

API No. <u>42-301-32937</u> Drilling Permit # <u>816306</u> SWR Exception Case/Docket No. <u>0300901</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	
1. RRC Operator No. <u>774719</u>		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 A		5. Well No. <u>2003H</u>					
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 <u>12400</u>		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. <u>08</u>		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>15.6</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 <u>29</u>		16. Block <u>20</u>		17. Survey UNIVERSITY LAND		18. Abstract No. <u>A-</u>	
				19. Distance to nearest lease line: <u>1</u> ft.		20. Number of contiguous acres in lease, pooled unit, or unitized tract: <u>1282.61</u>	
21. Lease Perpendiculars: <u>1653</u> ft from the <u>NE</u> line and <u>335</u> ft from the <u>NW</u> line. 22. Survey Perpendiculars: <u>1653</u> ft from the <u>NE</u> line and <u>335</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	
08	71052900	PHANTOM (WOLFCAMP)		Oil Well	11900	2211.00	
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. <div style="text-align: center;"> George Mullen, Sr. Regulatory Specialist </div> <div style="display: flex; justify-content: space-between;"> <div> <u>George Mullen, Sr. Regulatory Specialist</u> Name of filer </div> <div> <u>Jun 14, 2016</u> Date submitted </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> <u>(832)337-0549</u> Phone </div> <div> <u>george.mullen@shell.com</u> E-mail Address (OPTIONAL) </div> </div>			
RRC Use Only Data Validation Time Stamp: Jun 23, 2016 10:23 AM('As Approved' Version)							

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

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

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 #	816306
Approved Date:	Jun 23, 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 20 A	4. Well No. 2003H
Lateral Drainhole Location Information			
5. Field as shown on Form W-1 PHANTOM (WOLFCAMP) (Field # 71052900, RRC District 08)			
6. Section 17	7. Block 20	8. Survey UNIVERSITY LAND	9. Abstract
		10. County of BHL LOVING	
11. Terminus Lease Line Perpendiculars 2287 ft. from the NE line. and 2877 ft. from the NW line			
12. Terminus Survey Line Perpendiculars 2287 ft. from the NE line. and 2411 ft. from the SE line			
13. Penetration Point Lease Line Perpendiculars 2251 ft. from the NE line. and 277 ft. from the NW line			

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

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

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

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W-1 Comments

Permit #	816306
Approved Date:	Jun 23, 2016

[Jun 14, 2016 9:47 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 Jun 14, 2016 10:25 AM]: SHL and PP are located off lease in Sec. 29, Blk. 20 University Lands Survey. Anadarko as the Operator of Sec. 29 was given Notice of this well by letter dated 05-05-16 (copy attached).The FTP is located in Sec. 20, Blk. 20, University Lands Survey. The LTP and BHL are located in Sec. 17, Blk. 20 University Lands Survey. This is a allocation well, Shell operates Sec. 20 and Sec. 17 and grants itself a waiver to SWR 37.; [RRC STAFF Jun 14, 2016 2:02 PM]: There have been problems identified with this permit (see problem letter attachment). Notification sent.; [RRC STAFF Jun 14, 2016 2:27 PM]: Problems identified with this permit are resolved.; [RRC STAFF Jun 14, 2016 2:28 PM]: Receipt from fed-ex attached indicating a signature was required.; [RRC STAFF Jun 15, 2016 4:29 PM]: There have been problems identified with this permit (see problem letter attachment). Notification sent.; [RRC STAFF Jun 16, 2016 5:05 PM]: Problems identified with this permit are resolved.; [RRC STAFF Jun 16, 2016 5:06 PM]: Revised P16 has been uploaded.; [RRC STAFF Jun 17, 2016 4:16 PM]: There have been problems identified with this permit (see problem letter attachment). Notification sent.; [RRC STAFF Jun 21, 2016 10:59 AM]: Problems identified with this permit are resolved.; [RRC STAFF Jun 21, 2016 11:04 AM]: A copy of the signature of the recipient has been uploaded.; [RRC STAFF Jun 21, 2016 11:58 AM]: There have been problems identified with this permit (see problem letter attachment). Notification sent.; [RRC STAFF Jun 23, 2016 9:57 AM]: Problems identified with this permit are resolved.

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER <div align="center">816306</div>	DATE PERMIT ISSUED OR AMENDED <div align="center">Jun 23, 2016</div>	DISTRICT <div align="center">* 08</div>			
API NUMBER <div align="center">42-301-32937</div>	FORM W-1 RECEIVED <div align="center">Jun 14, 2016</div>	COUNTY <div align="center">LOVING</div>			
TYPE OF OPERATION <div align="center">NEW DRILL</div>	WELLBORE PROFILE(S) <div align="center">Horizontal</div>	ACRES <div align="center">1282.61</div>			
OPERATOR <div align="center">SHELL WESTERN E&P PO BOX 576 HOUSTON, TX 77001-0000</div>		NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. District Office Telephone No: <div align="center">(432) 684-5581</div>			
LEASE NAME <div align="center">UNIVERSITY 20 A</div>		WELL NUMBER <div align="center">2003H</div>			
LOCATION <div align="center">15.6 miles SE direction from MENTONE</div>		TOTAL DEPTH <div align="center">12400</div>			
Section, Block and/or Survey SECTION ⚡ 29 BLOCK ⚡ 20 ABSTRACT ⚡ SURVEY ⚡ UNIVERSITY LAND					
DISTANCE TO SURVEY LINES <div align="center">1653 ft. NE 335 ft. NW</div>		DISTANCE TO NEAREST LEASE LINE <div align="center">1 ft.</div>			
DISTANCE TO LEASE LINES <div align="center">1653 ft. NE 335 ft. NW</div>		DISTANCE TO NEAREST WELL ON LEASE <div align="center">See FIELD(s) Below</div>			
FIELD(s) and LIMITATIONS: <div align="center"> * SEE FIELD DISTRICT FOR REPORTING PURPOSES * ** THIS PERMIT IS GRANTED PURSUANT TO STATEWIDE RULE 37(h)(2)(B) ** CASE NO. 0300901 </div>					
FIELD NAME LEASE NAME		ACRES NEAREST LEASE	DEPTH NEAREST LEASE	WELL # NEAREST WE	DIST
** PHANTOM (WOLFCAMP) UNIVERSITY 20 A		1282.61 1	11,900 2211	2003H 2211	08
----- WELLBORE PROFILE(s) FOR FIELD: Horizontal -----					
RESTRICTIONS: No allowable until the accreage on the University 20-20 LOV lease has been adjusted to accommodate this well. Permitted for oil only. This is a hydrogen sulfide field. Hydrogen Sulfide Fields with perforations must be isolated and tested per State Wide Rule 36 and a Form H-9 filed with the district office. Fields with SWR 10 authority to downhole commingle must be isolated and tested individually prior to commingling production. Lateral: TH1 Penetration Point Location Lease Lines: 2251.0 F NE L 277.0 F NW L Terminus Location BH County: LOVING Section: 17 Block: 20 Abstract: Survey: UNIVERSITY LAND Lease Lines: 2287.0 F NE L 2877.0 F NW L Survey Lines: 2287.0 F NE L 2411.0 F SE L					

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER <div style="text-align: right;">816306</div>	DATE PERMIT ISSUED OR AMENDED <div style="text-align: center;">Jun 23, 2016</div>	DISTRICT <div style="text-align: center;">* 08</div>
API NUMBER <div style="text-align: right;">42-301-32937</div>	FORM W-1 RECEIVED <div style="text-align: center;">Jun 14, 2016</div>	COUNTY <div style="text-align: center;">LOVING</div>
TYPE OF OPERATION <div style="text-align: center;">NEW DRILL</div>	WELLBORE PROFILE(S) <div style="text-align: center;">Horizontal</div>	ACRES <div style="text-align: center;">1282.61</div>
OPERATOR <div style="text-align: right;">774719</div> <div style="text-align: center;">SHELL WESTERN E&P</div> <div style="text-align: center;">PO BOX 576</div> <div style="text-align: center;">HOUSTON, TX 77001-0000</div>		NOTICE This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored. <div style="text-align: center;">District Office Telephone No:</div> <div style="text-align: center;">(432) 684-5581</div>
LEASE NAME <div style="text-align: center;">UNIVERSITY 20 A</div>		WELL NUMBER <div style="text-align: center;">2003H</div>
LOCATION <div style="text-align: center;">15.6 miles SE direction from MENTONE</div>		TOTAL DEPTH <div style="text-align: center;">12400</div>
Section, Block and/or Survey <div style="display: flex; justify-content: space-between;"> <div>SECTION ◀ 29</div> <div>BLOCK ◀ 20</div> <div>ABSTRACT ◀</div> </div> <div style="text-align: center;">SURVEY ◀ UNIVERSITY LAND</div>		
DISTANCE TO SURVEY LINES <div style="text-align: center;">1653 ft. NE 335 ft. NW</div>		DISTANCE TO NEAREST LEASE LINE <div style="text-align: center;">1 ft.</div>
DISTANCE TO LEASE LINES <div style="text-align: center;">1653 ft. NE 335 ft. NW</div>		DISTANCE TO NEAREST WELL ON LEASE <div style="text-align: center;">See FIELD(s) Below</div>
FIELD(s) and LIMITATIONS: <div style="text-align: center;"> * SEE FIELD DISTRICT FOR REPORTING PURPOSES * ** THIS PERMIT IS GRANTED PURSUANT TO STATEWIDE RULE 37(h)(2)(B) ** CASE NO. 0300901 </div>		
FIELD NAME LEASE NAME	ACRES NEAREST LEASE	DEPTH NEAREST LEASE
WELL # NEAREST WE		
DIST 		
<div style="text-align: center;">' ** ' PRECEDING FIELD NAME INDICATES RULE (R37)</div>		
<div style="text-align: center;">THE FOLLOWING RESTRICTIONS APPLY TO ALL FIELDS</div> <p>This well shall be completed and produced in compliance with applicable special field or statewide spacing and density rules. If this well is to be used for brine mining, underground storage of liquid hydrocarbons in salt formations, or underground storage of gas in salt formations, a permit for that specific purpose must be obtained from Environmental Services prior to construction, including drilling, of the well in accordance with Statewide Rules 81, 95, and 97.</p> <p>This well must comply to the new SWR 3.13 requirements concerning the isolation of any potential flow zones and zones with corrosive formation fluids. See approved permit for those formations that have been identified for the county in which you are drilling the well in.</p>		

**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: 14 June 2016**GAU Number:** 156203**Attention:** SHELL WESTERN E&P
PO BOX 576
HOUSTON, TX 77001**Operator No.:** 774719**API Number:**
County: LOVING
Lease Name: University 20 A
Lease Number:
Well Number: 2003H
Total Vertical Depth: 12400
Latitude: 31.686800
Longitude: -103.334858
Datum: NAD27**Purpose:** New Drill**Location:** Survey-UL; Block-20; Section-29

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 300 feet and the Rustler, which is estimated to occur from 700 to 1100 feet must be protected.

Please send Gamma Ray/Porosity log of this well when it is available.

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 06/14/2016. 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

UNIVERSITY 20 A 2003H
WELL LOCATION
1282.61 ACRES (MEASURED)
SECTIONS 17 & 20, BLOCK 20, UNIVERSITY LAND SURVEY
LOVING COUNTY, TEXAS

SHELL WESTERN
E&P

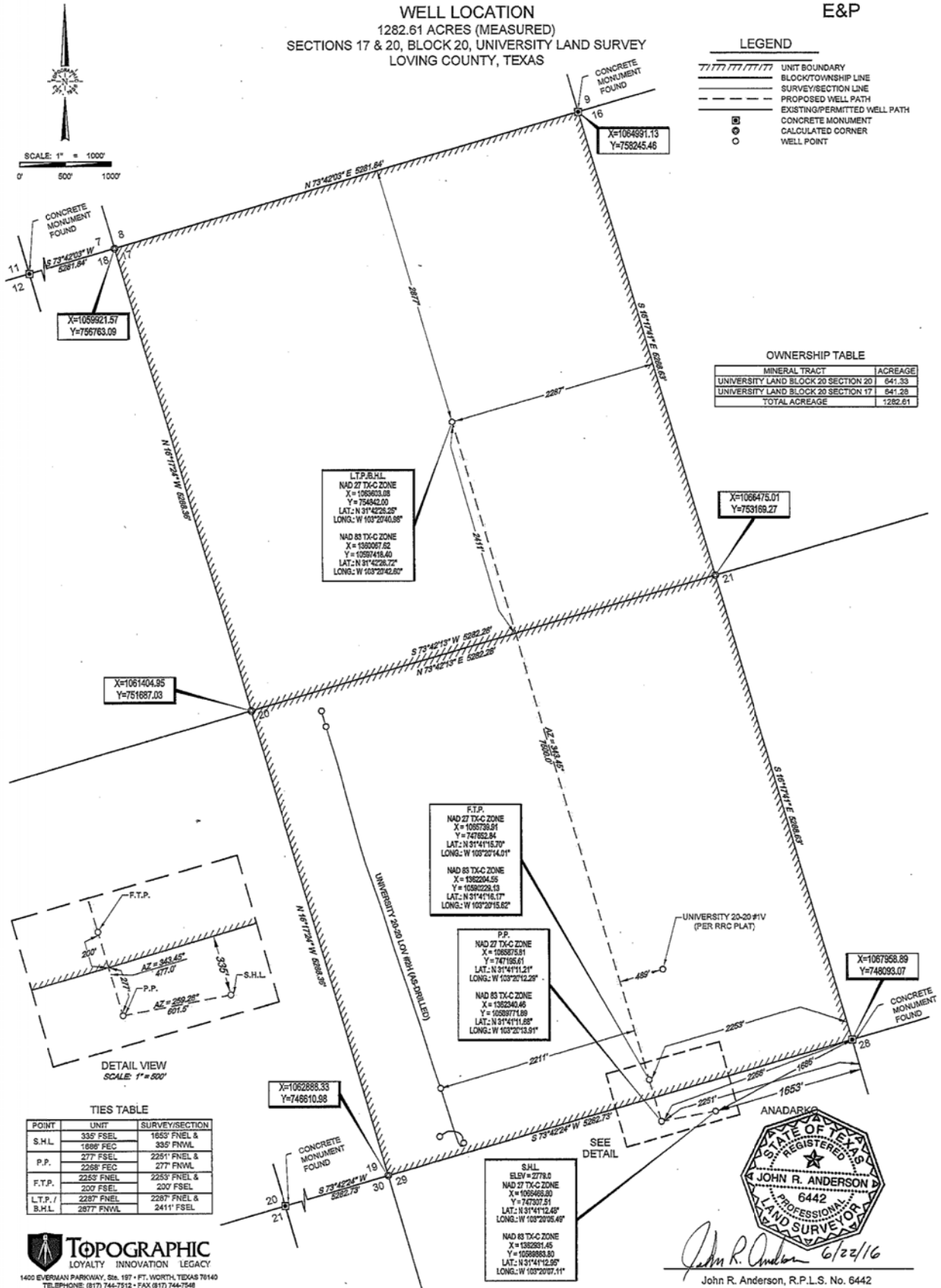
LEGEND

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

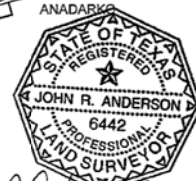
SCALE: 1" = 1000'
0' 500' 1000'

OWNERSHIP TABLE

MINERAL TRACT	ACREAGE
UNIVERSITY LAND BLOCK 20 SECTION 20	641.33
UNIVERSITY LAND BLOCK 20 SECTION 17	641.28
TOTAL ACREAGE	1282.61



TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1402 EVERMAN PARKWAY, Ste. 197 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7548
TEXAS FIRM REGISTRATION NO. 10042904
WWW.TOPOGRAPHIC.COM



John R. Anderson, R.P.L.S. No. 6442
JUNE 22, 2016

UNIVERSITY 20 A 2003H	REVISION:	
	INT	DATE
	O.M.	05/23/2016
	J.R.A.	06/22/2016
DATE:	05/04/2016	
FILE:	LO UNIVERSITY_20_A_2003_H_REV2	
DRAWN BY:	O.M.	
SHEET:	1 OF 1	