



BTA Oil Producers, LLC

Lea County, NM (NAD 83)

Sec 34, T25-S, R33-E

Rojo 7811 34-27 Federal #39H

Sidetrack #1

Design: Sidetrack #1

Survey Report - Geographic

15 November, 2019

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QES
Survey Report - Geographic



Company: BTA Oil Producers, LLC
Project: Lea County, NM (NAD 83)
Site: Sec 34, T25-S, R33-E
Well: Rojo 7811 34-27 Federal #39H
Wellbore: Sidetrack #1
Design: Sidetrack #1

Local Co-ordinate Reference: Well Rojo 7811 34-27 Federal #39H
TVD Reference: RKB @ 3353.0usft (Patterson #594)
MD Reference: RKB @ 3353.0usft (Patterson #594)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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 34, T25-S, R33-E			
Site Position:		Northing:	396,110.60 usft	Latitude: 32° 5' 11.910 N
From: Map		Easting:	780,112.60 usft	Longitude: 103° 33' 44.445 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.41 °

Well	Rojo 7811 34-27 Federal #39H			
Well Position	+N/-S	0.0 usft	Northing:	396,370.60 usft
	+E/-W	0.0 usft	Easting:	779,435.20 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level: 3,328.0 usft

Wellbore	Sidetrack #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	11/1/2019	6.60	59.68	47,701.10000000

Design	Sidetrack #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	11,831.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	357.24	

Survey Program	Date	11/15/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
188.0	11,831.0	QES MWD Surveys (Wellbore #1)	OWSG (Rev2) MWD	OWSG MWD - Standard	
11,975.0	20,068.0	QES MWD Surveys (ST01) (Sidetrack #1)	OWSG (Rev2) 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	396,370.60	779,435.20	32° 5' 14.530 N	103° 33' 52.297 W
188.0	1.10	303.10	188.0	1.0	-1.5	396,371.58	779,433.69	32° 5' 14.540 N	103° 33' 52.314 W
347.0	0.90	295.00	347.0	2.3	-3.9	396,372.95	779,431.28	32° 5' 14.554 N	103° 33' 52.342 W
436.0	1.00	296.10	436.0	3.0	-5.3	396,373.58	779,429.94	32° 5' 14.560 N	103° 33' 52.358 W
530.0	0.60	334.90	529.9	3.8	-6.2	396,374.39	779,429.00	32° 5' 14.568 N	103° 33' 52.368 W
651.0	0.60	325.80	650.9	4.9	-6.8	396,375.49	779,428.37	32° 5' 14.579 N	103° 33' 52.376 W
805.0	0.60	322.30	804.9	6.2	-7.8	396,376.79	779,427.43	32° 5' 14.592 N	103° 33' 52.387 W
899.0	0.80	320.50	898.9	7.1	-8.5	396,377.69	779,426.71	32° 5' 14.601 N	103° 33' 52.395 W
993.0	0.90	326.00	992.9	8.2	-9.3	396,378.81	779,425.88	32° 5' 14.612 N	103° 33' 52.404 W
1,027.0	1.00	318.20	1,026.9	8.6	-9.7	396,379.25	779,425.53	32° 5' 14.617 N	103° 33' 52.408 W
1,154.0	0.80	319.60	1,153.9	10.2	-11.0	396,380.75	779,424.22	32° 5' 14.632 N	103° 33' 52.423 W



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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,343.0	0.70	304.30	1,342.9	11.8	-12.8	396,382.41	779,422.41	32° 5' 14.648 N	103° 33' 52.444 W
1,531.0	0.50	278.50	1,530.9	12.6	-14.5	396,383.17	779,420.65	32° 5' 14.656 N	103° 33' 52.465 W
1,721.0	2.10	247.40	1,720.8	11.4	-18.6	396,381.96	779,416.62	32° 5' 14.644 N	103° 33' 52.512 W
1,911.0	2.80	246.50	1,910.6	8.2	-26.1	396,378.77	779,409.15	32° 5' 14.613 N	103° 33' 52.599 W
2,100.0	2.60	245.40	2,099.4	4.5	-34.2	396,375.14	779,401.02	32° 5' 14.578 N	103° 33' 52.694 W
2,289.0	2.30	247.20	2,288.3	1.3	-41.6	396,371.89	779,393.62	32° 5' 14.546 N	103° 33' 52.780 W
2,479.0	3.40	254.60	2,478.0	-1.7	-50.5	396,368.92	779,384.67	32° 5' 14.517 N	103° 33' 52.884 W
2,668.0	2.60	254.40	2,666.8	-4.3	-60.1	396,366.28	779,375.14	32° 5' 14.492 N	103° 33' 52.995 W
2,856.0	3.80	244.40	2,854.5	-8.2	-69.8	396,362.44	779,365.42	32° 5' 14.455 N	103° 33' 53.108 W
3,045.0	2.60	244.70	3,043.2	-12.7	-79.3	396,357.90	779,355.89	32° 5' 14.410 N	103° 33' 53.220 W
3,234.0	3.00	248.10	3,231.9	-16.4	-87.8	396,354.22	779,347.43	32° 5' 14.374 N	103° 33' 53.318 W
3,424.0	4.30	242.10	3,421.5	-21.6	-98.7	396,349.03	779,336.52	32° 5' 14.324 N	103° 33' 53.445 W
3,613.0	3.20	249.70	3,610.1	-26.7	-109.9	396,343.89	779,325.31	32° 5' 14.274 N	103° 33' 53.576 W
3,802.0	3.20	252.00	3,798.8	-30.2	-119.9	396,340.43	779,315.35	32° 5' 14.240 N	103° 33' 53.692 W
3,991.0	2.30	271.30	3,987.6	-31.7	-128.7	396,338.88	779,306.54	32° 5' 14.226 N	103° 33' 53.795 W
4,181.0	3.80	257.40	4,177.4	-33.0	-138.6	396,337.60	779,296.58	32° 5' 14.214 N	103° 33' 53.911 W
4,370.0	3.00	223.80	4,366.0	-37.9	-148.2	396,332.66	779,287.04	32° 5' 14.165 N	103° 33' 54.022 W
4,559.0	4.00	224.00	4,554.7	-46.2	-156.2	396,324.35	779,279.04	32° 5' 14.084 N	103° 33' 54.116 W
4,749.0	3.90	210.50	4,744.2	-56.6	-164.0	396,314.01	779,271.16	32° 5' 13.982 N	103° 33' 54.208 W
4,938.0	3.30	219.30	4,932.9	-66.3	-170.7	396,304.27	779,264.45	32° 5' 13.886 N	103° 33' 54.287 W
5,128.0	3.20	223.50	5,122.6	-74.4	-177.9	396,296.19	779,257.34	32° 5' 13.807 N	103° 33' 54.370 W
5,318.0	3.70	236.50	5,312.2	-81.6	-186.6	396,288.96	779,248.57	32° 5' 13.736 N	103° 33' 54.473 W
5,506.0	3.60	252.30	5,499.8	-86.8	-197.3	396,283.81	779,237.89	32° 5' 13.685 N	103° 33' 54.597 W
5,696.0	3.50	253.70	5,689.5	-90.2	-208.6	396,280.37	779,226.64	32° 5' 13.652 N	103° 33' 54.728 W
5,885.0	3.30	256.70	5,878.1	-93.1	-219.4	396,277.50	779,215.81	32° 5' 13.625 N	103° 33' 54.854 W
6,074.0	2.90	258.60	6,066.9	-95.3	-229.4	396,275.31	779,205.83	32° 5' 13.604 N	103° 33' 54.971 W
6,263.0	4.50	251.20	6,255.5	-98.6	-241.1	396,271.97	779,194.12	32° 5' 13.571 N	103° 33' 55.107 W
6,453.0	4.70	252.10	6,444.9	-103.4	-255.5	396,267.18	779,179.66	32° 5' 13.525 N	103° 33' 55.275 W
6,643.0	4.60	254.60	6,634.2	-107.8	-270.3	396,262.76	779,164.91	32° 5' 13.482 N	103° 33' 55.447 W
6,832.0	4.40	254.20	6,822.7	-111.8	-284.6	396,258.77	779,150.63	32° 5' 13.444 N	103° 33' 55.614 W
7,021.0	4.00	252.00	7,011.1	-115.8	-297.8	396,254.76	779,137.38	32° 5' 13.405 N	103° 33' 55.768 W
7,210.0	2.90	253.00	7,199.8	-119.3	-308.7	396,251.33	779,126.54	32° 5' 13.372 N	103° 33' 55.894 W
7,399.0	1.70	238.90	7,388.6	-122.1	-315.6	396,248.48	779,119.57	32° 5' 13.344 N	103° 33' 55.976 W
7,587.0	0.80	252.30	7,576.6	-124.0	-319.3	396,246.64	779,115.93	32° 5' 13.326 N	103° 33' 56.018 W
7,776.0	0.70	252.50	7,765.6	-124.7	-321.6	396,245.89	779,113.57	32° 5' 13.319 N	103° 33' 56.045 W
7,947.0	0.90	233.00	7,936.6	-125.8	-323.7	396,244.77	779,111.50	32° 5' 13.308 N	103° 33' 56.070 W
8,058.0	0.90	348.30	8,047.6	-125.5	-324.6	396,245.10	779,110.63	32° 5' 13.311 N	103° 33' 56.080 W
8,247.0	0.90	338.30	8,236.5	-122.7	-325.4	396,247.93	779,109.78	32° 5' 13.339 N	103° 33' 56.089 W
8,435.0	1.00	14.10	8,424.5	-119.7	-325.6	396,250.90	779,109.63	32° 5' 13.369 N	103° 33' 56.091 W
8,624.0	0.70	356.40	8,613.5	-116.9	-325.2	396,253.65	779,109.96	32° 5' 13.396 N	103° 33' 56.087 W
8,814.0	0.60	322.10	8,803.5	-115.0	-325.9	396,255.59	779,109.28	32° 5' 13.415 N	103° 33' 56.095 W
9,003.0	0.20	90.20	8,992.5	-114.2	-326.2	396,256.37	779,109.00	32° 5' 13.423 N	103° 33' 56.098 W
9,191.0	0.80	23.80	9,180.5	-113.0	-325.3	396,257.57	779,109.86	32° 5' 13.435 N	103° 33' 56.088 W
9,379.0	0.80	316.30	9,368.5	-110.9	-325.7	396,259.72	779,109.48	32° 5' 13.456 N	103° 33' 56.092 W
9,568.0	0.90	42.60	9,557.4	-108.8	-325.6	396,261.77	779,109.57	32° 5' 13.476 N	103° 33' 56.091 W
9,757.0	0.50	90.90	9,746.4	-107.8	-323.8	396,262.85	779,111.40	32° 5' 13.487 N	103° 33' 56.069 W
9,946.0	0.70	334.40	9,935.4	-106.7	-323.5	396,263.88	779,111.73	32° 5' 13.497 N	103° 33' 56.065 W
10,135.0	1.30	25.40	10,124.4	-103.7	-323.0	396,266.85	779,112.15	32° 5' 13.527 N	103° 33' 56.060 W
10,324.0	1.10	11.50	10,313.4	-100.0	-321.8	396,270.57	779,113.43	32° 5' 13.563 N	103° 33' 56.045 W
10,514.0	2.10	309.10	10,503.3	-96.0	-324.1	396,274.55	779,111.09	32° 5' 13.603 N	103° 33' 56.072 W
10,704.0	0.10	346.90	10,693.2	-93.7	-326.8	396,276.91	779,108.35	32° 5' 13.626 N	103° 33' 56.104 W
10,893.0	0.70	307.90	10,882.2	-92.8	-327.8	396,277.78	779,107.40	32° 5' 13.635 N	103° 33' 56.114 W
11,083.0	0.90	358.80	11,072.2	-90.6	-328.7	396,279.98	779,106.46	32° 5' 13.657 N	103° 33' 56.125 W
11,272.0	0.60	35.70	11,261.2	-88.3	-328.2	396,282.27	779,107.00	32° 5' 13.679 N	103° 33' 56.119 W
11,458.0	0.80	299.40	11,447.2	-86.9	-328.8	396,283.70	779,106.44	32° 5' 13.694 N	103° 33' 56.125 W



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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
11,650.0	0.40	342.30	11,639.2	-85.6	-330.1	396,285.00	779,105.07	32° 5' 13.707 N	103° 33' 56.141 W
11,831.0	0.40	326.00	11,820.2	-84.5	-330.7	396,286.12	779,104.52	32° 5' 13.718 N	103° 33' 56.147 W
ST01 Tie-In @ 11831.0' MD / 11820.2' TVD									
11,975.0	2.60	359.50	11,964.1	-80.8	-331.0	396,289.80	779,104.21	32° 5' 13.754 N	103° 33' 56.151 W
12,070.0	13.00	9.70	12,058.1	-68.1	-329.2	396,302.53	779,106.00	32° 5' 13.880 N	103° 33' 56.129 W
12,164.0	25.80	7.20	12,146.6	-37.2	-324.8	396,333.37	779,110.36	32° 5' 14.185 N	103° 33' 56.075 W
12,259.0	36.40	5.80	12,227.8	11.5	-319.4	396,382.07	779,115.82	32° 5' 14.666 N	103° 33' 56.008 W
12,353.0	47.30	0.60	12,297.8	74.0	-316.2	396,444.56	779,119.01	32° 5' 15.285 N	103° 33' 55.966 W
12,448.0	66.70	357.40	12,349.3	153.2	-317.8	396,523.82	779,117.38	32° 5' 16.069 N	103° 33' 55.978 W
12,497.9	78.31	358.07	12,364.2	200.7	-319.7	396,571.29	779,115.51	32° 5' 16.539 N	103° 33' 55.996 W
ST01 Cross 330' FSL @ 12497.9' MD / 12364.2' TVD									
12,500.0	78.80	358.10	12,364.7	202.8	-319.8	396,573.35	779,115.44	32° 5' 16.559 N	103° 33' 55.997 W
12,567.0	88.50	2.70	12,372.1	269.2	-319.3	396,639.84	779,115.93	32° 5' 17.217 N	103° 33' 55.985 W
12,662.0	89.80	3.70	12,373.5	364.1	-314.0	396,734.68	779,121.24	32° 5' 18.155 N	103° 33' 55.916 W
12,756.0	83.60	1.40	12,378.9	457.8	-309.8	396,828.38	779,125.41	32° 5' 19.082 N	103° 33' 55.860 W
12,850.0	85.20	0.20	12,388.1	551.3	-308.5	396,921.92	779,126.72	32° 5' 20.008 N	103° 33' 55.837 W
12,945.0	85.60	359.00	12,395.7	646.0	-309.1	397,016.60	779,126.06	32° 5' 20.945 N	103° 33' 55.836 W
13,040.0	86.50	358.50	12,402.2	740.8	-311.2	397,111.36	779,123.99	32° 5' 21.882 N	103° 33' 55.853 W
13,135.0	89.50	358.30	12,405.5	835.7	-313.9	397,206.25	779,121.34	32° 5' 22.822 N	103° 33' 55.876 W
13,230.0	90.60	358.10	12,405.5	930.6	-316.8	397,301.20	779,118.36	32° 5' 23.761 N	103° 33' 55.902 W
13,325.0	90.50	358.80	12,404.5	1,025.6	-319.4	397,396.16	779,115.79	32° 5' 24.701 N	103° 33' 55.924 W
13,420.0	88.50	358.80	12,405.4	1,120.5	-321.4	397,491.13	779,113.80	32° 5' 25.641 N	103° 33' 55.940 W
13,515.0	94.10	359.30	12,403.2	1,215.5	-323.0	397,586.06	779,112.22	32° 5' 26.581 N	103° 33' 55.950 W
13,609.0	94.40	359.20	12,396.2	1,309.2	-324.2	397,679.79	779,110.99	32° 5' 27.508 N	103° 33' 55.957 W
13,704.0	94.00	358.50	12,389.3	1,403.9	-326.1	397,774.51	779,109.09	32° 5' 28.446 N	103° 33' 55.971 W
13,799.0	93.50	359.30	12,383.1	1,498.7	-327.9	397,869.29	779,107.27	32° 5' 29.384 N	103° 33' 55.984 W
13,894.0	91.80	359.20	12,378.7	1,593.6	-329.2	397,964.18	779,106.03	32° 5' 30.323 N	103° 33' 55.991 W
13,989.0	91.30	358.50	12,376.1	1,688.5	-331.1	398,059.12	779,104.13	32° 5' 31.262 N	103° 33' 56.005 W
14,084.0	88.80	354.90	12,376.0	1,783.3	-336.5	398,153.94	779,098.66	32° 5' 32.201 N	103° 33' 56.061 W
14,179.0	89.30	357.60	12,377.6	1,878.1	-342.8	398,248.72	779,092.45	32° 5' 33.139 N	103° 33' 56.125 W
14,274.0	90.00	358.50	12,378.2	1,973.1	-346.0	398,343.66	779,089.21	32° 5' 34.079 N	103° 33' 56.155 W
14,369.0	91.10	358.80	12,377.3	2,068.0	-348.2	398,438.63	779,086.98	32° 5' 35.019 N	103° 33' 56.173 W
14,464.0	89.30	357.60	12,376.9	2,163.0	-351.2	398,533.57	779,083.99	32° 5' 35.959 N	103° 33' 56.200 W
14,559.0	91.10	0.20	12,376.6	2,257.9	-353.0	398,628.54	779,082.17	32° 5' 36.898 N	103° 33' 56.213 W
14,654.0	89.80	359.50	12,375.9	2,352.9	-353.3	398,723.54	779,081.92	32° 5' 37.838 N	103° 33' 56.208 W
14,749.0	91.00	0.00	12,375.2	2,447.9	-353.7	398,818.53	779,081.51	32° 5' 38.779 N	103° 33' 56.205 W
14,844.0	91.90	359.30	12,372.8	2,542.9	-354.3	398,913.50	779,080.93	32° 5' 39.718 N	103° 33' 56.204 W
14,939.0	90.90	357.00	12,370.5	2,637.8	-357.3	399,008.41	779,077.86	32° 5' 40.658 N	103° 33' 56.232 W
15,034.0	90.00	358.60	12,369.7	2,732.7	-361.0	399,103.34	779,074.21	32° 5' 41.597 N	103° 33' 56.266 W
15,129.0	89.60	357.90	12,370.1	2,827.7	-363.9	399,198.29	779,071.31	32° 5' 42.537 N	103° 33' 56.292 W
15,224.0	88.70	0.60	12,371.5	2,922.7	-365.1	399,293.26	779,070.07	32° 5' 43.477 N	103° 33' 56.299 W
15,320.0	92.10	1.80	12,370.8	3,018.6	-363.1	399,389.22	779,072.08	32° 5' 44.426 N	103° 33' 56.268 W
15,414.0	88.20	356.50	12,370.6	3,112.6	-364.5	399,483.16	779,070.68	32° 5' 45.356 N	103° 33' 56.276 W
15,509.0	90.10	0.70	12,372.0	3,207.5	-366.8	399,578.10	779,068.36	32° 5' 46.296 N	103° 33' 56.295 W
15,604.0	90.50	357.60	12,371.5	3,302.5	-368.2	399,673.07	779,066.96	32° 5' 47.236 N	103° 33' 56.304 W
15,699.0	90.70	357.80	12,370.5	3,397.4	-372.1	399,767.99	779,063.14	32° 5' 48.175 N	103° 33' 56.340 W
15,794.0	89.90	357.80	12,370.0	3,492.3	-375.7	399,862.92	779,059.50	32° 5' 49.115 N	103° 33' 56.375 W
15,889.0	90.70	1.30	12,369.5	3,587.3	-376.4	399,957.90	779,058.75	32° 5' 50.055 N	103° 33' 56.375 W
15,983.0	90.90	1.80	12,368.2	3,681.3	-373.9	400,051.86	779,061.29	32° 5' 50.984 N	103° 33' 56.338 W
16,078.0	87.90	359.00	12,369.2	3,776.2	-373.2	400,146.83	779,061.96	32° 5' 51.924 N	103° 33' 56.323 W
16,172.0	90.40	0.60	12,370.6	3,870.2	-373.6	400,240.81	779,061.63	32° 5' 52.854 N	103° 33' 56.319 W
16,266.0	91.40	1.30	12,369.1	3,964.2	-372.0	400,334.78	779,063.19	32° 5' 53.784 N	103° 33' 56.293 W
16,361.0	90.70	0.00	12,367.3	4,059.2	-370.9	400,429.76	779,064.26	32° 5' 54.723 N	103° 33' 56.272 W
16,456.0	90.20	0.00	12,366.6	4,154.2	-370.9	400,524.75	779,064.26	32° 5' 55.663 N	103° 33' 56.264 W
16,551.0	88.50	359.20	12,367.7	4,249.1	-371.6	400,619.74	779,063.60	32° 5' 56.603 N	103° 33' 56.264 W



QES
Survey Report - Geographic



Company: BTA Oil Producers, LLC
Project: Lea County, NM (NAD 83)
Site: Sec 34, T25-S, R33-E
Well: Rojo 7811 34-27 Federal #39H
Wellbore: Sidetrack #1
Design: Sidetrack #1

Local Co-ordinate Reference: Well Rojo 7811 34-27 Federal #39H
TVD Reference: RKB @ 3353.0usft (Patterson #594)
MD Reference: RKB @ 3353.0usft (Patterson #594)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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
16,646.0	87.80	359.00	12,370.7	4,344.1	-373.1	400,714.68	779,062.11	32° 5' 57.543 N	103° 33' 56.274 W
16,740.0	87.80	359.70	12,374.3	4,438.0	-374.2	400,808.60	779,061.04	32° 5' 58.472 N	103° 33' 56.278 W
16,835.0	88.30	359.70	12,377.6	4,532.9	-374.7	400,903.55	779,060.55	32° 5' 59.412 N	103° 33' 56.276 W
16,930.0	89.30	359.00	12,379.6	4,627.9	-375.7	400,998.52	779,059.47	32° 6' 0.352 N	103° 33' 56.281 W
17,024.0	90.70	0.20	12,379.6	4,721.9	-376.4	401,092.51	779,058.81	32° 6' 1.282 N	103° 33' 56.281 W
17,119.0	91.50	359.50	12,377.7	4,816.9	-376.6	401,187.49	779,058.56	32° 6' 2.222 N	103° 33' 56.276 W
17,214.0	91.70	359.50	12,375.1	4,911.9	-377.5	401,282.45	779,057.74	32° 6' 3.162 N	103° 33' 56.278 W
17,309.0	88.70	357.60	12,374.8	5,006.8	-379.9	401,377.40	779,055.33	32° 6' 4.101 N	103° 33' 56.298 W
17,403.0	90.00	359.30	12,375.8	5,100.8	-382.4	401,471.36	779,052.79	32° 6' 5.031 N	103° 33' 56.319 W
17,498.0	91.50	359.70	12,374.6	5,195.7	-383.2	401,566.34	779,051.96	32° 6' 5.971 N	103° 33' 56.321 W
17,593.0	89.00	359.00	12,374.2	5,290.7	-384.3	401,661.33	779,050.88	32° 6' 6.911 N	103° 33' 56.326 W
17,688.0	89.80	358.80	12,375.2	5,385.7	-386.1	401,756.31	779,049.06	32° 6' 7.851 N	103° 33' 56.339 W
17,783.0	90.30	358.80	12,375.1	5,480.7	-388.1	401,851.28	779,047.07	32° 6' 8.791 N	103° 33' 56.355 W
17,879.0	91.00	359.70	12,374.0	5,576.7	-389.4	401,947.27	779,045.81	32° 6' 9.741 N	103° 33' 56.361 W
17,974.0	90.90	0.20	12,372.4	5,671.7	-389.5	402,042.25	779,045.73	32° 6' 10.681 N	103° 33' 56.354 W
18,069.0	89.90	359.30	12,371.8	5,766.7	-389.9	402,137.25	779,045.32	32° 6' 11.621 N	103° 33' 56.351 W
18,163.0	90.50	359.30	12,371.4	5,860.6	-391.0	402,231.24	779,044.17	32° 6' 12.551 N	103° 33' 56.357 W
18,258.0	90.00	359.70	12,371.0	5,955.6	-391.9	402,326.24	779,043.34	32° 6' 13.491 N	103° 33' 56.359 W
18,353.0	87.20	357.00	12,373.3	6,050.6	-394.6	402,421.15	779,040.61	32° 6' 14.431 N	103° 33' 56.382 W
18,448.0	88.50	358.80	12,376.9	6,145.4	-398.1	402,516.01	779,037.13	32° 6' 15.370 N	103° 33' 56.415 W
18,542.0	89.30	359.30	12,378.7	6,239.4	-399.6	402,609.98	779,035.57	32° 6' 16.300 N	103° 33' 56.425 W
18,637.0	90.60	359.90	12,378.8	6,334.4	-400.3	402,704.98	779,034.91	32° 6' 17.240 N	103° 33' 56.425 W
18,731.0	92.20	0.00	12,376.5	6,428.3	-400.4	402,798.95	779,034.82	32° 6' 18.169 N	103° 33' 56.418 W
18,826.0	88.60	359.00	12,375.8	6,523.3	-401.2	402,893.92	779,034.00	32° 6' 19.109 N	103° 33' 56.420 W
18,920.0	88.20	359.00	12,378.5	6,617.3	-402.8	402,987.87	779,032.36	32° 6' 20.039 N	103° 33' 56.431 W
19,014.0	89.90	0.60	12,380.0	6,711.3	-403.2	403,081.85	779,032.03	32° 6' 20.969 N	103° 33' 56.428 W
19,108.0	90.60	0.00	12,379.6	6,805.3	-402.7	403,175.85	779,032.52	32° 6' 21.899 N	103° 33' 56.414 W
19,202.0	91.60	359.90	12,377.8	6,899.2	-402.8	403,269.83	779,032.44	32° 6' 22.829 N	103° 33' 56.407 W
19,297.0	93.50	359.90	12,373.6	6,994.1	-402.9	403,364.73	779,032.27	32° 6' 23.768 N	103° 33' 56.401 W
19,391.0	93.00	0.20	12,368.2	7,088.0	-402.8	403,458.58	779,032.35	32° 6' 24.697 N	103° 33' 56.393 W
19,485.0	93.40	359.70	12,363.0	7,181.8	-402.9	403,552.43	779,032.27	32° 6' 25.626 N	103° 33' 56.386 W
19,579.0	91.30	0.00	12,359.1	7,275.7	-403.2	403,646.35	779,032.03	32° 6' 26.555 N	103° 33' 56.381 W
19,674.0	92.20	359.70	12,356.2	7,370.7	-403.4	403,741.30	779,031.78	32° 6' 27.495 N	103° 33' 56.376 W
19,761.9	88.74	2.79	12,355.5	7,458.6	-401.5	403,829.16	779,033.69	32° 6' 28.364 N	103° 33' 56.346 W
ST01 Cross 330' FNL@ 19781.9' MD / 12355.5' TVD									
19,768.0	88.50	3.00	12,355.7	7,464.6	-401.2	403,835.25	779,033.99	32° 6' 28.424 N	103° 33' 56.342 W
19,862.0	91.40	4.40	12,355.7	7,558.4	-395.1	403,929.04	779,040.06	32° 6' 29.352 N	103° 33' 56.264 W
19,956.0	89.20	6.00	12,355.3	7,652.0	-386.6	404,022.64	779,048.58	32° 6' 30.277 N	103° 33' 56.157 W
20,014.0	89.20	6.70	12,356.1	7,709.7	-380.2	404,080.28	779,054.99	32° 6' 30.847 N	103° 33' 56.078 W
20,043.3	89.20	6.70	12,356.5	7,738.8	-376.8	404,109.38	779,058.41	32° 6' 31.135 N	103° 33' 56.036 W
ST01 Cross 50' FNL@ 20043.3' MD / 12356.5' TVD									
20,068.0	89.20	6.70	12,356.8	7,763.3	-373.9	404,133.91	779,061.29	32° 6' 31.377 N	103° 33' 56.000 W
TD @ 20068.0' MD / 12356.8' TVD									



QES
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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
11,831.0	11,820.2	-84.5	-330.7	ST01 Tie-in @ 11831.0' MD / 11820.2' TVD
12,497.9	12,364.2	200.7	-319.7	ST01 Cross 330' FSL@ 12497.9' MD / 12364.2' TVD
19,761.9	12,355.5	7,458.6	-401.5	ST01 Cross 330' FNL@ 19761.9' MD / 12355.5' TVD
20,043.3	12,356.5	7,738.8	-376.8	ST01 Cross 50' FNL@ 20043.3' MD / 12356.5' TVD
20,068.0	12,356.8	7,763.3	-373.9	TD @ 20068.0' MD / 12356.8' TVD



BTA OIL PRODUCERS, LLC
104 SOUTH PECOS STREET
MIDLAND, TEXAS 79701-5021
432-682-3753

Re: Confidentiality Request

BTA Oil Producers, LLC respectfully requests that the division keep the C-105 and all accompanying attachments confidential for the 90 day period after completion.

Respectfully,

Katy Reddell

Katy Reddell
BTA Oil Producers, LLC