

API No. <u>42-495-34181</u> Drilling Permit # <u>841761</u> SWR Exception Case/Docket No. _____	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 20 PW		5. Well No. 2501H

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"/> Amended		<input type="checkbox"/> Amended as Drilled (BHL) (Also File Form W-1D)		<input type="checkbox"/> Field Transfer	
<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 9500	9. Do you have the right to develop the minerals under any right-of-way ?		10. Is this well subject to Statewide Rule 36 (hydrogen sulfide area)?		
	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

SURFACE LOCATION AND ACREAGE INFORMATION					
11. RRC District No. 08		12. County WINKLER		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>7.5</u> miles in a <u>SW</u> direction from <u>Wink</u> which is the nearest town in the county of the well site.					
15. Section 36	16. Block 20	17. Survey UL		18. Abstract No. A-U31	19. Distance to nearest lease line: 200 ft.
20. Number of contiguous acres in lease, pooled unit, or unitized tract: 640.46					
21. Lease Perpendiculars: <u>1318</u> ft from the <u>NE</u> line and <u>449</u> ft from the <u>NW</u> line.					
22. Survey Perpendiculars: <u>1318</u> ft from the <u>NE</u> line and <u>449</u> ft from the <u>NW</u> line.					
23. Is this a pooled unit? <input type="checkbox"/> Yes <input checked="" 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	8900	0.00	1

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

Remarks
 [FILER Jun 14, 2018 7:55 AM]: The SHL for this well is located off lease in Sec. 36, Blk. 20, University Lands Svy. The PP, FTP, LTP and BHL are located in Sec. 25, Blk. 20, University Lands Svy.

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 **Jun 27, 2018**

(832)337-0549 Phone _____ **george.mullen@shell.com** E-mail Address (OPTIONAL)

RRC Use Only Data Validation Time Stamp: Jun 27, 2018 10:38 AM('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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A certification of the automated data is available in the RRC's Austin office.*

Permit # **841761**
Approved Date: **Jun 27, 2018**

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 20 PW	4. Well No. 2501H
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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 25	7. Block 20	8. Survey UL/A-U22	9. Abstract	10. County of BHL WINKLER
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11. Terminus Lease Line Perpendiculars 330 ft. from the NE line. and 200 ft. from the NW line
12. Terminus Survey Line Perpendiculars 330 ft. from the NE line. and 200 ft. from the NW line
13. Penetration Point Lease Line Perpendiculars 330 ft. from the NE line. and 200 ft. from the SE line

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

WINKLER (495) County

Formation	Shallow Top	Deep Top	Remarks	Geological Order	Effective Date
RUSTLER	725	725	possible flow; possible usable quality water	1	12/17/2013
COLBY-QUEEN	2,900	3,200		2	12/17/2013
YATES	2,280	3,200		3	12/17/2013
QUEEN-SEVEN RIVERS	2,700	3,400		4	12/17/2013
SAN ANDRES	3,600	4,400	high flows, H2S, corrosive	5	12/17/2013
HOLT	4,500	4,800		6	12/17/2013
DELAWARE	4,300	5,000		7	12/17/2013
GLORIETA	4,900	5,600		8	12/17/2013
CLEARFORK	4,750	6,200		9	12/17/2013
WICHITA ALBANY	6,600	6,850		10	12/17/2013
BRUSHY CANYON	7,300	7,300		11	12/17/2013
CHERRY CANYON	6,000	7,800		12	12/17/2013
CANYON	8,400	8,400		13	12/17/2013
BONE SPRINGS	9,000	9,800		14	12/17/2013
MONTOYA	10,300	10,300		15	12/17/2013
WADDELL	11,000	11,000		16	12/17/2013
WOLFCAMP	7,600	12,400		17	12/17/2013
ATOKA	12,900	12,900		18	12/17/2013
STRAWN	8,100	14,800		19	12/17/2013
PENNSYLVANIAN	8,000	15,500		20	12/17/2013
MISSISSIPPIAN	10,200	17,300		21	12/17/2013
DEVONIAN	7,900	17,800		22	12/17/2013
SILURIAN	8,500	18,000		23	12/17/2013
FUSSELMAN	9,700	18,800		24	12/17/2013
ELLENBURGER	9,500	21,400		25	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:	12 July 2018	GAU Number:	200753
Attention:	SHELL WESTERN E&P PO BOX 576 HOUSTON, TX 77001	API Number:	49534181
Operator No.:	774719	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.

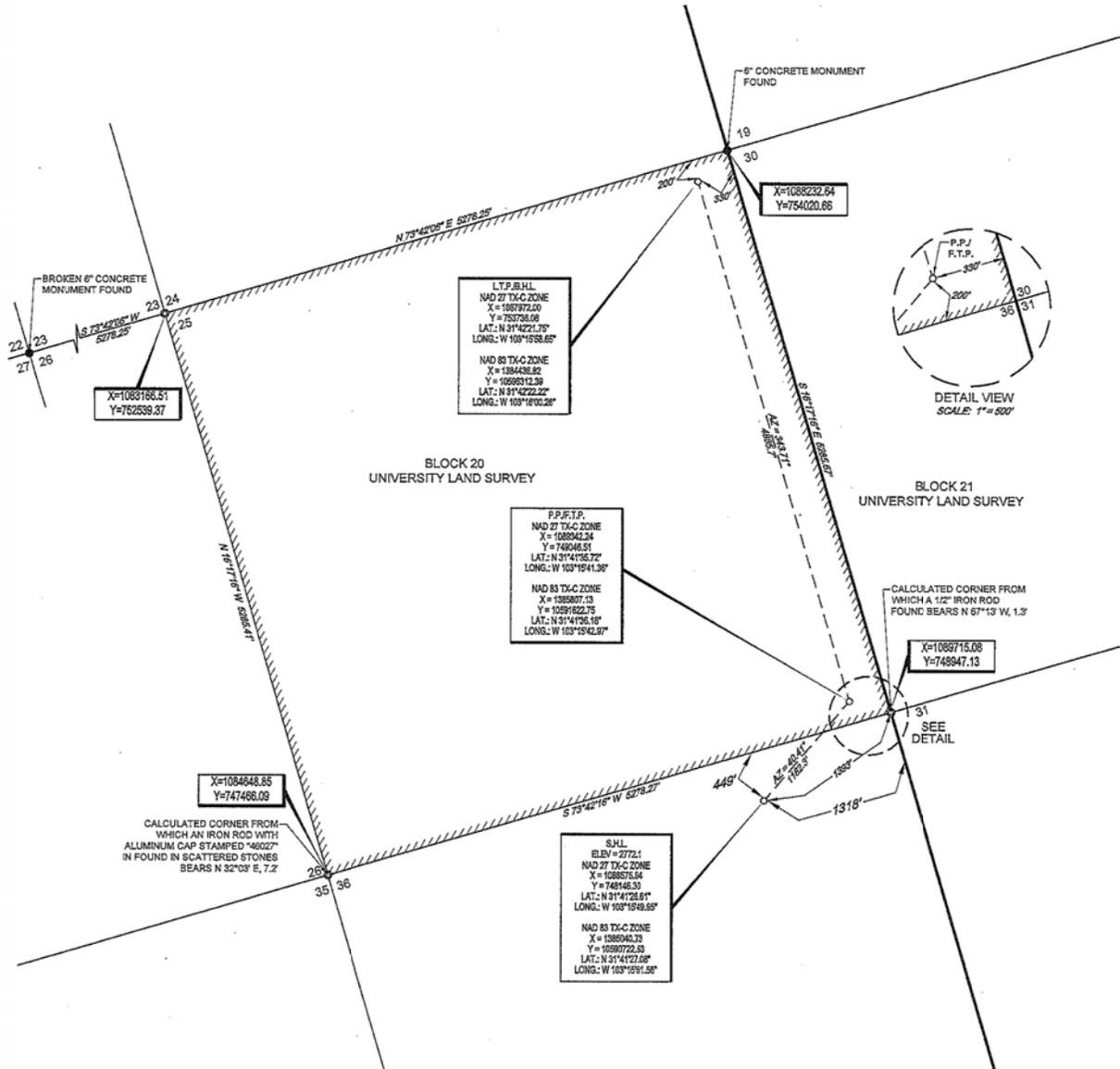
Groundwater Advisory Unit, Oil and Gas Division

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

WELL LOCATION
LEASE NAME & WELL NO.:
UNIVERSITY 20 PW 2501H
UNITLEASE 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



TIES TABLE

POINT	UNIT	SURVEY/SECTION
S.H.L.	449' FSEL	1318' FNEL & 449' FNWL
P.P./I	330' FNEL	330' FNEL & 200' FSEL
F.T.P.	200' FSEL	200' FSEL
L.T.P./I	330' FNEL	330' FNEL & 200' FNWL
B.H.L.	200' FNWL	200' FNWL

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 148 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX: (817) 744-7554
TEXAS PLS REGISTRATION NO. 10342804
WWW.TOPOGRAPHIC.COM

LEGEND:
 - - - - - Unit Boundary
 - - - - - Block/Township Line
 - - - - - Section line
 - - - - - Proposed Well Path
 ● Monument Found
 ○ Calculated Corner
 ○ Well Point



John R. Anderson 5/4/10
John R. Anderson, R.P.L.S. No. 6442

DATE:	REVISION:		NOTES:	NOTES CONT'D:
	INT	DATE		
05/04/2018			1. ORIGINAL DOCUMENT SIZE: 11" X 17"	6. THE PRELIMINARY LOCATION HAS BEEN CAREFULLY SURVEYED ON THE GROUND DURING THE DATE OF MARCH 7, 2018.
FILE: U:\UL_20_P1\UNIVERSITY_20_PW_2501H.DWG			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.	7. S.H.L. = SURFACE HOLE LOCATION
DRAWN BY: O.M. / A.C.L.			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, 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.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 PLAN IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.	8. P.P. = POINT OF PENETRATION
SHEET: 1 OF 1			4. ALL ELEVATION VALUES CONTAINED HEREON ARE ORTHOMETRIC ONLY, BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), U.S. SURVEY FEET.	9. F.T.P. = FIRST TAKE POINT
			5. ALL MINERAL OWNERSHIP DATA SHOWN HEREIN IS BASED ON INFORMATION PROVIDED BY SHELL WESTERN E&P OR ITS SUBSIDIARIES & AFFILIATES.	10. L.T.P. = LAST TAKE POINT
				11. B.H.L. = BOTTOM HOLE LOCATION