

Extraction Oil & Gas

Weld County, CO (NAD83)

Sec 28-T1N-R68W Coyote Trails

Coyote Trails 33W-15-11N

Wellbore #1

Design: Wellbore #1

Standard Survey Report

11 July, 2019

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Coyote Trails 33W-15-11N
Project:	Weld County, CO (NAD83)	TVD Reference:	KB @ 5301.00usft (Ensign 147)
Site:	Sec 28-T1N-R68W Coyote Trails	MD Reference:	KB @ 5301.00usft (Ensign 147)
Well:	Coyote Trails 33W-15-11N	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-15-11N				
Well Position	+N/-S	0.00 usft	Northing:	1,249,778.67 usft	Latitude:	40.017977
	+E/-W	0.00 usft	Easting:	3,137,981.98 usft	Longitude:	-105.007345
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,273.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	6/13/2019	8.09	66.46	51,897.66085405

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	241.31	

Survey Program	Date	7/11/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
146.30	1,611.30	Surface Surveys (Wellbore #1)	MWD	MWD - Standard	
1,675.00	16,751.00	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	0.13	81.99	146.30	0.02	0.16	-0.16	0.09	0.09	0.00	
233.30	1.71	171.90	233.29	-1.25	0.45	0.21	1.97	1.82	103.34	
321.30	3.52	168.83	321.19	-5.20	1.15	1.48	2.06	2.06	-3.49	
408.30	4.97	181.40	407.95	-11.59	1.58	4.18	1.97	1.67	14.45	
495.30	7.34	185.09	494.45	-20.89	0.99	9.16	2.76	2.72	4.24	
582.30	9.76	182.63	580.47	-33.80	0.16	16.08	2.81	2.78	-2.83	
670.30	11.51	180.08	666.96	-50.03	-0.19	24.18	2.06	1.99	-2.90	
757.30	13.36	180.87	751.91	-68.76	-0.36	33.32	2.14	2.13	0.91	
844.30	15.47	180.43	836.17	-90.41	-0.60	43.93	2.43	2.43	-0.51	

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Site:	Sec 28-T1N-R68W Coyote Trails	MD Reference:	KB @ 5301.00usft (Ensign 147)
Well:	Coyote Trails 33W-15-11N	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	17.40	181.31	920.57	-115.31	-0.99	56.22	2.21	2.19	1.00
1,019.30	18.50	181.22	1,003.33	-142.11	-1.58	69.60	1.26	1.26	-0.10
1,106.30	19.38	180.52	1,085.62	-170.35	-2.00	83.53	1.04	1.01	-0.80
1,193.30	21.97	179.81	1,167.01	-201.06	-2.08	98.34	2.99	2.98	-0.82
1,281.30	23.82	178.94	1,248.08	-235.29	-1.70	114.43	2.14	2.10	-0.99
1,368.30	23.38	178.14	1,327.80	-270.11	-0.81	130.37	0.63	-0.51	-0.92
1,455.30	26.02	177.62	1,406.83	-306.44	0.54	146.62	3.04	3.03	-0.60
1,543.30	27.42	177.53	1,485.44	-345.97	2.22	164.13	1.59	1.59	-0.10
1,611.30	29.23	178.41	1,545.29	-378.21	3.35	178.61	2.73	2.66	1.29
Tie into Surface Surveys									
1,675.00	30.76	178.81	1,600.46	-410.04	4.12	193.22	2.42	2.40	0.63
First MWD Survey @ 1675' MD									
1,765.00	32.57	177.62	1,677.06	-457.26	5.61	214.58	2.13	2.01	-1.32
1,855.00	34.69	179.91	1,751.99	-507.08	6.65	237.58	2.74	2.36	2.54
1,944.00	35.48	181.14	1,824.82	-558.24	6.18	262.55	1.19	0.89	1.38
2,034.00	37.12	179.64	1,897.36	-611.51	5.83	288.43	2.07	1.82	-1.67
2,124.00	38.09	177.26	1,968.66	-666.40	7.33	313.46	1.94	1.08	-2.64
2,214.00	39.90	178.19	2,038.61	-722.98	9.57	338.66	2.11	2.01	1.03
2,304.00	38.93	177.53	2,108.14	-780.09	11.70	364.20	1.17	-1.08	-0.73
2,394.00	40.12	178.90	2,177.56	-837.33	13.47	390.13	1.64	1.32	1.52
2,484.00	41.76	182.82	2,245.55	-896.27	12.55	419.23	3.39	1.82	4.36
2,573.00	40.70	181.94	2,312.49	-954.88	10.11	449.50	1.36	-1.19	-0.99
2,663.00	38.80	180.57	2,381.68	-1,012.41	8.84	478.23	2.32	-2.11	-1.52
2,753.00	40.21	181.10	2,451.12	-1,069.65	8.00	506.45	1.61	1.57	0.59
2,842.00	40.79	180.39	2,518.80	-1,127.45	7.25	534.85	0.83	0.65	-0.80
2,874.41	40.22	180.11	2,543.44	-1,148.50	7.16	545.03	1.83	-1.74	-0.87
Cross @ 2874.41' MD									
2,931.00	39.24	179.60	2,586.96	-1,184.67	7.25	562.32	1.83	-1.74	-0.90
3,020.00	37.30	178.37	2,656.83	-1,239.78	8.21	587.93	2.34	-2.18	-1.38
3,110.00	39.90	179.20	2,727.16	-1,295.91	9.39	613.84	2.95	2.89	0.92
3,200.00	39.99	178.94	2,796.16	-1,353.69	10.33	640.75	0.21	0.10	-0.29
3,290.00	41.14	180.48	2,864.53	-1,412.21	10.62	668.59	1.69	1.28	1.71
3,379.00	39.20	179.51	2,932.54	-1,469.62	10.61	696.15	2.29	-2.18	-1.09
3,468.00	40.88	179.20	3,000.67	-1,526.87	11.26	723.06	1.90	1.89	-0.35
3,558.00	38.75	178.23	3,069.80	-1,584.48	12.54	749.59	2.47	-2.37	-1.08
3,647.00	40.52	180.88	3,138.34	-1,641.24	12.96	776.47	2.75	1.99	2.98
3,737.00	42.33	182.73	3,205.83	-1,700.75	11.07	806.70	2.43	2.01	2.06
3,826.00	40.52	182.33	3,272.56	-1,759.57	8.46	837.22	2.06	-2.03	-0.45
3,916.00	38.00	181.63	3,342.24	-1,816.49	6.49	866.28	2.84	-2.80	-0.78
4,005.00	40.39	181.32	3,411.21	-1,872.71	5.04	894.53	2.69	2.69	-0.35
4,095.00	39.15	180.48	3,480.38	-1,930.27	4.13	922.96	1.50	-1.38	-0.93
4,185.00	37.21	179.86	3,551.13	-1,985.90	3.96	949.82	2.20	-2.16	-0.69
4,275.00	38.44	177.22	3,622.22	-2,041.06	5.38	975.05	2.26	1.37	-2.93

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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	40.39	180.31	3,690.98	-2,097.54	6.57	1,001.12	3.11	2.19	3.47
4,453.00	42.38	178.50	3,757.75	-2,156.37	7.20	1,028.81	2.61	2.24	-2.03
4,543.00	40.12	176.47	3,825.42	-2,215.64	9.78	1,055.00	2.92	-2.51	-2.26
4,632.00	37.43	176.60	3,894.80	-2,271.27	13.15	1,078.75	3.02	-3.02	0.15
4,721.00	38.89	180.83	3,964.79	-2,326.22	14.35	1,104.07	3.36	1.64	4.75
4,810.00	39.99	183.61	4,033.53	-2,382.70	12.14	1,133.12	2.34	1.24	3.12
4,900.00	37.91	182.46	4,103.52	-2,439.20	9.14	1,162.87	2.45	-2.31	-1.28
4,989.00	38.98	181.89	4,173.22	-2,494.49	7.04	1,191.26	1.27	1.20	-0.64
5,079.00	40.52	182.46	4,242.41	-2,552.00	4.85	1,220.78	1.76	1.71	0.63
5,168.00	42.64	180.35	4,308.99	-2,611.04	3.43	1,250.37	2.85	2.38	-2.37
5,258.00	40.34	179.51	4,376.40	-2,670.66	3.49	1,278.94	2.63	-2.56	-0.93
5,348.00	42.20	179.12	4,444.04	-2,730.01	4.20	1,306.80	2.09	2.07	-0.43
5,437.00	40.39	177.97	4,510.91	-2,788.72	5.68	1,333.69	2.21	-2.03	-1.29
5,526.00	41.23	175.19	4,578.28	-2,846.77	9.16	1,358.50	2.25	0.94	-3.12
5,616.00	41.76	176.96	4,645.69	-2,906.26	13.24	1,383.48	1.43	0.59	1.97
5,705.00	40.04	177.09	4,712.96	-2,964.45	16.27	1,408.76	1.93	-1.93	0.15
5,795.00	37.61	176.38	4,783.07	-3,020.78	19.47	1,432.99	2.74	-2.70	-0.79
5,884.00	38.93	177.88	4,852.94	-3,075.83	22.22	1,457.00	1.81	1.48	1.69
5,997.00	39.15	183.57	4,940.74	-3,146.93	21.31	1,491.93	3.18	0.19	5.04
6,086.00	39.64	184.49	5,009.52	-3,203.28	17.34	1,522.46	0.86	0.55	1.03
6,176.00	40.70	179.25	5,078.31	-3,261.26	15.47	1,551.93	3.94	1.18	-5.82
6,266.00	40.30	179.16	5,146.74	-3,319.70	16.29	1,579.27	0.45	-0.44	-0.10
6,356.00	38.05	177.62	5,216.51	-3,376.53	17.86	1,605.16	2.72	-2.50	-1.71
6,445.00	36.41	182.02	5,287.39	-3,430.34	18.07	1,630.81	3.51	-1.84	4.94
6,535.00	37.07	180.08	5,359.51	-3,484.16	17.09	1,657.51	1.48	0.73	-2.16
6,624.00	37.91	174.97	5,430.14	-3,538.24	19.45	1,681.40	3.62	0.94	-5.74
6,714.00	35.53	173.34	5,502.28	-3,591.76	24.91	1,702.30	2.86	-2.64	-1.81
6,803.00	34.64	175.63	5,575.11	-3,642.67	29.84	1,722.42	1.79	-1.00	2.57
6,893.00	32.13	174.75	5,650.26	-3,692.02	33.98	1,742.47	2.84	-2.79	-0.98
6,983.00	31.37	174.62	5,726.79	-3,739.17	38.36	1,761.26	0.85	-0.84	-0.14
7,072.00	32.74	175.02	5,802.22	-3,786.21	42.63	1,780.10	1.56	1.54	0.45
7,162.00	29.65	171.23	5,879.20	-3,832.48	48.13	1,797.48	4.07	-3.43	-4.21
7,251.00	26.56	166.78	5,957.71	-3,873.62	56.04	1,810.29	4.19	-3.47	-5.00
7,341.00	27.62	173.25	6,037.85	-3,913.93	63.10	1,823.45	3.48	1.18	7.19
7,431.00	26.34	176.16	6,118.06	-3,954.58	66.89	1,839.64	2.04	-1.42	3.23
7,521.00	25.50	185.42	6,199.04	-3,993.80	66.40	1,858.90	4.59	-0.93	10.29
7,610.00	23.02	181.89	6,280.17	-4,030.27	64.01	1,878.50	3.23	-2.79	-3.97
7,700.00	19.75	182.33	6,363.97	-4,063.06	62.81	1,895.29	3.64	-3.63	0.49
7,789.00	17.01	179.03	6,448.42	-4,091.11	62.42	1,909.10	3.29	-3.08	-3.71
7,879.00	14.63	177.62	6,535.01	-4,115.63	63.12	1,920.26	2.68	-2.64	-1.57
7,968.00	12.55	172.86	6,621.51	-4,136.46	64.79	1,928.79	2.65	-2.34	-5.35
8,058.00	8.53	178.45	6,709.98	-4,152.84	66.18	1,935.43	4.60	-4.47	6.21
8,147.00	6.98	171.54	6,798.16	-4,164.79	67.16	1,940.31	2.03	-1.74	-7.76
8,237.00	7.47	180.39	6,887.45	-4,176.05	67.92	1,945.05	1.35	0.54	9.83

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Design:	Wellbore #1	Database:	EDM 5000.15 Single User Db

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8,326.00	6.23	176.47	6,975.81	-4,186.65	68.18	1,949.91	1.49	-1.39	-4.40
8,415.00	5.44	189.12	7,064.36	-4,195.64	67.81	1,954.55	1.69	-0.89	14.21
8,504.00	4.82	185.59	7,153.00	-4,203.53	66.77	1,959.24	0.78	-0.70	-3.97
8,593.00	4.42	186.17	7,241.71	-4,210.66	66.04	1,963.31	0.45	-0.45	0.65
8,683.00	10.74	222.04	7,330.92	-4,220.35	60.04	1,973.22	8.45	7.02	39.86
8,772.00	17.10	257.56	7,417.41	-4,229.35	41.66	1,993.67	11.66	7.15	39.91
8,862.00	26.29	262.58	7,500.95	-4,234.79	8.91	2,025.01	10.41	10.21	5.58
8,915.42	29.93	268.42	7,548.07	-4,236.68	-16.16	2,047.91	8.53	6.81	10.93
30° Inclination @ 8915.42' MD									
8,953.00	32.61	271.79	7,580.19	-4,236.63	-35.66	2,064.99	8.53	7.14	8.97
9,043.00	44.81	271.13	7,650.29	-4,235.24	-91.82	2,113.59	13.56	13.56	-0.73
9,133.00	56.70	272.32	7,707.13	-4,233.08	-161.36	2,173.56	13.25	13.21	1.32
9,222.00	60.94	272.19	7,753.19	-4,230.09	-237.42	2,238.85	4.77	4.76	-0.15
9,311.00	66.68	270.73	7,792.46	-4,228.08	-317.22	2,307.89	6.62	6.45	-1.64
9,388.61	70.00	270.51	7,821.10	-4,227.30	-389.34	2,370.78	4.29	4.28	-0.29
70° Inclination @ 9388.61' MD									
9,401.00	70.53	270.47	7,825.28	-4,227.21	-401.00	2,380.97	4.29	4.28	-0.28
9,491.00	75.83	271.35	7,851.32	-4,225.83	-487.11	2,455.84	5.96	5.89	0.98
9,581.00	83.61	271.92	7,867.37	-4,223.30	-575.56	2,532.22	8.67	8.64	0.63
9,670.00	86.74	271.22	7,874.85	-4,220.87	-664.20	2,608.82	3.60	3.52	-0.79
9,759.00	86.70	271.04	7,879.94	-4,219.12	-753.04	2,685.91	0.21	-0.04	-0.20
9,848.00	88.20	272.05	7,883.90	-4,216.72	-841.91	2,762.72	2.03	1.69	1.13
9,938.00	89.26	271.83	7,885.90	-4,213.67	-931.84	2,840.15	1.20	1.18	-0.24
10,028.00	89.53	271.52	7,886.85	-4,211.04	-1,021.79	2,917.80	0.46	0.30	-0.34
10,117.00	89.66	271.04	7,887.48	-4,209.06	-1,110.77	2,994.90	0.56	0.15	-0.54
10,206.00	89.70	271.17	7,887.98	-4,207.34	-1,199.75	3,072.13	0.15	0.04	0.15
10,295.00	89.57	270.91	7,888.54	-4,205.72	-1,288.73	3,149.42	0.33	-0.15	-0.29
10,385.00	90.23	270.86	7,888.70	-4,204.33	-1,378.72	3,227.69	0.74	0.73	-0.06
10,475.00	90.23	270.07	7,888.34	-4,203.60	-1,468.72	3,306.29	0.88	0.00	-0.88
10,564.00	90.54	269.98	7,887.74	-4,203.56	-1,557.72	3,384.35	0.36	0.35	-0.10
10,653.00	90.50	269.72	7,886.93	-4,203.80	-1,646.71	3,462.53	0.30	-0.04	-0.29
10,742.00	89.17	269.59	7,887.19	-4,204.33	-1,735.71	3,540.86	1.50	-1.49	-0.15
10,831.00	89.09	269.37	7,888.54	-4,205.14	-1,824.69	3,619.31	0.26	-0.09	-0.25
10,920.00	89.26	269.19	7,889.82	-4,206.26	-1,913.68	3,697.91	0.28	0.19	-0.20
11,010.00	89.66	269.01	7,890.67	-4,207.67	-2,003.66	3,777.53	0.49	0.44	-0.20
11,099.00	90.19	268.75	7,890.79	-4,209.41	-2,092.64	3,856.42	0.66	0.60	-0.29
11,189.00	90.72	268.66	7,890.07	-4,211.45	-2,182.62	3,936.33	0.60	0.59	-0.10
11,279.00	90.99	268.09	7,888.73	-4,214.00	-2,272.57	4,016.47	0.70	0.30	-0.63
11,367.00	89.04	269.19	7,888.71	-4,216.09	-2,360.54	4,094.64	2.54	-2.22	1.25
11,457.00	89.57	269.28	7,889.80	-4,217.29	-2,450.53	4,174.16	0.60	0.59	0.10
11,546.00	89.97	269.01	7,890.15	-4,218.62	-2,539.52	4,252.86	0.54	0.45	-0.30
11,636.00	90.72	268.66	7,889.61	-4,220.45	-2,629.49	4,332.67	0.92	0.83	-0.39
11,725.00	87.98	269.94	7,890.62	-4,221.53	-2,718.47	4,411.25	3.40	-3.08	1.44

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Coyote Trails 33W-15-11N
Project:	Weld County, CO (NAD83)	TVD Reference:	KB @ 5301.00usft (Ensign 147)
Site:	Sec 28-T1N-R68W Coyote Trails	MD Reference:	KB @ 5301.00usft (Ensign 147)
Well:	Coyote Trails 33W-15-11N	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)
11,815.00	87.89	269.85	7,893.87	-4,221.70	-2,808.41	4,490.23	0.14	-0.10	-0.10
11,904.00	88.25	269.85	7,896.86	-4,221.93	-2,897.36	4,568.37	0.40	0.40	0.00
11,989.68	88.20	269.40	7,899.51	-4,222.49	-2,983.00	4,643.77	0.53	-0.05	-0.53
Cross @ 11989.68' MD									
11,995.00	88.20	269.37	7,899.68	-4,222.55	-2,988.32	4,648.46	0.53	-0.05	-0.53
12,085.00	89.66	270.16	7,901.36	-4,222.92	-3,078.30	4,727.57	1.84	1.62	0.88
12,174.00	89.79	270.38	7,901.79	-4,222.50	-3,167.29	4,805.44	0.29	0.15	0.25
12,264.00	89.13	270.51	7,902.64	-4,221.80	-3,257.29	4,884.05	0.75	-0.73	0.14
12,354.00	90.85	271.70	7,902.65	-4,220.07	-3,347.27	4,962.15	2.32	1.91	1.32
12,443.00	91.60	271.79	7,900.75	-4,217.36	-3,436.20	5,038.87	0.85	0.84	0.10
12,533.00	90.15	271.97	7,899.38	-4,214.40	-3,526.14	5,116.36	1.62	-1.61	0.20
12,622.00	90.46	271.79	7,898.90	-4,211.48	-3,615.09	5,192.99	0.40	0.35	-0.20
12,712.00	90.94	271.30	7,897.80	-4,209.06	-3,705.05	5,270.74	0.76	0.53	-0.54
12,801.00	91.69	271.04	7,895.76	-4,207.24	-3,794.01	5,347.91	0.89	0.84	-0.29
12,890.00	89.62	269.50	7,894.74	-4,206.82	-3,883.00	5,425.77	2.90	-2.33	-1.73
12,980.00	88.91	268.97	7,895.90	-4,208.02	-3,972.98	5,505.28	0.98	-0.79	-0.59
13,069.00	89.40	268.70	7,897.21	-4,209.83	-4,061.95	5,584.20	0.63	0.55	-0.30
13,159.00	89.79	268.62	7,897.85	-4,211.94	-4,151.92	5,664.14	0.44	0.43	-0.09
13,248.00	89.62	268.09	7,898.30	-4,214.49	-4,240.89	5,743.41	0.63	-0.19	-0.60
13,338.00	90.28	267.87	7,898.38	-4,217.66	-4,330.83	5,823.83	0.77	0.73	-0.24
13,428.00	88.60	270.95	7,899.26	-4,218.59	-4,420.81	5,903.21	3.90	-1.87	3.42
13,517.00	87.85	271.79	7,902.02	-4,216.46	-4,509.74	5,980.21	1.26	-0.84	0.94
13,606.00	88.20	271.75	7,905.09	-4,213.72	-4,598.64	6,056.88	0.40	0.39	-0.04
13,696.00	88.82	271.44	7,907.43	-4,211.21	-4,688.57	6,134.57	0.77	0.69	-0.34
13,786.00	90.10	271.13	7,908.28	-4,209.20	-4,778.55	6,212.53	1.46	1.42	-0.34
13,875.00	91.16	270.73	7,907.30	-4,207.75	-4,867.53	6,289.90	1.27	1.19	-0.45
13,965.00	92.09	270.20	7,904.74	-4,207.02	-4,957.49	6,368.46	1.19	1.03	-0.59
14,054.00	90.41	269.01	7,902.80	-4,207.63	-5,046.46	6,446.81	2.31	-1.89	-1.34
14,144.00	91.03	268.35	7,901.67	-4,209.71	-5,136.43	6,526.73	1.01	0.69	-0.73
14,233.00	89.00	268.35	7,901.65	-4,212.27	-5,225.39	6,606.00	2.28	-2.28	0.00
14,323.00	89.26	267.65	7,903.02	-4,215.41	-5,315.32	6,686.40	0.83	0.29	-0.78
14,412.00	89.97	267.29	7,903.61	-4,219.34	-5,404.23	6,766.28	0.89	0.80	-0.40
14,502.00	88.25	267.25	7,905.01	-4,223.62	-5,494.11	6,847.19	1.91	-1.91	-0.04
14,591.00	88.73	266.90	7,907.36	-4,228.16	-5,582.97	6,927.32	0.67	0.54	-0.39
14,681.00	87.32	268.22	7,910.46	-4,231.99	-5,672.83	7,007.98	2.15	-1.57	1.47
14,771.00	87.94	268.75	7,914.18	-4,234.37	-5,762.72	7,087.98	0.91	0.69	0.59
14,860.00	88.25	268.26	7,917.14	-4,236.69	-5,851.64	7,167.10	0.65	0.35	-0.55
14,950.00	89.88	268.00	7,918.61	-4,239.63	-5,941.58	7,247.41	1.83	1.81	-0.29
15,039.00	89.84	270.11	7,918.82	-4,241.10	-6,030.56	7,326.17	2.37	-0.04	2.37
15,129.00	90.94	269.81	7,918.21	-4,241.16	-6,120.55	7,405.15	1.27	1.22	-0.33
15,218.00	91.74	269.23	7,916.13	-4,241.90	-6,209.53	7,483.56	1.11	0.90	-0.65
15,308.00	89.93	270.86	7,914.82	-4,241.83	-6,299.51	7,562.47	2.71	-2.01	1.81
15,397.00	90.77	270.91	7,914.28	-4,240.46	-6,388.50	7,639.87	0.95	0.94	0.06
15,487.00	88.95	271.17	7,914.50	-4,238.83	-6,478.48	7,718.02	2.04	-2.02	0.29

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Coyote Trails 33W-15-11N
Project:	Weld County, CO (NAD83)	TVD Reference:	KB @ 5301.00usft (Ensign 147)
Site:	Sec 28-T1N-R68W Coyote Trails	MD Reference:	KB @ 5301.00usft (Ensign 147)
Well:	Coyote Trails 33W-15-11N	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)
15,576.00	89.35	272.14	7,915.82	-4,236.26	-6,567.43	7,794.82	1.18	0.45	1.09
15,666.00	88.25	272.67	7,917.70	-4,232.48	-6,657.33	7,871.87	1.36	-1.22	0.59
15,755.00	88.64	273.02	7,920.12	-4,228.06	-6,746.19	7,947.70	0.59	0.44	0.39
15,844.00	88.38	270.25	7,922.43	-4,225.53	-6,835.11	8,024.49	3.12	-0.29	-3.11
15,933.00	88.69	268.92	7,924.71	-4,226.17	-6,924.08	8,102.85	1.53	0.35	-1.49
16,022.00	88.25	269.32	7,927.08	-4,227.54	-7,013.03	8,181.54	0.67	-0.49	0.45
16,111.00	87.36	269.06	7,930.49	-4,228.79	-7,101.96	8,260.16	1.04	-1.00	-0.29
16,200.00	88.20	269.06	7,933.94	-4,230.25	-7,190.88	8,338.86	0.94	0.94	0.00
16,289.00	89.22	269.06	7,935.94	-4,231.71	-7,279.84	8,417.61	1.15	1.15	0.00
16,378.00	90.54	269.76	7,936.13	-4,232.63	-7,368.84	8,496.12	1.68	1.48	0.79
16,468.00	88.16	268.92	7,937.15	-4,233.67	-7,458.82	8,575.55	2.80	-2.64	-0.93
16,557.00	88.86	269.85	7,939.46	-4,234.62	-7,547.78	8,654.05	1.31	0.79	1.04
16,646.00	89.35	269.41	7,940.85	-4,235.19	-7,636.77	8,732.39	0.74	0.55	-0.49
16,688.00	90.01	269.41	7,941.09	-4,235.63	-7,678.76	8,769.44	1.57	1.57	0.00
Last MWD Survey @ 16688' MD									
16,751.00	90.01	269.41	7,941.08	-4,236.28	-7,741.76	8,825.02	0.00	0.00	0.00
Projection to TD @ 16751' MD 2212' FSL/ 511' FEL									

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 @ 2874.41' MD - actual wellpath hits target center - Point	0.00	0.00	2,543.44	-1,148.50	7.16	1,248,630.22	3,137,995.52	40.014824	-105.007320
30° Inclination @ 8915.4 - actual wellpath misses target center by 0.11usft at 8915.42usft MD (7548.07 TVD, -4236.68 N, -16.16 E) - Point	0.00	0.00	7,548.05	-4,236.79	-16.19	1,245,541.86	3,137,989.33	40.006346	-105.007403
70° Inclination @ 9388.6 - actual wellpath hits target center - Point	0.00	0.00	7,821.10	-4,227.30	-389.34	1,245,549.26	3,137,616.13	40.006372	-105.008735
Cross @ 11989.68' MD - actual wellpath hits target center - Point	0.00	0.00	7,899.51	-4,222.49	-2,983.00	1,245,539.67	3,135,022.48	40.006385	-105.017994

Survey Report

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Coyote Trails 33W-15-11N
Project:	Weld County, CO (NAD83)	TVD Reference:	KB @ 5301.00usft (Ensign 147)
Site:	Sec 28-T1N-R68W Coyote Trails	MD Reference:	KB @ 5301.00usft (Ensign 147)
Well:	Coyote Trails 33W-15-11N	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)	
1,611.30	1,545.29	-378.21	3.35	Tie into Surface Surveys
1,675.00	1,600.46	-410.04	4.12	First MWD Survey @ 1675' MD
2,874.41	2,543.44	-1,148.50	7.16	Cross @ 2874.41' MD
8,915.42	7,548.07	-4,236.68	-16.16	30° Inclination @ 8915.42' MD
9,388.61	7,821.10	-4,227.30	-389.34	70° Inclination @ 9388.61' MD
11,989.68	7,899.51	-4,222.49	-2,983.00	Cross @ 11989.68' MD
16,688.00	7,941.09	-4,235.63	-7,678.76	Last MWD Survey @ 16688' MD
16,751.00	7,941.08	-4,236.28	-7,741.76	Projection to TD @ 16751' MD 2212' FSL/ 511' FEL

Checked By: _____	Approved By: _____	Date: _____
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