



Extraction Oil & Gas

Weld County, CO (NAD83)

TROTT Pad

TROTT 8E-10-1N

Wellbore #1

Design: Wellbore #1

Standard Survey Report

15 January, 2018



Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well TROTT 8E-10-1N
Project:	Weld County, CO (NAD83)	TVD Reference:	KB=25' @ 5061.00ft (P 346)
Site:	TROTT Pad	MD Reference:	KB=25' @ 5061.00ft (P 346)
Well:	TROTT 8E-10-1N	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1

Project	Weld County, CO (NAD83)		
Map System:	US State Plane 1983	System Datum:	Ground Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		TROTT Pad			
Site Position:		Northing:	1,361,363.2700 usft	Latitude:	40.324433
From:	Map	Easting:	3,128,030.0400 usft	Longitude:	-105.040814
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.30 °

Well	TROTT 8E-10-1N					
Well Position	+N/-S	0.00 ft	Northing:	1,361,363.3600 usfl	Latitude:	40.324433
	+E/-W	0.00 ft	Easting:	3,128,083.8500 usfl	Longitude:	-105.040621
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	5,036.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	12/19/2017	8.53	66.65	52,162

Design	Wellbore #1				
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 (°)	
	0.00	0.00	0.00	73.55	

Survey Program	Date	1/15/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
113.00	1,542.00	Surface Surveys (Wellbore #1)	MWD	MWD - Standard	
1,650.00	10,424.00	MWD Surveys (Wellbore #1)	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
113.00	0.40	303.17	113.00	0.22	-0.33	-0.26	0.35	0.35	0.00
208.00	0.53	299.66	208.00	0.61	-0.99	-0.77	0.14	0.14	-3.69
304.00	0.53	224.42	303.99	0.52	-1.69	-1.47	0.67	0.00	-78.38
399.00	1.23	184.17	398.98	-0.81	-2.07	-2.21	0.94	0.74	-42.37
493.00	0.22	208.08	492.97	-1.98	-2.23	-2.70	1.10	-1.07	25.44
589.00	0.97	3.11	588.97	-1.33	-2.27	-2.55	1.22	0.78	161.49
684.00	1.27	70.00	683.95	-0.17	-1.24	-1.23	1.33	0.32	70.41
778.00	1.54	63.41	777.93	0.75	0.87	1.05	0.33	0.29	-7.01
873.00	3.60	32.21	872.83	3.85	3.60	4.55	2.55	2.17	-32.84

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1

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)
968.00	6.15	24.21	967.48	11.02	7.28	10.10	2.77	2.68	-8.42
1,064.00	8.61	26.84	1,062.68	22.12	12.64	18.38	2.59	2.56	2.74
1,159.00	9.98	33.96	1,156.43	35.29	20.45	29.60	1.88	1.44	7.49
1,255.00	11.12	34.84	1,250.81	49.79	30.38	43.24	1.20	1.19	0.92
1,350.00	11.78	30.71	1,343.92	65.65	40.57	57.50	1.11	0.69	-4.35
1,444.00	13.97	30.45	1,435.55	83.68	51.22	72.82	2.33	2.33	-0.28
1,492.00	14.99	30.45	1,482.02	94.03	57.30	81.58	2.13	2.13	0.00
1,542.00	14.99	30.45	1,530.32	105.18	63.86	91.03	0.00	0.00	0.00
1,650.00	16.62	25.23	1,634.24	131.19	77.52	111.50	2.00	1.51	-4.83
First MWD Survey @ 1650'MD									
1,744.00	20.59	30.21	1,723.32	157.65	91.57	132.47	4.55	4.22	5.30
1,839.00	23.42	30.21	1,811.39	188.41	109.48	158.36	2.98	2.98	0.00
1,934.00	25.41	28.32	1,897.89	222.67	128.65	186.44	2.25	2.09	-1.99
2,028.00	25.98	27.21	1,982.59	258.73	147.63	214.86	0.79	0.61	-1.18
2,123.00	28.19	27.74	2,067.17	297.10	167.60	244.87	2.34	2.33	0.56
2,217.00	31.42	30.83	2,148.73	337.81	190.49	278.36	3.80	3.44	3.29
2,312.00	34.29	31.05	2,228.52	382.01	216.99	316.29	3.02	3.02	0.23
2,406.00	38.18	29.55	2,304.33	429.98	244.99	356.73	4.24	4.14	-1.60
2,501.00	38.31	30.52	2,378.94	480.89	274.42	399.38	0.65	0.14	1.02
2,595.00	39.59	30.34	2,452.04	531.84	304.35	442.51	1.37	1.36	-0.19
2,690.00	40.08	31.05	2,524.99	584.17	335.42	487.12	0.70	0.52	0.75
2,785.00	39.59	28.62	2,597.95	636.95	365.69	531.10	1.72	-0.52	-2.56
2,879.00	41.98	31.22	2,669.12	690.14	396.34	575.56	3.12	2.54	2.77
2,973.00	42.60	28.71	2,738.66	744.93	427.92	621.36	1.91	0.66	-2.67
3,067.00	42.20	30.52	2,808.08	800.03	459.24	667.00	1.37	-0.43	1.93
3,162.00	40.30	33.03	2,879.51	853.28	492.19	713.69	2.65	-2.00	2.64
3,256.00	38.31	30.03	2,952.25	904.00	523.35	757.93	2.93	-2.12	-3.19
3,350.00	37.78	30.92	3,026.27	953.93	552.73	800.25	0.81	-0.56	0.95
3,445.00	38.09	31.93	3,101.20	1,003.76	583.18	843.56	0.73	0.33	1.06
3,539.00	36.72	28.93	3,175.88	1,052.97	612.11	885.25	2.43	-1.46	-3.19
3,633.00	34.20	32.02	3,252.44	1,099.98	639.72	925.04	3.29	-2.68	3.29
3,727.00	33.50	35.72	3,330.52	1,143.44	668.87	965.31	2.32	-0.74	3.94
3,821.00	32.08	35.41	3,409.54	1,184.85	698.48	1,005.43	1.52	-1.51	-0.33
3,916.00	31.99	34.84	3,490.07	1,226.06	727.48	1,044.91	0.33	-0.09	-0.60
4,010.00	28.81	35.15	3,571.14	1,265.03	754.75	1,082.10	3.39	-3.38	0.33
4,104.00	27.88	36.82	3,653.87	1,301.15	780.96	1,117.46	1.30	-0.99	1.78
4,198.00	27.31	37.13	3,737.17	1,335.93	807.15	1,152.43	0.63	-0.61	0.33
4,293.00	23.82	34.22	3,822.86	1,369.18	831.10	1,184.82	3.90	-3.67	-3.06
4,387.00	22.58	38.63	3,909.27	1,398.98	853.05	1,214.30	2.27	-1.32	4.69
4,481.00	21.70	36.73	3,996.34	1,427.00	874.70	1,243.01	1.21	-0.94	-2.02
4,575.00	19.71	39.64	4,084.26	1,453.14	895.21	1,270.08	2.38	-2.12	3.10
4,670.00	16.88	43.74	4,174.45	1,475.45	914.97	1,295.35	3.27	-2.98	4.32
4,765.00	14.80	46.52	4,265.84	1,493.77	933.32	1,318.13	2.33	-2.19	2.93

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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)
4,859.00	12.90	46.74	4,357.11	1,509.22	949.67	1,338.19	2.02	-2.02	0.23
4,953.00	12.42	47.75	4,448.82	1,523.21	964.79	1,356.66	0.56	-0.51	1.07
5,048.00	13.39	57.05	4,541.43	1,536.06	981.59	1,376.41	2.41	1.02	9.79
5,165.00	12.02	52.82	4,655.57	1,550.79	1,002.67	1,400.79	1.41	-1.17	-3.62
5,215.44	14.85	72.53	4,704.65	1,555.91	1,013.02	1,412.17	10.59	5.61	39.07
Enter Section @ 5215.44'MD									
5,260.00	18.29	83.93	4,747.36	1,558.37	1,025.43	1,424.77	10.59	7.72	25.59
5,353.00	26.60	88.82	4,833.25	1,560.34	1,060.82	1,459.27	9.15	8.94	5.26
5,447.00	35.71	84.55	4,913.61	1,563.39	1,109.28	1,506.61	9.97	9.69	-4.54
5,541.00	41.80	80.62	4,986.90	1,571.11	1,167.56	1,564.69	6.98	6.48	-4.18
5,636.00	52.41	85.34	5,051.49	1,579.35	1,236.53	1,633.17	11.74	11.17	4.97
5,731.00	59.61	83.44	5,104.56	1,587.10	1,314.86	1,710.48	7.76	7.58	-2.00
5,825.00	64.30	82.65	5,148.75	1,597.16	1,397.18	1,792.29	5.04	4.99	-0.84
5,907.67	70.30	83.00	5,180.64	1,606.67	1,472.82	1,867.52	7.26	7.25	0.42
Hardline Crossing @ 5907.67'MD (2183'FNL & 460'FWL)									
5,920.00	71.19	83.05	5,184.70	1,608.08	1,484.37	1,879.00	7.26	7.25	0.40
5,935.64	72.91	83.20	5,189.53	1,609.87	1,499.14	1,893.67	11.02	10.98	0.96
Trott 1 LP									
6,015.00	81.62	83.93	5,207.00	1,618.52	1,575.99	1,969.83	11.02	10.98	0.92
6,109.00	86.61	89.61	5,216.65	1,623.77	1,669.28	2,060.78	8.02	5.31	6.04
6,203.00	87.01	89.04	5,221.88	1,624.87	1,763.12	2,151.10	0.74	0.43	-0.61
6,297.00	87.89	89.83	5,226.06	1,625.80	1,857.03	2,241.42	1.26	0.94	0.84
6,391.00	87.89	87.23	5,229.52	1,628.21	1,950.92	2,332.15	2.76	0.00	-2.77
6,485.00	84.80	86.75	5,235.51	1,633.13	2,044.59	2,423.38	3.33	-3.29	-0.51
6,579.00	77.29	87.15	5,250.14	1,638.07	2,137.25	2,513.64	8.00	-7.99	0.43
6,674.00	77.11	86.44	5,271.18	1,643.25	2,229.74	2,603.82	0.75	-0.19	-0.75
6,767.00	79.89	86.44	5,289.72	1,648.91	2,320.69	2,692.64	2.99	2.99	0.00
6,861.00	81.00	86.53	5,305.33	1,654.59	2,413.21	2,782.99	1.18	1.18	0.10
6,956.00	82.02	85.43	5,319.35	1,661.18	2,506.93	2,874.74	1.57	1.07	-1.16
7,050.00	82.19	84.63	5,332.26	1,669.25	2,599.69	2,965.99	0.86	0.18	-0.85
7,144.00	82.10	87.63	5,345.11	1,675.53	2,692.59	3,056.86	3.16	-0.10	3.19
7,238.00	79.89	88.42	5,359.82	1,678.73	2,785.37	3,146.75	2.49	-2.35	0.84
7,333.00	80.38	87.94	5,376.10	1,681.71	2,878.91	3,237.31	0.72	0.52	-0.51
7,428.00	81.22	86.84	5,391.29	1,685.98	2,972.59	3,328.36	1.45	0.88	-1.16
7,522.00	81.88	88.51	5,405.10	1,689.75	3,065.49	3,418.52	1.89	0.70	1.78
7,616.00	80.38	89.35	5,419.60	1,691.48	3,158.35	3,508.07	1.82	-1.60	0.89
7,711.00	81.31	88.82	5,434.71	1,692.98	3,252.12	3,598.43	1.12	0.98	-0.56
7,805.00	82.02	88.12	5,448.34	1,695.47	3,345.10	3,688.30	1.06	0.76	-0.74
7,899.00	78.30	87.54	5,464.40	1,698.97	3,437.63	3,778.04	4.00	-3.96	-0.62
7,993.00	76.40	89.35	5,484.99	1,701.46	3,529.31	3,866.67	2.76	-2.02	1.93
8,088.00	74.59	90.01	5,508.78	1,701.98	3,621.27	3,955.02	2.02	-1.91	0.69
8,182.00	74.81	89.83	5,533.58	1,702.11	3,711.94	4,042.01	0.30	0.23	-0.19
8,276.00	78.30	89.61	5,555.44	1,702.55	3,803.35	4,129.80	3.72	3.71	-0.23
8,370.00	76.98	89.75	5,575.56	1,703.07	3,895.17	4,218.01	1.41	-1.40	0.15

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Well:	TROTT 8E-10-1N	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1

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)
8,464.00	75.52	89.53	5,597.90	1,703.64	3,986.47	4,305.73	1.57	-1.55	-0.23
8,558.00	74.28	91.02	5,622.39	1,703.21	4,077.22	4,392.64	2.02	-1.32	1.59
8,652.00	70.39	91.11	5,650.91	1,701.55	4,166.75	4,478.04	4.14	-4.14	0.10
8,747.00	66.81	91.24	5,685.56	1,699.73	4,255.17	4,562.33	3.77	-3.77	0.14
8,841.00	64.30	91.42	5,724.46	1,697.75	4,340.71	4,643.81	2.68	-2.67	0.19
8,936.00	66.81	90.54	5,763.77	1,696.28	4,427.18	4,726.31	2.77	2.64	-0.93
9,030.00	66.02	89.75	5,801.38	1,696.06	4,513.32	4,808.87	1.14	-0.84	-0.84
9,123.00	65.71	88.42	5,839.41	1,697.41	4,598.18	4,890.64	1.35	-0.33	-1.43
9,218.00	65.09	88.42	5,878.96	1,699.79	4,684.52	4,974.12	0.65	-0.65	0.00
9,312.00	65.18	88.82	5,918.48	1,701.85	4,769.79	5,056.47	0.40	0.10	0.43
9,406.00	68.80	87.63	5,955.22	1,704.54	4,856.25	5,140.16	4.02	3.85	-1.27
9,500.00	70.88	87.01	5,987.61	1,708.67	4,944.39	5,225.86	2.30	2.21	-0.66
9,594.00	75.39	86.75	6,014.88	1,713.56	5,034.19	5,313.37	4.81	4.80	-0.28
9,688.00	80.78	87.72	6,034.28	1,717.99	5,126.02	5,402.70	5.82	5.73	1.03
9,781.00	82.41	87.23	6,047.87	1,722.04	5,217.93	5,491.99	1.83	1.75	-0.53
9,876.00	81.00	88.42	6,061.58	1,725.61	5,311.86	5,583.09	1.93	-1.48	1.25
9,970.00	84.31	89.92	6,073.59	1,726.96	5,405.07	5,672.86	3.86	3.52	1.60
10,065.00	88.29	88.64	6,079.72	1,728.15	5,499.84	5,764.09	4.40	4.19	-1.35
10,159.00	90.41	88.03	6,080.79	1,730.88	5,593.79	5,854.97	2.35	2.26	-0.65
10,253.00	87.32	86.93	6,082.65	1,735.02	5,687.67	5,946.17	3.49	-3.29	-1.17
10,347.00	88.11	86.22	6,086.40	1,740.63	5,781.42	6,037.68	1.13	0.84	-0.76
Final MWD Survey @ 10347'MD									
10,424.00	88.11	86.22	6,088.94	1,745.70	5,858.21	6,112.76	0.00	0.00	0.00
PTD @ 10424'MD (2123'FNL & 484'FEL) - Trott 1 BHL									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,650.00	1,634.24	131.19	77.52	First MWD Survey @ 1650'MD
5,215.44	4,704.65	1,555.91	1,013.02	Enter Section @ 5215.44'MD
5,907.67	5,180.64	1,606.67	1,472.82	Hardline Crossing @ 5907.67'MD (2183'FNL & 460'FWL)
10,347.00	6,086.40	1,740.63	5,781.42	Final MWD Survey @ 10347'MD
10,424.00	6,088.94	1,745.70	5,858.21	PTD @ 10424'MD (2123'FNL & 484'FEL)

Checked By: _____ Approved By: _____ Date: _____