



Extraction Oil & Gas

WELD COUNTY, CO

Kiteley 21-I Pad

Kiteley 10

Kiteley 10

Survey: Survey #1

Standard Survey Report

14 February, 2017



Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Kiteley 10
Project:	WELD COUNTY, CO	TVD Reference:	New KB @ 5016.00ft (Cyclone 37)
Site:	Kiteley 21-I Pad	MD Reference:	New KB @ 5016.00ft (Cyclone 37)
Well:	Kiteley 10	North Reference:	True
Wellbore:	Kiteley 10	Survey Calculation Method:	Minimum Curvature
Design:	Kiteley 10	Database:	EDM 5000.1 Single User Db

Project	WELD COUNTY, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Kiteley 21-I Pad			
Site Position:		Northing:	1,319,048.75 usft	Latitude:	40° 12' 29.416 N
From:	Lat/Long	Easting:	3,135,328.07 usft	Longitude:	105° 0' 55.688 W
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16"	Grid Convergence:	0.31 °

Well	Kiteley 10					
Well Position	+N/-S	0.00 ft	Northing:	1,318,873.56 usft	Latitude:	40° 12' 27.677 N
	+E/-W	0.00 ft	Easting:	3,135,469.52 usft	Longitude:	105° 0' 53.878 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,988.00 ft

Wellbore	Kiteley 10				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	01/31/17	8.37	66.67	52,307

Design	Kiteley 10				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	7,096.00	0.00	0.00	102.19	

Survey Program	Date	02/14/17			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
97.00	11,660.00	Survey #1 (Kiteley 10)	MWD	MWD - Standard	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	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	
97.00	0.10	263.20	97.00	-0.01	-0.08	-0.08	0.10	0.10	0.00	
129.00	0.40	272.60	129.00	-0.01	-0.22	-0.22	0.94	0.94	29.38	
225.00	0.40	259.50	225.00	-0.05	-0.89	-0.86	0.10	0.00	-13.65	
288.00	1.20	120.80	287.99	-0.43	-0.54	-0.43	2.42	1.27	-220.16	
320.00	1.70	110.30	319.98	-0.77	0.20	0.35	1.76	1.56	-32.81	
352.00	1.60	141.90	351.97	-1.28	0.92	1.17	2.82	-0.31	98.75	
384.00	2.00	181.80	383.96	-2.19	1.17	1.61	4.01	1.25	124.69	
416.00	2.60	210.40	415.93	-3.38	0.79	1.49	3.99	1.88	89.38	
447.00	3.80	220.20	446.88	-4.77	-0.23	0.78	4.24	3.87	31.61	
543.00	4.60	225.40	542.62	-9.90	-5.02	-2.82	0.92	0.83	5.42	
575.00	5.40	222.80	574.50	-11.91	-6.96	-4.29	2.60	2.50	-8.13	
638.00	7.70	227.80	637.09	-16.92	-12.10	-8.26	3.76	3.65	7.94	

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Well:	Kiteley 10	North Reference:	True
Wellbore:	Kiteley 10	Survey Calculation Method:	Minimum Curvature
Design:	Kiteley 10	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
702.00	7.50	225.80	700.52	-22.71	-18.27	-13.06	0.52	-0.31	-3.13	
766.00	9.30	217.20	763.84	-29.74	-24.39	-17.56	3.42	2.81	-13.44	
829.00	9.70	216.00	825.97	-38.09	-30.59	-21.86	0.71	0.63	-1.90	
957.00	11.80	218.00	951.72	-57.13	-44.99	-31.91	1.67	1.64	1.56	
989.00	12.00	218.60	983.03	-62.31	-49.08	-34.81	0.73	0.63	1.88	
1,052.00	11.90	214.10	1,044.67	-72.81	-56.81	-40.15	1.49	-0.16	-7.14	
1,148.00	12.00	210.80	1,138.59	-89.57	-67.47	-47.03	0.72	0.10	-3.44	
1,179.00	12.10	209.90	1,168.91	-95.16	-70.74	-49.05	0.69	0.32	-2.90	
1,273.00	12.40	204.10	1,260.77	-112.91	-79.77	-54.13	1.35	0.32	-6.17	
1,367.00	13.00	194.90	1,352.48	-132.35	-86.61	-56.71	2.24	0.64	-9.79	
1,398.00	14.80	188.10	1,382.57	-139.64	-88.06	-56.59	7.83	5.81	-21.94	
1,526.00	14.30	208.70	1,506.55	-169.71	-97.96	-59.92	4.04	-0.39	16.09	
1,542.00	14.10	212.60	1,522.06	-173.08	-99.96	-61.16	6.11	-1.25	24.38	
1,665.00	12.90	219.74	1,641.67	-196.27	-116.82	-72.74	1.67	-0.98	5.80	
1,759.00	12.59	219.35	1,733.35	-212.26	-130.02	-82.27	0.34	-0.33	-0.41	
1,853.00	12.51	218.73	1,825.11	-228.12	-142.88	-91.49	0.17	-0.09	-0.66	
1,948.00	12.51	217.72	1,917.85	-244.29	-155.62	-100.52	0.23	0.00	-1.06	
2,043.00	13.30	219.44	2,010.45	-260.86	-168.85	-109.96	0.92	0.83	1.81	
2,137.00	14.10	223.23	2,101.78	-277.56	-183.56	-120.82	1.28	0.85	4.03	
2,232.00	15.82	224.02	2,193.56	-295.30	-200.49	-133.61	1.82	1.81	0.83	
2,326.00	15.60	225.12	2,284.04	-313.43	-218.35	-147.24	0.39	-0.23	1.17	
2,420.00	14.49	223.71	2,374.82	-330.85	-235.43	-160.26	1.24	-1.18	-1.50	
2,515.00	15.64	225.14	2,466.56	-348.48	-252.72	-173.44	1.27	1.21	1.51	
2,610.00	15.20	223.62	2,558.14	-366.53	-270.39	-186.90	0.63	-0.46	-1.60	
2,704.00	13.70	224.02	2,649.16	-383.45	-286.63	-199.20	1.60	-1.60	0.43	
2,799.00	13.70	222.52	2,741.46	-399.83	-302.05	-210.81	0.37	0.00	-1.58	
2,894.00	15.51	218.33	2,833.39	-418.09	-317.53	-222.09	2.20	1.91	-4.41	
2,988.00	14.58	215.91	2,924.16	-437.53	-332.27	-232.39	1.19	-0.99	-2.57	
3,083.00	12.68	214.94	3,016.48	-455.77	-345.25	-241.23	2.01	-2.00	-1.02	
3,177.00	13.61	210.84	3,108.02	-473.72	-356.83	-248.75	1.40	0.99	-4.36	
3,272.00	15.69	214.41	3,199.93	-493.92	-369.82	-257.19	2.39	2.19	3.76	
3,366.00	14.72	215.25	3,290.64	-514.16	-383.90	-266.67	1.06	-1.03	0.89	
3,461.00	12.68	212.21	3,382.93	-532.84	-396.42	-274.97	2.28	-2.15	-3.20	
3,555.00	14.18	221.64	3,474.37	-550.18	-409.58	-284.16	2.82	1.60	10.03	
3,650.00	14.58	219.83	3,566.39	-568.05	-424.97	-295.43	0.63	0.42	-1.91	
3,744.00	14.18	218.33	3,657.45	-586.17	-439.68	-305.99	0.58	-0.43	-1.60	
3,839.00	12.20	216.75	3,749.94	-603.34	-452.91	-315.29	2.12	-2.08	-1.66	
3,934.00	13.39	222.21	3,842.58	-619.54	-466.31	-324.97	1.78	1.25	5.75	
4,029.00	15.69	229.84	3,934.54	-635.97	-483.52	-338.32	3.15	2.42	8.03	
4,123.00	15.11	231.25	4,025.17	-651.84	-502.79	-353.81	0.73	-0.62	1.50	
4,218.00	14.41	228.25	4,117.03	-667.46	-521.26	-368.57	1.09	-0.74	-3.16	
4,313.00	12.99	227.32	4,209.33	-682.57	-537.93	-381.67	1.51	-1.49	-0.98	
4,407.00	13.79	218.03	4,300.78	-698.56	-552.60	-392.63	2.44	0.85	-9.88	
4,502.00	16.22	218.73	4,392.54	-717.83	-567.88	-403.50	2.56	2.56	0.74	
4,597.00	16.62	216.13	4,483.66	-739.15	-584.19	-414.94	0.88	0.42	-2.74	
4,692.00	15.51	213.31	4,574.95	-760.74	-599.18	-425.03	1.43	-1.17	-2.97	
4,787.00	13.92	211.42	4,666.83	-781.11	-612.11	-433.37	1.75	-1.67	-1.99	
4,881.00	13.39	222.04	4,758.19	-798.85	-625.30	-442.51	2.72	-0.56	11.30	
4,975.00	15.69	224.24	4,849.18	-816.04	-641.46	-454.68	2.52	2.45	2.34	
5,070.00	14.49	223.45	4,940.90	-833.87	-658.59	-467.66	1.28	-1.26	-0.83	
5,164.00	12.11	223.84	5,032.37	-849.52	-673.51	-478.94	2.53	-2.53	0.41	
5,259.00	13.52	225.03	5,125.00	-864.56	-688.27	-490.19	1.51	1.48	1.25	
5,353.00	13.52	221.55	5,216.40	-880.55	-703.33	-501.54	0.87	0.00	-3.70	
5,467.00	11.18	221.42	5,327.75	-898.81	-719.48	-513.47	2.05	-2.05	-0.11	

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5,561.00	9.10	219.92	5,420.28	-911.35	-730.29	-521.38	2.23	-2.21	-1.60	
5,656.00	8.09	211.81	5,514.22	-922.79	-738.63	-527.12	1.66	-1.06	-8.54	
5,751.00	6.89	214.41	5,608.40	-933.17	-745.37	-531.52	1.31	-1.26	2.74	
5,845.00	6.10	211.15	5,701.80	-942.10	-751.14	-535.27	0.93	-0.84	-3.47	
5,939.00	4.99	208.02	5,795.36	-949.98	-755.65	-538.01	1.22	-1.18	-3.33	
6,034.00	4.42	211.55	5,890.04	-956.75	-759.50	-540.35	0.67	-0.60	3.72	
6,129.00	3.49	211.15	5,984.81	-962.34	-762.92	-542.50	0.98	-0.98	-0.42	
6,224.00	3.00	217.54	6,079.66	-966.79	-765.93	-544.51	0.64	-0.52	6.73	
6,320.00	2.61	221.55	6,175.54	-970.42	-768.91	-546.66	0.45	-0.41	4.18	
6,414.00	2.12	220.63	6,269.46	-973.34	-771.46	-548.53	0.52	-0.52	-0.98	
6,509.00	3.71	109.53	6,364.39	-975.70	-769.70	-546.32	5.15	1.67	-116.95	
6,603.00	14.41	88.73	6,457.10	-976.46	-755.10	-531.88	11.72	11.38	-22.13	
6,698.00	26.78	79.13	6,545.88	-972.14	-722.13	-500.57	13.46	13.02	-10.11	
6,792.00	38.09	91.42	6,625.17	-968.85	-672.13	-452.39	13.87	12.03	13.07	
6,887.00	48.08	95.34	6,694.48	-972.88	-607.47	-388.34	10.88	10.52	4.13	
6,983.00	55.41	92.61	6,753.88	-978.01	-532.32	-313.80	7.95	7.64	-2.84	
7,077.00	59.61	90.72	6,804.37	-980.28	-453.09	-235.88	4.78	4.47	-2.01	
7,172.00	67.21	88.51	6,846.86	-979.66	-368.21	-153.04	8.27	8.00	-2.33	
7,266.00	79.10	86.22	6,874.06	-975.47	-278.51	-66.25	12.86	12.65	-2.44	
7,361.00	88.11	86.62	6,884.63	-969.59	-184.38	24.51	9.49	9.48	0.42	
7,455.00	89.00	87.94	6,887.00	-965.13	-90.52	115.32	1.69	0.95	1.40	
7,549.00	90.10	88.12	6,887.74	-961.90	3.42	206.46	1.19	1.17	0.19	
7,644.00	89.40	87.94	6,888.15	-958.63	98.36	298.57	0.76	-0.74	-0.19	
7,738.00	88.51	87.32	6,889.86	-954.75	192.26	389.53	1.15	-0.95	-0.66	
7,832.00	87.89	87.41	6,892.82	-950.43	286.12	480.36	0.67	-0.66	0.10	
7,927.00	89.62	88.12	6,894.88	-946.72	381.02	572.34	1.97	1.82	0.75	
8,022.00	86.39	90.01	6,898.19	-945.17	475.93	664.78	3.94	-3.40	1.99	
8,116.00	86.48	89.53	6,904.03	-944.80	569.75	756.40	0.52	0.10	-0.51	
8,211.00	86.92	90.14	6,909.50	-944.52	664.59	849.05	0.79	0.46	0.64	
8,306.00	87.80	89.75	6,913.88	-944.43	759.49	941.79	1.01	0.93	-0.41	
8,401.00	88.29	89.83	6,917.12	-944.08	854.43	1,034.52	0.52	0.52	0.08	
8,495.00	89.62	90.14	6,918.83	-944.06	948.41	1,126.38	1.45	1.41	0.33	
8,590.00	88.82	87.23	6,920.13	-941.88	1,043.37	1,218.73	3.18	-0.84	-3.06	
8,684.00	90.01	88.51	6,921.09	-938.39	1,137.29	1,309.80	1.86	1.27	1.36	
8,779.00	88.69	89.22	6,922.16	-936.50	1,232.27	1,402.23	1.58	-1.39	0.75	
8,874.00	87.01	90.54	6,925.73	-936.30	1,327.19	1,494.98	2.25	-1.77	1.39	
8,968.00	87.98	90.54	6,929.84	-937.19	1,421.10	1,586.95	1.03	1.03	0.00	
9,063.00	90.10	89.83	6,931.43	-937.50	1,516.08	1,679.86	2.35	2.23	-0.75	
9,158.00	88.69	89.22	6,932.43	-936.71	1,611.07	1,772.54	1.62	-1.48	-0.64	
9,252.00	84.71	87.63	6,937.84	-934.13	1,704.86	1,863.67	4.56	-4.23	-1.69	
9,347.00	85.42	87.01	6,946.01	-929.71	1,799.40	1,955.14	0.99	0.75	-0.65	
9,442.00	87.10	87.41	6,952.21	-925.09	1,894.08	2,046.71	1.82	1.77	0.42	
9,537.00	87.01	89.35	6,957.09	-922.41	1,988.91	2,138.84	2.04	-0.09	2.04	
9,632.00	88.20	91.24	6,961.06	-922.90	2,083.82	2,231.71	2.35	1.25	1.99	
9,726.00	85.51	90.54	6,966.22	-924.36	2,177.66	2,323.74	2.96	-2.86	-0.74	
9,821.00	85.90	91.95	6,973.33	-926.42	2,272.37	2,416.75	1.54	0.41	1.48	
9,916.00	86.48	89.35	6,979.65	-927.49	2,367.14	2,509.62	2.80	0.61	-2.74	
10,011.00	83.92	87.63	6,987.60	-925.00	2,461.77	2,601.58	3.24	-2.69	-1.81	
10,106.00	84.40	88.51	6,997.26	-921.82	2,556.22	2,693.23	1.05	0.51	0.93	
10,201.00	86.39	87.41	7,004.89	-918.45	2,650.85	2,785.01	2.39	2.09	-1.16	
10,295.00	84.58	90.45	7,012.29	-916.69	2,744.52	2,876.21	3.76	-1.93	3.23	
10,390.00	85.51	89.75	7,020.50	-916.86	2,839.17	2,968.75	1.22	0.98	-0.74	
10,484.00	87.01	91.33	7,026.63	-917.74	2,932.96	3,060.61	2.32	1.60	1.68	
10,579.00	88.91	91.82	7,030.01	-920.35	3,027.85	3,153.92	2.07	2.00	0.52	

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Wellbore:	Kiteley 10	Survey Calculation Method:	Minimum Curvature
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10,674.00	86.48	89.75	7,033.83	-921.65	3,122.76	3,246.96	3.36	-2.56	-2.18	
10,768.00	86.39	90.01	7,039.68	-921.46	3,216.57	3,338.62	0.29	-0.10	0.28	
10,863.00	88.51	88.42	7,043.90	-920.16	3,311.46	3,431.09	2.79	2.23	-1.67	
10,958.00	86.08	88.82	7,048.39	-917.87	3,406.32	3,523.33	2.59	-2.56	0.42	
11,052.00	86.79	87.23	7,054.23	-914.64	3,500.08	3,614.29	1.85	0.76	-1.69	
11,147.00	87.80	88.42	7,058.71	-911.04	3,594.90	3,706.22	1.64	1.06	1.25	
11,242.00	89.62	87.85	7,060.85	-907.95	3,689.82	3,798.35	2.01	1.92	-0.60	
11,336.00	90.99	88.34	7,060.35	-904.82	3,783.77	3,889.51	1.55	1.46	0.52	
11,431.00	90.19	88.03	7,059.37	-901.81	3,878.72	3,981.68	0.90	-0.84	-0.33	
11,526.00	91.12	89.13	7,058.29	-899.46	3,973.68	4,074.01	1.52	0.98	1.16	
Last Svy										
11,587.00	92.71	87.72	7,056.25	-897.78	4,034.62	4,133.22	3.48	2.61	-2.31	
Proj Svy										
11,660.00	92.71	87.72	7,052.80	-894.88	4,107.48	4,203.82	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
Kiteley 10 HL intersect p	0.00	0.00	6,884.53	-969.75	-187.20	1,317,902.79	3,135,287.62	40° 12' 18.093 N	105° 0' 56.290 W	
- survey misses target center by 0.01ft at 7358.18ft MD (6884.53 TVD, -969.75 N, -187.19 E)										
- Point										

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
11,587.00	7,056.25	-897.78	4,034.62	Last Svy	
11,660.00	7,052.80	-894.88	4,107.48	Proj Svy	

Checked By: _____ Approved By: _____ Date: _____