



May 4, 2021

Railroad Commission of Texas
Oil and Gas Division
P.O. Box 12967
Capitol Station
Austin, Texas 78711

Attention: Regulatory Department

Re: Shell Western Exploration and Production Co.
University 19 TG Unit 2712H
Ward County, TX
API #42-475-37931
Job No. 67528

Enclosed please find the Survey Data Certification, and the original Plat and one copy of the Survey Report performed on the above referenced Well by Phoenix Technology Services, Inc. (P-5 No. 664171). Other information required by your office is as follows:

Name & Title of Surveyor	Drain Hole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Eric Neel	2712H	195	20,609	3/14/21	3/31/21	MWD

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Best Regards,

Brittany Carley

Brittany Carley
Operations Administrator



SWEPI

**Ward County, Texas (NAD27)
University 19 TG Unit
2712H**

OH / 67528

Design: Surveys (Nabors X05)

Standard Survey Report

16 April, 2021



Company:	SWEPI	Local Co-ordinate Reference:	Well 2712H
Project:	Ward County, Texas (NAD27)	TVD Reference:	RKB @ 2866.80usft (Nabors X04)
Site:	University 19 TG Unit	MD Reference:	RKB @ 2866.80usft (Nabors X04)
Well:	2712H	North Reference:	Grid
Wellbore:	OH / 67528	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Nabors X05)	Database:	USA Compass

Project	Ward County, Texas (NAD27), Ward, Texas		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Texas Central 4203		

Site	University 19 TG Unit		
Site Position:		Northing:	728,426.57 usft
From:	Map	Easting:	1,055,749.14 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	31° 38' 2.807861 N
		Longitude:	103° 22' 3.521887 W
		Grid Convergence:	-1.56 °

Well	2712H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	1.00 usft	Wellhead Elevation:	
			Latitude:
			Longitude:
			Ground Level:

Wellbore	OH / 67528				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	3/8/2021	6.86	59.31	47,212.80000000

Design	Surveys (Nabors X05)				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	163.84	

Survey Program	Date	4/16/2021			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
195.00	195.00	Phoenix MWD Surveys - 1 (OH / 67528)	PTW MWD+HDGM+AXIAL	MWD+HDGM+Axial Correction	
247.00	1,247.00	Phoenix MWD Surveys - 2 (OH / 67528)	PTW MWD+IFR+AXIAL	MWD+IFR1+Axial Correction	
1,428.00	1,428.00	Phoenix MWD Surveys - 3 (OH / 67528)	PTW MWD+HDGM+AXIAL	MWD+HDGM+Axial Correction	
1,610.00	14,368.00	Phoenix MWD Surveys - 4 (OH / 67528)	PTW MWD+IFR+AXIAL	MWD+IFR1+Axial Correction	
14,458.00	14,458.00	Phoenix MWD Surveys - 5 (OH / 67528)	PTW MWD POOR	MWD-Standard w/ 'Poor' revision AMID = 2.5 inst	
14,549.00	14,911.00	Phoenix MWD Surveys - 6 (OH / 67528)	PTW MWD+IFR+AXIAL	MWD+IFR1+Axial Correction	
15,001.00	15,001.00	Phoenix MWD Surveys - 7 (OH / 67528)	PTW MWD POOR	MWD-Standard w/ 'Poor' revision AMID = 2.5 inst	
15,091.00	20,668.00	Phoenix MWD Surveys - 8 (OH / 67528)	PTW MWD+IFR+AXIAL	MWD+IFR1+Axial Correction	

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
195.00	0.30	335.57	195.00	0.46	-0.21	-0.51	0.15	0.15	0.00
First PHX MWD Survey									
247.00	0.53	339.01	247.00	0.81	-0.35	-0.88	0.44	0.44	6.62

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Well:	2712H	North Reference:	Grid
Wellbore:	OH / 67528	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Nabors X05)	Database:	USA Compass

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
338.00	2.35	273.57	337.97	1.32	-2.37	-1.93	2.40	2.00	-71.91
429.00	3.68	272.08	428.84	1.54	-7.15	-3.47	1.46	1.46	-1.64
520.00	5.58	274.29	519.54	1.98	-14.48	-5.93	2.10	2.09	2.43
610.00	9.18	272.90	608.78	2.67	-26.02	-9.81	4.00	4.00	-1.54
702.00	10.38	270.97	699.44	3.18	-41.63	-14.65	1.35	1.30	-2.10
793.00	10.66	271.67	788.91	3.57	-58.24	-19.64	0.34	0.31	0.77
884.00	10.86	271.72	878.31	4.07	-75.22	-24.85	0.22	0.22	0.05
1,066.00	10.70	271.75	1,057.10	5.10	-109.25	-35.31	0.09	-0.09	0.02
1,428.00	11.33	271.56	1,412.43	7.10	-178.39	-56.46	0.17	0.17	-0.05
1,610.00	12.02	271.76	1,590.66	8.16	-215.20	-67.74	0.38	0.38	0.11
1,791.00	13.00	271.60	1,767.36	9.31	-254.39	-79.75	0.54	0.54	-0.09
1,972.00	13.91	273.14	1,943.39	11.07	-296.46	-93.15	0.54	0.50	0.85
2,153.00	14.78	273.78	2,118.75	13.79	-341.22	-108.21	0.49	0.48	0.35
2,334.00	15.51	273.92	2,293.46	16.96	-388.41	-124.39	0.40	0.40	0.08
2,514.00	16.49	274.71	2,466.49	20.71	-437.88	-141.76	0.56	0.54	0.44
2,695.00	15.24	278.70	2,640.59	26.41	-487.00	-160.91	0.92	-0.69	2.20
2,877.00	13.79	285.15	2,816.79	35.70	-531.59	-182.24	1.19	-0.80	3.54
3,058.00	10.57	283.66	2,993.69	45.26	-568.55	-201.71	1.79	-1.78	-0.82
3,239.00	10.64	285.07	3,171.60	53.53	-600.82	-218.63	0.15	0.04	0.78
3,421.00	11.08	284.97	3,350.34	62.41	-633.93	-236.38	0.24	0.24	-0.05
3,602.00	7.77	283.89	3,528.87	69.85	-662.62	-251.51	1.83	-1.83	-0.60
3,784.00	7.04	283.94	3,709.36	75.49	-685.39	-263.26	0.40	-0.40	0.03
3,965.00	6.87	286.04	3,889.02	81.15	-706.56	-274.59	0.17	-0.09	1.16
4,146.00	3.87	286.61	4,069.21	85.89	-722.82	-283.67	1.66	-1.66	0.31
4,327.00	3.13	293.29	4,249.87	89.59	-733.21	-290.12	0.47	-0.41	3.69
4,509.00	1.97	316.04	4,431.69	93.80	-739.95	-296.04	0.83	-0.64	12.50
4,690.00	1.57	357.80	4,612.61	98.52	-742.20	-301.20	0.73	-0.22	23.07
4,872.00	2.89	340.22	4,794.47	105.33	-743.85	-308.20	0.81	0.73	-9.66
5,053.00	3.28	353.32	4,975.21	114.77	-746.00	-317.86	0.44	0.22	7.24
5,214.00	3.11	350.66	5,135.96	123.65	-747.24	-326.74	0.14	-0.11	-1.65
5,395.00	1.95	247.92	5,316.85	127.34	-750.89	-331.30	2.22	-0.64	-56.76
5,576.00	1.48	216.95	5,497.77	124.31	-755.15	-329.58	0.56	-0.26	-17.11
5,757.00	0.98	156.71	5,678.74	121.02	-755.95	-326.64	0.72	-0.28	-33.28
5,937.00	1.57	97.53	5,858.70	119.29	-752.89	-324.12	0.76	0.33	-32.88
6,118.00	1.41	88.86	6,039.64	119.01	-748.21	-322.55	0.15	-0.09	-4.79
6,299.00	1.60	85.01	6,220.58	119.27	-743.46	-321.48	0.12	0.10	-2.13
6,480.00	1.79	82.80	6,401.50	119.84	-738.14	-320.55	0.11	0.10	-1.22
6,662.00	1.83	115.02	6,583.41	118.97	-732.69	-318.19	0.55	0.02	17.70
6,843.00	2.17	121.43	6,764.30	115.96	-727.15	-313.76	0.22	0.19	3.54
7,024.00	1.79	117.93	6,945.19	112.85	-721.73	-309.26	0.22	-0.21	-1.93
7,206.00	0.81	138.95	7,127.14	110.55	-718.37	-306.12	0.59	-0.54	11.55
7,387.00	0.99	240.61	7,308.13	108.82	-718.89	-304.60	0.77	0.10	56.17
7,568.00	0.95	233.63	7,489.10	107.16	-721.46	-303.72	0.07	-0.02	-3.86

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Wellbore:	OH / 67528	Survey Calculation Method:	Minimum Curvature
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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,749.00	0.79	220.48	7,670.08	105.32	-723.48	-302.52	0.14	-0.09	-7.27
7,930.00	0.62	221.54	7,851.07	103.64	-724.94	-301.31	0.09	-0.09	0.59
8,111.00	0.46	181.74	8,032.06	102.18	-725.61	-300.10	0.22	-0.09	-21.99
8,292.00	0.49	165.33	8,213.06	100.71	-725.44	-298.63	0.08	0.02	-9.07
8,473.00	0.80	182.12	8,394.04	98.69	-725.29	-296.66	0.20	0.17	9.28
8,654.00	0.50	176.37	8,575.03	96.64	-725.28	-294.69	0.17	-0.17	-3.18
8,836.00	0.39	202.05	8,757.03	95.28	-725.47	-293.42	0.12	-0.06	14.11
9,016.00	0.86	140.76	8,937.02	93.66	-724.84	-291.70	0.42	0.26	-34.05
9,197.00	1.45	147.97	9,117.98	90.67	-722.77	-288.25	0.34	0.33	3.98
9,378.00	3.04	159.25	9,298.84	84.24	-719.85	-281.26	0.91	0.88	6.23
9,559.00	2.18	153.17	9,479.65	76.68	-716.60	-273.09	0.50	-0.48	-3.36
9,740.00	0.90	160.94	9,660.58	72.26	-714.58	-268.29	0.71	-0.71	4.29
9,921.00	1.64	178.31	9,841.53	68.33	-714.04	-264.36	0.46	0.41	9.60
10,102.00	2.63	225.09	10,022.42	62.81	-716.90	-259.86	1.06	0.55	25.85
10,283.00	3.83	241.19	10,203.13	56.96	-725.14	-256.54	0.82	0.66	8.90
10,464.00	4.93	242.07	10,383.60	50.41	-737.31	-253.62	0.61	0.61	0.49
10,645.00	4.46	235.42	10,563.99	42.77	-749.98	-249.81	0.40	-0.26	-3.67
10,824.00	4.36	234.06	10,742.46	34.83	-761.22	-245.31	0.08	-0.06	-0.76
11,005.00	2.09	315.45	10,923.23	33.14	-769.11	-245.89	2.51	-1.25	44.97
11,081.00	1.33	336.24	10,999.20	34.93	-770.43	-247.98	1.28	-1.00	27.36
11,176.00	1.39	32.94	11,094.18	36.91	-770.25	-249.83	1.36	0.06	59.68
11,266.00	4.13	147.93	11,184.10	35.08	-767.94	-247.43	5.42	3.04	127.77
11,357.00	18.53	153.91	11,273.10	19.23	-759.79	-229.94	15.86	15.82	6.57
11,447.00	30.17	156.42	11,354.95	-14.46	-744.40	-193.30	12.98	12.93	2.79
11,538.00	40.05	155.37	11,429.30	-62.15	-723.00	-141.54	10.88	10.86	-1.15
11,628.00	48.58	153.22	11,493.64	-118.70	-695.68	-79.61	9.62	9.48	-2.39
11,719.00	56.10	158.15	11,549.22	-184.33	-666.20	-8.37	9.31	8.26	5.42
11,809.00	61.43	163.82	11,595.90	-257.05	-641.25	68.42	8.00	5.92	6.30
11,900.00	68.58	162.09	11,634.33	-335.84	-617.06	150.83	8.04	7.86	-1.90
11,990.00	76.91	163.43	11,661.01	-417.86	-591.63	236.69	9.36	9.26	1.49
12,028.00	81.09	164.79	11,668.26	-453.73	-581.42	273.98	11.55	11.00	3.58
12,106.00	88.25	164.28	11,675.50	-528.53	-560.72	351.58	9.20	9.18	-0.65
12,197.00	90.33	164.90	11,676.62	-616.25	-536.55	442.56	2.39	2.29	0.68
12,287.00	89.41	166.31	11,676.83	-703.42	-514.17	532.52	1.87	-1.02	1.57
12,468.00	93.11	166.22	11,672.85	-879.17	-471.21	713.28	2.04	2.04	-0.05
12,559.00	92.23	165.58	11,668.61	-967.33	-449.07	804.12	1.20	-0.97	-0.70
12,649.00	89.18	164.51	11,667.50	-1,054.26	-425.85	894.08	3.59	-3.39	-1.19
12,740.00	90.49	171.48	11,667.76	-1,143.21	-406.93	984.79	7.79	1.44	7.66
12,830.00	90.63	171.84	11,666.88	-1,232.26	-393.88	1,073.94	0.43	0.16	0.40
12,921.00	90.33	167.24	11,666.12	-1,321.72	-377.36	1,164.47	5.07	-0.33	-5.05
13,011.00	90.15	166.52	11,665.74	-1,409.37	-356.94	1,254.34	0.82	-0.20	-0.80
13,101.00	90.87	165.68	11,664.94	-1,496.73	-335.32	1,344.26	1.23	0.80	-0.93
13,192.00	90.36	170.22	11,663.97	-1,585.69	-316.32	1,435.00	5.02	-0.56	4.99
13,282.00	89.85	173.29	11,663.80	-1,674.75	-303.42	1,524.13	3.46	-0.57	3.41

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13,373.00	88.88	172.23	11,664.81	-1,765.02	-291.95	1,614.02	1.58	-1.07	-1.16
13,463.00	86.57	164.11	11,668.39	-1,852.96	-273.54	1,703.61	9.37	-2.57	-9.02
13,554.00	90.11	155.49	11,671.03	-1,938.23	-242.16	1,794.25	10.24	3.89	-9.47
13,644.00	92.13	156.50	11,669.27	-2,020.42	-205.55	1,883.38	2.51	2.24	1.12
13,735.00	91.73	155.89	11,666.21	-2,103.64	-168.84	1,973.52	0.80	-0.44	-0.67
13,825.00	89.56	157.24	11,665.19	-2,186.20	-133.06	2,062.79	2.84	-2.41	1.50
13,915.00	89.91	158.85	11,665.61	-2,269.67	-99.41	2,152.32	1.83	0.39	1.79
14,006.00	89.31	160.25	11,666.23	-2,354.93	-67.62	2,243.06	1.67	-0.66	1.54
14,096.00	89.60	163.24	11,667.08	-2,440.39	-39.43	2,332.99	3.34	0.32	3.32
14,187.00	89.62	165.68	11,667.70	-2,528.05	-15.05	2,423.97	2.68	0.02	2.68
14,368.00	89.47	161.08	11,669.14	-2,701.44	36.70	2,604.91	2.54	-0.08	-2.54
14,458.00	88.22	163.39	11,670.96	-2,787.12	64.16	2,694.85	2.92	-1.39	2.57
14,549.00	89.98	165.41	11,672.39	-2,874.75	88.62	2,785.83	2.94	1.93	2.22
14,640.00	90.04	163.09	11,672.37	-2,962.33	113.32	2,876.82	2.55	0.07	-2.55
14,730.00	91.62	162.19	11,671.07	-3,048.21	140.17	2,966.79	2.02	1.76	-1.00
14,911.00	90.25	160.70	11,668.11	-3,219.77	197.76	3,147.60	1.12	-0.76	-0.82
15,001.00	88.79	160.62	11,668.87	-3,304.69	227.56	3,237.45	1.62	-1.62	-0.09
15,091.00	89.38	161.35	11,670.30	-3,389.77	256.88	3,327.33	1.04	0.66	0.81
15,182.00	89.46	162.56	11,671.22	-3,476.29	285.07	3,418.27	1.33	0.09	1.33
15,363.00	89.10	160.81	11,673.50	-3,648.10	341.94	3,599.12	0.99	-0.20	-0.97
15,454.00	90.05	163.91	11,674.17	-3,734.80	369.51	3,690.08	3.56	1.04	3.41
15,544.00	89.90	166.44	11,674.21	-3,821.80	392.54	3,780.04	2.82	-0.17	2.81
15,725.00	89.93	163.60	11,674.48	-3,996.63	439.32	3,960.99	1.57	0.02	-1.57
15,906.00	89.62	165.83	11,675.19	-4,171.22	487.03	4,141.95	1.24	-0.17	1.23
15,997.00	90.07	168.61	11,675.44	-4,259.95	507.16	4,232.79	3.09	0.49	3.05
16,087.00	89.73	165.79	11,675.60	-4,347.71	527.09	4,322.62	3.16	-0.38	-3.13
16,177.00	90.75	163.84	11,675.22	-4,434.56	550.67	4,412.60	2.45	1.13	-2.17
16,268.00	91.04	164.72	11,673.80	-4,522.14	575.32	4,503.59	1.02	0.32	0.97
16,358.00	90.74	166.91	11,672.40	-4,609.38	597.37	4,593.52	2.46	-0.33	2.43
16,448.00	90.98	166.76	11,671.05	-4,697.01	617.86	4,683.38	0.31	0.27	-0.17
16,539.00	90.98	166.87	11,669.49	-4,785.60	638.62	4,774.25	0.12	0.00	0.12
16,629.00	90.38	163.58	11,668.42	-4,872.60	661.57	4,864.20	3.72	-0.67	-3.66
16,719.00	90.47	161.29	11,667.76	-4,958.40	688.72	4,954.17	2.55	0.10	-2.54
16,810.00	91.44	164.84	11,666.24	-5,045.42	715.22	5,045.13	4.04	1.07	3.90
16,900.00	86.59	160.41	11,667.79	-5,131.26	742.08	5,135.05	7.30	-5.39	-4.92
16,991.00	87.71	159.25	11,672.31	-5,216.57	773.42	5,225.71	1.77	1.23	-1.27
17,081.00	90.47	160.52	11,673.74	-5,301.06	804.36	5,315.47	3.38	3.07	1.41
17,172.00	89.90	158.14	11,673.45	-5,386.19	836.48	5,406.18	2.69	-0.63	-2.62
17,262.00	90.81	163.58	11,672.89	-5,471.18	865.98	5,496.03	6.13	1.01	6.04
17,353.00	90.92	165.11	11,671.52	-5,558.80	890.53	5,587.01	1.69	0.12	1.68
17,443.00	90.44	162.91	11,670.45	-5,645.30	915.32	5,677.00	2.50	-0.53	-2.44
17,534.00	90.47	162.15	11,669.72	-5,732.10	942.64	5,767.97	0.84	0.03	-0.84
17,624.00	91.07	168.81	11,668.51	-5,819.17	965.19	5,857.87	7.43	0.67	7.40

Company:	SWEPI	Local Co-ordinate Reference:	Well 2712H
Project:	Ward County, Texas (NAD27)	TVD Reference:	RKB @ 2866.80usft (Nabors X04)
Site:	University 19 TG Unit	MD Reference:	RKB @ 2866.80usft (Nabors X04)
Well:	2712H	North Reference:	Grid
Wellbore:	OH / 67528	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Nabors X05)	Database:	USA Compass

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,715.00	89.91	162.40	11,667.73	-5,907.26	987.80	5,948.78	7.16	-1.27	-7.04
17,805.00	90.10	160.82	11,667.73	-5,992.66	1,016.19	6,038.71	1.77	0.21	-1.76
17,896.00	90.44	160.34	11,667.30	-6,078.48	1,046.44	6,129.56	0.65	0.37	-0.53
17,986.00	89.99	161.09	11,666.96	-6,163.43	1,076.17	6,219.42	0.97	-0.50	0.83
18,077.00	91.13	162.76	11,666.07	-6,249.93	1,104.40	6,310.36	2.22	1.25	1.84
18,167.00	90.15	160.92	11,665.07	-6,335.44	1,132.45	6,400.30	2.32	-1.09	-2.04
18,258.00	90.16	162.50	11,664.82	-6,421.84	1,161.00	6,491.23	1.74	0.01	1.74
18,348.00	91.03	167.89	11,663.88	-6,508.81	1,183.99	6,581.17	6.07	0.97	5.99
18,439.00	90.44	170.55	11,662.72	-6,598.19	1,201.01	6,671.75	2.99	-0.65	2.92
18,529.00	90.11	167.03	11,662.28	-6,686.46	1,218.50	6,761.40	3.93	-0.37	-3.91
18,619.00	90.42	166.82	11,661.87	-6,774.13	1,238.86	6,851.27	0.42	0.34	-0.23
18,709.00	89.42	162.57	11,661.99	-6,860.91	1,262.61	6,941.24	4.85	-1.11	-4.72
18,890.00	92.51	163.09	11,658.95	-7,033.80	1,316.03	7,122.16	1.73	1.71	0.29
18,980.00	90.74	165.13	11,656.39	-7,120.32	1,340.66	7,212.12	3.00	-1.97	2.27
19,071.00	89.64	164.69	11,656.09	-7,208.18	1,364.35	7,303.10	1.30	-1.21	-0.48
19,162.00	89.81	166.87	11,656.53	-7,296.38	1,386.70	7,394.04	2.40	0.19	2.40
19,252.00	91.21	169.87	11,655.73	-7,384.52	1,404.84	7,483.74	3.68	1.56	3.33
19,343.00	90.96	167.31	11,654.00	-7,473.70	1,422.84	7,574.41	2.83	-0.27	-2.81
19,433.00	90.88	165.61	11,652.56	-7,561.18	1,443.91	7,664.30	1.89	-0.09	-1.89
19,524.00	89.99	165.63	11,651.87	-7,649.33	1,466.51	7,755.25	0.98	-0.98	0.02
19,615.00	90.74	167.84	11,651.29	-7,737.89	1,487.39	7,846.12	2.56	0.82	2.43
19,705.00	90.45	168.95	11,650.35	-7,826.05	1,505.49	7,935.83	1.27	-0.32	1.23
19,795.00	90.16	169.72	11,649.87	-7,914.49	1,522.14	8,025.42	0.91	-0.32	0.86
19,976.00	90.09	164.90	11,649.48	-8,091.02	1,561.89	8,206.03	2.66	-0.04	-2.66
20,067.00	90.05	167.61	11,649.37	-8,179.40	1,583.51	8,296.94	2.98	-0.04	2.98
20,157.00	90.76	168.52	11,648.73	-8,267.45	1,602.13	8,386.69	1.28	0.79	1.01
20,248.00	91.37	163.92	11,647.04	-8,355.79	1,623.79	8,477.58	5.10	0.67	-5.05
20,338.00	90.25	162.67	11,645.77	-8,441.98	1,649.66	8,567.56	1.86	-1.24	-1.39
20,429.00	89.64	158.32	11,645.85	-8,527.74	1,680.03	8,658.38	4.83	-0.67	-4.78
20,519.00	89.19	154.86	11,646.77	-8,610.31	1,715.78	8,747.64	3.88	-0.50	-3.84
20,609.00	88.67	155.87	11,648.45	-8,692.11	1,753.29	8,836.64	1.26	-0.58	1.12
Final Phoenix MWD Survey									
20,668.00	88.67	155.87	11,649.82	-8,745.94	1,777.41	8,895.06	0.00	0.00	0.00
Projection to TD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
195.00	195.00	0.46	-0.21	First PHX MWD Survey
20,609.00	11,648.45	-8,692.11	1,753.29	Final Phoenix MWD Survey
20,668.00	11,649.82	-8,745.94	1,777.41	Projection to TD



Company:	SWEPI	Local Co-ordinate Reference:	Well 2712H
Project:	Ward County, Texas (NAD27)	TVD Reference:	RKB @ 2866.80usft (Nabors X04)
Site:	University 19 TG Unit	MD Reference:	RKB @ 2866.80usft (Nabors X04)
Well:	2712H	North Reference:	Grid
Wellbore:	OH / 67528	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Nabors X05)	Database:	USA Compass

SURVEY DATA CERTIFICATION



PHOENIX
TECHNOLOGY SERVICES

Job #: 67528
 Client: SWEPI
 County & State: Ward, TX
 Well: University 19 TG Unit 2712H
 API No: 47-475-37931
 Proposed Direction: 163.72°

TIE-IN DATA

MD	TVD	INC	AZM	N/-S	E/-W	DATA SOURCE
0.00 ft	0.00 ft	0.00°	0.00°	. N	. E	Surface
Data Source Company:						Phoenix

SURVEY DATA

First Survey Date	First Survey Depth	INC	AZM
14-Mar-21	195 ft	0.30°	335.57°

Last Survey Date	Last Survey Depth	INC	AZM
31-Mar-21	20,609 ft	88.67°	155.87°

Survey Instrument Type
Velocity

Projected TD Survey Date	Projected TD Survey Depth	INC	AZM
31-Mar-21	20,668 ft	88.67°	155.87°

CORRECTION INFORMATION

Magnetic Declination Used	6.86 degrees
Grid Convergence Used	-1.56 degrees
Total Correction	8.42 degrees

Corrected to True/Grid North
Grid North

TO THE BEST OF MY KNOWLEDGE, I
 CERTIFY THIS SURVEY DATA TO BE
 TRUE AND CORRECT.

Eric Neel

Signature

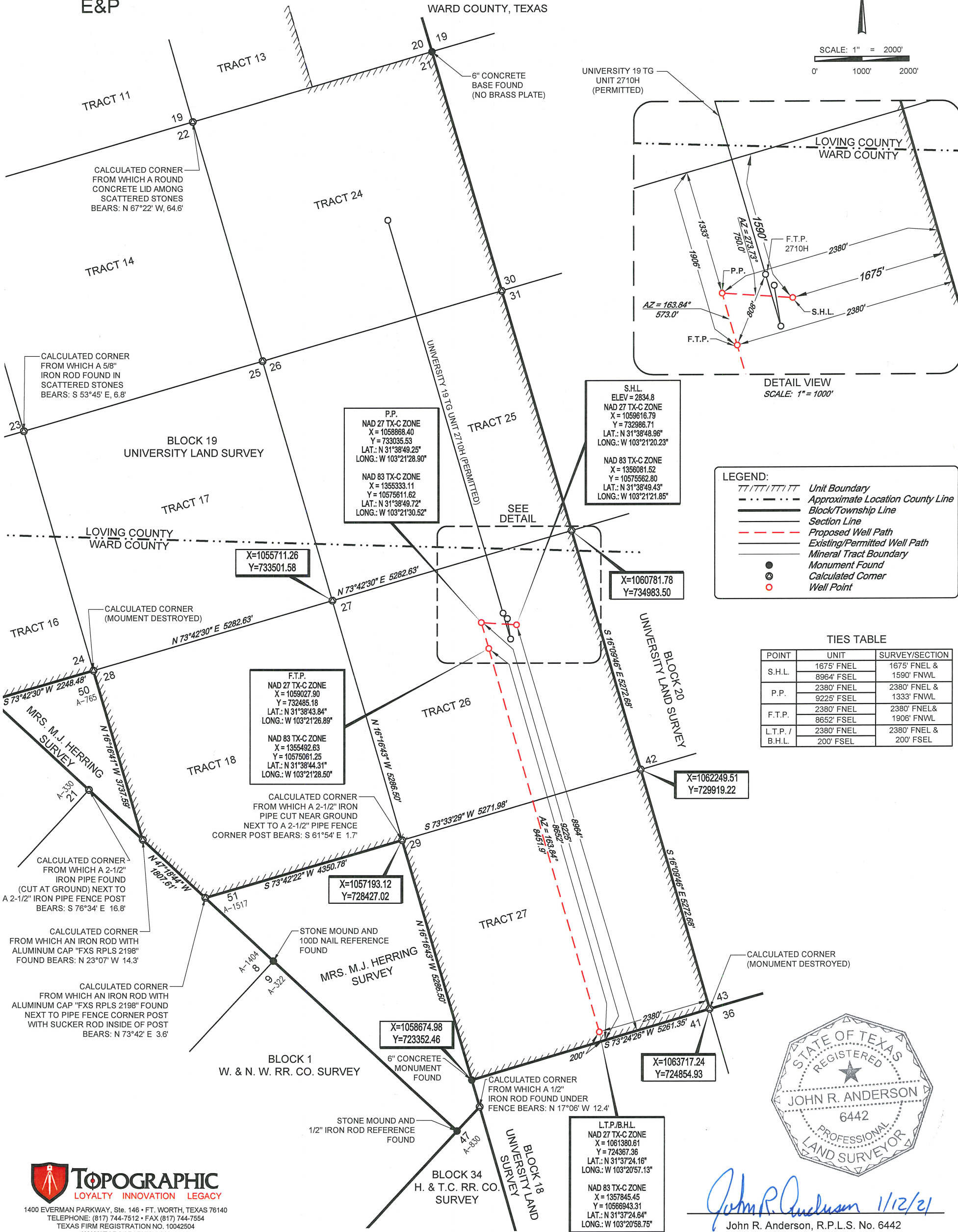
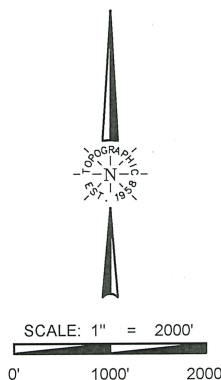
4/1/2021

Date



WELL LOCATION
LEASE NAME & WELL NO.:
UNIVERSITY 19 TG UNIT 2712H

UNIT/LEASE ACREAGE:
12830.08 ACRES (MEASURED)
NEAREST TOWN IN COUNTY:
±14.9 MILES SOUTHEAST OF MENTONE, TEXAS
DESCRIPTION:
SECTIONS 27 & 29, BLOCK 19, UNIVERSITY LAND SURVEY
WARD COUNTY, TEXAS



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.	1675' FNEL	1675' FNEL & 1590' FNWL
P.P.	8964' FSEL	2380' FNEL & 1333' FNWL
F.T.P.	9225' FSEL	2380' FNEL & 1906' FNWL
L.T.P. / B.H.L.	2380' FSEL	2380' FNEL & 200' FSEL



John R. Anderson 1/12/21
John R. Anderson, R.P.L.S. No. 6442



UL-19-27-P1 UNIVERSITY 19 TG UNIT 2712H	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 MAY 25, 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		
	O.M.	01/12/2021		
DATE:	05/31/2019			
FILE:	LO_UL_19_27_P1_UNIVERSITY_19_27_TG_2712H_REV1			
DRAWN BY:	A.C.L.			
SHEET :	1 OF 1			