



Piedra Operating LLC

Andrews Co TX

Sec 34/39/3/10 Blk5/8 University Land

University 5-39 West C LS 10H

OH Wellbore

Design: As Drilled

Standard Survey Report

12 October, 2021



Company:	Piedra Operating LLC	Local Co-ordinate Reference:	Well University 5-39 West C LS 10H
Project:	Andrews Co TX	TVD Reference:	3014 GL 31 KB @ 3045.00usft
Site:	Sec 34/39/3/10 Blk5/8 University Land	MD Reference:	3014 GL 31 KB @ 3045.00usft
Well:	University 5-39 West C LS 10H	North Reference:	Grid
Wellbore:	OH Wellbore	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Midland

Project	Andrews Co TX, Andrews County, Texas		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Texas North Central Zone		

Site		Sec 34/39/3/10 Blk5/8 University Land, SH of University 5-39LS 4H						
Site Position:		Northing:	6,859,862.39	usft	Latitude:	32.427092		
From:	Map	Easting:	786,967.54	usft	Longitude:	-102.330161		
Position Uncertainty:	0.00	usft	Slot Radius:	13-3/16	"	Grid Convergence:	-2.09	°

Well		University 5-39 West C LS 10H				
Well Position	+N/-S	0.00 usft	Northing:	6,859,283.61 usft	Latitude:	32.425269
	+E/-W	0.00 usft	Easting:	784,643.36 usft	Longitude:	-102.337621
Position Uncertainty		0.00 usft	Wellhead Elevation:	3,045.00 usft	Ground Level:	3,014.00 usft

Wellbore	OH Wellbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2021_FILE	7/8/2021	5.87	60.05	47,579.70000000

Design	As Drilled				
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	164.39	

Survey Program	Date	10/12/2021			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
133.00	22,998.00	Survey #1 (OH Wellbore)	MWD+HDGM	OWSG MWD + HDGM	

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	
133.00	0.42	205.54	133.00	-0.44	-0.21	0.37	0.32	0.32	0.00	
224.00	0.50	185.42	224.00	-1.14	-0.39	0.99	0.20	0.09	-22.11	
314.00	0.30	195.69	313.99	-1.75	-0.49	1.56	0.24	-0.22	11.41	
406.00	0.68	256.82	405.99	-2.11	-1.09	1.74	0.65	0.41	66.45	
497.00	0.51	229.77	496.99	-2.49	-1.92	1.89	0.36	-0.19	-29.73	
589.00	2.43	107.44	588.96	-3.34	-0.38	3.12	2.97	2.09	-132.97	
679.00	3.20	109.70	678.85	-4.76	3.81	5.61	0.86	0.86	2.51	
777.00	2.98	117.85	776.71	-6.87	8.64	8.95	0.50	-0.22	8.32	
871.00	2.95	119.19	870.58	-9.20	12.91	12.33	0.08	-0.03	1.43	

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Wellbore:	OH Wellbore	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Midland

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)	
966.00	2.84	118.16	965.46	-11.50	17.12	15.68	0.13	-0.12	-1.08	
1,060.00	2.82	118.10	1,059.35	-13.69	21.21	18.89	0.02	-0.02	-0.06	
1,155.00	2.93	126.26	1,154.23	-16.22	25.23	22.41	0.45	0.12	8.59	
1,250.00	3.13	127.49	1,249.10	-19.24	29.25	26.40	0.22	0.21	1.29	
1,343.00	3.03	127.12	1,341.96	-22.27	33.22	30.38	0.11	-0.11	-0.40	
1,438.00	2.92	132.03	1,436.83	-25.40	37.02	34.43	0.29	-0.12	5.17	
1,533.00	2.65	125.86	1,531.72	-28.31	40.60	38.19	0.42	-0.28	-6.49	
1,629.00	2.91	139.94	1,627.61	-31.47	43.96	42.14	0.76	0.27	14.67	
1,723.00	2.91	144.02	1,721.49	-35.23	46.90	46.55	0.22	0.00	4.34	
1,767.00	2.70	144.72	1,765.44	-36.98	48.16	48.57	0.48	-0.48	1.59	
1,951.00	2.88	132.85	1,949.22	-43.66	54.05	56.60	0.33	0.10	-6.45	
2,047.00	2.55	92.75	2,045.12	-45.41	57.95	59.32	1.97	-0.34	-41.77	
2,142.00	3.94	69.03	2,139.97	-44.34	63.11	59.68	2.00	1.46	-24.97	
2,236.00	4.88	63.35	2,233.69	-41.39	69.70	58.62	1.10	1.00	-6.04	
2,331.00	4.67	64.44	2,328.36	-37.91	76.80	57.17	0.24	-0.22	1.15	
2,426.00	4.20	60.07	2,423.08	-34.50	83.30	55.65	0.61	-0.49	-4.60	
2,520.00	3.79	64.50	2,516.85	-31.45	89.09	54.26	0.55	-0.44	4.71	
2,615.00	3.81	59.80	2,611.64	-28.51	94.65	52.93	0.33	0.02	-4.95	
2,709.00	4.83	62.89	2,705.37	-25.14	100.87	51.35	1.11	1.09	3.29	
2,804.00	4.51	61.52	2,800.05	-21.53	107.72	49.72	0.36	-0.34	-1.44	
2,898.00	4.49	62.86	2,893.76	-18.09	114.24	48.16	0.11	-0.02	1.43	
2,993.00	4.48	61.99	2,988.47	-14.65	120.82	46.62	0.07	-0.01	-0.92	
3,090.00	4.10	60.25	3,085.20	-11.15	127.18	44.96	0.41	-0.39	-1.79	
3,186.00	4.05	62.25	3,180.96	-7.87	133.16	43.41	0.16	-0.05	2.08	
3,282.00	4.54	57.79	3,276.69	-4.27	139.37	41.61	0.62	0.51	-4.65	
3,378.00	4.94	57.99	3,372.36	-0.05	146.09	39.36	0.42	0.42	0.21	
3,474.00	4.86	58.25	3,468.01	4.28	153.06	37.06	0.09	-0.08	0.27	
3,570.00	4.48	52.69	3,563.69	8.69	159.50	34.54	0.62	-0.40	-5.79	
3,665.00	4.41	51.11	3,658.41	13.23	165.29	31.73	0.15	-0.07	-1.66	
3,760.00	4.17	51.19	3,753.14	17.69	170.83	28.92	0.25	-0.25	0.08	
3,855.00	4.44	55.78	3,847.87	21.93	176.56	26.39	0.46	0.28	4.83	
3,950.00	4.52	55.10	3,942.58	26.13	182.67	23.98	0.10	0.08	-0.72	
4,045.00	4.73	51.40	4,037.27	30.72	188.80	21.21	0.38	0.22	-3.89	
4,140.00	4.30	48.48	4,131.98	35.52	194.53	18.13	0.51	-0.45	-3.07	
4,235.00	4.36	57.86	4,226.71	39.81	200.25	15.54	0.75	0.06	9.87	
4,331.00	4.63	65.40	4,322.41	43.36	206.86	13.90	0.68	0.28	7.85	
4,425.00	4.21	65.99	4,416.13	46.34	213.47	12.80	0.45	-0.45	0.63	
4,521.00	3.75	66.66	4,511.90	49.02	219.57	11.87	0.48	-0.48	0.70	
4,616.00	3.76	61.89	4,606.70	51.72	225.17	10.77	0.33	0.01	-5.02	
4,712.00	3.94	53.25	4,702.48	55.18	230.59	8.90	0.63	0.19	-9.00	
4,807.00	4.43	55.84	4,797.23	59.19	236.24	6.56	0.55	0.52	2.73	
4,902.00	4.61	53.81	4,891.93	63.50	242.35	4.05	0.25	0.19	-2.14	
4,996.00	4.63	55.77	4,985.63	67.87	248.54	1.51	0.17	0.02	2.09	
5,091.00	4.43	60.57	5,080.33	71.83	254.91	-0.59	0.45	-0.21	5.05	

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Survey										
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5,186.00	4.90	60.75	5,175.02	75.61	261.64	-2.42	0.49	0.49	0.19	
5,280.00	5.02	62.58	5,268.66	79.47	268.79	-4.21	0.21	0.13	1.95	
5,375.00	4.62	60.58	5,363.33	83.26	275.82	-5.98	0.46	-0.42	-2.11	
5,470.00	4.45	57.96	5,458.03	87.10	282.27	-7.93	0.28	-0.18	-2.76	
5,565.00	4.51	59.17	5,552.74	90.97	288.60	-9.96	0.12	0.06	1.27	
5,660.00	5.03	58.50	5,647.41	95.06	295.36	-12.08	0.55	0.55	-0.71	
5,755.00	5.32	57.48	5,742.02	99.60	302.63	-14.50	0.32	0.31	-1.07	
5,849.00	5.39	55.67	5,835.61	104.43	309.95	-17.18	0.19	0.07	-1.93	
5,944.00	5.18	55.30	5,930.21	109.39	317.16	-20.02	0.22	-0.22	-0.39	
6,039.00	5.38	54.22	6,024.81	114.44	324.30	-22.96	0.24	0.21	-1.14	
6,134.00	5.36	53.25	6,119.39	119.69	331.47	-26.09	0.10	-0.02	-1.02	
6,228.00	5.55	54.58	6,212.96	124.96	338.69	-29.22	0.24	0.20	1.41	
6,322.00	5.41	55.98	6,306.53	130.07	346.06	-32.16	0.21	-0.15	1.49	
6,417.00	5.57	56.70	6,401.10	135.11	353.63	-34.97	0.18	0.17	0.76	
6,511.00	5.42	60.10	6,494.67	139.82	361.29	-37.45	0.38	-0.16	3.62	
6,606.00	4.78	61.52	6,589.29	143.95	368.66	-39.44	0.69	-0.67	1.49	
6,700.00	4.37	62.57	6,682.99	147.47	375.28	-41.05	0.45	-0.44	1.12	
6,795.00	4.21	60.26	6,777.72	150.86	381.52	-42.64	0.25	-0.17	-2.43	
6,890.00	4.41	63.00	6,872.46	154.25	387.80	-44.22	0.30	0.21	2.88	
6,985.00	4.25	56.39	6,967.19	157.86	393.99	-46.02	0.55	-0.17	-6.96	
7,080.00	4.16	58.55	7,061.93	161.60	399.86	-48.05	0.19	-0.09	2.27	
7,175.00	3.77	63.43	7,156.70	164.80	405.59	-49.59	0.54	-0.41	5.14	
7,271.00	3.98	66.45	7,252.48	167.54	411.47	-50.65	0.30	0.22	3.15	
7,366.00	3.40	78.57	7,347.29	169.42	417.25	-50.90	1.02	-0.61	12.76	
7,461.00	3.09	86.24	7,442.14	170.14	422.57	-50.17	0.56	-0.33	8.07	
7,555.00	3.21	85.87	7,535.99	170.50	427.72	-49.12	0.13	0.13	-0.39	
7,650.00	3.21	77.71	7,630.84	171.26	432.98	-48.44	0.48	0.00	-8.59	
7,745.00	3.23	80.56	7,725.70	172.26	438.21	-48.00	0.17	0.02	3.00	
7,839.00	2.86	74.72	7,819.56	173.31	443.09	-47.70	0.51	-0.39	-6.21	
7,934.00	3.09	79.73	7,914.43	174.40	447.89	-47.45	0.37	0.24	5.27	
8,030.00	3.30	74.62	8,010.29	175.59	453.10	-47.20	0.37	0.22	-5.32	
8,125.00	2.91	78.39	8,105.15	176.80	458.10	-47.02	0.46	-0.41	3.97	
8,178.00	2.51	80.50	8,158.09	177.26	460.57	-46.80	0.78	-0.75	3.98	
8,297.00	2.36	74.76	8,276.98	178.34	465.50	-46.51	0.24	-0.13	-4.82	
8,314.00	2.22	69.50	8,293.97	178.54	466.15	-46.53	1.48	-0.82	-30.94	
8,392.00	2.00	35.03	8,371.92	180.19	468.34	-47.52	1.63	-0.28	-44.19	
8,487.00	3.13	3.77	8,466.82	184.13	469.46	-51.02	1.85	1.19	-32.91	
8,582.00	2.60	352.81	8,561.71	188.86	469.36	-55.60	0.80	-0.56	-11.54	
8,677.00	2.86	353.17	8,656.60	193.35	468.81	-60.07	0.27	0.27	0.38	
8,771.00	1.50	352.45	8,750.53	196.90	468.37	-63.61	1.45	-1.45	-0.77	
8,866.00	0.74	4.09	8,845.51	198.74	468.25	-65.42	0.83	-0.80	12.25	
8,960.00	0.29	129.94	8,939.51	199.20	468.48	-65.79	1.00	-0.48	133.88	
9,055.00	5.76	146.77	9,034.34	195.05	471.28	-61.05	5.77	5.76	17.72	

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9,100.00	10.14	151.82	9,078.89	189.67	474.39	-55.03	9.85	9.73	11.22	
9,149.00	11.06	162.21	9,127.06	181.39	477.86	-46.12	4.32	1.88	21.20	
9,194.00	14.30	162.88	9,170.96	171.97	480.82	-36.25	7.21	7.20	1.49	
9,245.00	16.76	160.49	9,220.09	159.01	485.13	-22.61	4.98	4.82	-4.69	
9,292.00	20.83	157.05	9,264.58	144.92	490.65	-7.56	8.97	8.66	-7.32	
9,340.00	24.36	154.36	9,308.89	128.13	498.26	10.66	7.66	7.35	-5.60	
9,390.00	29.05	154.75	9,353.54	107.85	507.91	32.79	9.39	9.38	0.78	
9,435.00	33.12	155.27	9,392.07	86.79	517.72	55.71	9.06	9.04	1.16	
9,480.00	37.43	155.53	9,428.80	63.17	528.53	81.38	9.58	9.58	0.58	
9,529.00	41.95	155.92	9,466.50	34.65	541.39	112.30	9.24	9.22	0.80	
9,623.00	51.51	156.00	9,530.86	-27.79	569.23	179.93	10.17	10.17	0.09	
9,718.00	60.26	156.53	9,584.09	-99.73	600.84	257.72	9.22	9.21	0.56	
9,783.46	66.25	157.21	9,613.53	-153.46	623.79	315.65	9.19	9.15	1.03	
Cross Lease Line - 9783.46 MD 9613.53 TVD										
9,813.00	68.95	157.49	9,624.79	-178.66	634.31	342.75	9.19	9.15	0.96	
9,890.16	77.39	160.95	9,647.11	-247.66	660.43	416.23	11.75	10.94	4.48	
FTP 100 FNL - 9890.16 MD 9647.11 TVD										
9,907.00	79.24	161.67	9,650.52	-263.28	665.72	432.70	11.75	10.98	4.27	
10,001.00	89.73	161.10	9,659.55	-351.82	695.55	526.00	11.18	11.16	-0.61	
10,096.00	88.82	163.79	9,660.75	-442.38	724.20	620.93	2.99	-0.96	2.83	
10,191.00	88.12	165.02	9,663.28	-533.85	749.73	715.89	1.49	-0.74	1.29	
10,286.00	89.87	168.49	9,664.95	-626.29	771.48	810.78	4.09	1.84	3.65	
10,381.00	90.17	170.18	9,664.92	-719.65	789.06	905.42	1.81	0.32	1.78	
10,475.00	92.65	170.84	9,662.61	-812.33	804.56	998.85	2.73	2.64	0.70	
10,569.00	91.85	168.04	9,658.91	-904.65	821.77	1,092.40	3.10	-0.85	-2.98	
10,664.00	92.75	166.76	9,655.10	-997.29	842.48	1,187.19	1.65	0.95	-1.35	
10,759.00	94.64	166.58	9,648.98	-1,089.53	864.33	1,281.92	2.00	1.99	-0.19	
10,854.00	90.84	166.25	9,644.44	-1,181.75	886.62	1,376.73	4.02	-4.00	-0.35	
10,948.00	87.99	166.20	9,645.40	-1,273.03	909.00	1,470.67	3.03	-3.03	-0.05	
11,043.00	87.88	165.76	9,648.82	-1,365.14	932.00	1,565.57	0.48	-0.12	-0.46	
11,138.00	87.18	165.65	9,652.92	-1,457.11	955.43	1,660.46	0.75	-0.74	-0.12	
11,233.00	86.58	164.56	9,658.09	-1,548.78	979.81	1,755.31	1.31	-0.63	-1.15	
11,312.00	86.94	164.05	9,662.55	-1,624.72	1,001.15	1,834.18	0.79	0.46	-0.65	
11,422.00	85.60	162.22	9,669.71	-1,729.76	1,032.99	1,943.91	2.06	-1.22	-1.66	
11,515.00	88.15	165.64	9,674.78	-1,818.97	1,058.69	2,036.75	4.58	2.74	3.68	
11,610.00	90.67	167.38	9,675.76	-1,911.33	1,080.84	2,131.67	3.22	2.65	1.83	
11,704.00	90.77	166.05	9,674.58	-2,002.81	1,102.44	2,225.58	1.42	0.11	-1.41	
11,798.00	92.82	166.43	9,671.63	-2,094.06	1,124.79	2,319.48	2.22	2.18	0.40	
11,894.00	91.85	168.54	9,667.72	-2,187.70	1,145.57	2,415.25	2.42	-1.01	2.20	
11,988.00	92.75	169.06	9,663.95	-2,279.83	1,163.82	2,508.90	1.11	0.96	0.55	
12,083.00	90.34	168.16	9,661.39	-2,372.92	1,182.57	2,603.60	2.71	-2.54	-0.95	
12,177.00	92.99	168.78	9,658.66	-2,464.97	1,201.35	2,697.31	2.90	2.82	0.66	
12,273.00	94.27	167.92	9,652.58	-2,558.80	1,220.69	2,792.89	1.61	1.33	-0.90	
12,367.00	92.52	167.15	9,647.01	-2,650.42	1,240.95	2,886.58	2.03	-1.86	-0.82	

Company:	Piedra Operating LLC	Local Co-ordinate Reference:	Well University 5-39 West C LS 10H
Project:	Andrews Co TX	TVD Reference:	3014 GL 31 KB @ 3045.00usft
Site:	Sec 34/39/3/10 Blk5/8 University Land	MD Reference:	3014 GL 31 KB @ 3045.00usft
Well:	University 5-39 West C LS 10H	North Reference:	Grid
Wellbore:	OH Wellbore	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Midland

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)
12,462.00	94.06	166.71	9,641.56	-2,742.81	1,262.39	2,981.33	1.69	1.62	-0.46
12,556.00	94.13	165.46	9,634.85	-2,833.81	1,284.94	3,075.04	1.33	0.07	-1.33
12,650.00	93.83	163.90	9,628.32	-2,924.25	1,309.72	3,168.81	1.69	-0.32	-1.66
12,744.00	90.67	163.46	9,624.63	-3,014.38	1,336.11	3,262.72	3.39	-3.36	-0.47
12,839.00	87.32	163.87	9,626.30	-3,105.52	1,362.82	3,357.68	3.55	-3.53	0.43
12,934.00	86.24	163.02	9,631.63	-3,196.44	1,389.84	3,452.52	1.45	-1.14	-0.89
13,029.00	85.37	162.33	9,638.58	-3,286.88	1,418.06	3,547.22	1.17	-0.92	-0.73
13,124.00	86.07	165.34	9,645.67	-3,377.86	1,444.43	3,641.94	3.24	0.74	3.17
13,219.00	86.40	168.52	9,651.91	-3,470.19	1,465.86	3,736.63	3.36	0.35	3.35
13,314.00	85.63	168.37	9,658.52	-3,563.04	1,484.84	3,831.16	0.83	-0.81	-0.16
13,408.00	86.63	166.34	9,664.86	-3,654.54	1,505.38	3,924.82	2.40	1.06	-2.16
13,502.00	88.83	164.93	9,668.58	-3,745.52	1,528.68	4,018.71	2.78	2.34	-1.50
13,597.00	90.27	168.30	9,669.33	-3,837.92	1,550.66	4,113.62	3.86	1.52	3.55
13,692.00	90.27	169.56	9,668.88	-3,931.15	1,568.90	4,208.32	1.33	0.00	1.33
13,787.00	89.83	167.93	9,668.80	-4,024.32	1,587.45	4,303.04	1.78	-0.46	-1.72
13,881.00	89.97	169.81	9,668.96	-4,116.55	1,605.59	4,396.75	2.01	0.15	2.00
13,975.00	89.93	169.13	9,669.05	-4,208.97	1,622.77	4,490.38	0.72	-0.04	-0.72
14,070.00	89.56	169.25	9,669.47	-4,302.28	1,640.59	4,585.05	0.41	-0.39	0.13
14,164.00	89.56	168.23	9,670.19	-4,394.47	1,658.94	4,678.77	1.09	0.00	-1.09
14,259.00	91.78	169.09	9,669.08	-4,487.60	1,677.62	4,773.50	2.51	2.34	0.91
14,353.00	91.81	168.51	9,666.14	-4,579.76	1,695.87	4,867.17	0.62	0.03	-0.62
14,447.00	92.55	167.72	9,662.56	-4,671.68	1,715.21	4,960.90	1.15	0.79	-0.84
14,542.00	92.45	167.15	9,658.42	-4,764.32	1,735.86	5,055.68	0.61	-0.11	-0.60
14,637.00	92.42	166.20	9,654.38	-4,856.67	1,757.73	5,150.52	1.00	-0.03	-1.00
14,731.00	92.68	166.95	9,650.20	-4,948.01	1,779.54	5,244.35	0.84	0.28	0.80
14,826.00	91.54	167.21	9,646.70	-5,040.54	1,800.76	5,339.18	1.23	-1.20	0.27
14,921.00	92.32	167.09	9,643.50	-5,133.11	1,821.88	5,434.02	0.83	0.82	-0.13
15,016.00	90.94	169.00	9,640.80	-5,226.01	1,841.55	5,528.78	2.48	-1.45	2.01
15,110.00	89.50	166.39	9,640.44	-5,317.84	1,861.58	5,622.61	3.17	-1.53	-2.78
15,205.00	90.03	167.42	9,640.83	-5,410.36	1,883.10	5,717.52	1.22	0.56	1.08
15,300.00	90.54	167.27	9,640.35	-5,503.05	1,903.91	5,812.39	0.56	0.54	-0.16
15,394.00	90.37	167.28	9,639.61	-5,594.74	1,924.62	5,906.27	0.18	-0.18	0.01
15,489.00	89.36	165.56	9,639.83	-5,687.08	1,946.92	6,001.21	2.10	-1.06	-1.81
15,585.00	89.50	165.19	9,640.79	-5,779.97	1,971.16	6,097.19	0.41	0.15	-0.39
15,679.00	90.97	171.25	9,640.40	-5,871.94	1,990.34	6,190.93	6.63	1.56	6.45
15,773.00	90.84	172.24	9,638.92	-5,964.95	2,003.84	6,284.14	1.06	-0.14	1.05
15,868.00	91.27	172.33	9,637.17	-6,059.08	2,016.59	6,378.23	0.46	0.45	0.09
15,963.00	90.24	170.01	9,635.92	-6,152.94	2,031.17	6,472.55	2.67	-1.08	-2.44
16,057.00	89.80	169.00	9,635.88	-6,245.36	2,048.29	6,566.17	1.17	-0.47	-1.07
16,152.00	90.34	170.99	9,635.77	-6,338.91	2,064.79	6,660.71	2.17	0.57	2.09
16,246.00	92.32	174.13	9,633.58	-6,432.08	2,076.96	6,753.72	3.95	2.11	3.34
16,342.00	90.17	169.15	9,631.50	-6,527.00	2,090.91	6,848.89	5.65	-2.24	-5.19
16,436.00	90.30	167.52	9,631.11	-6,619.06	2,109.92	6,942.67	1.74	0.14	-1.73

Company:	Piedra Operating LLC	Local Co-ordinate Reference:	Well University 5-39 West C LS 10H
Project:	Andrews Co TX	TVD Reference:	3014 GL 31 KB @ 3045.00usft
Site:	Sec 34/39/3/10 Blk5/8 University Land	MD Reference:	3014 GL 31 KB @ 3045.00usft
Well:	University 5-39 West C LS 10H	North Reference:	Grid
Wellbore:	OH Wellbore	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Midland

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)
16,530.00	88.65	164.81	9,631.97	-6,710.31	2,132.39	7,036.60	3.38	-1.76	-2.88
16,625.00	88.29	164.35	9,634.51	-6,801.86	2,157.64	7,131.57	0.61	-0.38	-0.48
16,718.00	87.05	164.42	9,638.29	-6,891.35	2,182.65	7,224.49	1.34	-1.33	0.08
16,813.00	87.08	164.26	9,643.15	-6,982.71	2,208.26	7,319.37	0.17	0.03	-0.17
16,908.00	86.37	163.90	9,648.58	-7,073.91	2,234.28	7,414.21	0.84	-0.75	-0.38
17,003.00	84.93	163.16	9,655.79	-7,164.75	2,261.13	7,508.92	1.70	-1.52	-0.78
17,098.00	87.72	163.24	9,661.88	-7,255.50	2,288.53	7,603.70	2.94	2.94	0.08
17,192.00	88.39	162.27	9,665.07	-7,345.22	2,316.38	7,697.60	1.25	0.71	-1.03
17,287.00	91.64	164.41	9,665.04	-7,436.21	2,343.61	7,792.57	4.10	3.42	2.25
17,382.00	92.18	165.65	9,661.87	-7,527.94	2,368.14	7,887.51	1.42	0.57	1.31
17,477.00	91.68	165.30	9,658.68	-7,619.85	2,391.95	7,982.44	0.64	-0.53	-0.37
17,572.00	92.18	165.80	9,655.48	-7,711.79	2,415.64	8,077.36	0.74	0.53	0.53
17,666.00	91.21	164.05	9,652.70	-7,802.51	2,440.08	8,171.31	2.13	-1.03	-1.86
17,760.00	91.88	163.28	9,650.16	-7,892.68	2,466.51	8,265.27	1.09	0.71	-0.82
17,855.00	91.71	164.55	9,647.18	-7,983.92	2,492.81	8,360.22	1.35	-0.18	1.34
17,949.00	91.41	166.01	9,644.63	-8,074.80	2,516.69	8,454.17	1.59	-0.32	1.55
18,044.00	92.28	168.12	9,641.57	-8,167.33	2,537.94	8,549.01	2.40	0.92	2.22
18,139.00	91.14	167.12	9,638.73	-8,260.08	2,558.30	8,643.81	1.60	-1.20	-1.05
18,233.00	91.21	167.42	9,636.80	-8,351.75	2,579.01	8,737.67	0.33	0.07	0.32
18,328.00	91.01	166.32	9,634.96	-8,444.24	2,600.59	8,832.57	1.18	-0.21	-1.16
18,423.00	90.97	168.27	9,633.32	-8,536.90	2,621.48	8,927.43	2.05	-0.04	2.05
18,517.00	90.67	167.74	9,631.98	-8,628.84	2,641.01	9,021.23	0.65	-0.32	-0.56
18,612.00	92.32	167.55	9,629.50	-8,721.60	2,661.33	9,116.04	1.75	1.74	-0.20
18,707.00	92.42	166.39	9,625.57	-8,814.08	2,682.73	9,210.86	1.22	0.11	-1.22
18,802.00	92.96	167.19	9,621.11	-8,906.46	2,704.41	9,305.67	1.02	0.57	0.84
18,896.00	91.34	167.66	9,617.59	-8,998.14	2,724.86	9,399.47	1.79	-1.72	0.50
18,991.00	90.17	169.32	9,616.33	-9,091.21	2,743.82	9,494.21	2.14	-1.23	1.75
19,085.00	89.53	171.55	9,616.58	-9,183.90	2,759.44	9,587.69	2.47	-0.68	2.37
19,180.00	91.04	175.40	9,616.11	-9,278.26	2,770.23	9,681.47	4.35	1.59	4.05
19,273.00	86.23	175.08	9,618.32	-9,370.89	2,777.94	9,772.76	5.18	-5.17	-0.34
19,367.00	86.61	172.78	9,624.19	-9,464.17	2,787.86	9,865.27	2.48	0.40	-2.45
19,462.00	85.87	169.58	9,630.42	-9,557.83	2,802.39	9,959.39	3.45	-0.78	-3.37
19,556.00	88.32	167.53	9,635.19	-9,649.83	2,821.02	10,053.01	3.40	2.61	-2.18
19,651.00	87.69	166.88	9,638.49	-9,742.42	2,842.05	10,147.83	0.95	-0.66	-0.68
19,745.00	88.18	165.07	9,641.88	-9,833.55	2,864.81	10,241.73	1.99	0.52	-1.93
19,841.00	90.07	164.83	9,643.35	-9,926.25	2,889.74	10,337.71	1.98	1.97	-0.25
19,935.00	89.83	163.57	9,643.43	-10,016.69	2,915.33	10,431.71	1.36	-0.26	-1.34
20,030.00	90.77	166.68	9,642.93	-10,108.49	2,939.71	10,526.69	3.42	0.99	3.27
20,123.00	90.27	166.76	9,642.09	-10,199.00	2,961.08	10,619.61	0.54	-0.54	0.09
20,219.00	91.04	166.36	9,640.99	-10,292.37	2,983.39	10,715.53	0.90	0.80	-0.42
20,313.00	90.64	166.13	9,639.61	-10,383.66	3,005.73	10,809.47	0.49	-0.43	-0.24
20,408.00	90.30	165.43	9,638.83	-10,475.75	3,029.07	10,904.44	0.82	-0.36	-0.74
20,503.00	90.07	164.94	9,638.53	-10,567.59	3,053.36	10,999.43	0.57	-0.24	-0.52

Company:	Piedra Operating LLC	Local Co-ordinate Reference:	Well University 5-39 West C LS 10H
Project:	Andrews Co TX	TVD Reference:	3014 GL 31 KB @ 3045.00usft
Site:	Sec 34/39/3/10 Blk5/8 University Land	MD Reference:	3014 GL 31 KB @ 3045.00usft
Well:	University 5-39 West C LS 10H	North Reference:	Grid
Wellbore:	OH Wellbore	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Midland

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)	
20,598.00	90.47	165.26	9,638.08	-10,659.39	3,077.79	11,094.42	0.54	0.42	0.34	
20,692.00	91.55	167.01	9,636.42	-10,750.63	3,100.31	11,188.36	2.19	1.15	1.86	
20,788.00	91.78	166.93	9,633.63	-10,844.12	3,121.94	11,284.22	0.25	0.24	-0.08	
20,881.00	91.88	166.83	9,630.66	-10,934.65	3,143.04	11,377.09	0.15	0.11	-0.11	
20,976.00	92.39	166.17	9,627.12	-11,026.96	3,165.21	11,471.95	0.88	0.54	-0.69	
21,072.00	89.66	167.26	9,625.41	-11,120.37	3,187.26	11,567.85	3.06	-2.84	1.14	
21,166.00	88.83	166.58	9,626.65	-11,211.92	3,208.53	11,661.75	1.14	-0.88	-0.72	
21,262.00	87.62	166.83	9,629.62	-11,305.30	3,230.60	11,757.62	1.29	-1.26	0.26	
21,357.00	88.59	166.52	9,632.76	-11,397.69	3,252.48	11,852.49	1.07	1.02	-0.33	
21,451.00	89.29	167.21	9,634.50	-11,489.21	3,273.84	11,946.39	1.05	0.74	0.73	
21,546.00	87.99	167.81	9,636.75	-11,581.94	3,294.38	12,041.22	1.51	-1.37	0.63	
21,640.00	87.55	168.23	9,640.41	-11,673.82	3,313.87	12,134.96	0.65	-0.47	0.45	
21,734.00	88.19	168.27	9,643.91	-11,765.78	3,333.00	12,228.68	0.68	0.68	0.04	
21,829.00	90.44	166.88	9,645.04	-11,858.54	3,353.44	12,323.52	2.78	2.37	-1.46	
21,923.00	91.38	167.42	9,643.55	-11,950.18	3,374.34	12,417.40	1.15	1.00	0.57	
22,018.00	91.65	165.76	9,641.04	-12,042.55	3,396.37	12,512.29	1.77	0.28	-1.75	
22,112.00	92.49	165.59	9,637.64	-12,133.57	3,419.61	12,606.20	0.91	0.89	-0.18	
22,206.00	92.35	165.88	9,633.67	-12,224.59	3,442.75	12,700.09	0.34	-0.15	0.31	
22,301.00	92.96	165.66	9,629.27	-12,316.57	3,466.08	12,794.96	0.68	0.64	-0.23	
22,396.00	93.77	166.61	9,623.69	-12,408.65	3,488.80	12,889.75	1.31	0.85	1.00	
22,491.00	90.97	167.82	9,619.77	-12,501.20	3,509.80	12,984.55	3.21	-2.95	1.27	
22,586.00	91.45	167.97	9,617.76	-12,594.07	3,529.72	13,079.35	0.53	0.51	0.16	
22,681.00	91.61	169.39	9,615.22	-12,687.18	3,548.36	13,174.05	1.50	0.17	1.49	
22,775.00	91.82	169.21	9,612.41	-12,779.51	3,565.81	13,267.66	0.29	0.22	-0.19	
22,869.00	91.00	169.50	9,610.10	-12,871.86	3,583.16	13,361.28	0.93	-0.87	0.31	
22,911.67	91.17	169.55	9,609.29	-12,913.81	3,590.92	13,403.77	0.42	0.41	0.12	
LTP 100 FSL - 22911.67 MD 9609.29 TVD										
22,938.00	91.28	169.58	9,608.72	-12,939.70	3,595.69	13,429.98	0.42	0.41	0.12	
22,998.00	91.28	169.58	9,607.38	-12,998.70	3,606.54	13,489.72	0.00	0.00	0.00	
Actual BH: 14 FSL 2200.3 FWL - 22998 MD 9607.38 TVD - Y-6846284.91 X-788249.90 - 32.389924°N 102.324406°W										

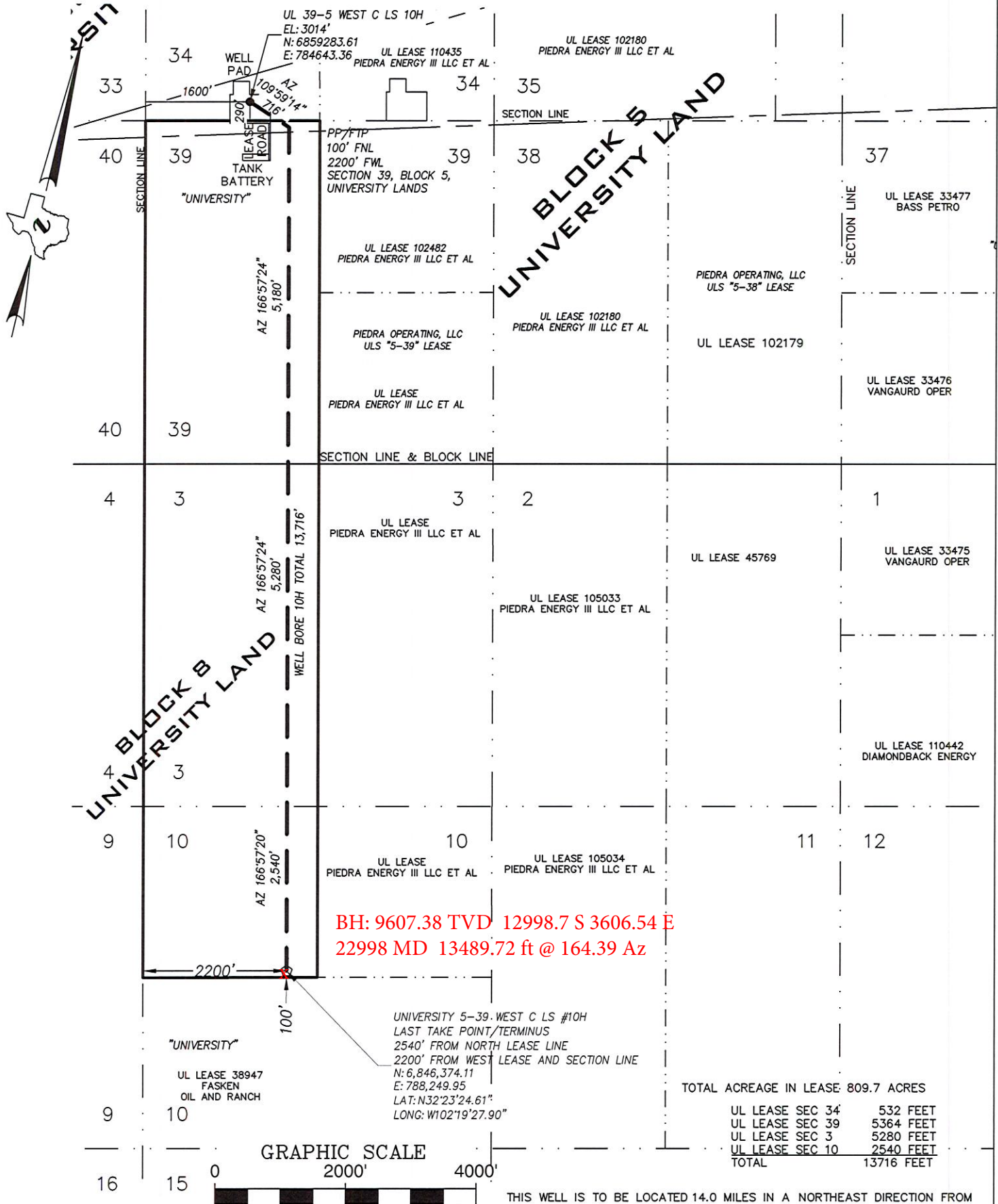


Scientific Drilling, Intl
Survey Report

Company:	Piedra Operating LLC	Local Co-ordinate Reference:	Well University 5-39 West C LS 10H
Project:	Andrews Co TX	TVD Reference:	3014 GL 31 KB @ 3045.00usft
Site:	Sec 34/39/3/10 Blk5/8 University Land	MD Reference:	3014 GL 31 KB @ 3045.00usft
Well:	University 5-39 West C LS 10H	North Reference:	Grid
Wellbore:	OH Wellbore	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Midland

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,783.46	9,613.53	-153.46	623.79	Cross Lease Line
9,783.46	9,613.53	-153.46	623.79	9783.46 MD 9613.53 TVD
9,890.16	9,647.11	-247.66	660.43	FTP 100 FNL
9,890.16	9,647.11	-247.66	660.43	9890.16 MD 9647.11 TVD
22,911.67	9,609.29	-12,913.81	3,590.92	LTP 100 FSL
22,911.67	9,609.29	-12,913.81	3,590.92	22911.67 MD 9609.29 TVD
22,998.00	9,607.38	-12,998.70	3,606.54	Actual BH: 14 FSL 2200.3 FWL
22,998.00	9,607.38	-12,998.70	3,606.54	22998 MD 9607.38 TVD
22,998.00	9,607.38	-12,998.70	3,606.54	Y-6846284.91 X-788249.90
22,998.00	9,607.38	-12,998.70	3,606.54	32.389924°N 102.324406°W

Checked By: _____	Approved By: _____	Date: _____
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NOTE:
COURSES, DISTANCES AND COORDINATES SHOWN HEREON ARE LAMBERT GRID AND CONFORM TO THE "TEXAS COORDINATE SYSTEM", TEXAS NORTH CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983. ALL DISTANCES AND COORDINATES ARE SHOWN IN GRID FEET. ELEVATION NAVD 1988

THE UNDERSIGNED DOES HEREBY CERTIFY THAT THIS LOCATION WAS THIS DAY MADE ON THE GROUND BY ME OR UNDER MY SUPERVISION AND THAT THIS PLAT IS A CORRECT REPRESENTATION THEREOF.

DATED THIS 8TH DAY OF APRIL, 2021

RJ DAUM
TEXAS RPS 4826

STATE OF TEXAS
REGISTERED
RJ DAUM
4826
PROFESSIONAL
LAND SURVEYOR

SCHUMANN
ENGINEERING CO.
A LATERAL LAND COMPANY

CIVIL ENGINEERING - LAND SURVEYING
TEXAS FIRM No. F1880 - TEXAS FIRM No. 10149500



800 N. MARIENFELD STREET
SUITE 100
MIDLAND, TEXAS 79701

Office (432) 684-5548

LOCATION PLAT

PIEDRA OPERATING L.L.C.
UNIVERSITY 5-39 WEST C LS NO. 10H

SURFACE HOLE
290 FEET FROM THE SOUTH AND
1600 FROM THE WEST LINE
SECTION 34, BLOCK 5,
LAST TAKE/BOTTOM HOLE
2540 FEET FROM THE NORTH AND
2200 FEET FROM THE WEST LINES
SECTION 10, BLOCK 8,
UNIVERSITY LAND
ANDREWS COUNTY, TEXAS

QUAD: FIVE WELLS RANCH
SCALE: 1" = 2000'

PROJECT: 77855 10H
JOB NO: 77,855-D

State of Texas
County of Midland

I, Kevin Elger, certify that; I am employed by Scientific Drilling International; that I did on the day(s) of 08/24/2021 through 10/12/2021 conduct or supervise the taking of a MWD survey from a depth of 133 feet to a depth of 22938 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Scientific Drilling International; that I am authorized and qualified to make this report; that this survey was conducted at the request of Piedra for the University 5-39 West C LS #10H Well, API# 42-003-48388 in Andrews County County, Texas; and that I have reviewed this report and find that it conforms to the principals and procedures as set forth by Scientific Drilling International.



Field Technician