

API No. <u>42-301-32766</u> Drilling Permit # <u>811257</u> SWR Exception Case/Docket No. _____	<b>RAILROAD COMMISSION OF TEXAS</b> <b>OIL &amp; GAS DIVISION</b> <b>APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER</b> <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>	<b>FORM W-1</b> 07/2004 Permit Status: <b>Approved</b>
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1. RRC Operator No. <b>774719</b>	2. Operator's Name (as shown on form P-5, Organization Report) <b>SHELL WESTERN E&amp;P</b>	3. Operator Address (include street, city, state, zip): <b>PO BOX 576 HOUSTON, TX 77001-0000</b>
4. Lease Name <b>UNIVERSITY 19-10 LOV</b>		5. Well No. <b>1D</b>

**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 checked="" type="checkbox"/> Vertical	<input type="checkbox"/> Horizontal (Also File Form W-1H)	<input type="checkbox"/> Directional (Also File Form W-1D)	<input type="checkbox"/> Sidetrack		
8. Total Depth <b>9000</b>	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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

**SURFACE LOCATION AND ACREAGE INFORMATION**

11. RRC District No. <b>08</b>	12. County <b>LOVING</b>	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>12.2</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 <b>10</b>	16. Block <b>19</b>	17. Survey <b>UL</b>	18. Abstract No. <b>A-</b>	19. Distance to nearest lease line: <b>467</b> ft.	20. Number of contiguous acres in lease, pooled unit, or unitized tract: <b>641.07</b>
21. Lease Perpendiculars: <u>467</u> ft from the <u>NE</u> line and <u>1500</u> ft from the <u>SE</u> line.					
22. Survey Perpendiculars: <u>467</u> ft from the <u>NE</u> line and <u>1500</u> ft from the <u>SE</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	73933500	QUITO, WEST (DELAWARE)	Injection Well	5000	0.00	1

**BOTTOMHOLE LOCATION INFORMATION is required for DIRECTIONAL, HORIZONTAL, AND AMENDED AS DRILLED PERMIT APPLICATIONS**

<b>Remarks</b>  	<p style="text-align: center;"><b>Certificate:</b></p> <p>I certify that information stated in this application is true and complete, to the best of my knowledge.</p> <p style="text-align: center;"><b>George Mullen, Sr. Regulatory Specialist</b></p> <p style="text-align: center;">Name of filer <u>George Mullen, Sr. Regulatory Specialist</u> Date submitted <u>Oct 15, 2015</u></p> <p style="text-align: center;">Phone <u>(832)337-0549</u> E-mail Address (OPTIONAL) <u>george.mullen@shell.com</u></p>
<b>RRC Use Only</b> Data Validation Time Stamp: Oct 20, 2015 1:09 PM( 'As Approved' Version )	



**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

<b>Date Issued:</b>	20 October 2015	<b>GAU Number:</b>	17243
<b>Attention:</b>	SHELL WESTERN E&P PO BOX 576 HOUSTON, TX 77001	<b>API Number:</b>	30132766
<b>Operator No.:</b>	774719	<b>County:</b>	LOVING
		<b>Lease Name:</b>	UNIVERSITY 19-10 LOV
		<b>Lease Number:</b>	
		<b>Well Number:</b>	1D
		<b>Total Vertical Depth:</b>	9000
		<b>Latitude:</b>	31.706922
		<b>Longitude:</b>	-103.391956
		<b>Datum:</b>	NAD27

**Purpose:** New Drill  
**Location:** Survey-UL; Abstract-U10; Block-19; Section-10

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 325 feet and the Rustler, which is estimated to occur from 600 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 10/20/2015. 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

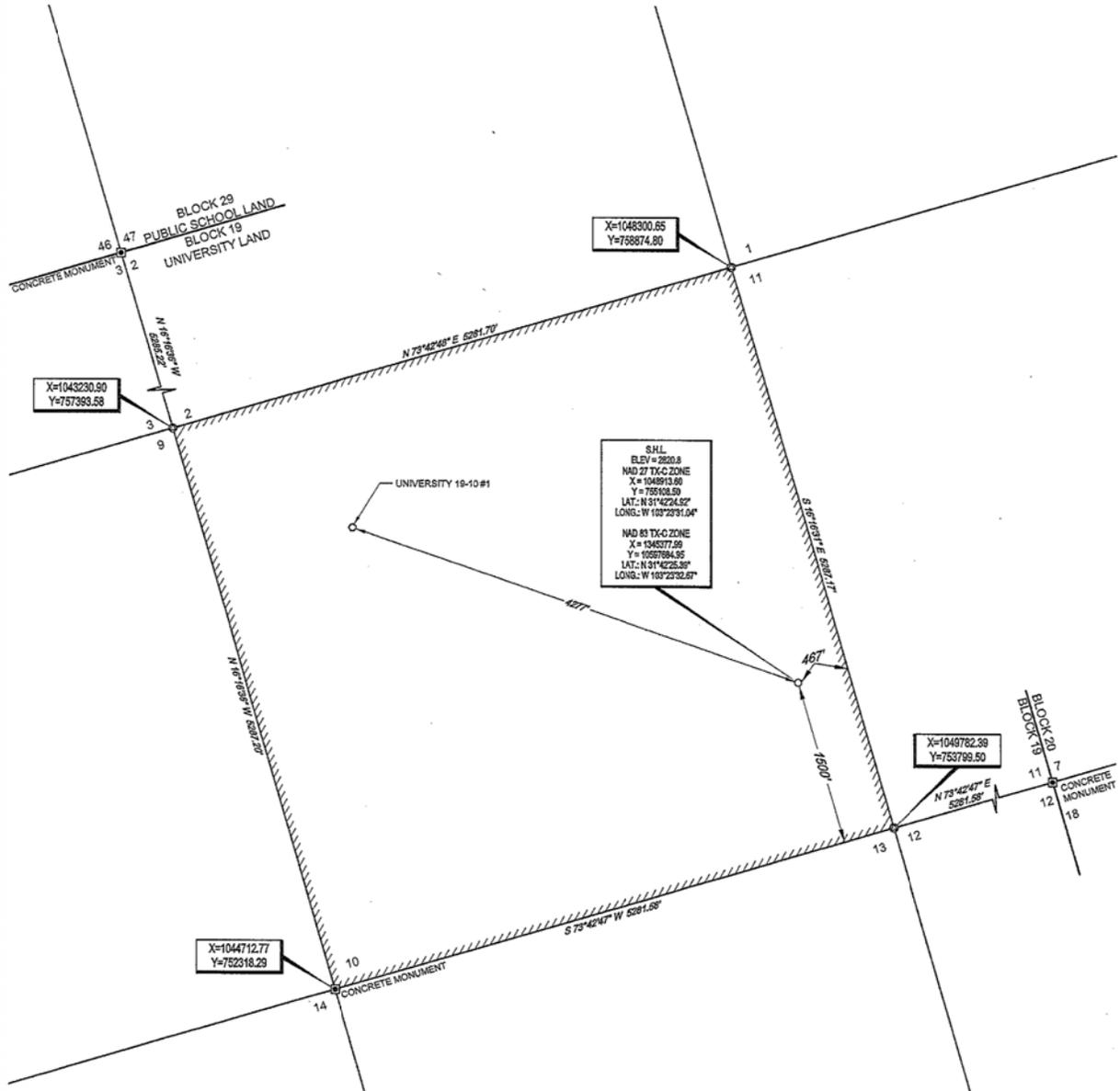
UNIVERSITY19-10 LOV 1D  
WELL LOCATION  
641.07 ACRES (MEASURED)  
SECTION 10, BLOCK 19, UNIVERSITY LAND  
LOVING COUNTY, TEXAS

SHELL WESTERN  
E&P



LEGEND

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



S.H.L.  
ELEV = 2820.8  
NAD 27 TX-C ZONE  
X = 1048913.90  
Y = 755108.59  
LAT: N 31°42'24.52"  
LONG: W 102°23'51.04"

NAD 83 TX-C ZONE  
X = 1050704.95  
Y = 1050704.95  
LAT: N 31°42'25.89"  
LONG: W 102°23'32.67"

TIES TABLE

POINT	UNIT	SURVEY/SECTION
S.H.L.	467 FSEL	467 FSEL
	1507 FSEL	1507 FSEL

**TOPOGRAPHIC**  
LOYALTY INNOVATION LEGACY

1400 EVERMAN PARKWAY, Ste. 197 - FT. WORTH, TEXAS 76140  
TELEPHONE: (817) 744-7812 - FAX: (817) 744-7548  
TEXAS FIRM REGISTRATION NO. 10042504  
WWW.TOPOGRAPHIC.COM



*John R. Anderson* 9/9/15  
John R. Anderson, R.P.L.S. No. 6442  
SEPTEMBER 9, 2015

UNIVERSITY19-10 LOV 1D	REVISION:		NOTES:	NOTES CONT'D:
	INT	DATE		
DATE: 09/09/2015			1. ORIGINAL DOCUMENT SIZE: 11" X 17"	6. THE LEASE AND WELL SHOWN HEREON ARE LOCATED APPROXIMATELY ±12.2 MILES SOUTHEAST OF THE CITY/TOWNSHIP/MUNICIPALITY OF MENTONE WITHIN THE COUNTY OF LOVING IN THE STATE OF TEXAS.
FILE: LO_UNIVERSITY_19_10_LOV_1D			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. THE PRELIMINARY LOCATION HAS BEEN CAREFULLY SURVEYED ON THE GROUND DURING THE DATE OF JULY 22, 2015, AT A GROUND LEVEL ELEVATION OF 2820.8 SURVEY FEET.
DRAWN BY: O.M.			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.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. IT IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.	8. S.H.L. = SURFACE HOLE LOCATION
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. P.P. = POINT OF PENETRATION
			5. OWNERSHIP OF ANY EXCESS ACREAGE SHOWN WAS NOT DETERMINED BY THIS SURVEYOR.	10. F.T.P. = FIRST TAKE POINT
				11. L.T.P. = LAST TAKE POINT
				12. B.H.L. = BOTTOM HOLE LOCATION