



RAILROAD COMMISSION OF TEXAS

Form W-2

1701 N. Congress
P.O. Box 12967
Austin, Texas 78701-2967

Status: Approved
Date: 05/16/2023
Tracking No.: 290729

OIL WELL POTENTIAL TEST, COMPLETION OR RECOMPLETION REPORT,

OPERATOR INFORMATION			
Operator	PDEH LLC	Operator	646827
Operator	600 W ILLINOIS AVE MIDLAND, TX 79701-0000		

WELL INFORMATION			
API	42-301-32740	County:	LOVING
Well No.:	0403H	RRC District	08
Lease	UL 20 N TWITCH	Field	PHANTOM (WOLFCAMP)
RRC Lease	57934	Field No.:	71052900
Location	Section: 9, Block: 20, Survey: UL, Abstract:		
Latitude	31	Longitud	-103
This well is 15.3 miles in a NE direction from MENTONE, which is the nearest town in the			

FILING INFORMATION			
Purpose of	Well Record Only		
Type of	Other/Recompletion		
Well Type:	Producing	Completion or Recompletion	03/03/2016
Type of Permit	Date	Permit No.	
Permit to Drill, Plug Back, or Rule 37 Exception	03/07/2016	810606	
Fluid Injection			
O&G Waste Disposal			
Other:			

COMPLETION INFORMATION			
Spud	10/19/2015	Date of first production after rig	03/03/2016
Date plug back, deepening, drilling operation	10/19/2015	Date plug back, deepening, recompletion, drilling operation	11/14/2015
Number of producing wells on this lease this field (reservoir) including this	1	Distance to nearest well in lease & reservoir	759.0
Total number of acres in	640.70	Elevation	2786 GL
Total depth TVD	12019	Total depth MD	17295
Plug back depth TVD		Plug back depth MD	
Was directional survey made other inclination (Form W-	Yes	Rotation time within surface casing Is Cementing Affidavit (Form W-15)	145.5 No
Recompletion or	Yes	Multiple	No
Type(s) of electric or other log(s)	Gamma Ray (MWD)		
Electric Log Other Description:			
Location of well, relative to nearest lease of lease on which this well is	1375.0 Feet from the 291.0 Feet from the	Off Lease :	Yes
		South Line and SE Line of the	
		UL 20 N TWITCH Lease.	

FORMER FIELD (WITH RESERVOIR) & GAS ID OR OIL LEASE NO.			
Field & Reservoir	Gas ID or Oil Lease	Well No.	Prior Service Type
PACKET:	N/A		

W2:	N/A		
FOR NEW DRILL OR RE-ENTRY, SURFACE CASING DEPTH DETERMINED BY:			
GAU Groundwater Protection Determination	Depth	1150.0	Date 11/29/2015
SWR 13 Exception	Depth	5110.0	

INITIAL POTENTIAL TEST DATA FOR NEW COMPLETION OR RECOMPLETION		
Date of	Production	
Number of hours	24	Choke
Was swab used during this	No	Oil produced prior to
PRODUCTION DURING TEST PERIOD:		
Oil	Gas	
Gas - Oil	0	Flowing Tubing
Water		
CALCULATED 24-HOUR RATE		
Oil	Gas	
Oil Gravity - API - 60.:	Casing	
Water		

CASING RECORD											
Ro	Type of Casing	Casing	Hole	Setting	Multi -	Multi -	Cement	Cement	Slurry	Top of	TOC
		Size (in.)	Size	Depth	Stage Tool	Stage Shoe	Class	Amoun	Volume (cu.	Cement (ft.)	Determined By
1	Surface	9 5/8	12 1/4	5122	1309		C	3225	5842.0	0	Circulated to Surface
2	Intermediate	7	8 3/4	12082			C, H	686	1356.0	4122	Calculation

LINER RECORD									
<u>Ro</u>	<u>Liner Size</u>	<u>Hole Size</u>	<u>Liner Top</u>	<u>Liner Bottom</u>	<u>Cement Class</u>	<u>Cement Amoun</u>	<u>Slurry Volume (cu.)</u>	<u>Top of Cement (ft.)</u>	<u>TOC Determined</u>
1	4 1/2	6 1/8	11445	17280	H	590	696.0	11445	Calculation

TUBING RECORD			
<u>Ro</u>	<u>Size (in.)</u>	<u>Depth</u>	<u>Size (ft.)</u>
1	2 7/8	11391	11363 / L80, EUE, RD

PRODUCING/INJECTION/DISPOSAL INTERVAL			
<u>Ro</u>	<u>Open hole?</u>	<u>From (ft.)</u>	<u>To (ft.)</u>
1	No	L1 12385	16963.0

ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC.			
Was hydraulic fracturing treatment	Yes		
Is well equipped with a downhole sleeve?	Yes	If yes, actuation pressure	8307.0
Production casing test pressure (PSIG) during hydraulic fracturing	6412	Actual maximum pressure (PSIG) during fracturin	9135
Has the hydraulic fracturing fluid disclosure been	Yes		
<u>Ro</u>	<u>Type of Operation</u>	<u>Amount and Kind of Material Used</u>	<u>Depth Interval (ft.)</u>
1	Fracture	SEE FRAC FOCUS	12385 16963

FORMATION RECORD					
Formations	Encountere	Depth TVD	Depth MD	Is formation	Remarks
RED BLUFF	No			No	FORMATION NOT GEOLOGICALLY PRESENT
BELL CANYON	Yes	3679.0	3699.0	Yes	
BRUSHY CANYON	Yes	5794.0	5817.0	Yes	
DELAWARE	Yes	3640.0	3660.0	Yes	
CHERRY CANYON	Yes	4571.0	4593.0	Yes	
BONE SPRINGS	Yes	7554.0	7587.0	Yes	
WOLFCAMP	Yes	10623.0	10649.0	Yes	
PENNSYLVANIAN	No			No	BELOW TVD
STRAWN	No			No	BELOW TVD
ATOKA - HIGH PRESSURE	No			No	BELOW TVD
MORROW	No			No	BELOW TVD
DEVONIAN	No			No	BELOW TVD
FUSSELMAN	No			No	BELOW TVD
ELLENBURGER	No			No	BELOW TVD
Do the producing interval of this well produce H2S with a concentration in excess of 100 ppm					No
Is the completion being downhole commingled			No		

REMARKS
P 16 ATTACHED TO SHOW CORRECT ALLOCATION.

RRC REMARKS
<div>PUBLIC COMMENTS:<div>[RRC Staff 2023-04-18 14:25:00.25] EDL=4578 feet, max acres=704, PHANTOM (WOLFCAMP) oil or gas well</div></div>
<div>CASING RECORD :</div>
<div>TUBING RECORD:</div>
<div>PRODUCING/INJECTION/DISPOSAL INTERVAL :</div>
<div>ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC. :</div>
<div>POTENTIAL TEST DATA:</div>

OPERATOR'S CERTIFICATION			
Printed	Martha Finley	Title:	Regulatory Coordinator
Telephone	(432) 688-6036	Date	05/08/2023

DAVID PORTER, CHAIRMAN
CHRISTI CRADDICK, COMMISSIONER
RYAN SITTON, COMMISSIONER



LORI WROTENBERY
DIRECTOR, OIL & GAS DIVISION

DISTRICT DIRECTOR

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

OPERATOR Name: SHELL WESTERN E&P

RE: Lease: UNIVERSITY 20-4 LOV

Address1: PO BOX 576

Address2:

City: HOUSTON

State: TX

Well No: 3H

Sec: 9 **Block:** 20

County: LOVING

Survey Name: UL

SWR13EX Application Number: 4325

Drilling Permit No: 810606

SWR 13 CASING EXCEPTION APPLICATION/ALTERNATIVE REQUEST APPROVED

The Proposed Casing and Cementing Program submitted for the **LEASE NAME:** UNIVERSITY 20-4 LOV ;
WELL NUMBER: 3H has been approved by the Railroad Commission of Texas District Office.

- a. A copy of this approved letter must be kept on location during all phases of drilling and/or plugging operations. Once approved, changes CANNOT be made to the Proposed Casing Program on the original application without additional approval from the Railroad Commission of Texas District Office.
- b. Any substantive modifications to the cement program require prior approval from the Railroad Commission of Texas District Office, and may require re-submission of the SWR 13 (Statewide Rule 13) Alternate Surface Casing Application. Contact the Railroad Commission of Texas District Office for more information.
- c. The tail slurry must be sufficient to fill the Zone of Critical Cement as described in Statewide Rule 13(b)(1)(H)(i). In addition, all cement slurries must be mixed on location as described in Application for Alternate Surface Casing Program.
- d. The casing and cement program shall adhere to the following specifications:
Set 5110 feet of surface casing and circulate cement from the shoe to the ground surface.

Contingency Plan Approval:

Set 5110 feet of surface casing with a multistage tool set at a depth of not less than 1303 feet. Circulate cement from the multistage tool to the ground surface. If cement does not circulate to surface during the first stage, the multistage tool MUST be opened and neat cement be circulated from the tool to the surface.

The proposed alternative drilling fluid program for the fresh water protected interval is hereby approved.

Please notify the Midland District Office immediately if any gas, H₂S or otherwise, is encountered before surface casing is set.

IF CEMENT IS NOT CIRCULATED TO THE GROUND SURFACE AS REQUIRED BY THIS EXCEPTION, YOU MUST CONTACT THE RAILROAD COMMISSION OF TEXAS DISTRICT OFFICE IMMEDIATELY AND FOLLOW THE PROCEDURES SET OUT IN RULE 13(b)(1)(H)(iii) OR AS REQUIRED BY THE RAILROAD COMMISSION OF TEXAS DISTRICT OFFICE.

You must comply with all other provisions of SWR 13 (Statewide Rule 13) and a representative of the cementing company who performs the cementing job for the protection of usable quality water strata must sign the Form W-15 attesting to the information regarding cementing operations performed; including circulation of cement. (Note: If surface casing is set below the approved depth, this can result in denial of future Statewide Rule 13(b)(1)(H)(i) requests.) A condition of the approved drilling permit requires notification to the Railroad Commission of Texas District Office eight (8) hours prior to the time casing is to be set/cemented in the well. If your exception request was submitted after the subject well has been drilled and completed, the operator may be referred for enforcement action.

This authorization shall expire within five (5) years from the date the Groundwater Protection Determination was issued, or at the expiration of the drilling permit (if the well is not spudded prior to expiration) for the referenced well, whichever occurs first. Furthermore, this authorization supersedes any prior authorizations issued for the referenced well.

This exception is based on information provided when the application was submitted on 10/09/2015 .
If any information has changed, you must contact the appropriate Railroad Commission of Texas District Office, and submit a new application if applicable. If you have questions, please contact the appropriate Oil and Gas District office.

RRC APPROVAL BY: Jeffery Morgan

DATE: 10/16/2015

DISTRICT DIRECTOR

13b Information

Header	Well Name	University 20-4 LOV 3H						
	County	Loving, Tx						
	Field Rules	Phantom Wolfcamp						
	Engineer	Power Charles						
	Date	10/8/2015						
General Well	Hole Size (in.)		Surface		Intermediate		Production	
			12-1/4		8-3/4		6-1/8"	
	O.D. (in.), Grade, Weight (lb/ft.)		9-5/8	J55	40	7	P110	29
	Setting Depth (ft.)		5110		11,322		4.5	P110 CYHP
	Multi-Stage Tool Depth TVD (ft.)		1303		NA		11.6	
LEAD/FILLER CEMENT	Type and Free Water Content		Class C	0.3%	Class C	0.0%	NA	
	# of Sacks and Yield (cu. ft/sk)		2799	1.84	435	2.46		
	Cement Additives		(35:65) Poz (Fly Ash): Class C Cement + 0.005 lbs/sack Static Free + 3% bwoc Sodium Chloride + 0.85% bwoc R-3 + 0.25 lbs/sack Cello Flake + 0.5% bwoc Sodium Metasilicate + 4% bwoc Bentonite II + 94% FW		Class C / (35:65) Poz (Fly Ash): Premium Plus C Cement + 0.005 lbs/sack Static Free + 0.85% bwoc R-3 + 3% bwoc Potassium Chloride + 5.75% bwoc LCM-1 + 1% bwoc FL-52 + 0.01 gps FP-6L + 1% bwoc Sodium Metasilicate + 6% bwoc Bentonite II + 131.2% Fresh Water			
	24/72-Hr. Comp. Strength (psi)		550 psi	948 psi	350 psi	500 psi (50hr)		
	Cement Height (TOC) (ft.)		4110' (0' surface)		5212' (4610')			
TAIL/CRITICAL CEMENT	Type and Free Water Content		Class C	1.6%	Class H	0%	Class H	0.0%
	# of Sacks and Yield (cu. ft/sk)		509	1.33	263	1.20	497	1.20
	Cement Additives		Class C Cement + 0.15% bwoc Sodium Metasilicate + 0.15% bwoc R-3 + 56.1% FW/50.0 bbls FW @ 8.34 ppg/10.0 bbls		Class H / (50:50) Poz (Fly Ash): Premium Plus H Cement + 0.005 lbs/sack Static Free + 0.3% bwoc R-3 + 0.35% bwoc CD-32 + 0.01 gps FP-6L + 0.35% bwoc Sodium Metasilicate + 0.6% bwoc FL-66 + 2% bwoc Bentonite II + 51.8% Fresh Water		Class H / (50:50) Poz (Fly Ash): Premium Plus H Cement + 2% bwoc Bentonite II + 0.005 lbs/sack Static Free + 0.3% bwoc R-3 + 0.3% bwoc CD-32 + 0.01 gps FP-6L + 0.35% bwoc Sodium Metasilicate + 0.65% bwoc FL-66 + 51.8% Fresh Water	
	24/72-Hr. Comp. Strength (psi)		1978 psi	2511 psi	1484 psi	2062 psi	1575 psi	2148 psi
	Cement Height (TOC) (ft.)		1000' (4110')		1500' (9822')		5894' (10,576')	
2nd Stage (Contingency)	Centralizers No. & Placement		4 on shoe track and 1/4 jt to surface		1 every joint in curve, 1/4 to surface		1/4 jt in curve	
	Number of centralizers		35		80		4	
	% Excess		100 %		20%		20%	
	Type and Free Water Content		Class C	0.3%				
	# of Sacks and Yield (cu. ft/sk)		1005	1.84				
2nd Stage (Contingency)	Cement Additives		same as 1st stage lead					
	24/72-Hr. Comp. Strength (psi)		550 psi	948 psi				
	Cement Height (TOC) (ft.)		1303' (0' surface)					
	Centralizers No. & Placement		(8) 1/4 jt					
	% Excess		350%					

Remarks: Lead/filler cement is to be pumped at 300% excess. A second stage (see multi-stage lead/filler) is only included in this request plan as a contingency measure to achieve cement returns to surface, in which case the DV tool would be opened.

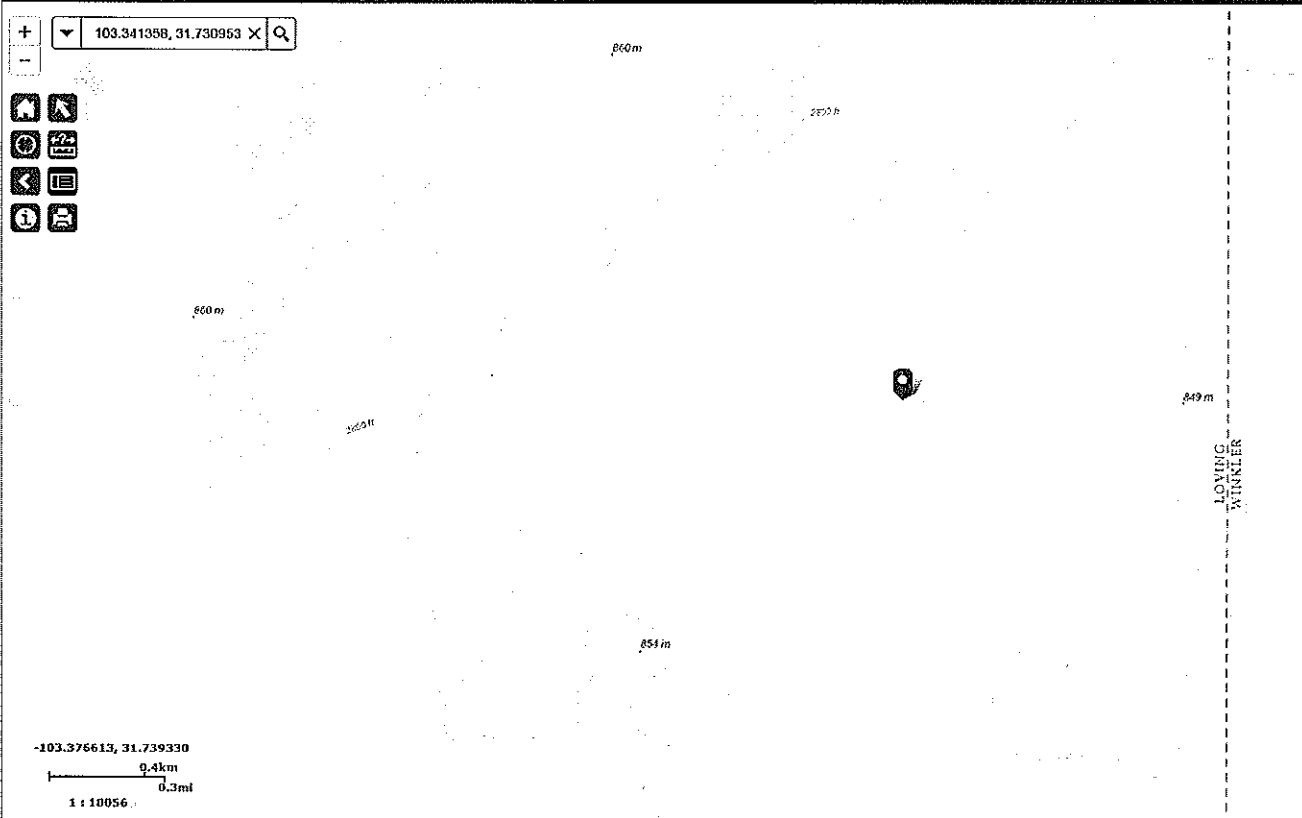


WATER DATA
Interactive

Groundwater ▾

Layers ▾

Base Maps ▾



GROUNDWATER PROTECTION DETERMINATION

Form GW-2



Groundwater Advisory Unit

Date Issued: 29 September 2015**GAU Number:** 15802**Attention:** SHELL WESTERN E&P
PO BOX 576
HOUSTON, TX 77001**API Number:**
County: LOVING
Lease Name: University 20-4 LOV**Operator No.:** 774719**Lease Number:**
Well Number: 3H
Total Vertical Depth: 12400
Latitude: 31.730953
Longitude: -103.341358
Datum: NAD27**Purpose:** New Drill**Location:** Survey-UL; Abstract-U34; Block-20; Section-9

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 775 to 1150 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 09/28/2015. 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



APPLICATION FOR APPROVAL OF SURFACE CASING > 3500 FEET
Statewide Rule 13(b)(1)(A)
RAILROAD COMMISSION OF TEXAS

Operator's Name and Address: Shell Western E&P
150 N. Dairy Ashford
Houston, Texas 77079

P5 Number: 774719

Area for review: District 8

Lease Name: University 20-4 LOV 3H

Field Name: PHANTOM (WOLFCAMP) County: LOVING

Survey: UL Abstract: _____

Drilling Permits: 810606

Note: Attach a map if the request is for more than one pad.

How will the operator maintain well control during drilling operations:


While drilling the surface hole Shell utilizes drilling fluid of sufficient weight to overbalance the formations being penetrated.
In the event that flow is encountered a low-pressure rotating head is rigged-up under the rig floor to divert flow to the reserve pit.

How will the operator ensure cement is circulated to surface and that there is adequate bonding of cement:

A DV tool is placed below the water table (as defined by the GAU), and Shell pumps a minimum of 250% excess cement for the second stage of the surface cement job. Depending on nearby offsets the amount of excess pumped has been as high as 300%. Adequate bonding of cement is achieved by utilizing the centralizer program as outlined in RRC Rule 3.13 (b) (1) (G). A second stage of cement is only included in this request plan as a contingency measure to achieve cement returns to surface, in which case the DV tool would be opened.

How will the operator prevent the migration of formation fluids thru the annular space:

All cement slurries pumped by Shell comply with RRC Rule 3.13 (b) (1) (D) and Rule 3.13 (b) (1) (E). These slurries have been effective in preventing migration of formation fluids after the cement has been placed in the 100+ wells Shell has drilled in the Permian.

Signature:  Name: Jeffrey Stevenson Date: 10/09/15 Phone: 832-337-0694

RRC Use Only ▶

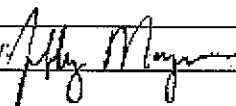
RRC District Office Action:

☒ Approved

☐ Approved as Modified

☐ Denied

By:



Date: 10-16-15

Remarks/Modifications:

CERTIFICATE OF COMPLIANCE
AND TRANSPORTATION AUTHORITY
REFER TO INSTRUCTIONSForm P-4
06/21

1. Field name exactly as shown on proration schedule Phantom (Wolfcamp) 71052900		2. Lease name as shown on proration schedule UL 20 N Twitch					
3. Current operator name exactly as shown on P-5 Organization Report PDEH LLC		4. Operator P-5 no. 646827	5. Oil Lse/Gas ID no. 57934	6. County Loving	7. RRC District 08		
8. Operator address including city, state, and zip code 600 W. Illinois Midland, TX 79701		9. Well no(s) (see instruction E) 0403H					
		10. Classification <input checked="" type="checkbox"/> Oil <input type="checkbox"/> Gas <input type="checkbox"/> Other (see instruction A)			11. Effective Date 08/01/22		
12. Purpose of Filing. (See instructions B and G) a. Change of: <input type="checkbox"/> operator <input type="checkbox"/> oil or condensate gatherer <input type="checkbox"/> gas gatherer <input type="checkbox"/> gas purchaser <input type="checkbox"/> gas purchaser system code <input type="checkbox"/> field name from: _____ Docket #: _____ <input checked="" type="checkbox"/> lease name from: UNIVERSITY 20 PW UNIT 0403H							
b. New RRC Number for: <input checked="" type="checkbox"/> oil lease <input type="checkbox"/> gas well <input type="checkbox"/> other well (specify) _____ Due to: <input type="checkbox"/> new completion or recompletion <input type="checkbox"/> reclass oil to gas <input type="checkbox"/> reclass gas to oil <input type="checkbox"/> consolidation <input type="checkbox"/> unitization <input checked="" type="checkbox"/> subdivision (oil lease only) <input type="checkbox"/> field transfer							
13. Authorized GAS WELL GAS or CASINGHEAD GAS Gatherer(s) and/or Purchaser(s). (See instruction G).							
Gatherer	Purchaser	Name of GAS WELL GAS or CASINGHEAD GAS Gatherer(s) or Purchaser(s) As Indicated in Columns to the Left (Attach an additional sheet in same format if more space is needed)			Purchaser's RRC Assigned System Code	Percent of Take	Full-well Stream
X	X	Brazos Midstream Operating (089903)			0001	100	
14. Authorized OIL or CONDENSATE Gatherer(s). (See instruction G).				RRC USE ONLY			
Name of OIL or CONDENSATE Gatherer(s) - List Highest Volume Gatherer First (Attach an additional sheet in same format if more space is needed)			Percent of Take	Reviewer's initials: 3/12/22			
Plains Marketing L.P. (667883)			100	Approval date: 7/12/22			
15. PREVIOUS OPERATOR CERTIFICATION FOR CHANGE OF OPERATOR P-4 FILING. Being the PREVIOUS OPERATOR, I certify that operating responsibility for the well(s) designated in this filing, located on the subject lease has been transferred in its entirety to the above named Current Operator. I understand, as Previous Operator, that designation of the above named operator as Current Operator is not effective until this certificate is approved by the Commission.							
Name of Previous Operator			Signature				
Name (print)			<input type="checkbox"/> Authorized Employee of previous operator <input type="checkbox"/> Authorized agent of previous operator (see instruction G)				
Title			Date		Phone with area code		
16. CURRENT OPERATOR CERTIFICATION. By signing this certificate as the Current Operator, I certify that all statements on this form are true and correct and I acknowledge responsibility for the regulatory compliance of the subject lease including plugging of well(s) pursuant to Rule 14. I further acknowledge that I assume responsibility for the physical operation, control, and proper plugging of each well designated in this filing. I also acknowledge that I will remain designated as the Current Operator until a new certificate designating a new Current Operator is approved by the Commission.							
Chasity Jackson			Chasity Jackson				
Name (print)			Signature				
Sr. Regulatory Coordinator			<input checked="" type="checkbox"/> Authorized Employee of current operator <input type="checkbox"/> Authorized agent of current operator (see instruction G)				
Title			Date		Phone with area code		
Chasity.Jackson@conocophillips.com			7/20/2022		432-686-3087		
E-mail Address (optional)			Date		Phone with area code		

**REQUEST FOR PERMISSION TO SUBDIVIDE OR
CONSOLIDATE OIL LEASE(S)**

READ INSTRUCTIONS ON BACK

P-6

5/02
WWW-1

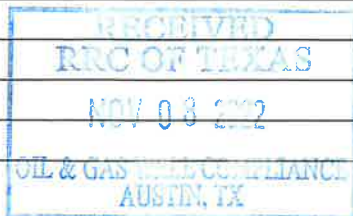
1. Receiving Operator name, exactly as shown on P-5 Organization Report	2. Operator P-5 no.	3. RRC district no. <hr style="border: none; border-top: 1px solid black; margin: 5px 0;"/> 4. County	5. Purpose of Filing: <div style="display: flex; align-items: center; margin-top: 10px;"><input type="checkbox"/> Consolidation <input type="checkbox"/> Subdivision</div>	
6. Operator address including city, state, and zip code	7. Field name exactly as shown on proration schedule			
8. Are any of the leases being subdivided or consolidated currently overproduced or in violation of statewide rules? (check one) <input type="checkbox"/> No <input type="checkbox"/> Yes				
9. Lease to be subdivided or leases to be consolidated. List lease names and well numbers exactly as listed on current Commission Oil Proration Schedule.				
LEASE NAME	LEASE NUMBER	LEASE ACRES	WELL NUMBERS (e.g.: 1, 2, 3-U, 3-L, 4, etc.)	
(1)				
(2)				
(3)				
10. Lease(s) resulting from subdivision or after consolidation (how the leases/wells are to be listed on the Commission Oil Proration Schedule). For well number changes, give both old and new number; if there is no well number change, show the number under "old".				
LEASE NAME	LEASE NUMBER	LEASE ACRES	WELL NUMBERS Old New	API NUMBER 42-
(1)				
(2)				
(3)				
11. Is the ownership, working interest, and the royalty interest for all leases listed in Items 9 or 10 identical? (check one) <input type="checkbox"/> No <input type="checkbox"/> Yes (See instruction D)				
12. Is the acreage listed for the resulting leases in Item 10 contiguous? (Check one) <input type="checkbox"/> No <input type="checkbox"/> Yes (See instruction F)				RRC USE ONLY Reviewer's initials: _____ Approval date: _____
OPERATOR CERTIFICATION: I certify that I am authorized to make this request, that it was prepared by me or under my supervision and direction, and that the data and facts stated herein are true, correct, and complete to the best of my knowledge.				
_____ Signature	_____ Date			
_____ Name (print or type)	_____ Title			
_____ Phone number (with area code)	_____ E-mail address (optional)			

**REQUEST FOR PERMISSION TO SUBDIVIDE OR
CONSOLIDATE OIL LEASE(S)**

P-6

5/02

10. Lease(s) resulting from subdivision or after consolidation (how the leases/wells are to be listed on the Commission Oil Proration Schedule). For well number changes, give both old and new number; if there is no well number change, show the number under "old".					
LEASE NAME	LEASE NUMBER	LEASE ACRES	WELL NUMBERS		API NUMBER 42-
			Old	New	
(1) * Indicates PSA well after P-6/W-2 approval..					
UL 20 N Twitch	57934	640.7	0403H		301-32740
UL 20 N Paddle Tail	57935	640.7	0503H		301-31794
UL 20 S Bucktail	57938	640.7	1001H		495-33544
*UL Popper A	57940	300	1002H		495-33891
*UL 20 Popper B	57941	300	1003H		495-33892
*UL 20 Bucktail A1	57942	80	1005H		495-33889
*UL 20 Bucktail A	57943	320	1007H		495-33890
*UL 20 Bucktail C	57944	320	1009H		495-34399
*UL 20 Bucktail D	57945	260.7	1010H		495-34404
*UL Spinner A	57946	200.875	1503H		495-33705
UL 20 SW Topwater	57947	320.35	1803H		301-32609
UL 20 N Gold Spoon	57949	640.7	2002H		301-31788
*UL 20 N Gold Spoon A	57950	640.7	2003ST	2003H	301-32937
*UL 20 N Gold Spoon B	57954	640.7	2004H		301-32938
*UL 20 S Chatter A	57955	319	2701H		495-34175
*UL 20 S Chatter C	57956	319	2703H		495-34174
*UL 20 N Chatter A	57957	309	2704H		495-34170
*UL 20 N Chatter C	57958	314.7	2706H		495-34169
*UL 20 Rat Tail B	57959	200.225	2708H		495-34454
*UL 20 Silver Spoon A	57960	160	3902H		495-34004
*UL 20 Silver Spoon B	57961	160	3903H		495-33993
*UL 20 Silver Spoon C	57962	160	3904H		495-34006
*UL 20 Silver Spoon D	57963	160	3905H		495-33994
*UL 20 Silver Spoon E	57964	160	3906H		495-34449
*UL 20 Silver Spoon G	57965	140	3908H		495-34448
*UL 20 Silver Spoon H	57966	80	3909H		495-34550
*UL 20 Silver Spoon J	57967	60	3910H		495-34551
*UL 20 Silver Spoon I	57968	161.4	3911H		495-34571



Form P-16

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Rev. 06/2022

600 W Illinois	Midland	TX	79701	432-688-6036			04/17/23			
Address	City,	State,	Zip Code	Tel:	Area Code	Number	Date:	mo.	day	yr.

**GROUNDWATER PROTECTION DETERMINATION**

Form GW-2

Groundwater Advisory Unit**Date Issued:** 29 September 2015**GAU Number:** 15802**Attention:** SHELL WESTERN E&P
PO BOX 576
HOUSTON, TX 77001**Operator No.:** 774719**API Number:**
County: LOVING
Lease Name: University 20-4 LOV
Lease Number:
Well Number: 3H
Total Vertical Depth: 12400
Latitude: 31.730953
Longitude: -103.341358
Datum: NAD27**Purpose:** New Drill**Location:** Survey-UL; Abstract-U34; Block-20; Section-9

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 775 to 1150 feet must be protected.

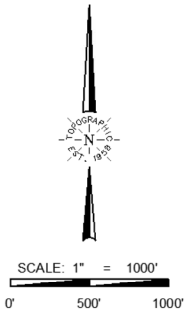
This recommendation is applicable to all wells within a radius of 200 feet of this location.

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 09/28/2015. 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



OPERATOR: PDEH LLC

AS-DRILLED LOCATION

LEASE NAME & WELL NO.:

UL 20 N TWITCH 0403H

API #: 4230132740

LEASE WELL ACREAGE:

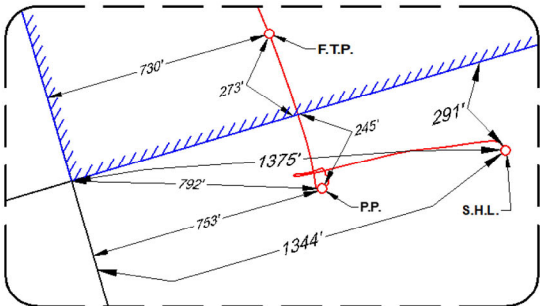
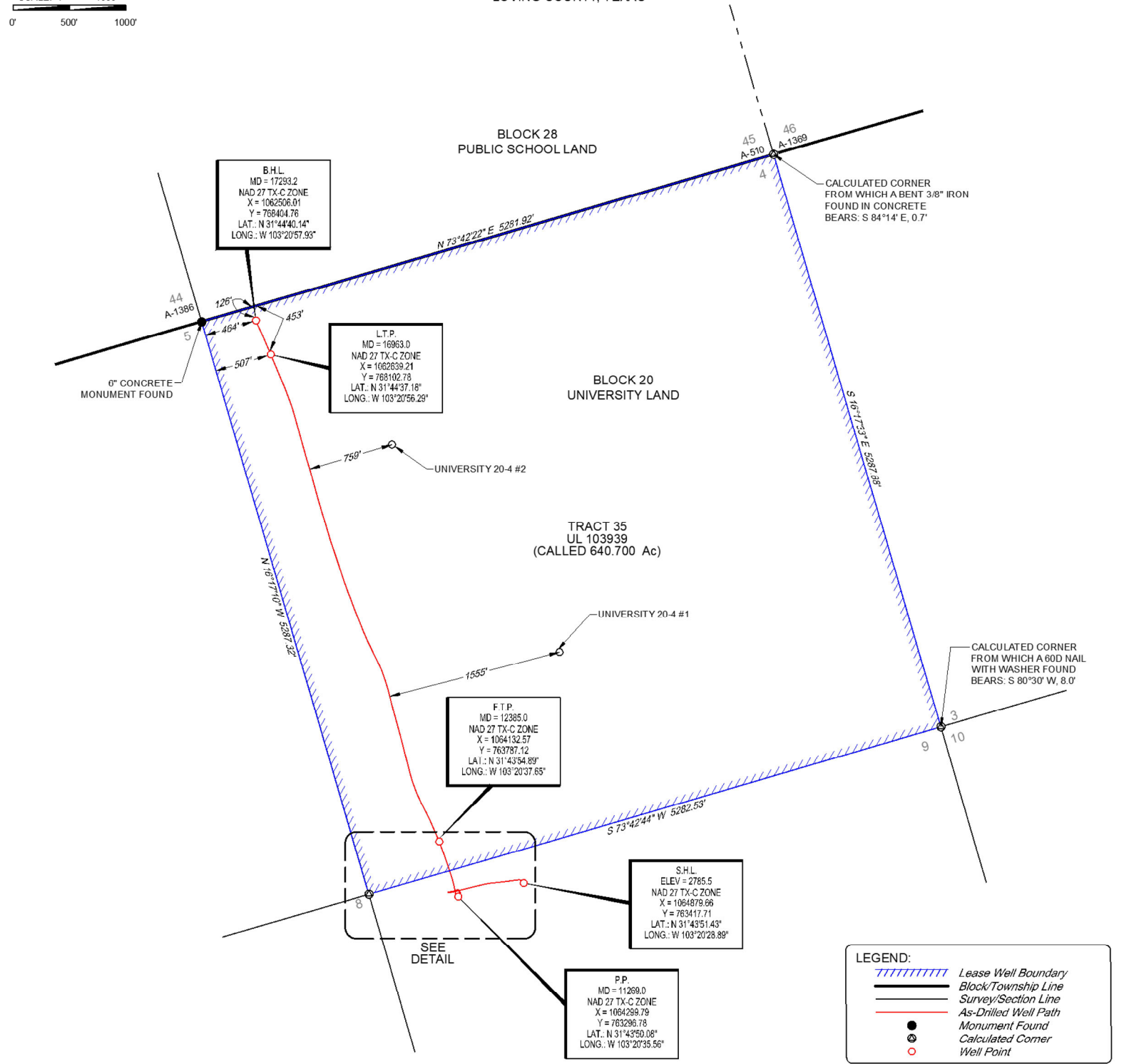
640.700 ACRES (CALLED)

NEAREST TOWN IN COUNTY:

±15.2 MILES EAST OF MENTONE, TEXAS

DESCRIPTION:

S.H.L./P.P.: SECTION 9, BLOCK 20, UNIVERSITY LAND SURVEY
F.T.P./L.T.P./B.H.L.: SECTION 4, BLOCK 20, UNIVERSITY LAND SURVEY
LOVING COUNTY, TEXAS



DETAIL VIEW
SCALE: 1" = 500'

TIES TABLE

POINT	LEASE WELL	SURVEY/SECTION
S.H.L.	1375' FSC	291' FNWL & 1344' FSWL
	291' FSEL	
P.P.	792' FSC	245' FNWL & 753' FSWL
	245' FSEL	
F.T.P.	730' FSWL	730' FSWL & 273' FSEL
	273' FSEL	
L.T.P.	453' FNWL	453' FNWL & 507' FSWL
	507' FSWL	
B.H.L.	126' FNWL	126' FNWL & 464' FSWL
	464' FSWL	

PRODUCTIVE LATERAL

LENGTH (F.T.P. TO L.T.P.)	
1	4,578.00'
TOTAL	4,578.00'



John R. Anderson 8/2/2022
John R. Anderson, R.P.L.S. No. 6442



1400 EVERMAN PARKWAY, Ste. 146 FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 FAX: (817) 744-7554
TEXAS FIRM REGISTRATION NO. 10042504
WWW.TOPOGRAPHIC.COM

UL 20 N TWITCH 0403H AS-DRILLED	REVISION:		NOTES:	NOTES CONT'D:
	O.M.	04/07/2016		
DATE: 02/11/2016	A.C.L.	07/19/2022	1. ORIGINAL DOCUMENT SIZE: 11" X 17"	6. THE AS-DRILLED SURFACE LOCATION HAS BEEN CAREFULLY SURVEYED ON THE GROUND DURING THE DATE OF OCTOBER 16, 2015.
FILE: AD_UL_20_N_TWITCH_0403H_REV2_PDEH			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.	7. THE SUBSURFACE WELL PATH DATA SHOWN HEREIN IS BASED ON INFORMATION PROVIDED BY PERMIAN DELAWARE ENTERPRISES HOLDINGS, LLC OR ITS SUBSIDIARIES & AFFILIATES.
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 PERMIAN DELAWARE ENTERPRISES HOLDINGS, LLC. 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.	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. ALL MINERAL OWNERSHIP DATA SHOWN HEREIN IS BASED ON INFORMATION PROVIDED BY PERMIAN DELAWARE ENTERPRISES HOLDINGS, LLC OR ITS SUBSIDIARIES & AFFILIATES.	10. F.T.P. = FIRST TAKE POINT
				11. L.T.P. = LAST TAKE POINT
				12. B.H.L. = BOTTOM HOLE LOCATION