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BTA Oil Producers, LLC

Lea County, NM (NAD 83)

Sec 34, T25-S, R33-E

Rojo 7811 34-27 Federal #38H

Wellbore #1

Design: Wellbore #1

Survey Report - Geographic

24 October, 2019





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 #38H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Rojo 7811 34-27 Federal #38H
TVD Reference: RKB @ 3352.0usft (Patterson #594)
MD Reference: RKB @ 3352.0usft (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 #38H			
Well Position	+N/-S	0.0 usft	Northing:	396,370.40 usft
	+E/-W	0.0 usft	Easting:	779,405.20 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level: 3,327.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	9/25/2019	6.60	59.68	47,712.10000000

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		352.88

Survey Program	Date 10/24/2019				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
163.0	19,958.0	QES MWD Surveys (Wellbore #1)	OWSG (Rev2) MWD	OWSG MWD - Standard	

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	396,370.40	779,405.20	32° 5' 14.530 N	103° 33' 52.645 W
163.0	1.10	276.40	163.0	0.2	-1.6	396,370.57	779,403.64	32° 5' 14.532 N	103° 33' 52.663 W
First MWD Survey @ 163.0' MD / 163.0' TVD									
349.0	1.40	279.20	348.9	0.7	-5.6	396,371.14	779,399.63	32° 5' 14.538 N	103° 33' 52.710 W
467.0	1.70	282.70	466.9	1.4	-8.7	396,371.75	779,396.49	32° 5' 14.544 N	103° 33' 52.746 W
586.0	2.20	289.40	585.8	2.5	-12.6	396,372.90	779,392.62	32° 5' 14.556 N	103° 33' 52.791 W
709.0	2.60	294.10	708.7	4.4	-17.4	396,374.82	779,387.85	32° 5' 14.575 N	103° 33' 52.847 W
807.0	3.00	296.80	806.6	6.5	-21.7	396,376.88	779,383.53	32° 5' 14.596 N	103° 33' 52.897 W
901.0	3.40	297.00	900.5	8.9	-26.3	396,379.26	779,378.85	32° 5' 14.620 N	103° 33' 52.951 W
995.0	3.90	296.80	994.3	11.6	-31.7	396,381.97	779,373.51	32° 5' 14.647 N	103° 33' 53.013 W
1,089.0	4.10	299.60	1,088.0	14.7	-37.5	396,385.07	779,367.74	32° 5' 14.678 N	103° 33' 53.080 W
1,116.0	4.20	300.50	1,115.0	15.6	-39.2	396,386.05	779,366.04	32° 5' 14.688 N	103° 33' 53.099 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
1,137.0	4.20	300.50	1,135.9	16.4	-40.5	396,386.83	779,364.72	32° 5' 14.696 N	103° 33' 53.115 W
1,281.0	4.90	261.20	1,279.5	18.2	-51.1	396,388.56	779,354.10	32° 5' 14.714 N	103° 33' 53.238 W
1,439.0	5.00	257.70	1,436.9	15.7	-64.5	396,386.06	779,340.70	32° 5' 14.690 N	103° 33' 53.394 W
1,627.0	5.50	256.30	1,624.1	11.8	-81.3	396,382.18	779,323.94	32° 5' 14.653 N	103° 33' 53.589 W
1,817.0	5.90	261.10	1,813.2	8.1	-99.7	396,378.52	779,305.45	32° 5' 14.618 N	103° 33' 53.804 W
2,006.0	5.40	247.50	2,001.3	3.2	-117.6	396,373.61	779,287.63	32° 5' 14.571 N	103° 33' 54.012 W
2,195.0	5.50	248.20	2,189.4	-3.6	-134.2	396,366.84	779,271.01	32° 5' 14.505 N	103° 33' 54.205 W
2,385.0	5.90	251.60	2,378.5	-10.0	-151.9	396,360.38	779,253.29	32° 5' 14.442 N	103° 33' 54.412 W
2,574.0	4.90	255.60	2,566.6	-15.1	-168.9	396,355.31	779,236.25	32° 5' 14.393 N	103° 33' 54.610 W
2,762.0	4.60	253.20	2,754.0	-19.3	-183.9	396,351.13	779,221.26	32° 5' 14.353 N	103° 33' 54.785 W
2,951.0	4.00	250.70	2,942.5	-23.6	-197.4	396,346.76	779,207.78	32° 5' 14.310 N	103° 33' 54.942 W
3,141.0	4.70	263.40	3,131.9	-26.7	-211.4	396,343.68	779,193.79	32° 5' 14.281 N	103° 33' 55.105 W
3,330.0	3.80	273.40	3,320.4	-27.2	-225.3	396,343.16	779,179.85	32° 5' 14.277 N	103° 33' 55.267 W
3,519.0	5.20	272.00	3,508.8	-26.6	-240.2	396,343.83	779,165.04	32° 5' 14.284 N	103° 33' 55.439 W
3,708.0	5.70	268.10	3,696.9	-26.6	-258.1	396,343.82	779,147.10	32° 5' 14.286 N	103° 33' 55.648 W
3,897.0	6.20	259.00	3,884.9	-28.8	-277.5	396,341.56	779,127.70	32° 5' 14.265 N	103° 33' 55.873 W
4,086.0	5.10	259.30	4,073.0	-32.3	-295.8	396,338.05	779,109.42	32° 5' 14.231 N	103° 33' 56.086 W
4,276.0	4.70	259.50	4,262.3	-35.3	-311.7	396,335.06	779,093.47	32° 5' 14.203 N	103° 33' 56.272 W
4,465.0	3.70	251.90	4,450.8	-38.6	-325.1	396,331.76	779,080.06	32° 5' 14.171 N	103° 33' 56.428 W
4,654.0	3.20	240.00	4,639.5	-43.2	-335.5	396,327.22	779,069.70	32° 5' 14.127 N	103° 33' 56.549 W
4,844.0	4.00	247.40	4,829.1	-48.4	-346.2	396,322.03	779,058.98	32° 5' 14.076 N	103° 33' 56.674 W
5,034.0	5.50	261.60	5,018.4	-52.2	-361.3	396,318.15	779,043.86	32° 5' 14.039 N	103° 33' 56.850 W
5,223.0	6.10	262.80	5,206.5	-54.8	-380.3	396,315.57	779,024.93	32° 5' 14.015 N	103° 33' 57.070 W
5,413.0	6.50	264.20	5,395.3	-57.2	-401.0	396,313.22	779,004.22	32° 5' 13.993 N	103° 33' 57.311 W
5,601.0	6.60	250.90	5,582.1	-61.8	-421.8	396,308.60	778,983.42	32° 5' 13.949 N	103° 33' 57.553 W
5,790.0	6.10	252.30	5,769.9	-68.4	-441.6	396,302.00	778,963.59	32° 5' 13.885 N	103° 33' 57.784 W
5,980.0	6.00	253.20	5,958.9	-74.3	-460.7	396,296.06	778,944.47	32° 5' 13.827 N	103° 33' 58.007 W
6,169.0	5.90	252.10	6,146.9	-80.2	-479.4	396,290.22	778,925.77	32° 5' 13.771 N	103° 33' 58.225 W
6,359.0	5.40	257.60	6,336.0	-85.1	-497.5	396,285.30	778,907.74	32° 5' 13.723 N	103° 33' 58.435 W
6,549.0	5.50	256.30	6,525.1	-89.2	-515.0	396,281.22	778,890.17	32° 5' 13.684 N	103° 33' 58.639 W
6,738.0	6.00	255.10	6,713.1	-93.9	-533.4	396,276.53	778,871.82	32° 5' 13.639 N	103° 33' 58.853 W
6,927.0	6.20	255.30	6,901.1	-99.0	-552.8	396,271.41	778,852.40	32° 5' 13.590 N	103° 33' 59.079 W
7,116.0	3.30	259.50	7,089.4	-102.6	-568.0	396,267.82	778,837.18	32° 5' 13.555 N	103° 33' 59.256 W
7,305.0	3.00	256.70	7,278.1	-104.7	-578.2	396,265.69	778,827.02	32° 5' 13.535 N	103° 33' 59.374 W
7,494.0	0.50	275.50	7,467.0	-105.8	-583.8	396,264.64	778,821.38	32° 5' 13.525 N	103° 33' 59.440 W
7,682.0	0.40	116.10	7,655.0	-106.0	-584.0	396,264.42	778,821.15	32° 5' 13.523 N	103° 33' 59.443 W
7,872.0	0.40	133.30	7,845.0	-106.7	-583.0	396,263.68	778,822.23	32° 5' 13.516 N	103° 33' 59.430 W
8,061.0	0.50	124.50	8,034.0	-107.6	-581.8	396,262.76	778,823.39	32° 5' 13.506 N	103° 33' 59.417 W
8,249.0	0.40	137.30	8,222.0	-108.6	-580.7	396,261.81	778,824.51	32° 5' 13.497 N	103° 33' 59.404 W
8,438.0	0.50	168.60	8,411.0	-109.9	-580.1	396,260.52	778,825.12	32° 5' 13.484 N	103° 33' 59.397 W
8,627.0	0.90	161.40	8,600.0	-112.1	-579.4	396,258.30	778,825.76	32° 5' 13.462 N	103° 33' 59.390 W
8,816.0	0.80	303.60	8,789.0	-112.8	-580.1	396,257.63	778,825.13	32° 5' 13.455 N	103° 33' 59.397 W
9,005.0	1.10	302.00	8,977.9	-111.1	-582.7	396,259.32	778,822.50	32° 5' 13.472 N	103° 33' 59.428 W
9,191.0	1.20	285.70	9,163.9	-109.6	-586.1	396,260.79	778,819.11	32° 5' 13.487 N	103° 33' 59.467 W
9,379.0	1.30	281.80	9,351.9	-108.6	-590.1	396,261.76	778,815.13	32° 5' 13.497 N	103° 33' 59.513 W
9,568.0	0.40	199.20	9,540.8	-108.8	-592.4	396,261.58	778,812.81	32° 5' 13.495 N	103° 33' 59.540 W
9,757.0	1.50	107.60	9,729.8	-110.2	-590.2	396,260.20	778,814.95	32° 5' 13.482 N	103° 33' 59.515 W
9,946.0	0.80	17.60	9,918.8	-109.7	-587.5	396,260.71	778,817.71	32° 5' 13.486 N	103° 33' 59.483 W
10,135.0	1.20	337.20	10,107.8	-106.6	-587.9	396,263.80	778,817.34	32° 5' 13.517 N	103° 33' 59.487 W
10,324.0	0.60	265.30	10,296.7	-104.9	-589.6	396,265.54	778,815.59	32° 5' 13.534 N	103° 33' 59.507 W
10,513.0	1.80	265.30	10,485.7	-105.2	-593.6	396,265.22	778,811.64	32° 5' 13.531 N	103° 33' 59.553 W
10,703.0	1.20	289.40	10,675.6	-104.8	-598.4	396,265.63	778,806.79	32° 5' 13.536 N	103° 33' 59.610 W
10,893.0	0.60	29.70	10,865.6	-103.2	-599.8	396,267.16	778,805.41	32° 5' 13.551 N	103° 33' 59.626 W
11,082.0	1.80	60.90	11,054.6	-100.9	-596.7	396,269.46	778,808.49	32° 5' 13.574 N	103° 33' 59.589 W
11,271.0	1.10	328.20	11,243.5	-98.0	-595.1	396,272.45	778,810.13	32° 5' 13.603 N	103° 33' 59.570 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
11,460.0	1.70	331.40	11,432.5	-93.9	-597.4	396,276.45	778,807.83	32° 5' 13.643 N	103° 33' 59.597 W
11,650.0	2.00	330.00	11,622.4	-88.6	-600.4	396,281.79	778,804.82	32° 5' 13.696 N	103° 33' 59.631 W
11,761.0	1.30	331.70	11,733.3	-85.8	-601.9	396,284.58	778,803.26	32° 5' 13.724 N	103° 33' 59.649 W
11,816.0	1.60	349.70	11,788.3	-84.5	-602.4	396,285.89	778,802.83	32° 5' 13.737 N	103° 33' 59.654 W
11,881.0	4.50	346.00	11,853.2	-81.1	-603.2	396,289.25	778,802.05	32° 5' 13.770 N	103° 33' 59.663 W
11,975.0	20.00	344.70	11,944.8	-61.9	-608.3	396,308.45	778,796.88	32° 5' 13.960 N	103° 33' 59.721 W
12,070.0	33.20	348.30	12,029.6	-20.6	-617.9	396,349.78	778,787.28	32° 5' 14.370 N	103° 33' 59.829 W
12,164.0	46.10	341.90	12,101.8	37.0	-633.7	396,407.44	778,771.46	32° 5' 14.942 N	103° 34' 0.008 W
12,259.0	54.80	338.40	12,162.3	105.8	-658.7	396,476.20	778,746.49	32° 5' 15.624 N	103° 34' 0.293 W
12,354.0	63.20	336.70	12,211.1	181.0	-689.8	396,551.37	778,715.37	32° 5' 16.370 N	103° 34' 0.649 W
12,375.3	64.99	336.72	12,220.4	198.6	-697.4	396,568.97	778,707.80	32° 5' 16.545 N	103° 34' 0.735 W
Cross 330' FSL@ 12375.3' MD / 12220.4' TVD									
12,448.0	71.10	336.80	12,247.6	260.5	-724.0	396,630.90	778,681.21	32° 5' 17.159 N	103° 34' 1.039 W
12,543.0	83.30	337.70	12,268.6	345.8	-759.7	396,716.17	778,645.47	32° 5' 18.006 N	103° 34' 1.447 W
12,638.0	84.70	337.40	12,278.6	433.1	-795.8	396,803.49	778,609.39	32° 5' 18.872 N	103° 34' 1.860 W
12,757.0	87.80	338.10	12,286.3	543.0	-840.8	396,913.38	778,564.43	32° 5' 19.963 N	103° 34' 2.373 W
12,851.0	89.40	340.00	12,288.6	630.7	-874.4	397,001.13	778,530.84	32° 5' 20.833 N	103° 34' 2.756 W
12,946.0	90.30	345.10	12,288.9	721.3	-902.8	397,091.73	778,502.36	32° 5' 21.732 N	103° 34' 3.080 W
13,041.0	92.90	352.30	12,286.2	814.4	-921.4	397,184.78	778,483.76	32° 5' 22.654 N	103° 34' 3.288 W
13,136.0	91.10	358.80	12,282.9	909.0	-928.8	397,279.38	778,476.40	32° 5' 23.591 N	103° 34' 3.366 W
13,231.0	91.00	0.60	12,281.2	1,004.0	-929.3	397,374.36	778,475.90	32° 5' 24.531 N	103° 34' 3.364 W
13,326.0	90.40	2.50	12,280.0	1,098.9	-926.7	397,469.32	778,478.47	32° 5' 25.470 N	103° 34' 3.326 W
13,420.0	90.10	3.20	12,279.6	1,192.8	-922.0	397,563.20	778,483.15	32° 5' 26.399 N	103° 34' 3.264 W
13,515.0	90.50	3.70	12,279.1	1,287.6	-916.3	397,658.02	778,488.86	32° 5' 27.337 N	103° 34' 3.190 W
13,610.0	90.00	0.70	12,278.7	1,382.5	-912.7	397,752.94	778,492.51	32° 5' 28.276 N	103° 34' 3.140 W
13,705.0	90.80	1.10	12,278.0	1,477.5	-911.2	397,847.93	778,494.00	32° 5' 29.215 N	103° 34' 3.115 W
13,800.0	89.90	358.10	12,277.4	1,572.5	-911.9	397,942.91	778,493.34	32° 5' 30.155 N	103° 34' 3.114 W
13,895.0	90.70	357.80	12,276.9	1,667.4	-915.3	398,037.85	778,489.94	32° 5' 31.095 N	103° 34' 3.146 W
13,990.0	90.80	357.40	12,275.7	1,762.4	-919.2	398,132.76	778,485.96	32° 5' 32.034 N	103° 34' 3.185 W
14,085.0	90.60	358.60	12,274.5	1,857.3	-922.5	398,227.69	778,482.65	32° 5' 32.974 N	103° 34' 3.215 W
14,180.0	89.30	357.20	12,274.6	1,952.2	-926.0	398,322.62	778,479.17	32° 5' 33.914 N	103° 34' 3.248 W
14,275.0	89.80	359.70	12,275.4	2,047.2	-928.6	398,417.58	778,476.60	32° 5' 34.853 N	103° 34' 3.270 W
14,370.0	89.10	0.00	12,276.3	2,142.2	-928.8	398,512.57	778,476.35	32° 5' 35.793 N	103° 34' 3.265 W
14,465.0	89.60	1.30	12,277.4	2,237.2	-927.8	398,607.56	778,477.43	32° 5' 36.733 N	103° 34' 3.245 W
14,560.0	90.00	2.30	12,277.7	2,332.1	-924.8	398,702.51	778,480.41	32° 5' 37.673 N	103° 34' 3.202 W
14,655.0	90.60	2.70	12,277.2	2,427.0	-920.6	398,797.41	778,484.55	32° 5' 38.612 N	103° 34' 3.146 W
14,750.0	91.30	2.70	12,275.6	2,521.9	-916.2	398,892.30	778,489.03	32° 5' 39.550 N	103° 34' 3.086 W
14,845.0	89.90	1.30	12,274.6	2,616.8	-912.9	398,987.23	778,492.34	32° 5' 40.489 N	103° 34' 3.040 W
14,940.0	90.40	1.10	12,274.4	2,711.8	-910.9	399,082.21	778,494.33	32° 5' 41.429 N	103° 34' 3.009 W
15,035.0	91.50	1.80	12,272.8	2,806.8	-908.5	399,177.16	778,496.74	32° 5' 42.368 N	103° 34' 2.973 W
15,130.0	90.70	0.90	12,271.0	2,901.7	-906.2	399,272.12	778,498.97	32° 5' 43.308 N	103° 34' 2.939 W
15,225.0	89.50	359.50	12,270.8	2,996.7	-905.9	399,367.11	778,499.31	32° 5' 44.248 N	103° 34' 2.928 W
15,321.0	89.50	359.20	12,271.6	3,092.7	-907.0	399,463.10	778,498.22	32° 5' 45.198 N	103° 34' 2.932 W
15,415.0	90.00	358.80	12,272.1	3,186.7	-908.6	399,557.08	778,496.58	32° 5' 46.128 N	103° 34' 2.944 W
15,510.0	89.40	357.60	12,272.6	3,281.6	-911.6	399,652.03	778,493.59	32° 5' 47.068 N	103° 34' 2.970 W
15,605.0	89.00	356.00	12,273.9	3,376.5	-916.9	399,746.87	778,488.29	32° 5' 48.007 N	103° 34' 3.024 W
15,700.0	88.00	357.00	12,276.4	3,471.3	-922.7	399,841.66	778,482.49	32° 5' 48.945 N	103° 34' 3.084 W
15,795.0	89.20	358.30	12,278.7	3,566.2	-926.6	399,936.55	778,478.60	32° 5' 49.884 N	103° 34' 3.121 W
15,889.0	88.10	357.60	12,280.9	3,660.1	-930.0	400,030.46	778,475.24	32° 5' 50.814 N	103° 34' 3.153 W
15,984.0	91.50	359.70	12,281.2	3,755.0	-932.2	400,125.42	778,473.00	32° 5' 51.753 N	103° 34' 3.171 W
16,079.0	91.60	359.50	12,278.7	3,850.0	-932.9	400,220.38	778,472.34	32° 5' 52.693 N	103° 34' 3.171 W
16,173.0	90.60	358.50	12,276.9	3,943.9	-934.5	400,314.34	778,470.70	32° 5' 53.623 N	103° 34' 3.182 W
16,267.0	89.30	359.00	12,276.9	4,037.9	-936.6	400,408.32	778,468.65	32° 5' 54.553 N	103° 34' 3.198 W
16,362.0	86.70	357.40	12,280.3	4,132.8	-939.5	400,503.20	778,465.67	32° 5' 55.492 N	103° 34' 3.225 W
16,457.0	90.50	359.30	12,282.6	4,227.7	-942.3	400,598.11	778,462.93	32° 5' 56.432 N	103° 34' 3.249 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 #38H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Rojo 7811 34-27 Federal #38H
TVD Reference: RKB @ 3352.0usft (Patterson #594)
MD Reference: RKB @ 3352.0usft (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
16,552.0	92.10	359.70	12,280.4	4,322.7	-943.1	400,693.08	778,462.10	32° 5' 57.371 N	103° 34' 3.251 W
16,647.0	91.00	359.00	12,277.9	4,417.6	-944.2	400,788.04	778,461.03	32° 5' 58.311 N	103° 34' 3.255 W
16,741.0	90.60	357.90	12,276.5	4,511.6	-946.7	400,881.99	778,458.48	32° 5' 59.241 N	103° 34' 3.277 W
16,836.0	89.90	357.80	12,276.1	4,606.5	-950.3	400,976.93	778,454.92	32° 6' 0.181 N	103° 34' 3.311 W
16,931.0	90.50	358.50	12,275.8	4,701.5	-953.3	401,071.88	778,451.85	32° 6' 1.120 N	103° 34' 3.338 W
17,025.0	89.70	358.30	12,275.6	4,795.4	-956.0	401,165.84	778,449.23	32° 6' 2.050 N	103° 34' 3.361 W
17,120.0	91.10	359.70	12,275.0	4,890.4	-957.6	401,260.82	778,447.57	32° 6' 2.990 N	103° 34' 3.373 W
17,215.0	89.90	359.00	12,274.1	4,985.4	-958.7	401,355.80	778,446.49	32° 6' 3.930 N	103° 34' 3.377 W
17,309.0	91.10	0.60	12,273.3	5,079.4	-959.0	401,449.80	778,446.16	32° 6' 4.861 N	103° 34' 3.373 W
17,404.0	90.00	0.20	12,272.4	5,174.4	-958.4	401,544.79	778,446.83	32° 6' 5.800 N	103° 34' 3.358 W
17,499.0	89.70	0.20	12,272.7	5,269.4	-958.0	401,639.79	778,447.16	32° 6' 6.741 N	103° 34' 3.346 W
17,594.0	90.10	359.20	12,272.8	5,364.4	-958.5	401,734.78	778,446.66	32° 6' 7.681 N	103° 34' 3.344 W
17,688.0	90.70	359.70	12,272.2	5,458.4	-959.4	401,828.78	778,445.76	32° 6' 8.611 N	103° 34' 3.347 W
17,784.0	90.80	0.00	12,270.9	5,554.4	-959.7	401,924.77	778,445.51	32° 6' 9.561 N	103° 34' 3.342 W
17,879.0	89.40	1.60	12,270.7	5,649.4	-958.4	402,019.75	778,446.84	32° 6' 10.500 N	103° 34' 3.318 W
17,975.0	89.80	1.40	12,271.4	5,745.3	-955.8	402,115.72	778,449.35	32° 6' 11.450 N	103° 34' 3.281 W
18,069.0	90.20	1.30	12,271.4	5,839.3	-953.6	402,209.69	778,451.56	32° 6' 12.380 N	103° 34' 3.248 W
18,164.0	89.30	1.60	12,271.8	5,934.3	-951.2	402,304.66	778,453.97	32° 6' 13.319 N	103° 34' 3.212 W
18,259.0	88.50	2.10	12,273.6	6,029.2	-948.2	402,399.59	778,457.03	32° 6' 14.258 N	103° 34' 3.169 W
18,354.0	88.40	0.60	12,276.2	6,124.1	-945.9	402,494.53	778,459.27	32° 6' 15.198 N	103° 34' 3.135 W
18,449.0	89.60	1.80	12,277.9	6,219.1	-943.9	402,589.49	778,461.26	32° 6' 16.137 N	103° 34' 3.104 W
18,543.0	88.50	0.40	12,279.4	6,313.1	-942.1	402,683.45	778,463.06	32° 6' 17.067 N	103° 34' 3.075 W
18,638.0	88.40	359.90	12,282.0	6,408.0	-941.9	402,778.42	778,463.31	32° 6' 18.007 N	103° 34' 3.064 W
18,732.0	89.30	1.40	12,283.9	6,502.0	-940.8	402,872.39	778,464.38	32° 6' 18.936 N	103° 34' 3.044 W
18,827.0	89.40	0.70	12,285.0	6,597.0	-939.1	402,967.37	778,466.12	32° 6' 19.876 N	103° 34' 3.016 W
18,921.0	88.20	359.70	12,286.9	6,690.9	-938.7	403,061.34	778,466.45	32° 6' 20.806 N	103° 34' 3.004 W
19,015.0	88.90	358.50	12,289.3	6,784.9	-940.2	403,155.30	778,464.97	32° 6' 21.736 N	103° 34' 3.014 W
19,109.0	90.60	358.50	12,289.7	6,878.9	-942.7	403,249.26	778,462.51	32° 6' 22.666 N	103° 34' 3.035 W
19,203.0	90.80	359.00	12,288.6	6,972.8	-944.7	403,343.23	778,460.46	32° 6' 23.596 N	103° 34' 3.051 W
19,297.0	89.30	359.00	12,288.5	7,066.8	-946.4	403,437.22	778,458.82	32° 6' 24.526 N	103° 34' 3.062 W
19,392.0	88.40	0.20	12,290.4	7,161.8	-947.0	403,532.19	778,458.16	32° 6' 25.466 N	103° 34' 3.062 W
19,486.0	88.50	359.90	12,292.9	7,255.8	-947.0	403,626.16	778,458.24	32° 6' 26.396 N	103° 34' 3.053 W
19,580.0	89.40	0.90	12,294.7	7,349.7	-946.3	403,720.14	778,458.90	32° 6' 27.326 N	103° 34' 3.038 W
19,675.0	89.30	1.40	12,295.7	7,444.7	-944.4	403,815.11	778,460.80	32° 6' 28.265 N	103° 34' 3.008 W
19,685.3	89.21	1.39	12,295.9	7,455.0	-944.1	403,825.41	778,461.05	32° 6' 28.367 N	103° 34' 3.004 W
Cross 330' FNL@ 19685.3' MD / 12295.9' TVD									
19,769.0	88.50	1.30	12,297.5	7,538.7	-942.2	403,909.07	778,463.02	32° 6' 29.195 N	103° 34' 2.974 W
19,863.0	88.90	2.30	12,299.7	7,632.6	-939.2	404,002.99	778,465.97	32° 6' 30.124 N	103° 34' 2.932 W
19,904.0	89.00	2.70	12,300.4	7,673.5	-937.4	404,043.95	778,467.76	32° 6' 30.529 N	103° 34' 2.908 W
19,958.0	89.00	2.70	12,301.4	7,727.5	-934.9	404,097.88	778,470.30	32° 6' 31.063 N	103° 34' 2.874 W
TD @ 19958.0' MD / 12301.4' TVD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
163.0	163.0	0.2	-1.6	First MWD Survey @ 163.0' MD / 163.0' TVD
12,375.3	12,220.4	198.6	-697.4	Cross 330' FSL@ 12375.3' MD / 12220.4' TVD
19,685.3	12,295.9	7,455.0	-944.1	Cross 330' FNL@ 19685.3' MD / 12295.9' TVD
19,958.0	12,301.4	7,727.5	-934.9	TD @ 19958.0' MD / 12301.4' TVD



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 #38H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well Rojo 7811 34-27 Federal #38H
RKB @ 3352.0usft (Patterson #594)
RKB @ 3352.0usft (Patterson #594)
Grid
Minimum Curvature
EDM 5000.1 Single User Db



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