



BTA Oil Producers, LLC

Lea County, NM (NAD 83)

Sec 10, T25-S, R33-E

Vaca Draw 9418 10 Fed #18H

Wellbore #1

Design: Wellbore #1

Survey Report - Geographic

27 January, 2020



QES
Survey Report - Geographic



Company:	BTA Oil Producers, LLC	Local Co-ordinate Reference:	Well Vaca Draw 9418 10 Fed #18H
Project:	Lea County, NM (NAD 83)	TVD Reference:	WELL @ 3401.0usft (Patterson #594)
Site:	Sec 10, T25-S, R33-E	MD Reference:	WELL @ 3401.0usft (Patterson #594)
Well:	Vaca Draw 9418 10 Fed #18H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Lea County, NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 10, T25-S, R33-E		
Site Position:		Northing:	414,940.60 usft
From:	Map	Easting:	779,261.40 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 8' 18.299 N
		Longitude:	103° 33' 52.777 W
		Grid Convergence:	0.41 °

Well	Vaca Draw 9418 10 Fed #18H		
Well Position	+N/-S	0.0 usft	Northing: 414,958.20 usft
	+E/-W	0.0 usft	Easting: 781,982.40 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 8' 18.280 N
		Longitude:	103° 33' 21.131 W
		Ground Level:	3,376.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2020	1/16/2020	6.57	59.75	47,744.40000000

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	3.16	

Survey Program	Date	1/27/2020			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
157.0	17,498.0	QES MWD Surveys (Wellbore #1)	MWD	OWSG MWD - Standard	

Survey									
Measured									
Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	414,958.20	781,982.40	32° 8' 18.280 N	103° 33' 21.131 W
157.0	0.40	211.50	157.0	-0.5	-0.3	414,957.73	781,982.11	32° 8' 18.275 N	103° 33' 21.135 W
First MWD Survey @ 157.0' MD / 157.0' TVD									
343.0	0.60	230.30	343.0	-1.6	-1.4	414,956.56	781,981.02	32° 8' 18.264 N	103° 33' 21.147 W
523.0	0.70	231.50	523.0	-2.9	-3.0	414,955.27	781,979.44	32° 8' 18.251 N	103° 33' 21.166 W
707.0	0.20	243.30	707.0	-3.8	-4.1	414,954.43	781,978.27	32° 8' 18.243 N	103° 33' 21.180 W
895.0	0.40	244.20	895.0	-4.2	-5.0	414,953.99	781,977.39	32° 8' 18.239 N	103° 33' 21.190 W
1,083.0	0.80	289.90	1,083.0	-4.0	-6.8	414,954.15	781,975.56	32° 8' 18.241 N	103° 33' 21.211 W
1,273.0	0.40	281.10	1,273.0	-3.5	-8.7	414,954.73	781,973.66	32° 8' 18.246 N	103° 33' 21.233 W
1,462.0	0.50	267.80	1,461.9	-3.4	-10.2	414,954.83	781,972.19	32° 8' 18.247 N	103° 33' 21.250 W
1,493.0	0.60	216.40	1,492.9	-3.5	-10.4	414,954.69	781,971.96	32° 8' 18.246 N	103° 33' 21.253 W
1,537.0	1.10	248.40	1,536.9	-3.8	-11.0	414,954.35	781,971.43	32° 8' 18.243 N	103° 33' 21.259 W



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Site:	Sec 10, T25-S, R33-E	MD Reference:	WELL @ 3401.0usft (Patterson #594)
Well:	Vaca Draw 9418 10 Fed #18H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,727.0	1.80	132.90	1,726.9	-6.6	-10.5	414,951.65	781,971.92	32° 8' 18.216 N	103° 33' 21.254 W
1,915.0	1.50	124.60	1,914.8	-10.0	-6.3	414,948.24	781,976.11	32° 8' 18.182 N	103° 33' 21.205 W
2,104.0	1.10	121.70	2,103.8	-12.3	-2.7	414,945.88	781,979.69	32° 8' 18.158 N	103° 33' 21.164 W
2,294.0	3.40	118.70	2,293.6	-16.0	3.8	414,942.22	781,986.18	32° 8' 18.122 N	103° 33' 21.089 W
2,484.0	3.10	115.30	2,483.3	-20.9	13.4	414,937.32	781,995.77	32° 8' 18.072 N	103° 33' 20.977 W
2,672.0	3.10	109.00	2,671.0	-24.7	22.8	414,933.49	782,005.17	32° 8' 18.034 N	103° 33' 20.868 W
2,861.0	3.30	107.90	2,859.7	-28.0	32.8	414,930.15	782,015.18	32° 8' 18.000 N	103° 33' 20.752 W
3,051.0	4.40	116.60	3,049.3	-33.0	44.5	414,925.21	782,026.90	32° 8' 17.950 N	103° 33' 20.616 W
3,240.0	4.80	107.80	3,237.7	-38.7	58.5	414,919.55	782,040.91	32° 8' 17.893 N	103° 33' 20.454 W
3,429.0	5.30	122.70	3,426.0	-45.8	73.4	414,912.41	782,055.79	32° 8' 17.822 N	103° 33' 20.282 W
3,618.0	4.50	121.10	3,614.3	-54.3	87.1	414,903.87	782,069.48	32° 8' 17.736 N	103° 33' 20.123 W
3,807.0	4.30	115.70	3,802.7	-61.2	99.8	414,896.96	782,082.22	32° 8' 17.667 N	103° 33' 19.976 W
3,996.0	4.60	119.20	3,991.2	-68.0	112.8	414,890.19	782,095.22	32° 8' 17.599 N	103° 33' 19.825 W
4,186.0	3.80	120.40	4,180.7	-74.9	124.9	414,883.29	782,107.30	32° 8' 17.530 N	103° 33' 19.685 W
4,376.0	4.70	117.80	4,370.1	-81.7	137.2	414,876.48	782,119.62	32° 8' 17.462 N	103° 33' 19.542 W
4,565.0	4.70	115.20	4,558.5	-88.6	151.1	414,869.57	782,133.47	32° 8' 17.392 N	103° 33' 19.382 W
4,754.0	6.80	126.90	4,746.5	-98.6	167.0	414,859.55	782,149.43	32° 8' 17.292 N	103° 33' 19.197 W
4,944.0	4.30	134.50	4,935.6	-110.4	181.1	414,847.80	782,163.51	32° 8' 17.175 N	103° 33' 19.034 W
5,133.0	3.40	132.40	5,124.2	-119.1	190.3	414,839.06	782,172.70	32° 8' 17.088 N	103° 33' 18.928 W
5,322.0	3.30	132.20	5,312.9	-126.6	198.5	414,831.62	782,180.87	32° 8' 17.013 N	103° 33' 18.834 W
5,511.0	3.30	126.20	5,501.6	-133.4	206.9	414,824.76	782,189.29	32° 8' 16.945 N	103° 33' 18.736 W
5,701.0	2.20	138.00	5,691.3	-139.4	213.7	414,818.82	782,196.14	32° 8' 16.886 N	103° 33' 18.657 W
5,891.0	2.00	131.00	5,881.2	-144.3	218.7	414,813.93	782,201.08	32° 8' 16.837 N	103° 33' 18.600 W
6,080.0	1.80	127.50	6,070.1	-148.2	223.5	414,809.96	782,205.93	32° 8' 16.797 N	103° 33' 18.544 W
6,270.0	1.70	122.50	6,260.0	-151.6	228.3	414,806.63	782,210.67	32° 8' 16.764 N	103° 33' 18.489 W
6,458.0	1.50	128.50	6,448.0	-154.6	232.6	414,803.60	782,214.95	32° 8' 16.734 N	103° 33' 18.440 W
6,648.0	1.60	128.00	6,637.9	-157.8	236.6	414,800.42	782,218.98	32° 8' 16.702 N	103° 33' 18.393 W
6,837.0	1.40	125.00	6,826.8	-160.7	240.6	414,797.47	782,222.96	32° 8' 16.672 N	103° 33' 18.347 W
7,027.0	1.40	114.60	7,016.8	-163.0	244.6	414,795.17	782,226.97	32° 8' 16.649 N	103° 33' 18.301 W
7,216.0	1.40	121.10	7,205.7	-165.2	248.6	414,793.02	782,231.04	32° 8' 16.628 N	103° 33' 18.253 W
7,405.0	1.30	116.20	7,394.7	-167.3	252.5	414,790.88	782,234.94	32° 8' 16.606 N	103° 33' 18.208 W
7,595.0	1.30	122.90	7,584.6	-169.4	256.3	414,788.76	782,238.69	32° 8' 16.585 N	103° 33' 18.165 W
7,783.0	0.30	231.70	7,772.6	-170.9	257.7	414,787.29	782,240.09	32° 8' 16.570 N	103° 33' 18.149 W
7,973.0	0.30	201.10	7,962.6	-171.7	257.1	414,786.52	782,239.52	32° 8' 16.563 N	103° 33' 18.155 W
8,162.0	1.50	109.00	8,151.6	-172.9	259.3	414,785.25	782,241.68	32° 8' 16.550 N	103° 33' 18.130 W
8,351.0	1.30	107.20	8,340.5	-174.4	263.7	414,783.81	782,246.07	32° 8' 16.536 N	103° 33' 18.079 W
8,540.0	1.10	114.50	8,529.5	-175.8	267.4	414,782.43	782,249.77	32° 8' 16.522 N	103° 33' 18.037 W
8,728.0	1.10	125.00	8,717.4	-177.6	270.5	414,780.64	782,252.89	32° 8' 16.504 N	103° 33' 18.000 W
8,917.0	1.10	121.50	8,906.4	-179.5	273.5	414,778.66	782,255.92	32° 8' 16.484 N	103° 33' 17.965 W
9,107.0	0.90	127.80	9,096.4	-181.4	276.3	414,776.79	782,258.66	32° 8' 16.465 N	103° 33' 17.934 W
9,201.0	1.10	118.10	9,190.4	-182.3	277.6	414,775.91	782,260.04	32° 8' 16.456 N	103° 33' 17.918 W
9,296.0	1.00	112.70	9,285.3	-183.0	279.2	414,775.16	782,261.60	32° 8' 16.449 N	103° 33' 17.900 W
9,390.0	0.50	102.80	9,379.3	-183.4	280.4	414,774.75	782,262.76	32° 8' 16.445 N	103° 33' 17.886 W
9,485.0	0.40	67.90	9,474.3	-183.4	281.1	414,774.79	782,263.47	32° 8' 16.445 N	103° 33' 17.878 W
9,580.0	0.10	134.50	9,569.3	-183.3	281.4	414,774.85	782,263.84	32° 8' 16.446 N	103° 33' 17.874 W
9,675.0	0.30	94.90	9,664.3	-183.4	281.7	414,774.77	782,264.15	32° 8' 16.445 N	103° 33' 17.870 W
9,770.0	0.60	76.70	9,759.3	-183.3	282.5	414,774.87	782,264.88	32° 8' 16.446 N	103° 33' 17.861 W
9,865.0	0.70	71.70	9,854.3	-183.0	283.5	414,775.16	782,265.91	32° 8' 16.449 N	103° 33' 17.849 W
9,952.0	0.80	59.10	9,941.3	-182.6	284.5	414,775.64	782,266.94	32° 8' 16.453 N	103° 33' 17.837 W
10,049.0	1.10	57.50	10,038.3	-181.7	285.9	414,776.49	782,268.31	32° 8' 16.462 N	103° 33' 17.821 W
10,141.0	1.20	61.50	10,130.3	-180.8	287.5	414,777.43	782,269.90	32° 8' 16.471 N	103° 33' 17.803 W
10,236.0	0.80	73.00	10,225.3	-180.1	289.0	414,778.09	782,271.41	32° 8' 16.477 N	103° 33' 17.785 W
10,331.0	0.40	65.60	10,320.3	-179.8	289.9	414,778.43	782,272.34	32° 8' 16.480 N	103° 33' 17.774 W
10,425.0	0.50	105.80	10,414.3	-179.8	290.6	414,778.45	782,273.03	32° 8' 16.481 N	103° 33' 17.766 W
10,520.0	0.40	119.50	10,509.3	-180.0	291.3	414,778.17	782,273.72	32° 8' 16.478 N	103° 33' 17.758 W



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Site:	Sec 10, T25-S, R33-E	MD Reference:	WELL @ 3401.0usft (Patterson #594)
Well:	Vaca Draw 9418 10 Fed #18H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,615.0	0.60	158.90	10,604.2	-180.7	291.8	414,777.55	782,274.19	32° 8' 16.472 N	103° 33' 17.753 W
10,709.0	1.00	172.10	10,698.2	-181.9	292.1	414,776.27	782,274.48	32° 8' 16.459 N	103° 33' 17.750 W
10,803.0	0.90	84.90	10,792.2	-182.7	292.9	414,775.53	782,275.33	32° 8' 16.452 N	103° 33' 17.740 W
10,898.0	0.60	90.70	10,887.2	-182.6	294.2	414,775.59	782,276.57	32° 8' 16.452 N	103° 33' 17.725 W
10,992.0	0.40	160.30	10,981.2	-182.9	294.8	414,775.27	782,277.17	32° 8' 16.449 N	103° 33' 17.718 W
11,088.0	0.40	159.30	11,077.2	-183.6	295.0	414,774.64	782,277.40	32° 8' 16.443 N	103° 33' 17.716 W
11,182.0	1.80	93.90	11,171.2	-184.0	296.6	414,774.24	782,278.99	32° 8' 16.438 N	103° 33' 17.697 W
11,275.0	1.60	90.00	11,264.2	-184.1	299.3	414,774.14	782,281.75	32° 8' 16.437 N	103° 33' 17.665 W
11,370.0	1.50	124.60	11,359.1	-184.8	301.7	414,773.43	782,284.10	32° 8' 16.430 N	103° 33' 17.638 W
11,465.0	0.70	125.00	11,454.1	-185.8	303.2	414,772.39	782,285.60	32° 8' 16.420 N	103° 33' 17.621 W
11,559.0	1.10	125.20	11,548.1	-186.7	304.4	414,771.54	782,286.80	32° 8' 16.411 N	103° 33' 17.607 W
11,654.0	1.10	159.60	11,643.1	-188.0	305.5	414,770.16	782,287.87	32° 8' 16.398 N	103° 33' 17.595 W
11,749.0	0.50	122.90	11,738.1	-189.1	306.1	414,769.08	782,288.53	32° 8' 16.387 N	103° 33' 17.587 W
11,844.0	0.80	66.10	11,833.1	-189.1	307.1	414,769.13	782,289.49	32° 8' 16.387 N	103° 33' 17.576 W
11,920.0	0.50	62.80	11,909.1	-188.7	307.9	414,769.49	782,290.27	32° 8' 16.391 N	103° 33' 17.567 W
11,977.0	0.50	85.30	11,966.1	-188.6	308.3	414,769.63	782,290.74	32° 8' 16.392 N	103° 33' 17.561 W
12,071.0	6.30	9.70	12,059.9	-183.5	309.6	414,774.75	782,292.01	32° 8' 16.443 N	103° 33' 17.546 W
12,166.0	21.70	1.10	12,151.8	-160.6	310.8	414,797.59	782,293.24	32° 8' 16.669 N	103° 33' 17.530 W
12,262.0	33.60	2.10	12,236.7	-116.2	312.2	414,842.04	782,294.56	32° 8' 17.108 N	103° 33' 17.511 W
12,357.0	43.40	2.10	12,310.9	-57.1	314.3	414,901.06	782,296.72	32° 8' 17.692 N	103° 33' 17.481 W
12,452.0	50.70	1.60	12,375.6	12.3	316.5	414,970.51	782,298.95	32° 8' 18.379 N	103° 33' 17.449 W
12,546.0	60.90	0.30	12,428.4	89.9	317.8	415,048.14	782,300.18	32° 8' 19.147 N	103° 33' 17.428 W
12,571.6	64.24	0.36	12,440.2	112.7	317.9	415,070.86	782,300.31	32° 8' 19.372 N	103° 33' 17.425 W
330' FSL Crossed @ 12571.6' MD / 12440.2' TVD									
12,641.0	73.30	0.50	12,465.3	177.3	318.4	415,135.48	782,300.80	32° 8' 20.012 N	103° 33' 17.413 W
12,736.0	83.30	357.20	12,484.5	270.2	316.5	415,228.36	782,298.88	32° 8' 20.931 N	103° 33' 17.428 W
12,831.0	88.90	357.00	12,491.0	364.8	311.7	415,322.98	782,294.09	32° 8' 21.867 N	103° 33' 17.476 W
12,946.0	89.80	358.10	12,492.3	479.7	306.8	415,437.86	782,289.17	32° 8' 23.005 N	103° 33' 17.523 W
13,042.0	91.10	0.20	12,491.5	575.6	305.4	415,533.84	782,287.75	32° 8' 23.954 N	103° 33' 17.532 W
13,137.0	90.00	2.10	12,490.6	670.6	307.3	415,628.81	782,289.66	32° 8' 24.894 N	103° 33' 17.502 W
13,232.0	88.10	3.50	12,492.2	765.5	311.9	415,723.68	782,294.30	32° 8' 25.832 N	103° 33' 17.440 W
13,327.0	88.50	3.50	12,495.0	860.3	317.7	415,818.46	782,300.09	32° 8' 26.770 N	103° 33' 17.364 W
13,422.0	88.80	1.60	12,497.2	955.1	321.9	415,913.34	782,304.32	32° 8' 27.708 N	103° 33' 17.307 W
13,516.0	88.60	0.30	12,499.4	1,049.1	323.5	416,007.30	782,305.88	32° 8' 28.638 N	103° 33' 17.281 W
13,611.0	87.90	359.30	12,502.3	1,144.1	323.1	416,102.25	782,305.55	32° 8' 29.578 N	103° 33' 17.277 W
13,705.0	88.80	358.20	12,505.0	1,238.0	321.1	416,196.19	782,303.50	32° 8' 30.507 N	103° 33' 17.293 W
13,800.0	89.50	0.30	12,506.4	1,333.0	319.9	416,291.16	782,302.25	32° 8' 31.447 N	103° 33' 17.299 W
13,894.0	89.30	0.70	12,507.4	1,427.0	320.7	416,385.15	782,303.07	32° 8' 32.377 N	103° 33' 17.282 W
13,989.0	88.30	0.50	12,509.4	1,521.9	321.7	416,480.13	782,304.07	32° 8' 33.317 N	103° 33' 17.262 W
14,084.0	88.80	358.10	12,511.8	1,616.9	320.5	416,575.08	782,302.91	32° 8' 34.257 N	103° 33' 17.268 W
14,178.0	88.40	358.80	12,514.1	1,710.8	318.0	416,669.02	782,300.37	32° 8' 35.186 N	103° 33' 17.290 W
14,273.0	88.70	0.50	12,516.5	1,805.8	317.4	416,763.98	782,299.79	32° 8' 36.126 N	103° 33' 17.288 W
14,368.0	88.90	0.70	12,518.5	1,900.8	318.4	416,858.96	782,300.78	32° 8' 37.066 N	103° 33' 17.269 W
14,463.0	88.20	0.00	12,520.9	1,995.7	319.0	416,953.92	782,301.36	32° 8' 38.006 N	103° 33' 17.254 W
14,558.0	88.20	358.40	12,523.8	2,090.7	317.6	417,048.86	782,300.03	32° 8' 38.945 N	103° 33' 17.261 W
14,653.0	88.50	357.40	12,526.6	2,185.6	314.2	417,143.76	782,296.55	32° 8' 39.884 N	103° 33' 17.294 W
14,747.0	89.30	356.50	12,528.4	2,279.4	309.2	417,237.61	782,291.55	32° 8' 40.813 N	103° 33' 17.344 W
14,842.0	90.00	358.90	12,529.0	2,374.3	305.3	417,332.52	782,287.74	32° 8' 41.753 N	103° 33' 17.381 W
14,937.0	91.60	359.30	12,527.6	2,469.3	303.9	417,427.50	782,286.25	32° 8' 42.693 N	103° 33' 17.390 W
15,032.0	90.60	1.80	12,525.8	2,564.3	304.8	417,522.47	782,287.16	32° 8' 43.632 N	103° 33' 17.371 W
15,127.0	91.00	1.20	12,524.5	2,659.2	307.3	417,617.42	782,289.65	32° 8' 44.572 N	103° 33' 17.334 W
15,222.0	93.10	359.80	12,521.1	2,754.2	308.1	417,712.35	782,290.48	32° 8' 45.511 N	103° 33' 17.317 W
15,317.0	90.70	356.30	12,517.9	2,849.0	304.8	417,807.22	782,287.25	32° 8' 46.450 N	103° 33' 17.346 W
15,412.0	90.70	355.80	12,516.8	2,943.8	298.3	417,901.99	782,280.70	32° 8' 47.388 N	103° 33' 17.415 W
15,507.0	90.80	355.30	12,515.5	3,038.5	290.9	417,996.70	782,273.33	32° 8' 48.326 N	103° 33' 17.492 W



QES
Survey Report - Geographic



Company:	BTA Oil Producers, LLC	Local Co-ordinate Reference:	Well Vaca Draw 9418 10 Fed #18H
Project:	Lea County, NM (NAD 83)	TVD Reference:	WELL @ 3401.0usft (Patterson #594)
Site:	Sec 10, T25-S, R33-E	MD Reference:	WELL @ 3401.0usft (Patterson #594)
Well:	Vaca Draw 9418 10 Fed #18H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,602.0	91.50	358.20	12,513.6	3,133.3	285.5	418,091.51	782,267.95	32° 8' 49.265 N	103° 33' 17.547 W
15,697.0	91.50	358.20	12,511.1	3,228.2	282.6	418,186.43	782,264.96	32° 8' 50.204 N	103° 33' 17.574 W
15,792.0	93.50	356.80	12,507.0	3,323.0	278.4	418,281.25	782,260.83	32° 8' 51.143 N	103° 33' 17.614 W
15,887.0	91.70	353.30	12,502.7	3,417.6	270.2	418,375.77	782,252.64	32° 8' 52.079 N	103° 33' 17.701 W
15,982.0	90.40	348.20	12,500.9	3,511.3	255.0	418,469.49	782,237.37	32° 8' 53.007 N	103° 33' 17.871 W
16,077.0	89.60	348.70	12,500.9	3,604.4	236.0	418,562.57	782,218.35	32° 8' 53.929 N	103° 33' 18.084 W
16,172.0	89.30	352.40	12,501.9	3,698.1	220.4	418,656.26	782,202.76	32° 8' 54.858 N	103° 33' 18.258 W
16,266.0	89.00	356.00	12,503.3	3,791.5	210.9	418,749.75	782,193.26	32° 8' 55.783 N	103° 33' 18.360 W
16,361.0	89.50	356.70	12,504.5	3,886.3	204.8	418,844.55	782,187.21	32° 8' 56.722 N	103° 33' 18.423 W
16,456.0	91.50	358.20	12,503.7	3,981.2	200.6	418,939.44	782,182.99	32° 8' 57.661 N	103° 33' 18.464 W
16,551.0	91.90	359.10	12,500.8	4,076.2	198.4	419,034.37	782,180.75	32° 8' 58.601 N	103° 33' 18.482 W
16,645.0	90.80	357.20	12,498.6	4,170.1	195.3	419,128.29	782,177.72	32° 8' 59.530 N	103° 33' 18.509 W
16,740.0	89.80	355.80	12,498.1	4,264.9	189.5	419,223.11	782,171.92	32° 9' 0.469 N	103° 33' 18.569 W
16,801.0	92.40	357.70	12,497.0	4,325.8	186.1	419,283.99	782,168.46	32° 9' 1.072 N	103° 33' 18.604 W
16,896.0	92.80	1.90	12,492.7	4,420.7	185.7	419,378.87	782,168.13	32° 9' 2.011 N	103° 33' 18.600 W
16,991.0	90.00	1.90	12,490.3	4,515.6	188.9	419,473.78	782,171.28	32° 9' 2.949 N	103° 33' 18.555 W
17,086.0	89.30	2.60	12,490.9	4,610.5	192.6	419,568.71	782,175.01	32° 9' 3.889 N	103° 33' 18.504 W
17,181.0	89.50	4.70	12,491.9	4,705.3	198.7	419,663.50	782,181.05	32° 9' 4.826 N	103° 33' 18.425 W
17,211.3	89.37	4.93	12,492.2	4,735.5	201.2	419,693.69	782,183.59	32° 9' 5.125 N	103° 33' 18.393 W
330' FNL Crossed @ 17211.3' MD / 12492.2' TVD									
17,275.0	89.10	5.40	12,493.1	4,798.9	206.9	419,757.13	782,189.33	32° 9' 5.752 N	103° 33' 18.321 W
17,372.0	90.90	7.20	12,493.1	4,895.3	217.6	419,853.54	782,199.97	32° 9' 6.705 N	103° 33' 18.189 W
17,446.0	93.30	7.70	12,490.3	4,968.7	227.2	419,926.86	782,209.56	32° 9' 7.430 N	103° 33' 18.072 W
17,498.0	93.30	7.70	12,487.3	5,020.1	234.1	419,978.30	782,216.51	32° 9' 7.939 N	103° 33' 17.987 W
TD @ 17498.0' MD / 12487.4' TVD									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
157.0	157.0	-0.5	-0.3	First MWD Survey @ 157.0' MD / 157.0' TVD
12,571.6	12,440.2	112.7	317.9	330' FSL Crossed @ 12571.6' MD / 12440.2' TVD
17,211.3	12,492.2	4,735.5	201.2	330' FNL Crossed @ 17211.3' MD / 12492.2' TVD
17,498.0	12,487.3	5,020.1	234.1	TD @ 17498.0' MD / 12487.4' TVD

Checked By: _____	Approved By: _____	Date: _____
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