

API No. 42-301-32849	RAILROAD COMMISSION OF TEXAS OIL & GAS DIVISION				FORM W-1 07/2004	
Drilling Permit # 813641	APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER				Permit Status: Approved	
SWR Exception Case/Docket No. 0299591 (R37)	<i>This facsimile W-1 was generated electronically from data submitted to the RRC. A certification of the automated data is available in the RRC's Austin office.</i>					
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 B		5. Well No. 2304H				
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 12300		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 type="checkbox"/> Yes <input checked="" 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 12.4 miles in a SE direction from Mentone which is the nearest town in the county of the well site.						
15. Section 23	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: 1282.3
21. Lease Perpendiculars: 1478 ft from the NE line and 1500 ft from the SE line.		22. Survey Perpendiculars: 1478 ft from the NE line and 1500 ft from the SE 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
08	71052900	PHANTOM (WOLFCAMP)		Oil Well	11800	1320.00
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. George Mullen, Sr. Regulatory Specialist Name of filer: _____ Date submitted: Feb 02, 2016 Phone: (832)337-0549 E-mail Address (OPTIONAL): george.mullen@shell.com		
RRC Use Only Data Validation Time Stamp: Feb 3, 2016 4:38 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.

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Permit # **813641**
Approved Date: **Feb 03, 2016**

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 B	4. Well No. 2304H
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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 18	7. Block 19	8. Survey UNIVERSITY LAND	9. Abstract	10. County of BHL LOVING
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11. Terminus Lease Line Perpendiculars 818 ft. from the NE line. and 2798 ft. from the NW line
12. Terminus Survey Line Perpendiculars 818 ft. from the NE line. and 2491 ft. from the SE line
13. Penetration Point Lease Line Perpendiculars 818 ft. from the NE line. and 1976 ft. from the SE line

Permit Status: **Approved**

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

W-1 Comments

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

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Permit # **813641**

Approved Date: **Feb 03, 2016**

[Feb 2, 2016 10:21 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 2, 2016 10:31 AM]: This well is an Allocation well made up of University 19-23 LOV and University 19-18 LOV, Shell is the Operator of both leases and grants itself an exception to SWR 37. The SHL, PP and FTP are located in Sec. 23, Blk. 19, University Land Survey. The LTP and BHL are located in Sec. 18, Blk. 19, University Land Survey.; [RRC STAFF Feb 3, 2016 1:22 PM]: Changed BHL and LTP lease line call to match plat.

**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.state.tx.us/oil-gas/compliance-enforcement/rule-13-geologic-formation-info>

GROUNDWATER PROTECTION DETERMINATION

Form GW-2



Groundwater Advisory Unit

Date Issued:	01 February 2016	GAU Number:	150534
Attention:	SHELL WESTERN E&P PO BOX 576 HOUSTON, TX 77001	API Number:	
Operator No.:	774719	County:	LOVING
		Lease Name:	University 19 A
		Lease Number:	
		Well Number:	2303H
		Total Vertical Depth:	12300
		Latitude:	31.660075
		Longitude:	-103.395619
		Datum:	NAD27

Purpose: New Drill
Location: Survey-UL; Abstract-U23; Block-19; Section-23

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

Water-bearing strata from the land surface to a depth of 350 feet and the Rustler, which is estimated to occur from 675 to 1075 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 02/01/2016. 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

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

**UNIVERSITY 19 B 2304H
WELL LOCATION**
1282.30 ACRES (MEASURED)
SECTIONS 18 & 23, BLOCK 19, UNIVERSITY LAND
LOVING COUNTY, TEXAS

**SHELL WESTERN
E&P**

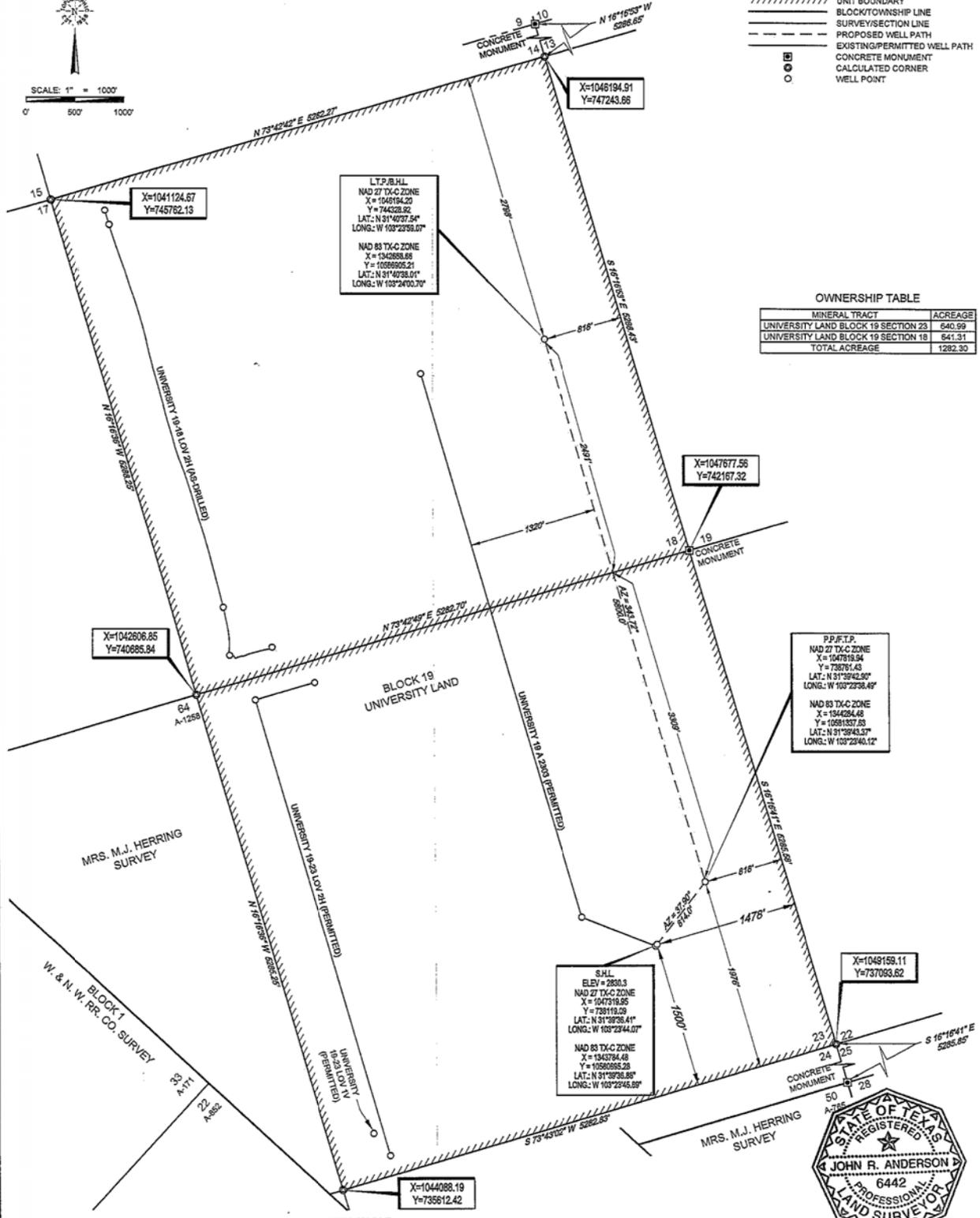


LEGEND

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

OWNERSHIP TABLE

MINERAL TRACT	ACREAGE
UNIVERSITY LAND BLOCK 19 SECTION 23	640.99
UNIVERSITY LAND BLOCK 19 SECTION 18	641.31
TOTAL ACREAGE	1282.30



TIES TABLE

POINT	UNIT	SURVEY/SECTION
S.H.L.	1478' FSNL	1478' FSNL & 1500' FSEL
P.P./F.T.P.	818' FSNL	818' FSNL & 1976' FSEL
L.T.P./B.H.L.	518' FSNL	518' FSNL & 2491' FSEL



John R. Anderson 2/2/16
John R. Anderson, R.P.L.S. No. 6442
FEBRUARY 2, 2016

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

UNIVERSITY 19 B 2304H	REVISION:
DATE: 02/01/2016	INT DATE
FILE: UN_UNIVERSITY_19_B_2304H_REV1	O.M. 02/02/2016
DRAWN BY: O.M.	
SHEET: 1 OF 1	

- NOTES:**
1. ORIGINAL DOCUMENT SIZE: 11" X 17"
 2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, U.S. SURVEY FEET, NORTH AMERICAN DATUM 1983, 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 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 PROCEDURES 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.
 4. ALL ELEVATION VALUES CONTAINED HEREON ARE ORTHOMETRIC ONLY, BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), U.S. SURVEY FEET.
 5. ALL MINERAL OWNERSHIP DATA SHOWN HEREON IS BASED ON INFORMATION PROVIDED BY SHELL WESTERN E&P OR ITS SUBSIDIARIES & AFFILIATES.

- NOTES CONT'D:**
6. THE LEASE AND WELL SHOWN HEREON ARE LOCATED APPROXIMATELY 12.4 MILES SOUTHEAST OF THE CITY/TOWNSHIP/MUNICIPALITY OF MENTONE WITHIN THE COUNTY OF LOVING IN THE STATE OF TEXAS.
 7. THE PRELIMINARY LOCATION HAS BEEN CAREFULLY SURVEYED ON THE GROUND DURING THE DATE OF JANUARY 16, 2016, AT A GROUND LEVEL ELEVATION OF 2830.3 SURVEY FEET.
 8. S.H.L. = SURFACE HOLE LOCATION
 9. P.P. = POINT OF PENETRATION
 10. F.T.P. = FIRST TAKE POINT
 11. L.T.P. = LAST TAKE POINT
 12. B.H.L. = BOTTOM HOLE LOCATION