

API No. <u>42-301-33226</u> Drilling Permit # <u>823212</u> SWR Exception Case/Docket No. <u>0303787</u> (R37)	RAILROAD COMMISSION OF TEXAS OIL & GAS DIVISION APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER <i>This facsimile W-1 was generated electronically from data submitted to the RRC.</i> <i>A certification of the automated data is available in the RRC's Austin office.</i>	FORM W-1 07/2004 Permit Status: Approved
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1. RRC Operator No. 774719	2. Operator's Name (as shown on form P-5, Organization Report) SHELL WESTERN E&P	3. Operator Address (include street, city, state, zip): PO BOX 576 HOUSTON, TX 77001-0000
4. Lease Name UNIVERSITY 19 D		5. Well No. 0904H

GENERAL INFORMATION

6. Purpose of filing (mark ALL appropriate boxes):				
<input checked="" type="checkbox"/> New Drill	<input type="checkbox"/> Recompletion	<input type="checkbox"/> Reclass	<input type="checkbox"/> Field Transfer	<input type="checkbox"/> Re-Enter
<input type="checkbox"/> Amended	<input type="checkbox"/> Amended as Drilled (BHL) (Also File Form W-1D)			
7. Wellbore Profile (mark ALL appropriate boxes):				
<input type="checkbox"/> Vertical	<input checked="" type="checkbox"/> Horizontal (Also File Form W-1H)	<input type="checkbox"/> Directional (Also File Form W-1D)	<input type="checkbox"/> Sidetrack	
8. Total Depth 12000	9. Do you have the right to develop the minerals under any right-of-way ? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. Is this well subject to Statewide Rule 36 (hydrogen sulfide area)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

SURFACE LOCATION AND ACREAGE INFORMATION

11. RRC District No. 08	12. County LOVING	13. Surface Location <input checked="" type="checkbox"/> Land <input type="checkbox"/> Bay/Estuary <input type="checkbox"/> Inland Waterway <input type="checkbox"/> Offshore		
14. This well is to be located <u>10.6</u> miles in a <u>SE</u> direction from <u>Mentone</u> which is the nearest town in the county of the well site.				
15. Section 9	16. Block 19	17. Survey UNIVERSITY LAND	18. Abstract No. A-	19. Distance to nearest lease line: 1 ft.
20. Number of contiguous acres in lease, pooled unit, or unitized tract: 8908.59				
21. Lease Perpendiculars: <u>1401</u> ft from the <u>SW</u> line and <u>6550</u> ft from the <u>NW</u> line.				
22. Survey Perpendiculars: <u>1401</u> ft from the <u>SW</u> line and <u>1379</u> ft from the <u>SE</u> line.				
23. Is this a pooled unit? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		24. Unitization Docket No:	25. Are you applying for Substandard Acreage Field? <input type="checkbox"/> Yes (attach Form W-1A) <input checked="" type="checkbox"/> No	

FIELD INFORMATION List all fields of anticipated completion including Wildcat. List one zone per line.

26. RRC District No.	27. Field No.	28. Field Name (exactly as shown in RRC records)	29. Well Type	30. Completion Depth	31. Distance to Nearest Well in this Reservoir	32. Number of Wells on this lease in this Reservoir
08	71052900	PHANTOM (WOLFCAMP)	Oil Well	11600	265.00	29

BOTTOMHOLE LOCATION INFORMATION is required for DIRECTIONAL, HORIZONTAL, AND AMENDED AS DRILLED PERMIT APPLICATIONS (see W-1H attachment)

Remarks See W1 Comments attached	Certificate: I certify that information stated in this application is true and complete, to the best of my knowledge. <div style="text-align: center;"> George Mullen, Sr. Regulatory Specialist Name of filer </div> <div style="text-align: right;"> Feb 13, 2017 Date submitted </div> <div style="text-align: center;"> <u>(832)337-0549</u> Phone </div> <div style="text-align: right;"> <u>george.mullen@shell.com</u> E-mail Address (OPTIONAL) </div>
RRC Use Only Data Validation Time Stamp: Feb 24, 2017 3:40 PM('As Approved' Version)	

**RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION**

Form W-1H 07/2004
Supplemental Horizontal Well Information

Permit Status: **Approved**
The RRC has not approved this application. Duplication or distribution of information is at the user's own risk.

APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER

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Permit # **823212**
Approved Date: **Feb 24, 2017**

1. RRC Operator No. 774719	2. Operator's Name (exactly as shown on form P-5, Organization Report) SHELL WESTERN E&P	3. Lease Name UNIVERSITY 19 D	4. Well No. 0904H
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Lateral Drainhole Location Information

5. Field as shown on Form W-1 **PHANTOM (WOLFCAMP) (Field # 71052900, RRC District 08)**

6. Section 3	7. Block 19	8. Survey UNIVERSITY LAND	9. Abstract	10. County of BHL LOVING
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11. Terminus Lease Line Perpendiculars 1124 ft. from the SW line. and 200 ft. from the NW line
12. Terminus Survey Line Perpendiculars 1124 ft. from the SW line. and 2443 ft. from the SE line
13. Penetration Point Lease Line Perpendiculars 1087 ft. from the SW line. and 6678 ft. from the NW line

Permit Status: **Approved**

The RRC has not approved this application. Duplication or distribution of information is at the user's own risk.

**RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION**

APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER

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W-1 Comments

Permit # **823212**

Approved Date: **Feb 24, 2017**

[Feb 9, 2017 10:34 AM]: Commission Staff expresses no opinion as to whether a 100% ownership interest in each of the leases alone or in combination with a "production sharing agreement" confers the right to drill across lease/unit lines or whether a pooling agreement is also required. However, until that issue is directly addressed and ruled upon by a Texas court of competent jurisdiction it appears that a 100% interest in each of the leases and a production sharing agreement constitute a sufficient colorable claim to the right to drill a horizontal well as proposed to authorize the removal of the regulatory bar and the issuance of a drilling permit by the Commission, assuming the proposed well is in compliance with all other relevant Commission requirements.

Issuance of the permit is not an endorsement or approval of the applicant's stated method of allocating production proceeds among component leases or units. All production must be reported to the Commission as production from the lease or pooled unit on which the wellhead is located and reported production volume must be determined by actual measurement of hydrocarbon volumes prior to leaving that tract and may not be based on allocation or estimation. Payment of royalties is a contractual matter between the lessor and lessee. Interpreting the leases and determining whether the proposed proceeds allocation comports with the relevant leases is not a matter within Commission jurisdiction but a matter for the parties to the lease and, if necessary, a Texas court of competent jurisdiction.

The foregoing statements are not, and should not be construed as, a final opinion or decision of the Railroad Commission.; [FILER Feb 13, 2017 3:37 PM]: This well is an Allocation well made up of University 19 PW Unit and the S/2 of Sec. 3, Blk. 19, University Lands, Shell is the Operator of both leases and grants itself an exception to SWR 37. The SHL, PP and FTP are located in Sec. 9, Blk. 19, University Land Survey. The LTP and BHL are located in Sec. 3, Blk. 19, University Land Survey. This well is being drilled as an Allocation well, but our plans are to amend the S/2 of Sec. 3 into the University 19 PW Unit.; [RRC STAFF Feb 14, 2017 5:49 PM]: Revised P-16 attached per George Mullen; [RRC STAFF Feb 21, 2017 1:22 PM]: There have been problems identified with this permit (see problem letter attachment). Notification sent.; [RRC STAFF Feb 23, 2017 2:16 PM]: Problems identified with this permit are resolved.; [RRC STAFF Feb 23, 2017 2:16 PM]: George Mullen sent revised plat.; [RRC STAFF Feb 24, 2017 7:59 AM]: As per George Mullen: The Form P-16 for the University 19 PW Unit contains the following wells: University 19 A Well No. 2303H (API No. 42-301-32848) University 19 B Well No. 2304H (API No. 42-301-32849) University 19 Unit Well No. 2503 (API No. 42-301-33047) University 19 Unit Well No. 2504 (API No. 42-301-33048) University 19 Unit 2 Well No. 2505 (API No. 42-301-33049) University 19 Unit 2 Well No. 2506 (API No. 42-301-33054) These wells were permitted but not completed when we filed our RRC Form P-6 forming the University 19 PW Unit. Per Joe Stasulli, we will change these well names to University 19 PW Unit when the completion papers are filed. This Form P-16 reflects all of the wells in our unit that are permitted or completed in the Phantom (Wolfcamp) field.

**RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION
SWR #13 Formation Data**

LOVING (301) County

Formation	Shallow Top	Deep Top	Remarks	Geological Order	Effective Date
RED BLUFF	3,900	3,900		1	12/17/2013
BELL CANYON	4,700	4,700		2	12/17/2013
BRUSHY CANYON	6,000	6,000		3	12/17/2013
DELAWARE	3,000	6,500		4	12/17/2013
CHERRY CANYON	3,700	7,800		5	12/17/2013
BONE SPRINGS	8,200	9,800		6	12/17/2013
WOLFCAMP	11,000	12,900		7	12/17/2013
PENNSYLVANIAN	14,900	15,000		8	12/17/2013
STRAWN	14,700	15,000		9	12/17/2013
ATOKA	15,200	16,000	high pressure	10	12/17/2013
MORROW	15,700	17,000		11	12/17/2013
DEVONIAN	17,800	17,800		12	12/17/2013
FUSSELMAN	18,900	19,000		13	12/17/2013
ELLENBURGER	21,000	21,000		14	12/17/2013

The above list may not be all inclusive, and may also include formations that do not intersect all wellbores. Formation "TOP" information listed reflects an estimated range based on geologic variances across the county. To clarify, the "Deep Top" is not the bottom of the formation; it is the deepest depth at which the "TOP" of the formation has been or might be encountered. This is a dynamic list subject to updates and revisions. It is the operator's responsibility to make sure that at the time of spudding the well the most current list is being referenced. Refer to the RRC website at the following address for the most recent information.
<http://www.rrc.texas.gov/oil-gas/compliance-enforcement/rule-13-geologic-formation-info>

GROUNDWATER PROTECTION DETERMINATION

Form GW-2



Groundwater Advisory Unit

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

Attention: SHELL WESTERN E&P
PO BOX 576
HOUSTON, TX 77001

API Number:
County: LOVING
Lease Name: University 19 PW Unit

Operator No.: 774719

Lease Number:
Well Number: 1407H
Total Vertical Depth: 12000
Latitude: 31.699414
Longitude: -103.410281
Datum: NAD27

Purpose: New Drill**Location:** Survey-UL; Block-19; Section-9

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

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

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

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

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

Groundwater Advisory Unit, Oil and Gas Division

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

WELL LOCATION

LEASE NAME & WELL NO.:

UNIVERSITY 19 D 0904H

UNITLEASE ACREAGE:

PW UNIT: 8588.11 ACRES, ALLOCATION UNIT: 320.48 ACRES (MEASURED)

TOTAL ACREAGE:

8908.59 ACRES (MEASURED)

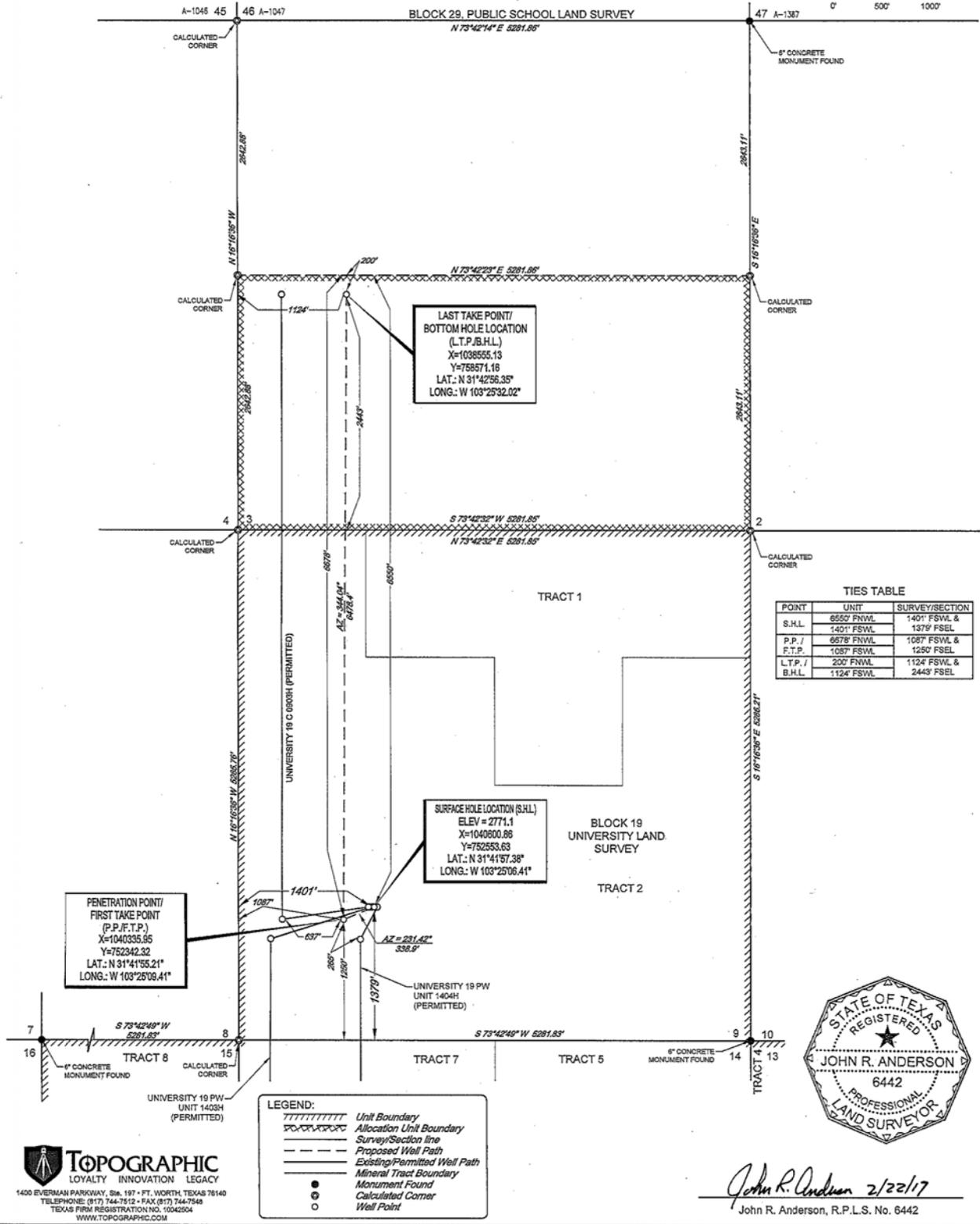
NEAREST TOWN IN COUNTY:

±10.6 MILES SOUTHEAST OF MENTONE, TEXAS

DESCRIPTION:

S/2 OF SECTION 3 & SECTION 9, BLOCK 19, UNIVERSITY LAND SURVEY
LOVING COUNTY, TEXAS

NAD 27
GRID BEARINGS
SCALE: 1" = 1000'



LAST TAKE POINT/
BOTTOM HOLE LOCATION
(L.T.P./B.H.L.)
X=1038555.13
Y=758571.18
LAT.: N 31°42'56.35"
LONG.: W 103°25'32.02"

SURFACE HOLE LOCATION (S.H.L.)
ELEV = 2771.1
X=1040600.86
Y=752553.63
LAT.: N 31°41'57.38"
LONG.: W 103°25'06.41"

PENETRATION POINT/
FIRST TAKE POINT
(P.P./F.T.P.)
X=1040335.95
Y=752342.32
LAT.: N 31°41'55.21"
LONG.: W 103°25'09.41"

TIES TABLE

POINT	UNIT	SURVEY/SECTION
S.H.L.	655' FNWL 1401' FSWL	1401' FSWL & 1378' FSEL
P.P./F.T.P.	687' FNWL 1087' FSWL	1087' FSWL & 1250' FSEL
L.T.P./B.H.L.	200' FNWL 1124' FSWL	1124' FSWL & 2443' FSEL



John R. Anderson 2/22/17
John R. Anderson, R.P.L.S. No. 6442

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

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

UNIVERSITY 19 D 0904H

DATE: 02/07/2017

FILE: LO_UNIVERSITY_19_D_0904H_REV1

DRAWN BY: O.M.

SHEET: 1 OF 1

REVISION:

INT	DATE
O.M.	02/22/2017

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 1983, UNLESS OTHERWISE NOTED.
3. 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, ORIGINAL SURVEY RECORDS, MAPS, AND OTHER DATA PROVIDED BY SHELL WESTERN E&P. THIS PLAN 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 PRACTICES FOR BOUNDARY SURVEYS. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAN IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY. ALL ELEVATION VALUES CONTAINED HEREON ARE ORTHOMETRIC ONLY, BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), U.S. SURVEY FEET.
4. ALL MINERAL OWNERSHIP DATA SHOWN HEREIN IS BASED ON INFORMATION PROVIDED BY SHELL WESTERN E&P OR ITS SUBSIDIARIES & AFFILIATES.

NOTES CONT'D:

5. THE PRELIMINARY LOCATION HAS BEEN CAREFULLY SURVEYED ON THE GROUND DURING THE DATE OF DECEMBER 14, 2016, AT A GROUND LEVEL ELEVATION OF 2771.1 SURVEY FEET.
7. S.H.L. = SURFACE HOLE LOCATION
8. P.P. = POINT OF PENETRATION
9. F.T.P. = FIRST TAKE POINT
10. L.T.P. = LAST TAKE POINT
11. B.H.L. = BOTTOM HOLE LOCATION