

# **Extraction Oil & Gas**

**Weld County, CO (NAD83)**

**Sec 28-T1N-R68W Coyote Trails**

**Coyote Trails 33W-15-1N**

**Wellbore #1**

**Design: Wellbore #1**

## **Standard Survey Report**

**05 May, 2019**

## Survey Report

<b>Company:</b>	Extraction Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Coyote Trails 33W-15-1N
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	KB @ 5301.00usft (Ensign 147)
<b>Site:</b>	Sec 28-T1N-R68W Coyote Trails	<b>MD Reference:</b>	KB @ 5301.00usft (Ensign 147)
<b>Well:</b>	Coyote Trails 33W-15-1N	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM 5000.15 Single User Db

<b>Project</b>	Weld County, CO (NAD83),		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Ground Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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-15-1N					
Well Position	+N/-S	0.00 usft	Northing:	1,249,858.53 usft	Latitude:	40.018198
	+E/-W	0.00 usft	Easting:	3,137,865.02 usft	Longitude:	-105.007761
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,273.00 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	3/22/2019	8.12	66.47	51,923.51484852

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	259.52	

<b>Survey Program</b>	<b>Date</b>	5/5/2019			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
114.00	1,548.00	Surface Surveys (Wellbore #1)	MWD	MWD - Standard	
1,672.00	15,477.00	Atlas MWD Surveys (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
114.00	0.49	162.86	114.00	-0.47	0.14	-0.06	0.43	0.43	0.00	
<b>First Surface Survey</b>										
205.00	0.48	153.55	205.00	-1.18	0.43	-0.21	0.09	-0.01	-10.23	
295.00	0.59	176.24	294.99	-1.98	0.63	-0.26	0.26	0.12	25.21	
385.00	0.58	175.21	384.99	-2.90	0.69	-0.16	0.02	-0.01	-1.14	
474.00	0.69	166.64	473.98	-3.87	0.86	-0.14	0.16	0.12	-9.63	
564.00	0.62	192.52	563.98	-4.87	0.88	0.02	0.33	-0.08	28.76	
654.00	0.77	210.60	653.97	-5.86	0.46	0.61	0.29	0.17	20.09	
743.00	0.89	209.32	742.96	-6.98	-0.18	1.45	0.14	0.13	-1.44	

## Survey Report

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<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	KB @ 5301.00usft (Ensign 147)
<b>Site:</b>	Sec 28-T1N-R68W Coyote Trails	<b>MD Reference:</b>	KB @ 5301.00usft (Ensign 147)
<b>Well:</b>	Coyote Trails 33W-15-1N	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
832.00	0.93	210.62	831.95	-8.21	-0.89	2.36	0.05	0.04	1.46
922.00	1.08	213.32	921.93	-9.54	-1.72	3.43	0.17	0.17	3.00
1,011.00	0.40	246.23	1,010.93	-10.37	-2.47	4.31	0.87	-0.76	36.98
1,100.00	0.34	237.86	1,099.93	-10.63	-2.98	4.86	0.09	-0.07	-9.40
1,190.00	0.42	249.00	1,189.92	-10.89	-3.51	5.43	0.12	0.09	12.38
1,279.00	0.56	268.03	1,278.92	-11.03	-4.25	6.19	0.24	0.16	21.38
1,369.00	0.64	253.83	1,368.92	-11.18	-5.17	7.12	0.19	0.09	-15.78
1,458.00	0.75	261.85	1,457.91	-11.40	-6.23	8.20	0.16	0.12	9.01
1,548.00	0.92	261.09	1,547.90	-11.60	-7.52	9.51	0.19	0.19	-0.84
Last Surface Survey/Tie into Surface Surveys									
1,672.00	1.37	247.67	1,671.87	-12.32	-9.88	11.95	0.42	0.36	-10.82
First MWD Survey @ 1672' MD									
1,762.00	3.54	182.23	1,761.80	-15.50	-10.98	13.62	3.58	2.41	-72.71
1,851.00	5.30	172.58	1,850.53	-22.32	-10.56	14.44	2.14	1.98	-10.84
1,940.00	7.47	179.06	1,938.98	-32.19	-9.93	15.62	2.57	2.44	7.28
2,030.00	10.65	172.54	2,027.84	-46.29	-8.76	17.03	3.71	3.53	-7.24
2,119.00	13.21	170.51	2,114.91	-64.47	-6.01	17.64	2.91	2.88	-2.28
2,208.00	15.33	170.60	2,201.16	-86.11	-2.41	18.04	2.38	2.38	0.10
2,297.00	18.52	172.62	2,286.30	-111.74	1.32	19.02	3.64	3.58	2.27
2,387.00	18.47	171.35	2,371.65	-140.01	5.31	20.25	0.45	-0.06	-1.41
2,476.00	17.81	168.26	2,456.23	-167.28	10.20	20.40	1.31	-0.74	-3.47
2,566.00	17.19	167.12	2,542.06	-193.72	15.96	19.54	0.79	-0.69	-1.27
2,656.00	16.35	166.15	2,628.23	-218.98	21.96	18.24	0.98	-0.93	-1.08
2,745.00	15.69	163.90	2,713.78	-242.71	28.29	16.32	1.02	-0.74	-2.53
2,835.00	16.79	169.45	2,800.19	-267.18	34.05	15.12	2.11	1.22	6.17
2,924.00	16.17	168.17	2,885.54	-291.95	38.94	14.81	0.81	-0.70	-1.44
3,014.00	15.33	166.15	2,972.16	-315.77	44.36	13.81	1.11	-0.93	-2.24
3,103.00	16.44	170.99	3,057.76	-339.63	49.15	13.44	1.94	1.25	5.44
3,192.00	15.73	169.63	3,143.28	-363.94	53.29	13.79	0.90	-0.80	-1.53
3,282.00	14.98	175.22	3,230.07	-387.53	56.46	14.97	1.84	-0.83	6.21
3,373.00	15.64	178.18	3,317.84	-411.51	57.83	17.98	1.12	0.73	3.25
3,462.00	17.54	176.06	3,403.13	-436.88	59.13	21.32	2.24	2.13	-2.38
3,551.00	16.44	174.08	3,488.25	-462.79	61.35	23.85	1.40	-1.24	-2.22
3,641.00	14.72	172.89	3,574.94	-486.81	64.08	25.53	1.94	-1.91	-1.32
3,730.00	16.13	171.74	3,660.73	-510.26	67.26	26.68	1.62	1.58	-1.29
3,820.00	16.79	172.36	3,747.04	-535.52	70.78	27.80	0.76	0.73	0.69
3,910.00	17.19	171.08	3,833.11	-561.54	74.57	28.81	0.61	0.44	-1.42
3,999.00	15.64	169.32	3,918.48	-586.32	78.83	29.13	1.83	-1.74	-1.98
4,089.00	16.57	173.42	4,004.95	-611.00	82.55	29.96	1.63	1.03	4.56
4,178.00	17.37	176.68	4,090.08	-636.87	84.78	32.47	1.40	0.90	3.66
4,268.00	15.07	174.08	4,176.49	-661.92	86.76	35.08	2.68	-2.56	-2.89
4,358.00	17.06	175.36	4,262.97	-686.72	89.04	37.35	2.25	2.21	1.42
4,448.00	15.86	175.53	4,349.28	-712.14	91.06	39.98	1.33	-1.33	0.19

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<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
4,538.00	17.50	173.46	4,435.49	-737.84	93.56	42.20	1.94	1.82	-2.30
4,627.00	15.95	173.06	4,520.73	-763.28	96.56	43.88	1.75	-1.74	-0.45
4,716.00	16.62	173.99	4,606.15	-788.08	99.37	45.62	0.81	0.75	1.04
4,805.00	16.53	176.28	4,691.46	-813.37	101.53	48.11	0.74	-0.10	2.57
4,895.00	18.21	178.40	4,777.35	-840.20	102.75	51.78	1.99	1.87	2.36
4,984.00	16.00	178.26	4,862.41	-866.37	103.51	55.79	2.48	-2.48	-0.16
5,074.00	17.50	174.30	4,948.59	-892.23	105.23	58.81	2.09	1.67	-4.40
5,164.00	15.64	174.78	5,034.85	-917.78	107.68	61.05	2.07	-2.07	0.53
5,253.00	16.62	171.57	5,120.35	-942.32	110.64	62.60	1.49	1.10	-3.61
5,342.00	18.34	169.05	5,205.23	-968.66	115.17	62.94	2.11	1.93	-2.83
5,432.00	16.22	167.86	5,291.17	-994.85	120.50	62.46	2.39	-2.36	-1.32
5,521.00	18.29	170.16	5,376.16	-1,020.77	125.50	62.26	2.45	2.33	2.58
5,611.00	16.35	169.19	5,462.07	-1,047.13	130.29	62.34	2.18	-2.16	-1.08
5,700.00	17.41	170.07	5,547.24	-1,072.55	134.94	62.40	1.23	1.19	0.99
5,790.00	16.00	168.75	5,633.44	-1,097.98	139.68	62.36	1.62	-1.57	-1.47
5,879.00	17.37	166.41	5,718.69	-1,122.92	145.19	61.47	1.71	1.54	-2.63
5,969.00	16.44	170.33	5,804.80	-1,148.54	150.49	60.92	1.63	-1.03	4.36
6,058.00	16.79	169.94	5,890.09	-1,173.61	154.85	61.20	0.41	0.39	-0.44
6,147.00	18.38	170.46	5,974.92	-1,200.11	159.42	61.52	1.80	1.79	0.58
6,236.00	17.32	169.23	6,059.64	-1,226.96	164.22	61.68	1.26	-1.19	-1.38
6,325.00	18.56	170.77	6,144.31	-1,253.96	168.97	61.93	1.49	1.39	1.73
6,414.00	19.22	172.93	6,228.52	-1,282.48	173.05	63.11	1.08	0.74	2.43
6,504.00	16.70	171.61	6,314.13	-1,309.97	176.76	64.46	2.84	-2.80	-1.47
6,594.00	14.76	169.10	6,400.75	-1,334.03	180.81	64.85	2.28	-2.16	-2.79
6,684.00	13.30	168.92	6,488.07	-1,355.45	184.97	64.65	1.62	-1.62	-0.20
6,773.00	10.47	177.34	6,575.16	-1,373.58	187.31	65.65	3.72	-3.18	9.46
6,863.00	9.41	177.87	6,663.80	-1,389.10	187.97	67.83	1.18	-1.18	0.59
6,952.00	6.41	174.39	6,751.95	-1,401.31	188.72	69.31	3.41	-3.37	-3.91
7,064.00	4.24	157.86	6,863.46	-1,411.37	190.89	69.00	2.35	-1.94	-14.76
7,154.00	1.86	123.22	6,953.34	-1,415.26	193.37	67.27	3.23	-2.64	-38.49
7,244.00	2.21	237.89	7,043.31	-1,416.98	193.12	67.83	3.81	0.39	127.41
7,334.00	6.67	268.34	7,133.02	-1,418.05	186.42	74.61	5.44	4.96	33.83
7,423.00	19.53	278.52	7,219.53	-1,415.99	166.46	93.87	14.63	14.45	11.44
7,513.00	24.66	273.23	7,302.90	-1,412.70	132.81	126.36	6.11	5.70	-5.88
7,590.10	29.99	268.46	7,371.39	-1,412.31	97.46	161.04	7.46	6.91	-6.19
30° Inclination @ 7590.1' MD									
7,603.00	30.89	267.81	7,382.51	-1,412.53	90.93	167.51	7.46	7.01	-5.03
7,693.00	37.61	269.92	7,456.86	-1,413.45	40.32	217.44	7.58	7.47	2.34
7,782.00	41.58	270.76	7,525.43	-1,413.09	-16.39	273.14	4.50	4.46	0.94
7,872.00	46.89	271.64	7,589.89	-1,411.76	-79.14	334.59	5.94	5.90	0.98
7,961.00	59.08	275.04	7,643.38	-1,407.46	-149.92	403.41	14.03	13.70	3.82
8,050.00	66.06	271.64	7,684.36	-1,402.93	-228.72	480.08	8.54	7.84	-3.82
8,085.20	70.00	272.09	7,697.53	-1,401.87	-261.34	511.96	11.26	11.20	1.27
70° Inclination @ 8085.2' MD									

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<b>Well:</b>	Coyote Trails 33W-15-1N	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM 5000.15 Single User Db

Survey									
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8,140.00	76.14	272.74	7,713.48	-1,399.66	-313.69	563.04	11.26	11.20	1.19
8,229.00	77.64	270.28	7,733.67	-1,397.38	-400.33	647.82	3.18	1.69	-2.76
8,320.00	79.94	270.19	7,751.36	-1,397.01	-489.59	735.52	2.53	2.53	-0.10
8,409.00	85.59	269.31	7,762.56	-1,397.40	-577.84	822.37	6.42	6.35	-0.99
8,499.00	89.00	268.87	7,766.81	-1,398.83	-667.72	911.01	3.82	3.79	-0.49
8,589.00	88.38	268.87	7,768.87	-1,400.61	-757.68	999.79	0.69	-0.69	0.00
8,678.00	89.70	272.39	7,770.36	-1,399.63	-846.64	1,087.09	4.22	1.48	3.96
8,769.00	89.70	273.23	7,770.83	-1,395.17	-937.53	1,175.65	0.92	0.00	0.92
8,858.00	89.26	273.32	7,771.64	-1,390.08	-1,026.38	1,262.10	0.50	-0.49	0.10
8,948.00	90.01	271.16	7,772.21	-1,386.56	-1,116.30	1,349.88	2.54	0.83	-2.40
9,037.00	89.31	270.94	7,772.74	-1,384.93	-1,205.29	1,437.08	0.82	-0.79	-0.25
9,127.00	90.46	269.79	7,772.92	-1,384.36	-1,295.28	1,525.47	1.81	1.28	-1.28
9,217.00	90.28	270.19	7,772.34	-1,384.38	-1,385.28	1,613.97	0.49	-0.20	0.44
9,307.00	90.01	269.66	7,772.11	-1,384.49	-1,475.28	1,702.49	0.66	-0.30	-0.59
9,396.00	89.57	269.40	7,772.44	-1,385.22	-1,564.28	1,790.14	0.57	-0.49	-0.29
9,485.00	89.17	268.43	7,773.42	-1,386.91	-1,653.25	1,877.94	1.18	-0.45	-1.09
9,575.00	88.91	267.85	7,774.93	-1,389.83	-1,743.19	1,966.91	0.71	-0.29	-0.64
9,665.00	90.41	269.48	7,775.46	-1,391.93	-1,833.16	2,055.75	2.46	1.67	1.81
9,755.00	90.37	268.82	7,774.85	-1,393.26	-1,923.15	2,144.48	0.73	-0.04	-0.73
9,844.00	90.23	268.69	7,774.38	-1,395.19	-2,012.13	2,232.33	0.21	-0.16	-0.15
9,934.00	90.01	268.47	7,774.19	-1,397.43	-2,102.10	2,321.21	0.35	-0.24	-0.24
10,023.00	89.53	268.25	7,774.55	-1,399.97	-2,191.06	2,409.15	0.59	-0.54	-0.25
10,113.00	89.44	267.72	7,775.36	-1,403.14	-2,281.00	2,498.16	0.60	-0.10	-0.59
10,204.00	88.78	269.75	7,776.77	-1,405.15	-2,371.96	2,587.97	2.35	-0.73	2.23
10,293.00	88.86	269.75	7,778.61	-1,405.53	-2,460.94	2,675.54	0.09	0.09	0.00
10,382.00	89.13	269.18	7,780.17	-1,406.36	-2,549.92	2,763.19	0.71	0.30	-0.64
10,471.00	87.32	269.92	7,782.92	-1,407.06	-2,638.87	2,850.78	2.20	-2.03	0.83
10,561.00	87.54	269.92	7,786.96	-1,407.19	-2,728.78	2,939.21	0.24	0.24	0.00
10,650.00	87.14	269.66	7,791.09	-1,407.51	-2,817.69	3,026.69	0.54	-0.45	-0.29
10,731.40	87.10	270.85	7,795.18	-1,407.15	-2,898.98	3,106.57	1.47	-0.04	1.47
Cross @ 10731.4' MD									
10,740.00	87.10	270.98	7,795.61	-1,407.01	-2,907.57	3,114.99	1.47	-0.04	1.47
10,829.00	87.89	271.16	7,799.50	-1,405.35	-2,996.47	3,202.10	0.91	0.89	0.20
10,919.00	87.41	270.41	7,803.19	-1,404.12	-3,086.38	3,290.29	0.99	-0.53	-0.83
11,009.00	87.36	270.23	7,807.30	-1,403.62	-3,176.29	3,378.61	0.21	-0.06	-0.20
11,098.00	87.36	270.32	7,811.40	-1,403.19	-3,265.19	3,465.95	0.10	0.00	0.10
11,187.00	87.32	269.79	7,815.53	-1,403.11	-3,354.10	3,553.35	0.60	-0.04	-0.60
11,276.00	87.10	269.13	7,819.86	-1,403.94	-3,442.99	3,640.91	0.78	-0.25	-0.74
11,366.00	88.78	269.13	7,823.10	-1,405.31	-3,532.92	3,729.59	1.87	1.87	0.00
11,455.00	89.70	270.81	7,824.28	-1,405.36	-3,621.90	3,817.10	2.15	1.03	1.89
11,545.00	90.15	271.29	7,824.39	-1,403.71	-3,711.89	3,905.29	0.73	0.50	0.53
11,634.00	90.90	269.88	7,823.58	-1,402.80	-3,800.88	3,992.63	1.79	0.84	-1.58
11,723.00	90.99	269.75	7,822.11	-1,403.09	-3,889.86	4,080.18	0.18	0.10	-0.15
11,813.00	90.77	268.43	7,820.73	-1,404.51	-3,979.84	4,168.92	1.49	-0.24	-1.47

# Survey Report

<b>Company:</b>	Extraction Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Coyote Trails 33W-15-1N
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	KB @ 5301.00usft (Ensign 147)
<b>Site:</b>	Sec 28-T1N-R68W Coyote Trails	<b>MD Reference:</b>	KB @ 5301.00usft (Ensign 147)
<b>Well:</b>	Coyote Trails 33W-15-1N	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
11,902.00	91.30	271.33	7,819.12	-1,404.70	-4,068.82	4,256.44	3.31	0.60	3.26
11,991.00	91.38	270.81	7,817.04	-1,403.04	-4,157.78	4,343.62	0.59	0.09	-0.58
12,081.00	91.47	269.70	7,814.80	-1,402.64	-4,247.74	4,432.01	1.24	0.10	-1.23
12,170.00	90.28	269.31	7,813.44	-1,403.41	-4,336.73	4,519.65	1.41	-1.34	-0.44
12,259.00	90.37	269.53	7,812.94	-1,404.31	-4,425.72	4,607.32	0.27	0.10	0.25
12,349.00	90.15	269.04	7,812.53	-1,405.43	-4,515.72	4,696.02	0.60	-0.24	-0.54
12,439.00	89.88	268.51	7,812.51	-1,407.36	-4,605.69	4,784.85	0.66	-0.30	-0.59
12,528.00	88.95	270.06	7,813.41	-1,408.47	-4,694.68	4,872.55	2.03	-1.04	1.74
12,618.00	89.22	269.57	7,814.85	-1,408.76	-4,784.67	4,961.09	0.62	0.30	-0.54
12,708.00	88.47	268.51	7,816.67	-1,410.26	-4,874.63	5,049.83	1.44	-0.83	-1.18
12,797.00	90.15	270.23	7,817.74	-1,411.24	-4,963.62	5,137.51	2.70	1.89	1.93
12,886.00	90.50	270.63	7,817.23	-1,410.57	-5,052.61	5,224.90	0.60	0.39	0.45
12,975.00	90.19	269.18	7,816.70	-1,410.72	-5,141.61	5,312.43	1.67	-0.35	-1.63
13,064.00	89.93	268.73	7,816.60	-1,412.35	-5,230.59	5,400.23	0.58	-0.29	-0.51
13,154.00	89.84	268.87	7,816.78	-1,414.23	-5,320.57	5,489.05	0.18	-0.10	0.16
13,243.00	89.13	267.59	7,817.58	-1,416.98	-5,409.52	5,577.02	1.64	-0.80	-1.44
13,332.00	91.52	269.00	7,817.08	-1,419.63	-5,498.47	5,664.97	3.12	2.69	1.58
13,422.00	91.87	268.34	7,814.42	-1,421.72	-5,588.41	5,753.78	0.83	0.39	-0.73
13,512.00	91.65	268.38	7,811.65	-1,424.29	-5,678.33	5,842.67	0.25	-0.24	0.04
13,601.00	91.60	268.07	7,809.13	-1,427.05	-5,767.25	5,930.61	0.35	-0.06	-0.35
13,690.00	91.03	268.60	7,807.09	-1,429.63	-5,856.19	6,018.54	0.87	-0.64	0.60
13,780.00	91.47	270.10	7,805.12	-1,430.65	-5,946.16	6,107.19	1.74	0.49	1.67
13,870.00	91.60	270.19	7,802.71	-1,430.42	-6,036.13	6,195.62	0.18	0.14	0.10
13,959.00	91.60	269.79	7,800.23	-1,430.44	-6,125.09	6,283.10	0.45	0.00	-0.45
14,049.00	91.34	268.51	7,797.92	-1,431.77	-6,215.05	6,371.80	1.45	-0.29	-1.42
14,138.00	90.90	270.19	7,796.18	-1,432.78	-6,304.02	6,459.47	1.95	-0.49	1.89
14,228.00	91.30	270.01	7,794.45	-1,432.63	-6,394.01	6,547.93	0.49	0.44	-0.20
14,318.00	91.65	269.48	7,792.13	-1,433.03	-6,483.98	6,636.47	0.71	0.39	-0.59
14,408.00	91.07	271.20	7,790.00	-1,432.49	-6,573.95	6,724.84	2.02	-0.64	1.91
14,497.00	90.46	272.08	7,788.81	-1,429.95	-6,662.90	6,811.85	1.20	-0.69	0.99
14,588.00	90.85	270.98	7,787.77	-1,427.52	-6,753.86	6,900.85	1.28	0.43	-1.21
14,677.00	89.17	271.73	7,787.75	-1,425.41	-6,842.83	6,987.95	2.07	-1.89	0.84
14,767.00	88.51	270.72	7,789.58	-1,423.49	-6,932.79	7,076.06	1.34	-0.73	-1.12
14,856.00	89.79	272.30	7,790.90	-1,421.14	-7,021.75	7,163.11	2.28	1.44	1.78
14,946.00	90.01	271.60	7,791.05	-1,418.08	-7,111.69	7,251.00	0.82	0.24	-0.78
15,035.00	89.70	270.54	7,791.28	-1,416.42	-7,200.68	7,338.19	1.24	-0.35	-1.19
15,125.00	89.53	270.89	7,791.88	-1,415.30	-7,290.67	7,426.48	0.43	-0.19	0.39
15,215.00	89.13	270.41	7,792.94	-1,414.27	-7,380.65	7,514.78	0.69	-0.44	-0.53
15,304.00	90.37	271.25	7,793.32	-1,412.99	-7,469.64	7,602.05	1.68	1.39	0.94
15,393.00	91.03	270.98	7,792.24	-1,411.25	-7,558.62	7,689.22	0.80	0.74	-0.30
Last MWD Survey @ 15393' MD									
15,477.00	91.03	270.98	7,790.73	-1,409.82	-7,642.59	7,771.54	0.00	0.00	0.00
Projection to TD @ 15477' MD 160.5' FNL/ 502.5' FWL									

## Survey Report

<b>Company:</b>	Extraction Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Coyote Trails 33W-15-1N
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	KB @ 5301.00usft (Ensign 147)
<b>Site:</b>	Sec 28-T1N-R68W Coyote Trails	<b>MD Reference:</b>	KB @ 5301.00usft (Ensign 147)
<b>Well:</b>	Coyote Trails 33W-15-1N	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
30° Inclination @ 7590.1	0.00	0.00	7,371.42	-1,412.27	97.43	1,248,446.82	3,137,970.29	40.014321	-105.007413
- actual wellpath misses target center by 0.04usft at 7590.14usft MD (7371.42 TVD, -1412.31 N, 97.44 E)									
- Point									
70° Inclination @ 8085.2	0.00	0.00	7,697.52	-1,401.87	-261.32	1,248,455.23	3,137,611.49	40.014350	-105.008694
- actual wellpath hits target center									
- Point									
Cross @ 10731.4' MD	0.00	0.00	7,795.18	-1,407.15	-2,899.00	1,248,435.31	3,134,973.87	40.014335	-105.018111
- actual wellpath hits target center									
- Point									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
114.00	114.00	-0.47	0.14	First Surface Survey	
1,548.00	1,547.90	-11.60	-7.52	Last Surface Survey/Tie into Surface Surveys	
1,672.00	1,671.87	-12.32	-9.88	First MWD Survey @ 1672' MD	
7,590.10	7,371.39	-1,412.31	97.46	30° Inclination @ 7590.1' MD	
8,085.20	7,697.53	-1,401.87	-261.34	70° Inclination @ 8085.2' MD	
10,731.40	7,795.18	-1,407.15	-2,898.98	Cross @ 10731.4' MD	
15,393.00	7,792.24	-1,411.25	-7,558.62	Last MWD Survey @ 15393' MD	
15,477.00	7,790.73	-1,409.82	-7,642.59	Projection to TD @ 15477' MD 160.5' FNL/ 502.5' FWL	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_