



Sable Permian Resources

Reagan County, TX (NAD 27)

University 10 F Pad

University 10 35-23 #13HK

HZ [504837]

Design: FINAL

Standard Survey Report

03 September, 2019





Total Azimuth to Grid North
 True North: 0.62°
 Magnetic North: 6.27°

Magnetic Field
 Strength: 47433.0nT
 Dip Angle: 59.47°
 Date: 8/7/2019
 Model: HDGM_FILE

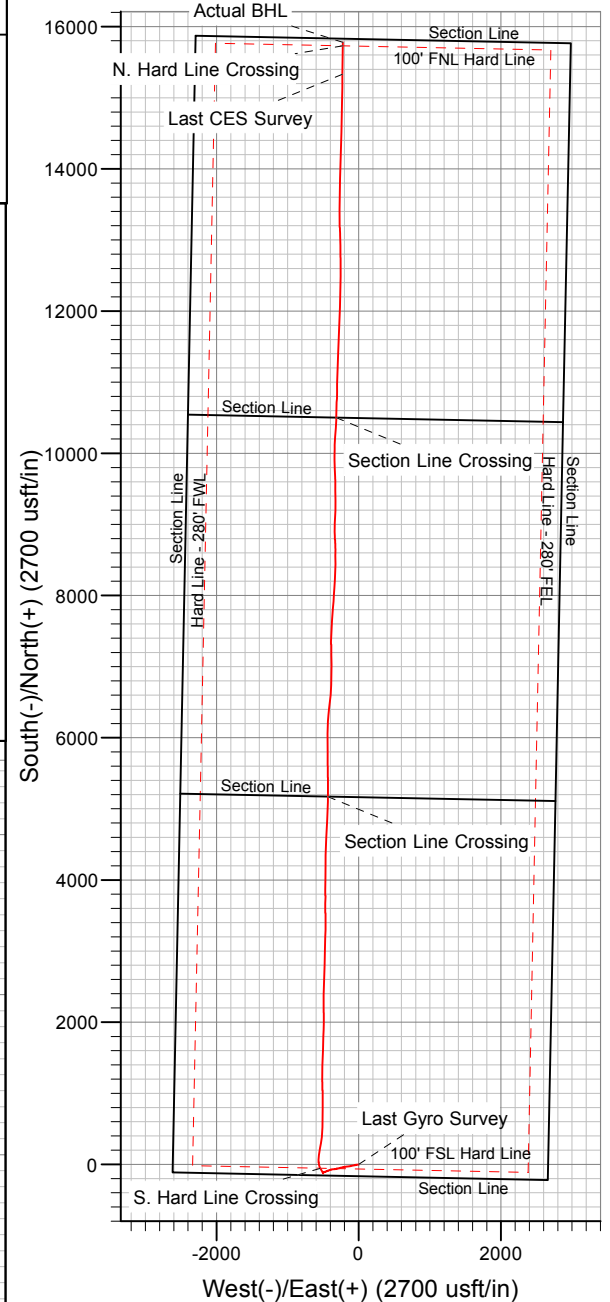
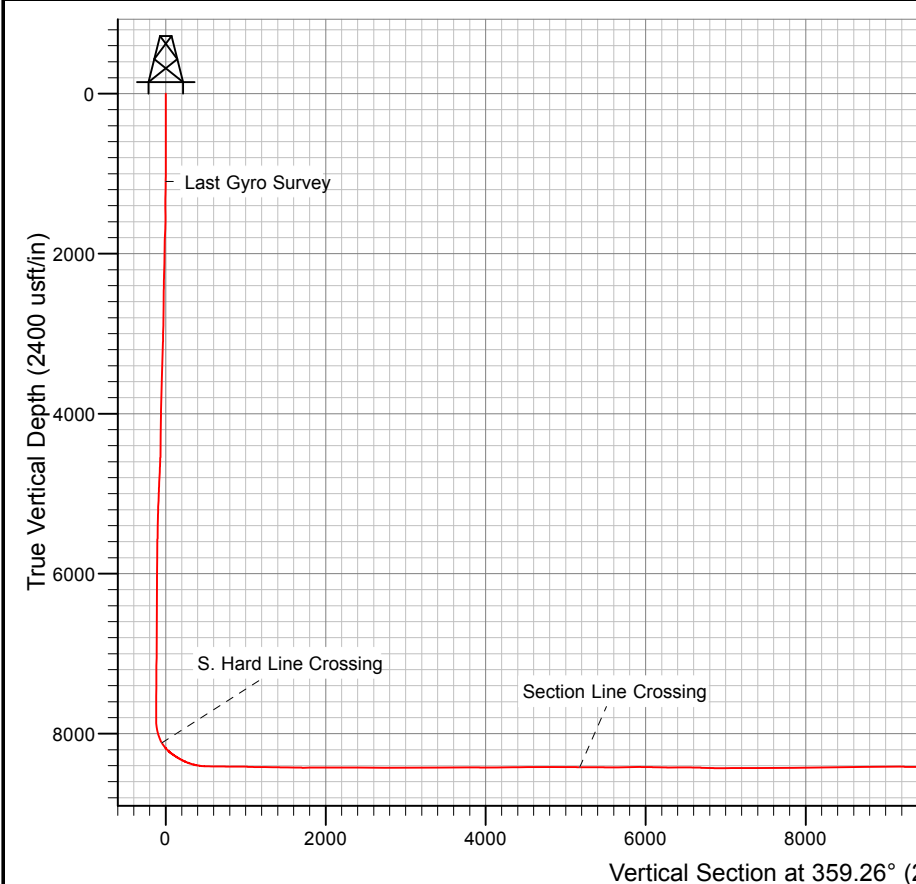
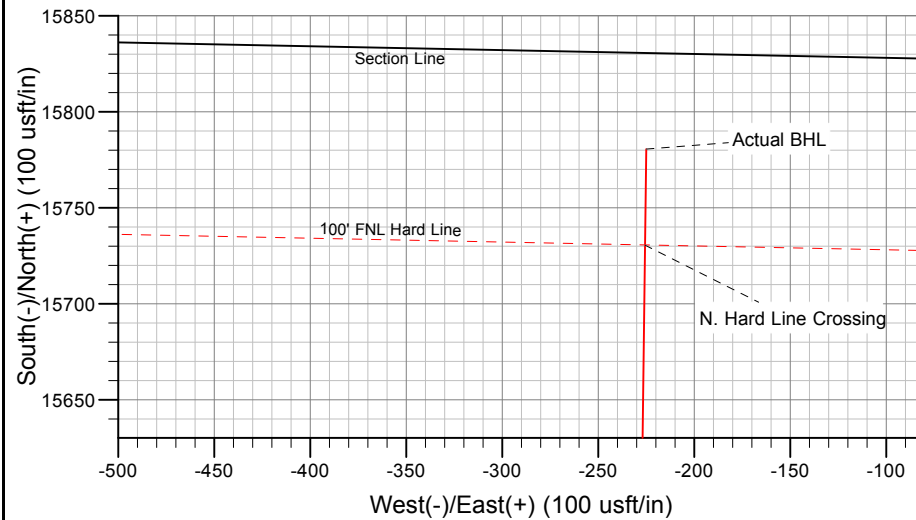
Gravity = 0.9986°
 Ground Elevation: 2716.00
 +N/-S 0.00 +E/-W 0.00 Northing 565124.60 Easting 1621876.74 Latitude 31.214897 Longitude -101.542963

LP Target Line
 89.10° INC @ 8393.42' TVD @ 0' VS
 5' Up / Down & 30' Left / Right

Actual Bottom Hole Location
 50' FNL / 2070' FWL (Sec 23)
 X: 1621651.74 Y: 580905.10

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Annotation
1096.00	1.29	195.07	1095.98	-0.38	-0.84	-0.37	Last Gyro Survey
8162.00	33.51	334.22	8115.16	-55.65	-542.31	-48.64	S. Hard Line Crossing
13493.00	88.86	359.43	8418.51	5171.57	-431.73	5176.72	Section Line Crossing
18830.00	90.40	1.47	8408.24	10501.55	-316.84	10504.77	Section Line Crossing
23660.00	90.43	0.69	8350.55	15328.55	-230.44	15330.24	Last CES Survey
24062.00	90.43	0.69	8347.53	15730.51	-225.60	15732.11	N. Hard Line Crossing
24112.00	90.43	0.69	8347.16	15780.50	-225.00	15782.09	Actual BHL



Company:	Sable Permian Resources	Local Co-ordinate Reference:	Well University 10 35-23 #13HK
Project:	Reagan County, TX (NAD 27)	TVD Reference:	31' RKB @ 2747.00usft (Ensign 786)
Site:	University 10 F Pad	MD Reference:	31' RKB @ 2747.00usft (Ensign 786)
Well:	University 10 35-23 #13HK	North Reference:	Grid
Wellbore:	HZ [504837]	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Project	Reagan County, TX (NAD 27)		
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 10 F Pad, Gravity = 0.9986°		
Site Position:		Northing:	565,124.60 usft
From:	Map	Easting:	1,621,876.74 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	31.214897
		Longitude:	-101.542963
		Grid Convergence:	-0.62 °

Well	University 10 35-23 #13HK		
Well Position	+N/-S	0.00 usft	Northing: 565,124.60 usft
	+E/-W	0.00 usft	Easting: 1,621,876.74 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	31.214897
		Longitude:	-101.542963
		Ground Level:	2,716.00 usft

Wellbore	HZ [504837]				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	8/7/2019	5.65	59.47	47,433.00000000

Design	FINAL				
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	359.26	

Survey Program	Date	9/3/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
31.00	1,096.00	Surface Gyros (HZ [504837])	VESSI_GYROFLEX	VESSI Gyroflex Gyro	
1,150.00	24,112.00	CES MWD (HZ [504837])	MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station 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	
31.00	0.00	360.00	31.00	0.00	0.00	0.00	0.00	0.00	0.00	
81.00	0.25	286.86	81.00	0.03	-0.10	0.03	0.50	0.50	0.00	
131.00	0.26	300.64	131.00	0.12	-0.31	0.13	0.12	0.02	27.56	
181.00	0.33	8.46	181.00	0.32	-0.38	0.33	0.67	0.14	135.64	
231.00	0.50	320.09	231.00	0.63	-0.50	0.64	0.75	0.34	-96.74	
281.00	0.36	289.02	281.00	0.85	-0.79	0.86	0.53	-0.28	-62.14	
331.00	0.21	281.07	331.00	0.92	-1.03	0.93	0.31	-0.30	-15.90	
381.00	0.07	122.64	381.00	0.92	-1.09	0.93	0.55	-0.28	-316.86	
431.00	0.27	6.09	431.00	1.02	-1.05	1.03	0.62	0.40	-233.10	

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Site:	University 10 F Pad	MD Reference:	31' RKB @ 2747.00usft (Ensign 786)
Well:	University 10 35-23 #13HK	North Reference:	Grid
Wellbore:	HZ [504837]	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

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)
481.00	0.28	348.56	480.99	1.26	-1.07	1.27	0.17	0.02	-35.06
531.00	0.23	338.67	530.99	1.47	-1.13	1.48	0.13	-0.10	-19.78
581.00	0.16	62.50	580.99	1.60	-1.10	1.61	0.53	-0.14	167.66
631.00	0.15	169.59	630.99	1.56	-1.03	1.58	0.50	-0.02	214.18
681.00	0.12	292.87	680.99	1.52	-1.06	1.53	0.48	-0.06	246.56
731.00	0.20	81.15	730.99	1.55	-1.03	1.57	0.62	0.16	296.56
781.00	0.15	59.55	780.99	1.60	-0.88	1.61	0.16	-0.10	-43.20
831.00	0.37	146.51	830.99	1.50	-0.74	1.51	0.78	0.44	173.92
881.00	0.09	187.04	880.99	1.33	-0.65	1.33	0.61	-0.56	81.06
931.00	0.15	173.20	930.99	1.22	-0.65	1.23	0.13	0.12	-27.68
981.00	0.36	153.15	980.99	1.02	-0.57	1.02	0.45	0.42	-40.10
1,031.00	0.70	194.34	1,030.99	0.58	-0.58	0.59	0.98	0.68	82.38
1,081.00	0.92	196.33	1,080.99	-0.10	-0.77	-0.09	0.44	0.44	3.98
1,096.00	1.29	195.07	1,095.98	-0.38	-0.84	-0.37	2.47	2.47	-8.40
Last Gyro Survey									
1,150.00	1.72	212.60	1,149.96	-1.65	-1.44	-1.63	1.16	0.80	32.46
1,244.00	1.74	220.06	1,243.92	-3.93	-3.12	-3.89	0.24	0.02	7.94
1,338.00	2.86	255.81	1,337.85	-5.60	-6.31	-5.52	1.88	1.19	38.03
1,432.00	5.19	279.21	1,431.62	-5.49	-12.78	-5.33	2.98	2.48	24.89
1,526.00	6.24	275.53	1,525.15	-4.32	-22.06	-4.03	1.18	1.12	-3.91
1,621.00	7.06	257.88	1,619.52	-5.05	-32.91	-4.62	2.31	0.86	-18.58
1,715.00	7.79	252.95	1,712.73	-8.13	-44.65	-7.55	1.03	0.78	-5.24
1,808.00	7.44	258.56	1,804.91	-11.17	-56.58	-10.44	0.88	-0.38	6.03
1,903.00	7.16	258.10	1,899.14	-13.61	-68.40	-12.73	0.30	-0.29	-0.48
1,997.00	6.82	258.01	1,992.44	-15.98	-79.59	-14.95	0.36	-0.36	-0.10
2,090.00	6.63	259.79	2,084.80	-18.08	-90.28	-16.91	0.30	-0.20	1.91
2,184.00	6.53	258.60	2,178.18	-20.10	-100.86	-18.79	0.18	-0.11	-1.27
2,278.00	6.27	259.07	2,271.60	-22.13	-111.13	-20.69	0.28	-0.28	0.50
2,373.00	5.99	259.43	2,366.05	-24.02	-121.10	-22.45	0.30	-0.29	0.38
2,467.00	5.73	260.16	2,459.56	-25.72	-130.55	-24.03	0.29	-0.28	0.78
2,561.00	6.79	262.48	2,553.00	-27.25	-140.68	-25.43	1.16	1.13	2.47
2,656.00	7.41	262.29	2,647.27	-28.81	-152.32	-26.84	0.65	0.65	-0.20
2,750.00	7.10	262.23	2,740.52	-30.40	-164.08	-28.28	0.33	-0.33	-0.06
2,844.00	6.84	262.00	2,833.82	-31.97	-175.38	-29.70	0.28	-0.28	-0.24
2,938.00	6.33	263.55	2,927.20	-33.33	-186.07	-30.92	0.57	-0.54	1.65
3,032.00	5.77	262.32	3,020.68	-34.54	-195.90	-32.01	0.61	-0.60	-1.31
3,126.00	7.85	255.75	3,114.01	-36.76	-206.81	-34.08	2.36	2.21	-6.99
3,220.00	9.07	256.25	3,206.99	-40.10	-220.23	-37.25	1.30	1.30	0.53
3,315.00	8.79	257.50	3,300.84	-43.45	-234.59	-40.41	0.36	-0.29	1.32
3,409.00	8.79	256.76	3,393.73	-46.65	-248.59	-43.43	0.12	0.00	-0.79
3,503.00	8.45	256.98	3,486.67	-49.85	-262.31	-46.46	0.36	-0.36	0.23
3,596.00	8.09	257.22	3,578.70	-52.84	-275.35	-49.27	0.39	-0.39	0.26
3,690.00	7.44	257.52	3,671.84	-55.61	-287.74	-51.89	0.69	-0.69	0.32

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Wellbore:	HZ [504837]	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)
3,785.00	6.94	257.87	3,766.09	-58.15	-299.36	-54.28	0.53	-0.53	0.37
3,880.00	6.24	257.15	3,860.47	-60.50	-310.01	-56.49	0.74	-0.74	-0.76
3,976.00	5.47	254.64	3,955.96	-62.88	-319.50	-58.74	0.85	-0.80	-2.61
4,070.00	7.02	260.95	4,049.40	-64.97	-329.50	-60.70	1.80	1.65	6.71
4,164.00	8.16	264.89	4,142.58	-66.46	-341.82	-62.04	1.33	1.21	4.19
4,258.00	7.18	265.87	4,235.74	-67.48	-354.32	-62.90	1.05	-1.04	1.04
4,351.00	6.04	264.03	4,328.12	-68.41	-364.98	-63.69	1.25	-1.23	-1.98
4,445.00	5.46	261.94	4,421.65	-69.55	-374.33	-64.71	0.66	-0.62	-2.22
4,539.00	5.75	256.32	4,515.20	-71.29	-383.33	-66.33	0.66	0.31	-5.98
4,633.00	8.08	250.04	4,608.51	-74.66	-394.12	-69.56	2.60	2.48	-6.68
4,728.00	9.05	252.03	4,702.45	-79.24	-407.50	-73.97	1.07	1.02	2.09
4,822.00	8.11	250.45	4,795.39	-83.74	-420.78	-78.30	1.03	-1.00	-1.68
4,917.00	7.23	248.46	4,889.54	-88.18	-432.66	-82.59	0.97	-0.93	-2.09
5,013.00	6.32	247.30	4,984.87	-92.44	-443.15	-86.71	0.96	-0.95	-1.21
5,108.00	5.21	244.65	5,079.39	-96.30	-451.87	-90.46	1.20	-1.17	-2.79
5,203.00	6.07	251.29	5,173.93	-99.76	-460.53	-93.80	1.13	0.91	6.99
5,297.00	5.96	253.25	5,267.41	-102.76	-469.91	-96.68	0.25	-0.12	2.09
5,391.00	5.03	252.77	5,360.98	-105.39	-478.52	-99.20	0.99	-0.99	-0.51
5,486.00	4.15	254.58	5,455.67	-107.54	-485.81	-101.25	0.94	-0.93	1.91
5,579.00	3.18	250.36	5,548.48	-109.30	-491.48	-102.94	1.08	-1.04	-4.54
5,673.00	2.33	250.06	5,642.37	-110.83	-495.74	-104.41	0.90	-0.90	-0.32
5,767.00	1.87	249.64	5,736.31	-112.01	-498.97	-105.56	0.49	-0.49	-0.45
5,862.00	1.36	241.16	5,831.27	-113.09	-501.41	-106.61	0.59	-0.54	-8.93
5,955.00	1.07	233.77	5,924.25	-114.14	-503.08	-107.63	0.35	-0.31	-7.95
6,049.00	0.67	238.89	6,018.24	-114.94	-504.26	-108.42	0.43	-0.43	5.45
6,144.00	0.50	206.11	6,113.24	-115.60	-504.92	-109.07	0.39	-0.18	-34.51
6,238.00	0.23	174.04	6,207.23	-116.16	-505.08	-109.63	0.35	-0.29	-34.12
6,333.00	0.28	152.57	6,302.23	-116.55	-504.95	-110.02	0.11	0.05	-22.60
6,427.00	0.28	177.47	6,396.23	-116.99	-504.83	-110.46	0.13	0.00	26.49
6,521.00	0.35	157.30	6,490.23	-117.48	-504.71	-110.95	0.14	0.07	-21.46
6,615.00	0.41	164.34	6,584.23	-118.07	-504.51	-111.54	0.08	0.06	7.49
6,708.00	0.41	162.35	6,677.23	-118.71	-504.32	-112.18	0.02	0.00	-2.14
6,802.00	0.47	151.25	6,771.22	-119.37	-504.03	-112.85	0.11	0.06	-11.81
6,897.00	0.55	152.02	6,866.22	-120.11	-503.63	-113.60	0.08	0.08	0.81
6,991.00	0.60	146.47	6,960.22	-120.92	-503.15	-114.41	0.08	0.05	-5.90
7,085.00	0.57	138.19	7,054.21	-121.68	-502.56	-115.18	0.10	-0.03	-8.81
7,179.00	0.49	132.25	7,148.21	-122.30	-501.96	-115.80	0.10	-0.09	-6.32
7,273.00	0.39	131.17	7,242.20	-122.78	-501.42	-116.29	0.11	-0.11	-1.15
7,367.00	0.38	140.05	7,336.20	-123.23	-500.98	-116.75	0.06	-0.01	9.45
7,462.00	0.39	130.82	7,431.20	-123.68	-500.53	-117.21	0.07	0.01	-9.72
7,556.00	0.39	145.22	7,525.20	-124.15	-500.10	-117.68	0.10	0.00	15.32
7,662.00	0.42	151.24	7,631.19	-124.79	-499.71	-118.32	0.05	0.03	5.68
7,762.00	0.46	153.28	7,731.19	-125.47	-499.35	-119.01	0.04	0.04	2.04

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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)
7,856.00	0.32	133.70	7,825.19	-125.99	-499.00	-119.53	0.20	-0.15	-20.83
7,903.00	4.41	333.27	7,872.15	-124.46	-499.71	-118.00	10.03	8.70	-341.34
7,950.00	9.46	335.30	7,918.79	-119.34	-502.14	-112.84	10.76	10.74	4.32
7,997.00	13.95	327.77	7,964.80	-111.03	-506.78	-104.48	10.07	9.55	-16.02
8,044.00	19.33	322.62	8,009.82	-100.05	-514.53	-93.39	11.86	11.45	-10.96
8,091.00	24.84	326.05	8,053.35	-85.67	-524.77	-78.88	12.04	11.72	7.30
8,138.00	31.00	330.04	8,094.87	-66.97	-536.34	-60.04	13.69	13.11	8.49
8,162.00	33.51	334.22	8,115.17	-55.65	-542.31	-48.64	13.98	10.46	17.40
S. Hard Line Crossing									
8,185.00	36.03	337.72	8,134.06	-43.67	-547.64	-36.59	13.98	10.96	15.23
8,233.00	40.73	346.21	8,171.70	-15.36	-556.74	-8.17	14.70	9.79	17.69
8,280.00	45.67	353.02	8,205.97	16.25	-562.44	23.52	14.44	10.51	14.49
8,327.00	51.05	358.06	8,237.20	51.24	-565.11	58.54	13.97	11.45	10.72
8,374.00	56.12	3.94	8,265.11	89.02	-564.38	96.30	14.75	10.79	12.51
8,421.00	57.90	7.22	8,290.70	128.24	-560.54	135.47	6.97	3.79	6.98
8,468.00	60.77	8.78	8,314.67	168.27	-554.91	175.42	6.74	6.11	3.32
8,515.00	63.94	9.07	8,336.48	209.39	-548.45	216.46	6.77	6.74	0.62
8,562.00	67.79	10.14	8,355.69	251.67	-541.29	258.64	8.45	8.19	2.28
8,610.00	71.70	10.20	8,372.31	295.99	-533.34	302.85	8.15	8.15	0.13
8,657.00	75.95	9.27	8,385.40	340.47	-525.71	347.23	9.24	9.04	-1.98
8,704.00	79.56	7.20	8,395.36	385.92	-519.14	392.59	8.80	7.68	-4.40
8,751.00	83.45	4.05	8,402.31	432.16	-514.59	438.77	10.60	8.28	-6.70
8,798.00	87.75	1.57	8,405.91	478.95	-512.29	485.53	10.55	9.15	-5.28
8,892.00	89.37	1.59	8,408.28	572.88	-509.70	579.42	1.72	1.72	0.02
8,986.00	89.58	1.10	8,409.14	666.85	-507.50	673.35	0.57	0.22	-0.52
9,080.00	88.07	359.58	8,411.06	760.83	-506.94	767.31	2.28	-1.61	-1.62
9,174.00	89.88	359.56	8,412.75	854.81	-507.64	861.29	1.93	1.93	-0.02
9,269.00	90.63	359.89	8,412.32	949.80	-508.10	956.29	0.86	0.79	0.35
9,363.00	87.64	358.26	8,413.74	1,043.77	-509.62	1,050.26	3.62	-3.18	-1.73
9,456.00	90.08	358.92	8,415.59	1,136.71	-511.90	1,143.23	2.72	2.62	0.71
9,551.00	88.78	0.54	8,416.54	1,231.70	-512.35	1,238.22	2.19	-1.37	1.71
9,645.00	89.24	0.32	8,418.16	1,325.68	-511.65	1,332.18	0.54	0.49	-0.23
9,739.00	88.46	2.09	8,420.05	1,419.64	-509.67	1,426.10	2.06	-0.83	1.88
9,833.00	89.15	1.94	8,422.01	1,513.56	-506.37	1,519.97	0.75	0.73	-0.16
9,927.00	88.88	1.66	8,423.62	1,607.50	-503.41	1,613.87	0.41	-0.29	-0.30
10,021.00	89.67	1.98	8,424.81	1,701.44	-500.43	1,707.77	0.91	0.84	0.34
10,115.00	90.81	2.83	8,424.42	1,795.36	-496.49	1,801.62	1.51	1.21	0.90
10,209.00	89.90	0.29	8,423.84	1,889.31	-493.93	1,895.53	2.87	-0.97	-2.70
10,303.00	90.79	1.37	8,423.27	1,983.30	-492.56	1,989.50	1.49	0.95	1.15
10,397.00	90.04	359.10	8,422.59	2,077.29	-492.18	2,083.47	2.54	-0.80	-2.41
10,491.00	89.51	357.61	8,422.96	2,171.25	-494.88	2,177.46	1.68	-0.56	-1.59
10,585.00	90.45	1.51	8,422.99	2,265.22	-495.60	2,271.44	4.27	1.00	4.15
10,679.00	90.03	0.11	8,422.60	2,359.21	-494.27	2,365.40	1.55	-0.45	-1.49
10,773.00	89.10	1.31	8,423.31	2,453.20	-493.11	2,459.36	1.62	-0.99	1.28

Company:	Sable Permian Resources	Local Co-ordinate Reference:	Well University 10 35-23 #13HK
Project:	Reagan County, TX (NAD 27)	TVD Reference:	31' RKB @ 2747.00usft (Ensign 786)
Site:	University 10 F Pad	MD Reference:	31' RKB @ 2747.00usft (Ensign 786)
Well:	University 10 35-23 #13HK	North Reference:	Grid
Wellbore:	HZ [504837]	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

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)
10,867.00	89.86	2.35	8,424.17	2,547.15	-490.10	2,553.26	1.37	0.81	1.11
10,960.00	91.24	2.94	8,423.27	2,640.04	-485.81	2,646.09	1.61	1.48	0.63
11,054.00	88.83	1.27	8,423.22	2,733.97	-482.36	2,739.97	3.12	-2.56	-1.78
11,148.00	88.84	1.04	8,425.13	2,827.93	-480.47	2,833.90	0.24	0.01	-0.24
11,242.00	89.55	0.81	8,426.45	2,921.90	-478.95	2,927.85	0.79	0.76	-0.24
11,336.00	91.43	2.56	8,425.64	3,015.85	-476.19	3,021.75	2.73	2.00	1.86
11,430.00	88.88	0.63	8,425.39	3,109.80	-473.57	3,115.66	3.40	-2.71	-2.05
11,524.00	92.00	2.25	8,424.67	3,203.76	-471.21	3,209.58	3.74	3.32	1.72
11,618.00	91.26	1.45	8,421.99	3,297.67	-468.17	3,303.44	1.16	-0.79	-0.85
11,712.00	89.05	359.59	8,421.74	3,391.65	-467.32	3,397.41	3.07	-2.35	-1.98
11,806.00	89.23	358.97	8,423.15	3,485.64	-468.50	3,491.40	0.69	0.19	-0.66
11,899.00	90.21	0.16	8,423.60	3,578.63	-469.21	3,584.39	1.66	1.05	1.28
11,993.00	90.50	359.97	8,423.02	3,672.63	-469.10	3,678.38	0.37	0.31	-0.20
12,087.00	90.66	0.05	8,422.07	3,766.62	-469.09	3,772.37	0.19	0.17	0.09
12,181.00	89.61	358.73	8,421.85	3,860.61	-470.09	3,866.36	1.79	-1.12	-1.40
12,275.00	89.05	0.85	8,422.95	3,954.60	-470.43	3,960.35	2.33	-0.60	2.26
12,370.00	90.59	1.42	8,423.25	4,049.58	-468.55	4,055.29	1.73	1.62	0.60
12,464.00	90.82	0.39	8,422.09	4,143.56	-467.07	4,149.24	1.12	0.24	-1.10
12,557.00	91.02	359.29	8,420.60	4,236.54	-467.32	4,242.23	1.20	0.22	-1.18
12,652.00	90.50	0.90	8,419.34	4,331.53	-467.17	4,337.20	1.78	-0.55	1.69
12,746.00	91.24	1.69	8,417.91	4,425.50	-465.04	4,431.13	1.15	0.79	0.84
12,840.00	90.78	2.62	8,416.25	4,519.41	-461.51	4,525.00	1.10	-0.49	0.99
12,934.00	90.25	4.68	8,415.41	4,613.21	-455.53	4,618.71	2.26	-0.56	2.19
13,028.00	90.07	2.48	8,415.15	4,707.02	-449.66	4,712.44	2.35	-0.19	-2.34
13,122.00	89.18	1.77	8,415.76	4,800.96	-446.17	4,806.32	1.21	-0.95	-0.76
13,216.00	89.98	2.86	8,416.45	4,894.87	-442.37	4,900.18	1.44	0.85	1.16
13,310.00	90.85	3.51	8,415.77	4,988.73	-437.15	4,993.96	1.16	0.93	0.69
13,405.00	88.39	1.85	8,416.40	5,083.61	-432.71	5,088.77	3.12	-2.59	-1.75
13,493.00	88.86	359.43	8,418.51	5,171.57	-431.73	5,176.72	2.81	0.53	-2.76
Section Line Crossing									
13,499.00	88.89	359.26	8,418.63	5,177.57	-431.80	5,182.71	2.81	0.53	-2.75
13,593.00	89.90	359.54	8,419.62	5,271.56	-432.78	5,276.71	1.11	1.07	0.30
13,687.00	91.01	359.99	8,418.88	5,365.55	-433.17	5,370.70	1.27	1.18	0.48
13,781.00	88.13	358.33	8,419.58	5,459.53	-434.55	5,464.68	3.54	-3.06	-1.77
13,875.00	90.00	359.50	8,421.12	5,553.49	-436.33	5,558.66	2.35	1.99	1.24
13,969.00	91.10	359.70	8,420.21	5,647.48	-436.98	5,652.66	1.19	1.17	0.21
14,063.00	91.98	358.98	8,417.69	5,741.44	-438.07	5,746.62	1.21	0.94	-0.77
14,157.00	90.96	0.75	8,415.28	5,835.41	-438.29	5,840.58	2.17	-1.09	1.88
14,251.00	89.21	359.23	8,415.14	5,929.40	-438.30	5,934.57	2.47	-1.86	-1.62
14,346.00	89.05	358.24	8,416.58	6,024.36	-440.40	6,029.55	1.06	-0.17	-1.04
14,455.00	88.33	2.00	8,419.07	6,133.31	-440.17	6,138.49	3.51	-0.66	3.45
14,549.00	88.46	3.19	8,421.70	6,227.18	-435.92	6,232.29	1.27	0.14	1.27
14,644.00	90.28	7.27	8,422.75	6,321.75	-427.26	6,326.75	4.70	1.92	4.29

Company:	Sable Permian Resources	Local Co-ordinate Reference:	Well University 10 35-23 #13HK
Project:	Reagan County, TX (NAD 27)	TVD Reference:	31' RKB @ 2747.00usft (Ensign 786)
Site:	University 10 F Pad	MD Reference:	31' RKB @ 2747.00usft (Ensign 786)
Well:	University 10 35-23 #13HK	North Reference:	Grid
Wellbore:	HZ [504837]	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

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)	
14,737.00	90.89	7.73	8,421.80	6,413.95	-415.12	6,418.78	0.82	0.66	0.49	
14,831.00	89.40	5.47	8,421.56	6,507.32	-404.32	6,512.00	2.88	-1.59	-2.40	
14,925.00	89.12	5.06	8,422.78	6,600.92	-395.69	6,605.48	0.53	-0.30	-0.44	
15,019.00	88.07	1.60	8,425.08	6,694.71	-390.24	6,699.20	3.85	-1.12	-3.68	
15,113.00	88.23	2.29	8,428.12	6,788.61	-387.05	6,793.04	0.75	0.17	0.73	
15,207.00	89.25	0.19	8,430.18	6,882.56	-385.01	6,886.96	2.48	1.09	-2.23	
15,301.00	91.08	0.93	8,429.91	6,976.55	-384.10	6,980.93	2.10	1.95	0.79	
15,395.00	90.16	358.89	8,428.89	7,070.54	-384.24	7,074.91	2.38	-0.98	-2.17	
15,490.00	90.40	359.26	8,428.43	7,165.52	-385.78	7,169.91	0.46	0.25	0.39	
15,584.00	90.46	358.94	8,427.73	7,259.51	-387.25	7,263.91	0.35	0.06	-0.34	
15,678.00	88.92	359.52	8,428.23	7,353.50	-388.52	7,357.90	1.75	-1.64	0.62	
15,773.00	90.37	2.62	8,428.82	7,448.46	-386.74	7,452.84	3.60	1.53	3.26	
15,867.00	90.30	3.46	8,428.27	7,542.33	-381.76	7,546.63	0.90	-0.07	0.89	
15,961.00	90.06	3.57	8,427.98	7,636.15	-375.99	7,640.37	0.28	-0.26	0.12	
16,055.00	90.32	4.38	8,427.67	7,729.92	-369.48	7,734.05	0.91	0.28	0.86	
16,148.00	90.96	5.93	8,426.63	7,822.54	-361.12	7,826.55	1.80	0.69	1.67	
16,242.00	90.80	3.05	8,425.18	7,916.23	-353.77	7,920.14	3.07	-0.17	-3.06	
16,336.00	90.64	3.09	8,424.00	8,010.09	-348.73	8,013.92	0.18	-0.17	0.04	
16,430.00	91.45	3.80	8,422.29	8,103.90	-343.08	8,107.66	1.15	0.86	0.76	
16,521.00	90.25	2.68	8,420.94	8,194.74	-337.94	8,198.42	1.80	-1.32	-1.23	
16,614.00	92.01	5.20	8,419.10	8,287.49	-331.55	8,291.08	3.30	1.89	2.71	
16,705.00	89.52	359.37	8,417.89	8,378.37	-327.93	8,381.90	6.97	-2.74	-6.41	
16,796.00	89.20	359.38	8,418.90	8,469.36	-328.92	8,472.90	0.35	-0.35	0.01	
16,887.00	91.27	0.86	8,418.53	8,560.35	-328.73	8,563.88	2.80	2.27	1.63	
16,979.00	90.60	359.33	8,417.03	8,652.33	-328.58	8,655.85	1.82	-0.73	-1.66	
17,073.00	91.48	356.51	8,415.32	8,746.24	-331.99	8,749.80	3.14	0.94	-3.00	
17,167.00	90.83	358.15	8,413.43	8,840.12	-336.37	8,843.73	1.88	-0.69	1.74	
17,260.00	90.35	358.92	8,412.47	8,933.08	-338.75	8,936.71	0.98	-0.52	0.83	
17,354.00	90.66	3.25	8,411.64	9,027.04	-336.97	9,030.64	4.62	0.33	4.61	
17,448.00	89.47	3.16	8,411.53	9,120.89	-331.71	9,124.41	1.27	-1.27	-0.10	
17,542.00	89.20	1.33	8,412.63	9,214.81	-328.03	9,218.28	1.97	-0.29	-1.95	
17,636.00	89.52	359.10	8,413.68	9,308.80	-327.68	9,312.25	2.40	0.34	-2.37	
17,731.00	91.08	359.47	8,413.18	9,403.78	-328.86	9,407.25	1.69	1.64	0.39	
17,825.00	91.05	359.56	8,411.43	9,497.76	-329.66	9,501.23	0.10	-0.03	0.10	
17,919.00	90.91	359.27	8,409.82	9,591.75	-330.62	9,595.22	0.34	-0.15	-0.31	
18,013.00	88.57	357.82	8,410.25	9,685.70	-333.00	9,689.20	2.93	-2.49	-1.54	
18,107.00	89.34	358.14	8,411.96	9,779.63	-336.32	9,783.16	0.89	0.82	0.34	
18,201.00	89.98	357.51	8,412.52	9,873.56	-339.88	9,877.13	0.96	0.68	-0.67	
18,295.00	90.01	0.76	8,412.53	9,967.54	-341.30	9,971.11	3.46	0.03	3.46	
18,389.00	89.06	1.47	8,413.29	10,061.51	-339.47	10,065.06	1.26	-1.01	0.76	
18,483.00	88.45	1.24	8,415.34	10,155.46	-337.25	10,158.97	0.69	-0.65	-0.24	
18,578.00	92.45	6.62	8,414.59	10,250.18	-330.74	10,253.60	7.06	4.21	5.66	
18,672.00	92.58	3.90	8,410.46	10,343.69	-322.14	10,346.99	2.89	0.14	-2.89	
18,766.00	89.92	0.93	8,408.41	10,437.57	-318.18	10,440.80	4.24	-2.83	-3.16	

Company:	Sable Permian Resources	Local Co-ordinate Reference:	Well University 10 35-23 #13HK
Project:	Reagan County, TX (NAD 27)	TVD Reference:	31' RKB @ 2747.00usft (Ensign 786)
Site:	University 10 F Pad	MD Reference:	31' RKB @ 2747.00usft (Ensign 786)
Well:	University 10 35-23 #13HK	North Reference:	Grid
Wellbore:	HZ [504837]	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

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)
18,830.00	90.40	1.47	8,408.24	10,501.55	-316.84	10,504.77	1.12	0.74	0.84
Section Line Crossing									
18,860.00	90.62	1.72	8,407.97	10,531.54	-316.00	10,534.74	1.12	0.74	0.84
18,953.00	89.20	1.07	8,408.12	10,624.51	-313.74	10,627.67	1.68	-1.53	-0.70
19,047.00	91.76	2.78	8,407.33	10,718.44	-310.58	10,721.56	3.27	2.72	1.82
19,141.00	89.18	1.65	8,406.56	10,812.36	-306.95	10,815.42	3.00	-2.74	-1.20
19,234.00	86.59	0.07	8,409.99	10,905.27	-305.56	10,908.31	3.26	-2.78	-1.70
19,328.00	89.85	358.79	8,412.91	10,999.21	-306.49	11,002.25	3.73	3.47	-1.36
19,423.00	91.51	2.16	8,411.78	11,094.18	-305.70	11,097.20	3.95	1.75	3.55
19,517.00	92.23	2.85	8,408.71	11,188.04	-301.60	11,191.00	1.06	0.77	0.73
19,611.00	91.84	3.83	8,405.38	11,281.82	-296.13	11,284.70	1.12	-0.41	1.04
19,705.00	91.11	2.56	8,402.96	11,375.64	-290.89	11,378.45	1.56	-0.78	-1.35
19,798.00	92.00	4.22	8,400.43	11,468.44	-285.39	11,471.17	2.02	0.96	1.78
19,893.00	88.99	1.05	8,399.61	11,563.31	-281.03	11,565.98	4.60	-3.17	-3.34
19,987.00	89.43	1.34	8,400.91	11,657.28	-279.07	11,659.91	0.56	0.47	0.31
20,081.00	91.76	2.11	8,399.93	11,751.23	-276.24	11,753.81	2.61	2.48	0.82
20,175.00	91.28	2.11	8,397.44	11,845.13	-272.78	11,847.66	0.51	-0.51	0.00
20,268.00	91.98	2.23	8,394.79	11,938.02	-269.26	11,940.51	0.76	0.75	0.13
20,363.00	90.72	1.66	8,392.55	12,032.94	-266.03	12,035.37	1.46	-1.33	-0.60
20,458.00	91.90	2.13	8,390.38	12,127.86	-262.89	12,130.25	1.34	1.24	0.49
20,552.00	90.26	1.42	8,388.61	12,221.80	-259.98	12,224.14	1.90	-1.74	-0.76
20,647.00	90.20	0.93	8,388.23	12,316.78	-258.03	12,319.08	0.52	-0.06	-0.52
20,741.00	91.70	1.22	8,386.67	12,410.74	-256.27	12,413.02	1.63	1.60	0.31
20,835.00	90.58	0.17	8,384.80	12,504.72	-255.13	12,506.97	1.63	-1.19	-1.12
20,929.00	91.04	359.95	8,383.47	12,598.71	-255.03	12,600.95	0.54	0.49	-0.23
21,023.00	91.76	359.68	8,381.18	12,692.68	-255.34	12,694.92	0.82	0.77	-0.29
21,118.00	91.28	359.26	8,378.66	12,787.64	-256.21	12,789.88	0.67	-0.51	-0.44
21,212.00	91.14	359.09	8,376.67	12,881.61	-257.57	12,883.86	0.23	-0.15	-0.18
21,306.00	90.48	358.40	8,375.34	12,975.57	-259.63	12,977.85	1.02	-0.70	-0.73
21,400.00	91.57	358.30	8,373.66	13,069.52	-262.33	13,071.82	1.16	1.16	-0.11
21,494.00	90.74	357.20	8,371.77	13,163.43	-266.02	13,165.76	1.47	-0.88	-1.17
21,588.00	90.41	358.66	8,370.82	13,257.36	-269.42	13,259.73	1.59	-0.35	1.55
21,682.00	90.46	1.49	8,370.11	13,351.34	-269.29	13,353.71	3.01	0.05	3.01
21,777.00	91.10	0.27	8,368.81	13,446.32	-267.84	13,448.66	1.45	0.67	-1.28
21,871.00	91.01	359.20	8,367.08	13,540.30	-268.27	13,542.64	1.14	-0.10	-1.14
21,965.00	90.31	0.83	8,366.00	13,634.29	-268.25	13,636.62	1.89	-0.74	1.73
22,059.00	91.91	1.27	8,364.18	13,728.26	-266.52	13,730.55	1.77	1.70	0.47
22,154.00	91.74	0.18	8,361.15	13,823.20	-265.32	13,825.47	1.16	-0.18	-1.15
22,249.00	90.81	1.91	8,359.04	13,918.16	-263.59	13,920.40	2.07	-0.98	1.82
22,343.00	91.03	2.21	8,357.53	14,012.08	-260.21	14,014.27	0.40	0.23	0.32
22,437.00	90.14	1.73	8,356.57	14,106.02	-256.98	14,108.16	1.08	-0.95	-0.51
22,531.00	89.96	1.74	8,356.49	14,199.98	-254.13	14,202.08	0.19	-0.19	0.01
22,625.00	90.01	1.77	8,356.51	14,293.93	-251.26	14,295.99	0.06	0.05	0.03

Company:	Sable Permian Resources	Local Co-ordinate Reference:	Well University 10 35-23 #13HK
Project:	Reagan County, TX (NAD 27)	TVD Reference:	31' RKB @ 2747.00usft (Ensign 786)
Site:	University 10 F Pad	MD Reference:	31' RKB @ 2747.00usft (Ensign 786)
Well:	University 10 35-23 #13HK	North Reference:	Grid
Wellbore:	HZ [504837]	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

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)	
22,719.00	91.44	2.55	8,355.32	14,387.86	-247.71	14,389.86	1.73	1.52	0.83	
22,813.00	91.09	2.08	8,353.25	14,481.76	-243.92	14,483.70	0.62	-0.37	-0.50	
22,907.00	91.52	2.15	8,351.11	14,575.67	-240.45	14,577.56	0.46	0.46	0.07	
23,001.00	89.67	0.64	8,350.13	14,669.63	-238.16	14,671.48	2.54	-1.97	-1.61	
23,095.00	89.56	0.81	8,350.76	14,763.62	-236.97	14,765.45	0.22	-0.12	0.18	
23,189.00	89.20	0.79	8,351.78	14,857.60	-235.66	14,859.41	0.38	-0.38	-0.02	
23,283.00	90.30	0.61	8,352.19	14,951.59	-234.51	14,953.38	1.19	1.17	-0.19	
23,377.00	91.02	1.26	8,351.11	15,045.57	-232.98	15,047.33	1.03	0.77	0.69	
23,472.00	90.30	0.60	8,350.01	15,140.55	-231.44	15,142.28	1.03	-0.76	-0.69	
23,566.00	89.31	359.96	8,350.33	15,234.55	-230.98	15,236.26	1.25	-1.05	-0.68	
23,660.00	90.43	0.69	8,350.55	15,328.55	-230.44	15,330.24	1.42	1.19	0.78	
Last CES Survey										
24,062.00	90.43	0.69	8,347.53	15,730.51	-225.60	15,732.11	0.00	0.00	0.00	
N. Hard Line Crossing										
24,112.00	90.43	0.69	8,347.16	15,780.50	-225.00	15,782.09	0.00	0.00	0.00	
Actual BHL										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,096.00	1,095.98	-0.38	-0.84	Last Gyro Survey	
8,162.00	8,115.17	-55.65	-542.31	S. Hard Line Crossing	
13,493.00	8,418.51	5,171.57	-431.73	Section Line Crossing	
18,830.00	8,408.24	10,501.55	-316.84	Section Line Crossing	
23,660.00	8,350.55	15,328.55	-230.44	Last CES Survey	
24,062.00	8,347.53	15,730.51	-225.60	N. Hard Line Crossing	
24,112.00	8,347.16	15,780.50	-225.00	Actual BHL	

Checked By: _____	Approved By: _____	Date: _____
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State of Texas
County of **Reagan**

I, Hillary Grimm, certify that; I am employed by Cathedral Energy Services; that I did on the day(s) of **08/08/2019** through **09/01/2019** conduct or supervise the taking of a directional MWD survey from a depth of **1096** feet to a depth of **24112** feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Cathedral Energy Services; that I am authorized and qualified to make this report; that this survey was conducted at the request of **Sable Permian Resources, LLC** for the **University 10 35-23 #13HK**. Well API No. **42-383-40689** in **Reagan** County, Texas; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Cathedral Energy Services.

CATHEDRAL ENERGY SERVICES

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Houston, Texas 77066

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Drilling + Completions

Hillary Grimm
Administrative Assistant