



RAILROAD COMMISSION OF TEXAS

Form W-2

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

Status: Approved
Date: 03/29/2017
Tracking No.: 166983

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

OPERATOR INFORMATION

Operator Name: SHELL WESTERN E&P **Operator No.:** 774719
Operator Address: PO BOX 576 HOUSTON, TX 77001-0000

WELL INFORMATION

API No.: 42-495-33705 **County:** WINKLER
Well No.: 1503H **RRC District No.:** 08
Lease Name: UNIVERSITY 20 **Field Name:** PHANTOM (WOLFCAMP)
RRC Lease No.: 48296 **Field No.:** 71052900
Location: Section: 15, Block: 20, Survey: UL, Abstract: U16

Latitude: **Longitude:**
This well is located 9.5 **miles in a** SW
direction from WINK,
which is the nearest town in the county.

FILING INFORMATION

Purpose of filing: Initial Potential
Type of completion: New Well
Well Type: Producing **Completion or Recompletion Date:** 10/28/2016

<u>Type of Permit</u>	<u>Date</u>	<u>Permit No.</u>
Permit to Drill, Plug Back, or Deepen	01/26/2016	813467
Rule 37 Exception		
Fluid Injection Permit		
O&G Waste Disposal Permit		
Other:		

COMPLETION INFORMATION

Spud date: 07/25/2016 **Date of first production after rig released:** 10/28/2016
Date plug back, deepening, recompletion, or drilling operation commenced: 06/25/2016 **Date plug back, deepening, recompletion, or drilling operation ended:** 07/25/2016
Number of producing wells on this lease in this field (reservoir) including this well: 1 **Distance to nearest well in lease & reservoir (ft.):** 0.0
Total number of acres in lease: 641.23 **Elevation (ft.):** 2779 GL
Total depth TVD (ft.): 11990 **Total depth MD (ft.):** 20050
Plug back depth TVD (ft.): **Plug back depth MD (ft.):** 20050
Was directional survey made other than inclination (Form W-12)? Yes **Rotation time within surface casing (hours):** 86.0
Recompletion or reclass? No **Is Cementing Affidavit (Form W-15) attached?** Yes
Type(s) of electric or other log(s) run: Gamma Ray (MWD) **Multiple completion?** No
Electric Log Other Description:
Location of well, relative to nearest lease boundaries **Off Lease :** No
of lease on which this well is located: 543.0 **Feet from the** NE **Line and**
537.0 **Feet from the** NW **Line of the**
UNIVERSITY 20 **Lease.**

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

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

PACKET: N/A

W2: N/A

FOR NEW DRILL OR RE-ENTRY, SURFACE CASING DEPTH DETERMINED BY:

GAU Groundwater Protection Determination **Depth (ft.):** 300.0 **Date:** 01/27/2016
SWR 13 Exception **Depth (ft.):** 5001.0

INITIAL POTENTIAL TEST DATA FOR NEW COMPLETION OR RECOMPLETION

Date of test: 12/05/2016 **Production method:** Flowing
Number of hours tested: 24 **Choke size:** 14/64
Was swab used during this test? No **Oil produced prior to test:** 11698.00

PRODUCTION DURING TEST PERIOD:

Oil (BBLs): 92.00 **Gas (MCF):** 212
Gas - Oil Ratio: 2304 **Flowing Tubing Pressure:** 4321.00
Water (BBLs): 601

CALCULATED 24-HOUR RATE

Oil (BBLs): 92.0 **Gas (MCF):** 212
Oil Gravity - API - 60.: 43.0 **Casing Pressure:** 1101.00
Water (BBLs): 604

CASING RECORD

Row	Type of Casing	Casing Size (in.)	Hole Size (in.)	Setting Depth (ft.)	Multi - Stage Depth (ft.)	Multi - Stage Shoe Depth (ft.)	Cement Class	Cement Amount (sacks)	Slurry Volume (cu. ft.)	Top of Cement (ft.)	TOC Determined By
1	Surface	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

Row	Liner Size (in.)	Hole Size (in.)	Liner Top (ft.)	Liner Bottom (ft.)	Cement Class	Cement Amount (sacks)	Slurry Volume (cu. ft.)	Top of Cement (ft.)	TOC Determined By
1	4 1/2	6 1/8	11409	20050	50/50 POZ	790	982.0	11409	Calculation

TUBING RECORD

Row	Size (in.)	Depth (ft.)	Packer Depth (ft.)/Type
1	2 7/8	11367	11342 / 7" VERSASET

PRODUCING/INJECTION/DISPOSAL INTERVAL

Row	Open hole?	From (ft.)	To (ft.)
1	No	L1 12318	19815.0

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

Was hydraulic fracturing treatment performed? Yes

Is well equipped with a downhole actuation sleeve? No **If yes, actuation pressure (PSIG):** 8455.0

Production casing test pressure (PSIG) prior to hydraulic fracturing treatment: 9500 **Actual maximum pressure (PSIG) during hydraulic fracturing:** 10391

Has the hydraulic fracturing fluid disclosure been reported to FracFocus disclosure registry (SWR29)? Yes

Row	Type of Operation	Amount and Kind of Material Used	Depth Interval (ft.)
1	Fracture	WELL DATA HAS BEEN UPLOADED INTO FRAC FOCUS.	12318 19815

FORMATION RECORD

<u>Formations</u>	<u>Encountered</u>	<u>Depth TVD (ft.)</u>	<u>Depth MD (ft.)</u>	<u>Is formation isolated?</u>	<u>Remarks</u>
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	No			No	FORMATION NOT GEOLOGICALLY PRESENT
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 (SWR 36)? No

Is the completion being downhole commingled (SWR 10)? No

REMARKS

THIS FILLING FOR IP AND UPDATING P4. PLEASE SEE PACKET 163993 FOR ALL OTHER REQUIRED ATTACHMENTS.

RRC REMARKS

PUBLIC COMMENTS:

[RRC Staff 2017-01-09 12:04:53.536] 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 Name: Maureen Kovacic

Title: Regulatory Specialist

Telephone No.: (832) 337-0953

Date Certified: 01/04/2017



RAILROAD COMMISSION OF TEXAS

1701 N. Congress
P.O. Box 12067
Austin, Texas 78701-2067

Form W-15

Rev. 09/2014

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 No.:
Field Name: Phantom (Wolfcamp)		

II CASING CEMENTING DATA

Type of casing: <input type="checkbox"/> Conductor <input checked="" type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Liner <input type="checkbox"/> Production		
Drilled hole size (in.): 12 1/4	Depth of drilled hole (ft.): 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? <input checked="" type="checkbox"/> YES <input type="checkbox"/> 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	15566
2	500	C	BENTONITE, HR-800	668	2025
3					
Total	3180			5723	17611

III CASING CEMENTING DATA

Type of casing: <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Production <input type="checkbox"/> Tapered production <input type="checkbox"/> Multi-stage cement shoe <input type="checkbox"/> Multiple parallel strings		
Drilled hole size (in.):	Depth of drilled hole (ft.):	Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.):	Casing weight (lbs/ft) and grade:	No. of centralizers used:
Tapered string drilled hole size (in.) Upper: Lower:	Tapered string depth of drilled hole (ft.) Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	Tapered string casing weight (lbs/ft) and grade Upper: Lower:	Tapered string no. of centralizers used Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input type="checkbox"/> YES <input type="checkbox"/> NO	Setting depth shoe (ft.):	
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.):	Cementing date:

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total	0			0	0

III CASING CEMENTING DATA

Type of casing: <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Production <input type="checkbox"/> Tapered production <input type="checkbox"/> Multi-stage cement/DV tool <input type="checkbox"/> Multiple parallel strings		
Drilled hole size (in.):	Depth of drilled hole (ft.):	Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.):	Casing weight (lbs/ft) and grade:	No. of centralizers used:
Tapered string drilled hole size (in.) Upper: Lower:	Tapered string depth of drilled hole (ft.) Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	Tapered string casing weight (lbs/ft) and grade Upper: Lower:	Tapered string no. of centralizers used Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input type="checkbox"/> YES <input type="checkbox"/> NO	Setting depth tool (ft.):	
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.):	Cementing date:

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total	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 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?si=R&app=9&p_dir=&p_floc=&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?si=R&app=9&p_dir=&p_floc=&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

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

Form W-15

Rev. 08/2014

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

CEMENTING REPORT

OPERATOR INFORMATION

Operator Name: SHELL WESTERN	Operator P-5 No.: 774719
Cementer Name: HALLIBURTON ENERGY SERVICES	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 (Woficamp)	Field No.:	

I. CASING CEMENTING DATA

Type of casing: <input type="checkbox"/> Conductor <input type="checkbox"/> Surface <input checked="" type="checkbox"/> Intermediate <input type="checkbox"/> Liner <input type="checkbox"/> Production		
Drilled hole size (in.): 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? <input type="checkbox"/> YES <input checked="" type="checkbox"/> 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: <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Production <input type="checkbox"/> Tapered production <input type="checkbox"/> Multi-stage cement shoe <input type="checkbox"/> Multiple parallel strings		
Drilled hole size (in.):	Depth of drilled hole (ft.):	Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.):	Casing weight (lbs/ft) and grade:	No. of centralizers used:
Tapered string drilled hole size (in.) Upper: Lower:	Tapered string depth of drilled hole (ft.) Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	Tapered string casing weight (lbs/ft) and grade Upper: Lower:	Tapered string no. of centralizers used Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input type="checkbox"/> YES <input type="checkbox"/> NO	Setting depth shoe (ft.):	
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.):	Cementing date:

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total	0			0	0

III. CASING CEMENTING DATA

Type of casing: <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Production <input type="checkbox"/> Tapered production <input type="checkbox"/> Multi-stage cement/DV tool <input type="checkbox"/> Multiple parallel strings		
Drilled hole size (in.):	Depth of drilled hole (ft.):	Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.):	Casing weight (lbs/ft) and grade:	No. of centralizers used:
Tapered string drilled hole size (in.) Upper: Lower:	Tapered string depth of drilled hole (ft.) Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	Tapered string casing weight (lbs/ft) and grade Upper: Lower:	Tapered string no. of centralizers used Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input type="checkbox"/> YES <input type="checkbox"/> NO	Setting depth tool (ft.):	
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.):	Cementing date:

SLURRY

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

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.

LOUIS GENOVESI SERVICE SUPERVISOR

Halliburton

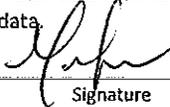


Name and title of cementer's representative	Cementing Company	Signature	
6155 W. Murphy St.	Odessa, TX, 79763	432-571-8600	07-10-16
Address	City, State, Zip Code	Tel: Area Code Number	Date: mo. day yr.

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	832-33-0953	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

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

Form W-15

Rev. 08/2014

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

CEMENTING REPORT

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: <input type="checkbox"/> Conductor <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input checked="" type="checkbox"/> Liner <input type="checkbox"/> Production		
Drilled hole size (in.): 6 1/8"	Depth of drilled hole (ft.): 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? <input checked="" type="checkbox"/> YES <input type="checkbox"/> 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: <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Production <input type="checkbox"/> Tapered production <input type="checkbox"/> Multi-stage cement shoe <input type="checkbox"/> Multiple parallel strings		
Drilled hole size (in.):	Depth of drilled hole (ft.):	Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.):	Casing weight (lbs/ft) and grade:	No. of centralizers used:
Tapered string drilled hole size (in.) Upper: Lower:	Tapered string depth of drilled hole (ft.) Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	Tapered string casing weight (lbs/ft) and grade Upper: Lower:	Tapered string no. of centralizers used Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input type="checkbox"/> YES <input type="checkbox"/> NO	Setting depth shoe (ft.):	
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.):	Cementing date:

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total	0			0	0

III. CASING CEMENTING DATA

Type of casing: <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Production <input type="checkbox"/> Tapered production <input type="checkbox"/> Multi-stage cement/DV tool <input type="checkbox"/> Multiple parallel strings		
Drilled hole size (in.):	Depth of drilled hole (ft.):	Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.):	Casing weight (lbs/ft) and grade:	No. of centralizers used:
Tapered string drilled hole size (in.) Upper: Lower:	Tapered string depth of drilled hole (ft.) Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	Tapered string casing weight (lbs/ft) and grade Upper: Lower:	Tapered string no. of centralizers used Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input type="checkbox"/> YES <input type="checkbox"/> NO	Setting depth tool (ft.):	
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.):	Cementing date:

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total	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 CACULATED 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&r=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&r=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:

Well No: 1503H

City: HOUSTON

Sec: 15 **Block:** 20

State: TX

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.	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-

**CERTIFICATE OF COMPLIANCE
 AND TRANSPORTATION AUTHORITY**

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

Tracking No.: 166983

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
8. Operator address including city, state, and zip code PO BOX 576 HOUSTON, TX 77001		9. Well no(s) (see instruction E) 1503H		7. RRC district 08
		10. Classification <input checked="" type="checkbox"/> Oil <input type="checkbox"/> Gas <input type="checkbox"/> Other (see instruction A)		11. Effective Date 10/28/2016
12. Purpose of Filing. (Complete section a or b below.) (See instructions B and G)				
a. Change of: <input type="checkbox"/> operator <input type="checkbox"/> oil or condensate gatherer <input type="checkbox"/> gas gatherer <input type="checkbox"/> gas purchaser <input type="checkbox"/> gas purchaser system code <input type="checkbox"/> field name from _____ <input type="checkbox"/> lease name from _____				
----- OR -----				
b. New RRC Number for: <input checked="" type="checkbox"/> oil lease <input type="checkbox"/> gas well <input type="checkbox"/> other well (specify) _____ Due to: <input checked="" type="checkbox"/> new completion or recompletion <input type="checkbox"/> reclass oil to gas <input type="checkbox"/> reclass gas to oil <input type="checkbox"/> consolidation, unitization, or subdivision (oil lease only)				
13. Authorized GAS WELL GAS or CASINGHEAD GAS Gatherer(s) and/or Purchaser(s). (See instruction G).				
Gatherer	Purchaser	Name of GAS WELL GAS or CASINGHEAD GAS Gatherer(s) or Purchaser(s) As Indicated in Columns to the Left (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		REGENCY FIELD SERVICES LLC(698769)		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>03/29/2017</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.				
Name of Previous Operator		Signature		
Name (print)		<input type="checkbox"/> Authorized Employee of previous operator		<input type="checkbox"/> Authorized agent of previous operator (see instruction G)
Title		Date		Phone with area code
16. CURRENT OPERATOR CERTIFICATION. By signing this certificate as the Current Operator, I certify that all statements on this form are true and correct and I acknowledge responsibility for the regulatory compliance of the subject lease including plugging of well(s) pursuant to Rule 14. I further acknowledge that I assume responsibility for the physical operation, control, and proper plugging of each well designated in this filing. I also acknowledge that I will remain designated as the Current Operator until a new certificate designating a new Current Operator is approved by the Commission.				
SHELL WESTERN E&P		Maureen Kovacic		
Name (print)		Signature		
Regulatory Specialist		<input checked="" type="checkbox"/> Authorized Employee of current operator		<input type="checkbox"/> Authorized agent of current operator (see instruction G)
Title		Date		Phone with area code
maureen.kovacic@shell.com		01/09/2017		(832) 337-0953
E-mail Address (optional)		Date		Phone with area code

**CERTIFICATE OF
 POOLING AUTHORITY**

P-12

Revised 05/2001

1. Field Name(s) Phantom (Wolfcamp)	2. Lease/ID Number (if assigned)	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

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.





RAILROAD COMMISSION OF TEXAS

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

Form P-16

Page 1

Rev. 01/2016

Acres Designation

SECTION I. OPERATOR INFORMATION

Operator Name: Shell Western E&P Operator P-5 No.: 774719
Operator Address: 150 N. Dairy Ashford

SECTION II. WELL INFORMATION

District No.: 08 County: Winkler Purpose of Filing:
Well No.: 1503H API No.: 42-495-33705
Total Lease Acres: 641.23 Drilling Permit No.: 813467
Lease Name: University 20 Lease No.: 48296 Completion Report (Form G-1/W-2)
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.

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

Table with 8 columns: 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)

Summary table for well counts and acreage: Total Well Count > 1, Total Assigned Horiz. Acreage < 641.23, Total Assigned Acreage < 641.23

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

Empty box for remarks and purpose of filing.

Attach Additional Pages As Needed. [X] No additional pages [] Additional Pages: (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: Maureen Kovacic, Regulatory Specialist maureen.kovacic@shell.com
Name and title (type or print) Email (include email address only if you affirmatively consent to its public release)

150 N. Dairy Ashford Houston TX 77079 832-337-0953 03/29/2017
Address City, State, Zip Code Tel: Area Code Number 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	API Number:	
Operator No.:	774719	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

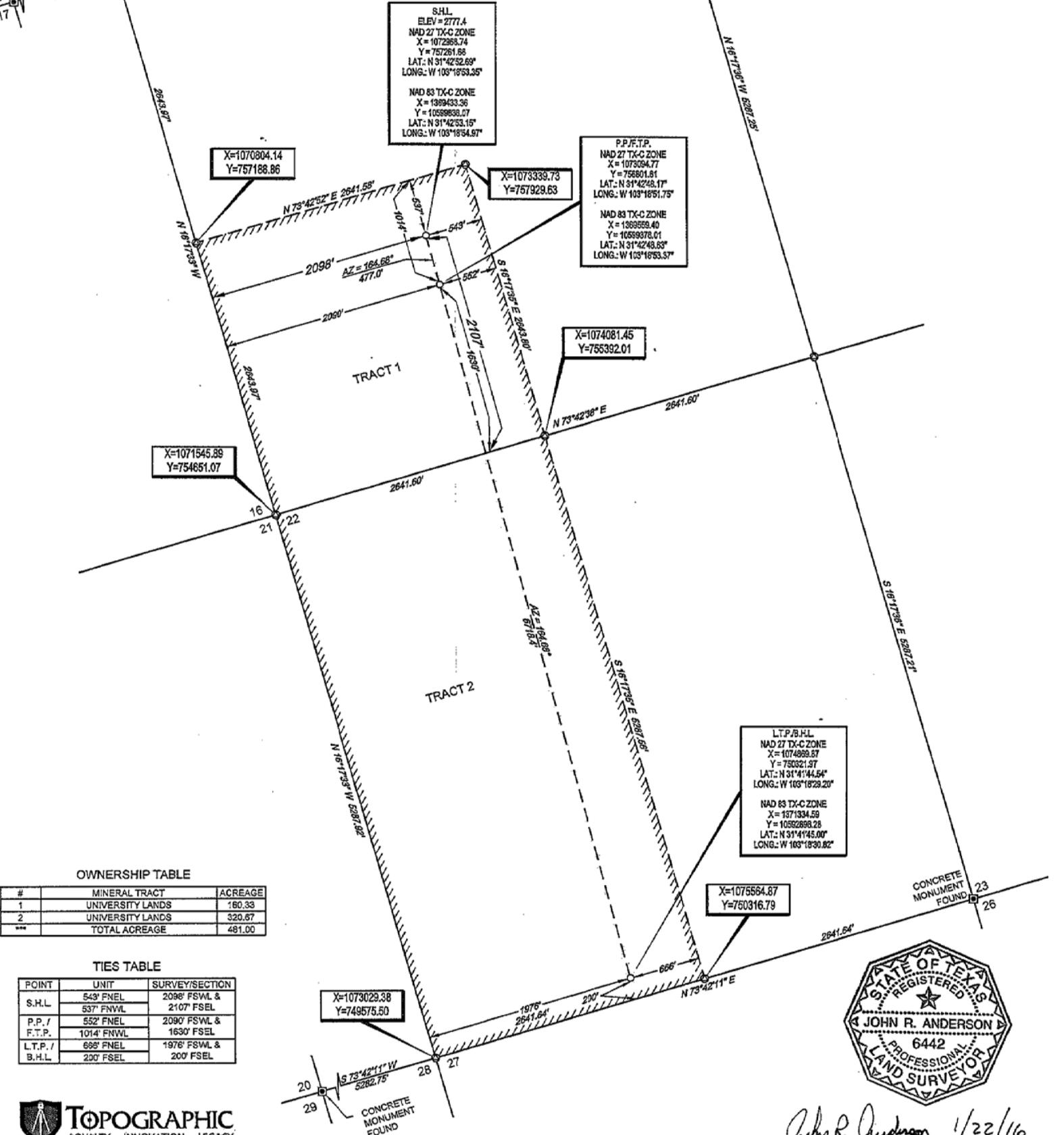
UNIVERSITY 20 1503H
WELL LOCATION

481.00 ACRES (MEASURED)
SECTION 15, BLOCK 20, UNIVERSITY LAND SURVEY
WINKLER COUNTY, TEXAS

SHELL WESTERN
E&P

LEGEND

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



OWNERSHIP TABLE

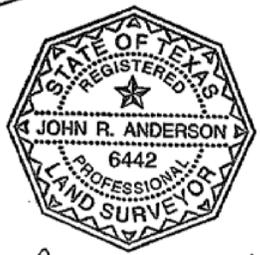
#	MINERAL TRACT	ACREAGE
1	UNIVERSITY LANDS	160.33
2	UNIVERSITY LANDS	320.67
***	TOTAL ACREAGE	481.00

TIES TABLE

POINT	UNIT	SURVEY/SECTION
S.H.L.	543' FNEL	2098' FSWL & 2107' FSEL
P.P./	552' FNEL	2090' FSWL & 1630' FSEL
F.T.P.	1014' FNWL	1630' FSEL
L.T.P./	685' FNEL	1976' FSWL & 200' FSEL
B.H.L.	230' FSEL	200' FSEL

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY

1400 EVERMAN PARKWAY, Ste. 197 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX: (817) 744-7543
TEXAS FIRM REGISTRATION NO. 10042504
WWW.TOPOGRAPHIC.COM



John R. Anderson 1/22/16
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:

- ORIGINAL DOCUMENT SIZE: 11" X 17"
- 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.
- THIS LOCATION AND/OR UNITLEASE 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.S.P.L.S. MINIMUM STANDARDS OF PROCEDURES FOR BOUNDARY SURVEYS. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.
- ALL ELEVATION VALUES CONTAINED HEREIN ARE ORTHOMETRIC ONLY, BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), U.S. SURVEY FEET.
- ALL MINERAL OWNERSHIP DATA SHOWN HEREIN IS BASED ON INFORMATION PROVIDED BY SHELL WESTERN E&P OR ITS SUBSIDIARIES & AFFILIATES.

NOTES CONT'D:

- THE LEASE AND WELL SHOWN HEREON ARE LOCATED APPROXIMATELY 4.5 MILES SOUTHWEST OF THE CITY/TOWNSHIP/MUNICIPALITY OF WINK IN THE COUNTY OF WINKLER IN THE STATE OF TEXAS.
- 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.
- S.H.L. = SURFACE HOLE LOCATION
- P.P. = POINT OF PENETRATION
- F.T.P. = FIRST TAKE POINT
- L.T.P. = LAST TAKE POINT
- B.H.L. = BOTTOM HOLE LOCATION

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

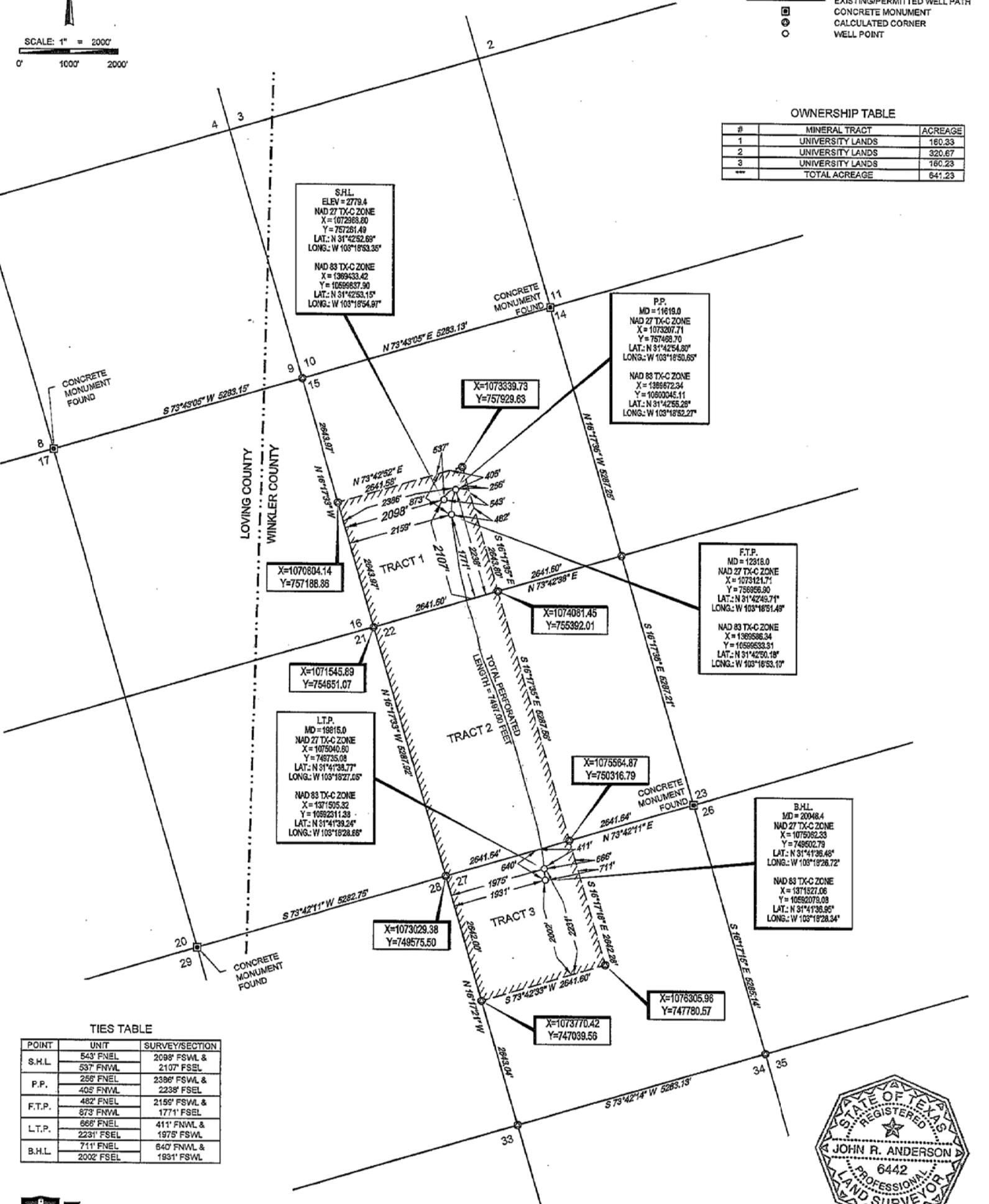
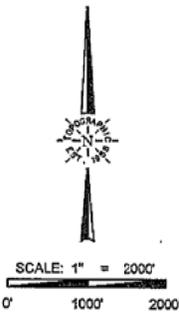
SHELL WESTERN
E&P

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 ACREAGE	641.23



S.H.L.
 ELEV = 2779.4
 NAD 27 TX-C ZONE
 X = 1072968.80
 Y = 757281.49
 LAT.: N 31°42'52.69"
 LONG.: W 103°18'53.35"

 NAD 83 TX-C ZONE
 X = 1369433.42
 Y = 10599837.98
 LAT.: N 31°42'53.15"
 LONG.: W 103°18'54.97"

P.P.
 MD = 11619.0
 NAD 27 TX-C ZONE
 X = 1073207.71
 Y = 757498.70
 LAT.: N 31°42'54.80"
 LONG.: W 103°18'50.65"

 NAD 83 TX-C ZONE
 X = 1369572.34
 Y = 10600045.11
 LAT.: N 31°42'55.28"
 LONG.: W 103°18'52.27"

F.T.P.
 MD = 12318.0
 NAD 27 TX-C ZONE
 X = 1073121.71
 Y = 756956.90
 LAT.: N 31°42'49.71"
 LONG.: W 103°18'51.49"

 NAD 83 TX-C ZONE
 X = 1369586.34
 Y = 10599833.31
 LAT.: N 31°42'50.18"
 LONG.: W 103°18'53.10"

L.T.P.
 MD = 19816.0
 NAD 27 TX-C ZONE
 X = 1075040.60
 Y = 748735.08
 LAT.: N 31°41'38.77"
 LONG.: W 103°18'27.05"

 NAD 83 TX-C ZONE
 X = 1371505.32
 Y = 10592231.33
 LAT.: N 31°41'39.24"
 LONG.: W 103°18'28.66"

B.H.L.
 MD = 20048.4
 NAD 27 TX-C ZONE
 X = 1075062.33
 Y = 749602.79
 LAT.: N 31°41'36.48"
 LONG.: W 103°18'28.72"

 NAD 83 TX-C ZONE
 X = 1371527.08
 Y = 10592079.08
 LAT.: N 31°41'38.95"
 LONG.: W 103°18'28.34"

TIES TABLE

POINT	UNIT	SURVEY/SECTION
S.H.L.	543' FENL & 537' FNWL	2098' FSWL & 2107' FSEL
P.P.	256' FENL & 405' FNWL	2386' FSWL & 2238' FSEL
F.T.P.	482' FENL & 873' FNWL	2159' FSWL & 1771' FSEL
L.T.P.	666' FENL & 2231' FSEL	411' FNWL & 1975' FSWL
B.H.L.	711' FENL	640' FNWL & 1931' FSWL



John R. Anderson 11/21/16
 John R. Anderson, R.P.L.S. No. 6442
 NOVEMBER 18, 2016

TOPOGRAPHIC
 LOYALTY INNOVATION LEGACY
 1400 EVERMAN PARKWAY, Ste. 197 • FT. WORTH, TEXAS 76140
 TELEPHONE: (817) 744-7512 • FAX: (817) 744-7543
 TEXAS FIRM REGISTRATION NO. 10042504
 WWW.TOPOGRAPHIC.COM

UNIVERSITY 20 1503H	REVISION:	
	INT	DATE
DATE: 11/18/2016		
FILE: AD_UNIVERSITY_20_1503_H		
DRAWN BY: MML		
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 T.P.L.S. MINIMUM STANDARDS OF PROCEDURES FOR BOUNDARY SURVEYS. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.
4. ALL ELEVATION VALUES CONTAINED HEREIN 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 CONTD:

6. THE LEASE AND WELL SHOWN HEREON ARE LOCATED APPROXIMATELY 49.5 MILES SOUTHWEST OF THE CITY/TOWNSHIP/MUNICIPALITY OF WINK IN THE COUNTY OF WINKLER IN THE STATE OF TEXAS.
7. 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 2776.4 SURVEY FEET.
8. THE SUBSURFACE WELL PATH DATA SHOWN HEREIN IS BASED ON INFORMATION PROVIDED BY SHELL WESTERN E&P OR ITS SUBSIDIARIES & AFFILIATES.
9. S.H.L. = SURFACE HOLE LOCATION
10. P.P. = POINT OF PENETRATION
11. F.T.P. = FIRST TAKE POINT
12. L.T.P. = LAST TAKE POINT
13. B.H.L. = BOTTOM HOLE LOCATION