

Extraction Oil & Gas

Weld County, CO (NAD83)

Vetting PAD (Sec 15-T5N-R65W)

VT LDS 2-16-18

Wellbore #1

Design: Wellbore #1

Standard Survey Report

05 July, 2018

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well VT LDS 2-16-18
Project:	Weld County, CO (NAD83)	TVD Reference:	KB=29 @ 4677.00ft (Patterson #901)
Site:	Vetting PAD (Sec 15-T5N-R65W)	MD Reference:	KB=29 @ 4677.00ft (Patterson #901)
Well:	VT LDS 2-16-18	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		Vetting PAD (Sec 15-T5N-R65W)			
Site Position:		Northing:	1,390,162.31 usft	Latitude:	40.401330
From:	Map	Easting:	3,234,926.48 usft	Longitude:	-104.656460
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.55 °

Well		VT LDS 2-16-18				
Well Position	+N/-S	0.00 ft	Northing:	1,390,150.69 usfi	Latitude:	40.401300
	+E/-W	0.00 ft	Easting:	3,234,854.17 usfi	Longitude:	-104.656720
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,648.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/3/2018	8.10	66.88	52,247

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	273.33	

Survey Program	Date	7/5/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
87.00	1,515.00	Surface Surveys (Wellbore #1)	MWD	MWD - Standard	
1,575.00	20,386.00	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	
87.00	0.12	110.74	87.00	-0.03	0.09	-0.09	0.14	0.14	0.00	
149.00	0.46	114.79	149.00	-0.16	0.37	-0.38	0.55	0.55	6.53	
233.00	0.92	104.49	232.99	-0.47	1.33	-1.36	0.56	0.55	-12.26	
315.00	1.16	114.27	314.98	-0.98	2.72	-2.78	0.36	0.29	11.93	
398.00	1.37	128.81	397.96	-1.94	4.26	-4.37	0.46	0.25	17.52	
483.00	1.85	161.63	482.93	-3.88	5.49	-5.70	1.20	0.56	38.61	
569.00	1.98	203.76	568.88	-6.56	5.33	-5.70	1.61	0.15	48.99	
654.00	0.93	238.52	653.86	-8.26	4.15	-4.62	1.56	-1.24	40.89	
738.00	2.10	295.44	737.83	-7.96	2.18	-2.63	2.11	1.39	67.76	

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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)
823.00	2.84	290.73	822.75	-6.54	-1.20	0.82	0.90	0.87	-5.54
907.00	4.75	291.55	906.56	-4.53	-6.38	6.11	2.27	2.27	0.98
990.00	5.88	295.73	989.20	-1.42	-13.41	13.30	1.44	1.36	5.04
1,073.00	8.32	290.13	1,071.56	2.49	-22.88	22.98	3.05	2.94	-6.75
1,158.00	9.38	288.48	1,155.55	6.80	-35.22	35.56	1.28	1.25	-1.94
1,244.00	10.94	288.30	1,240.20	11.59	-49.62	50.21	1.81	1.81	-0.21
1,327.00	11.87	286.10	1,321.56	16.43	-65.30	66.14	1.24	1.12	-2.65
1,414.00	13.22	283.20	1,406.48	21.18	-83.58	84.67	1.71	1.55	-3.33
1,498.00	14.95	282.11	1,487.95	25.65	-103.53	104.84	2.08	2.06	-1.30
1,515.00	15.14	283.54	1,504.37	26.63	-107.83	109.19	2.45	1.12	8.41
Tie in to Surface Surveys @ 1515'MD									
1,575.00	15.33	284.71	1,562.26	30.48	-123.12	124.68	0.60	0.32	1.95
First MWD Survey @ 1575'MD									
1,671.00	17.28	280.35	1,654.40	36.26	-149.42	151.27	2.40	2.03	-4.54
1,766.00	18.82	284.58	1,744.72	42.65	-178.13	180.31	2.13	1.62	4.45
1,862.00	23.02	283.70	1,834.38	51.00	-211.37	213.98	4.39	4.38	-0.92
1,957.00	25.06	285.37	1,921.13	60.73	-248.82	251.93	2.26	2.15	1.76
2,053.00	26.96	283.61	2,007.41	71.25	-289.58	293.23	2.14	1.98	-1.83
2,149.00	28.86	284.40	2,092.24	82.13	-333.18	337.38	2.02	1.98	0.82
2,244.00	30.31	282.64	2,174.85	93.08	-378.78	383.54	1.78	1.53	-1.85
2,340.00	32.08	282.81	2,256.97	104.03	-427.28	432.59	1.85	1.84	0.18
2,435.00	33.54	281.18	2,336.81	114.71	-477.63	483.48	1.80	1.54	-1.72
2,530.00	32.13	280.61	2,416.63	124.45	-528.21	534.54	1.52	-1.48	-0.60
2,625.00	34.34	282.55	2,496.09	134.93	-579.20	586.05	2.58	2.33	2.04
2,664.18	34.09	282.87	2,528.49	139.78	-600.69	607.79	0.79	-0.65	0.82
Crossing Section 15/16 @ 2664'MD									
2,721.00	33.72	283.34	2,575.65	146.96	-631.56	639.02	0.79	-0.64	0.83
2,817.00	34.29	283.17	2,655.23	159.27	-683.82	691.91	0.60	0.59	-0.18
2,912.00	34.47	283.03	2,733.64	171.43	-736.07	744.77	0.21	0.19	-0.15
3,008.00	33.54	282.37	2,813.22	183.24	-788.44	797.74	1.04	-0.97	-0.69
3,103.00	32.61	281.98	2,892.82	194.17	-839.12	848.97	1.00	-0.98	-0.41
3,199.00	34.60	285.37	2,972.78	206.77	-890.71	901.21	2.85	2.07	3.53
3,294.00	33.19	285.15	3,051.64	220.71	-941.82	953.04	1.49	-1.48	-0.23
3,390.00	33.76	285.63	3,131.71	234.77	-992.87	1,004.82	0.65	0.59	0.50
3,485.00	31.20	285.59	3,211.85	248.49	-1,042.00	1,054.67	2.69	-2.69	-0.04
3,580.00	32.17	284.49	3,292.69	261.44	-1,090.19	1,103.53	1.19	1.02	-1.16
3,676.00	34.47	282.73	3,372.90	273.82	-1,141.44	1,155.41	2.60	2.40	-1.83
3,771.00	32.21	282.73	3,452.26	285.32	-1,192.37	1,206.92	2.38	-2.38	0.00
3,867.00	34.11	283.30	3,532.62	297.16	-1,243.53	1,258.67	2.01	1.98	0.59
3,962.00	33.94	283.74	3,611.36	309.58	-1,295.21	1,310.99	0.31	-0.18	0.46
4,058.00	34.51	283.61	3,690.74	322.35	-1,347.67	1,364.11	0.60	0.59	-0.14
4,153.00	35.17	283.92	3,768.71	335.26	-1,400.39	1,417.48	0.72	0.69	0.33
4,248.00	35.93	283.61	3,846.00	348.40	-1,454.03	1,471.80	0.82	0.80	-0.33

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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)
4,344.00	35.40	283.87	3,923.99	361.70	-1,508.40	1,526.85	0.57	-0.55	0.27
4,440.00	32.79	283.70	4,003.48	374.52	-1,560.66	1,579.77	2.72	-2.72	-0.18
4,535.00	33.98	284.09	4,082.81	387.08	-1,611.41	1,631.15	1.27	1.25	0.41
4,631.00	33.14	283.92	4,162.80	399.92	-1,662.90	1,683.30	0.88	-0.88	-0.18
4,727.00	34.73	282.86	4,242.45	412.32	-1,715.03	1,736.07	1.77	1.66	-1.10
4,822.00	33.85	283.30	4,320.94	424.43	-1,767.17	1,788.82	0.96	-0.93	0.46
4,918.00	32.92	282.81	4,401.10	436.37	-1,818.62	1,840.88	1.01	-0.97	-0.51
5,013.00	35.40	282.02	4,479.70	447.82	-1,870.72	1,893.55	2.65	2.61	-0.83
5,109.00	32.35	281.40	4,559.40	458.69	-1,923.10	1,946.48	3.20	-3.18	-0.65
5,204.00	32.70	283.70	4,639.50	469.79	-1,972.95	1,996.89	1.35	0.37	2.42
5,300.00	34.38	283.34	4,719.51	482.19	-2,024.52	2,049.09	1.76	1.75	-0.38
5,395.00	33.67	281.36	4,798.25	493.57	-2,076.44	2,101.58	1.39	-0.75	-2.08
5,490.00	32.39	282.11	4,877.90	504.09	-2,127.14	2,152.81	1.41	-1.35	0.79
5,586.00	34.64	286.60	4,957.94	517.28	-2,178.44	2,204.79	3.49	2.34	4.68
5,682.00	33.14	287.75	5,037.63	533.08	-2,229.59	2,256.76	1.70	-1.56	1.20
5,777.00	33.14	284.75	5,117.18	547.61	-2,279.43	2,307.37	1.73	0.00	-3.16
5,872.00	35.66	284.89	5,195.56	561.34	-2,331.31	2,359.96	2.65	2.65	0.15
5,968.00	33.72	285.11	5,274.49	575.48	-2,384.09	2,413.46	2.03	-2.02	0.23
6,064.00	30.76	286.52	5,355.69	589.41	-2,433.36	2,463.46	3.18	-3.08	1.47
6,160.00	32.08	281.62	5,437.62	601.52	-2,481.88	2,512.60	2.99	1.38	-5.10
6,255.00	35.04	280.70	5,516.78	611.67	-2,533.40	2,564.62	3.16	3.12	-0.97
6,351.00	32.70	280.61	5,596.48	621.56	-2,585.97	2,617.68	2.44	-2.44	-0.09
6,446.00	34.16	283.34	5,675.77	632.44	-2,637.15	2,669.41	2.21	1.54	2.87
6,542.00	35.93	282.86	5,754.36	644.93	-2,690.84	2,723.73	1.87	1.84	-0.50
6,637.00	33.05	283.12	5,832.65	657.02	-2,743.25	2,776.76	3.04	-3.03	0.27
6,733.00	35.35	282.11	5,912.05	668.79	-2,795.91	2,830.01	2.47	2.40	-1.05
6,828.00	33.45	281.89	5,990.43	679.95	-2,848.41	2,883.06	2.00	-2.00	-0.23
6,923.00	35.04	283.21	6,068.96	691.58	-2,900.58	2,935.83	1.85	1.67	1.39
7,019.00	32.08	284.00	6,148.95	704.04	-2,952.16	2,988.04	3.12	-3.08	0.82
7,114.00	32.57	283.39	6,229.22	716.07	-3,001.51	3,038.01	0.62	0.52	-0.64
7,210.00	32.48	285.02	6,310.17	728.73	-3,051.55	3,088.69	0.92	-0.09	1.70
7,305.00	34.16	282.77	6,389.55	741.24	-3,102.20	3,139.99	2.20	1.77	-2.37
7,401.00	34.60	282.99	6,468.78	753.33	-3,155.05	3,193.44	0.48	0.46	0.23
7,496.00	36.01	282.59	6,546.31	765.48	-3,208.59	3,247.60	1.50	1.48	-0.42
7,591.00	35.53	283.52	6,623.39	778.02	-3,262.68	3,302.33	0.76	-0.51	0.98
7,687.00	44.50	279.60	6,696.85	790.18	-3,323.11	3,363.36	9.70	9.34	-4.08
7,782.00	52.72	279.11	6,759.61	801.73	-3,393.37	3,434.18	8.66	8.65	-0.52
7,877.00	60.23	278.14	6,812.04	813.57	-3,471.62	3,512.98	7.95	7.91	-1.02
7,973.00	69.29	275.19	6,852.94	823.55	-3,557.78	3,599.57	9.84	9.44	-3.07
8,068.00	76.93	273.30	6,880.52	830.25	-3,648.36	3,690.39	8.26	8.04	-1.99
8,164.00	87.41	271.62	6,893.58	834.31	-3,743.24	3,785.35	11.05	10.92	-1.75
8,259.00	89.09	271.00	6,896.49	836.48	-3,838.17	3,880.24	1.88	1.77	-0.65
8,355.00	89.66	269.77	6,897.53	837.12	-3,934.16	3,976.11	1.41	0.59	-1.28
8,451.00	90.99	270.43	6,896.99	837.29	-4,030.15	4,071.95	1.55	1.39	0.69

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Design:	Wellbore #1	Database:	EDM 5000.1

Survey

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8,489.00	91.21	269.77	6,896.26	837.36	-4,068.15	4,109.88	1.83	0.58	-1.74
8,585.00	89.84	270.17	6,895.38	837.31	-4,164.14	4,205.71	1.49	-1.43	0.42
8,680.00	89.79	269.55	6,895.69	837.07	-4,259.14	4,300.54	0.65	-0.05	-0.65
8,775.00	90.19	270.34	6,895.70	836.98	-4,354.14	4,395.37	0.93	0.42	0.83
8,871.00	90.06	270.03	6,895.49	837.29	-4,450.14	4,491.22	0.35	-0.14	-0.32
8,966.00	89.79	269.15	6,895.62	836.61	-4,545.13	4,586.02	0.97	-0.28	-0.93
9,062.00	89.84	269.51	6,895.93	835.49	-4,641.13	4,681.79	0.38	0.05	0.38
9,158.00	90.15	270.03	6,895.94	835.10	-4,737.12	4,777.60	0.63	0.32	0.54
9,253.00	90.46	269.95	6,895.43	835.09	-4,832.12	4,872.44	0.34	0.33	-0.08
9,349.00	90.81	268.89	6,894.37	834.12	-4,928.11	4,968.21	1.16	0.36	-1.10
9,444.00	90.81	268.76	6,893.02	832.17	-5,023.08	5,062.91	0.14	0.00	-0.14
9,540.00	91.56	269.95	6,891.04	831.09	-5,119.05	5,158.65	1.47	0.78	1.24
9,635.00	91.56	269.73	6,888.45	830.82	-5,214.02	5,253.44	0.23	0.00	-0.23
9,731.00	91.34	269.77	6,886.02	830.40	-5,309.98	5,349.22	0.23	-0.23	0.04
9,826.00	91.60	270.56	6,883.59	830.68	-5,404.95	5,444.05	0.88	0.27	0.83
9,922.00	91.34	269.11	6,881.12	830.40	-5,500.92	5,539.84	1.53	-0.27	-1.51
10,018.00	91.43	270.52	6,878.80	830.09	-5,596.89	5,635.62	1.47	0.09	1.47
10,113.00	90.28	269.11	6,877.38	829.78	-5,691.87	5,730.43	1.92	-1.21	-1.48
10,208.00	90.23	269.24	6,876.96	828.42	-5,786.86	5,825.18	0.15	-0.05	0.14
10,304.00	90.50	270.25	6,876.35	827.99	-5,882.86	5,920.99	1.09	0.28	1.05
10,331.46	90.53	270.37	6,876.10	828.14	-5,910.31	5,948.41	0.43	0.09	0.42
Crossing Section 16/17 @ 10331'MD									
10,399.00	90.59	270.65	6,875.45	828.73	-5,977.85	6,015.87	0.43	0.09	0.42
10,494.00	90.63	270.30	6,874.43	829.52	-6,072.84	6,110.74	0.37	0.04	-0.37
10,589.00	90.23	269.11	6,873.72	829.03	-6,167.83	6,205.55	1.32	-0.42	-1.25
10,685.00	90.54	270.74	6,873.08	828.91	-6,263.83	6,301.37	1.73	0.32	1.70
10,781.00	90.50	270.12	6,872.21	829.63	-6,359.82	6,397.25	0.65	-0.04	-0.65
10,876.00	90.28	269.33	6,871.56	829.17	-6,454.82	6,492.06	0.86	-0.23	-0.83
10,971.00	90.59	270.74	6,870.84	829.23	-6,549.81	6,586.89	1.52	0.33	1.48
11,066.00	90.54	270.08	6,869.90	829.91	-6,644.80	6,681.77	0.70	-0.05	-0.69
11,162.00	90.63	270.83	6,868.92	830.67	-6,740.80	6,777.64	0.79	0.09	0.78
11,257.00	90.41	270.21	6,868.06	831.53	-6,835.79	6,872.52	0.69	-0.23	-0.65
11,353.00	90.46	270.17	6,867.33	831.85	-6,931.78	6,968.38	0.07	0.05	-0.04
11,448.00	90.41	269.64	6,866.61	831.70	-7,026.78	7,063.20	0.56	-0.05	-0.56
11,543.00	90.50	270.74	6,865.85	832.01	-7,121.78	7,158.06	1.16	0.09	1.16
11,639.00	90.46	270.08	6,865.05	832.70	-7,217.77	7,253.93	0.69	-0.04	-0.69
11,735.00	90.50	270.17	6,864.25	832.91	-7,313.77	7,349.77	0.10	0.04	0.09
11,830.00	90.32	269.81	6,863.57	832.89	-7,408.76	7,444.61	0.42	-0.19	-0.38
11,925.00	90.28	269.46	6,863.07	832.28	-7,503.76	7,539.41	0.37	-0.04	-0.37
12,020.00	90.50	270.03	6,862.42	831.86	-7,598.76	7,634.22	0.64	0.23	0.60
12,116.00	90.50	271.09	6,861.58	832.80	-7,694.75	7,730.11	1.10	0.00	1.10
12,211.00	90.41	272.28	6,860.83	835.59	-7,789.70	7,825.06	1.26	-0.09	1.25
12,307.00	90.28	271.44	6,860.25	838.71	-7,885.65	7,921.03	0.89	-0.14	-0.88

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well VT LDS 2-16-18
Project:	Weld County, CO (NAD83)	TVD Reference:	KB=29 @ 4677.00ft (Patterson #901)
Site:	Vetting PAD (Sec 15-T5N-R65W)	MD Reference:	KB=29 @ 4677.00ft (Patterson #901)
Well:	VT LDS 2-16-18	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)
12,402.00	90.63	272.81	6,859.50	842.23	-7,980.58	8,016.00	1.49	0.37	1.44
12,498.00	90.41	271.84	6,858.63	846.13	-8,076.49	8,111.98	1.04	-0.23	-1.01
12,593.00	90.28	271.53	6,858.05	848.92	-8,171.45	8,206.94	0.35	-0.14	-0.33
12,689.00	90.46	271.93	6,857.43	851.82	-8,267.40	8,302.90	0.46	0.19	0.42
12,784.00	90.50	272.15	6,856.64	855.20	-8,362.34	8,397.88	0.24	0.04	0.23
12,880.00	90.32	271.05	6,855.95	857.88	-8,458.30	8,493.83	1.16	-0.19	-1.15
12,976.00	90.59	272.81	6,855.19	861.11	-8,554.24	8,589.79	1.85	0.28	1.83
13,071.00	90.63	273.07	6,854.18	865.98	-8,649.11	8,684.78	0.28	0.04	0.27
13,167.00	90.50	272.90	6,853.23	870.98	-8,744.97	8,780.78	0.22	-0.14	-0.18
13,262.00	90.63	272.77	6,852.29	875.68	-8,839.85	8,875.77	0.19	0.14	-0.14
13,357.00	90.23	271.05	6,851.58	878.85	-8,934.79	8,970.73	1.86	-0.42	-1.81
13,453.00	90.23	271.05	6,851.20	880.61	-9,030.77	9,066.66	0.00	0.00	0.00
13,549.00	90.19	270.96	6,850.84	882.29	-9,126.76	9,162.58	0.10	-0.04	-0.09
13,645.00	90.63	272.85	6,850.16	885.48	-9,222.70	9,258.54	2.02	0.46	1.97
13,741.00	90.54	272.46	6,849.18	889.93	-9,318.59	9,354.53	0.42	-0.09	-0.41
13,836.00	90.50	272.46	6,848.31	894.01	-9,413.50	9,449.52	0.04	-0.04	0.00
13,932.00	90.59	273.03	6,847.40	898.60	-9,509.38	9,545.51	0.60	0.09	0.59
14,027.00	90.32	271.40	6,846.65	902.27	-9,604.31	9,640.48	1.74	-0.28	-1.72
14,123.00	90.32	271.27	6,846.11	904.51	-9,700.28	9,736.42	0.14	0.00	-0.14
14,218.00	90.68	272.50	6,845.28	907.64	-9,795.22	9,831.39	1.35	0.38	1.29
14,313.00	90.32	269.73	6,844.45	909.48	-9,890.19	9,926.30	2.94	-0.38	-2.92
14,409.00	90.50	270.21	6,843.76	909.43	-9,986.19	10,022.14	0.53	0.19	0.50
14,504.00	90.59	271.14	6,842.86	910.55	-10,081.18	10,117.03	0.98	0.09	0.98
14,600.00	90.50	270.48	6,841.95	911.91	-10,177.16	10,212.93	0.69	-0.09	-0.69
14,695.00	90.15	270.30	6,841.41	912.56	-10,272.16	10,307.80	0.41	-0.37	-0.19
14,790.00	90.01	270.08	6,841.28	912.87	-10,367.16	10,402.66	0.27	-0.15	-0.23
14,886.00	90.37	270.21	6,840.96	913.11	-10,463.16	10,498.51	0.40	0.38	0.14
14,982.00	89.93	268.10	6,840.71	911.70	-10,559.14	10,594.25	2.25	-0.46	-2.20
15,077.00	89.84	267.74	6,840.90	908.25	-10,654.08	10,688.83	0.39	-0.09	-0.38
15,173.00	89.88	268.01	6,841.13	904.69	-10,750.01	10,784.40	0.28	0.04	0.28
15,268.00	89.70	267.39	6,841.48	900.88	-10,844.93	10,878.94	0.68	-0.19	-0.65
15,364.00	89.66	268.89	6,842.02	897.76	-10,940.88	10,974.54	1.56	-0.04	1.56
15,459.00	90.06	270.52	6,842.25	897.27	-11,035.87	11,069.35	1.77	0.42	1.72
15,555.00	90.10	270.96	6,842.11	898.51	-11,131.87	11,165.25	0.46	0.04	0.46
15,626.71	89.84	269.73	6,842.15	898.95	-11,203.57	11,236.86	1.75	-0.37	-1.72
Crossing Section 17/18 @ 15626'MD									
15,650.00	89.75	269.33	6,842.24	898.75	-11,226.86	11,260.10	1.75	-0.37	-1.72
15,745.00	89.79	269.20	6,842.62	897.54	-11,321.85	11,354.86	0.14	0.04	-0.14
15,840.00	90.06	270.65	6,842.74	897.41	-11,416.85	11,449.69	1.55	0.28	1.53
15,936.00	89.70	269.20	6,842.95	897.29	-11,512.85	11,545.52	1.56	-0.38	-1.51
16,031.00	89.79	269.59	6,843.37	896.28	-11,607.84	11,640.29	0.42	0.09	0.41
16,126.00	89.97	270.56	6,843.57	896.41	-11,702.84	11,735.14	1.04	0.19	1.02
16,222.00	89.70	269.02	6,843.84	896.06	-11,798.84	11,830.95	1.63	-0.28	-1.60
16,317.00	90.10	270.96	6,844.01	896.04	-11,893.83	11,925.78	2.09	0.42	2.04

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well VT LDS 2-16-18
Project:	Weld County, CO (NAD83)	TVD Reference:	KB=29 @ 4677.00ft (Patterson #901)
Site:	Vetting PAD (Sec 15-T5N-R65W)	MD Reference:	KB=29 @ 4677.00ft (Patterson #901)
Well:	VT LDS 2-16-18	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)
16,413.00	89.93	270.12	6,843.98	896.94	-11,989.83	12,021.67	0.89	-0.18	-0.88
16,508.00	90.06	270.70	6,843.99	897.62	-12,084.82	12,116.55	0.63	0.14	0.61
16,604.00	90.06	270.78	6,843.89	898.86	-12,180.81	12,212.45	0.08	0.00	0.08
16,700.00	89.97	270.17	6,843.87	899.66	-12,276.81	12,308.33	0.64	-0.09	-0.64
16,795.00	89.93	270.03	6,843.95	899.82	-12,371.81	12,403.18	0.15	-0.04	-0.15
16,891.00	89.84	269.11	6,844.14	899.10	-12,467.81	12,498.97	0.96	-0.09	-0.96
16,986.00	90.15	271.05	6,844.15	899.24	-12,562.80	12,593.81	2.07	0.33	2.04
17,082.00	89.79	269.02	6,844.20	899.30	-12,658.80	12,689.65	2.15	-0.38	-2.11
17,177.00	90.10	270.43	6,844.29	898.84	-12,753.79	12,784.46	1.52	0.33	1.48
17,273.00	90.23	271.09	6,844.02	900.11	-12,849.78	12,880.36	0.70	0.14	0.69
17,369.00	90.19	271.14	6,843.66	901.98	-12,945.76	12,976.29	0.07	-0.04	0.05
17,464.00	90.01	270.56	6,843.50	903.39	-13,040.75	13,071.20	0.64	-0.19	-0.61
17,560.00	90.23	271.36	6,843.30	905.00	-13,136.74	13,167.12	0.86	0.23	0.83
17,655.00	90.15	271.05	6,842.98	907.00	-13,231.72	13,262.05	0.34	-0.08	-0.33
17,750.00	89.88	269.42	6,842.96	907.39	-13,326.71	13,356.91	1.74	-0.28	-1.72
17,846.00	89.66	269.02	6,843.34	906.08	-13,422.70	13,452.66	0.48	-0.23	-0.42
17,942.00	89.84	269.73	6,843.76	905.03	-13,518.70	13,548.43	0.76	0.19	0.74
18,037.00	89.84	269.37	6,844.03	904.29	-13,613.69	13,643.23	0.38	0.00	-0.38
18,133.00	89.93	270.03	6,844.22	903.78	-13,709.69	13,739.03	0.69	0.09	0.69
18,228.00	90.23	271.49	6,844.09	905.04	-13,804.68	13,833.94	1.57	0.32	1.54
18,324.00	90.15	271.31	6,843.77	907.39	-13,900.65	13,929.88	0.21	-0.08	-0.19
18,420.00	90.10	271.14	6,843.56	909.44	-13,996.63	14,025.82	0.18	-0.05	-0.18
18,515.00	89.88	270.08	6,843.58	910.45	-14,091.62	14,120.71	1.14	-0.23	-1.12
18,611.00	89.88	270.12	6,843.78	910.62	-14,187.62	14,216.56	0.04	0.00	0.04
18,707.00	89.75	269.55	6,844.09	910.34	-14,283.62	14,312.38	0.61	-0.14	-0.59
18,802.00	89.93	270.21	6,844.35	910.14	-14,378.62	14,407.20	0.72	0.19	0.69
18,898.00	89.84	269.73	6,844.54	910.09	-14,474.62	14,503.04	0.51	-0.09	-0.50
18,993.00	89.75	269.02	6,844.88	909.06	-14,569.61	14,597.81	0.75	-0.09	-0.75
19,088.00	89.88	270.03	6,845.19	908.27	-14,664.61	14,692.60	1.07	0.14	1.06
19,183.00	90.19	271.66	6,845.13	909.67	-14,759.59	14,787.51	1.75	0.33	1.72
19,279.00	90.19	271.58	6,844.82	912.39	-14,855.55	14,883.47	0.08	0.00	-0.08
19,375.00	89.79	269.46	6,844.83	913.26	-14,951.54	14,979.34	2.25	-0.42	-2.21
19,470.00	90.01	270.83	6,845.00	913.50	-15,046.54	15,074.20	1.46	0.23	1.44
19,565.00	90.01	270.87	6,844.98	914.91	-15,141.53	15,169.11	0.04	0.00	0.04
19,661.00	89.79	269.77	6,845.15	915.44	-15,237.53	15,264.97	1.17	-0.23	-1.15
19,756.00	89.97	270.65	6,845.35	915.79	-15,332.53	15,359.83	0.95	0.19	0.93
19,852.00	89.88	269.20	6,845.47	915.67	-15,428.52	15,455.66	1.51	-0.09	-1.51
19,947.00	89.97	270.17	6,845.60	915.14	-15,523.52	15,550.47	1.03	0.09	1.02
20,042.00	89.88	270.03	6,845.72	915.31	-15,618.52	15,645.32	0.18	-0.09	-0.15
20,137.00	89.70	269.15	6,846.07	914.63	-15,713.52	15,740.11	0.95	-0.19	-0.93
20,233.00	89.97	269.90	6,846.35	913.83	-15,809.51	15,835.90	0.83	0.28	0.78
20,328.00	90.23	271.71	6,846.18	915.17	-15,904.50	15,930.80	1.92	0.27	1.91
Last MWD Survey @ 20328'MD									

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well VT LDS 2-16-18
Project:	Weld County, CO (NAD83)	TVD Reference:	KB=29 @ 4677.00ft (Patterson #901)
Site:	Vetting PAD (Sec 15-T5N-R65W)	MD Reference:	KB=29 @ 4677.00ft (Patterson #901)
Well:	VT LDS 2-16-18	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)
20,386.00	90.23	271.71	6,845.95	916.90	-15,962.47	15,988.78	0.00	0.00	0.00
PTB @ TD @ 20386'MD (505'FWL & 1004'FNL)									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,515.00	1,504.37	26.63	-107.83	Tie in to Surface Surveys @ 1515'MD
1,575.00	1,562.26	30.48	-123.12	First MWD Survey @ 1575'MD
2,664.18	2,528.49	139.78	-600.69	Crossing Section 15/16 @ 2664'MD
10,331.46	6,876.10	828.14	-5,910.31	Crossing Section 16/17 @ 10331'MD
15,626.71	6,842.15	898.95	-11,203.57	Crossing Section 17/18 @ 15626'MD
20,328.00	6,846.18	915.17	-15,904.50	Last MWD Survey @ 20328'MD
20,386.00	6,845.95	916.90	-15,962.47	PTB @ TD @ 20386'MD (505'FWL & 1004'FNL)

Checked By: _____ Approved By: _____ Date: _____