



July 8, 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 1008H
Loving County, TX
API #42-301-35216
Job No. 67704

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	1008H	199	22,846	4/15/21	5/27/21	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

**Loving County, Texas (NAD27 - TC)
University 19 TG Unit
1008H**

OH / 67704

Survey: Phoenix MWD Surveys

Standard Survey Report

29 June, 2021



Company:	SWEPI	Local Co-ordinate Reference:	Well 1008H
Project:	Loving County, Texas (NAD27 - TC)	TVD Reference:	RKB @ 2839.60usft (Nabors X05)
Site:	University 19 TG Unit	MD Reference:	RKB @ 2839.60usft (Nabors X05)
Well:	1008H	North Reference:	Grid
Wellbore:	OH / 67704	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Nabors X05)	Database:	USA Compass

Project	Loving County, Texas (NAD27 - TC), Loving, 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:	737,883.55 usft
From:	Map	Easting:	1,047,489.21 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	31° 39' 34.128273 N
		Longitude:	103° 23' 42.038789 W
		Grid Convergence:	-1.58 °

Well	1008H		
Well Position	+N/-S	0.00 usft	Northing: 753,122.46 usft
	+E/-W	0.00 usft	Easting: 1,048,745.09 usft
Position Uncertainty	1.00 usft	Wellhead Elevation:	usft
		Latitude:	31° 42' 5.229819 N
		Longitude:	103° 23' 32.361465 W
		Ground Level:	2,807.60 usft

Wellbore	OH / 67704		
Magnetics	Model Name	Sample Date	Declination (°)
	IFR	4/14/2021	6.74
			Dip Angle (°) 59.36
			Field Strength (nT) 47,223.30000000

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)
	0.00	0.00	0.00
			Direction (°) 343.46

Survey Program	Date	6/29/2021		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
199.00	22,904.00	Phoenix MWD Surveys (OH / 67704)	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
199.00	1.00	241.67	198.99	-0.82	-1.53	-0.35	0.50	0.50	0.00
Phoenix First Survey									
251.00	1.36	247.94	250.98	-1.27	-2.50	-0.51	0.73	0.69	12.06
342.00	2.82	154.77	341.93	-3.70	-2.55	-2.82	3.51	1.60	-102.38
433.00	4.33	138.52	432.76	-8.30	0.68	-8.15	1.98	1.66	-17.86
524.00	5.82	131.42	523.40	-13.93	6.42	-15.18	1.77	1.64	-7.80
615.00	7.48	130.33	613.78	-20.81	14.39	-24.05	1.83	1.82	-1.20
707.00	9.19	128.45	704.81	-29.26	24.71	-35.08	1.88	1.86	-2.04
796.00	9.56	127.40	792.62	-38.17	36.15	-46.88	0.46	0.42	-1.18
977.00	9.49	126.66	971.12	-56.21	60.06	-70.98	0.08	-0.04	-0.41

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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)
1,159.00	9.72	125.22	1,150.57	-74.02	84.65	-95.06	0.18	0.13	-0.79
1,340.00	10.88	124.26	1,328.65	-92.45	111.25	-120.30	0.65	0.64	-0.53
1,522.00	11.71	124.12	1,507.13	-112.48	140.74	-147.89	0.46	0.46	-0.08
1,703.00	13.25	124.20	1,683.84	-134.45	173.10	-178.16	0.85	0.85	0.04
1,885.00	14.53	124.66	1,860.52	-159.15	209.13	-212.11	0.71	0.70	0.25
2,066.00	13.01	125.56	2,036.31	-183.92	244.38	-245.88	0.85	-0.84	0.50
2,248.00	12.79	126.26	2,213.72	-207.75	277.29	-278.09	0.15	-0.12	0.38
2,429.00	12.39	125.89	2,390.37	-230.98	309.18	-309.44	0.23	-0.22	-0.20
2,610.00	13.80	124.47	2,566.66	-254.58	342.71	-341.61	0.80	0.78	-0.78
2,792.00	15.25	122.04	2,742.84	-279.57	380.90	-376.43	0.86	0.80	-1.34
2,883.00	15.59	123.09	2,830.56	-292.59	401.29	-394.73	0.48	0.37	1.15
2,973.00	15.67	123.66	2,917.23	-305.93	421.54	-413.28	0.19	0.09	0.63
3,064.00	14.57	127.17	3,005.08	-319.66	440.89	-431.95	1.57	-1.21	3.86
3,155.00	13.02	130.88	3,093.46	-333.28	457.76	-449.81	1.96	-1.70	4.08
3,245.00	11.66	131.34	3,181.37	-345.93	472.25	-466.06	1.52	-1.51	0.51
3,335.00	10.12	136.05	3,269.75	-357.63	484.57	-480.78	1.97	-1.71	5.23
3,426.00	8.08	142.39	3,359.61	-368.45	494.02	-493.85	2.49	-2.24	6.97
3,517.00	6.06	156.31	3,449.92	-377.92	499.86	-504.58	2.90	-2.22	15.30
3,698.00	3.20	190.01	3,630.34	-391.65	502.82	-518.59	2.12	-1.58	18.62
3,789.00	1.85	219.89	3,721.25	-395.28	501.44	-521.67	2.02	-1.48	32.84
3,880.00	2.29	227.57	3,812.19	-397.63	499.15	-523.28	0.57	0.48	8.44
3,971.00	2.09	226.98	3,903.12	-399.99	496.60	-524.81	0.22	-0.22	-0.65
4,061.00	1.49	265.67	3,993.08	-401.20	494.23	-525.30	1.46	-0.67	42.99
4,152.00	1.14	257.87	4,084.06	-401.48	492.17	-524.98	0.43	-0.38	-8.57
4,242.00	1.06	295.02	4,174.04	-401.31	490.54	-524.35	0.78	-0.09	41.28
4,333.00	2.14	345.20	4,265.01	-399.31	489.34	-522.10	1.84	1.19	55.14
4,514.00	1.84	356.97	4,445.90	-393.14	488.32	-515.89	0.28	-0.17	6.50
4,696.00	1.77	17.02	4,627.81	-387.54	488.99	-510.71	0.35	-0.04	11.02
4,877.00	1.71	42.99	4,808.73	-382.89	491.65	-507.01	0.43	-0.03	14.35
4,968.00	1.82	44.11	4,899.69	-380.86	493.58	-505.62	0.13	0.12	1.23
5,128.00	1.77	41.54	5,059.61	-377.19	496.99	-503.06	0.06	-0.03	-1.61
5,309.00	1.84	35.46	5,240.52	-372.73	500.53	-499.80	0.11	0.04	-3.36
5,490.00	1.93	40.52	5,421.42	-368.04	504.19	-496.35	0.10	0.05	2.80
5,671.00	1.96	36.63	5,602.32	-363.24	508.02	-492.84	0.07	0.02	-2.15
5,852.00	1.93	37.96	5,783.21	-358.35	511.74	-489.21	0.03	-0.02	0.73
6,033.00	1.87	34.77	5,964.11	-353.53	515.30	-485.60	0.07	-0.03	-1.76
6,214.00	1.92	32.35	6,145.02	-348.54	518.61	-481.76	0.05	0.03	-1.34
6,395.00	1.72	38.04	6,325.92	-343.84	521.91	-478.19	0.15	-0.11	3.14
6,575.00	1.77	45.14	6,505.84	-339.75	525.54	-475.30	0.12	0.03	3.94
6,757.00	1.75	47.00	6,687.75	-335.87	529.56	-472.73	0.03	-0.01	1.02
6,937.00	0.88	94.32	6,867.71	-334.10	532.95	-472.00	0.73	-0.48	26.29
7,118.00	0.65	151.69	7,048.70	-335.11	534.83	-473.50	0.42	-0.13	31.70
7,300.00	0.90	161.29	7,230.68	-337.37	535.77	-475.94	0.15	0.14	5.27

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Survey

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7,481.00	0.98	214.17	7,411.66	-340.00	535.36	-478.34	0.46	0.04	29.22
7,662.00	1.05	226.67	7,592.63	-342.42	533.29	-480.07	0.13	0.04	6.91
7,843.00	1.48	237.33	7,773.59	-344.82	530.11	-481.46	0.27	0.24	5.89
8,023.00	1.97	241.77	7,953.50	-347.54	525.43	-482.74	0.28	0.27	2.47
8,204.00	1.39	234.97	8,134.43	-350.27	520.89	-484.06	0.34	-0.32	-3.76
8,385.00	1.40	230.58	8,315.37	-352.93	517.38	-485.62	0.06	0.01	-2.43
8,566.00	1.84	230.64	8,496.30	-356.18	513.43	-487.61	0.24	0.24	0.03
8,747.00	1.55	232.95	8,677.22	-359.50	509.23	-489.59	0.16	-0.16	1.28
8,928.00	0.58	277.97	8,858.19	-360.84	506.37	-490.07	0.67	-0.54	24.87
9,109.00	0.96	257.44	9,039.17	-361.05	503.98	-489.58	0.26	0.21	-11.34
9,289.00	2.00	256.56	9,219.11	-362.10	499.45	-489.31	0.58	0.58	-0.49
9,470.00	4.24	238.62	9,399.83	-366.32	490.67	-490.85	1.34	1.24	-9.91
9,651.00	5.25	248.43	9,580.21	-372.85	477.25	-493.29	0.71	0.56	5.42
9,832.00	3.65	264.85	9,760.67	-376.41	463.81	-492.88	1.12	-0.88	9.07
10,013.00	2.77	262.47	9,941.38	-377.50	453.74	-491.06	0.49	-0.49	-1.31
10,194.00	1.60	269.98	10,122.25	-378.08	446.88	-489.65	0.66	-0.65	4.15
10,375.00	1.07	224.50	10,303.20	-379.29	443.16	-489.75	0.63	-0.29	-25.13
10,556.00	0.52	249.28	10,484.19	-380.78	441.21	-490.63	0.35	-0.30	13.69
10,737.00	0.90	303.41	10,665.17	-380.29	439.26	-489.60	0.40	0.21	29.91
10,918.00	0.54	322.69	10,846.16	-378.83	437.55	-487.72	0.24	-0.20	10.65
11,102.00	1.95	324.00	11,030.11	-375.61	435.19	-483.95	0.77	0.77	0.71
11,176.00	2.14	315.55	11,104.07	-373.60	433.48	-481.55	0.48	0.26	-11.42
11,266.00	8.90	326.22	11,193.60	-366.61	428.43	-473.40	7.56	7.51	11.86
11,357.00	18.38	332.25	11,281.93	-348.02	417.81	-452.56	10.52	10.42	6.63
11,447.00	26.22	331.00	11,365.14	-318.02	401.54	-419.17	8.73	8.71	-1.39
11,537.00	31.95	328.25	11,443.76	-280.35	379.35	-376.74	6.54	6.37	-3.06
11,628.00	40.63	331.80	11,517.05	-233.67	352.62	-324.39	9.81	9.54	3.90
11,718.00	51.90	336.87	11,579.19	-175.07	324.77	-260.28	13.16	12.52	5.63
11,809.00	63.90	339.19	11,627.46	-103.68	296.08	-183.68	13.36	13.19	2.55
11,899.00	76.86	339.86	11,657.62	-24.42	266.50	-99.28	14.42	14.40	0.74
12,037.00	95.30	343.05	11,667.01	105.54	222.95	37.70	13.56	13.36	2.31
12,108.00	93.42	343.52	11,661.62	173.34	202.59	108.49	2.73	-2.65	0.66
12,198.00	92.04	345.10	11,657.33	259.88	178.28	198.37	2.33	-1.53	1.76
12,289.00	86.83	342.35	11,658.23	347.19	152.79	289.33	6.47	-5.73	-3.02
12,379.00	88.68	340.43	11,661.75	432.41	124.10	379.19	2.96	2.06	-2.13
12,470.00	90.20	344.86	11,662.64	519.24	96.96	470.15	5.15	1.67	4.87
12,560.00	89.82	347.03	11,662.63	606.54	75.10	560.06	2.45	-0.42	2.41
12,650.00	88.63	343.70	11,663.84	693.60	52.37	649.99	3.93	-1.32	-3.70
12,741.00	88.45	342.80	11,666.16	780.71	26.15	740.96	1.01	-0.20	-0.99
12,831.00	88.61	341.74	11,668.47	866.41	-1.24	830.91	1.19	0.18	-1.18
12,922.00	89.68	343.21	11,669.83	953.17	-28.64	921.88	2.00	1.18	1.62
13,012.00	90.10	349.14	11,670.00	1,040.52	-50.14	1,011.74	6.61	0.47	6.59
13,103.00	90.30	346.84	11,669.68	1,129.52	-69.07	1,102.45	2.54	0.22	-2.53

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13,194.00	89.71	339.21	11,669.68	1,216.49	-95.62	1,193.38	8.41	-0.65	-8.38
13,284.00	91.16	341.41	11,668.99	1,301.22	-125.94	1,283.23	2.93	1.61	2.44
13,374.00	91.42	340.46	11,666.97	1,386.26	-155.33	1,373.12	1.09	0.29	-1.06
13,465.00	90.81	339.05	11,665.20	1,471.62	-186.81	1,463.91	1.69	-0.67	-1.55
13,555.00	89.80	338.56	11,664.72	1,555.53	-219.35	1,553.61	1.25	-1.12	-0.54
13,646.00	90.30	339.62	11,664.64	1,640.54	-251.83	1,644.35	1.29	0.55	1.16
13,736.00	90.69	340.17	11,663.86	1,725.05	-282.76	1,734.17	0.75	0.43	0.61
13,827.00	90.02	340.69	11,663.30	1,810.79	-313.24	1,825.04	0.93	-0.74	0.57
13,917.00	90.02	342.41	11,663.26	1,896.16	-341.73	1,914.98	1.91	0.00	1.91
14,008.00	90.11	343.90	11,663.16	1,983.25	-368.10	2,005.98	1.64	0.10	1.64
14,098.00	90.44	345.35	11,662.73	2,070.03	-391.96	2,095.96	1.65	0.37	1.61
14,189.00	90.38	347.13	11,662.08	2,158.41	-413.60	2,186.85	1.96	-0.07	1.96
14,279.00	89.75	344.66	11,661.98	2,245.69	-435.53	2,276.76	2.83	-0.70	-2.74
14,370.00	88.30	341.01	11,663.52	2,332.61	-462.38	2,367.72	4.32	-1.59	-4.01
14,460.00	89.17	342.60	11,665.51	2,418.08	-490.47	2,457.66	2.01	0.97	1.77
14,551.00	89.13	341.16	11,666.86	2,504.56	-518.77	2,548.61	1.58	-0.04	-1.58
14,641.00	92.31	342.19	11,665.73	2,589.98	-547.06	2,638.55	3.71	3.53	1.14
14,732.00	92.70	342.29	11,661.75	2,676.56	-574.79	2,729.44	0.44	0.43	0.11
14,822.00	89.84	340.11	11,659.76	2,761.72	-603.79	2,819.33	4.00	-3.18	-2.42
14,913.00	88.99	339.49	11,660.69	2,847.12	-635.21	2,910.14	1.16	-0.93	-0.68
15,003.00	90.52	342.56	11,661.07	2,932.21	-664.46	3,000.04	3.81	1.70	3.41
15,094.00	90.72	343.95	11,660.09	3,019.35	-690.68	3,091.04	1.54	0.22	1.53
15,184.00	88.41	341.97	11,660.77	3,105.38	-717.05	3,181.02	3.38	-2.57	-2.20
15,275.00	89.21	343.30	11,662.66	3,192.22	-744.20	3,271.99	1.71	0.88	1.46
15,365.00	89.16	341.33	11,663.94	3,277.95	-771.54	3,361.96	2.19	-0.06	-2.19
15,455.00	88.85	339.45	11,665.50	3,362.71	-801.74	3,451.81	2.12	-0.34	-2.09
15,546.00	90.79	341.08	11,665.79	3,448.36	-832.46	3,542.66	2.78	2.13	1.79
15,636.00	91.18	343.54	11,664.24	3,534.08	-859.81	3,632.62	2.77	0.43	2.73
15,726.00	91.21	343.18	11,662.37	3,620.30	-885.57	3,722.60	0.40	0.03	-0.40
15,817.00	91.72	345.33	11,660.04	3,707.85	-910.26	3,813.56	2.43	0.56	2.36
15,908.00	90.04	342.14	11,658.64	3,795.18	-935.74	3,904.53	3.96	-1.85	-3.51
15,998.00	90.79	345.89	11,657.99	3,881.68	-960.52	3,994.51	4.25	0.83	4.17
16,088.00	89.51	340.36	11,657.75	3,967.77	-986.63	4,084.47	6.31	-1.42	-6.14
16,179.00	90.53	343.60	11,657.72	4,054.30	-1,014.78	4,175.43	3.73	1.12	3.56
16,269.00	89.96	340.18	11,657.34	4,139.82	-1,042.75	4,265.38	3.85	-0.63	-3.80
16,360.00	90.13	341.34	11,657.27	4,225.74	-1,072.74	4,356.27	1.29	0.19	1.27
16,451.00	89.90	349.64	11,657.22	4,400.81	-1,118.05	4,537.00	4.59	-0.13	4.59
16,541.00	89.67	348.52	11,657.56	4,489.18	-1,135.09	4,626.57	1.27	-0.26	-1.24
16,631.00	89.31	349.26	11,658.37	4,578.47	-1,152.63	4,717.16	0.90	-0.40	0.81
16,722.00									
16,813.00	89.98	351.63	11,658.93	4,668.20	-1,167.73	4,807.47	2.71	0.74	2.60
16,903.00	88.76	349.80	11,659.92	4,757.01	-1,182.25	4,896.74	2.44	-1.36	-2.03
16,994.00	88.61	348.73	11,662.01	4,846.39	-1,199.20	4,987.25	1.19	-0.16	-1.18
17,084.00	89.48	349.57	11,663.51	4,934.77	-1,216.14	5,076.79	1.34	0.97	0.93
17,175.00	90.56	351.48	11,663.48	5,024.52	-1,231.12	5,167.09	2.41	1.19	2.10

Company:	SWEPI	Local Co-ordinate Reference:	Well 1008H
Project:	Loving County, Texas (NAD27 - TC)	TVD Reference:	RKB @ 2839.60usft (Nabors X05)
Site:	University 19 TG Unit	MD Reference:	RKB @ 2839.60usft (Nabors X05)
Well:	1008H	North Reference:	Grid
Wellbore:	OH / 67704	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)
17,266.00	89.98	352.44	11,663.05	5,114.63	-1,243.84	5,257.09	1.23	-0.64	1.05
17,356.00	89.80	348.73	11,663.22	5,203.40	-1,258.56	5,346.38	4.13	-0.20	-4.12
17,446.00	90.21	345.69	11,663.21	5,291.15	-1,278.48	5,436.18	3.41	0.46	-3.38
17,537.00	89.82	340.95	11,663.19	5,378.30	-1,304.60	5,527.15	5.23	-0.43	-5.21
17,628.00	88.81	335.20	11,664.28	5,462.68	-1,338.56	5,617.70	6.41	-1.11	-6.32
17,718.00	88.56	334.22	11,666.34	5,544.03	-1,376.99	5,706.63	1.12	-0.28	-1.09
17,809.00	91.42	335.65	11,666.36	5,626.45	-1,415.54	5,796.62	3.51	3.14	1.57
17,900.00	90.92	333.70	11,664.50	5,708.68	-1,454.46	5,886.52	2.21	-0.55	-2.14
17,990.00	91.67	333.96	11,662.47	5,789.43	-1,494.14	5,975.23	0.88	0.83	0.29
18,081.00	91.29	337.87	11,660.11	5,872.47	-1,531.26	6,065.40	4.32	-0.42	4.30
18,171.00	90.07	339.32	11,659.05	5,956.25	-1,564.10	6,155.06	2.11	-1.36	1.61
18,262.00	90.92	345.78	11,658.26	6,043.01	-1,591.37	6,246.00	7.16	0.93	7.10
18,352.00	90.49	345.69	11,657.15	6,130.23	-1,613.55	6,335.92	0.49	-0.48	-0.10
18,443.00	90.21	345.84	11,656.60	6,218.43	-1,635.92	6,426.84	0.35	-0.31	0.16
18,533.00	90.34	345.66	11,656.16	6,305.66	-1,658.08	6,516.77	0.25	0.14	-0.20
18,624.00	90.92	346.95	11,655.16	6,394.07	-1,679.62	6,607.65	1.55	0.64	1.42
18,714.00	91.77	348.18	11,653.05	6,481.93	-1,698.99	6,697.39	1.66	0.94	1.37
18,805.00	89.50	346.99	11,652.04	6,570.79	-1,718.55	6,788.15	2.82	-2.49	-1.31
18,895.00	88.87	347.52	11,653.32	6,658.56	-1,738.41	6,877.94	0.91	-0.70	0.59
18,986.00	89.89	352.68	11,654.31	6,748.17	-1,754.05	6,968.29	5.78	1.12	5.67
19,076.00	89.30	351.26	11,654.94	6,837.28	-1,766.62	7,057.29	1.71	-0.66	-1.58
19,166.00	89.55	345.67	11,655.85	6,925.43	-1,784.61	7,146.91	6.22	0.28	-6.21
19,257.00	88.68	342.78	11,657.25	7,012.98	-1,809.34	7,237.88	3.32	-0.96	-3.18
19,347.00	88.62	341.99	11,659.37	7,098.73	-1,836.57	7,327.84	0.88	-0.07	-0.88
19,438.00	88.77	341.90	11,661.45	7,185.23	-1,864.76	7,418.78	0.19	0.16	-0.10
19,528.00	90.30	340.97	11,662.18	7,270.54	-1,893.42	7,508.72	1.99	1.70	-1.03
19,619.00	91.35	340.61	11,660.87	7,356.46	-1,923.36	7,599.61	1.22	1.15	-0.40
19,709.00	91.96	340.37	11,658.27	7,441.26	-1,953.40	7,689.45	0.73	0.68	-0.27
19,800.00	91.95	339.15	11,655.16	7,526.59	-1,984.86	7,780.21	1.34	-0.01	-1.34
19,890.00	92.60	338.46	11,651.59	7,610.44	-2,017.38	7,869.84	1.05	0.72	-0.77
19,981.00	90.67	340.52	11,648.99	7,695.62	-2,049.24	7,960.58	3.10	-2.12	2.26
20,071.00	90.16	339.00	11,648.34	7,780.06	-2,080.38	8,050.38	1.78	-0.57	-1.69
20,162.00	90.98	343.80	11,647.44	7,866.28	-2,109.39	8,141.29	5.35	0.90	5.27
20,252.00	91.06	343.86	11,645.83	7,952.70	-2,134.45	8,231.28	0.11	0.09	0.07
20,343.00	88.45	341.04	11,646.22	8,039.45	-2,161.89	8,322.24	4.22	-2.87	-3.10
20,433.00	89.36	343.35	11,647.94	8,125.12	-2,189.40	8,412.20	2.76	1.01	2.57
20,523.00	89.73	345.94	11,648.66	8,211.90	-2,213.23	8,502.17	2.91	0.41	2.88
20,614.00	91.13	347.98	11,647.98	8,300.54	-2,233.76	8,592.99	2.72	1.54	2.24
20,704.00	90.96	348.50	11,646.33	8,388.64	-2,252.10	8,682.66	0.61	-0.19	0.58
20,795.00	88.97	347.08	11,646.39	8,477.57	-2,271.34	8,773.39	2.69	-2.19	-1.56
20,885.00	89.95	348.64	11,647.24	8,565.55	-2,290.27	8,863.12	2.05	1.09	1.73
20,976.00	90.78	349.73	11,646.66	8,654.93	-2,307.34	8,953.66	1.51	0.91	1.20
21,066.00	89.04	344.54	11,646.80	8,742.64	-2,327.37	9,043.44	6.08	-1.93	-5.77

Company:	SWEPI	Local Co-ordinate Reference:	Well 1008H
Project:	Loving County, Texas (NAD27 - TC)	TVD Reference:	RKB @ 2839.60usft (Nabors X05)
Site:	University 19 TG Unit	MD Reference:	RKB @ 2839.60usft (Nabors X05)
Well:	1008H	North Reference:	Grid
Wellbore:	OH / 67704	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)
21,157.00	88.92	344.62	11,648.42	8,830.35	-2,351.57	9,134.41	0.16	-0.13	0.09
21,247.00	88.45	344.07	11,650.49	8,916.98	-2,375.85	9,224.38	0.80	-0.52	-0.61
21,338.00	87.66	342.62	11,653.57	9,004.11	-2,401.91	9,315.32	1.81	-0.87	-1.59
21,428.00	90.32	343.12	11,655.16	9,090.10	-2,428.41	9,405.29	3.01	2.96	0.56
21,519.00	89.28	343.21	11,655.48	9,177.20	-2,454.77	9,496.29	1.15	-1.14	0.10
21,610.00	91.72	342.31	11,654.68	9,264.10	-2,481.73	9,587.27	2.86	2.68	-0.99
21,700.00	93.29	342.32	11,650.75	9,349.76	-2,509.05	9,677.17	1.74	1.74	0.01
21,791.00	93.29	342.39	11,645.53	9,436.34	-2,536.59	9,768.00	0.08	0.00	0.08
21,881.00	92.38	341.28	11,641.08	9,521.74	-2,564.61	9,857.85	1.59	-1.01	-1.23
21,972.00	93.51	342.12	11,636.40	9,608.03	-2,593.14	9,948.69	1.55	1.24	0.92
22,062.00	88.04	339.13	11,635.18	9,692.88	-2,622.99	10,038.52	6.93	-6.08	-3.32
22,153.00	87.89	339.66	11,638.42	9,778.00	-2,654.99	10,129.24	0.60	-0.16	0.58
22,243.00	88.13	339.62	11,641.54	9,862.33	-2,686.28	10,218.98	0.27	0.27	-0.04
22,333.00	90.41	342.31	11,642.69	9,947.39	-2,715.63	10,308.88	3.92	2.53	2.99
22,423.00	91.42	343.54	11,641.25	10,033.41	-2,742.05	10,398.86	1.77	1.12	1.37
22,514.00	89.99	341.89	11,640.13	10,120.29	-2,769.09	10,489.84	2.40	-1.57	-1.81
22,604.00	88.43	339.94	11,641.37	10,205.32	-2,798.51	10,579.73	2.77	-1.73	-2.17
22,695.00	88.93	339.36	11,643.47	10,290.62	-2,830.14	10,670.51	0.84	0.55	-0.64
22,785.00	89.25	339.34	11,644.90	10,374.83	-2,861.88	10,760.26	0.36	0.36	-0.02
22,846.00	89.53	339.58	11,645.55	10,431.95	-2,883.28	10,821.11	0.60	0.46	0.39
Final Phoenix MWD Survey									
22,904.00	89.53	339.58	11,646.02	10,486.30	-2,903.52	10,878.98	0.00	0.00	0.00
Projection to TD									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
199.00	198.99	-0.82	-1.53	Phoenix First Survey
22,846.00	11,645.55	10,431.95	-2,883.28	Final Phoenix MWD Survey
22,904.00	11,646.02	10,486.30	-2,903.52	Projection to TD

SURVEY DATA CERTIFICATION



PHOENIX
TECHNOLOGY SERVICES

Job #: 67704
 Client: SWEPI
 County & State: Loving County, TX
 Well: University 19 TG Unit 1008H
 API No: 42-301-35216
 Proposed Direction: 343.46°

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:						SWEPI

SURVEY DATA

First Survey Date	First Survey Depth	INC	AZM
15-Apr-21	199 ft	1.00°	241.67°

Last Survey Date	Last Survey Depth	INC	AZM
27-May-21	22,846 ft	89.53°	339.58°

Survey Instrument Type
Phoenix Velocity MWD

Projected TD Survey Date	Projected TD Survey Depth	INC	AZM
27-May-21	22,904 ft	89.53°	339.58°

CORRECTION INFORMATION

Magnetic Declination Used	6.74 degrees
Grid Convergence Used	-1.58 degrees
Total Correction	8.32 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

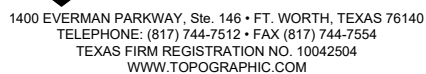
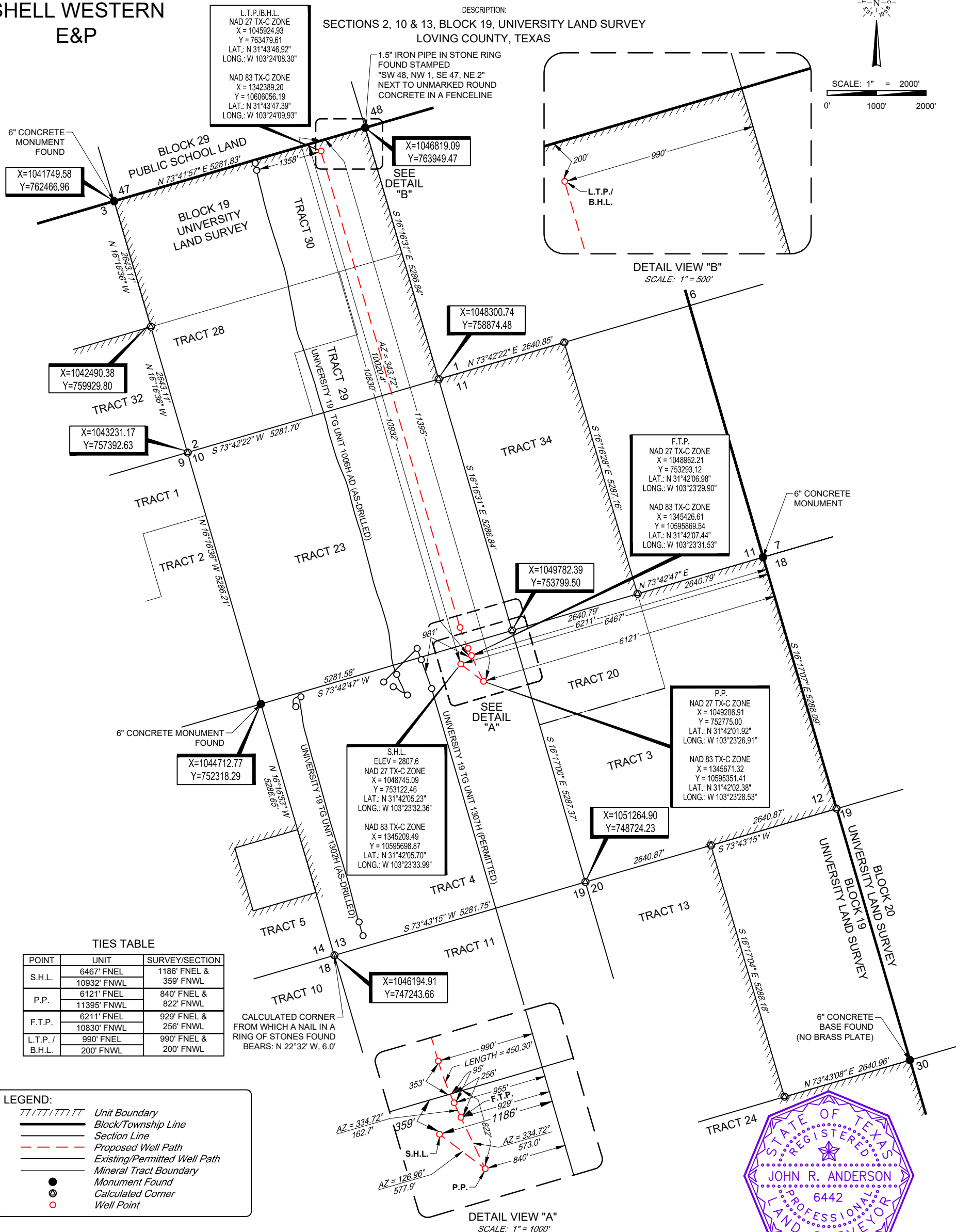
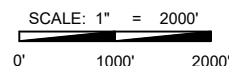
Signature

5/28/2021

Date



SECTIONS 2, 10 & 13, BLOCK 19, UNIVERSITY LAND SURVEY
LOVING COUNTY, TEXAS



John R. Anderson 1/05/21
John R. Anderson, R.P.L.S. No. 6442

UL-19-13-P1 UNIVERSITY 19 TG UNIT 1008H	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 SEPTEMBER 25, 2020. 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.	12/23/2020		
DATE: 09/30/2020				
FILE: LO-UNIVERSITY_19_13_UL-19-13-P1-TG-UNIT_1008H_REV1				
DRAWN BY: O.M.				
SHEET : 1 OF 1				