

API No. <u>42-495-34399</u> Drilling Permit # <u>855715</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				
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 PW UNIT	5. Well No. <u>1009H</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>12300</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 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>9.5</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 <u>10</u>	16. Block <u>20</u>	17. Survey <u>UL</u>				
18. Abstract No. <u>A-U11</u>	19. Distance to nearest lease line: <u>100</u> ft.	20. Number of contiguous acres in lease, pooled unit, or unitized tract: <u>16027.73</u>				
21. Lease Perpendiculars: <u>2687</u> ft from the <u>NE</u> line and <u>8390</u> ft from the <u>NW</u> line.						
22. Survey Perpendiculars: <u>2596</u> ft from the <u>SW</u> line and <u>2185</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
<u>08</u>	<u>71052900</u>	<u>PHANTOM (WOLFCAMP)</u>	<u>Oil or Gas Well</u>	<u>12100</u>	<u>447.00</u>	<u>21</u>
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 _____ Date submitted <u>Jul 30, 2019</u> </div> <div style="text-align: center;"> <u>(832)337-0549</u> <u>george.mullen@shell.com</u> Phone E-mail Address (OPTIONAL) </div>		
RRC Use Only Data Validation Time Stamp: Aug 1, 2019 4:18 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 # **855715**
Approved Date: **Aug 01, 2019**

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 UNIT	4. Well No. 1009H
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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 20	8. Survey UL / A-U9	9. Abstract	10. County of BHL WINKLER
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11. Terminus Lease Line Perpendiculars 100 ft. from the NW line. and 2146 ft. from the NE line
12. Terminus Survey Line Perpendiculars 100 ft. from the NW line. and 2146 ft. from the NE line
13. Penetration Point Lease Line Perpendiculars 8798 ft. from the NW line. and 2146 ft. from the NE line

Permit Status: **Approved**

*The RRC has not approved this application.
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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 # **855715**

Approved Date: **Aug 01, 2019**

[FILER Jul 30, 2019 9:45 AM]: The SHL, PP and FTP are located in Sec. 10, Blk. 20, University Lands Svy., A-U11. The LTP and BHL are located in Sec. 3, Blk. 20, University Lands Svy., A-U9.; [RRC STAFF Jul 30, 2019 11:49 AM]: There have been problems identified with this permit (see problem letter attachment). Notification sent.; [RRC STAFF Jul 31, 2019 11:58 AM]: Problems identified with this permit are resolved.; [RRC STAFF Jul 31, 2019 11:58 AM]: Revised P-16 attached.; [RRC STAFF Aug 1, 2019 10:44 AM]: There have been problems identified with this permit (see problem letter attachment). Notification sent.; [RRC STAFF Aug 1, 2019 3:42 PM]: Problems identified with this permit are resolved.; [RRC STAFF Aug 1, 2019 3:42 PM]: Revised P16 submitted.

**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: 19 August 2019**GAU Number:** 248860

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

API Number: 49534399
County: WINKLER
Lease Name: UNIVERSITY 20 PW UNIT

Operator No.: 774719

Lease Number:
Well Number: 1009H
Total Vertical Depth: 12300
Latitude: 31.729097
Longitude: -103.318578
Datum: NAD27

Purpose: New Production Well**Location:** Survey-UL; Abstract-U11; Block-20; Section-10

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 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 08/08/2019. 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

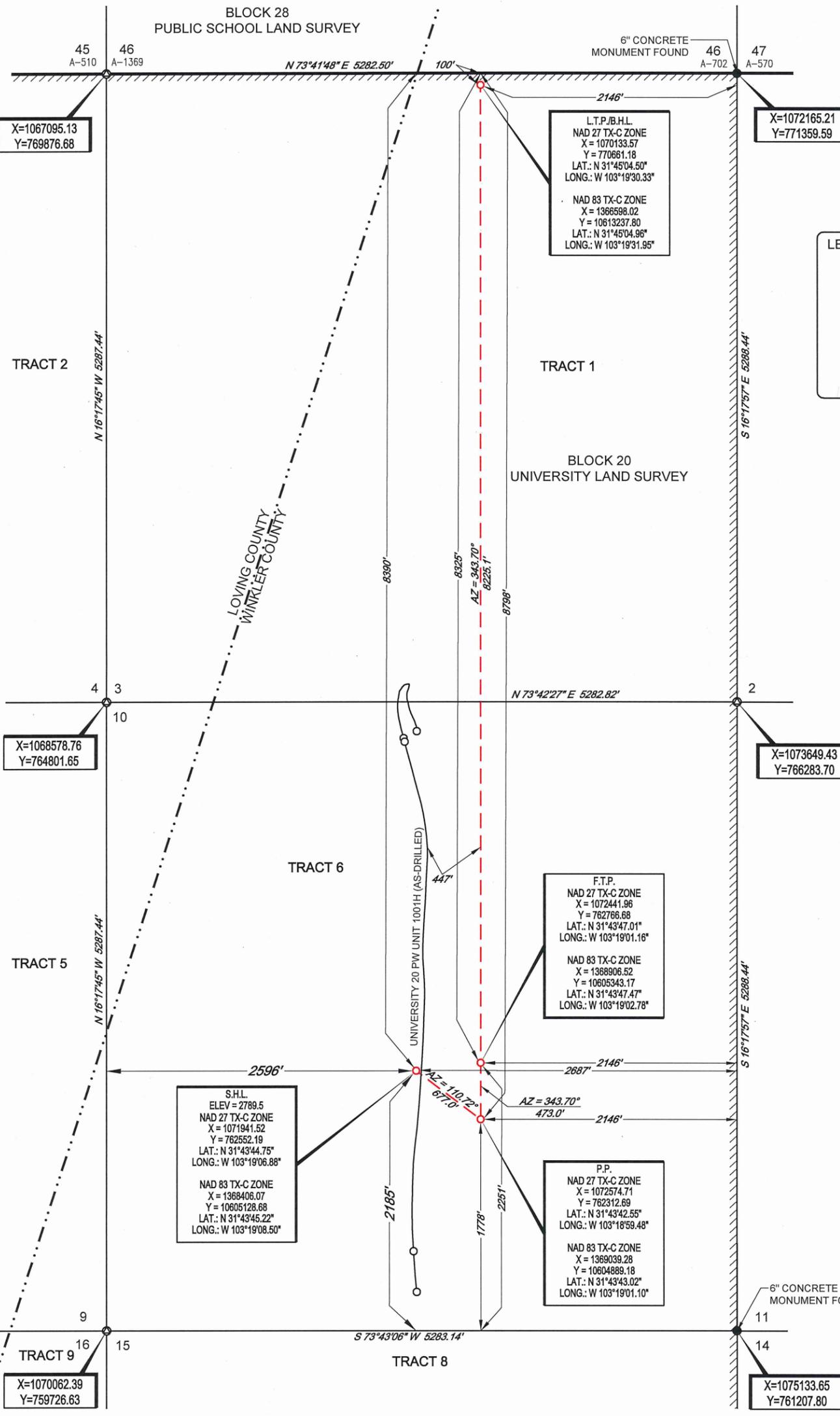
Form GW-2 P.O. Box 12967 Austin, Texas 78771-2967 512-463-2741 Internet address: www.rrc.texas.gov
Rev. 02/2014



WELL LOCATION
 LEASE NAME & WELL NO.:
UNIVERSITY 20 PW UNIT 1009H
 UNIT/LEASE ACREAGE:
 16027.73 ACRES (MEASURED)
 NEAREST TOWN IN COUNTY:
 ±9.5 MILES SOUTHWEST OF WINK, TEXAS
 DESCRIPTION:
 SECTIONS 3 & 10, BLOCK 20, UNIVERSITY LAND SURVEY
 WINKLER COUNTY, TEXAS



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



LEGEND:

- Unit Boundary
- Approximate Location County Line
- Block/Township Line
- Section Line
- Proposed Well Path
- Existing/Permitted Well Path
- Mineral Tract Boundary
- Monument Found
- Calculated Corner
- Well Point

TIES TABLE

POINT	UNIT	SURVEY/SECTION
S.H.L.	2687' FNEL	2596' FSWL & 2185' FSEL
	8390' FNWL	2146' FNEL & 1778' FSEL
P.P.	2146' FNEL	2146' FNEL & 1778' FSEL
	8798' FNWL	2146' FNEL & 2251' FSEL
F.T.P.	2146' FNEL	2146' FNEL & 2251' FSEL
	8325' FNWL	2146' FNEL & 100' FNWL
L.T.P. / B.H.L.	100' FNWL	2146' FNEL & 100' FNWL



John R. Anderson 7/9/19
 John R. Anderson, R.P.L.S. No. 6442



UL-20-10-P3A_CG UNIVERSITY 20 PW UNIT 1009H	REVISION:		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 1927, 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 PLAT 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 PLAT AND 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 HEREIN IS BASED ON INFORMATION PROVIDED BY SHELL WESTERN E&P OR ITS SUBSIDIARIES & AFFILIATES.	NOTES CONT'D: 6. THE PRELIMINARY LOCATION HAS BEEN CAREFULLY SURVEYED ON THE GROUND DURING THE DATE OF JUNE 11, 2019. 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
	INT	DATE		
DATE: 07/08/2019				
FILE: LO_UL_20_10_P3A_CG_UNIVERSITY_20_PW_1009H				
DRAWN BY: A.C.L.				
SHEET: 1 OF 1				