

# **Extraction Oil & Gas**

**Weld County, CO (NAD83)**

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

**Coyote Trails 33W-15-4N**

**Wellbore #1**

**Design: Wellbore #1**

## **Standard Survey Report**

**02 May, 2019**

## Survey Report

<b>Company:</b>	Extraction Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Coyote Trails 33W-15-4N
<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-15-4N	<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-15-4N				
Well Position	+N/-S	0.00 usft	Northing:	1,249,858.73 usft	Latitude:	40.018198
	+E/-W	0.00 usft	Easting:	3,137,900.87 usft	Longitude:	-105.007633
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	51,923.52849295

<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	253.53	

<b>Survey Program</b>	<b>Date</b>	5/2/2019			
<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	
1,669.00	15,955.00	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	0.38	64.91	114.00	0.16	0.34	-0.37	0.33	0.33	0.00	
<b>First Surface Survey</b>										
205.00	0.70	62.69	205.00	0.54	1.11	-1.22	0.35	0.35	-2.44	
295.00	0.75	351.07	294.99	1.38	1.51	-1.84	0.94	0.06	-79.58	
385.00	0.47	12.56	384.98	2.32	1.50	-2.09	0.40	-0.31	23.88	
474.00	0.22	22.43	473.98	2.83	1.64	-2.38	0.29	-0.28	11.09	
564.00	0.38	338.92	563.98	3.27	1.60	-2.46	0.30	0.18	-48.34	
654.00	0.41	340.97	653.98	3.85	1.39	-2.42	0.04	0.03	2.28	
743.00	0.57	314.68	742.98	4.47	0.97	-2.19	0.31	0.18	-29.54	

# 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-15-4N	<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	0.63	309.32	831.97	5.09	0.27	-1.71	0.09	0.07	-6.02
922.00	0.55	326.74	921.97	5.76	-0.35	-1.30	0.22	-0.09	19.36
1,011.00	1.18	193.78	1,010.96	5.23	-0.80	-0.72	1.80	0.71	-149.39
1,100.00	3.06	182.78	1,099.90	1.97	-1.13	0.53	2.15	2.11	-12.36
1,190.00	4.91	177.33	1,189.68	-4.28	-1.07	2.24	2.10	2.06	-6.06
1,279.00	6.58	173.17	1,278.23	-13.15	-0.28	4.00	1.93	1.88	-4.67
1,369.00	8.48	168.19	1,367.45	-24.76	1.69	5.40	2.23	2.11	-5.53
1,458.00	10.61	169.78	1,455.21	-39.25	4.48	6.83	2.41	2.39	1.79
1,548.00	12.78	176.84	1,543.34	-57.35	6.50	10.02	2.88	2.41	7.84
Last Surface Survey/Tie into Surface Surveys									
1,669.00	13.04	176.41	1,661.28	-84.34	8.10	16.14	0.23	0.21	-0.36
First MWD Survey @ 1669' MD									
1,759.00	15.11	174.52	1,748.58	-106.15	9.85	20.64	2.36	2.30	-2.10
1,848.00	17.01	177.12	1,834.10	-130.70	11.61	25.91	2.28	2.13	2.92
1,937.00	17.85	181.26	1,919.01	-157.34	11.97	33.12	1.68	0.94	4.65
2,027.00	20.33	186.46	2,004.06	-186.67	9.91	43.41	3.34	2.76	5.78
2,116.00	20.33	186.46	2,087.52	-217.40	6.43	55.46	0.00	0.00	0.00
2,205.00	21.34	187.65	2,170.70	-248.81	2.53	68.10	1.23	1.13	1.34
2,294.00	24.04	186.77	2,252.80	-282.87	-1.76	81.87	3.06	3.03	-0.99
2,384.00	25.63	182.94	2,334.48	-320.52	-4.92	95.57	2.51	1.77	-4.26
2,473.00	26.69	173.99	2,414.40	-359.63	-3.82	105.60	4.59	1.19	-10.06
2,563.00	25.14	169.76	2,495.35	-398.55	1.70	111.34	2.68	-1.72	-4.70
2,653.00	25.59	173.95	2,576.68	-436.70	7.15	116.93	2.06	0.50	4.66
2,743.00	24.92	173.77	2,658.08	-474.88	11.25	123.81	0.75	-0.74	-0.20
2,832.00	22.67	172.84	2,739.51	-510.54	15.43	129.92	2.56	-2.53	-1.04
2,921.00	22.40	176.37	2,821.72	-544.48	18.64	136.46	1.55	-0.30	3.97
3,011.00	22.80	174.69	2,904.81	-578.96	21.34	143.64	0.84	0.44	-1.87
3,100.00	23.38	175.71	2,986.68	-613.74	24.25	150.70	0.79	0.65	1.15
3,189.00	25.94	176.55	3,067.55	-650.78	26.75	158.81	2.90	2.88	0.94
3,280.00	27.40	179.72	3,148.87	-691.59	28.05	169.13	2.24	1.60	3.48
3,370.00	25.14	179.01	3,229.57	-731.42	28.48	180.01	2.54	-2.51	-0.79
3,459.00	25.28	176.55	3,310.10	-769.30	29.95	189.33	1.19	0.16	-2.76
3,548.00	26.43	174.83	3,390.19	-807.99	32.88	197.50	1.54	1.29	-1.93
3,638.00	24.35	174.08	3,471.49	-846.40	36.60	204.82	2.34	-2.31	-0.83
3,727.00	25.50	171.96	3,552.20	-883.62	41.17	210.98	1.64	1.29	-2.38
3,817.00	25.98	175.09	3,633.28	-922.45	45.57	217.77	1.60	0.53	3.48
3,907.00	23.38	174.52	3,715.05	-959.87	48.96	225.12	2.90	-2.89	-0.63
3,996.00	22.63	172.93	3,796.97	-994.44	52.75	231.28	1.09	-0.84	-1.79
4,086.00	24.61	179.50	3,879.44	-1,030.37	55.05	239.27	3.66	2.20	7.30
4,175.00	25.14	179.67	3,960.18	-1,067.81	55.32	249.62	0.60	0.60	0.19
4,265.00	26.34	177.74	4,041.25	-1,106.88	56.22	259.83	1.63	1.33	-2.14
4,355.00	23.73	175.71	4,122.79	-1,144.90	58.36	268.55	3.05	-2.90	-2.26
4,445.00	24.35	176.55	4,204.99	-1,181.47	60.83	276.55	0.79	0.69	0.93

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<b>Site:</b>	Sec 28-T1N-R68W Coyote Trails	<b>MD Reference:</b>	KB @ 5301.00usft (Ensign 147)
<b>Well:</b>	Coyote Trails 33W-15-4N	<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)
4,535.00	27.00	174.52	4,286.09	-1,220.34	63.90	284.63	3.10	2.94	-2.26
4,624.00	26.73	172.62	4,365.49	-1,260.30	68.40	291.64	1.01	-0.30	-2.13
4,714.00	24.53	171.13	4,446.63	-1,298.84	73.88	297.30	2.55	-2.44	-1.66
4,803.00	23.69	175.97	4,527.87	-1,334.93	77.99	303.60	2.41	-0.94	5.44
4,892.00	24.26	178.09	4,609.20	-1,371.04	79.85	312.04	1.16	0.64	2.38
4,982.00	24.48	178.66	4,691.18	-1,408.16	80.90	321.56	0.36	0.24	0.63
5,071.00	22.98	177.69	4,772.65	-1,443.96	82.04	330.62	1.74	-1.69	-1.09
5,161.00	23.55	178.44	4,855.33	-1,479.48	83.23	339.54	0.71	0.63	0.83
5,250.00	25.63	177.47	4,936.26	-1,516.49	84.57	348.75	2.38	2.34	-1.09
5,339.00	23.20	175.84	5,017.29	-1,553.21	86.69	357.12	2.83	-2.73	-1.83
5,429.00	24.75	176.37	5,099.53	-1,589.70	89.17	365.09	1.74	1.72	0.59
5,519.00	25.54	175.18	5,181.00	-1,627.83	91.99	373.19	1.04	0.88	-1.32
5,608.00	23.51	176.63	5,261.96	-1,664.68	94.65	381.08	2.38	-2.28	1.63
5,697.00	23.33	176.63	5,343.63	-1,699.99	96.73	389.10	0.20	-0.20	0.00
5,787.00	23.95	173.37	5,426.08	-1,735.93	99.88	396.26	1.61	0.69	-3.62
5,876.00	25.54	176.37	5,506.91	-1,773.02	103.18	403.61	2.28	1.79	3.37
5,966.00	26.56	179.10	5,587.77	-1,812.50	104.73	413.32	1.75	1.13	3.03
6,055.00	24.79	173.77	5,667.99	-1,850.96	107.07	421.98	3.27	-1.99	-5.99
6,144.00	25.41	175.49	5,748.59	-1,888.54	110.59	429.25	1.08	0.70	1.93
6,233.00	23.64	172.01	5,829.56	-1,925.25	114.57	435.83	2.57	-1.99	-3.91
6,322.00	24.53	175.84	5,910.81	-1,961.35	118.40	442.40	2.02	1.00	4.30
6,411.00	25.90	177.96	5,991.33	-1,999.21	120.43	451.18	1.84	1.54	2.38
6,502.00	23.99	175.71	6,073.84	-2,037.52	122.52	460.04	2.34	-2.10	-2.47
6,591.00	23.02	177.52	6,155.46	-2,072.95	124.63	468.06	1.36	-1.09	2.03
6,681.00	20.64	175.62	6,239.00	-2,106.35	126.60	475.64	2.76	-2.64	-2.11
6,771.00	20.28	177.47	6,323.32	-2,137.75	128.50	482.71	0.82	-0.40	2.06
6,860.00	16.97	176.19	6,407.65	-2,166.13	130.04	489.28	3.75	-3.72	-1.44
6,950.00	15.11	175.80	6,494.14	-2,190.93	131.78	494.65	2.07	-2.07	-0.43
7,062.00	11.75	173.20	6,603.07	-2,216.82	134.20	499.66	3.05	-3.00	-2.32
7,151.00	9.01	174.03	6,690.60	-2,232.76	135.99	502.45	3.08	-3.08	0.93
7,241.00	7.11	172.23	6,779.71	-2,245.28	137.48	504.58	2.13	-2.11	-2.00
7,331.00	5.39	173.28	6,869.17	-2,255.00	138.73	506.14	1.92	-1.91	1.17
7,420.00	2.56	151.65	6,957.95	-2,260.90	140.16	506.44	3.54	-3.18	-24.30
7,510.00	1.19	90.92	7,047.91	-2,262.69	142.05	505.13	2.48	-1.52	-67.48
7,600.00	0.75	73.78	7,137.89	-2,262.54	143.55	503.65	0.58	-0.49	-19.04
7,690.00	0.62	70.39	7,227.89	-2,262.21	144.57	502.58	0.15	-0.14	-3.77
7,779.00	0.35	66.55	7,316.88	-2,261.94	145.28	501.82	0.31	-0.30	-4.31
7,869.00	9.77	279.80	7,406.46	-2,260.53	137.99	508.42	11.18	10.47	-163.06
7,958.00	17.28	283.85	7,492.93	-2,256.07	117.68	526.63	8.50	8.44	4.55
8,047.00	24.97	282.35	7,575.89	-2,248.88	86.45	554.54	8.66	8.64	-1.69
8,105.56	29.94	276.30	7,627.85	-2,244.63	59.83	578.86	9.73	8.49	-10.33
30° Inclination @ 8105.56' MD									
8,137.00	32.70	273.76	7,654.71	-2,243.21	43.55	594.07	9.73	8.78	-8.07
8,226.00	40.83	268.47	7,725.96	-2,242.41	-9.63	644.84	9.80	9.13	-5.94

# Survey Report

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<b>Well:</b>	Coyote Trails 33W-15-4N	<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)
8,317.00	51.92	268.91	7,788.65	-2,243.89	-75.38	708.31	12.19	12.19	0.48
8,406.00	59.08	268.38	7,839.03	-2,245.64	-148.66	779.08	8.06	8.04	-0.60
8,496.00	63.94	267.10	7,881.94	-2,248.78	-227.67	855.74	5.54	5.40	-1.42
8,586.00	67.43	265.25	7,919.00	-2,254.26	-309.48	935.76	4.31	3.88	-2.06
8,638.22	70.00	265.83	7,937.95	-2,258.05	-357.99	983.35	5.03	4.92	1.10
70° Inclination @ 8638.22' MD									
8,675.00	71.81	266.22	7,949.99	-2,260.46	-392.66	1,017.28	5.03	4.92	1.07
8,766.00	76.85	265.83	7,974.56	-2,266.53	-480.04	1,102.80	5.55	5.54	-0.43
8,855.00	88.64	268.51	7,985.78	-2,270.86	-568.06	1,188.43	13.58	13.25	3.01
8,945.00	89.35	268.56	7,987.36	-2,273.16	-658.01	1,275.35	0.79	0.79	0.06
9,034.00	89.84	267.68	7,987.99	-2,276.08	-746.96	1,361.48	1.13	0.55	-0.99
9,124.00	89.31	268.78	7,988.65	-2,278.86	-836.92	1,448.53	1.36	-0.59	1.22
9,214.00	89.44	268.16	7,989.64	-2,281.26	-926.88	1,535.48	0.70	0.14	-0.69
9,304.00	89.84	270.50	7,990.20	-2,282.31	-1,016.86	1,622.08	2.64	0.44	2.60
9,393.00	89.97	269.92	7,990.35	-2,281.99	-1,105.86	1,707.33	0.67	0.15	-0.65
9,482.00	89.22	270.67	7,990.98	-2,281.53	-1,194.86	1,792.55	1.19	-0.84	0.84
9,572.00	88.60	271.64	7,992.69	-2,279.71	-1,284.82	1,878.31	1.28	-0.69	1.08
9,661.00	88.42	270.41	7,995.00	-2,278.12	-1,373.77	1,963.16	1.40	-0.20	-1.38
9,752.00	89.31	270.63	7,996.81	-2,277.30	-1,464.75	2,050.18	1.01	0.98	0.24
9,841.00	89.84	269.84	7,997.47	-2,276.93	-1,553.75	2,135.42	1.07	0.60	-0.89
9,931.00	90.01	268.95	7,997.58	-2,277.88	-1,643.74	2,221.99	1.01	0.19	-0.99
10,020.00	89.57	269.26	7,997.91	-2,279.27	-1,732.73	2,307.72	0.60	-0.49	0.35
10,110.00	90.01	268.16	7,998.24	-2,281.30	-1,822.71	2,394.58	1.32	0.49	-1.22
10,200.00	88.47	269.66	7,999.43	-2,283.01	-1,912.68	2,481.35	2.39	-1.71	1.67
10,290.00	88.38	270.06	8,001.91	-2,283.23	-2,002.64	2,567.69	0.46	-0.10	0.44
10,379.00	91.74	271.73	8,001.82	-2,281.84	-2,091.61	2,652.62	4.22	3.78	1.88
10,468.00	92.27	271.86	7,998.70	-2,279.05	-2,180.52	2,737.08	0.61	0.60	0.15
10,558.00	90.99	270.72	7,996.14	-2,277.03	-2,270.45	2,822.76	1.90	-1.42	-1.27
10,647.00	89.75	269.57	7,995.57	-2,276.80	-2,359.45	2,908.04	1.90	-1.39	-1.29
10,737.00	88.11	269.48	7,997.25	-2,277.55	-2,449.43	2,994.54	1.82	-1.82	-0.10
10,826.00	88.29	268.82	8,000.04	-2,278.87	-2,538.37	3,080.21	0.77	0.20	-0.74
10,916.00	88.07	268.29	8,002.90	-2,281.14	-2,628.30	3,167.09	0.64	-0.24	-0.59
11,006.00	89.26	269.35	8,005.00	-2,282.99	-2,718.25	3,253.88	1.77	1.32	1.18
11,095.00	88.82	268.38	8,006.49	-2,284.75	-2,807.22	3,339.70	1.20	-0.49	-1.09
11,184.00	87.94	268.51	8,009.01	-2,287.17	-2,896.15	3,425.67	1.00	-0.99	0.15
11,212.87	88.34	268.93	8,009.94	-2,287.81	-2,925.00	3,453.51	1.99	1.38	1.44
Cross @ 11212.87' MD									
11,273.00	89.17	269.79	8,011.25	-2,288.49	-2,985.11	3,511.35	1.99	1.38	1.44
11,363.00	89.26	269.26	8,012.48	-2,289.23	-3,075.10	3,597.86	0.60	0.10	-0.59
11,452.00	91.03	269.09	8,012.26	-2,290.51	-3,164.08	3,683.56	2.00	1.99	-0.19
11,541.00	92.05	268.60	8,009.87	-2,292.31	-3,253.03	3,769.37	1.27	1.15	-0.55
11,631.00	90.81	270.81	8,007.62	-2,292.77	-3,343.00	3,855.77	2.81	-1.38	2.46
11,720.00	90.68	270.23	8,006.46	-2,291.96	-3,431.98	3,940.88	0.67	-0.15	-0.65
11,810.00	90.81	269.79	8,005.29	-2,291.95	-3,521.98	4,027.18	0.51	0.14	-0.49

# Survey Report

<b>Company:</b>	Extraction Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Coyote Trails 33W-15-4N
<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-15-4N	<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)
11,899.00	90.77	269.92	8,004.06	-2,292.17	-3,610.97	4,112.59	0.15	-0.04	0.15
11,988.00	89.70	270.14	8,003.70	-2,292.13	-3,699.97	4,197.92	1.23	-1.20	0.25
12,078.00	90.06	270.01	8,003.89	-2,292.01	-3,789.97	4,284.20	0.43	0.40	-0.14
12,167.00	89.22	270.85	8,004.45	-2,291.34	-3,878.96	4,369.35	1.33	-0.94	0.94
12,256.00	89.53	270.63	8,005.42	-2,290.19	-3,967.95	4,454.36	0.43	0.35	-0.25
12,346.00	89.13	270.01	8,006.47	-2,289.69	-4,057.94	4,540.52	0.82	-0.44	-0.69
12,436.00	89.88	268.82	8,007.25	-2,290.61	-4,147.93	4,627.08	1.56	0.83	-1.32
12,525.00	89.97	267.99	8,007.36	-2,293.08	-4,236.89	4,713.10	0.94	0.10	-0.93
12,615.00	88.29	269.79	8,008.73	-2,294.83	-4,326.86	4,799.87	2.74	-1.87	2.00
12,705.00	89.04	270.81	8,010.83	-2,294.36	-4,416.83	4,886.02	1.41	0.83	1.13
12,794.00	89.57	269.92	8,011.91	-2,293.79	-4,505.82	4,971.20	1.16	0.60	-1.00
12,883.00	89.97	269.48	8,012.26	-2,294.26	-4,594.82	5,056.68	0.67	0.45	-0.49
12,972.00	90.63	269.31	8,011.80	-2,295.20	-4,683.81	5,142.29	0.77	0.74	-0.19
13,061.00	90.41	270.63	8,010.99	-2,295.24	-4,772.81	5,227.64	1.50	-0.25	1.48
13,150.00	89.75	271.16	8,010.87	-2,293.85	-4,861.79	5,312.59	0.95	-0.74	0.60
13,240.00	88.03	270.06	8,012.61	-2,292.89	-4,951.77	5,398.60	2.27	-1.91	-1.22
13,329.00	88.42	270.10	8,015.37	-2,292.77	-5,040.73	5,483.87	0.44	0.44	0.04
13,419.00	87.76	269.22	8,018.37	-2,293.30	-5,130.67	5,570.28	1.22	-0.73	-0.98
13,509.00	90.15	269.66	8,020.01	-2,294.18	-5,220.65	5,656.82	2.70	2.66	0.49
13,598.00	90.85	268.78	8,019.23	-2,295.39	-5,309.63	5,742.50	1.26	0.79	-0.99
13,687.00	89.88	269.40	8,018.66	-2,296.81	-5,398.62	5,828.23	1.29	-1.09	0.70
13,777.00	88.82	269.26	8,019.69	-2,297.86	-5,488.61	5,914.83	1.19	-1.18	-0.16
13,867.00	89.93	268.12	8,020.67	-2,299.92	-5,578.57	6,001.69	1.77	1.23	-1.27
13,956.00	89.04	271.42	8,021.47	-2,300.27	-5,667.56	6,087.12	3.84	-1.00	3.71
14,046.00	89.79	270.85	8,022.39	-2,298.49	-5,757.53	6,172.91	1.05	0.83	-0.63
14,135.00	87.72	271.25	8,024.32	-2,296.86	-5,846.49	6,257.75	2.37	-2.33	0.45
14,225.00	88.78	271.47	8,027.07	-2,294.73	-5,936.42	6,343.39	1.20	1.18	0.24
14,315.00	89.57	270.32	8,028.36	-2,293.32	-6,026.40	6,429.28	1.55	0.88	-1.28
14,405.00	91.21	270.41	8,027.75	-2,292.75	-6,116.39	6,515.42	1.82	1.82	0.10
14,494.00	90.23	270.06	8,026.63	-2,292.38	-6,205.38	6,600.66	1.17	-1.10	-0.39
14,585.00	89.17	269.79	8,027.11	-2,292.50	-6,296.38	6,687.96	1.20	-1.16	-0.30
14,674.00	89.31	269.53	8,028.29	-2,293.03	-6,385.37	6,773.45	0.33	0.16	-0.29
14,764.00	87.98	268.43	8,030.42	-2,294.63	-6,475.33	6,860.17	1.92	-1.48	-1.22
14,853.00	88.38	268.21	8,033.25	-2,297.24	-6,564.25	6,946.18	0.51	0.45	-0.25
14,943.00	88.95	268.29	8,035.34	-2,299.99	-6,654.18	7,033.20	0.64	0.63	0.09
15,032.00	87.63	269.53	8,038.00	-2,301.68	-6,743.12	7,118.97	2.03	-1.48	1.39
15,122.00	88.07	268.87	8,041.37	-2,302.93	-6,833.05	7,205.57	0.88	0.49	-0.73
15,212.00	88.86	268.65	8,043.79	-2,304.88	-6,922.99	7,292.38	0.91	0.88	-0.24
15,301.00	89.00	271.42	8,045.45	-2,304.83	-7,011.97	7,377.69	3.12	0.16	3.11
15,390.00	89.62	271.07	8,046.52	-2,302.89	-7,100.94	7,462.46	0.80	0.70	-0.39
15,480.00	89.97	270.63	8,046.84	-2,301.56	-7,190.93	7,548.38	0.62	0.39	-0.49
15,569.00	90.59	270.10	8,046.41	-2,300.99	-7,279.93	7,633.57	0.92	0.70	-0.60
15,659.00	91.30	270.23	8,044.92	-2,300.73	-7,369.91	7,719.79	0.80	0.79	0.14

## Survey Report

<b>Company:</b>	Extraction Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Coyote Trails 33W-15-4N
<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-15-4N	<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)
15,748.00	90.23	270.72	8,043.73	-2,299.99	-7,458.90	7,804.92	1.32	-1.20	0.55
15,838.00	90.77	270.28	8,042.95	-2,299.21	-7,548.89	7,891.00	0.77	0.60	-0.49
15,897.00	90.99	269.40	8,042.04	-2,299.37	-7,607.89	7,947.62	1.54	0.37	-1.49
<b>Last MWD Survey @ 15897' MD</b>									
15,955.00	90.99	269.40	8,041.04	-2,299.98	-7,665.87	8,003.40	0.00	0.00	0.00
<b>Projection to TD @ 15955' MD 1051' FNL/ 511.5' FWL</b>									

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
30° Inclination @ 8105.5 - actual wellpath misses target center by 0.12usft at 8105.56usft MD (7627.85 TVD, -2244.63 N, 59.83 E) - Point	0.00	0.00	7,627.84	-2,244.51	59.81	1,247,614.59	3,137,973.15	40.012036	-105.007420
70° Inclination @ 8638.2 - actual wellpath hits target center - Point	0.00	0.00	7,937.95	-2,258.05	-357.99	1,247,598.72	3,137,555.42	40.011999	-105.008911
Cross @ 11212.87' MD - actual wellpath hits target center - Point	0.00	0.00	8,009.94	-2,287.81	-2,925.00	1,247,554.71	3,134,988.62	40.011917	-105.018076

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
114.00	114.00	0.16	0.34	First Surface Survey	
1,548.00	1,543.34	-57.35	6.50	Last Surface Survey/Tie into Surface Surveys	
1,669.00	1,661.28	-84.34	8.10	First MWD Survey @ 1669' MD	
8,105.56	7,627.85	-2,244.63	59.83	30° Inclination @ 8105.56' MD	
8,638.22	7,937.95	-2,258.05	-357.99	70° Inclination @ 8638.22' MD	
11,212.87	8,009.94	-2,287.81	-2,925.00	Cross @ 11212.87' MD	
15,897.00	8,042.04	-2,299.37	-7,607.89	Last MWD Survey @ 15897' MD	
15,955.00	8,041.04	-2,299.98	-7,665.87	Projection to TD @ 15955' MD 1051' FNL/ 511.5' FWL	

Checked By: _____	Approved By: _____	Date: _____
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