

Extraction Oil & Gas

Weld County, CO (NAD83)

Sec 28-T1N-R68W Coyote Trails

Coyote Trails 33W-15-5N

Wellbore #1

Design: Wellbore #1

Standard Survey Report

19 July, 2019

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Coyote Trails 33W-15-5N
Project:	Weld County, CO (NAD83)	TVD Reference:	KB @ 5302.00usft (Ensign 147)
Site:	Sec 28-T1N-R68W Coyote Trails	MD Reference:	KB @ 5302.00usft (Ensign 147)
Well:	Coyote Trails 33W-15-5N	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:	40.017878			
From:	Map	Easting:	3,138,161.85	usft	Longitude:	-105.006704			
Position Uncertainty:		0.00	usft	Slot Radius:	13-3/16	"	Grid Convergence:	0.32	°

Well		Coyote Trails 33W-15-5N				
Well Position	+N/-S	0.00 usft	Northing:	1,249,778.62 usft	Latitude:	40.017978
	+E/-W	0.00 usft	Easting:	3,137,909.99 usft	Longitude:	-105.007602
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,274.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	6/13/2019	8.09	66.46	51,897.62600084

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	252.11	

Survey Program	Date	7/19/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
146.30	1,580.30	Surface Surveys (Wellbore #1)	MWD	MWD - Standard	
1,675.00	15,932.00	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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
146.30	0.22	78.21	146.30	0.06	0.27	-0.28	0.15	0.15	0.00	
233.30	0.31	57.65	233.30	0.22	0.64	-0.67	0.15	0.10	-23.63	
321.30	0.18	31.19	321.30	0.46	0.91	-1.01	0.19	-0.15	-30.07	
408.30	0.09	247.58	408.30	0.55	0.92	-1.04	0.30	-0.10	-165.07	
495.30	0.13	211.02	495.30	0.44	0.80	-0.90	0.09	0.05	-42.02	
582.30	0.31	244.68	582.30	0.26	0.54	-0.59	0.25	0.21	38.69	
670.30	0.53	235.10	670.29	-0.08	-0.01	0.03	0.26	0.25	-10.89	
757.30	1.19	217.17	757.28	-1.03	-0.88	1.16	0.81	0.76	-20.61	
844.30	2.59	191.94	844.24	-3.67	-1.84	2.88	1.83	1.61	-29.00	

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Site:	Sec 28-T1N-R68W Coyote Trails	MD Reference:	KB @ 5302.00usft (Ensign 147)
Well:	Coyote Trails 33W-15-5N	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)
932.30	4.57	181.57	932.06	-9.12	-2.34	5.03	2.36	2.25	-11.78
1,019.30	6.20	175.95	1,018.67	-17.27	-2.11	7.31	1.97	1.87	-6.46
1,106.30	7.43	175.60	1,105.06	-27.57	-1.34	9.75	1.41	1.41	-0.40
1,193.30	9.89	179.64	1,191.06	-40.65	-0.87	13.31	2.91	2.83	4.64
1,281.30	10.85	178.50	1,277.62	-56.49	-0.60	17.93	1.12	1.09	-1.30
1,368.30	12.52	174.01	1,362.82	-74.05	0.60	22.18	2.18	1.92	-5.16
1,455.30	14.63	174.53	1,447.38	-94.37	2.63	26.49	2.43	2.43	0.60
1,543.30	16.22	177.79	1,532.21	-117.72	4.16	32.21	2.06	1.81	3.70
1,580.30	17.27	177.53	1,567.64	-128.37	4.60	35.07	2.85	2.84	-0.70
Tie into Surface Surveys									
1,675.00	21.96	177.93	1,656.82	-160.12	5.84	43.64	4.95	4.95	0.42
First MWD Survey @ 1675' MD									
1,765.00	23.16	173.52	1,739.94	-194.53	8.45	51.73	2.30	1.33	-4.90
1,854.00	24.75	172.55	1,821.27	-230.40	12.84	58.57	1.84	1.79	-1.09
1,944.00	26.38	172.59	1,902.46	-268.91	17.86	65.62	1.81	1.81	0.04
2,034.00	25.28	171.36	1,983.46	-307.73	23.33	72.35	1.36	-1.22	-1.37
2,124.00	27.22	173.96	2,064.18	-347.21	28.38	79.67	2.51	2.16	2.89
2,214.00	25.98	172.59	2,144.66	-387.23	33.09	87.49	1.54	-1.38	-1.52
2,304.00	28.28	173.25	2,224.75	-427.95	38.14	95.20	2.58	2.56	0.73
2,393.00	27.53	171.98	2,303.40	-469.26	43.49	102.80	1.08	-0.84	-1.43
2,483.00	27.80	174.89	2,383.11	-510.76	48.26	111.01	1.53	0.30	3.23
2,573.00	28.37	178.10	2,462.52	-553.04	50.84	121.55	1.79	0.63	3.57
2,663.00	27.26	177.57	2,542.12	-595.00	52.42	132.93	1.26	-1.23	-0.59
2,752.00	26.34	177.44	2,621.56	-635.09	54.17	143.59	1.04	-1.03	-0.15
2,842.00	24.79	176.38	2,702.75	-673.87	56.25	153.52	1.80	-1.72	-1.18
2,931.00	25.23	178.19	2,783.40	-711.45	58.03	163.38	0.99	0.49	2.03
3,020.00	23.64	176.43	2,864.43	-748.22	59.74	173.05	1.96	-1.79	-1.98
3,109.00	23.60	182.99	2,945.99	-783.83	59.92	183.82	2.95	-0.04	7.37
3,199.00	24.70	181.89	3,028.11	-820.62	58.36	196.60	1.32	1.22	-1.22
3,290.00	23.51	181.05	3,111.17	-857.77	57.40	208.93	1.36	-1.31	-0.92
3,378.00	23.77	176.78	3,191.79	-893.03	58.07	219.12	1.97	0.30	-4.85
3,468.00	25.06	175.99	3,273.74	-930.15	60.42	228.29	1.48	1.43	-0.88
3,558.00	26.47	177.53	3,354.80	-969.21	62.62	238.20	1.73	1.57	1.71
3,647.00	24.57	175.85	3,435.11	-1,007.48	64.82	247.87	2.28	-2.13	-1.89
3,737.00	25.36	180.53	3,516.71	-1,045.42	65.99	258.41	2.36	0.88	5.20
3,825.00	27.18	178.41	3,595.62	-1,084.36	66.38	270.01	2.33	2.07	-2.41
3,916.00	25.94	177.97	3,677.01	-1,125.03	67.66	281.29	1.38	-1.36	-0.48
3,974.68	24.48	177.01	3,730.10	-1,150.00	68.75	287.92	2.58	-2.49	-1.64
Cross @ 3974.68' MD									
4,005.00	23.73	176.47	3,757.78	-1,162.36	69.45	291.05	2.58	-2.48	-1.78
4,095.00	24.57	177.00	3,839.90	-1,199.12	71.54	300.35	0.96	0.93	0.59
4,185.00	25.59	177.79	3,921.41	-1,237.23	73.27	310.42	1.19	1.13	0.88
4,274.00	24.66	178.59	4,001.99	-1,275.00	74.47	320.88	1.11	-1.04	0.90

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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)	
4,364.00	23.73	177.49	4,084.09	-1,311.86	75.73	331.01	1.15	-1.03	-1.22	
4,453.00	25.90	176.60	4,164.86	-1,349.16	77.66	340.63	2.47	2.44	-1.00	
4,542.00	27.09	176.78	4,244.52	-1,388.80	79.95	350.63	1.34	1.34	0.20	
4,632.00	24.92	176.74	4,325.40	-1,428.19	82.18	360.61	2.41	-2.41	-0.04	
4,721.00	26.12	177.79	4,405.71	-1,466.49	84.01	370.65	1.44	1.35	1.18	
4,810.00	24.35	178.76	4,486.22	-1,504.42	85.16	381.20	2.04	-1.99	1.09	
4,900.00	26.65	178.45	4,567.45	-1,543.15	86.11	392.20	2.56	2.56	-0.34	
4,989.00	25.28	179.34	4,647.46	-1,582.10	86.87	403.45	1.60	-1.54	1.00	
5,079.00	22.89	178.90	4,729.62	-1,618.83	87.42	414.20	2.66	-2.66	-0.49	
5,168.00	23.33	176.52	4,811.48	-1,653.72	88.82	423.59	1.16	0.49	-2.67	
5,258.00	24.30	175.50	4,893.82	-1,689.97	91.36	432.31	1.17	1.08	-1.13	
5,347.00	28.55	175.02	4,973.50	-1,729.43	94.64	441.31	4.78	4.78	-0.54	
5,437.00	27.97	173.52	5,052.77	-1,771.83	98.89	450.30	1.02	-0.64	-1.67	
5,525.00	27.35	181.41	5,130.74	-1,812.56	100.73	461.07	4.22	-0.70	8.97	
5,615.00	25.67	181.36	5,211.27	-1,852.72	99.75	474.33	1.87	-1.87	-0.06	
5,705.00	25.41	179.38	5,292.48	-1,891.51	99.50	486.49	0.99	-0.29	-2.20	
5,794.00	25.14	181.10	5,372.96	-1,929.51	99.34	498.31	0.88	-0.30	1.93	
5,884.00	25.76	181.32	5,454.23	-1,968.18	98.53	510.97	0.70	0.69	0.24	
5,973.00	25.23	176.96	5,534.57	-2,006.46	99.09	522.20	2.19	-0.60	-4.90	
5,995.00	24.53	177.26	5,554.53	-2,015.70	99.55	524.60	3.23	-3.18	1.36	
6,085.00	25.28	174.53	5,636.16	-2,053.49	102.28	533.62	1.52	0.83	-3.03	
6,174.00	25.19	173.87	5,716.67	-2,091.24	106.11	541.57	0.33	-0.10	-0.74	
6,264.00	25.98	171.40	5,797.84	-2,129.78	111.11	548.65	1.47	0.88	-2.74	
6,354.00	24.08	168.94	5,879.39	-2,167.29	117.58	554.02	2.41	-2.11	-2.73	
6,443.00	26.60	169.86	5,959.82	-2,204.73	124.57	558.87	2.87	2.83	1.03	
6,533.00	25.59	169.07	6,040.65	-2,243.65	131.80	563.95	1.19	-1.12	-0.88	
6,622.00	23.69	175.99	6,121.56	-2,280.37	136.70	570.57	3.88	-2.13	7.78	
6,712.00	21.83	174.53	6,204.54	-2,315.07	139.56	578.51	2.16	-2.07	-1.62	
6,802.00	19.75	181.01	6,288.69	-2,346.94	140.89	587.04	3.44	-2.31	7.20	
6,891.00	17.90	179.29	6,372.93	-2,375.65	140.79	595.95	2.17	-2.08	-1.93	
6,981.00	15.64	178.98	6,459.09	-2,401.61	141.18	603.56	2.51	-2.51	-0.34	
7,070.00	13.21	176.25	6,545.28	-2,423.76	142.06	609.53	2.83	-2.73	-3.07	
7,160.00	11.67	174.75	6,633.17	-2,443.09	143.56	614.03	1.75	-1.71	-1.67	
7,249.00	9.19	185.28	6,720.70	-2,459.13	143.73	618.80	3.50	-2.79	11.83	
7,339.00	7.64	185.77	6,809.73	-2,472.24	142.47	624.03	1.72	-1.72	0.54	
7,429.00	5.26	175.99	6,899.15	-2,482.31	142.15	627.42	2.90	-2.64	-10.87	
7,519.00	5.04	176.60	6,988.79	-2,490.37	142.68	629.40	0.25	-0.24	0.68	
7,608.00	2.08	182.64	7,077.61	-2,495.89	142.84	630.95	3.35	-3.33	6.79	
7,698.00	1.68	171.76	7,167.56	-2,498.83	142.95	631.74	0.59	-0.44	-12.09	
7,787.00	4.33	284.61	7,256.47	-2,499.27	139.88	634.80	5.86	2.98	126.80	
7,877.00	12.73	276.86	7,345.40	-2,497.22	126.73	646.69	9.40	9.33	-8.61	
7,966.00	22.54	275.53	7,430.12	-2,494.40	99.95	671.31	11.03	11.02	-1.49	
8,054.34	30.00	278.75	7,509.28	-2,489.40	61.21	706.63	8.59	8.44	3.65	
30° Inclination @ 8054.34' MD										

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8,056.00	30.14	278.80	7,510.72	-2,489.28	60.39	707.38	8.59	8.48	2.79	
8,145.00	35.48	271.04	7,585.53	-2,485.38	12.43	751.82	7.63	6.00	-8.72	
8,235.00	44.85	268.70	7,654.23	-2,485.63	-45.55	807.07	10.54	10.41	-2.60	
8,324.00	56.74	267.16	7,710.39	-2,488.20	-114.34	873.32	13.43	13.36	-1.73	
8,413.00	68.14	269.63	7,751.50	-2,490.31	-193.07	948.90	13.04	12.81	2.78	
8,431.73	70.00	270.16	7,758.19	-2,490.34	-210.57	965.55	10.26	9.92	2.83	
70° Inclination @ 8431.73' MD										
8,502.00	76.98	272.05	7,778.15	-2,489.03	-277.88	1,029.21	10.26	9.94	2.69	
8,591.00	86.48	273.02	7,790.94	-2,485.13	-365.77	1,111.64	10.73	10.67	1.09	
8,681.00	91.91	271.92	7,792.21	-2,481.25	-455.64	1,195.98	6.16	6.03	-1.22	
8,770.00	89.93	270.91	7,790.78	-2,479.05	-544.59	1,279.95	2.50	-2.22	-1.13	
8,860.00	89.17	269.89	7,791.48	-2,478.42	-634.59	1,365.40	1.41	-0.84	-1.13	
8,951.00	89.70	271.17	7,792.38	-2,477.58	-725.58	1,451.73	1.52	0.58	1.41	
9,041.00	89.66	270.11	7,792.88	-2,476.58	-815.57	1,537.06	1.18	-0.04	-1.18	
9,131.00	89.97	270.38	7,793.17	-2,476.19	-905.57	1,622.59	0.46	0.34	0.30	
9,220.00	90.32	271.13	7,792.95	-2,475.02	-994.56	1,706.91	0.93	0.39	0.84	
9,309.00	90.63	270.69	7,792.21	-2,473.61	-1,083.54	1,791.16	0.60	0.35	-0.49	
9,399.00	90.63	269.59	7,791.22	-2,473.39	-1,173.54	1,876.73	1.22	0.00	-1.22	
9,489.00	90.81	269.76	7,790.09	-2,473.90	-1,263.53	1,962.53	0.28	0.20	0.19	
9,579.00	90.99	269.67	7,788.68	-2,474.34	-1,353.52	2,048.30	0.22	0.20	-0.10	
9,668.00	91.30	269.63	7,786.90	-2,474.89	-1,442.50	2,133.14	0.35	0.35	-0.04	
9,757.00	89.04	268.18	7,786.63	-2,476.59	-1,531.47	2,218.34	3.02	-2.54	-1.63	
9,846.00	89.31	268.70	7,787.92	-2,479.01	-1,620.43	2,303.73	0.66	0.30	0.58	
9,936.00	89.66	269.15	7,788.72	-2,480.70	-1,710.41	2,389.88	0.63	0.39	0.50	
10,026.00	89.79	268.26	7,789.16	-2,482.73	-1,800.38	2,476.13	1.00	0.14	-0.99	
10,115.00	90.19	269.01	7,789.17	-2,484.85	-1,889.36	2,561.45	0.96	0.45	0.84	
10,204.00	90.50	269.32	7,788.64	-2,486.15	-1,978.35	2,646.53	0.49	0.35	0.35	
10,293.00	90.50	267.82	7,787.86	-2,488.37	-2,067.31	2,731.88	1.69	0.00	-1.69	
10,383.00	90.81	268.48	7,786.83	-2,491.28	-2,157.26	2,818.37	0.81	0.34	0.73	
10,473.00	91.07	267.34	7,785.35	-2,494.56	-2,247.19	2,904.95	1.30	0.29	-1.27	
10,562.00	90.19	269.50	7,784.38	-2,497.01	-2,336.14	2,990.36	2.62	-0.99	2.43	
10,651.00	90.23	269.10	7,784.05	-2,498.10	-2,425.13	3,075.38	0.45	0.04	-0.45	
10,740.00	90.85	268.66	7,783.21	-2,499.84	-2,514.11	3,160.59	0.85	0.70	-0.49	
10,829.00	89.17	269.81	7,783.19	-2,501.03	-2,603.10	3,245.63	2.29	-1.89	1.29	
10,918.00	88.64	269.23	7,784.90	-2,501.77	-2,692.08	3,330.54	0.88	-0.60	-0.65	
11,008.00	88.07	268.66	7,787.48	-2,503.43	-2,782.03	3,416.64	0.90	-0.63	-0.63	
11,097.00	89.35	271.66	7,789.48	-2,503.18	-2,870.99	3,501.23	3.66	1.44	3.37	
11,157.03	89.68	271.04	7,789.99	-2,501.77	-2,931.00	3,557.90	1.17	0.54	-1.03	
Cross @ 11157.03' MD										
11,187.00	89.84	270.73	7,790.12	-2,501.30	-2,960.97	3,586.28	1.17	0.54	-1.03	
11,277.00	90.10	270.73	7,790.17	-2,500.16	-3,050.96	3,671.56	0.29	0.29	0.00	
11,365.00	90.54	270.33	7,789.68	-2,499.34	-3,138.96	3,755.05	0.68	0.50	-0.45	
11,455.00	91.21	271.57	7,788.30	-2,497.85	-3,228.93	3,840.22	1.57	0.74	1.38	
11,544.00	89.13	270.56	7,788.04	-2,496.20	-3,317.91	3,924.38	2.60	-2.34	-1.13	

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Coyote Trails 33W-15-5N
Project:	Weld County, CO (NAD83)	TVD Reference:	KB @ 5302.00usft (Ensign 147)
Site:	Sec 28-T1N-R68W Coyote Trails	MD Reference:	KB @ 5302.00usft (Ensign 147)
Well:	Coyote Trails 33W-15-5N	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)
11,634.00	89.70	270.78	7,788.96	-2,495.14	-3,407.90	4,009.69	0.68	0.63	0.24
11,723.00	90.28	270.64	7,788.97	-2,494.04	-3,496.89	4,094.04	0.67	0.65	-0.16
11,813.00	90.63	270.07	7,788.26	-2,493.48	-3,586.89	4,179.51	0.74	0.39	-0.63
11,903.00	91.12	269.28	7,786.88	-2,493.99	-3,676.87	4,265.30	1.03	0.54	-0.88
11,993.00	90.50	271.26	7,785.61	-2,493.57	-3,766.86	4,350.81	2.31	-0.69	2.20
12,083.00	88.03	270.29	7,786.76	-2,492.35	-3,856.83	4,436.06	2.95	-2.74	-1.08
12,172.00	88.20	271.04	7,789.69	-2,491.32	-3,945.78	4,520.38	0.86	0.19	0.84
12,262.00	87.85	270.11	7,792.79	-2,490.42	-4,035.72	4,605.69	1.10	-0.39	-1.03
12,352.00	90.63	271.00	7,793.99	-2,489.55	-4,125.70	4,691.05	3.24	3.09	0.99
12,441.00	91.07	269.67	7,792.67	-2,489.03	-4,214.68	4,775.57	1.57	0.49	-1.49
12,531.00	91.69	269.63	7,790.50	-2,489.58	-4,304.66	4,861.36	0.69	0.69	-0.04
12,620.00	90.37	272.63	7,788.90	-2,487.82	-4,393.61	4,945.48	3.68	-1.48	3.37
12,710.00	89.88	271.04	7,788.70	-2,484.94	-4,483.56	5,030.19	1.85	-0.54	-1.77
12,799.00	90.28	271.13	7,788.58	-2,483.25	-4,572.55	5,114.35	0.46	0.45	0.10
12,888.00	89.26	270.82	7,788.94	-2,481.74	-4,661.53	5,198.57	1.20	-1.15	-0.35
12,978.00	89.53	271.57	7,789.89	-2,479.86	-4,751.51	5,283.61	0.89	0.30	0.83
13,067.00	89.57	270.78	7,790.58	-2,478.04	-4,840.48	5,367.73	0.89	0.04	-0.89
13,157.00	89.97	270.78	7,790.95	-2,476.81	-4,930.47	5,452.99	0.44	0.44	0.00
13,246.00	89.75	270.03	7,791.16	-2,476.18	-5,019.47	5,537.49	0.88	-0.25	-0.84
13,336.00	89.88	271.30	7,791.45	-2,475.14	-5,109.46	5,622.80	1.42	0.14	1.41
13,426.00	89.53	269.06	7,791.92	-2,474.86	-5,199.46	5,708.36	2.52	-0.39	-2.49
13,515.00	90.15	270.51	7,792.17	-2,475.19	-5,288.45	5,793.15	1.77	0.70	1.63
13,604.00	90.41	268.26	7,791.73	-2,476.14	-5,377.44	5,878.13	2.54	0.29	-2.53
13,694.00	89.26	268.79	7,791.99	-2,478.46	-5,467.41	5,964.45	1.41	-1.28	0.59
13,784.00	90.19	270.11	7,792.42	-2,479.32	-5,557.40	6,050.36	1.79	1.03	1.47
13,873.00	90.41	268.88	7,791.96	-2,480.11	-5,646.39	6,135.29	1.40	0.25	-1.38
13,963.00	89.31	270.07	7,792.18	-2,480.93	-5,736.39	6,221.18	1.80	-1.22	1.32
14,053.00	89.70	271.48	7,792.95	-2,479.72	-5,826.37	6,306.44	1.63	0.43	1.57
14,142.00	90.37	271.92	7,792.90	-2,477.08	-5,915.33	6,390.29	0.90	0.75	0.49
14,231.00	90.41	270.20	7,792.29	-2,475.43	-6,004.31	6,474.45	1.93	0.04	-1.93
14,321.00	88.56	271.57	7,793.10	-2,474.04	-6,094.29	6,559.65	2.56	-2.06	1.52
14,410.00	88.86	270.60	7,795.11	-2,472.36	-6,183.25	6,643.79	1.14	0.34	-1.09
14,500.00	89.40	269.76	7,796.47	-2,472.07	-6,273.24	6,729.34	1.11	0.60	-0.93
14,589.00	90.01	269.45	7,796.93	-2,472.69	-6,362.24	6,814.22	0.77	0.69	-0.35
14,679.00	90.72	268.79	7,796.36	-2,474.07	-6,452.22	6,900.28	1.08	0.79	-0.73
14,769.00	90.10	270.78	7,795.71	-2,474.41	-6,542.21	6,986.02	2.32	-0.69	2.21
14,858.00	89.53	270.33	7,796.00	-2,473.54	-6,631.21	7,070.45	0.82	-0.64	-0.51
14,948.00	90.28	270.73	7,796.15	-2,472.71	-6,721.20	7,155.83	0.94	0.83	0.44
15,037.00	88.56	269.72	7,797.05	-2,472.36	-6,810.19	7,240.41	2.24	-1.93	-1.13
15,127.00	88.95	269.63	7,799.01	-2,472.87	-6,900.17	7,326.19	0.44	0.43	-0.10
15,216.00	89.35	270.73	7,800.33	-2,472.59	-6,989.16	7,410.79	1.32	0.45	1.24
15,306.00	89.04	269.01	7,801.59	-2,472.80	-7,079.15	7,496.49	1.94	-0.34	-1.91
15,396.00	89.79	268.88	7,802.51	-2,474.45	-7,169.13	7,582.62	0.85	0.83	-0.14

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Coyote Trails 33W-15-5N
Project:	Weld County, CO (NAD83)	TVD Reference:	KB @ 5302.00usft (Ensign 147)
Site:	Sec 28-T1N-R68W Coyote Trails	MD Reference:	KB @ 5302.00usft (Ensign 147)
Well:	Coyote Trails 33W-15-5N	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)	
15,485.00	90.19	268.22	7,802.53	-2,476.71	-7,258.10	7,667.98	0.87	0.45	-0.74	
15,574.00	90.63	268.09	7,801.89	-2,479.57	-7,347.05	7,753.51	0.52	0.49	-0.15	
15,664.00	90.15	268.62	7,801.28	-2,482.15	-7,437.01	7,839.91	0.79	-0.53	0.59	
15,753.00	91.12	269.72	7,800.29	-2,483.44	-7,525.99	7,924.99	1.65	1.09	1.24	
15,842.00	91.52	268.18	7,798.24	-2,485.07	-7,614.95	8,010.15	1.79	0.45	-1.73	
15,866.00	91.87	268.35	7,797.53	-2,485.80	-7,638.93	8,033.19	1.62	1.46	0.71	
Last MWD Survey @ 15866' MD										
15,932.00	91.87	268.35	7,795.38	-2,487.70	-7,704.87	8,096.52	0.00	0.00	0.00	
Projection to TD @ 15932' MD 1319' FNL/ 480' FWL										

Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Cross @ 3974.68' MD - actual wellpath hits target center - Point	0.00	0.00	3,730.11	-1,150.00	68.75	1,248,629.02	3,137,985.13	40.014821	-105.007357	
30° Inclination @ 8054.3 - actual wellpath misses target center by 0.01usft at 8054.34usft MD (7509.28 TVD, -2489.40 N, 61.21 E) - Point	0.00	0.00	7,509.28	-2,489.41	61.21	1,247,289.59	3,137,985.02	40.011144	-105.007384	
70° Inclination @ 8431.7 - actual wellpath hits target center - Point	0.00	0.00	7,758.19	-2,490.35	-210.56	1,247,287.14	3,137,713.26	40.011142	-105.008354	
Cross @ 11157.03' MD - actual wellpath hits target center - Point	0.00	0.00	7,789.99	-2,501.77	-2,931.00	1,247,260.61	3,134,992.93	40.011110	-105.018066	

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,580.30	1,567.64	-128.37	4.60	Tie into Surface Surveys	
1,675.00	1,656.82	-160.12	5.84	First MWD Survey @ 1675' MD	
3,974.68	3,730.10	-1,150.00	68.75	Cross @ 3974.68' MD	
8,054.34	7,509.28	-2,489.40	61.21	30° Inclination @ 8054.34' MD	
8,431.73	7,758.19	-2,490.34	-210.57	70° Inclination @ 8431.73' MD	
11,157.03	7,789.99	-2,501.77	-2,931.00	Cross @ 11157.03' MD	
15,866.00	7,797.53	-2,485.80	-7,638.93	Last MWD Survey @ 15866' MD	
15,932.00	7,795.38	-2,487.70	-7,704.87	Projection to TD @ 15932' MD 1319' FNL/ 480' FWL	

Checked By: _____ Approved By: _____ Date: _____