

Extraction Oil & Gas

Weld County, CO (NAD83)

Sec 28-T1N-R68W Coyote Trails

Coyote Trails 33W-15-10N

Wellbore #1

Design: Wellbore #1

Standard Survey Report

18 July, 2019

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Coyote Trails 33W-15-10N
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-15-10N	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-15-10N				
Well Position	+N/-S	0.00 usft	Northing:	1,249,778.57 usft	Latitude:	40.017977
	+E/-W	0.00 usft	Easting:	3,137,963.77 usft	Longitude:	-105.007410
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	51,897.64596171

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	243.16	

Survey Program	Date	7/18/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
146.30	1,603.30	Surface Surveys (Wellbore #1)	MWD	MWD - Standard	
1,672.00	16,807.00	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	0.62	209.17	146.30	-0.69	-0.39	0.66	0.42	0.42	0.00	
233.30	1.23	187.38	233.29	-2.03	-0.74	1.57	0.80	0.70	-25.05	
321.30	2.11	189.39	321.25	-4.56	-1.12	3.06	1.00	1.00	2.28	
408.30	3.69	181.40	408.13	-8.94	-1.45	5.33	1.87	1.82	-9.18	
495.30	5.23	177.00	494.87	-15.70	-1.31	8.26	1.81	1.77	-5.06	
582.30	7.21	182.01	581.35	-25.12	-1.30	12.50	2.36	2.28	5.76	
670.30	8.26	175.33	668.55	-36.94	-0.97	17.55	1.57	1.19	-7.59	
757.30	11.25	180.69	754.29	-51.66	-0.57	23.83	3.59	3.44	6.16	
844.30	12.00	178.58	839.50	-69.18	-0.45	31.64	0.99	0.86	-2.43	

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Well:	Coyote Trails 33W-15-10N	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	13.97	179.11	925.25	-88.95	-0.05	40.21	2.24	2.24	0.60
1,019.30	16.08	177.53	1,009.27	-111.49	0.63	49.78	2.47	2.43	-1.82
1,106.30	16.70	178.14	1,092.73	-136.02	1.55	60.04	0.74	0.71	0.70
1,193.30	18.72	178.32	1,175.60	-162.47	2.37	71.25	2.32	2.32	0.21
1,281.30	21.01	177.97	1,258.36	-192.36	3.34	83.88	2.61	2.60	-0.40
1,368.30	22.85	177.53	1,339.06	-224.83	4.62	97.40	2.12	2.11	-0.51
1,455.30	25.71	179.20	1,418.36	-260.58	5.61	112.66	3.38	3.29	1.92
1,543.30	26.85	180.43	1,497.27	-299.54	5.73	130.14	1.44	1.30	1.40
1,603.30	29.44	181.57	1,550.17	-327.83	5.23	143.37	4.41	4.32	1.90
Tie into Surface Surveys									
1,672.00	30.18	183.39	1,609.78	-361.95	3.74	160.10	1.70	1.08	2.65
First MWD Survey @ 1672' MD									
1,762.00	33.23	183.48	1,686.34	-409.16	0.91	183.95	3.39	3.39	0.10
1,852.00	37.12	180.44	1,759.89	-460.95	-0.80	208.86	4.74	4.32	-3.38
1,941.00	37.78	178.50	1,830.55	-515.06	-0.29	232.84	1.52	0.74	-2.18
2,031.00	37.87	177.93	1,901.64	-570.23	1.43	256.21	0.40	0.10	-0.63
2,121.00	37.96	178.32	1,972.65	-625.50	3.24	279.56	0.28	0.10	0.43
2,211.00	37.07	177.53	2,044.03	-680.27	5.22	302.52	1.12	-0.99	-0.88
2,301.00	35.93	177.66	2,116.38	-733.76	7.46	324.67	1.27	-1.27	0.14
2,391.00	35.31	176.56	2,189.54	-786.11	10.10	345.95	0.99	-0.69	-1.22
2,481.00	35.48	181.76	2,262.92	-838.19	10.86	368.79	3.35	0.19	5.78
2,570.00	34.47	181.27	2,335.85	-889.18	9.51	393.03	1.18	-1.13	-0.55
2,660.00	33.27	180.44	2,410.57	-939.33	8.76	416.35	1.43	-1.33	-0.92
2,750.00	34.56	182.20	2,485.26	-989.53	7.59	440.06	1.80	1.43	1.96
2,839.00	36.72	181.76	2,557.59	-1,041.36	5.80	465.05	2.44	2.43	-0.49
2,928.00	35.97	181.32	2,629.27	-1,094.08	4.38	490.13	0.89	-0.84	-0.49
3,017.00	38.36	180.66	2,700.19	-1,147.84	3.46	515.22	2.72	2.69	-0.74
3,017.26	38.36	180.66	2,700.40	-1,148.00	3.46	515.30	0.00	0.00	0.00
Cross @ 3017.26' MD									
3,107.00	37.91	179.16	2,770.99	-1,203.41	3.54	540.24	1.15	-0.50	-1.67
3,197.00	36.32	177.62	2,842.75	-1,257.69	5.06	563.40	2.05	-1.77	-1.71
3,287.00	34.69	176.69	2,916.02	-1,309.89	7.64	584.67	1.91	-1.81	-1.03
3,376.00	35.26	178.50	2,988.95	-1,360.86	9.78	605.78	1.33	0.64	2.03
3,465.00	34.51	178.37	3,061.95	-1,411.74	11.17	627.51	0.85	-0.84	-0.15
3,555.00	32.79	176.91	3,136.87	-1,461.57	13.21	648.19	2.11	-1.91	-1.62
3,645.00	34.64	181.89	3,211.74	-1,511.48	13.68	670.31	3.69	2.06	5.53
3,734.00	33.27	182.20	3,285.57	-1,561.16	11.90	694.32	1.55	-1.54	0.35
3,823.00	33.85	182.77	3,359.73	-1,610.31	9.77	718.42	0.74	0.65	0.64
3,913.00	33.10	183.39	3,434.80	-1,659.88	7.10	743.18	0.92	-0.83	0.69
4,002.00	34.60	180.88	3,508.72	-1,709.41	5.28	767.18	2.30	1.69	-2.82
4,092.00	38.09	182.95	3,581.20	-1,762.70	3.46	792.87	4.11	3.88	2.30
4,182.00	36.59	182.73	3,652.75	-1,817.22	0.75	819.90	1.67	-1.67	-0.24
4,272.00	36.37	180.22	3,725.12	-1,870.70	-0.63	845.28	1.68	-0.24	-2.79

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Survey									
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4,361.00	33.76	179.25	3,797.96	-1,921.83	-0.41	868.17	3.00	-2.93	-1.09
4,450.00	33.80	180.48	3,871.94	-1,971.31	-0.29	890.41	0.77	0.04	1.38
4,540.00	32.48	178.50	3,947.30	-2,020.50	0.13	912.24	1.90	-1.47	-2.20
4,629.00	33.58	180.17	4,021.92	-2,069.01	0.69	933.65	1.60	1.24	1.88
4,718.00	35.53	178.23	4,095.21	-2,119.47	1.41	955.79	2.52	2.19	-2.18
4,807.00	36.37	175.99	4,167.26	-2,171.65	4.06	976.99	1.75	0.94	-2.52
4,921.00	33.32	172.33	4,260.82	-2,236.42	10.60	1,000.40	3.24	-2.68	-3.21
5,010.00	34.16	172.42	4,334.83	-2,285.42	17.16	1,016.67	0.95	0.94	0.10
5,100.00	33.85	173.96	4,409.44	-2,335.39	23.13	1,033.91	1.02	-0.34	1.71
5,189.00	36.72	173.65	4,482.08	-2,386.49	28.68	1,052.04	3.23	3.22	-0.35
5,279.00	38.18	172.29	4,553.53	-2,440.80	35.39	1,070.57	1.86	1.62	-1.51
5,369.00	37.34	173.39	4,624.69	-2,495.48	42.26	1,089.13	1.20	-0.93	1.22
5,458.00	39.28	176.52	4,694.53	-2,550.43	47.08	1,109.64	3.08	2.18	3.52
5,547.00	41.18	179.64	4,762.48	-2,607.86	48.98	1,133.89	3.11	2.13	3.51
5,637.00	38.62	178.41	4,831.52	-2,665.57	49.94	1,159.08	2.98	-2.84	-1.37
5,726.00	37.12	179.86	4,901.77	-2,720.20	50.78	1,183.00	1.96	-1.69	1.63
5,816.00	35.40	180.08	4,974.34	-2,773.43	50.81	1,207.01	1.92	-1.91	0.24
5,905.00	34.95	177.88	5,047.09	-2,824.68	51.72	1,229.35	1.51	-0.51	-2.47
5,995.00	36.77	179.51	5,120.03	-2,877.38	52.90	1,252.09	2.28	2.02	1.81
6,084.00	35.09	178.41	5,192.10	-2,929.60	53.84	1,274.83	2.02	-1.89	-1.24
6,174.00	36.15	180.04	5,265.26	-2,982.00	54.54	1,297.87	1.58	1.18	1.81
6,263.00	34.47	177.18	5,337.89	-3,033.42	55.76	1,320.00	2.65	-1.89	-3.21
6,353.00	35.26	178.54	5,411.73	-3,084.83	57.67	1,341.50	1.23	0.88	1.51
6,443.00	37.25	183.52	5,484.32	-3,138.00	56.66	1,366.41	3.95	2.21	5.53
6,532.00	36.94	183.35	5,555.31	-3,191.58	53.45	1,393.48	0.37	-0.35	-0.19
6,622.00	35.44	182.38	5,627.94	-3,244.65	50.78	1,419.82	1.78	-1.67	-1.08
6,712.00	33.27	180.08	5,702.24	-3,295.42	49.66	1,443.74	2.81	-2.41	-2.56
6,801.00	30.71	179.86	5,777.72	-3,342.56	49.68	1,465.01	2.88	-2.88	-0.25
6,891.00	31.15	181.05	5,854.92	-3,388.82	49.31	1,486.23	0.84	0.49	1.32
6,981.00	33.41	178.67	5,931.01	-3,436.87	49.46	1,507.80	2.88	2.51	-2.64
7,070.00	32.66	177.53	6,005.62	-3,485.36	51.07	1,528.26	1.09	-0.84	-1.28
7,160.00	29.56	175.68	6,082.67	-3,531.77	53.79	1,546.79	3.60	-3.44	-2.06
7,249.00	26.91	177.66	6,161.08	-3,573.80	56.26	1,563.56	3.16	-2.98	2.22
7,339.00	26.16	179.34	6,241.60	-3,613.99	57.32	1,580.76	1.18	-0.83	1.87
7,429.00	24.88	182.38	6,322.82	-3,652.74	56.76	1,598.76	2.03	-1.42	3.38
7,518.00	22.36	183.26	6,404.36	-3,688.36	55.02	1,616.39	2.86	-2.83	0.99
7,608.00	21.65	180.79	6,487.80	-3,722.05	53.82	1,632.68	1.30	-0.79	-2.74
7,697.00	21.70	175.33	6,570.52	-3,754.87	54.94	1,646.50	2.27	0.06	-6.13
7,787.00	18.07	173.56	6,655.14	-3,785.33	57.86	1,657.65	4.09	-4.03	-1.97
7,877.00	14.80	170.83	6,741.45	-3,810.56	61.25	1,666.01	3.73	-3.63	-3.03
7,966.00	15.42	168.36	6,827.37	-3,833.37	65.45	1,672.57	1.00	0.70	-2.78
8,055.00	12.90	162.11	6,913.67	-3,854.42	70.89	1,677.22	3.31	-2.83	-7.02
8,145.00	10.12	168.72	7,001.85	-3,871.74	75.53	1,680.90	3.41	-3.09	7.34
8,235.00	7.91	172.55	7,090.74	-3,885.63	77.88	1,685.08	2.54	-2.46	4.26

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8,324.00	6.72	170.04	7,179.01	-3,896.83	79.57	1,688.63	1.38	-1.34	-2.82
8,413.00	4.24	199.61	7,267.61	-3,905.07	79.37	1,692.52	4.14	-2.79	33.22
8,502.00	2.30	197.58	7,356.46	-3,909.87	77.73	1,696.16	2.18	-2.18	-2.28
8,591.00	0.97	1.60	7,445.45	-3,910.82	77.21	1,697.05	3.64	-1.49	184.29
8,681.00	5.97	268.00	7,535.28	-3,910.22	72.55	1,700.94	6.79	5.56	-104.00
8,770.00	13.08	275.01	7,623.00	-3,909.50	57.87	1,713.71	8.08	7.99	7.88
8,860.00	20.50	262.54	7,709.13	-3,910.66	32.05	1,737.27	9.12	8.24	-13.86
8,951.00	26.82	266.81	7,792.44	-3,913.87	-4.28	1,771.14	7.19	6.95	4.69
8,992.48	30.00	267.58	7,828.93	-3,914.83	-23.99	1,789.16	7.71	7.66	1.85
30° Inclination @ 8992.48' MD									
9,041.00	33.72	268.31	7,870.13	-3,915.74	-49.58	1,812.40	7.71	7.67	1.51
9,130.00	44.98	266.50	7,938.84	-3,918.40	-105.85	1,863.81	12.72	12.65	-2.03
9,220.00	54.62	266.63	7,996.87	-3,922.51	-174.39	1,926.82	10.71	10.71	0.14
9,309.00	61.73	263.24	8,043.78	-3,929.26	-249.64	1,997.01	8.62	7.99	-3.81
9,399.00	69.60	266.99	8,080.85	-3,936.16	-331.27	2,072.95	9.53	8.74	4.17
9,415.67	70.00	267.02	8,086.60	-3,936.97	-346.89	2,087.26	2.41	2.40	0.19
70° Inclination @ 9415.67' MD									
9,489.00	71.76	267.16	8,110.62	-3,940.49	-416.09	2,150.59	2.41	2.40	0.19
9,579.00	80.60	269.45	8,132.10	-3,943.04	-503.35	2,229.60	10.13	9.82	2.54
9,668.00	87.27	269.54	8,141.50	-3,943.82	-591.80	2,308.87	7.50	7.49	0.10
9,757.00	86.48	268.70	8,146.35	-3,945.18	-680.66	2,388.77	1.29	-0.89	-0.94
9,846.00	88.11	271.26	8,150.55	-3,945.21	-769.55	2,468.09	3.41	1.83	2.88
9,936.00	91.12	270.86	8,151.15	-3,943.55	-859.52	2,547.62	3.37	3.34	-0.44
10,025.00	91.12	271.17	8,149.42	-3,941.97	-948.49	2,626.29	0.35	0.00	0.35
10,115.00	89.97	272.93	8,148.56	-3,938.75	-1,038.42	2,705.08	2.34	-1.28	1.96
10,204.00	87.98	272.98	8,150.15	-3,934.16	-1,127.28	2,782.29	2.24	-2.24	0.06
10,293.00	87.50	271.61	8,153.66	-3,930.60	-1,216.14	2,859.97	1.63	-0.54	-1.54
10,383.00	86.92	270.95	8,158.04	-3,928.60	-1,306.01	2,939.25	0.98	-0.64	-0.73
10,473.00	89.79	270.78	8,160.63	-3,927.24	-1,395.95	3,018.88	3.19	3.19	-0.19
10,562.00	89.75	270.86	8,160.98	-3,925.96	-1,484.94	3,097.71	0.10	-0.04	0.09
10,650.00	88.69	270.07	8,162.18	-3,925.25	-1,572.93	3,175.89	1.50	-1.20	-0.90
10,739.00	90.01	270.47	8,163.19	-3,924.83	-1,661.92	3,255.11	1.55	1.48	0.45
10,828.00	89.48	269.15	8,163.59	-3,925.13	-1,750.92	3,334.65	1.60	-0.60	-1.48
10,918.00	91.69	268.53	8,162.67	-3,926.95	-1,840.89	3,415.74	2.55	2.46	-0.69
11,007.00	91.16	266.81	8,160.45	-3,930.56	-1,929.78	3,496.69	2.02	-0.60	-1.93
11,097.00	90.59	265.84	8,159.08	-3,936.33	-2,019.59	3,579.43	1.25	-0.63	-1.08
11,186.00	90.32	266.37	8,158.37	-3,942.38	-2,108.38	3,661.38	0.67	-0.30	0.60
11,276.00	91.47	269.81	8,156.97	-3,945.38	-2,198.30	3,742.97	4.03	1.28	3.82
11,365.00	91.65	269.67	8,154.54	-3,945.78	-2,287.27	3,822.53	0.26	0.20	-0.16
11,455.00	91.43	268.31	8,152.12	-3,947.37	-2,377.22	3,903.50	1.53	-0.24	-1.51
11,544.00	91.47	267.65	8,149.87	-3,950.50	-2,466.14	3,984.25	0.74	0.04	-0.74
11,634.00	90.72	268.62	8,148.15	-3,953.43	-2,556.07	4,065.82	1.36	-0.83	1.08
11,723.00	91.16	270.07	8,146.69	-3,954.45	-2,645.05	4,145.67	1.70	0.49	1.63

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Coyote Trails 33W-15-10N
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-15-10N	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)
11,812.00	90.90	269.37	8,145.09	-3,954.88	-2,734.03	4,225.26	0.84	-0.29	-0.79
11,902.00	87.23	269.32	8,146.56	-3,955.91	-2,824.00	4,306.00	4.08	-4.08	-0.06
11,993.00	87.27	269.67	8,150.93	-3,956.71	-2,914.89	4,387.46	0.39	0.04	0.38
12,046.16	87.90	271.33	8,153.17	-3,956.25	-2,968.00	4,434.64	3.34	1.19	3.12
Cross @ 12046.16' MD									
12,082.00	88.33	272.45	8,154.34	-3,955.07	-3,003.80	4,466.04	3.34	1.19	3.12
12,172.00	88.56	270.91	8,156.79	-3,952.43	-3,093.73	4,545.09	1.73	0.26	-1.71
12,262.00	89.79	271.97	8,158.08	-3,950.17	-3,183.69	4,624.33	1.80	1.37	1.18
12,352.00	89.97	270.60	8,158.27	-3,948.15	-3,273.66	4,703.70	1.54	0.20	-1.52
12,441.00	89.70	269.59	8,158.53	-3,948.00	-3,362.66	4,783.04	1.17	-0.30	-1.13
12,530.00	89.26	267.96	8,159.33	-3,949.90	-3,451.63	4,863.29	1.90	-0.49	-1.83
12,620.00	90.41	269.98	8,159.59	-3,951.52	-3,541.61	4,944.30	2.58	1.28	2.24
12,710.00	90.72	270.56	8,158.71	-3,951.10	-3,631.60	5,024.41	0.73	0.34	0.64
12,799.00	90.72	269.50	8,157.59	-3,951.05	-3,720.60	5,103.79	1.19	0.00	-1.19
12,888.00	90.28	269.94	8,156.81	-3,951.49	-3,809.59	5,183.39	0.70	-0.49	0.49
12,978.00	90.41	268.92	8,156.27	-3,952.38	-3,899.58	5,264.09	1.14	0.14	-1.13
13,067.00	90.01	267.29	8,155.94	-3,955.32	-3,988.53	5,344.78	1.89	-0.45	-1.83
13,157.00	89.84	265.75	8,156.06	-3,960.79	-4,078.36	5,427.40	1.72	-0.19	-1.71
13,246.00	89.93	269.06	8,156.24	-3,964.82	-4,167.26	5,508.54	3.72	0.10	3.72
13,336.00	88.95	269.15	8,157.12	-3,966.22	-4,257.24	5,589.46	1.09	-1.09	0.10
13,425.00	89.35	272.19	8,158.44	-3,965.18	-4,346.22	5,668.37	3.44	0.45	3.42
13,515.00	89.93	273.77	8,159.01	-3,960.50	-4,436.09	5,746.45	1.87	0.64	1.76
13,604.00	86.88	272.32	8,161.48	-3,955.78	-4,524.92	5,823.57	3.79	-3.43	-1.63
13,694.00	86.57	272.23	8,166.62	-3,952.21	-4,614.70	5,902.07	0.36	-0.34	-0.10
13,784.00	88.78	271.79	8,170.28	-3,949.06	-4,704.56	5,980.83	2.50	2.46	-0.49
13,873.00	89.53	268.09	8,171.59	-3,949.15	-4,793.54	6,060.26	4.24	0.84	-4.16
13,963.00	90.41	268.62	8,171.64	-3,951.73	-4,883.50	6,141.69	1.14	0.98	0.59
14,052.00	89.93	268.18	8,171.37	-3,954.22	-4,972.46	6,222.19	0.73	-0.54	-0.49
14,141.00	89.53	268.62	8,171.79	-3,956.70	-5,061.43	6,302.69	0.67	-0.45	0.49
14,231.00	89.17	266.72	8,172.81	-3,960.36	-5,151.34	6,384.57	2.15	-0.40	-2.11
14,320.00	89.97	266.68	8,173.48	-3,965.48	-5,240.19	6,466.16	0.90	0.90	-0.04
14,410.00	91.12	266.46	8,172.62	-3,970.87	-5,330.03	6,548.74	1.30	1.28	-0.24
14,499.00	91.52	266.63	8,170.57	-3,976.23	-5,418.84	6,630.41	0.49	0.45	0.19
14,589.00	92.97	269.06	8,167.05	-3,979.61	-5,508.70	6,712.11	3.14	1.61	2.70
14,679.00	91.78	272.71	8,163.32	-3,978.22	-5,598.59	6,791.69	4.26	-1.32	4.06
14,769.00	91.47	273.77	8,160.76	-3,973.14	-5,688.41	6,869.53	1.23	-0.34	1.18
14,858.00	88.03	275.84	8,161.15	-3,965.69	-5,777.08	6,945.28	4.51	-3.87	2.33
14,947.00	88.60	274.65	8,163.77	-3,957.55	-5,865.67	7,020.65	1.48	0.64	-1.34
15,036.00	88.82	274.39	8,165.77	-3,950.54	-5,954.37	7,096.63	0.38	0.25	-0.29
15,127.00	89.35	273.42	8,167.23	-3,944.35	-6,045.14	7,174.82	1.21	0.58	-1.07
15,216.00	89.09	272.80	8,168.44	-3,939.52	-6,134.00	7,251.93	0.76	-0.29	-0.70
15,306.00	90.72	271.61	8,168.59	-3,936.05	-6,223.93	7,330.60	2.24	1.81	-1.32
15,395.00	92.75	271.39	8,165.89	-3,933.73	-6,312.86	7,408.90	2.29	2.28	-0.25
15,485.00	92.31	272.27	8,161.92	-3,930.85	-6,402.72	7,487.78	1.09	-0.49	0.98

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Coyote Trails 33W-15-10N
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-15-10N	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)	
15,574.00	92.00	272.76	8,158.57	-3,926.95	-6,491.57	7,565.29	0.65	-0.35	0.55	
15,664.00	90.85	271.35	8,156.34	-3,923.73	-6,581.48	7,644.06	2.02	-1.28	-1.57	
15,753.00	90.46	271.75	8,155.32	-3,921.32	-6,670.44	7,722.35	0.63	-0.44	0.45	
15,842.00	88.69	272.32	8,155.98	-3,918.16	-6,759.38	7,800.28	2.09	-1.99	0.64	
15,931.00	89.53	273.33	8,157.36	-3,913.77	-6,848.26	7,877.60	1.48	0.94	1.13	
16,020.00	90.15	271.79	8,157.61	-3,909.80	-6,937.17	7,955.13	1.87	0.70	-1.73	
16,109.00	89.97	270.51	8,157.52	-3,908.01	-7,026.15	8,033.72	1.45	-0.20	-1.44	
16,198.00	90.19	270.51	8,157.39	-3,907.22	-7,115.15	8,112.76	0.25	0.25	0.00	
16,287.00	89.22	272.67	8,157.85	-3,904.75	-7,204.10	8,191.02	2.66	-1.09	2.43	
16,376.00	88.95	270.33	8,159.27	-3,902.42	-7,293.06	8,269.34	2.65	-0.30	-2.63	
16,465.00	89.79	271.13	8,160.25	-3,901.29	-7,382.04	8,348.22	1.30	0.94	0.90	
16,554.00	89.31	268.79	8,160.95	-3,901.35	-7,471.03	8,427.65	2.68	-0.54	-2.63	
16,644.00	88.78	269.19	8,162.45	-3,902.94	-7,561.00	8,508.65	0.74	-0.59	0.44	
16,747.00	89.17	267.29	8,164.29	-3,906.10	-7,663.93	8,601.91	1.88	0.38	-1.84	
Last MWD Survey @ 16747' MD										
16,807.00	89.17	267.29	8,165.16	-3,908.93	-7,723.86	8,656.66	0.00	0.00	0.00	
Projection to TD @ 16807' MD 2539' FSL/ 515' FWL										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
Cross @ 3017.26' MD	0.00	0.00	2,700.40	-1,148.00	3.46	1,248,630.61	3,137,973.61	40.014826	-105.007398	
- actual wellpath hits target center										
- Point										
30° Inclination @ 8992.4	0.00	0.00	7,828.92	-3,914.85	-23.99	1,245,863.66	3,137,961.53	40.007230	-105.007496	
- actual wellpath misses target center by 0.01usft at 8992.48usft MD (7828.92 TVD, -3914.83 N, -23.99 E)										
- Point										
70° Inclination @ 9415.6	0.00	0.00	8,086.60	-3,936.97	-346.89	1,245,839.73	3,137,638.75	40.007169	-105.008649	
- actual wellpath hits target center										
- Point										
Cross @ 12046.16' MD	0.00	0.00	8,153.17	-3,956.25	-2,968.00	1,245,805.90	3,135,017.79	40.007116	-105.018006	
- actual wellpath hits target center										
- Point										

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Coyote Trails 33W-15-10N
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-15-10N	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.15 Single User Db

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,603.30	1,550.17	-327.83	5.23	Tie into Surface Surveys
1,672.00	1,609.78	-361.95	3.74	First MWD Survey @ 1672' MD
3,017.26	2,700.40	-1,148.00	3.46	Cross @ 3017.26' MD
8,992.48	7,828.93	-3,914.83	-23.99	30° Inclination @ 8992.48' MD
9,415.67	8,086.60	-3,936.97	-346.89	70° Inclination @ 9415.67' MD
12,046.16	8,153.17	-3,956.25	-2,968.00	Cross @ 12046.16' MD
16,747.00	8,164.29	-3,906.10	-7,663.93	Last MWD Survey @ 16747' MD
16,807.00	8,165.16	-3,908.93	-7,723.86	Projection to TD @ 16807' MD 2539' FSL/ 515' FWL

Checked By: _____	Approved By: _____	Date: _____
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