

Extraction Oil & Gas

Weld County, CO (NAD83)

TROTT Pad

TROTT 8E-10-5N

Wellbore #1

Design: Wellbore #1

Standard Survey Report

04 January, 2018

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well TROTT 8E-10-5N
Project:	Weld County, CO (NAD83)	TVD Reference:	KB=25' @ 5060.00ft (P 346)
Site:	TROTT Pad	MD Reference:	KB=25' @ 5060.00ft (P 346)
Well:	TROTT 8E-10-5N	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:	1,361,363.3600 usft	Latitude:	40.324433
From:	Map	Easting:	3,128,047.8800 usft	Longitude:	-105.040750
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.30 °

Well	TROTT 8E-10-5N					
Well Position	+N/-S	0.00 ft	Northing:	1,361,363.3600 usfi	Latitude:	40.324433
	+E/-W	0.00 ft	Easting:	3,128,047.8800 usfi	Longitude:	-105.040750
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	5,035.00 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	79.63	

Survey Program	Date	1/4/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
112.00	1,542.00	Surface Surveys (Wellbore #1)	MWD	MWD - Standard	
1,651.00	10,365.00	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	
112.00	0.79	236.90	112.00	-0.42	-0.65	-0.71	0.71	0.71	0.00	
207.00	1.01	227.06	206.98	-1.35	-1.81	-2.02	0.28	0.23	-10.36	
301.00	0.44	164.57	300.98	-2.26	-2.32	-2.69	0.95	-0.61	-66.48	
396.00	1.01	124.76	395.97	-3.09	-1.53	-2.07	0.77	0.60	-41.91	
492.00	1.05	149.28	491.96	-4.33	-0.39	-1.16	0.46	0.04	25.54	
587.00	0.70	305.55	586.95	-4.74	-0.42	-1.26	1.80	-0.37	164.50	
682.00	1.76	326.73	681.93	-3.18	-1.69	-2.23	1.20	1.12	22.29	
777.00	3.25	12.43	776.84	0.67	-1.91	-1.76	2.51	1.57	48.11	
870.00	2.64	44.34	869.73	4.77	0.15	1.01	1.85	-0.66	34.31	

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Well:	TROTT 8E-10-5N	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)
966.00	2.64	47.94	965.62	7.84	3.34	4.70	0.17	0.00	3.75
1,059.00	3.38	58.75	1,058.50	10.69	7.28	9.08	1.00	0.80	11.62
1,154.00	4.04	45.83	1,153.30	14.48	12.07	14.48	1.12	0.69	-13.60
1,250.00	4.66	42.23	1,249.02	19.72	17.12	20.39	0.71	0.65	-3.75
1,345.00	6.68	36.34	1,343.55	27.03	22.99	27.47	2.21	2.13	-6.20
1,440.00	9.23	40.03	1,437.63	37.32	31.16	37.37	2.74	2.68	3.88
1,492.00	10.20	47.24	1,488.89	43.64	37.22	44.47	2.99	1.87	13.87
1,542.00	11.00	47.24	1,538.03	49.88	43.98	52.24	1.60	1.60	0.00
1,641.00	13.17	48.89	1,634.83	63.71	59.41	69.91	2.22	2.19	1.67
First MWD Survey @ 1651'MD									
1,651.00	13.39	49.03	1,644.57	65.22	61.14	71.88	2.22	2.20	1.38
1,745.00	19.00	50.22	1,734.80	82.16	81.14	94.60	5.98	5.97	1.27
1,840.00	23.20	46.52	1,823.41	104.94	106.61	123.76	4.64	4.42	-3.89
1,935.00	27.09	45.24	1,909.40	133.06	135.56	157.29	4.13	4.09	-1.35
2,029.00	29.70	45.33	1,992.08	164.51	167.33	194.20	2.78	2.78	0.10
2,124.00	32.70	44.22	2,073.33	199.45	201.97	234.56	3.22	3.16	-1.17
2,218.00	36.10	46.74	2,150.88	236.64	239.86	278.52	3.92	3.62	2.68
2,312.00	37.91	47.22	2,225.95	275.23	281.22	326.16	1.95	1.93	0.51
2,407.00	38.40	47.44	2,300.65	315.01	324.37	375.77	0.54	0.52	0.23
2,502.00	37.52	48.72	2,375.55	354.05	367.85	425.56	1.24	-0.93	1.35
2,596.00	35.79	45.55	2,450.97	392.19	408.99	472.89	2.73	-1.84	-3.37
2,691.00	36.01	48.63	2,527.93	430.11	449.78	519.84	1.91	0.23	3.24
2,785.00	35.22	48.32	2,604.34	466.39	490.76	566.68	0.86	-0.84	-0.33
2,880.00	37.78	48.63	2,680.70	503.85	533.07	615.03	2.70	2.69	0.33
2,974.00	37.38	45.24	2,755.21	542.98	574.94	663.27	2.24	-0.43	-3.61
3,068.00	36.19	48.41	2,830.50	581.49	615.96	710.55	2.38	-1.27	3.37
3,162.00	35.71	50.75	2,906.60	617.28	657.96	758.30	1.55	-0.51	2.49
3,257.00	36.01	47.22	2,983.60	653.79	699.94	806.16	2.20	0.32	-3.72
3,351.00	35.40	50.04	3,059.93	690.04	741.09	853.17	1.87	-0.65	3.00
3,446.00	36.01	50.13	3,137.08	725.62	783.61	901.40	0.64	0.64	0.09
3,540.00	33.41	46.34	3,214.35	761.21	823.56	947.09	3.59	-2.77	-4.03
3,634.00	30.80	46.91	3,293.97	795.52	859.86	988.98	2.80	-2.78	0.61
3,728.00	29.30	50.53	3,375.34	826.59	895.20	1,029.33	2.50	-1.60	3.85
3,822.00	26.20	44.93	3,458.53	855.91	927.62	1,066.50	4.31	-3.30	-5.96
3,917.00	23.29	47.44	3,544.80	883.47	956.27	1,099.64	3.26	-3.06	2.64
4,011.00	20.59	41.71	3,632.00	908.39	980.96	1,128.42	3.66	-2.87	-6.10
4,105.00	17.50	46.03	3,720.84	930.54	1,002.14	1,153.23	3.61	-3.29	4.60
4,199.00	14.58	43.52	3,811.18	948.94	1,020.46	1,174.57	3.19	-3.11	-2.67
4,294.00	11.71	41.93	3,903.68	964.79	1,035.14	1,191.86	3.04	-3.02	-1.67
4,388.00	9.50	44.62	3,996.07	977.41	1,046.97	1,205.76	2.41	-2.35	2.86
4,482.00	6.98	40.52	4,089.09	987.27	1,056.13	1,216.55	2.75	-2.68	-4.36
4,576.00	4.82	40.43	4,182.59	994.62	1,062.40	1,224.04	2.30	-2.30	-0.10
4,671.00	2.12	17.52	4,277.41	999.33	1,065.52	1,227.96	3.14	-2.84	-24.12

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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)
4,766.00	0.62	253.72	4,372.39	1,000.87	1,065.55	1,228.27	2.65	-1.58	-130.32
4,860.00	2.30	261.52	4,466.35	1,000.45	1,063.20	1,225.88	1.80	1.79	8.30
4,954.00	1.02	308.23	4,560.32	1,000.68	1,060.68	1,223.44	1.88	-1.36	49.69
5,049.00	0.62	207.54	4,655.31	1,000.75	1,059.77	1,222.56	1.36	-0.42	-105.99
5,154.00	4.99	104.73	4,760.18	999.09	1,063.93	1,226.35	4.92	4.16	-97.91
5,169.41	6.69	97.39	4,775.51	998.80	1,065.47	1,227.81	12.04	11.04	-47.61
Enter Section @ 5169.41'MD									
5,248.00	15.91	85.52	4,852.50	999.05	1,080.78	1,242.92	12.04	11.73	-15.11
5,342.00	24.39	83.22	4,940.67	1,002.36	1,112.96	1,275.17	9.06	9.02	-2.45
5,436.00	34.82	92.92	5,022.33	1,003.28	1,159.19	1,320.81	12.18	11.10	10.32
5,530.00	41.98	90.32	5,095.95	1,001.74	1,217.51	1,377.90	7.81	7.62	-2.77
5,624.00	52.98	90.23	5,159.39	1,001.41	1,286.68	1,445.89	11.70	11.70	-0.10
5,732.00	56.21	89.92	5,221.95	1,001.30	1,374.70	1,532.45	3.00	2.99	-0.29
5,827.00	65.18	90.63	5,268.40	1,000.88	1,457.46	1,613.78	9.46	9.44	0.75
5,904.87	69.68	91.14	5,298.28	999.77	1,529.33	1,684.28	5.81	5.78	0.65
460' Hardline Crossing @ 5904.89'MD (2519'FSL & 460'FEL)									
5,918.36	70.46	91.22	5,302.88	999.51	1,542.01	1,696.70	5.81	5.78	0.63
Trott 5N LP									
5,921.00	70.61	91.24	5,303.76	999.45	1,544.50	1,699.14	5.81	5.78	0.63
6,016.00	79.81	90.32	5,327.98	998.22	1,636.25	1,789.17	9.73	9.68	-0.97
6,110.00	80.78	90.45	5,343.83	997.60	1,728.90	1,880.19	1.04	1.03	0.14
6,204.00	82.10	90.45	5,357.82	996.87	1,821.85	1,971.49	1.40	1.40	0.00
6,298.00	81.40	88.51	5,371.31	997.71	1,914.86	2,063.15	2.17	-0.74	-2.06
6,392.00	82.59	89.00	5,384.40	999.73	2,007.92	2,155.05	1.37	1.27	0.52
6,487.00	81.09	91.24	5,397.89	999.54	2,101.95	2,247.51	2.82	-1.58	2.36
6,581.00	81.09	91.82	5,412.45	997.06	2,194.78	2,338.38	0.61	0.00	0.62
6,675.00	81.40	87.54	5,426.76	997.58	2,287.67	2,429.84	4.51	0.33	-4.55
6,768.00	82.41	87.54	5,439.86	1,001.53	2,379.65	2,521.03	1.09	1.09	0.00
6,863.00	81.09	87.94	5,453.49	1,005.24	2,473.59	2,614.11	1.45	-1.39	0.42
6,957.00	81.49	87.54	5,467.72	1,008.90	2,566.44	2,706.10	0.60	0.43	-0.43
7,051.00	80.69	87.01	5,482.28	1,013.32	2,659.20	2,798.14	1.02	-0.85	-0.56
7,146.00	80.91	86.44	5,497.47	1,018.67	2,752.82	2,891.20	0.64	0.23	-0.60
7,240.00	81.22	88.12	5,512.07	1,023.08	2,845.57	2,983.23	1.80	0.33	1.79
7,334.00	79.72	87.32	5,527.63	1,026.77	2,938.20	3,075.00	1.80	-1.60	-0.85
7,429.00	80.38	87.23	5,544.05	1,031.22	3,031.66	3,167.74	0.70	0.69	-0.09
7,523.00	80.20	88.84	5,559.90	1,034.39	3,124.26	3,259.40	1.70	-0.19	1.71
7,618.00	80.91	88.51	5,575.49	1,036.56	3,217.95	3,351.95	0.82	0.75	-0.35
7,712.00	80.12	88.73	5,590.98	1,038.79	3,310.63	3,443.52	0.87	-0.84	0.23
7,806.00	79.19	89.22	5,607.86	1,040.45	3,403.09	3,534.77	1.11	-0.99	0.52
7,900.00	77.11	89.92	5,627.16	1,041.14	3,495.08	3,625.38	2.33	-2.21	0.74
7,995.00	75.92	89.53	5,649.32	1,041.58	3,587.45	3,716.33	1.31	-1.25	-0.41
8,089.00	75.61	88.51	5,672.43	1,043.14	3,678.55	3,806.22	1.10	-0.33	-1.09
8,184.00	75.52	88.64	5,696.11	1,045.43	3,770.53	3,897.10	0.16	-0.09	0.14
8,277.00	75.12	88.25	5,719.68	1,047.87	3,860.46	3,986.00	0.59	-0.43	-0.42

Survey Report

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Site:	TROTT Pad	MD Reference:	KB=25' @ 5060.00ft (P 346)
Well:	TROTT 8E-10-5N	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)
8,372.00	76.18	89.44	5,743.23	1,049.72	3,952.47	4,076.85	1.65	1.12	1.25
8,466.00	76.40	89.13	5,765.51	1,050.86	4,043.79	4,166.88	0.40	0.23	-0.33
8,560.00	76.49	88.91	5,787.54	1,052.42	4,135.15	4,257.04	0.25	0.10	-0.23
8,653.00	76.80	89.35	5,809.02	1,053.80	4,225.63	4,346.28	0.57	0.33	0.47
8,748.00	78.08	90.01	5,829.68	1,054.32	4,318.35	4,437.58	1.51	1.35	0.69
8,842.00	78.08	89.92	5,849.09	1,054.37	4,410.32	4,528.06	0.09	0.00	-0.10
8,937.00	78.22	89.61	5,868.60	1,054.75	4,503.30	4,619.59	0.35	0.15	-0.33
9,031.00	78.30	89.53	5,887.73	1,055.44	4,595.33	4,710.24	0.12	0.09	-0.09
9,125.00	80.78	90.23	5,904.79	1,055.63	4,687.76	4,801.20	2.74	2.64	0.74
9,219.00	81.31	89.53	5,919.43	1,055.83	4,780.61	4,892.57	0.93	0.56	-0.74
9,313.00	79.98	88.51	5,934.70	1,057.41	4,873.35	4,984.07	1.77	-1.41	-1.09
9,408.00	78.22	88.34	5,952.67	1,059.98	4,966.59	5,076.26	1.86	-1.85	-0.18
9,501.00	74.90	87.63	5,974.28	1,063.15	5,056.98	5,165.74	3.65	-3.57	-0.76
9,595.00	71.90	87.72	6,001.13	1,066.81	5,146.97	5,254.93	3.19	-3.19	0.10
9,689.00	72.12	86.62	6,030.17	1,071.22	5,236.27	5,343.56	1.14	0.23	-1.17
9,783.00	73.31	89.13	6,058.10	1,074.54	5,325.95	5,432.37	2.85	1.27	2.67
9,877.00	71.50	89.61	6,086.51	1,075.53	5,415.54	5,520.68	1.99	-1.93	0.51
9,972.00	71.32	88.82	6,116.80	1,076.76	5,505.58	5,609.47	0.81	-0.19	-0.83
10,066.00	71.50	88.42	6,146.77	1,078.91	5,594.65	5,697.47	0.45	0.19	-0.43
10,160.00	71.50	88.25	6,176.59	1,081.50	5,683.75	5,785.59	0.17	0.00	-0.18
10,223.00	71.19	87.63	6,196.74	1,083.65	5,743.40	5,844.65	1.05	-0.49	-0.98
Final MWD Survey @ 10223'MD									
10,365.00	71.19	87.63	6,242.53	1,089.20	5,877.70	5,977.76	0.00	0.00	0.00
PTD @ 10365'MD (2512'FSL & 521'FEL) - Trott 5N BHL									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,641.00	1,634.83	63.71	59.41	First MWD Survey @ 1651'MD
5,169.41	4,775.51	998.80	1,065.47	Enter Section @ 5169.41'MD
5,904.87	5,298.28	999.77	1,529.33	460' Hardline Crossing @ 5904.89'MD (2519'FSL & 460'FEL)
10,223.00	6,196.74	1,083.65	5,743.40	Final MWD Survey @ 10223'MD
10,365.00	6,242.53	1,089.20	5,877.70	PTD @ 10365'MD (2512'FSL & 521'FEL)

Checked By: _____ Approved By: _____ Date: _____