

# **EXTRACTION OIL & GAS**

**Broomfield County**

**Sec 9-T1S-R68W**

**UNITED A S16-20-6N**

**ORIGINAL WELLBORE**

**Plan: PROPOSAL 1**

## **Standard Planning Report**

**18 January, 2018**



Project: Broomfield County  
Site: Sec 9-T1S-R68W  
Well: UNITED A S16-20-6N  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL 1

PROJECT DETAILS: Broomfield County

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

System Datum: Mean Sea Level



Azimuths to True North  
Magnetic North: 8.24°

Magnetic Field  
Strength: 52084.7snT  
Dip Angle: 66.47°  
Date: 1/4/2018  
Model: IGRF2015

WELL DETAILS: UNITED A S16-20-6N

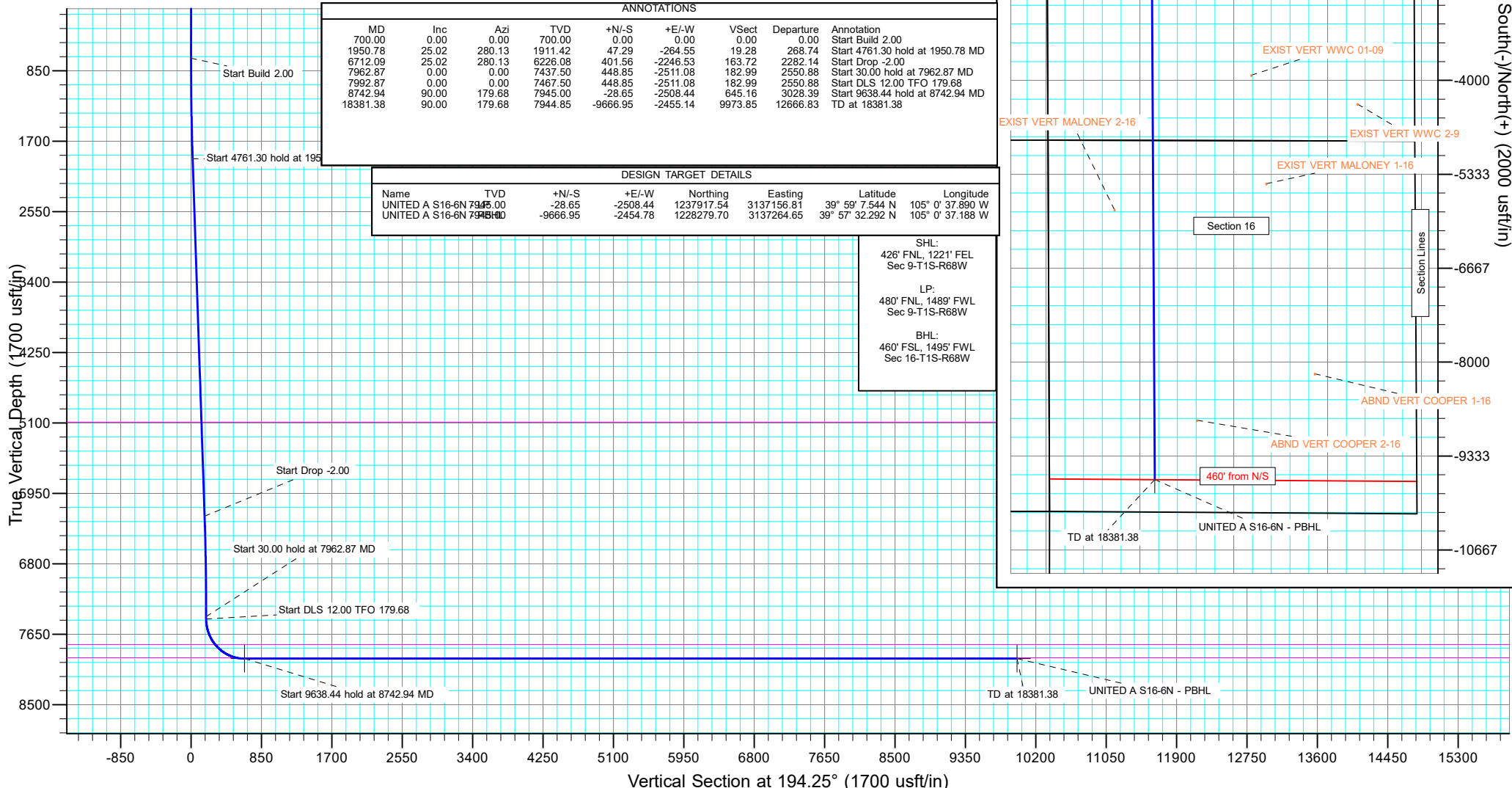
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1237960.29	3139665.05	39° 59' 7.829 N	105° 0' 5.663 W	

SECTION DETAILS

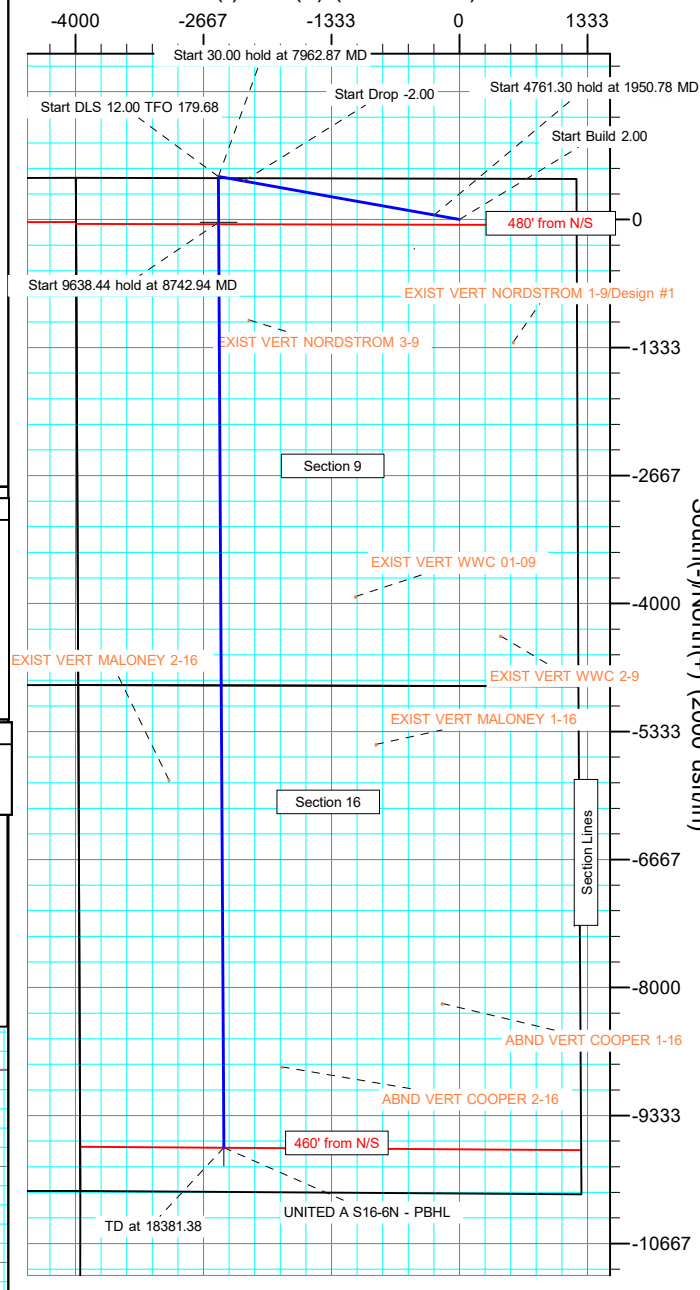
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	
3	1950.78	25.02	280.13	1911.42	47.29	-264.55	2.00	280.13	19.28	
4	6712.09	25.02	280.13	6226.08	401.56	-2246.53	0.00	0.00	163.72	
5	7962.87	0.00	0.00	7437.50	448.85	-2511.08	2.00	180.00	182.99	
6	7992.87	0.00	0.00	7467.50	448.85	-2511.08	0.00	0.00	182.99	
7	8742.94	90.00	179.68	7945.00	-28.65	-2508.44	12.00	179.68	645.16	UNITED A S16-6N - LP
8	18381.38	90.00	179.68	7945.00	-9666.95	-2454.78	0.00	0.00	9973.75	UNITED A S16-6N - PBHL

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
5090.00	5458.41	SUSSEX
7775.00	8326.97	NIOBRARA
7935.00	8645.03	NIO B TARGET



West(-)/East(+) (2000 usft/in)



## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well UNITED A S16-20-6N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5282.00usft
<b>Project:</b>	Broomfield County	<b>MD Reference:</b>	KB 25' @ 5282.00usft
<b>Site:</b>	Sec 9-T1S-R68W	<b>North Reference:</b>	True
<b>Well:</b>	UNITED A S16-20-6N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

<b>Project</b>	Broomfield 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 9-T1S-R68W			
Site Position:		Northing:	1,238,372.37 usft	Latitude:	39° 59' 12.120 N
From:	Lat/Long	Easting:	3,135,664.83 usft	Longitude:	105° 0' 57.025 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.31 °

Well	UNITED A S16-20-6N					
Well Position	+N/-S	-433.92 usft	Northing:	1,237,960.29 usft	Latitude:	39° 59' 7.829 N
	+E/-W	3,997.91 usft	Easting:	3,139,665.05 usft	Longitude:	105° 0' 5.663 W
Position Uncertainty	0.00 usft		Wellhead Elevation:		Ground Level:	5,257.00 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	1/4/2018	8.24	66.47	52,084.67057465

<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	194.25

<b>Plan Survey Tool Program</b>	<b>Date</b>	1/18/2018		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	18,381.33	PROPOSAL 1 (ORIGINAL WELL	MWD OWSG
			OWSG MWD - Standard	

<b>Plan Sections</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>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.00	0.00	0.00	0.00	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	
1,950.78	25.02	280.13	1,911.42	47.29	-264.55	2.00	2.00	0.00	280.13	
6,712.09	25.02	280.13	6,226.08	401.56	-2,246.53	0.00	0.00	0.00	0.00	
7,962.87	0.00	0.00	7,437.50	448.85	-2,511.08	2.00	-2.00	0.00	180.00	
7,992.87	0.00	0.00	7,467.50	448.85	-2,511.08	0.00	0.00	0.00	0.00	
8,742.94	90.00	179.68	7,945.00	-28.65	-2,508.44	12.00	12.00	23.96	179.68	UNITED A S16-6N - L
18,381.38	90.00	179.68	7,945.00	-9,666.95	-2,454.78	0.00	0.00	0.00	0.00	UNITED A S16-6N - F

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well UNITED A S16-20-6N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5282.00usft
<b>Project:</b>	Broomfield County	<b>MD Reference:</b>	KB 25' @ 5282.00usft
<b>Site:</b>	Sec 9-T1S-R68W	<b>North Reference:</b>	True
<b>Well:</b>	UNITED A S16-20-6N	<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
Start Build 2.00									
800.00	2.00	280.13	799.98	0.31	-1.72	0.13	2.00	2.00	0.00
900.00	4.00	280.13	899.84	1.23	-6.87	0.50	2.00	2.00	0.00
1,000.00	6.00	280.13	999.45	2.76	-15.45	1.13	2.00	2.00	0.00
1,100.00	8.00	280.13	1,098.70	4.91	-27.44	2.00	2.00	2.00	0.00
1,200.00	10.00	280.13	1,197.47	7.66	-42.84	3.12	2.00	2.00	0.00
1,300.00	12.00	280.13	1,295.62	11.02	-61.63	4.49	2.00	2.00	0.00
1,400.00	14.00	280.13	1,393.06	14.97	-83.77	6.10	2.00	2.00	0.00
1,500.00	16.00	280.13	1,489.64	19.53	-109.25	7.96	2.00	2.00	0.00
1,600.00	18.00	280.13	1,585.27	24.67	-138.03	10.06	2.00	2.00	0.00
1,700.00	20.00	280.13	1,679.82	30.40	-170.07	12.39	2.00	2.00	0.00
1,800.00	22.00	280.13	1,773.17	36.71	-205.35	14.96	2.00	2.00	0.00
1,900.00	24.00	280.13	1,865.21	43.58	-243.81	17.77	2.00	2.00	0.00
1,950.78	25.02	280.13	1,911.42	47.29	-264.55	19.28	2.00	2.00	0.00
Start 4761.30 hold at 1950.78 MD									
2,000.00	25.02	280.13	1,956.02	50.95	-285.03	20.77	0.00	0.00	0.00
2,100.00	25.02	280.13	2,046.64	58.39	-326.66	23.81	0.00	0.00	0.00
2,200.00	25.02	280.13	2,137.26	65.83	-368.29	26.84	0.00	0.00	0.00
2,300.00	25.02	280.13	2,227.88	73.27	-409.92	29.87	0.00	0.00	0.00
2,400.00	25.02	280.13	2,318.50	80.71	-451.54	32.91	0.00	0.00	0.00
2,500.00	25.02	280.13	2,409.12	88.15	-493.17	35.94	0.00	0.00	0.00
2,600.00	25.02	280.13	2,499.74	95.59	-534.80	38.97	0.00	0.00	0.00
2,700.00	25.02	280.13	2,590.36	103.03	-576.42	42.01	0.00	0.00	0.00
2,800.00	25.02	280.13	2,680.98	110.48	-618.05	45.04	0.00	0.00	0.00
2,900.00	25.02	280.13	2,771.59	117.92	-659.68	48.07	0.00	0.00	0.00
3,000.00	25.02	280.13	2,862.21	125.36	-701.30	51.11	0.00	0.00	0.00
3,100.00	25.02	280.13	2,952.83	132.80	-742.93	54.14	0.00	0.00	0.00
3,200.00	25.02	280.13	3,043.45	140.24	-784.56	57.17	0.00	0.00	0.00
3,300.00	25.02	280.13	3,134.07	147.68	-826.18	60.21	0.00	0.00	0.00
3,400.00	25.02	280.13	3,224.69	155.12	-867.81	63.24	0.00	0.00	0.00
3,500.00	25.02	280.13	3,315.31	162.56	-909.44	66.28	0.00	0.00	0.00
3,600.00	25.02	280.13	3,405.93	170.00	-951.07	69.31	0.00	0.00	0.00
3,700.00	25.02	280.13	3,496.55	177.44	-992.69	72.34	0.00	0.00	0.00
3,800.00	25.02	280.13	3,587.17	184.88	-1,034.32	75.38	0.00	0.00	0.00
3,900.00	25.02	280.13	3,677.79	192.32	-1,075.95	78.41	0.00	0.00	0.00
4,000.00	25.02	280.13	3,768.41	199.76	-1,117.57	81.44	0.00	0.00	0.00
4,100.00	25.02	280.13	3,859.02	207.20	-1,159.20	84.48	0.00	0.00	0.00
4,200.00	25.02	280.13	3,949.64	214.65	-1,200.83	87.51	0.00	0.00	0.00
4,300.00	25.02	280.13	4,040.26	222.09	-1,242.45	90.54	0.00	0.00	0.00
4,400.00	25.02	280.13	4,130.88	229.53	-1,284.08	93.58	0.00	0.00	0.00
4,500.00	25.02	280.13	4,221.50	236.97	-1,325.71	96.61	0.00	0.00	0.00
4,600.00	25.02	280.13	4,312.12	244.41	-1,367.33	99.64	0.00	0.00	0.00
4,700.00	25.02	280.13	4,402.74	251.85	-1,408.96	102.68	0.00	0.00	0.00
4,800.00	25.02	280.13	4,493.36	259.29	-1,450.59	105.71	0.00	0.00	0.00
4,900.00	25.02	280.13	4,583.98	266.73	-1,492.22	108.74	0.00	0.00	0.00

# Planning Report

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<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5282.00usft
<b>Project:</b>	Broomfield County	<b>MD Reference:</b>	KB 25' @ 5282.00usft
<b>Site:</b>	Sec 9-T1S-R68W	<b>North Reference:</b>	True
<b>Well:</b>	UNITED A S16-20-6N	<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)	
5,000.00	25.02	280.13	4,674.60	274.17	-1,533.84	111.78	0.00	0.00	0.00	
5,100.00	25.02	280.13	4,765.22	281.61	-1,575.47	114.81	0.00	0.00	0.00	
5,200.00	25.02	280.13	4,855.84	289.05	-1,617.10	117.85	0.00	0.00	0.00	
5,300.00	25.02	280.13	4,946.45	296.49	-1,658.72	120.88	0.00	0.00	0.00	
5,400.00	25.02	280.13	5,037.07	303.93	-1,700.35	123.91	0.00	0.00	0.00	
5,458.41	25.02	280.13	5,090.00	308.28	-1,724.66	125.68	0.00	0.00	0.00	
<b>SUSSEX</b>										
5,500.00	25.02	280.13	5,127.69	311.37	-1,741.98	126.95	0.00	0.00	0.00	
5,600.00	25.02	280.13	5,218.31	318.82	-1,783.60	129.98	0.00	0.00	0.00	
5,700.00	25.02	280.13	5,308.93	326.26	-1,825.23	133.01	0.00	0.00	0.00	
5,800.00	25.02	280.13	5,399.55	333.70	-1,866.86	136.05	0.00	0.00	0.00	
5,900.00	25.02	280.13	5,490.17	341.14	-1,908.48	139.08	0.00	0.00	0.00	
6,000.00	25.02	280.13	5,580.79	348.58	-1,950.11	142.11	0.00	0.00	0.00	
6,100.00	25.02	280.13	5,671.41	356.02	-1,991.74	145.15	0.00	0.00	0.00	
6,200.00	25.02	280.13	5,762.03	363.46	-2,033.37	148.18	0.00	0.00	0.00	
6,300.00	25.02	280.13	5,852.65	370.90	-2,074.99	151.21	0.00	0.00	0.00	
6,400.00	25.02	280.13	5,943.27	378.34	-2,116.62	154.25	0.00	0.00	0.00	
6,500.00	25.02	280.13	6,033.88	385.78	-2,158.25	157.28	0.00	0.00	0.00	
6,600.00	25.02	280.13	6,124.50	393.22	-2,199.87	160.32	0.00	0.00	0.00	
6,700.00	25.02	280.13	6,215.12	400.66	-2,241.50	163.35	0.00	0.00	0.00	
6,712.09	25.02	280.13	6,226.08	401.56	-2,246.53	163.72	0.00	0.00	0.00	
<b>Start Drop -2.00</b>										
6,800.00	23.26	280.13	6,306.30	407.89	-2,281.92	166.29	2.00	-2.00	0.00	
6,900.00	21.26	280.13	6,398.84	414.55	-2,319.20	169.01	2.00	-2.00	0.00	
7,000.00	19.26	280.13	6,492.65	420.64	-2,353.28	171.50	2.00	-2.00	0.00	
7,100.00	17.26	280.13	6,587.61	426.16	-2,384.12	173.74	2.00	-2.00	0.00	
7,200.00	15.26	280.13	6,683.61	431.08	-2,411.68	175.75	2.00	-2.00	0.00	
7,300.00	13.26	280.13	6,780.53	435.42	-2,435.92	177.52	2.00	-2.00	0.00	
7,400.00	11.26	280.13	6,878.24	439.15	-2,456.82	179.04	2.00	-2.00	0.00	
7,500.00	9.26	280.13	6,976.64	442.28	-2,474.35	180.32	2.00	-2.00	0.00	
7,600.00	7.26	280.13	7,075.60	444.81	-2,488.49	181.35	2.00	-2.00	0.00	
7,700.00	5.26	280.13	7,175.00	446.73	-2,499.22	182.13	2.00	-2.00	0.00	
7,800.00	3.26	280.13	7,274.71	448.04	-2,506.52	182.66	2.00	-2.00	0.00	
7,900.00	1.26	280.13	7,374.63	448.73	-2,510.40	182.95	2.00	-2.00	0.00	
7,962.87	0.00	0.00	7,437.50	448.85	-2,511.08	182.99	2.00	-2.00	0.00	
<b>Start 30.00 hold at 7962.87 MD</b>										
7,992.87	0.00	0.00	7,467.50	448.85	-2,511.08	182.99	0.00	0.00	0.00	
<b>Start DLS 12.00 TFO 179.68</b>										
8,000.00	0.86	179.68	7,474.63	448.80	-2,511.08	183.05	12.00	12.00	0.00	
8,025.00	3.85	179.68	7,499.60	447.77	-2,511.07	184.04	12.00	12.00	0.00	
8,050.00	6.85	179.68	7,524.49	445.44	-2,511.06	186.30	12.00	12.00	0.00	
8,075.00	9.85	179.68	7,549.22	441.80	-2,511.04	189.81	12.00	12.00	0.00	
8,100.00	12.85	179.68	7,573.73	436.88	-2,511.01	194.58	12.00	12.00	0.00	
8,125.00	15.85	179.68	7,597.95	430.69	-2,510.98	200.57	12.00	12.00	0.00	
8,150.00	18.85	179.68	7,621.81	423.23	-2,510.94	207.79	12.00	12.00	0.00	
8,175.00	21.85	179.68	7,645.24	414.54	-2,510.89	216.21	12.00	12.00	0.00	
8,200.00	24.85	179.68	7,668.19	404.63	-2,510.84	225.80	12.00	12.00	0.00	
8,225.00	27.85	179.68	7,690.59	393.53	-2,510.77	236.54	12.00	12.00	0.00	
8,250.00	30.85	179.68	7,712.38	381.28	-2,510.71	248.40	12.00	12.00	0.00	
8,275.00	33.85	179.68	7,733.50	367.90	-2,510.63	261.34	12.00	12.00	0.00	
8,300.00	36.85	179.68	7,753.88	353.44	-2,510.55	275.34	12.00	12.00	0.00	
8,325.00	39.85	179.68	7,773.49	337.93	-2,510.47	290.35	12.00	12.00	0.00	
8,326.97	40.09	179.68	7,775.00	336.66	-2,510.46	291.58	12.00	12.00	0.00	
<b>NIOBARRA</b>										

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well UNITED A S16-20-6N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5282.00usft
<b>Project:</b>	Broomfield County	<b>MD Reference:</b>	KB 25' @ 5282.00usft
<b>Site:</b>	Sec 9-T1S-R68W	<b>North Reference:</b>	True
<b>Well:</b>	UNITED A S16-20-6N	<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)
8,350.00	42.85	179.68	7,792.25	321.41	-2,510.38	306.34	12.00	12.00	0.00
8,375.00	45.85	179.68	7,810.13	303.94	-2,510.28	323.25	12.00	12.00	0.00
8,400.00	48.85	179.68	7,827.06	285.55	-2,510.18	341.05	12.00	12.00	0.00
8,425.00	51.85	179.68	7,843.01	266.31	-2,510.07	359.67	12.00	12.00	0.00
8,450.00	54.85	179.68	7,857.93	246.25	-2,509.96	379.09	12.00	12.00	0.00
8,475.00	57.85	179.68	7,871.78	225.44	-2,509.84	399.23	12.00	12.00	0.00
8,500.00	60.85	179.68	7,884.53	203.94	-2,509.73	420.04	12.00	12.00	0.00
8,525.00	63.85	179.68	7,896.13	181.80	-2,509.60	441.47	12.00	12.00	0.00
8,550.00	66.85	179.68	7,906.55	159.08	-2,509.48	463.46	12.00	12.00	0.00
8,575.00	69.85	179.68	7,915.77	135.84	-2,509.35	485.95	12.00	12.00	0.00
8,600.00	72.85	179.68	7,923.77	112.16	-2,509.22	508.87	12.00	12.00	0.00
8,625.00	75.85	179.68	7,930.51	88.09	-2,509.09	532.17	12.00	12.00	0.00
8,645.03	78.25	179.68	7,935.00	68.57	-2,508.98	551.06	12.00	12.00	0.00
NIO B TARGET									
8,650.00	78.85	179.68	7,935.99	63.70	-2,508.95	555.77	12.00	12.00	0.00
8,675.00	81.85	179.68	7,940.18	39.06	-2,508.81	579.63	12.00	12.00	0.00
8,700.00	84.85	179.68	7,943.07	14.23	-2,508.68	603.66	12.00	12.00	0.00
8,725.00	87.85	179.68	7,944.66	-10.72	-2,508.54	627.80	12.00	12.00	0.00
8,742.94	90.00	179.68	7,945.00	-28.65	-2,508.44	645.16	12.00	12.00	0.00
Start 9638.44 hold at 8742.94 MD									
8,800.00	90.00	179.68	7,945.00	-85.71	-2,508.12	700.39	0.00	0.00	0.00
8,900.00	90.00	179.68	7,945.00	-185.71	-2,507.57	797.17	0.00	0.00	0.00
9,000.00	90.00	179.68	7,945.00	-285.71	-2,507.02	893.96	0.00	0.00	0.00
9,100.00	90.00	179.68	7,944.99	-385.71	-2,506.47	990.75	0.00	0.00	0.00
9,200.00	90.00	179.68	7,944.99	-485.71	-2,505.91	1,087.53	0.00	0.00	0.00
9,300.00	90.00	179.68	7,944.99	-585.71	-2,505.36	1,184.32	0.00	0.00	0.00
9,400.00	90.00	179.68	7,944.99	-685.70	-2,504.81	1,281.10	0.00	0.00	0.00
9,500.00	90.00	179.68	7,944.99	-785.70	-2,504.25	1,377.89	0.00	0.00	0.00
9,600.00	90.00	179.68	7,944.99	-885.70	-2,503.70	1,474.68	0.00	0.00	0.00
9,700.00	90.00	179.68	7,944.99	-985.70	-2,503.15	1,571.46	0.00	0.00	0.00
9,800.00	90.00	179.68	7,944.98	-1,085.70	-2,502.59	1,668.25	0.00	0.00	0.00
9,900.00	90.00	179.68	7,944.98	-1,185.70	-2,502.04	1,765.04	0.00	0.00	0.00
10,000.00	90.00	179.68	7,944.98	-1,285.70	-2,501.49	1,861.82	0.00	0.00	0.00
10,100.00	90.00	179.68	7,944.98	-1,385.69	-2,500.94	1,958.61	0.00	0.00	0.00
10,200.00	90.00	179.68	7,944.98	-1,485.69	-2,500.38	2,055.39	0.00	0.00	0.00
10,300.00	90.00	179.68	7,944.98	-1,585.69	-2,499.83	2,152.18	0.00	0.00	0.00
10,400.00	90.00	179.68	7,944.97	-1,685.69	-2,499.28	2,248.97	0.00	0.00	0.00
10,500.00	90.00	179.68	7,944.97	-1,785.69	-2,498.72	2,345.75	0.00	0.00	0.00
10,600.00	90.00	179.68	7,944.97	-1,885.69	-2,498.17	2,442.54	0.00	0.00	0.00
10,700.00	90.00	179.68	7,944.97	-1,985.68	-2,497.62	2,539.33	0.00	0.00	0.00
10,800.00	90.00	179.68	7,944.97	-2,085.68	-2,497.06	2,636.11	0.00	0.00	0.00
10,900.00	90.00	179.68	7,944.97	-2,185.68	-2,496.51	2,732.90	0.00	0.00	0.00
11,000.00	90.00	179.68	7,944.97	-2,285.68	-2,495.96	2,829.68	0.00	0.00	0.00
11,100.00	90.00	179.68	7,944.96	-2,385.68	-2,495.41	2,926.47	0.00	0.00	0.00
11,200.00	90.00	179.68	7,944.96	-2,485.68	-2,494.85	3,023.26	0.00	0.00	0.00
11,300.00	90.00	179.68	7,944.96	-2,585.68	-2,494.30	3,120.04	0.00	0.00	0.00
11,400.00	90.00	179.68	7,944.96	-2,685.67	-2,493.75	3,216.83	0.00	0.00	0.00
11,500.00	90.00	179.68	7,944.96	-2,785.67	-2,493.19	3,313.62	0.00	0.00	0.00
11,600.00	90.00	179.68	7,944.96	-2,885.67	-2,492.64	3,410.40	0.00	0.00	0.00
11,700.00	90.00	179.68	7,944.95	-2,985.67	-2,492.09	3,507.19	0.00	0.00	0.00
11,800.00	90.00	179.68	7,944.95	-3,085.67	-2,491.53	3,603.97	0.00	0.00	0.00
11,900.00	90.00	179.68	7,944.95	-3,185.67	-2,490.98	3,700.76	0.00	0.00	0.00
12,000.00	90.00	179.68	7,944.95	-3,285.66	-2,490.43	3,797.55	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well UNITED A S16-20-6N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5282.00usft
<b>Project:</b>	Broomfield County	<b>MD Reference:</b>	KB 25' @ 5282.00usft
<b>Site:</b>	Sec 9-T1S-R68W	<b>North Reference:</b>	True
<b>Well:</b>	UNITED A S16-20-6N	<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)	
12,100.00	90.00	179.68	7,944.95	-3,385.66	-2,489.88	3,894.33	0.00	0.00	0.00	
12,200.00	90.00	179.68	7,944.95	-3,485.66	-2,489.32	3,991.12	0.00	0.00	0.00	
12,300.00	90.00	179.68	7,944.95	-3,585.66	-2,488.77	4,087.91	0.00	0.00	0.00	
12,400.00	90.00	179.68	7,944.94	-3,685.66	-2,488.22	4,184.69	0.00	0.00	0.00	
12,500.00	90.00	179.68	7,944.94	-3,785.66	-2,487.66	4,281.48	0.00	0.00	0.00	
12,600.00	90.00	179.68	7,944.94	-3,885.66	-2,487.11	4,378.26	0.00	0.00	0.00	
12,700.00	90.00	179.68	7,944.94	-3,985.65	-2,486.56	4,475.05	0.00	0.00	0.00	
12,800.00	90.00	179.68	7,944.94	-4,085.65	-2,486.00	4,571.84	0.00	0.00	0.00	
12,900.00	90.00	179.68	7,944.94	-4,185.65	-2,485.45	4,668.62	0.00	0.00	0.00	
13,000.00	90.00	179.68	7,944.94	-4,285.65	-2,484.90	4,765.41	0.00	0.00	0.00	
13,100.00	90.00	179.68	7,944.93	-4,385.65	-2,484.35	4,862.20	0.00	0.00	0.00	
13,200.00	90.00	179.68	7,944.93	-4,485.65	-2,483.79	4,958.98	0.00	0.00	0.00	
13,300.00	90.00	179.68	7,944.93	-4,585.64	-2,483.24	5,055.77	0.00	0.00	0.00	
13,400.00	90.00	179.68	7,944.93	-4,685.64	-2,482.69	5,152.55	0.00	0.00	0.00	
13,500.00	90.00	179.68	7,944.93	-4,785.64	-2,482.13	5,249.34	0.00	0.00	0.00	
13,600.00	90.00	179.68	7,944.93	-4,885.64	-2,481.58	5,346.13	0.00	0.00	0.00	
13,700.00	90.00	179.68	7,944.92	-4,985.64	-2,481.03	5,442.91	0.00	0.00	0.00	
13,800.00	90.00	179.68	7,944.92	-5,085.64	-2,480.48	5,539.70	0.00	0.00	0.00	
13,900.00	90.00	179.68	7,944.92	-5,185.64	-2,479.92	5,636.49	0.00	0.00	0.00	
14,000.00	90.00	179.68	7,944.92	-5,285.63	-2,479.37	5,733.27	0.00	0.00	0.00	
14,100.00	90.00	179.68	7,944.92	-5,385.63	-2,478.82	5,830.06	0.00	0.00	0.00	
14,200.00	90.00	179.68	7,944.92	-5,485.63	-2,478.26	5,926.84	0.00	0.00	0.00	
14,300.00	90.00	179.68	7,944.92	-5,585.63	-2,477.71	6,023.63	0.00	0.00	0.00	
14,400.00	90.00	179.68	7,944.91	-5,685.63	-2,477.16	6,120.42	0.00	0.00	0.00	
14,500.00	90.00	179.68	7,944.91	-5,785.63	-2,476.60	6,217.20	0.00	0.00	0.00	
14,600.00	90.00	179.68	7,944.91	-5,885.63	-2,476.05	6,313.99	0.00	0.00	0.00	
14,700.00	90.00	179.68	7,944.91	-5,985.62	-2,475.50	6,410.78	0.00	0.00	0.00	
14,800.00	90.00	179.68	7,944.91	-6,085.62	-2,474.95	6,507.56	0.00	0.00	0.00	
14,900.00	90.00	179.68	7,944.91	-6,185.62	-2,474.39	6,604.35	0.00	0.00	0.00	
15,000.00	90.00	179.68	7,944.90	-6,285.62	-2,473.84	6,701.13	0.00	0.00	0.00	
15,100.00	90.00	179.68	7,944.90	-6,385.62	-2,473.29	6,797.92	0.00	0.00	0.00	
15,200.00	90.00	179.68	7,944.90	-6,485.62	-2,472.73	6,894.71	0.00	0.00	0.00	
15,300.00	90.00	179.68	7,944.90	-6,585.61	-2,472.18	6,991.49	0.00	0.00	0.00	
15,400.00	90.00	179.68	7,944.90	-6,685.61	-2,471.63	7,088.28	0.00	0.00	0.00	
15,500.00	90.00	179.68	7,944.90	-6,785.61	-2,471.07	7,185.07	0.00	0.00	0.00	
15,600.00	90.00	179.68	7,944.90	-6,885.61	-2,470.52	7,281.85	0.00	0.00	0.00	
15,700.00	90.00	179.68	7,944.89	-6,985.61	-2,469.97	7,378.64	0.00	0.00	0.00	
15,800.00	90.00	179.68	7,944.89	-7,085.61	-2,469.42	7,475.42	0.00	0.00	0.00	
15,900.00	90.00	179.68	7,944.89	-7,185.61	-2,468.86	7,572.21	0.00	0.00	0.00	
16,000.00	90.00	179.68	7,944.89	-7,285.60	-2,468.31	7,669.00	0.00	0.00	0.00	
16,100.00	90.00	179.68	7,944.89	-7,385.60	-2,467.76	7,765.78	0.00	0.00	0.00	
16,200.00	90.00	179.68	7,944.89	-7,485.60	-2,467.20	7,862.57	0.00	0.00	0.00	
16,300.00	90.00	179.68	7,944.88	-7,585.60	-2,466.65	7,959.36	0.00	0.00	0.00	
16,400.00	90.00	179.68	7,944.88	-7,685.60	-2,466.10	8,056.14	0.00	0.00	0.00	
16,500.00	90.00	179.68	7,944.88	-7,785.60	-2,465.54	8,152.93	0.00	0.00	0.00	
16,600.00	90.00	179.68	7,944.88	-7,885.59	-2,464.99	8,249.71	0.00	0.00	0.00	
16,700.00	90.00	179.68	7,944.88	-7,985.59	-2,464.44	8,346.50	0.00	0.00	0.00	
16,800.00	90.00	179.68	7,944.88	-8,085.59	-2,463.89	8,443.29	0.00	0.00	0.00	
16,900.00	90.00	179.68	7,944.88	-8,185.59	-2,463.33	8,540.07	0.00	0.00	0.00	
17,000.00	90.00	179.68	7,944.87	-8,285.59	-2,462.78	8,636.86	0.00	0.00	0.00	
17,100.00	90.00	179.68	7,944.87	-8,385.59	-2,462.23	8,733.65	0.00	0.00	0.00	
17,200.00	90.00	179.68	7,944.87	-8,485.59	-2,461.67	8,830.43	0.00	0.00	0.00	
17,300.00	90.00	179.68	7,944.87	-8,585.58	-2,461.12	8,927.22	0.00	0.00	0.00	
17,400.00	90.00	179.68	7,944.87	-8,685.58	-2,460.57	9,024.00	0.00	0.00	0.00	

## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well UNITED A S16-20-6N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5282.00usft
<b>Project:</b>	Broomfield County	<b>MD Reference:</b>	KB 25' @ 5282.00usft
<b>Site:</b>	Sec 9-T1S-R68W	<b>North Reference:</b>	True
<b>Well:</b>	UNITED A S16-20-6N	<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)	
17,500.00	90.00	179.68	7,944.87	-8,785.58	-2,460.01	9,120.79	0.00	0.00	0.00	
17,600.00	90.00	179.68	7,944.86	-8,885.58	-2,459.46	9,217.58	0.00	0.00	0.00	
17,700.00	90.00	179.68	7,944.86	-8,985.58	-2,458.91	9,314.36	0.00	0.00	0.00	
17,800.00	90.00	179.68	7,944.86	-9,085.58	-2,458.36	9,411.15	0.00	0.00	0.00	
17,900.00	90.00	179.68	7,944.86	-9,185.57	-2,457.80	9,507.94	0.00	0.00	0.00	
18,000.00	90.00	179.68	7,944.86	-9,285.57	-2,457.25	9,604.72	0.00	0.00	0.00	
18,100.00	90.00	179.68	7,944.86	-9,385.57	-2,456.70	9,701.51	0.00	0.00	0.00	
18,200.00	90.00	179.68	7,944.86	-9,485.57	-2,456.14	9,798.29	0.00	0.00	0.00	
18,300.00	90.00	179.68	7,944.85	-9,585.57	-2,455.59	9,895.08	0.00	0.00	0.00	
18,381.38	90.00	179.68	7,945.00	-9,666.95	-2,454.78	9,973.76	0.00	0.00	0.00	
TD at 18381.38										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
UNITED A S16-6N - PBH - plan hits target center - Point	0.00	0.00	7,945.00	-9,666.95	-2,454.78	1,228,279.69	3,137,264.65	39° 57' 32.292 N	105° 0' 37.188 W	
UNITED A S16-6N - LP - plan hits target center - Point	0.00	0.00	7,945.00	-28.65	-2,508.44	1,237,917.54	3,137,156.81	39° 59' 7.544 N	105° 0' 37.890 W	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
5,458.41	5,090.00	SUSSEX				
8,326.97	7,775.00	NIOBRARA				
8,645.03	7,935.00	NIO B TARGET				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
700.00	700.00	0.00	0.00	Start Build 2.00	
1,950.78	1,911.42	47.29	-264.55	Start 4761.30 hold at 1950.78 MD	
6,712.09	6,226.08	401.56	-2,246.53	Start Drop -2.00	
7,962.87	7,437.50	448.85	-2,511.08	Start 30.00 hold at 7962.87 MD	
7,992.87	7,467.50	448.85	-2,511.08	Start DLS 12.00 TFO 179.68	
8,742.94	7,945.00	-28.65	-2,508.44	Start 9638.44 hold at 8742.94 MD	
18,381.38	7,945.00	-9,666.95	-2,454.78	TD at 18381.38	