.P.L.S. No. 6442
JANUARY 22, 2016

UNIVERSITY 20 1503H	REVISION:	
	INT	DATE
DATE:	01/22/2016	
FILE:	LO_UNIVERSITY_20_1503_H	
DRAWN BY:	O.M.	
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
3. SECTION 125, UNLESS OTHERWISE NOTED
4. 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 PREVALENT OFFICIAL MURKUM STANDARD OF PRECISION FOR SURVEYING OF THE WESTERN EP. 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 ACCORDANCE WITH TEXAS STATUTE TITLE 63, CHAPTER 125, SUBCHAPTER 1, SECTION 125.001. THIS CERTIFICATION PLAT 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. THE SURVEY VALUE AND COORDINATE VALUES ARE BASED ON THE NATIONAL DATUM, BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), U.S. SURVEY FEET.
5. ALL MINERAL OWNERSHIP DATA HEREIN IS BASED ON INFORMATION PROVIDED BY SHELL

NOTES CONT'D:

6. THE LEASE AND WELL SHOWN HEREON ARE LOCATED APPROXIMATELY 49.5 MILES SOUTHWEST OF THE CITY/TOWNSHIP/MUNICIPALITY OF WINK WITHIN THE COUNTY OF WINKLER IN THE STATE OF TEXAS.
7. THE PRELIMINARY LOCATION HAS BEEN CAREFULLY SURVEYED ON THE GROUND DURING THE DATE OF JANUARY 13, 2016, AT A GROUND LEVEL ELEVATION OF 2777.4 SURVEY FEET.
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