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|--|---------------|--|--|---|----------------------|--|--|
| API No. <u>42-495-34182</u> Drilling Permit # <u>841765</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. 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. 2502H | | | | | |
| 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 checked="" 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 11850 | | 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. 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>469</u> ft from the <u>NW</u> line. | | | | | | | |
| 22. Survey Perpendiculars: <u>1318</u> ft from the <u>NE</u> line and <u>469</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 | 11650 | 660.00 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| BOTTOMHOLE LOCATION INFORMATION is required for DIRECTIONAL, HORIZONTAL, AND AMENDED AS DRILLED PERMIT APPLICATIONS (see W-1H attachment) | | | | | | | |
| Remarks [FILER Oct 17, 2018 3:19 PM]: Amended Permit needed to change Total Depth from 9200' to 11850'. | | | | 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> Name of filer <u>(832)337-0549</u> Phone </div> <div> Date submitted Oct 18, 2018 <u>george.mullen@shell.com</u> E-mail Address (OPTIONAL) </div> </div> | | | |
| RRC Use Only Data Validation Time Stamp: Oct 22, 2018 12:24 PM('As Approved' Version) | | | | | | | |

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| Permit Status: Approved <i>The RRC has not approved this application. Duplication or distribution of information is at the user's own risk.</i> |
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RAILROAD COMMISSION OF TEXAS
 OIL & GAS DIVISION

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

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.

| | |
|----------------|--------------|
| Permit # | 841765 |
| Approved Date: | Oct 22, 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. 2502H |
| 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 | 9. Abstract |
| | | 10. County of BHL WINKLER | |
| 11. Terminus Lease Line Perpendiculars 990 ft. from the NE line. and 200 ft. from the NW line | | | |
| 12. Terminus Survey Line Perpendiculars 990 ft. from the NE line. and 200 ft. from the NW line | | | |
| 13. Penetration Point Lease Line Perpendiculars 990 ft. from the NE line. and 200 ft. from the SE line | | | |

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">841765</div> | DATE PERMIT ISSUED OR AMENDED (AMENDED) Oct 22, 2018 | DISTRICT <div align="center">* 08</div> | | | | | | | | | | | | | | | | |
|---|---|---|----------------------|--------------------------|------------------------|-------|----------------------|------|--------------------|--------|--------|-------|----|------------------|-----|--|-----|--|
| API NUMBER <div align="center">42-495-34182</div> | FORM W-1 RECEIVED <div align="center">Oct 18, 2018</div> | COUNTY <div align="center">WINKLER</div> | | | | | | | | | | | | | | | | |
| TYPE OF OPERATION <div align="center">NEW DRILL</div> | WELLBORE PROFILE(S) <div align="center">Horizontal</div> | ACRES <div align="center">640.46</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 PW</div> | | WELL NUMBER <div align="center">2502H</div> | | | | | | | | | | | | | | | | |
| LOCATION <div align="center">7.5 miles SW direction from WINK</div> | | TOTAL DEPTH <div align="center">11850</div> | | | | | | | | | | | | | | | | |
| Section, Block and/or Survey <div> SECTION 36 BLOCK 20 ABSTRACT U31 SURVEY UL </div> | | | | | | | | | | | | | | | | | | |
| DISTANCE TO SURVEY LINES <div align="center">1318 ft. NE 469 ft. NW</div> | | DISTANCE TO NEAREST LEASE LINE <div align="center">200 ft.</div> | | | | | | | | | | | | | | | | |
| DISTANCE TO LEASE LINES <div align="center">1318 ft. NE 469 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 *</div> | | | | | | | | | | | | | | | | | | |
| <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:60%;">FIELD NAME LEASE NAME</th> <th style="width:10%;">ACRES NEAREST LEASE</th> <th style="width:10%;">DEPTH</th> <th style="width:10%;">WELL # NEAREST WE</th> <th style="width:10%;">DIST</th> </tr> </thead> <tbody> <tr> <td>PHANTOM (WOLFCAMP)</td> <td align="center">640.46</td> <td align="center">11,650</td> <td align="center">2502H</td> <td align="center">08</td> </tr> <tr> <td>UNIVERSITY 20 PW</td> <td align="center">200</td> <td></td> <td align="center">660</td> <td></td> </tr> </tbody> </table> | | | | FIELD NAME LEASE NAME | ACRES NEAREST LEASE | DEPTH | WELL # NEAREST WE | DIST | PHANTOM (WOLFCAMP) | 640.46 | 11,650 | 2502H | 08 | UNIVERSITY 20 PW | 200 | | 660 | |
| FIELD NAME LEASE NAME | ACRES NEAREST LEASE | DEPTH | WELL # NEAREST WE | DIST | | | | | | | | | | | | | | |
| PHANTOM (WOLFCAMP) | 640.46 | 11,650 | 2502H | 08 | | | | | | | | | | | | | | |
| UNIVERSITY 20 PW | 200 | | 660 | | | | | | | | | | | | | | | |
| WELLBORE PROFILE(s) FOR FIELD: Horizontal | | | | | | | | | | | | | | | | | | |
| RESTRICTIONS: 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: 990.0 F NE L 200.0 F SE L Terminus Location BH County: WINKLER Section: 25 Block: 20 Abstract: Survey: UL Lease Lines: 990.0 F NE L 200.0 F NW L Survey Lines: 990.0 F NE L 200.0 F NW L | | | | | | | | | | | | | | | | | | |
| THE FOLLOWING RESTRICTIONS APPLY TO ALL FIELDS | | | | | | | | | | | | | | | | | | |

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;">841765</div> | DATE PERMIT ISSUED OR AMENDED (AMENDED) Oct 22, 2018 | DISTRICT <div style="text-align: center;">* 08</div> |
| API NUMBER <div style="text-align: right;">42-495-34182</div> | FORM W-1 RECEIVED <div style="text-align: center;">Oct 18, 2018</div> | COUNTY <div style="text-align: center;">WINKLER</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;">640.46</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. District Office Telephone No: <div style="text-align: center;">(432) 684-5581</div> |
| LEASE NAME <div style="text-align: center;">UNIVERSITY 20 PW</div> | | WELL NUMBER <div style="text-align: center;">2502H</div> |
| LOCATION <div style="text-align: center;">7.5 miles SW direction from WINK</div> | | TOTAL DEPTH <div style="text-align: center;">11850</div> |
| Section, Block and/or Survey <div style="display: flex; justify-content: space-between;"> <div>SECTION 36</div> <div>BLOCK 20</div> <div>ABSTRACT U31</div> </div> <div style="display: flex; justify-content: space-between;"> <div>SURVEY UL</div> <div></div> <div></div> </div> | | |
| DISTANCE TO SURVEY LINES <div style="display: flex; justify-content: space-around;"> <div>1318 ft. NE</div> <div>469 ft. NW</div> </div> | | DISTANCE TO NEAREST LEASE LINE <div style="text-align: center;">200 ft.</div> |
| DISTANCE TO LEASE LINES <div style="display: flex; justify-content: space-around;"> <div>1318 ft. NE</div> <div>469 ft. NW</div> </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 *</div> | | |
| <div style="display: flex; justify-content: space-between;"> <div> FIELD NAME LEASE NAME </div> <div> ACRES NEAREST LEASE </div> <div> DEPTH NEAREST LEASE </div> <div> WELL # NEAREST WE </div> <div> DIST </div> </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> <p>The designated interval for one or more of the fields approved in this permit appears to overlap with the designated interval of another field or fields in this district. In the case of conflicting designated intervals you will be required to be consistent in field designation on this lease. Further, if the designated interval overlap of wells on this lease results in an actual or potential double assignment of reservoir and the applicant cannot conclusively demonstrate that there is no double assignment, the permitted well may not be assigned an allowable until the conflict is resolved. Because of the overlapping designated intervals in this area, issuance of this permit does not guarantee that the completion of the well will be approved or that the well will receive an allowable in any given field, even if that field is listed on the approved permit application.</p> | | |

**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>



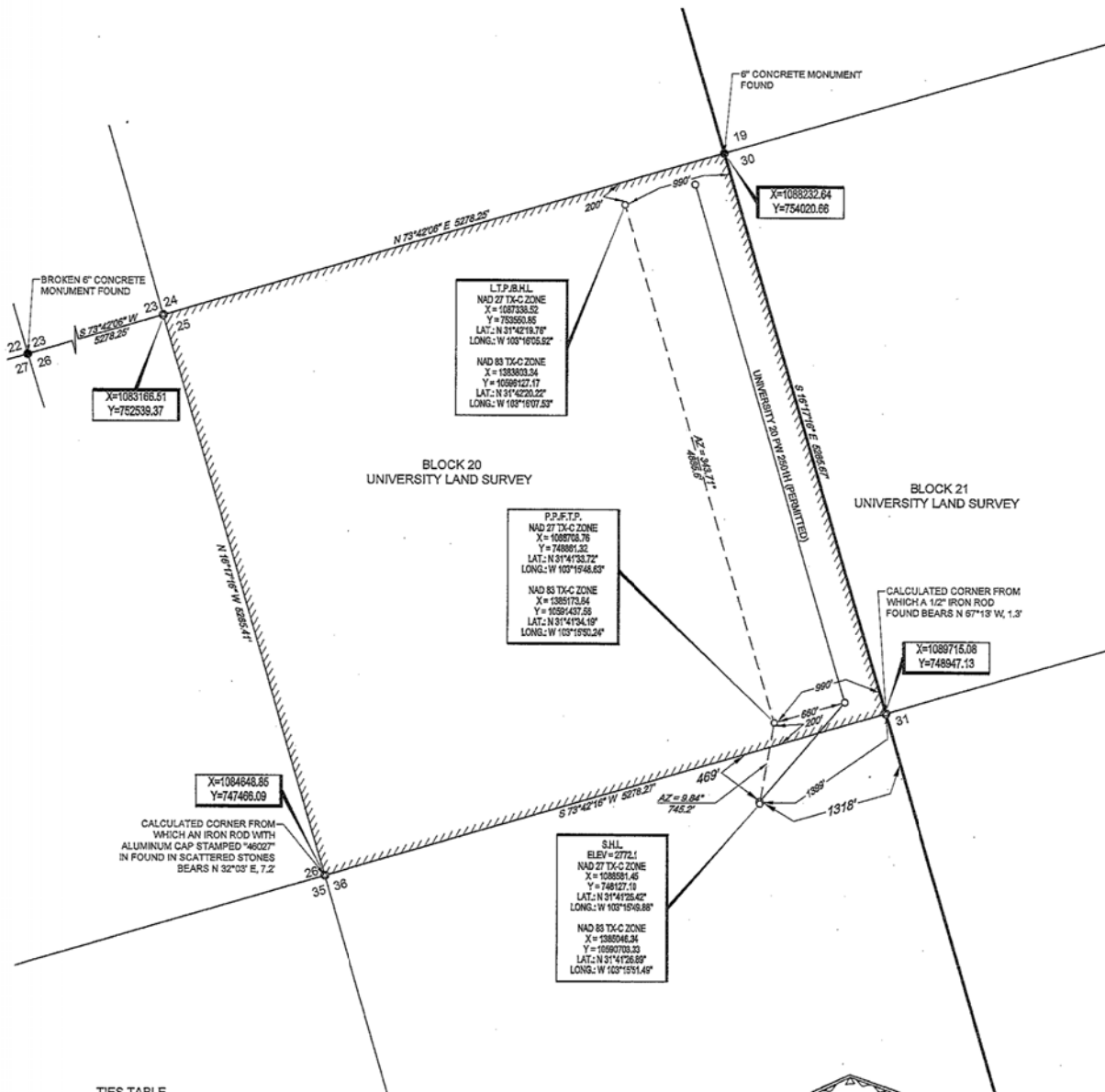
SHELL WESTERN
E&P

WELL LOCATION
LEASE NAME & WELL NO.:
UNIVERSITY 20 PW 2502H

UNITLEASE ACREAGE:
640.46 ACRES (MEASURED)

NEAREST TOWN & 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. | 489' FSEL | 1519' FNEL & 489' FNWL |
| P.P./ | 990' FNEL | 990' FNEL & 200' FSEL |
| F.T.P./ | 200' FSEL | 200' FSEL |
| L.T.P./ | 990' FNEL | 990' FNEL & 200' FNWL |
| B.H.L. | 200' FNWL | 200' FNWL |

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 145 • FT. WORTH, TEXAS 76142
TELEPHONE: (817) 744-7512 • FAX: (817) 744-7554
TEXAS FIRM REGISTRATION NO. 10042504
WWW.TOPOGRAPHIC.COM

LEGEND:

- Unit Boundary
- Block/Township Line
- Section line
- Proposed Well Path
- Existing/Permitted Well Path
- Monument Found
- Calculated Corner
- Well Point



John R. Anderson 5/4/18
John R. Anderson, R.P.L.S. No. 6442

| | | | | |
|---|-----------|------|---|--|
| UL-20-36-P1 UNIVERSITY 20 PW 2502H | 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 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. THIS PLAN IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY. 4. ALL ELEVATION VALUES CONTAINED HEREIN 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 MARCH 7, 2018. 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: 05/04/2018 | | | | |
| FILE: U:\UL-20-36-P1\UNIVERSITY_20_PW_2502H.DWG | | | | |
| DRAWN BY: O.M./A.C.L. | | | | |
| SHEET: 1 OF 1 | | | | |

S:\SURVEY\SHELL\PERMAN_BASIN\UNIVERSITY_20_PW_2502H\UL-20-36-P1\UNIVERSITY_20_PW_2502H_OP12.DWG 5/4/2018 11:51 PM omorrow