

Extraction Oil & Gas

Weld County, CO (NAD83)

Sec 28-T1N-R68W Coyote Trails

Coyote Trails 33W-15-8N

Wellbore #1

Design: Wellbore #1

Standard Survey Report

09 April, 2019

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Coyote Trails 33W-15-8N
Project:	Weld County, CO (NAD83)	TVD Reference:	KB @ 5301.0usft (Ensign 147)
Site:	Sec 28-T1N-R68W Coyote Trails	MD Reference:	KB @ 5301.0usft (Ensign 147)
Well:	Coyote Trails 33W-15-8N	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.15 Single User Db

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		Sec 28-T1N-R68W Coyote Trails			
Site Position:		Northing:	1,249,743.73 usft	Latitude:	40° 1' 4.362 N
From:	Map	Easting:	3,138,161.85 usft	Longitude:	105° 0' 24.133 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.32 °

Well	Coyote Trails 33W-15-8N					
Well Position	+N/-S	0.0 usft	Northing:	1,249,858.57 usft	Latitude:	40° 1' 5.509 N
	+E/-W	0.0 usft	Easting:	3,137,937.00 usft	Longitude:	105° 0' 27.014 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	5,273.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/22/2019	8.12	66.47	51,923.54173324

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		246.06

Survey Program	Date	4/9/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
114.0	1,548.0	Surface Surveys (Wellbore #1)	MWD	MWD - Standard	
1,669.0	16,305.0	Atlas MWD Surveys (Wellbore #1)	MWD	MWD - Standard	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
114.0	0.27	73.05	114.0	0.1	0.3	-0.3	0.24	0.24	0.00	
First Surface Survey										
205.0	0.37	108.10	205.0	0.0	0.7	-0.7	0.24	0.11	38.52	
295.0	0.30	81.34	295.0	0.0	1.3	-1.1	0.19	-0.08	-29.73	
385.0	1.56	161.67	385.0	-1.1	1.9	-1.2	1.71	1.40	89.26	
474.0	3.99	168.00	473.9	-5.3	2.9	-0.5	2.75	2.73	7.11	
564.0	5.54	175.39	563.6	-12.7	3.9	1.6	1.85	1.72	8.21	
654.0	7.53	174.44	653.0	-22.9	4.8	4.9	2.21	2.21	-1.06	
743.0	9.84	175.08	740.9	-36.3	6.0	9.2	2.60	2.60	0.72	

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.15 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
832.0	12.54	176.24	828.2	-53.5	7.3	15.0	3.04	3.03	1.30	
922.0	14.24	181.62	915.8	-74.3	7.6	23.2	2.34	1.89	5.98	
1,011.0	15.41	181.78	1,001.8	-97.1	7.0	33.0	1.32	1.31	0.18	
1,100.0	16.76	178.39	1,087.4	-121.7	7.0	43.0	1.85	1.52	-3.81	
1,190.0	19.19	176.57	1,173.0	-149.5	8.2	53.1	2.77	2.70	-2.02	
1,279.0	20.06	174.75	1,256.8	-179.3	10.5	63.2	1.19	0.98	-2.04	
1,369.0	20.20	172.62	1,341.3	-210.1	13.9	72.5	0.83	0.16	-2.37	
1,458.0	20.60	173.97	1,424.7	-240.9	17.5	81.7	0.69	0.45	1.52	
1,548.0	21.59	175.12	1,508.7	-273.1	20.6	92.0	1.19	1.10	1.28	
Last Surface Survey										
1,669.0	21.30	175.58	1,621.3	-317.2	24.2	106.6	0.28	-0.24	0.38	
First MWD Survey @ 1669' MD										
1,759.0	23.42	178.00	1,704.5	-351.4	26.1	118.8	2.57	2.36	2.69	
1,848.0	26.38	179.41	1,785.2	-388.8	26.9	133.2	3.39	3.33	1.58	
1,937.0	28.37	179.41	1,864.3	-429.8	27.3	149.4	2.24	2.24	0.00	
2,027.0	27.84	178.35	1,943.7	-472.1	28.1	165.9	0.81	-0.59	-1.18	
2,116.0	26.51	175.88	2,022.8	-512.7	30.1	180.5	1.96	-1.49	-2.78	
2,205.0	26.91	175.14	2,102.3	-552.6	33.3	193.8	0.58	0.45	-0.83	
2,294.0	26.60	179.19	2,181.8	-592.6	35.3	208.2	2.08	-0.35	4.55	
2,384.0	27.22	182.58	2,262.1	-633.3	34.6	225.3	1.84	0.69	3.77	
2,473.0	25.54	181.57	2,341.8	-672.8	33.2	242.7	1.95	-1.89	-1.13	
2,563.0	24.13	179.54	2,423.5	-710.6	32.8	258.4	1.83	-1.57	-2.26	
2,653.0	24.92	181.70	2,505.4	-748.0	32.4	273.9	1.33	0.88	2.40	
2,742.0	27.04	186.46	2,585.4	-786.8	29.6	292.3	3.34	2.38	5.35	
2,832.0	29.30	186.55	2,664.7	-829.0	24.7	313.8	2.51	2.51	0.10	
2,921.0	27.18	185.58	2,743.1	-870.9	20.3	334.9	2.44	-2.38	-1.09	
3,011.0	26.29	180.38	2,823.5	-911.3	18.1	353.2	2.78	-0.99	-5.78	
3,100.0	26.47	176.68	2,903.2	-950.8	19.2	368.3	1.86	0.20	-4.16	
3,189.0	26.69	177.38	2,982.8	-990.6	21.2	382.6	0.43	0.25	0.79	
3,279.0	24.39	176.63	3,064.0	-1,029.3	23.2	396.4	2.58	-2.56	-0.83	
3,370.0	25.06	177.52	3,146.7	-1,067.3	25.2	410.1	0.84	0.74	0.98	
3,459.0	26.29	178.97	3,226.9	-1,105.9	26.4	424.7	1.55	1.38	1.63	
3,548.0	27.13	173.20	3,306.4	-1,145.8	29.1	438.3	3.06	0.94	-6.48	
3,638.0	24.35	170.42	3,387.5	-1,184.4	34.6	449.0	3.37	-3.09	-3.09	
3,727.0	24.48	177.43	3,468.5	-1,221.0	38.5	460.2	3.26	0.15	7.88	
3,817.0	28.41	181.57	3,549.1	-1,261.0	38.8	476.3	4.82	4.37	4.60	
3,907.0	25.90	180.56	3,629.2	-1,302.1	38.0	493.6	2.84	-2.79	-1.12	
3,996.0	26.91	182.01	3,708.9	-1,341.6	37.1	510.5	1.35	1.13	1.63	
4,086.0	26.56	179.81	3,789.3	-1,382.1	36.4	527.5	1.17	-0.39	-2.44	
4,175.0	23.29	182.01	3,870.0	-1,419.6	35.9	543.2	3.82	-3.67	2.47	
4,265.0	25.67	181.08	3,951.9	-1,456.9	34.9	559.3	2.68	2.64	-1.03	
4,355.0	23.38	179.85	4,033.8	-1,494.2	34.6	574.7	2.61	-2.54	-1.37	
4,445.0	24.22	180.86	4,116.1	-1,530.5	34.3	589.7	1.04	0.93	1.12	

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Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,535.0	24.35	176.24	4,198.2	-1,567.5	35.3	603.8	2.12	0.14	-5.13	
4,624.0	25.59	173.99	4,278.8	-1,604.9	38.5	616.1	1.75	1.39	-2.53	
4,714.0	26.12	174.34	4,359.8	-1,644.0	42.5	628.3	0.61	0.59	0.39	
4,803.0	25.98	176.46	4,439.8	-1,682.9	45.6	641.2	1.06	-0.16	2.38	
4,892.0	25.81	170.95	4,519.9	-1,721.5	49.9	653.0	2.71	-0.19	-6.19	
4,981.0	26.47	173.50	4,599.8	-1,760.4	55.2	663.9	1.46	0.74	2.87	
5,071.0	27.35	176.28	4,680.0	-1,800.9	58.8	677.1	1.71	0.98	3.09	
5,161.0	24.26	175.44	4,761.0	-1,840.0	61.6	690.3	3.46	-3.43	-0.93	
5,250.0	24.75	176.46	4,842.0	-1,876.8	64.2	702.9	0.73	0.55	1.15	
5,339.0	26.25	175.66	4,922.3	-1,915.1	66.8	716.0	1.73	1.69	-0.90	
5,429.0	27.04	177.52	5,002.8	-1,955.3	69.2	730.2	1.28	0.88	2.07	
5,542.0	29.47	171.92	5,102.3	-2,008.5	74.2	747.2	3.18	2.15	-4.96	
5,631.0	27.22	171.39	5,180.7	-2,050.4	80.4	758.5	2.54	-2.53	-0.60	
5,720.0	25.98	174.34	5,260.2	-2,089.9	85.3	770.0	2.04	-1.39	3.31	
5,810.0	26.07	173.20	5,341.1	-2,129.1	89.6	782.0	0.56	0.10	-1.27	
5,899.0	25.98	174.69	5,421.1	-2,168.0	93.7	794.0	0.74	-0.10	1.67	
5,989.0	26.20	169.58	5,501.9	-2,207.1	99.2	805.0	2.51	0.24	-5.68	
6,078.0	28.24	174.69	5,581.1	-2,247.4	104.7	816.3	3.48	2.29	5.74	
6,167.0	26.12	173.37	5,660.3	-2,287.9	108.9	828.9	2.48	-2.38	-1.48	
6,256.0	27.31	178.09	5,739.8	-2,327.7	111.8	842.3	2.73	1.34	5.30	
6,345.0	26.65	181.88	5,819.1	-2,368.1	111.8	858.7	2.07	-0.74	4.26	
6,435.0	23.82	180.64	5,900.5	-2,406.4	111.0	875.1	3.20	-3.14	-1.38	
6,525.0	27.00	182.54	5,981.8	-2,445.0	109.9	891.7	3.65	3.53	2.11	
6,614.0	23.38	180.73	6,062.3	-2,482.9	108.8	908.1	4.16	-4.07	-2.03	
6,704.0	24.75	179.76	6,144.5	-2,519.6	108.6	923.1	1.58	1.52	-1.08	
6,794.0	26.03	183.11	6,225.8	-2,558.2	107.6	939.7	2.14	1.42	3.72	
6,883.0	27.71	183.24	6,305.2	-2,598.3	105.4	958.0	1.89	1.89	0.15	
6,973.0	23.69	182.01	6,386.2	-2,637.3	103.6	975.5	4.51	-4.47	-1.37	
7,062.0	25.67	179.45	6,467.1	-2,674.4	103.1	991.0	2.53	2.22	-2.88	
7,152.0	26.29	178.93	6,548.0	-2,713.9	103.7	1,006.5	0.73	0.69	-0.58	
7,241.0	25.32	178.88	6,628.1	-2,752.6	104.4	1,021.5	1.09	-1.09	-0.06	
7,332.0	24.66	179.54	6,710.6	-2,791.0	105.0	1,036.6	0.79	-0.73	0.73	
7,421.0	26.25	181.22	6,791.0	-2,829.3	104.7	1,052.4	1.96	1.79	1.89	
7,511.0	28.94	178.26	6,870.7	-2,871.0	104.9	1,069.1	3.35	2.99	-3.29	
7,601.0	26.69	178.09	6,950.3	-2,912.9	106.3	1,084.9	2.50	-2.50	-0.19	
7,690.0	24.79	181.00	7,030.5	-2,951.6	106.6	1,100.3	2.56	-2.13	3.27	
7,780.0	25.10	181.44	7,112.1	-2,989.5	105.8	1,116.4	0.40	0.34	0.49	
7,869.0	24.61	182.71	7,192.9	-3,026.9	104.4	1,132.8	0.81	-0.55	1.43	
7,958.0	25.45	189.81	7,273.5	-3,064.3	100.3	1,151.7	3.50	0.94	7.98	
8,048.0	26.91	186.55	7,354.3	-3,103.6	94.7	1,172.8	2.28	1.62	-3.62	
8,137.0	26.96	186.02	7,433.6	-3,143.6	90.3	1,193.1	0.28	0.06	-0.60	
8,227.0	22.76	203.29	7,515.4	-3,180.0	81.2	1,216.1	9.27	-4.67	19.19	
8,317.0	25.41	224.31	7,597.7	-3,209.8	60.8	1,246.9	9.92	2.94	23.36	
8,407.0	29.92	236.30	7,677.5	-3,236.1	28.6	1,287.0	7.94	5.01	13.32	

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8,408.0	30.00	236.37	7,678.3	-3,236.4	28.2	1,287.5	8.56	7.81	7.03
30° Inclination @ 8408.0' MD									
8,497.0	37.07	241.54	7,752.5	-3,261.6	-14.0	1,336.2	8.56	7.95	5.81
8,587.0	44.76	243.22	7,820.4	-3,288.8	-66.2	1,395.0	8.63	8.54	1.87
8,676.0	48.56	249.65	7,881.5	-3,314.5	-125.5	1,459.7	6.77	4.27	7.22
8,766.0	56.12	257.54	7,936.5	-3,334.4	-193.8	1,530.1	10.89	8.40	8.77
8,856.0	68.76	262.34	7,978.1	-3,348.1	-272.2	1,607.3	14.81	14.04	5.33
8,866.5	70.00	262.78	7,981.8	-3,349.4	-281.9	1,616.8	12.42	11.79	4.17
70° Inclination @ 8866.5' MD									
8,945.0	79.28	265.87	8,002.6	-3,356.8	-357.1	1,688.5	12.42	11.82	3.94
9,035.0	85.37	266.09	8,014.6	-3,363.1	-446.1	1,772.4	6.77	6.77	0.24
9,125.0	88.82	266.00	8,019.2	-3,369.3	-535.7	1,856.8	3.83	3.83	-0.10
9,215.0	89.70	266.62	8,020.3	-3,375.0	-625.5	1,941.2	1.20	0.98	0.69
9,305.0	89.22	265.87	8,021.2	-3,380.9	-715.3	2,025.7	0.99	-0.53	-0.83
9,394.0	90.85	267.10	8,021.1	-3,386.4	-804.2	2,109.1	2.29	1.83	1.38
9,483.0	90.99	267.63	8,019.7	-3,390.5	-893.1	2,192.0	0.62	0.16	0.60
9,573.0	90.10	266.27	8,018.8	-3,395.3	-982.9	2,276.1	1.81	-0.99	-1.51
9,662.0	89.57	264.81	8,019.1	-3,402.2	-1,071.7	2,360.0	1.75	-0.60	-1.64
9,752.0	90.46	268.65	8,019.1	-3,407.3	-1,161.5	2,444.2	4.38	0.99	4.27
9,842.0	90.77	267.94	8,018.1	-3,410.0	-1,251.4	2,527.5	0.86	0.34	-0.79
9,932.0	91.03	268.12	8,016.7	-3,413.1	-1,341.4	2,611.0	0.35	0.29	0.20
10,021.0	90.28	266.35	8,015.7	-3,417.4	-1,430.3	2,693.9	2.16	-0.84	-1.99
10,111.0	90.10	269.92	8,015.4	-3,420.3	-1,520.2	2,777.3	3.97	-0.20	3.97
10,201.0	89.26	267.15	8,015.9	-3,422.6	-1,610.2	2,860.5	3.22	-0.93	-3.08
10,290.0	88.82	268.34	8,017.4	-3,426.1	-1,699.1	2,943.2	1.43	-0.49	1.34
10,380.0	90.15	271.95	8,018.2	-3,425.9	-1,789.1	3,025.3	4.27	1.48	4.01
10,469.0	89.35	269.48	8,018.6	-3,424.8	-1,878.0	3,106.2	2.92	-0.90	-2.78
10,559.0	88.47	269.09	8,020.3	-3,425.9	-1,968.0	3,188.9	1.07	-0.98	-0.43
10,648.0	89.97	269.84	8,021.5	-3,426.7	-2,057.0	3,270.5	1.88	1.69	0.84
10,738.0	90.90	270.67	8,020.8	-3,426.3	-2,147.0	3,352.6	1.38	1.03	0.92
10,827.0	91.52	270.01	8,018.9	-3,425.8	-2,236.0	3,433.7	1.02	0.70	-0.74
10,917.0	88.64	270.23	8,018.8	-3,425.6	-2,326.0	3,515.9	3.21	-3.20	0.24
11,007.0	88.25	270.19	8,021.2	-3,425.3	-2,415.9	3,598.0	0.44	-0.43	-0.04
11,095.0	88.33	271.42	8,023.9	-3,424.1	-2,503.9	3,677.9	1.40	0.09	1.40
11,185.0	88.38	271.33	8,026.5	-3,421.9	-2,593.8	3,759.2	0.11	0.06	-0.10
11,274.0	88.25	270.89	8,029.1	-3,420.2	-2,682.8	3,839.8	0.52	-0.15	-0.49
11,364.0	91.65	273.05	8,029.2	-3,417.1	-2,772.7	3,920.7	4.48	3.78	2.40
11,453.0	92.14	272.79	8,026.2	-3,412.6	-2,861.5	4,000.1	0.62	0.55	-0.29
11,540.6	91.91	271.84	8,023.1	-3,409.0	-2,949.0	4,078.6	1.12	-0.26	-1.09
Cross @ 11540.6' MD									
11,542.0	91.91	271.82	8,023.1	-3,409.0	-2,950.4	4,079.9	1.12	-0.26	-1.09
11,632.0	92.00	271.82	8,020.0	-3,406.1	-3,040.3	4,160.9	0.10	0.10	0.00
11,721.0	91.25	268.82	8,017.5	-3,405.6	-3,129.3	4,242.0	3.47	-0.84	-3.37
11,810.0	91.43	269.31	8,015.4	-3,407.1	-3,218.2	4,323.9	0.59	0.20	0.55

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Coyote Trails 33W-15-8N
Project:	Weld County, CO (NAD83)	TVD Reference:	KB @ 5301.0usft (Ensign 147)
Site:	Sec 28-T1N-R68W Coyote Trails	MD Reference:	KB @ 5301.0usft (Ensign 147)
Well:	Coyote Trails 33W-15-8N	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.15 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,900.0	91.21	268.91	8,013.3	-3,408.5	-3,308.2	4,406.7	0.51	-0.24	-0.44
11,989.0	90.63	267.46	8,011.9	-3,411.3	-3,397.1	4,489.1	1.75	-0.65	-1.63
12,078.0	90.19	266.35	8,011.2	-3,416.1	-3,486.0	4,572.3	1.34	-0.49	-1.25
12,168.0	90.41	266.97	8,010.8	-3,421.3	-3,575.8	4,656.5	0.73	0.24	0.69
12,257.0	91.87	267.50	8,009.0	-3,425.6	-3,664.7	4,739.5	1.75	1.64	0.60
12,347.0	93.06	267.81	8,005.1	-3,429.3	-3,754.6	4,823.1	1.37	1.32	0.34
12,436.0	91.47	267.32	8,001.6	-3,433.1	-3,843.4	4,905.8	1.87	-1.79	-0.55
12,526.0	90.28	269.22	8,000.2	-3,435.8	-3,933.3	4,989.1	2.49	-1.32	2.11
12,616.0	89.48	269.79	8,000.4	-3,436.6	-4,023.3	5,071.7	1.09	-0.89	0.63
12,706.0	88.47	269.75	8,002.0	-3,436.9	-4,113.3	5,154.1	1.12	-1.12	-0.04
12,794.0	90.10	269.97	8,003.1	-3,437.2	-4,201.3	5,234.6	1.87	1.85	0.25
12,884.0	89.93	271.07	8,003.1	-3,436.3	-4,291.3	5,316.5	1.24	-0.19	1.22
12,973.0	88.86	271.42	8,004.1	-3,434.4	-4,380.3	5,397.1	1.26	-1.20	0.39
13,062.0	89.26	271.42	8,005.5	-3,432.2	-4,469.2	5,477.5	0.45	0.45	0.00
13,151.0	89.97	270.94	8,006.1	-3,430.4	-4,558.2	5,558.1	0.96	0.80	-0.54
13,241.0	88.78	270.85	8,007.1	-3,429.0	-4,648.2	5,639.7	1.33	-1.32	-0.10
13,330.0	88.47	270.01	8,009.2	-3,428.3	-4,737.2	5,720.8	1.01	-0.35	-0.94
13,420.0	89.17	270.06	8,011.1	-3,428.2	-4,827.2	5,803.0	0.78	0.78	0.06
13,509.0	88.86	269.31	8,012.6	-3,428.7	-4,916.1	5,884.5	0.91	-0.35	-0.84
13,599.0	90.81	271.86	8,012.9	-3,427.8	-5,006.1	5,966.4	3.57	2.17	2.83
13,688.0	91.16	270.98	8,011.3	-3,425.6	-5,095.1	6,046.8	1.06	0.39	-0.99
13,778.0	91.47	271.47	8,009.3	-3,423.7	-5,185.0	6,128.2	0.64	0.34	0.54
13,868.0	91.16	270.41	8,007.2	-3,422.2	-5,275.0	6,209.9	1.23	-0.34	-1.18
13,957.0	90.41	269.84	8,006.0	-3,422.0	-5,364.0	6,291.1	1.06	-0.84	-0.64
14,047.0	91.03	269.62	8,004.9	-3,422.4	-5,454.0	6,373.5	0.73	0.69	-0.24
14,136.0	89.17	268.60	8,004.7	-3,423.8	-5,543.0	6,455.4	2.38	-2.09	-1.15
14,226.0	89.66	269.31	8,005.6	-3,425.5	-5,632.9	6,538.3	0.96	0.54	0.79
14,316.0	89.84	268.25	8,006.0	-3,427.4	-5,722.9	6,621.3	1.19	0.20	-1.18
14,406.0	90.54	268.82	8,005.7	-3,429.7	-5,812.9	6,704.5	1.00	0.78	0.63
14,495.0	89.40	270.14	8,005.8	-3,430.5	-5,901.9	6,786.2	1.96	-1.28	1.48
14,585.0	89.79	269.88	8,006.4	-3,430.5	-5,991.9	6,868.4	0.52	0.43	-0.29
14,675.0	88.95	272.22	8,007.4	-3,428.8	-6,081.9	6,950.0	2.76	-0.93	2.60
14,765.0	89.44	275.43	8,008.7	-3,422.8	-6,171.6	7,029.6	3.61	0.54	3.57
14,854.0	87.63	273.93	8,010.9	-3,415.6	-6,260.3	7,107.7	2.64	-2.03	-1.69
14,944.0	88.07	270.85	8,014.3	-3,411.8	-6,350.1	7,188.3	3.45	0.49	-3.42
15,033.0	89.22	270.54	8,016.4	-3,410.7	-6,439.1	7,269.2	1.34	1.29	-0.35
15,123.0	90.01	270.10	8,017.0	-3,410.2	-6,529.1	7,351.2	1.00	0.88	-0.49
15,212.0	88.73	269.09	8,018.0	-3,410.9	-6,618.1	7,432.8	1.83	-1.44	-1.13
15,302.0	88.82	268.07	8,019.9	-3,413.1	-6,708.0	7,515.9	1.14	0.10	-1.13
15,391.0	89.09	268.60	8,021.5	-3,415.7	-6,797.0	7,598.3	0.67	0.30	0.60
15,481.0	89.53	267.77	8,022.6	-3,418.5	-6,886.9	7,681.6	1.04	0.49	-0.92
15,570.0	91.60	271.25	8,021.8	-3,419.3	-6,975.9	7,763.3	4.55	2.33	3.91
15,660.0	89.66	269.88	8,020.8	-3,418.4	-7,065.9	7,845.1	2.64	-2.16	-1.52

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Coyote Trails 33W-15-8N
Project:	Weld County, CO (NAD83)	TVD Reference:	KB @ 5301.0usft (Ensign 147)
Site:	Sec 28-T1N-R68W Coyote Trails	MD Reference:	KB @ 5301.0usft (Ensign 147)
Well:	Coyote Trails 33W-15-8N	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.15 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,749.0	89.66	269.88	8,021.3	-3,418.6	-7,154.9	7,926.6	0.00	0.00	0.00
15,839.0	90.90	268.07	8,020.8	-3,420.2	-7,244.9	8,009.5	2.44	1.38	-2.01
15,928.0	90.32	269.35	8,019.9	-3,422.2	-7,333.8	8,091.6	1.58	-0.65	1.44
16,018.0	91.16	269.53	8,018.7	-3,423.1	-7,423.8	8,174.2	0.95	0.93	0.20
16,108.0	89.04	269.75	8,018.6	-3,423.6	-7,513.8	8,256.7	2.37	-2.36	0.24
16,197.0	87.85	270.41	8,021.0	-3,423.5	-7,602.8	8,337.9	1.53	-1.34	0.74
16,247.0	87.94	270.14	8,022.8	-3,423.3	-7,652.8	8,383.5	0.57	0.18	-0.54
Last MWD Survey @ 16247.0' MD									
16,305.0	87.94	270.14	8,024.9	-3,423.1	-7,710.7	8,436.4	0.00	0.00	0.00
Projection to TD @ 16305' MD 2174' FNL/ 500' FWL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
30° Inclination @ 8408.0' MD - hit/miss target - Shape - Point	0.00	0.00	7,678.3	-3,236.4	28.2	1,246,622.35	3,137,983.17	40° 0' 33.525 N	105° 0' 26.652 W
70° Inclination @ 8866.5' MD - actual wellpath hits target center - Point	0.00	0.00	7,981.8	-3,349.4	-281.9	1,246,507.68	3,137,673.71	40° 0' 32.408 N	105° 0' 30.637 W
Cross @ 11540.6' MD - actual wellpath hits target center - Point	0.00	0.00	8,023.1	-3,409.0	-2,949.0	1,246,433.22	3,135,006.98	40° 0' 31.817 N	105° 1' 4.914 W

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
114.0	114.0	+N/-S (usft)	+E/-W (usft)	
1,548.0	1,508.7	-273.1	20.6	First Surface Survey
1,669.0	1,621.3	-317.2	24.2	Last Surface Survey
8,408.0	7,678.3	-3,236.4	28.2	First MWD Survey @ 1669' MD
8,866.5	7,981.8	-3,349.4	-281.9	30° Inclination @ 8408.0' MD
11,540.6	8,023.1	-3,409.0	-2,949.0	70° Inclination @ 8866.5' MD
16,247.0	8,022.8	-3,423.3	-7,652.8	Cross @ 11540.6' MD
16,305.0	8,024.9	-3,423.1	-7,710.7	Last MWD Survey @ 16247.0' MD
				Projection to TD @ 16305' MD 2174' FNL/ 500' FWL

Checked By: _____ Approved By: _____ Date: _____