



BTA Oil Producers, LLC

Lea County, NM (NAD 83)

Sec 10, T25-S, R33-E

Vaca Draw 9418 10 Fed #16H

Wellbore #1

Design: Wellbore #1

Survey Report - Geographic

17 February, 2020



QES
Survey Report - Geographic



Company:	BTA Oil Producers, LLC	Local Co-ordinate Reference:	Well Vaca Draw 9418 10 Fed #16H
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 #16H	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 #16H		
Well Position	+N/-S	0.0 usft	Northing: 414,957.70 usft
	+E/-W	0.0 usft	Easting: 781,922.40 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 8' 18.279 N
		Longitude:	103° 33' 21.829 W
		Ground Level:	3,376.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2020	2/4/2020	6.57	59.75	47,738.90000000

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		348.89

Survey Program	Date	2/17/2020			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
157.0	17,530.0	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	414,957.70	781,922.40	32° 8' 18.279 N	103° 33' 21.829 W
157.0	0.20	335.30	157.0	0.2	-0.1	414,957.95	781,922.28	32° 8' 18.282 N	103° 33' 21.830 W
First MWD Survey @ 157.0' MD / 157.0' TVD									
343.0	0.60	242.80	343.0	0.1	-1.1	414,957.80	781,921.28	32° 8' 18.280 N	103° 33' 21.842 W
523.0	0.70	235.40	523.0	-1.0	-2.9	414,956.74	781,919.54	32° 8' 18.270 N	103° 33' 21.862 W
707.0	0.70	249.80	707.0	-2.0	-4.8	414,955.72	781,917.56	32° 8' 18.260 N	103° 33' 21.886 W
895.0	0.50	270.20	895.0	-2.4	-6.7	414,955.32	781,915.66	32° 8' 18.256 N	103° 33' 21.908 W
1,083.0	1.00	270.20	1,082.9	-2.4	-9.2	414,955.33	781,913.20	32° 8' 18.257 N	103° 33' 21.936 W
1,273.0	1.10	30.29	1,272.9	-0.8	-9.9	414,956.91	781,912.46	32° 8' 18.272 N	103° 33' 21.945 W
1,462.0	0.40	310.80	1,461.9	1.2	-9.5	414,958.91	781,912.88	32° 8' 18.292 N	103° 33' 21.940 W
1,497.0	0.50	303.80	1,496.9	1.4	-9.7	414,959.07	781,912.66	32° 8' 18.294 N	103° 33' 21.942 W
1,631.0	3.50	258.10	1,630.8	0.9	-14.2	414,958.56	781,908.17	32° 8' 18.289 N	103° 33' 21.995 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 #16H	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
1,820.0	8.00	254.20	1,818.8	-3.9	-32.5	414,953.78	781,889.86	32° 8' 18.243 N	103° 33' 22.208 W
2,009.0	8.40	256.30	2,005.9	-10.8	-58.6	414,946.93	781,863.79	32° 8' 18.177 N	103° 33' 22.512 W
2,199.0	8.60	256.90	2,193.8	-17.3	-85.9	414,940.43	781,836.47	32° 8' 18.115 N	103° 33' 22.830 W
2,388.0	8.80	259.80	2,380.6	-23.0	-113.9	414,934.66	781,808.48	32° 8' 18.060 N	103° 33' 23.156 W
2,577.0	8.40	263.00	2,567.5	-27.3	-141.8	414,930.42	781,780.55	32° 8' 18.020 N	103° 33' 23.481 W
2,766.0	8.20	256.20	2,754.5	-32.2	-168.6	414,925.52	781,753.76	32° 8' 17.973 N	103° 33' 23.793 W
2,956.0	7.10	254.90	2,942.8	-38.5	-193.1	414,919.23	781,729.26	32° 8' 17.913 N	103° 33' 24.078 W
3,145.0	6.40	254.60	3,130.5	-44.3	-214.6	414,913.39	781,707.83	32° 8' 17.856 N	103° 33' 24.328 W
3,334.0	5.70	257.90	3,318.5	-49.1	-233.9	414,908.63	781,688.49	32° 8' 17.811 N	103° 33' 24.553 W
3,523.0	8.10	258.40	3,506.1	-53.7	-256.1	414,903.98	781,666.27	32° 8' 17.766 N	103° 33' 24.812 W
3,712.0	7.50	260.40	3,693.3	-58.5	-281.3	414,899.25	781,641.07	32° 8' 17.721 N	103° 33' 25.106 W
3,901.0	9.00	254.40	3,880.4	-64.5	-307.7	414,893.21	781,614.66	32° 8' 17.663 N	103° 33' 25.413 W
4,090.0	8.50	255.60	4,067.2	-71.9	-335.5	414,885.76	781,586.90	32° 8' 17.592 N	103° 33' 25.737 W
4,280.0	7.60	254.90	4,255.3	-78.7	-361.2	414,879.00	781,561.16	32° 8' 17.526 N	103° 33' 26.037 W
4,470.0	6.20	248.80	4,443.9	-85.7	-382.9	414,872.02	781,539.47	32° 8' 17.459 N	103° 33' 26.290 W
4,659.0	6.30	254.40	4,631.8	-92.2	-402.4	414,865.54	781,519.96	32° 8' 17.396 N	103° 33' 26.517 W
4,848.0	7.90	258.10	4,819.4	-97.6	-425.1	414,860.07	781,497.26	32° 8' 17.344 N	103° 33' 26.781 W
5,038.0	7.50	263.90	5,007.6	-101.6	-450.2	414,856.06	781,472.16	32° 8' 17.306 N	103° 33' 27.074 W
5,227.0	8.60	263.40	5,194.8	-104.6	-476.5	414,853.12	781,445.85	32° 8' 17.279 N	103° 33' 27.380 W
5,416.0	8.20	253.90	5,381.8	-109.9	-503.5	414,847.76	781,418.86	32° 8' 17.227 N	103° 33' 27.694 W
5,606.0	7.70	254.60	5,569.9	-117.1	-528.8	414,840.62	781,393.57	32° 8' 17.159 N	103° 33' 27.989 W
5,795.0	7.70	256.30	5,757.2	-123.4	-553.3	414,834.26	781,369.07	32° 8' 17.097 N	103° 33' 28.275 W
5,984.0	7.70	257.20	5,944.5	-129.2	-578.0	414,828.46	781,344.42	32° 8' 17.042 N	103° 33' 28.562 W
6,174.0	6.90	256.00	6,133.0	-134.8	-601.5	414,822.88	781,320.93	32° 8' 16.988 N	103° 33' 28.835 W
6,364.0	6.70	256.90	6,321.6	-140.1	-623.3	414,817.60	781,299.06	32° 8' 16.938 N	103° 33' 29.090 W
6,552.0	6.70	257.00	6,508.4	-145.0	-644.7	414,812.65	781,277.69	32° 8' 16.890 N	103° 33' 29.339 W
6,742.0	6.90	261.20	6,697.0	-149.3	-666.8	414,808.41	781,255.62	32° 8' 16.850 N	103° 33' 29.596 W
6,932.0	6.50	260.50	6,885.7	-152.8	-688.7	414,804.89	781,233.73	32° 8' 16.816 N	103° 33' 29.851 W
7,121.0	7.60	251.80	7,073.3	-158.5	-711.1	414,799.22	781,211.30	32° 8' 16.762 N	103° 33' 30.112 W
7,310.0	7.80	251.90	7,260.6	-166.4	-735.2	414,791.33	781,187.24	32° 8' 16.686 N	103° 33' 30.393 W
7,499.0	7.80	257.60	7,447.9	-173.1	-759.9	414,784.59	781,162.52	32° 8' 16.621 N	103° 33' 30.681 W
7,688.0	7.70	258.40	7,635.1	-178.4	-784.8	414,779.29	781,137.60	32° 8' 16.570 N	103° 33' 30.971 W
7,869.0	7.10	257.20	7,814.6	-183.3	-807.6	414,774.38	781,114.81	32° 8' 16.523 N	103° 33' 31.237 W
8,059.0	7.00	257.00	8,003.2	-188.5	-830.3	414,769.17	781,092.08	32° 8' 16.473 N	103° 33' 31.501 W
8,247.0	6.00	258.10	8,190.0	-193.1	-851.1	414,764.57	781,071.30	32° 8' 16.429 N	103° 33' 31.743 W
8,437.0	1.80	247.90	8,379.5	-196.3	-863.6	414,761.40	781,058.81	32° 8' 16.398 N	103° 33' 31.889 W
8,625.0	0.10	342.30	8,567.5	-197.3	-866.4	414,760.44	781,056.03	32° 8' 16.389 N	103° 33' 31.921 W
8,815.0	0.30	78.80	8,757.5	-197.0	-865.9	414,760.70	781,056.47	32° 8' 16.392 N	103° 33' 31.916 W
9,004.0	0.20	89.00	8,946.5	-196.9	-865.1	414,760.80	781,057.28	32° 8' 16.393 N	103° 33' 31.907 W
9,192.0	0.30	130.10	9,134.5	-197.2	-864.4	414,760.49	781,057.98	32° 8' 16.390 N	103° 33' 31.899 W
9,382.0	0.50	214.70	9,324.4	-198.2	-864.5	414,759.49	781,057.89	32° 8' 16.380 N	103° 33' 31.900 W
9,571.0	0.30	100.40	9,513.4	-199.0	-864.5	414,758.72	781,057.91	32° 8' 16.372 N	103° 33' 31.900 W
9,761.0	0.70	117.50	9,703.4	-199.6	-863.0	414,758.09	781,059.43	32° 8' 16.366 N	103° 33' 31.882 W
9,951.0	1.60	201.30	9,893.4	-202.6	-862.9	414,755.09	781,059.50	32° 8' 16.336 N	103° 33' 31.881 W
10,141.0	0.70	254.40	10,083.4	-205.4	-865.0	414,752.30	781,057.41	32° 8' 16.309 N	103° 33' 31.906 W
10,330.0	0.70	216.20	10,272.4	-206.6	-866.8	414,751.06	781,055.62	32° 8' 16.296 N	103° 33' 31.927 W
10,520.0	1.10	238.70	10,462.3	-208.5	-869.0	414,749.18	781,053.38	32° 8' 16.278 N	103° 33' 31.953 W
10,709.0	1.50	263.40	10,651.3	-209.8	-873.0	414,747.95	781,049.37	32° 8' 16.266 N	103° 33' 32.000 W
10,897.0	1.30	269.00	10,839.2	-210.1	-877.6	414,747.63	781,044.79	32° 8' 16.263 N	103° 33' 32.053 W
11,087.0	2.10	277.10	11,029.1	-209.7	-883.2	414,748.02	781,039.18	32° 8' 16.268 N	103° 33' 32.118 W
11,276.0	1.80	258.80	11,218.0	-209.8	-889.6	414,747.87	781,032.83	32° 8' 16.267 N	103° 33' 32.192 W
11,466.0	0.70	284.60	11,408.0	-210.1	-893.6	414,747.59	781,028.78	32° 8' 16.264 N	103° 33' 32.239 W
11,654.0	2.90	257.20	11,595.9	-210.9	-899.4	414,746.82	781,023.03	32° 8' 16.257 N	103° 33' 32.306 W
11,844.0	2.10	254.00	11,785.7	-212.9	-907.4	414,744.80	781,015.00	32° 8' 16.237 N	103° 33' 32.400 W
11,954.0	1.70	215.00	11,895.7	-214.8	-910.3	414,742.90	781,012.13	32° 8' 16.219 N	103° 33' 32.433 W



QES
Survey Report - Geographic



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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
12,070.0	2.70	200.00	12,011.6	-218.8	-912.2	414,738.93	781,010.21	32° 8' 16.180 N	103° 33' 32.456 W
12,165.0	15.50	345.60	12,105.5	-208.5	-916.1	414,749.20	781,006.25	32° 8' 16.282 N	103° 33' 32.501 W
12,260.0	32.30	353.30	12,192.1	-170.7	-922.3	414,786.99	781,000.09	32° 8' 16.656 N	103° 33' 32.570 W
12,355.0	46.10	352.30	12,265.5	-111.3	-929.9	414,846.40	780,992.50	32° 8' 17.244 N	103° 33' 32.653 W
12,450.0	51.20	350.00	12,328.3	-40.9	-940.9	414,916.83	780,981.48	32° 8' 17.942 N	103° 33' 32.775 W
12,545.0	52.10	354.00	12,387.3	32.9	-951.3	414,990.58	780,971.13	32° 8' 18.673 N	103° 33' 32.889 W
12,628.9	59.85	0.61	12,434.2	102.2	-954.3	415,059.93	780,968.05	32° 8' 19.359 N	103° 33' 32.919 W
330' HL Crossed @ 12628.9'MD / 12434.2' TVD									
12,640.0	60.90	1.40	12,439.7	111.9	-954.2	415,069.58	780,968.22	32° 8' 19.454 N	103° 33' 32.917 W
12,735.0	72.00	358.60	12,477.6	198.8	-954.3	415,156.52	780,968.13	32° 8' 20.315 N	103° 33' 32.910 W
12,829.0	85.20	358.90	12,496.1	290.7	-956.3	415,248.44	780,966.13	32° 8' 21.224 N	103° 33' 32.926 W
12,955.0	89.50	357.90	12,502.0	416.5	-959.8	415,374.22	780,962.62	32° 8' 22.469 N	103° 33' 32.956 W
13,051.0	88.50	0.70	12,503.6	512.5	-961.0	415,470.19	780,961.44	32° 8' 23.419 N	103° 33' 32.962 W
13,146.0	87.90	4.00	12,506.6	607.3	-957.1	415,565.05	780,965.34	32° 8' 24.358 N	103° 33' 32.909 W
13,241.0	87.60	3.90	12,510.3	702.1	-950.5	415,659.75	780,971.87	32° 8' 25.294 N	103° 33' 32.825 W
13,336.0	87.50	2.30	12,514.4	796.8	-945.4	415,754.52	780,977.01	32° 8' 26.232 N	103° 33' 32.757 W
13,430.0	88.60	2.30	12,517.6	890.7	-941.6	415,848.39	780,980.78	32° 8' 27.160 N	103° 33' 32.705 W
13,525.0	86.80	1.60	12,521.4	985.6	-938.4	415,943.25	780,984.01	32° 8' 28.099 N	103° 33' 32.660 W
13,619.0	85.80	359.80	12,527.5	1,079.3	-937.2	416,037.05	780,985.15	32° 8' 29.027 N	103° 33' 32.639 W
13,714.0	86.40	359.10	12,533.9	1,174.1	-938.2	416,131.82	780,984.24	32° 8' 29.965 N	103° 33' 32.641 W
13,809.0	86.70	356.00	12,539.7	1,268.9	-942.2	416,226.55	780,980.19	32° 8' 30.902 N	103° 33' 32.681 W
13,903.0	90.70	354.90	12,541.8	1,362.5	-949.7	416,320.21	780,972.74	32° 8' 31.830 N	103° 33' 32.760 W
13,998.0	91.80	354.90	12,539.7	1,457.1	-958.1	416,414.81	780,964.29	32° 8' 32.766 N	103° 33' 32.850 W
14,093.0	93.20	358.80	12,535.6	1,551.9	-963.3	416,509.55	780,959.08	32° 8' 33.704 N	103° 33' 32.903 W
14,187.0	92.90	0.90	12,530.6	1,645.7	-963.6	416,603.42	780,958.83	32° 8' 34.633 N	103° 33' 32.898 W
14,282.0	88.70	359.80	12,529.2	1,740.7	-963.0	416,698.38	780,959.41	32° 8' 35.573 N	103° 33' 32.883 W
14,377.0	87.10	0.00	12,532.7	1,835.6	-963.2	416,793.31	780,959.25	32° 8' 36.512 N	103° 33' 32.877 W
14,472.0	86.30	0.20	12,538.2	1,930.5	-963.0	416,888.16	780,959.41	32° 8' 37.450 N	103° 33' 32.867 W
14,567.0	85.70	0.90	12,544.8	2,025.2	-962.1	416,982.92	780,960.32	32° 8' 38.388 N	103° 33' 32.849 W
14,662.0	84.90	1.80	12,552.6	2,119.9	-959.8	417,077.57	780,962.55	32° 8' 39.325 N	103° 33' 32.815 W
14,806.0	86.70	3.30	12,563.2	2,263.3	-953.5	417,221.03	780,968.94	32° 8' 40.744 N	103° 33' 32.728 W
14,901.0	90.60	2.30	12,565.4	2,358.2	-948.8	417,315.87	780,973.58	32° 8' 41.682 N	103° 33' 32.666 W
14,996.0	91.50	1.40	12,563.7	2,453.1	-945.8	417,410.81	780,976.65	32° 8' 42.621 N	103° 33' 32.623 W
15,091.0	89.50	358.10	12,562.8	2,548.1	-946.2	417,505.78	780,976.23	32° 8' 43.561 N	103° 33' 32.620 W
15,186.0	92.20	359.60	12,561.4	2,643.0	-948.1	417,600.74	780,974.33	32° 8' 44.501 N	103° 33' 32.634 W
15,281.0	89.80	358.10	12,559.8	2,738.0	-950.0	417,695.70	780,972.42	32° 8' 45.440 N	103° 33' 32.648 W
15,377.0	89.20	357.50	12,560.6	2,833.9	-953.7	417,791.62	780,968.73	32° 8' 46.390 N	103° 33' 32.683 W
15,472.0	89.40	357.40	12,561.8	2,928.8	-957.9	417,886.52	780,964.51	32° 8' 47.329 N	103° 33' 32.724 W
15,567.0	90.00	357.90	12,562.3	3,023.7	-961.8	417,981.44	780,960.61	32° 8' 48.269 N	103° 33' 32.762 W
15,662.0	91.60	358.60	12,560.9	3,118.7	-964.7	418,076.38	780,957.71	32° 8' 49.208 N	103° 33' 32.787 W
15,757.0	91.40	357.70	12,558.4	3,213.6	-967.8	418,171.30	780,954.65	32° 8' 50.148 N	103° 33' 32.815 W
15,852.0	93.20	356.80	12,554.6	3,308.4	-972.3	418,266.11	780,950.09	32° 8' 51.086 N	103° 33' 32.860 W
15,947.0	93.60	356.10	12,549.0	3,403.1	-978.2	418,360.76	780,944.22	32° 8' 52.023 N	103° 33' 32.921 W
16,042.0	89.30	356.30	12,546.6	3,497.8	-984.5	418,455.50	780,937.93	32° 8' 52.961 N	103° 33' 32.986 W
16,136.0	85.80	357.90	12,550.6	3,591.6	-989.2	418,549.27	780,933.18	32° 8' 53.890 N	103° 33' 33.033 W
16,231.0	89.50	0.20	12,554.5	3,686.5	-990.8	418,644.16	780,931.60	32° 8' 54.829 N	103° 33' 33.044 W
16,326.0	91.90	0.90	12,553.3	3,781.4	-989.9	418,739.14	780,932.52	32° 8' 55.768 N	103° 33' 33.025 W
16,420.0	93.00	0.90	12,549.3	3,875.3	-988.4	418,833.04	780,933.99	32° 8' 56.697 N	103° 33' 33.000 W
16,515.0	93.90	0.50	12,543.6	3,970.2	-987.2	418,927.86	780,935.15	32° 8' 57.636 N	103° 33' 32.979 W
16,610.0	94.20	0.30	12,536.9	4,064.9	-986.6	419,022.62	780,935.81	32° 8' 58.573 N	103° 33' 32.963 W
16,705.0	92.90	358.40	12,531.0	4,159.7	-987.7	419,117.43	780,934.73	32° 8' 59.511 N	103° 33' 32.968 W
16,800.0	89.60	357.00	12,528.9	4,254.6	-991.5	419,212.31	780,930.92	32° 9' 0.451 N	103° 33' 33.004 W
16,895.0	90.20	359.30	12,529.1	4,349.6	-994.5	419,307.25	780,927.86	32° 9' 1.390 N	103° 33' 33.032 W
16,990.0	90.00	359.60	12,528.9	4,444.6	-995.5	419,402.25	780,926.94	32° 9' 2.330 N	103° 33' 33.034 W
17,085.0	89.70	359.30	12,529.2	4,539.5	-996.4	419,497.25	780,926.03	32° 9' 3.270 N	103° 33' 33.037 W



QES
Survey Report - Geographic



Company:	BTA Oil Producers, LLC	Local Co-ordinate Reference:	Well Vaca Draw 9418 10 Fed #16H
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 #16H	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
17,180.0	91.10	1.20	12,528.5	4,634.5	-996.0	419,592.24	780,926.45	32° 9' 4.210 N	103° 33' 33.024 W
17,273.1	90.81	359.83	12,527.0	4,727.6	-995.1	419,685.32	780,927.28	32° 9' 5.131 N	103° 33' 33.007 W
330' HL Crossed @ 17273.1'MD / 12527.0' TVD									
17,275.0	90.80	359.80	12,527.0	4,729.5	-995.1	419,687.22	780,927.28	32° 9' 5.150 N	103° 33' 33.007 W
17,371.0	92.10	359.50	12,524.5	4,825.5	-995.7	419,783.18	780,926.69	32° 9' 6.100 N	103° 33' 33.005 W
17,476.0	92.40	2.30	12,520.4	4,930.4	-994.1	419,888.08	780,928.34	32° 9' 7.138 N	103° 33' 32.978 W
17,530.0	92.40	2.30	12,518.1	4,984.3	-991.9	419,941.99	780,930.50	32° 9' 7.671 N	103° 33' 32.948 W
TD @ 17530.0' MD / 12518.1' TVD									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
157.0	157.0	0.2	-0.1	First MWD Survey @ 157.0' MD / 157.0' TVD	
12,628.9	12,434.2	102.2	-954.3	330' HL Crossed @ 12628.9'MD / 12434.2' TVD	
17,273.1	12,527.0	4,727.6	-995.1	330' HL Crossed @ 17273.1'MD / 12527.0' TVD	
17,530.0	12,518.1	4,984.3	-991.9	TD @ 17530.0' MD / 12518.1' TVD	

Checked By: _____	Approved By: _____	Date: _____
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