



RAILROAD COMMISSION OF TEXAS

Form W-2

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

Status: Approved
Date: 10/16/2019
Tracking No.: 217847

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.: 42-495-34183 County: WINKLER
Well No.: 2503H RRC District No.: 08
Lease Name: UNIVERSITY 20 PW Field Name: PHANTOM (WOLFCAMP)
RRC Lease No.: 52243 Field No.: 71052900
Location: Section: 36, Block: 20, Survey: UL, Abstract: U31

Latitude: 31 Longitude: -103
This well is located 7.5 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: 05/29/2019

Type of Permit Date Permit No.
Permit to Drill, Plug Back, or Deepen 10/22/2018 841786
Rule 37 Exception
Fluid Injection Permit
O&G Waste Disposal Permit
Other:

COMPLETION INFORMATION

Spud date: 12/15/2018 Date of first production after rig released: 05/29/2019
Date plug back, deepening, recompletion, or drilling operation commenced: 12/15/2018 Date plug back, deepening, recompletion, or drilling operation ended: 02/17/2019
Number of producing wells on this lease in this field (reservoir) including this well: 3 Distance to nearest well in lease & reservoir (ft.): 660.0
Total number of acres in lease: 640.46 Elevation (ft.): 2772 GL
Total depth TVD (ft.): 11857 Total depth MD (ft.): 16725
Plug back depth TVD (ft.): Plug back depth MD (ft.):
Was directional survey made other than inclination (Form W-12)? Yes Rotation time within surface casing (hours): 57.0
Is Cementing Affidavit (Form W-15) attached? Yes
Recompletion or reclass? No Multiple completion? No
Type(s) of electric or other log(s) run: Gamma Ray (MWD)
Electric Log Other Description:
Location of well, relative to nearest lease boundaries Off Lease : No
of lease on which this well is located: 1318.0 Feet from the NE Line and
489.0 Feet from the NW Line of the
UNIVERSITY 20 PW 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.): 200.0 Date: 07/12/2018
SWR 13 Exception	Depth (ft.): 4950.0

INITIAL POTENTIAL TEST DATA FOR NEW COMPLETION OR RECOMPLETION	
Date of test: 06/21/2019	Production method: Flowing
Number of hours tested: 24	Choke size: 26/64
Was swab used during this test? No	Oil produced prior to test: 11146.00
PRODUCTION DURING TEST PERIOD:	
Oil (BBLs): 574.00	Gas (MCF): 435
Gas - Oil Ratio: 757	Flowing Tubing Pressure: 1320.00
Water (BBLs): 2294	
CALCULATED 24-HOUR RATE	
Oil (BBLs): 574.0	Gas (MCF): 435
Oil Gravity - API - 60.: 41.2	Casing Pressure: 920.00
Water (BBLs): 2294	

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	5012	354		CLASS C	3133	5687.0	0	Circulated to Surface
2	Intermediate	7 5/8	8 3/4	11270			CLASS C AND H	328	988.0	4012	Calculation
3	Tapered Production	5 1/2	6 3/4	16710			CLASS H	839	1038.0	10270	Calculation
4	Tapered Production	4 1/2	6 3/4	16710			CLASS H	839	1038.0	10270	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
N/A									

TUBING RECORD			
Row	Size (in.)	Depth	Size (ft.)
1	2 7/8	11365	
			11337 / HALLIBURTON VERSASET

PRODUCING/INJECTION/DISPOSAL INTERVAL			
Row	Open hole?	From (ft.)	To (ft.)
1	No	L1 11765	16569.0

ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC.			
Was hydraulic fracturing treatment performed?		Yes	
Is well equipped with a downhole actuation sleeve?		If yes, actuation pressure (PSIG): 9306.0	
Production casing test pressure (PSIG) prior to hydraulic fracturing treatment: 9500		Actual maximum pressure (PSIG) during hydraulic fracturing: 9576	
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.)
N/A			

FORMATION RECORD					
Formations	Encountered	Depth TVD (ft.)	Depth MD (ft.)	Is formation isolated?	Remarks
RUSTLER - POSSIBLE FLOW; POSSIBLE USABLE QUALITY W	No			No	FORMATION NOT ENCOUNTERED IN THIS PART OF COUNTY
COLBY-QUEEN	No			No	
YATES	No			No	
QUEEN-SEVEN RIVERS	No			No	
SAN ANDRES - HIGH FLOWS, H2S, CORROSIVE	No			No	
HOLT	No			No	FORMATION NOT ENCOUNTERED IN THIS PART OF COUNTY
DELAWARE	Yes	2230.0	5078.0	Yes	
GLORIETA	No			No	
CLEARFORK	No			No	
WICHITA ALBANY	No			No	
BRUSHY CANYON	Yes	4445.0	7300.0	Yes	FORMATION NOT ENCOUNTERED IN THIS PART OF COUNTY
CHERRY CANYON	Yes	3179.0	6032.0	Yes	
CANYON	No			No	
BONE SPRINGS	Yes	5658.0	8514.0	Yes	
MONTOYA	No			No	
WADDELL	No			No	FORMATION NOT ENCOUNTERED IN THIS PART OF COUNTY
WOLFCAMP	Yes	11579.0	11667.0	Yes	
ATOKA	No			No	
STRAWN	No			No	

PENNSYLVANIAN	No	No	FORMATION BELOW WELLBORE DEPTH
MISSISSIPPIAN	No	No	FORMATION BELOW WELLBORE DEPTH
DEVONIAN	No	No	FORMATION BELOW WELLBORE DEPTH
SILURIAN	No	No	FORMATION BELOW WELLBORE DEPTH
FUSSELMAN	No	No	FORMATION BELOW WELLBORE DEPTH
ELLENBURGER	No	No	FORMATION BELOW WELLBORE DEPTH

Do the producing interval of this well produce H2S with a concentration in excess of 100 ppm (SWR 36)?

Is the completion being downhole commingled (SWR 10)?

No

No

REMARKS

PP @ 11,234'

KOP @ 11,400'

RRC REMARKS

PUBLIC COMMENTS:

[RRC Staff 2019-10-04 14:00:24.991] EDL=4800 feet, max acres=704, PHANTOM (WOLFCAMP) oil or gas well;

take points: 11765-16569 feet

CASING RECORD :

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

TAPERED PRODUCTION SHARES SAME W-15 (ONE CEMENT JOB). CROSSOVER FROM 5 1/2 TO 4 1/2 @ 11,371'

TUBING RECORD:

PRODUCING/INJECTION/DISPOSAL INTERVAL :

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

POTENTIAL TEST DATA:

OPERATOR'S CERTIFICATION

Printed Name: Audrey Montalbano

Telephone No.: (281) 578-3388

Title: Regulatory Manager

Date Certified: 07/16/2019

CHRISTI CRADDICK, CHAIRMAN
RYAN SITTON, COMMISSIONER
WAYNE CHRISTIAN, COMMISSIONER



DANNY SORRELLS
DIRECTOR, OIL AND GAS DIVISION
JEFFREY MORGAN
DISTRICT DIRECTOR

RAILROAD COMMISSION OF TEXAS OIL AND GAS DIVISION

OPERATOR Name: SHELL WESTERN E&P

RE: Lease: UNIVERSITY 20 PW

Address1: PO BOX 576

Address2:

City: HOUSTON

State: TX

Well No: 2503H

Sec: 36 **Block:** 20

County: WINKLER

Survey Name: UL

SWR13EX Application Number: 44442

Drilling Permit No: 841786

SWR 13 CASING EXCEPTION APPLICATION/ALTERNATIVE REQUEST APPROVED

The Proposed Casing and Cementing Program submitted for the **LEASE NAME:** UNIVERSITY 20 PW ;
WELL NUMBER: 2503H 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 4950 feet of surface casing with a multistage tool set at a depth of not less than 350 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 cement be circulated from the tool to the surface.

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

The multistage tool is only included as a contingency measure to achieve cement returns to surface. Notify the Midland District Office immediately if any gas, H₂S or otherwise, is encountered before surface casing is set. Operator must not drill into or set casing in the Delaware formation.

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 10/24/2018 .
If any information has changed, you must contact the appropriate Railroad Commission of Texas District Office, and submit a new application if applicable. If you have questions, please contact the appropriate Oil and Gas District office.

RRC APPROVAL BY: Kolby Durham

DATE: 11/05/2018

JEFFREY MORGAN

DISTRICT DIRECTOR



RAILROAD COMMISSION OF TEXAS

1701 N. Congress

P.O. Box 12967

Austin, Texas 78701-2967

Form W-15

Rev. 08/2014

CEMENTING REPORT

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

OPERATOR INFORMATION

Operator Name: SHELL WESTERN E&P

Operator P-5 No.: 774719

Cementer Name: BJ Services, LLC

Cementer P-5 No.: 072507

WELL INFORMATION

District No.: 08

County: WINKLER

Well No.: 2503 H

API No.: 42-495-34183

Drilling Permit No.: 841786

Lease Name: UNIVERSITY 20 PW

Lease No.:

Field Name: PHANTOM (WOLFCAMP)

Field No.: 71052900

I. CASING CEMENTING DATA

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

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

Depth of drilled hole (ft.): 5024'

Est. % wash-out or hole enlargement: 20%

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

Casing weight (lbs/ft) and grade: 40/J-55

No. of centralizers used: 32

Was cement circulated to ground surface (or bottom of cellar) outside casing? ☒ YES ☐ NO If no for surface casing, explain in Remarks.

Setting depth shoe (ft.):

Top of liner (ft.):

5012'

Setting depth liner (ft.):

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

Calculated top of cement (ft.): 0'

Cementing date: 12/18/18

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	2637	C	SEE REMARKS	5028	16044
2	496	C	SEE REMARKS	659	2097
3					
Total	3133	C	SEE REMARKS	5687	18141

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					

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					

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 SLURRY 35/65/4 C+0.50%SMS+5.00%SALT+0.85%R-3+0.005#STATIC FREE+0.01GPS FP-6L
TAIL SLURRY C+0.15%SMS+0.45%R-3+0.005#STATIC FREE+0.01GPS FP-6L

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.

Vivian Munoz Field Specialist I

BJ SERVICES, LLC

Name and title of cementer's representative

Cementing Company

Signature

11211 FM 2920 RD.

TOMBALL, TEXAS 77375

(281) 408-2361

12/18/18

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.

Michael Boutwell

Regulatory Specialist

Signature

Typed or printed name of operator's representative

Title

150 N. Dairy Ashford

Houston, TX 77079

832-337-0258

07/10/19

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.

- 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.
- 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).
- 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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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-5 No.: 774719

Cementer Name: BJ SERVICES, LLC

Cementer P-5 No.: 072507

WELL INFORMATION

District No.: 08

County: WINKLER

Well No.: 2503H

API No.: 42495341830000

Drilling Permit No.: 841786

Lease Name: UNIVERSITY 20 PW

Lease No.:

Field Name: PHANTOM (WOLFCAMP)

Field No.: 71052900

I. CASING CEMENTING DATA

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

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

Depth of drilled hole (ft.): 11,285'

Est. % wash-out or hole enlargement: 10%

Size of casing in O.D. (in.): 7 5/8

Casing weight (lbs/ft) and grade: 29.7/L-80

No. of centralizers used: 0

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.):
11,270'

Top of liner (ft.):

Setting depth liner (ft.):

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

Calculated top of cement (ft.): 4012'

Cementing date: 01/05/2019

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	165	C	SEE REMARK #1	787	7.580
2	163	H	SEE REMARK #2	201	1.771
3					
Total	328			988	9.351

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					

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					

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

REMARKS
REMARK #1: C65/35POZ+ 10% BENTONITE+ 10 LB/SK BA-90+ 5 LB/SK CSE-2+ 5% A-10+ 0.8% FL-52+ 0.4% ASA-301+ 0.5% CD-32+ 3% SMS+ 2.8% R-3+ 0.25 LB/SK CELLOFLAKE+ 0.005 LB/SK STATIC FREE+ 0.01 GAL/SK FP-6L. REMARK #2: H50/50POZ+ 2% BENTONITE+ 0.5% FL-66+ 0.35% CD-32A+ 0.35% SMS+ 0.35% R-21+ 0.005 LB/SK STATIC FREE+ 0.01 GAL/SK FP-6L.

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

JESUS ALFREDO ESPARZA

BJ SERVICES, LLC

Alfredo Esparza
Signature

Name and title of cementer's representative

Cementing Company

11211 FM 2920 RD.

TOMBALL, TX 77375

(281) 408-2361

01/05/2019

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.

Michael Boutwell

Regulatory Specialist

Michael Boutwell
Signature

Typed or printed name of operator's representative

Title

150 N. Dairy Ashford

Houston, TX 77079

832-337-0258

07/10/19

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.

- 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.
- 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).
- 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/DV tool. 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.



RAILROAD COMMISSION OF TEXAS

1701 N. Congress

P.O. Box 12967

Austin, Texas 78701-2967

CEMENTING REPORT

Form W-15

Rev. 08/2014

Cementer: Fill in shaded areas.

Operator: Fill in other items.

OPERATOR INFORMATION						
Operator Name: SHELL WESTERN E&P			Operator P-5 No.: 774719			
Cementer Name: BJ SERVICES LLC			Cementer P-5 No.: 072507			
WELL INFORMATION						
District No.: 08		County: WINKLER				
Well No.: 2503H		API No.: 42-495-34183		Drilling Permit No.: 841786		
Lease Name: UNIVERSITY 20 PW		Lease No.:				
Field Name: PHANTOM (WOLFCAMP)		Field No.: 71052900				
I. CASING CEMENTING DATA						
Type of casing:	Conductor	Surface	Intermediate	Liner	Production	
Drilled hole size (in.):		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:		
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.):	
					Setting depth liner (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.)	
II. CASING CEMENTING DATA						
Type of casing:	Surface	Intermediate	Production	X 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: 6 3/4	Lower: 6 3/4	Upper: 16,725'	Lower: 16,725'			
Tapered string size of casing in O.D. (in.)		Tapered string casing weight (lbs/ft) and grade		Tapered string no. of centralizers used		
Upper: 5 1/2	Lower: 4 1/2	Upper: 23/P-110	Lower: 13.5/P-110	Upper: 7	Lower: 21	
Was cement circulated to ground surface (or bottom of cellar) outside casing? YES X NO				Setting depth shoe (ft.): 16,710'		
Hrs. waiting on cement before drill-out:		Calculated top of cement (ft.): 10,270'		Cementing date: 02-16-19		
SLURRY						
Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)	
1	839	H	SEE REMARKS	1038	88.54	
2						
3						
Total						
III. CASING CEMENTING DATA						
Type of casing:	Surface	Intermediate	Production	Tapered production	Multi-stage cement/DV tool	Multiple parallel strings
Drilled hole size (in.):		Depth of drilled hole (ft.):		Est. % wash-out or hole enlargement:		
Size of casing in O.D. (in.):		Casing weight (lbs/ft) and grade:		No. of centralizers used:		
Tapered string drilled hole size (in.)		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						

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)							

SLURRY-50:50:2 CLASS H+.3%FL-66+.15%ASA-301+.2% CD32A+.4%SMS+.55%R-21+.005 LB/SK STATIC FREE

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

Field Specialist Ramiro Rendon

BJ Services, LLC

Name and title of cementer's representative

Cementing Company

11211 FM 2920 Rd.

Tomball, Texas 77375

(281) 408-2361

02-16-19

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.

Michael Boutwell

Regulatory Specialist

Typed or printed name of operator's representative

Title

150 N. Dairy Ashford

Houston, TX 77079

832-337-0258

07/10/19

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.

Tracking No.: 217847

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: 05/29/2019
Field Name PHANTOM (WOLFCAMP)	Drilling Permit No. 841786	
Lease Name UNIVERSITY 20 PW	Lease/ID No. 52243	Well No. 2503H
County WINKLER	API No. 42- 495-34183	

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). _____

Audrey Montalbano

Signature

Name (print)

Regulatory Manager

Title

(281) 578-3388

Phone

07/16/2019

Date

-FOR RAILROAD COMMISSION USE ONLY-



PHOENIX

TECHNOLOGY SERVICES

MD
1:1200
Feet

MWD Gamma / ROP (1")

Client: SWEPI

Well Name: University 20 PW 2503H

API/UWID: 42495341830000

County: Winkler

Field: Permian

Permit #: 841786

State: Texas

Country: USA

Longitude: 103° 15' 49.81335 W

Latitude: 31° 41' 26.23391 N

Personnel

Rig Name: Precision 565

Job Number: 63989

Ground Level: 2772.00 ft

Kelly Bushing: 2797.00 ft

Drill Floor: 25.00 ft

Permanent Datum: Mean Sea Level

Drilling Measured From: Kelly Bushing

Spud Date:

Bottom Hole Temp: N/A °F

Log Start Depth: 0.00 ft

Log End Depth: 16750.00 ft

Company Representative

Jeff Stringer

Geologist

Zhang

Directional Driller(s)

Travis Malbrough

Clay Wright

Jacob Light

MWD Operator(s)

Shane Metcalf

Eric Neel

Efrain Silva

Reference Data

North Reference: Grid North

Magnetic Declination: 7.05

Grid Convergence: -1.51

Total Mag Correction: 8.56

Comments:

Main Leg

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Operational Run Summary

63989

	Run 1	Run 2	Run 3	Run 4	Run 5	Run 6
Run Start Depth (ft)	0.00	5023.90	8904.55	9297.01	11270.00	12228.39
Run End Depth (ft)	5023.90	8904.55	9297.01	11270.00	12228.39	14576.33
Run Start Date	12/15/2018	12/29/2018	1/1/2019	1/2/2019	2/9/2019	2/11/2019
Run Start Time	4:58 PM	4:19 PM	7:10 PM	7:08 PM	7:40 PM	9:21 AM
Run End Date	12/17/2018	1/1/2019	1/2/2019	2/9/2019	2/11/2019	2/12/2019
Run End Time	3:07 AM	3:20 PM	1:14 PM	7:20 PM	5:45 AM	10:29 PM
Run Start Depth (ft)	14576.33					
Run End Depth (ft)	16724.98					
Run Start Date	2/13/2019					
Run Start Time	1:49 AM					
Run End Date	2/15/2019					
Run End Time	1:22 AM					

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.: 217847

1. Field name exactly as shown on proration schedule PHANTOM (WOLFCAMP)		2. Lease name as shown on proration schedule UNIVERSITY 20 PW					
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 52243	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) 2503H					
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)		10. Classification <input checked="" type="checkbox"/> Oil <input type="checkbox"/> Gas <input type="checkbox"/> Other (see instruction A)		11. Effective Date 05/29/2019			
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		BRAZOS MIDSTREAM OPERATING, LLC(089903)				100.0	
	X	SHELL ENERGY NORTH AM. (US), LP(773822)			0001	100.0	
14. Authorized OIL or CONDENSATE Gatherer(s). (See instruction G).							
Name of OIL or CONDENSATE Gatherer(s) - List Highest Volume Gatherer First (Attach an additional sheet in same format if more space is needed)						Percent of Take	
SHELL WESTERN E&P(774719)						100.0	
RRC USE ONLY: Reviewer's initials: <u>RRC Staff</u> Approval date: <u>10/16/2019</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 _____ 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.							
Name (print) <u>Regulatory Manager</u> Title <u>audrey.montalbano@jccteam.com</u> E-mail Address (optional)				Audrey Montalbano Signature <input type="checkbox"/> Authorized Employee of current operator <input checked="" type="checkbox"/> Authorized agent of current operator (see instruction G) _____ Date <u>07/16/2019</u> Phone with area code <u>(281) 578-3388</u>			

Form P-16

Page 1

Acreage Designation

SECTION I. OPERATOR INFORMATION

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

SECTION II. WELL INFORMATION

District No.:	08	API No.:	42-495-34183	Purpose of Filing: <input type="checkbox"/> Drilling Permit Application (Form W-1) <input checked="" type="checkbox"/> Completion Report (Form G-1/W-2)
Well No.:	2503H	Drilling Permit No.:	841786	
Lease Name:	UNIVERSITY 20 PW	RRC ID or Lease No.:		
Total Lease Acres:	640.460	Field Name:	Phantom (Wolfcamp)	
Proration Acres:	160.00	Field No.:	71052900	
Wellbore Profile	Horizontal Well	Is this a UFT field?	Yes	
SL Record (Parent) Well Drilling Permit No.:		County:	WINKLER	

[illegible]

A. Total Assigned Horiz. Acreage	=	640.460
Total Remaining Horiz. Acreage	=	0.000
B. Total Assigned Vert./Dir. Acreage	=	0.000
Total Remaining Vert./Dir. Acreage	=	640.460

C. Total Assigned Acreage	=	
Total Remaining Acreage	=	

SECTION IV. REMARKS - REQUIRED FOR PSA AND CO-DEVELOPMENT (refer to instructions)

☐ Additional Pages: (No. of additional pages)

Signature _____ Geo _____
Name _____

(include email address *only* if you affirmatively consent to its public release)

Date: 07/15/19
mo. day yr.

GROUNDWATER PROTECTION DETERMINATION

Form GW-2



Groundwater Advisory Unit

Date Issued: 12 July 2018**GAU Number:** 200753**Attention:** SHELL WESTERN E&P
PO BOX 576
HOUSTON, TX 77001**Operator No.:** 774719**API Number:** 49534181
County: WINKLER
Lease Name: UNIVERSITY 20 PW
Lease Number:
Well Number: 2501H
Total Vertical Depth: 9500
Latitude: 31.690725
Longitude: -103.263875
Datum: NAD27**Purpose:** New Production Well**Location:** Survey-UL; Abstract-U31; Block-20; Section-36

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 200 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. Unless stated otherwise, this recommendation is for normal drilling, production, and plugging operations only.

This determination is based on information provided when the application was submitted on 07/09/2018. If the location information has changed, you must contact the Groundwater Advisory Unit, and submit a new application if necessary. If you have questions, please contact us at 512-463-2741 or gau@rrc.texas.gov.

Groundwater Advisory Unit, Oil and Gas Division

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



SHELL WESTERN
E&P

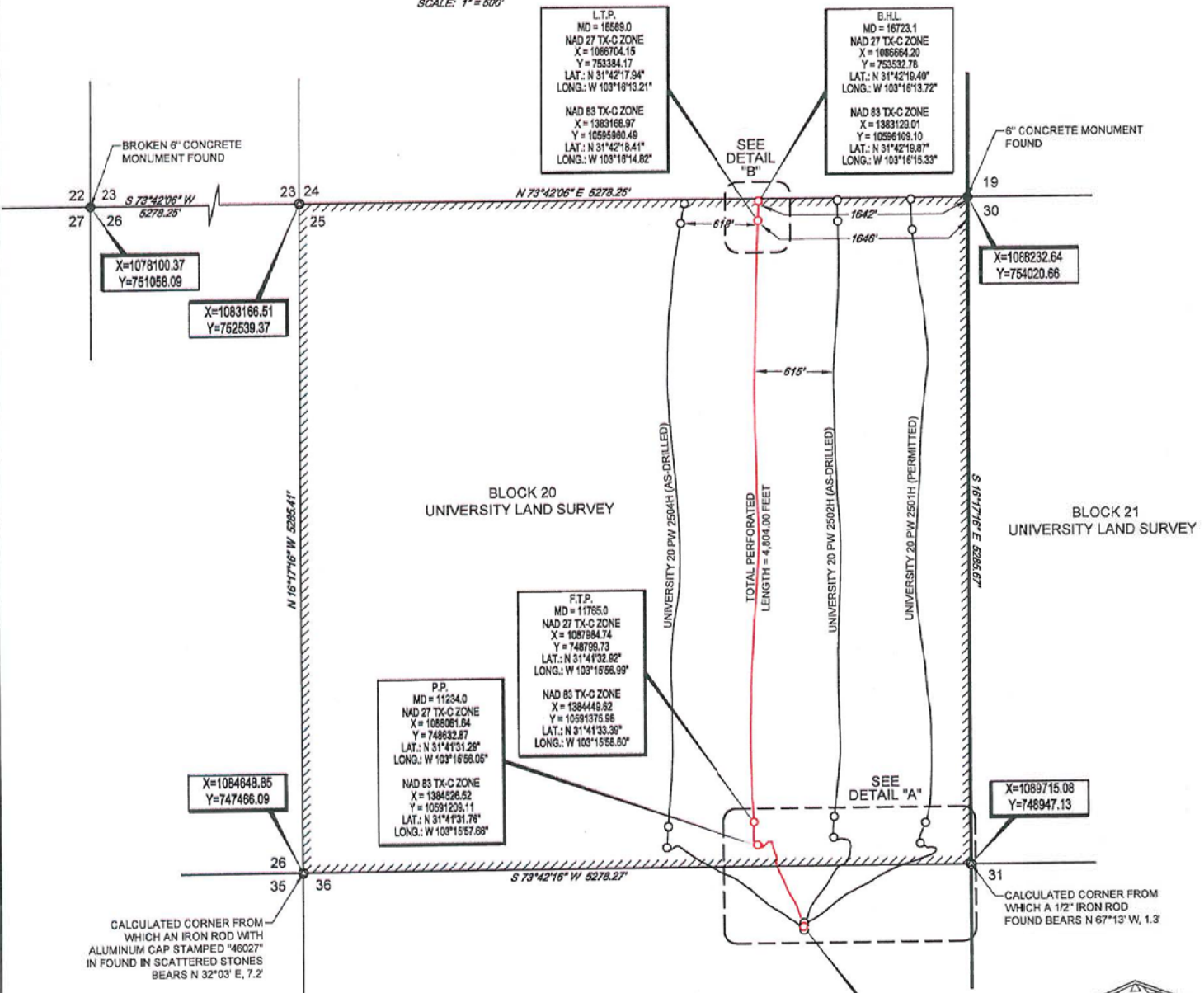
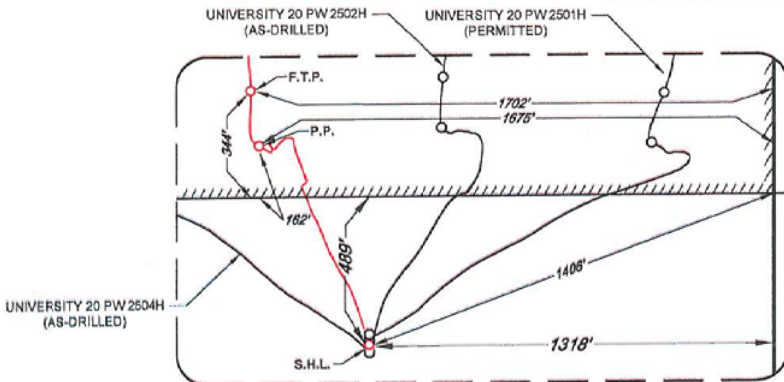
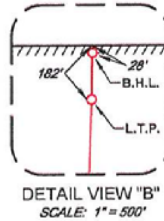
AS-DRILLED LOCATION
LEASE NAME & WELL NO.:
UNIVERSITY 20 PW 2503H

UNIT/LEASE ACREAGE:
640.46 ACRES (MEASURED)

NEAREST TOWN IN COUNTY:
±7.5 MILES SOUTHWEST OF WINK, TEXAS

DESCRIPTION:
SECTION 25, BLOCK 20, UNIVERSITY LAND SURVEY
WINKLER COUNTY, TEXAS

SCALE: 1" = 1000'
0' 500' 1000'



TIES TABLE

POINT	UNIT	SURVEY/SECTION
S.H.L.	489' FSEL	1318' FSEL & 489' FNWL
P.P.	1675' FSEL	1675' FSEL & 162' FSEL
F.T.P.	1702' FSEL	1702' FSEL & 344' FSEL
L.T.P.	1646' FSEL	1646' FSEL & 182' FNWL
B.H.L.	1642' FSEL	1642' FSEL & 28' FNWL

LEGEND:

- Unit Boundary
- Block/Township Line
- Section Line
- As-Drilled Well Path
- Existing/Permitted Well Path
- Monument Found
- Calculated Corner
- Well Point

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UL-20-36-P1
UNIVERSITY 20 PW 2503H

DATE: 07/16/2019
FILE: AD_UL_20_36_P1_UNIVERSITY_20_PW_2503H
DRAWN BY: A.C.L.
SHEET: 1 OF 1

REVISION:

INT	DATE

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 UNIT/LEASE BOUNDARY HAS BEEN CAREFULLY SURVEYED ON THE GROUND UNDER MY SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE ACCORDING TO THE EVIDENCE, OFFICIAL SURVEY RECORDS, MAPS, AND OTHER DATA PROVIDED BY SHELL WESTERN E&P. THIS PLAT WAS CREATED FOR THE SOLE PURPOSE OF FILING A PERMIT WITH THE RAILROAD COMMISSION OF TEXAS AND SHOULD NOT BE CONSTRUED AS A "BOUNDARY SURVEY" IN COMPLIANCE WITH T.B.P.L.S. MINIMUM STANDARDS OF PROCEDURES FOR BOUNDARY SURVEYS. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND 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 AS-DRILLED SURFACE LOCATION HAS BEEN CAREFULLY SURVEYED ON THE GROUND DURING THE DATE OF NOVEMBER 13, 2016.
- THE SUBSURFACE WELL PATH DATA SHOWN HEREIN IS BASED ON INFORMATION PROVIDED BY SHELL WESTERN E&P OR ITS SUBSIDIARIES & AFFILIATES.
- 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