

# **EXTRACTION OIL & GAS**

**WELD COUNTY**

**Sec 28-T1N-R68W**

**COYOTE TRAILS 33W-15-4N**

**ORIGINAL WELLBORE**

**Plan: PROPOSAL 1**

## **Standard Planning Report**

**07 June, 2018**



WELL DETAILS: COYOTE TRAILS 33W-15-4N

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1249828.74	3137945.85	40° 1' 5.214 N	105° 0' 26.903 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	
3	1958.82	23.18	177.83	1927.47	-231.03	8.76	2.00	177.83	55.93	
4	6472.10	23.18	177.83	6076.53	-2006.02	76.02	0.00	0.00	485.65	
5	7630.92	0.00	0.00	7204.00	-2237.05	84.78	2.00	180.00	541.58	
6	7660.92	0.00	0.00	7234.00	-2237.05	84.78	0.00	0.00	541.58	
7	8560.99	90.00	269.90	7807.00	-2238.08	-488.22	10.00	269.90	1092.20	CT 33W-4N LP
8	12060.99	90.00	269.90	7806.98	-2244.40	-3988.22	0.00	0.00	4455.49	
9	12455.82	90.00	262.00	7806.98	-2272.28	-4381.74	2.00	-90.00	4841.21	
10	12555.82	90.00	262.00	7806.98	-2286.20	-4480.77	0.00	0.00	4940.20	
11	13019.48	90.00	271.27	7806.98	-2313.37	-4943.13	2.00	90.00	5391.83	CT 33W-4N PBHL
12	15839.02	90.00	271.27	7807.00	-2250.72	-7761.98	0.00	0.00	8081.71	CT 33W-4N PBHL

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	Start Build 2.00
1958.82	23.18	177.83	1927.47	-231.03	8.76	55.93	231.20	Start 4513.28 hold at 1958.82 MD
6472.10	23.18	177.83	6076.53	-2006.02	76.02	485.65	2007.46	Start Drop -2.00
7630.92	0.00	0.00	7204.00	-2237.05	84.78	541.58	2238.66	Start 30.00 hold at 7630.92 MD
7660.92	0.00	0.00	7234.00	-2237.05	84.78	541.58	2238.66	Start DLS 10.00 TFO 269.90
8560.99	90.00	269.90	7807.00	-2238.08	-488.22	1092.20	2811.66	Start 3500.00 hold at 8560.99 MD
12060.99	90.00	269.90	7806.98	-2244.40	-3988.22	4455.49	6311.66	Start DLS 2.00 TFO -90.00
12455.82	90.00	262.00	7806.98	-2272.28	-4381.74	4841.21	6706.49	Start 100.00 hold at 12455.82 MD
12555.82	90.00	262.00	7806.98	-2286.20	-4480.77	4940.20	6806.49	Start Turn 2.00
13019.48	90.00	271.27	7806.98	-2313.37	-4943.13	5391.83	7270.15	Start 2819.55 hold at 13019.48 MD
15839.02	90.00	271.27	7806.98	-2250.72	-7761.98	8081.71	10089.69	TD at 15839.02

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
CT 33W-4N LP	7807.00	-2238.08	-488.22	1247587.98	3137470.06	40° 0' 43.096 N	105° 0' 33.178 W	Point
CT 33W-4N PBHL	7807.00	-2238.08	-488.22	1247587.98	3137470.06	40° 0' 43.096 N	105° 0' 33.178 W	Point
CT 33W-4N PBHL	7807.00	-2250.72	-7761.98	1247534.95	3130196.49	40° 0' 42.959 N	105° 2' 6.662 W	Point

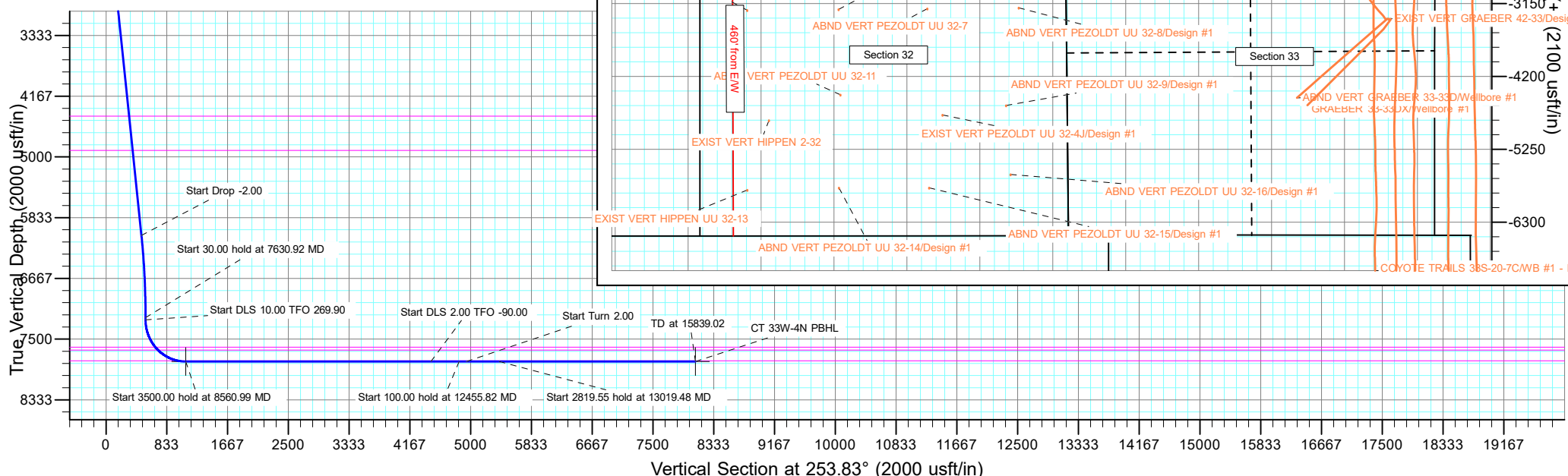
FORMATION TOP DETAILS

TVDPATH	MDPATH	FORMATION
4440.00	4691.91	PARKMAN
4910.00	5203.17	SUSSEX
7610.00	8071.06	SHARON SPRINGS
7650.00	8126.48	NIOBRARA
7797.00	8453.78	NIO B

PROJECT DETAILS: WELD COUNTY

Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Colorado Northern Zone  
System Datum: Mean Sea Level

SHL:  
1200' FSL, 2355' FEL  
Sec 28-T1N-R68W  
LP:  
1034' FNL, 2482' FWL  
Sec 33-T1N-R68W  
BHL:  
1033' FNL, 460' FWL  
Sec 32-T1N-R68W



## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well COYOTE TRAILS 33W-15-4N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5269.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5269.00usft
<b>Site:</b>	Sec 28-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COYOTE TRAILS 33W-15-4N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

<b>Project</b>	WELD COUNTY		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site		Sec 28-T1N-R68W			
Site Position:		Northing:	1,248,660.21 usft	Latitude:	40° 0' 53.536 N
From:	Lat/Long	Easting:	3,140,299.83 usft	Longitude:	104° 59' 56.731 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.32 °

Well	COYOTE TRAILS 33W-15-4N					
Well Position	+N/-S	1,181.80 usft	Northing:	1,249,828.74 usft	Latitude:	40° 1' 5.214 N
	+E/-W	-2,347.34 usft	Easting:	3,137,945.85 usft	Longitude:	105° 0' 26.903 W
Position Uncertainty	0.00 usft		Wellhead Elevation:		Ground Level:	5,244.00 usft

<b>Wellbore</b>	ORIGINAL WELLBORE				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	6/29/2017	8.30	66.51	52,160.02520307

<b>Design</b>	PROPOSAL 1				
<b>Audit Notes:</b>					
<b>Version:</b>		<b>Phase:</b>	PROTOTYPE	<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	253.83	

<b>Plan Survey Tool Program</b>	<b>Date</b>	6/7/2018			
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	15,839.02	PROPOSAL 1 (ORIGINAL WELL	MWD OWSG	
			OWSG MWD - Standard		

## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well COYOTE TRAILS 33W-15-4N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5269.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5269.00usft
<b>Site:</b>	Sec 28-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COYOTE TRAILS 33W-15-4N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,958.82	23.18	177.83	1,927.47	-231.03	8.76	2.00	2.00	0.00	177.83	
6,472.10	23.18	177.83	6,076.53	-2,006.02	76.02	0.00	0.00	0.00	0.00	
7,630.92	0.00	0.00	7,204.00	-2,237.05	84.78	2.00	-2.00	0.00	180.00	
7,660.92	0.00	0.00	7,234.00	-2,237.05	84.78	0.00	0.00	0.00	0.00	
8,560.99	90.00	269.90	7,807.00	-2,238.08	-488.22	10.00	10.00	-10.01	269.90	CT 33W-4N LP
12,060.99	90.00	269.90	7,806.98	-2,244.40	-3,988.22	0.00	0.00	0.00	0.00	
12,455.82	90.00	262.00	7,806.98	-2,272.28	-4,381.74	2.00	0.00	-2.00	-90.00	
12,555.82	90.00	262.00	7,806.98	-2,286.20	-4,480.77	0.00	0.00	0.00	0.00	
13,019.48	90.00	271.27	7,806.98	-2,313.37	-4,943.13	2.00	0.00	2.00	90.00	CT 33W-4N PBHL
15,839.02	90.00	271.27	7,807.00	-2,250.72	-7,761.98	0.00	0.00	0.00	0.00	CT 33W-4N PBHL

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well COYOTE TRAILS 33W-15-4N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5269.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5269.00usft
<b>Site:</b>	Sec 28-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COYOTE TRAILS 33W-15-4N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
900.00	2.00	177.83	899.98	-1.74	0.07	0.42	2.00	2.00	0.00
1,000.00	4.00	177.83	999.84	-6.97	0.26	1.69	2.00	2.00	0.00
1,100.00	6.00	177.83	1,099.45	-15.68	0.59	3.80	2.00	2.00	0.00
1,200.00	8.00	177.83	1,198.70	-27.86	1.06	6.74	2.00	2.00	0.00
1,300.00	10.00	177.83	1,297.47	-43.49	1.65	10.53	2.00	2.00	0.00
1,400.00	12.00	177.83	1,395.62	-62.56	2.37	15.15	2.00	2.00	0.00
1,500.00	14.00	177.83	1,493.06	-85.04	3.22	20.59	2.00	2.00	0.00
1,600.00	16.00	177.83	1,589.64	-110.90	4.20	26.85	2.00	2.00	0.00
1,700.00	18.00	177.83	1,685.27	-140.11	5.31	33.92	2.00	2.00	0.00
1,800.00	20.00	177.83	1,779.82	-172.64	6.54	41.80	2.00	2.00	0.00
1,900.00	22.00	177.83	1,873.17	-208.45	7.90	50.47	2.00	2.00	0.00
1,958.82	23.18	177.83	1,927.47	-231.03	8.76	55.93	2.00	2.00	0.00
Start 4513.28 hold at 1958.82 MD									
2,000.00	23.18	177.83	1,965.33	-247.23	9.37	59.85	0.00	0.00	0.00
2,100.00	23.18	177.83	2,057.26	-286.55	10.86	69.37	0.00	0.00	0.00
2,200.00	23.18	177.83	2,149.19	-325.88	12.35	78.89	0.00	0.00	0.00
2,300.00	23.18	177.83	2,241.12	-365.21	13.84	88.42	0.00	0.00	0.00
2,400.00	23.18	177.83	2,333.05	-404.54	15.33	97.94	0.00	0.00	0.00
2,500.00	23.18	177.83	2,424.98	-443.87	16.82	107.46	0.00	0.00	0.00
2,600.00	23.18	177.83	2,516.91	-483.19	18.31	116.98	0.00	0.00	0.00
2,700.00	23.18	177.83	2,608.84	-522.52	19.80	126.50	0.00	0.00	0.00
2,800.00	23.18	177.83	2,700.77	-561.85	21.29	136.02	0.00	0.00	0.00
2,900.00	23.18	177.83	2,792.70	-601.18	22.78	145.54	0.00	0.00	0.00
3,000.00	23.18	177.83	2,884.63	-640.51	24.27	155.06	0.00	0.00	0.00
3,100.00	23.18	177.83	2,976.56	-679.83	25.76	164.59	0.00	0.00	0.00
3,200.00	23.18	177.83	3,068.49	-719.16	27.25	174.11	0.00	0.00	0.00
3,300.00	23.18	177.83	3,160.42	-758.49	28.75	183.63	0.00	0.00	0.00
3,400.00	23.18	177.83	3,252.35	-797.82	30.24	193.15	0.00	0.00	0.00
3,500.00	23.18	177.83	3,344.28	-837.15	31.73	202.67	0.00	0.00	0.00
3,600.00	23.18	177.83	3,436.21	-876.48	33.22	212.19	0.00	0.00	0.00
3,700.00	23.18	177.83	3,528.14	-915.80	34.71	221.71	0.00	0.00	0.00
3,800.00	23.18	177.83	3,620.07	-955.13	36.20	231.23	0.00	0.00	0.00
3,900.00	23.18	177.83	3,712.00	-994.46	37.69	240.76	0.00	0.00	0.00
4,000.00	23.18	177.83	3,803.93	-1,033.79	39.18	250.28	0.00	0.00	0.00
4,100.00	23.18	177.83	3,895.86	-1,073.12	40.67	259.80	0.00	0.00	0.00
4,200.00	23.18	177.83	3,987.79	-1,112.44	42.16	269.32	0.00	0.00	0.00
4,300.00	23.18	177.83	4,079.72	-1,151.77	43.65	278.84	0.00	0.00	0.00
4,400.00	23.18	177.83	4,171.65	-1,191.10	45.14	288.36	0.00	0.00	0.00
4,500.00	23.18	177.83	4,263.58	-1,230.43	46.63	297.88	0.00	0.00	0.00
4,600.00	23.18	177.83	4,355.51	-1,269.76	48.12	307.40	0.00	0.00	0.00
4,691.91	23.18	177.83	4,440.00	-1,305.90	49.49	316.15	0.00	0.00	0.00
PARKMAN									
4,700.00	23.18	177.83	4,447.44	-1,309.09	49.61	316.93	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well COYOTE TRAILS 33W-15-4N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5269.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5269.00usft
<b>Site:</b>	Sec 28-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COYOTE TRAILS 33W-15-4N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
4,800.00	23.18	177.83	4,539.37	-1,348.41	51.10	326.45	0.00	0.00	0.00	
4,900.00	23.18	177.83	4,631.29	-1,387.74	52.59	335.97	0.00	0.00	0.00	
5,000.00	23.18	177.83	4,723.22	-1,427.07	54.08	345.49	0.00	0.00	0.00	
5,100.00	23.18	177.83	4,815.15	-1,466.40	55.57	355.01	0.00	0.00	0.00	
5,200.00	23.18	177.83	4,907.08	-1,505.73	57.06	364.53	0.00	0.00	0.00	
5,203.17	23.18	177.83	4,910.00	-1,506.97	57.11	364.83	0.00	0.00	0.00	
<b>SUSSEX</b>										
5,300.00	23.18	177.83	4,999.01	-1,545.05	58.55	374.05	0.00	0.00	0.00	
5,400.00	23.18	177.83	5,090.94	-1,584.38	60.05	383.57	0.00	0.00	0.00	
5,500.00	23.18	177.83	5,182.87	-1,623.71	61.54	393.09	0.00	0.00	0.00	
5,600.00	23.18	177.83	5,274.80	-1,663.04	63.03	402.62	0.00	0.00	0.00	
5,700.00	23.18	177.83	5,366.73	-1,702.37	64.52	412.14	0.00	0.00	0.00	
5,800.00	23.18	177.83	5,458.66	-1,741.69	66.01	421.66	0.00	0.00	0.00	
5,900.00	23.18	177.83	5,550.59	-1,781.02	67.50	431.18	0.00	0.00	0.00	
6,000.00	23.18	177.83	5,642.52	-1,820.35	68.99	440.70	0.00	0.00	0.00	
6,100.00	23.18	177.83	5,734.45	-1,859.68	70.48	450.22	0.00	0.00	0.00	
6,200.00	23.18	177.83	5,826.38	-1,899.01	71.97	459.74	0.00	0.00	0.00	
6,300.00	23.18	177.83	5,918.31	-1,938.34	73.46	469.26	0.00	0.00	0.00	
6,400.00	23.18	177.83	6,010.24	-1,977.66	74.95	478.79	0.00	0.00	0.00	
6,472.10	23.18	177.83	6,076.53	-2,006.02	76.02	485.65	0.00	0.00	0.00	
<b>Start Drop -2.00</b>										
6,500.00	22.62	177.83	6,102.22	-2,016.87	76.44	488.28	2.00	-2.00	0.00	
6,600.00	20.62	177.83	6,195.18	-2,053.68	77.83	497.19	2.00	-2.00	0.00	
6,700.00	18.62	177.83	6,289.37	-2,087.23	79.10	505.31	2.00	-2.00	0.00	
6,800.00	16.62	177.83	6,384.68	-2,117.47	80.25	512.63	2.00	-2.00	0.00	
6,900.00	14.62	177.83	6,480.98	-2,144.38	81.27	519.15	2.00	-2.00	0.00	
7,000.00	12.62	177.83	6,578.17	-2,167.90	82.16	524.84	2.00	-2.00	0.00	
7,100.00	10.62	177.83	6,676.11	-2,188.03	82.92	529.71	2.00	-2.00	0.00	
7,200.00	8.62	177.83	6,774.70	-2,204.72	83.55	533.76	2.00	-2.00	0.00	
7,300.00	6.62	177.83	6,873.81	-2,217.97	84.06	536.96	2.00	-2.00	0.00	
7,400.00	4.62	177.83	6,973.33	-2,227.75	84.43	539.33	2.00	-2.00	0.00	
7,500.00	2.62	177.83	7,073.12	-2,234.06	84.67	540.86	2.00	-2.00	0.00	
7,600.00	0.62	177.83	7,173.08	-2,236.88	84.77	541.54	2.00	-2.00	0.00	
7,630.92	0.00	0.00	7,204.00	-2,237.05	84.78	541.58	2.00	-2.00	0.00	
<b>Start 30.00 hold at 7630.92 MD</b>										
7,660.92	0.00	0.00	7,234.00	-2,237.05	84.78	541.58	0.00	0.00	0.00	
<b>Start DLS 10.00 TFO 269.90</b>										
7,700.00	3.91	269.90	7,273.05	-2,237.05	83.45	542.86	10.00	10.00	0.00	
7,750.00	8.91	269.90	7,322.72	-2,237.06	77.87	548.22	10.00	10.00	0.00	
7,800.00	13.91	269.90	7,371.72	-2,237.08	67.98	557.72	10.00	10.00	0.00	
7,850.00	18.91	269.90	7,419.67	-2,237.11	53.87	571.29	10.00	10.00	0.00	
7,900.00	23.91	269.90	7,466.20	-2,237.14	35.62	588.82	10.00	10.00	0.00	
7,950.00	28.91	269.90	7,510.97	-2,237.18	13.39	610.18	10.00	10.00	0.00	
8,000.00	33.91	269.90	7,553.63	-2,237.23	-12.65	635.21	10.00	10.00	0.00	
8,050.00	38.90	269.90	7,593.86	-2,237.28	-42.32	663.72	10.00	10.00	0.00	
8,071.06	41.01	269.90	7,610.00	-2,237.30	-55.84	676.71	10.00	10.00	0.00	
<b>SHARON SPRINGS</b>										
8,100.00	43.90	269.90	7,631.35	-2,237.34	-75.38	695.48	10.00	10.00	0.00	
8,126.48	46.55	269.90	7,650.00	-2,237.37	-94.17	713.55	10.00	10.00	0.00	
<b>NIOBRARA</b>										
8,150.00	48.90	269.90	7,665.82	-2,237.40	-111.57	730.27	10.00	10.00	0.00	
8,200.00	53.90	269.90	7,697.00	-2,237.48	-150.64	767.81	10.00	10.00	0.00	
8,250.00	58.90	269.90	7,724.66	-2,237.55	-192.28	807.82	10.00	10.00	0.00	

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well COYOTE TRAILS 33W-15-4N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5269.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5269.00usft
<b>Site:</b>	Sec 28-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COYOTE TRAILS 33W-15-4N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,300.00	63.90	269.90	7,748.58	-2,237.63	-236.16	849.99	10.00	10.00	0.00	
8,350.00	68.90	269.90	7,768.59	-2,237.71	-281.97	894.00	10.00	10.00	0.00	
8,400.00	73.90	269.90	7,784.53	-2,237.80	-329.34	939.53	10.00	10.00	0.00	
8,450.00	78.90	269.90	7,796.28	-2,237.89	-377.92	986.21	10.00	10.00	0.00	
8,453.78	79.28	269.90	7,797.00	-2,237.89	-381.64	989.78	10.00	10.00	0.00	
NIO B										
8,500.00	83.90	269.90	7,803.76	-2,237.97	-427.35	1,033.70	10.00	10.00	0.00	
8,550.00	88.90	269.90	7,806.89	-2,238.06	-477.23	1,081.64	10.00	10.00	0.00	
8,560.99	90.00	269.90	7,807.00	-2,238.08	-488.22	1,092.20	10.00	10.00	0.00	
Start 3500.00 hold at 8560.99 MD										
8,600.00	90.00	269.90	7,807.00	-2,238.16	-527.23	1,129.69	0.00	0.00	0.00	
8,700.00	90.00	269.90	7,807.00	-2,238.34	-627.23	1,225.78	0.00	0.00	0.00	
8,800.00	90.00	269.90	7,807.00	-2,238.52	-727.23	1,321.88	0.00	0.00	0.00	
8,900.00	90.00	269.90	7,807.00	-2,238.70	-827.23	1,417.97	0.00	0.00	0.00	
9,000.00	90.00	269.90	7,807.00	-2,238.88	-927.23	1,514.06	0.00	0.00	0.00	
9,100.00	90.00	269.90	7,807.00	-2,239.06	-1,027.23	1,610.16	0.00	0.00	0.00	
9,200.00	90.00	269.90	7,807.00	-2,239.24	-1,127.23	1,706.25	0.00	0.00	0.00	
9,300.00	90.00	269.90	7,807.00	-2,239.42	-1,227.23	1,802.34	0.00	0.00	0.00	
9,400.00	90.00	269.90	7,807.00	-2,239.60	-1,327.23	1,898.44	0.00	0.00	0.00	
9,500.00	90.00	269.90	7,807.00	-2,239.78	-1,427.23	1,994.53	0.00	0.00	0.00	
9,600.00	90.00	269.90	7,806.99	-2,239.96	-1,527.23	2,090.63	0.00	0.00	0.00	
9,700.00	90.00	269.90	7,806.99	-2,240.14	-1,627.23	2,186.72	0.00	0.00	0.00	
9,800.00	90.00	269.90	7,806.99	-2,240.32	-1,727.23	2,282.81	0.00	0.00	0.00	
9,900.00	90.00	269.90	7,806.99	-2,240.50	-1,827.23	2,378.91	0.00	0.00	0.00	
10,000.00	90.00	269.90	7,806.99	-2,240.68	-1,927.23	2,475.00	0.00	0.00	0.00	
10,100.00	90.00	269.90	7,806.99	-2,240.86	-2,027.23	2,571.10	0.00	0.00	0.00	
10,200.00	90.00	269.90	7,806.99	-2,241.04	-2,127.23	2,667.19	0.00	0.00	0.00	
10,300.00	90.00	269.90	7,806.99	-2,241.22	-2,227.23	2,763.28	0.00	0.00	0.00	
10,400.00	90.00	269.90	7,806.99	-2,241.41	-2,327.23	2,859.38	0.00	0.00	0.00	
10,500.00	90.00	269.90	7,806.99	-2,241.59	-2,427.23	2,955.47	0.00	0.00	0.00	
10,600.00	90.00	269.90	7,806.99	-2,241.77	-2,527.23	3,051.57	0.00	0.00	0.00	
10,700.00	90.00	269.90	7,806.99	-2,241.95	-2,627.23	3,147.66	0.00	0.00	0.00	
10,800.00	90.00	269.90	7,806.99	-2,242.13	-2,727.23	3,243.75	0.00	0.00	0.00	
10,900.00	90.00	269.90	7,806.99	-2,242.31	-2,827.23	3,339.85	0.00	0.00	0.00	
11,000.00	90.00	269.90	7,806.99	-2,242.49	-2,927.23	3,435.94	0.00	0.00	0.00	
11,100.00	90.00	269.90	7,806.99	-2,242.67	-3,027.23	3,532.03	0.00	0.00	0.00	
11,200.00	90.00	269.90	7,806.99	-2,242.85	-3,127.23	3,628.13	0.00	0.00	0.00	
11,300.00	90.00	269.90	7,806.99	-2,243.03	-3,227.23	3,724.22	0.00	0.00	0.00	
11,400.00	90.00	269.90	7,806.99	-2,243.21	-3,327.23	3,820.32	0.00	0.00	0.00	
11,500.00	90.00	269.90	7,806.99	-2,243.39	-3,427.23	3,916.41	0.00	0.00	0.00	
11,600.00	90.00	269.90	7,806.98	-2,243.57	-3,527.23	4,012.50	0.00	0.00	0.00	
11,700.00	90.00	269.90	7,806.98	-2,243.75	-3,627.23	4,108.60	0.00	0.00	0.00	
11,800.00	90.00	269.90	7,806.98	-2,243.93	-3,727.23	4,204.69	0.00	0.00	0.00	
11,900.00	90.00	269.90	7,806.98	-2,244.11	-3,827.22	4,300.79	0.00	0.00	0.00	
12,000.00	90.00	269.90	7,806.98	-2,244.29	-3,927.22	4,396.88	0.00	0.00	0.00	
12,060.99	90.00	269.90	7,806.98	-2,244.40	-3,988.22	4,455.49	0.00	0.00	0.00	
Start DLS 2.00 TFO -90.00										
12,100.00	90.00	269.12	7,806.98	-2,244.74	-4,027.22	4,493.05	2.00	0.00	-2.00	
12,200.00	90.00	267.12	7,806.98	-2,248.03	-4,127.16	4,589.95	2.00	0.00	-2.00	
12,300.00	90.00	265.12	7,806.98	-2,254.80	-4,226.93	4,687.65	2.00	0.00	-2.00	
12,400.00	90.00	263.12	7,806.98	-2,265.05	-4,326.40	4,786.04	2.00	0.00	-2.00	
12,455.82	90.00	262.00	7,806.98	-2,272.28	-4,381.74	4,841.21	2.00	0.00	-2.00	
Start 100.00 hold at 12455.82 MD										

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well COYOTE TRAILS 33W-15-4N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5269.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5269.00usft
<b>Site:</b>	Sec 28-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COYOTE TRAILS 33W-15-4N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
12,500.00	90.00	262.00	7,806.98	-2,278.43	-4,425.50	4,884.94	0.00	0.00	0.00	
12,555.82	90.00	262.00	7,806.98	-2,286.20	-4,480.77	4,940.20	0.00	0.00	0.00	
Start Turn 2.00										
12,600.00	90.00	262.88	7,806.98	-2,292.01	-4,524.57	4,983.88	2.00	0.00	2.00	
12,700.00	90.00	264.88	7,806.98	-2,302.66	-4,623.99	5,082.34	2.00	0.00	2.00	
12,800.00	90.00	266.88	7,806.98	-2,309.84	-4,723.73	5,180.13	2.00	0.00	2.00	
12,900.00	90.00	268.88	7,806.98	-2,313.53	-4,823.66	5,277.13	2.00	0.00	2.00	
13,000.00	90.00	270.88	7,806.98	-2,313.74	-4,923.65	5,373.23	2.00	0.00	2.00	
13,019.48	90.00	271.27	7,806.98	-2,313.37	-4,943.13	5,391.83	2.00	0.00	2.00	
Start 2819.55 hold at 13019.48 MD										
13,100.00	90.00	271.27	7,806.98	-2,311.58	-5,023.63	5,468.65	0.00	0.00	0.00	
13,200.00	90.00	271.27	7,806.98	-2,309.36	-5,123.60	5,564.05	0.00	0.00	0.00	
13,300.00	90.00	271.27	7,806.98	-2,307.14	-5,223.58	5,659.45	0.00	0.00	0.00	
13,400.00	90.00	271.27	7,806.98	-2,304.91	-5,323.56	5,754.85	0.00	0.00	0.00	
13,500.00	90.00	271.27	7,806.98	-2,302.69	-5,423.53	5,850.25	0.00	0.00	0.00	
13,600.00	90.00	271.27	7,806.98	-2,300.47	-5,523.51	5,945.65	0.00	0.00	0.00	
13,700.00	90.00	271.27	7,806.98	-2,298.25	-5,623.48	6,041.05	0.00	0.00	0.00	
13,800.00	90.00	271.27	7,806.98	-2,296.03	-5,723.46	6,136.46	0.00	0.00	0.00	
13,900.00	90.00	271.27	7,806.98	-2,293.80	-5,823.43	6,231.86	0.00	0.00	0.00	
14,000.00	90.00	271.27	7,806.98	-2,291.58	-5,923.41	6,327.26	0.00	0.00	0.00	
14,100.00	90.00	271.27	7,806.98	-2,289.36	-6,023.38	6,422.66	0.00	0.00	0.00	
14,200.00	90.00	271.27	7,806.98	-2,287.14	-6,123.36	6,518.06	0.00	0.00	0.00	
14,300.00	90.00	271.27	7,806.98	-2,284.92	-6,223.33	6,613.46	0.00	0.00	0.00	
14,400.00	90.00	271.27	7,806.98	-2,282.69	-6,323.31	6,708.86	0.00	0.00	0.00	
14,500.00	90.00	271.27	7,806.98	-2,280.47	-6,423.28	6,804.26	0.00	0.00	0.00	
14,600.00	90.00	271.27	7,806.98	-2,278.25	-6,523.26	6,899.67	0.00	0.00	0.00	
14,700.00	90.00	271.27	7,806.98	-2,276.03	-6,623.23	6,995.07	0.00	0.00	0.00	
14,800.00	90.00	271.27	7,806.98	-2,273.81	-6,723.21	7,090.47	0.00	0.00	0.00	
14,900.00	90.00	271.27	7,806.98	-2,271.58	-6,823.19	7,185.87	0.00	0.00	0.00	
15,000.00	90.00	271.27	7,806.98	-2,269.36	-6,923.16	7,281.27	0.00	0.00	0.00	
15,100.00	90.00	271.27	7,806.98	-2,267.14	-7,023.14	7,376.67	0.00	0.00	0.00	
15,200.00	90.00	271.27	7,806.98	-2,264.92	-7,123.11	7,472.07	0.00	0.00	0.00	
15,300.00	90.00	271.27	7,806.98	-2,262.70	-7,223.09	7,567.47	0.00	0.00	0.00	
15,400.00	90.00	271.27	7,806.98	-2,260.47	-7,323.06	7,662.88	0.00	0.00	0.00	
15,500.00	90.00	271.27	7,806.98	-2,258.25	-7,423.04	7,758.28	0.00	0.00	0.00	
15,600.00	90.00	271.27	7,806.98	-2,256.03	-7,523.01	7,853.68	0.00	0.00	0.00	
15,700.00	90.00	271.27	7,806.98	-2,253.81	-7,622.99	7,949.08	0.00	0.00	0.00	
15,800.00	90.00	271.27	7,806.98	-2,251.59	-7,722.96	8,044.48	0.00	0.00	0.00	
15,839.02	90.00	271.27	7,807.00	-2,250.72	-7,761.98	8,081.71	0.00	0.00	0.00	
TD at 15839.02										



## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well COYOTE TRAILS 33W-15-4N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5269.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5269.00usft
<b>Site:</b>	Sec 28-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COYOTE TRAILS 33W-15-4N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

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
CT 33W-4N PBHL - plan hits target center - Point	0.00	0.00	7,807.00	-2,250.72	-7,761.98	1,247,534.94	3,130,196.49	40° 0' 42.959 N	105° 2' 6.662 W
CT 33W-4N LP - plan hits target center - Point	0.00	0.00	7,807.00	-2,238.08	-488.22	1,247,587.98	3,137,470.06	40° 0' 43.096 N	105° 0' 33.178 W

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,691.91	4,440.00	PARKMAN				
5,203.17	4,910.00	SUSSEX				
8,071.06	7,610.00	SHARON SPRINGS				
8,126.48	7,650.00	NIOBRARA				
8,453.78	7,797.00	NIO B				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
800.00	800.00	0.00	0.00	Start Build 2.00	
1,958.82	1,927.47	-231.03	8.76	Start 4513.28 hold at 1958.82 MD	
6,472.10	6,076.53	-2,006.02	76.02	Start Drop -2.00	
7,630.92	7,204.00	-2,237.05	84.78	Start 30.00 hold at 7630.92 MD	
7,660.92	7,234.00	-2,237.05	84.78	Start DLS 10.00 TFO 269.90	
8,560.99	7,807.00	-2,238.08	-488.22	Start 3500.00 hold at 8560.99 MD	
12,060.99	7,806.98	-2,244.40	-3,988.22	Start DLS 2.00 TFO -90.00	
12,455.82	7,806.98	-2,272.28	-4,381.74	Start 100.00 hold at 12455.82 MD	
12,555.82	7,806.98	-2,286.20	-4,480.77	Start Turn 2.00	
13,019.48	7,806.98	-2,313.37	-4,943.13	Start 2819.55 hold at 13019.48 MD	
15,839.02	7,807.00	-2,250.72	-7,761.98	TD at 15839.02	