

EXTRACTION OIL & GAS

Broomfield County

Sec 9-T1S-R68W

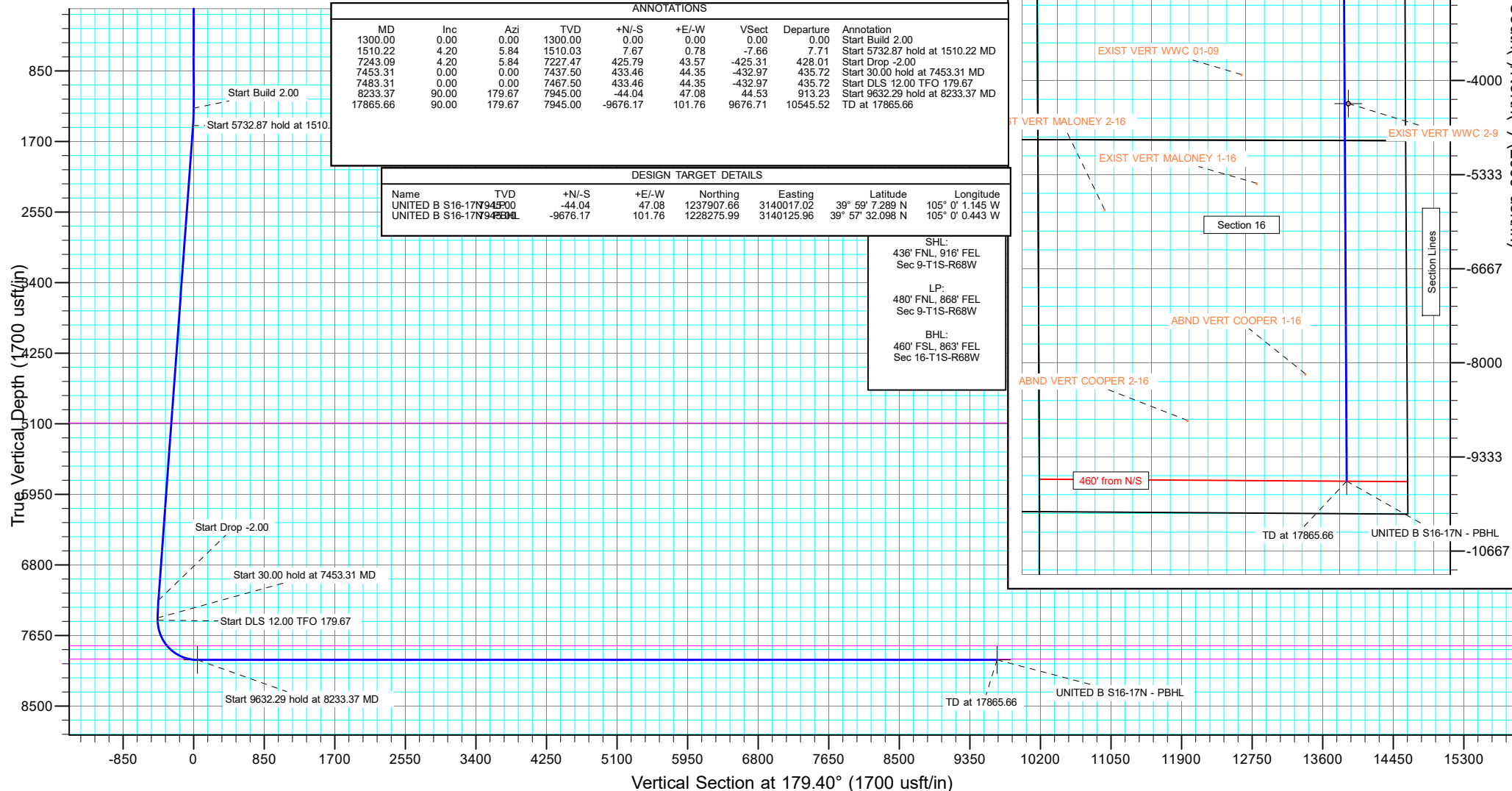
UNITED B S16-20-17N

ORIGINAL WELLBORE

Plan: PROPOSAL 1

Standard Planning Report

18 January, 2018



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well UNITED B S16-20-17N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5279.00usft
Project:	Broomfield County	MD Reference:	KB 25' @ 5279.00usft
Site:	Sec 9-T1S-R68W	North Reference:	True
Well:	UNITED B S16-20-17N	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Project	Broomfield County		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	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 B S16-20-17N					
Well Position	+N/-S	-444.44 usft	Northing:	1,237,951.44 usft	Latitude:	39° 59' 7.724 N
	+E/-W	4,302.51 usft	Easting:	3,139,969.70 usft	Longitude:	105° 0' 1.750 W
Position Uncertainty	0.00 usft		Wellhead Elevation:		Ground Level:	5,254.00 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	1/5/2018	8.24	66.47	52,084.48337722

Design	PROPOSAL 1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	179.40

Plan Survey Tool Program	Date	1/18/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,865.66	PROPOSAL 1 (ORIGINAL WELL	MWD OWSG
			OWSG MWD - Standard	

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	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,510.22	4.20	5.84	1,510.03	7.67	0.78	2.00	2.00	0.00	5.84	
7,243.09	4.20	5.84	7,227.47	425.79	43.57	0.00	0.00	0.00	0.00	
7,453.31	0.00	0.00	7,437.50	433.46	44.35	2.00	-2.00	0.00	180.00	
7,483.31	0.00	0.00	7,467.50	433.46	44.35	0.00	0.00	0.00	0.00	
8,233.37	90.00	179.67	7,945.00	-44.04	47.08	12.00	12.00	23.95	179.67	UNITED B S16-17N -
17,865.66	90.00	179.67	7,945.00	-9,676.17	101.76	0.00	0.00	0.00	0.00	UNITED B S16-17N -

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well UNITED B S16-20-17N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5279.00usft
Project:	Broomfield County	MD Reference:	KB 25' @ 5279.00usft
Site:	Sec 9-T1S-R68W	North Reference:	True
Well:	UNITED B S16-20-17N	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,400.00	2.00	5.84	1,399.98	1.74	0.18	-1.73	2.00	2.00	0.00
1,500.00	4.00	5.84	1,499.84	6.94	0.71	-6.93	2.00	2.00	0.00
1,510.22	4.20	5.84	1,510.03	7.67	0.78	-7.66	2.00	2.00	0.00
Start 5732.87 hold at 1510.22 MD									
1,600.00	4.20	5.84	1,599.57	14.22	1.45	-14.20	0.00	0.00	0.00
1,700.00	4.20	5.84	1,699.30	21.51	2.20	-21.49	0.00	0.00	0.00
1,800.00	4.20	5.84	1,799.03	28.80	2.95	-28.77	0.00	0.00	0.00
1,900.00	4.20	5.84	1,898.76	36.10	3.69	-36.06	0.00	0.00	0.00
2,000.00	4.20	5.84	1,998.49	43.39	4.44	-43.34	0.00	0.00	0.00
2,100.00	4.20	5.84	2,098.22	50.68	5.19	-50.63	0.00	0.00	0.00
2,200.00	4.20	5.84	2,197.96	57.98	5.93	-57.91	0.00	0.00	0.00
2,300.00	4.20	5.84	2,297.69	65.27	6.68	-65.20	0.00	0.00	0.00
2,400.00	4.20	5.84	2,397.42	72.56	7.42	-72.48	0.00	0.00	0.00
2,500.00	4.20	5.84	2,497.15	79.86	8.17	-79.77	0.00	0.00	0.00
2,600.00	4.20	5.84	2,596.88	87.15	8.92	-87.05	0.00	0.00	0.00
2,700.00	4.20	5.84	2,696.61	94.44	9.66	-94.34	0.00	0.00	0.00
2,800.00	4.20	5.84	2,796.34	101.74	10.41	-101.62	0.00	0.00	0.00
2,900.00	4.20	5.84	2,896.07	109.03	11.16	-108.91	0.00	0.00	0.00
3,000.00	4.20	5.84	2,995.80	116.33	11.90	-116.19	0.00	0.00	0.00
3,100.00	4.20	5.84	3,095.53	123.62	12.65	-123.48	0.00	0.00	0.00
3,200.00	4.20	5.84	3,195.26	130.91	13.39	-130.76	0.00	0.00	0.00
3,300.00	4.20	5.84	3,294.99	138.21	14.14	-138.05	0.00	0.00	0.00
3,400.00	4.20	5.84	3,394.73	145.50	14.89	-145.33	0.00	0.00	0.00
3,500.00	4.20	5.84	3,494.46	152.79	15.63	-152.62	0.00	0.00	0.00
3,600.00	4.20	5.84	3,594.19	160.09	16.38	-159.90	0.00	0.00	0.00
3,700.00	4.20	5.84	3,693.92	167.38	17.13	-167.19	0.00	0.00	0.00
3,800.00	4.20	5.84	3,793.65	174.67	17.87	-174.47	0.00	0.00	0.00
3,900.00	4.20	5.84	3,893.38	181.97	18.62	-181.76	0.00	0.00	0.00
4,000.00	4.20	5.84	3,993.11	189.26	19.36	-189.05	0.00	0.00	0.00
4,100.00	4.20	5.84	4,092.84	196.55	20.11	-196.33	0.00	0.00	0.00
4,200.00	4.20	5.84	4,192.57	203.85	20.86	-203.62	0.00	0.00	0.00
4,300.00	4.20	5.84	4,292.30	211.14	21.60	-210.90	0.00	0.00	0.00
4,400.00	4.20	5.84	4,392.03	218.43	22.35	-218.19	0.00	0.00	0.00
4,500.00	4.20	5.84	4,491.77	225.73	23.10	-225.47	0.00	0.00	0.00
4,600.00	4.20	5.84	4,591.50	233.02	23.84	-232.76	0.00	0.00	0.00
4,700.00	4.20	5.84	4,691.23	240.31	24.59	-240.04	0.00	0.00	0.00
4,800.00	4.20	5.84	4,790.96	247.61	25.33	-247.33	0.00	0.00	0.00
4,900.00	4.20	5.84	4,890.69	254.90	26.08	-254.61	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well UNITED B S16-20-17N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5279.00usft
Project:	Broomfield County	MD Reference:	KB 25' @ 5279.00usft
Site:	Sec 9-T1S-R68W	North Reference:	True
Well:	UNITED B S16-20-17N	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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	4.20	5.84	4,990.42	262.19	26.83	-261.90	0.00	0.00	0.00	
5,099.85	4.20	5.84	5,090.00	269.48	27.57	-269.17	0.00	0.00	0.00	
SUSSEX										
5,100.00	4.20	5.84	5,090.15	269.49	27.57	-269.18	0.00	0.00	0.00	
5,200.00	4.20	5.84	5,189.88	276.78	28.32	-276.47	0.00	0.00	0.00	
5,300.00	4.20	5.84	5,289.61	284.07	29.07	-283.75	0.00	0.00	0.00	
5,400.00	4.20	5.84	5,389.34	291.37	29.81	-291.04	0.00	0.00	0.00	
5,500.00	4.20	5.84	5,489.07	298.66	30.56	-298.32	0.00	0.00	0.00	
5,600.00	4.20	5.84	5,588.81	305.95	31.30	-305.61	0.00	0.00	0.00	
5,700.00	4.20	5.84	5,688.54	313.25	32.05	-312.89	0.00	0.00	0.00	
5,800.00	4.20	5.84	5,788.27	320.54	32.80	-320.18	0.00	0.00	0.00	
5,900.00	4.20	5.84	5,888.00	327.83	33.54	-327.46	0.00	0.00	0.00	
6,000.00	4.20	5.84	5,987.73	335.13	34.29	-334.75	0.00	0.00	0.00	
6,100.00	4.20	5.84	6,087.46	342.42	35.04	-342.03	0.00	0.00	0.00	
6,200.00	4.20	5.84	6,187.19	349.71	35.78	-349.32	0.00	0.00	0.00	
6,300.00	4.20	5.84	6,286.92	357.01	36.53	-356.60	0.00	0.00	0.00	
6,400.00	4.20	5.84	6,386.65	364.30	37.27	-363.89	0.00	0.00	0.00	
6,500.00	4.20	5.84	6,486.38	371.59	38.02	-371.17	0.00	0.00	0.00	
6,600.00	4.20	5.84	6,586.11	378.89	38.77	-378.46	0.00	0.00	0.00	
6,700.00	4.20	5.84	6,685.85	386.18	39.51	-385.74	0.00	0.00	0.00	
6,800.00	4.20	5.84	6,785.58	393.47	40.26	-393.03	0.00	0.00	0.00	
6,900.00	4.20	5.84	6,885.31	400.77	41.01	-400.31	0.00	0.00	0.00	
7,000.00	4.20	5.84	6,985.04	408.06	41.75	-407.60	0.00	0.00	0.00	
7,100.00	4.20	5.84	7,084.77	415.35	42.50	-414.88	0.00	0.00	0.00	
7,200.00	4.20	5.84	7,184.50	422.65	43.24	-422.17	0.00	0.00	0.00	
7,243.09	4.20	5.84	7,227.47	425.79	43.57	-425.31	0.00	0.00	0.00	
Start Drop -2.00										
7,300.00	3.07	5.84	7,284.27	429.38	43.93	-428.89	2.00	-2.00	0.00	
7,400.00	1.07	5.84	7,384.20	432.97	44.30	-432.48	2.00	-2.00	0.00	
7,453.31	0.00	0.00	7,437.50	433.46	44.35	-432.97	2.00	-2.00	0.00	
Start 30.00 hold at 7453.31 MD										
7,483.31	0.00	0.00	7,467.50	433.46	44.35	-432.97	0.00	0.00	0.00	
Start DLS 12.00 TFO 179.67										
7,500.00	2.00	179.67	7,484.19	433.17	44.35	-432.68	12.00	12.00	0.00	
7,525.00	5.00	179.67	7,509.14	431.64	44.36	-431.15	12.00	12.00	0.00	
7,550.00	8.00	179.67	7,533.98	428.81	44.38	-428.32	12.00	12.00	0.00	
7,575.00	11.00	179.67	7,558.63	424.68	44.40	-424.19	12.00	12.00	0.00	
7,600.00	14.00	179.67	7,583.04	419.27	44.43	-418.78	12.00	12.00	0.00	
7,625.00	17.00	179.67	7,607.12	412.59	44.47	-412.10	12.00	12.00	0.00	
7,650.00	20.00	179.67	7,630.83	404.66	44.51	-404.17	12.00	12.00	0.00	
7,675.00	23.00	179.67	7,654.09	395.50	44.57	-395.01	12.00	12.00	0.00	
7,700.00	26.00	179.67	7,676.83	385.13	44.63	-384.64	12.00	12.00	0.00	
7,725.00	29.00	179.67	7,699.01	373.59	44.69	-373.10	12.00	12.00	0.00	
7,750.00	32.00	179.67	7,720.54	360.90	44.76	-360.41	12.00	12.00	0.00	
7,775.00	35.00	179.67	7,741.39	347.10	44.84	-346.61	12.00	12.00	0.00	
7,800.00	38.00	179.67	7,761.48	332.23	44.93	-331.74	12.00	12.00	0.00	
7,817.41	40.09	179.67	7,775.00	321.27	44.99	-320.78	12.00	12.00	0.00	
NIOBRARA										
7,825.00	41.00	179.67	7,780.77	316.33	45.02	-315.84	12.00	12.00	0.00	
7,850.00	44.00	179.67	7,799.20	299.45	45.11	-298.96	12.00	12.00	0.00	
7,875.00	47.00	179.67	7,816.72	281.62	45.22	-281.13	12.00	12.00	0.00	
7,900.00	50.00	179.67	7,833.28	262.90	45.32	-262.40	12.00	12.00	0.00	
7,925.00	53.00	179.67	7,848.85	243.33	45.44	-242.84	12.00	12.00	0.00	
7,950.00	56.00	179.67	7,863.36	222.98	45.55	-222.49	12.00	12.00	0.00	

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well UNITED B S16-20-17N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5279.00usft
Project:	Broomfield County	MD Reference:	KB 25' @ 5279.00usft
Site:	Sec 9-T1S-R68W	North Reference:	True
Well:	UNITED B S16-20-17N	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
7,975.00	59.00	179.67	7,876.79	201.90	45.67	-201.41	12.00	12.00	0.00
8,000.00	62.00	179.67	7,889.10	180.15	45.80	-179.65	12.00	12.00	0.00
8,025.00	65.00	179.67	7,900.26	157.78	45.92	-157.28	12.00	12.00	0.00
8,050.00	68.00	179.67	7,910.23	134.85	46.05	-134.36	12.00	12.00	0.00
8,075.00	71.00	179.67	7,918.98	111.44	46.19	-110.95	12.00	12.00	0.00
8,100.00	74.00	179.67	7,926.50	87.60	46.32	-87.11	12.00	12.00	0.00
8,125.00	77.00	179.67	7,932.76	63.40	46.46	-62.91	12.00	12.00	0.00
8,135.47	78.25	179.67	7,935.00	53.18	46.52	-52.69	12.00	12.00	0.00
NIO B TARGET									
8,150.00	80.00	179.67	7,937.74	38.90	46.60	-38.41	12.00	12.00	0.00
8,175.00	83.00	179.67	7,941.44	14.18	46.74	-13.69	12.00	12.00	0.00
8,200.00	86.00	179.67	7,943.84	-10.70	46.88	11.19	12.00	12.00	0.00
8,225.00	89.00	179.67	7,944.93	-35.67	47.03	36.16	12.00	12.00	0.00
8,233.37	90.00	179.67	7,945.00	-44.04	47.08	44.53	12.00	12.00	0.00
Start 9632.29 hold at 8233.37 MD									
8,300.00	90.00	179.67	7,945.00	-110.67	47.46	111.16	0.00	0.00	0.00
8,400.00	90.00	179.67	7,945.00	-210.67	48.03	211.16	0.00	0.00	0.00
8,500.00	90.00	179.67	7,945.00	-310.67	48.60	311.16	0.00	0.00	0.00
8,600.00	90.00	179.67	7,944.99	-410.67	49.17	411.16	0.00	0.00	0.00
8,700.00	90.00	179.67	7,944.99	-510.66	49.74	511.16	0.00	0.00	0.00
8,800.00	90.00	179.67	7,944.99	-610.66	50.31	611.16	0.00	0.00	0.00
8,900.00	90.00	179.67	7,944.99	-710.66	50.88	711.16	0.00	0.00	0.00
9,000.00	90.00	179.67	7,944.99	-810.66	51.45	811.16	0.00	0.00	0.00
9,100.00	90.00	179.67	7,944.99	-910.66	52.02	911.15	0.00	0.00	0.00
9,200.00	90.00	179.67	7,944.98	-1,010.66	52.59	1,011.15	0.00	0.00	0.00
9,300.00	90.00	179.67	7,944.98	-1,110.65	53.16	1,111.15	0.00	0.00	0.00
9,400.00	90.00	179.67	7,944.98	-1,210.65	53.73	1,211.15	0.00	0.00	0.00
9,500.00	90.00	179.67	7,944.98	-1,310.65	54.30	1,311.15	0.00	0.00	0.00
9,600.00	90.00	179.67	7,944.98	-1,410.65	54.88	1,411.15	0.00	0.00	0.00
9,700.00	90.00	179.67	7,944.98	-1,510.65	55.45	1,511.15	0.00	0.00	0.00
9,800.00	90.00	179.67	7,944.97	-1,610.65	56.02	1,611.15	0.00	0.00	0.00
9,900.00	90.00	179.67	7,944.97	-1,710.64	56.59	1,711.15	0.00	0.00	0.00
10,000.00	90.00	179.67	7,944.97	-1,810.64	57.16	1,811.14	0.00	0.00	0.00
10,100.00	90.00	179.67	7,944.97	-1,910.64	57.73	1,911.14	0.00	0.00	0.00
10,200.00	90.00	179.67	7,944.97	-2,010.64	58.30	2,011.14	0.00	0.00	0.00
10,300.00	90.00	179.67	7,944.97	-2,110.64	58.87	2,111.14	0.00	0.00	0.00
10,400.00	90.00	179.67	7,944.96	-2,210.64	59.44	2,211.14	0.00	0.00	0.00
10,500.00	90.00	179.67	7,944.96	-2,310.63	60.01	2,311.14	0.00	0.00	0.00
10,600.00	90.00	179.67	7,944.96	-2,410.63	60.58	2,411.14	0.00	0.00	0.00
10,700.00	90.00	179.67	7,944.96	-2,510.63	61.15	2,511.14	0.00	0.00	0.00
10,800.00	90.00	179.67	7,944.96	-2,610.63	61.72	2,611.13	0.00	0.00	0.00
10,900.00	90.00	179.67	7,944.96	-2,710.63	62.29	2,711.13	0.00	0.00	0.00
11,000.00	90.00	179.67	7,944.96	-2,810.63	62.87	2,811.13	0.00	0.00	0.00
11,100.00	90.00	179.67	7,944.95	-2,910.63	63.44	2,911.13	0.00	0.00	0.00
11,200.00	90.00	179.67	7,944.95	-3,010.62	64.01	3,011.13	0.00	0.00	0.00
11,300.00	90.00	179.67	7,944.95	-3,110.62	64.58	3,111.13	0.00	0.00	0.00
11,400.00	90.00	179.67	7,944.95	-3,210.62	65.15	3,211.13	0.00	0.00	0.00
11,500.00	90.00	179.67	7,944.95	-3,310.62	65.72	3,311.13	0.00	0.00	0.00
11,600.00	90.00	179.67	7,944.95	-3,410.62	66.29	3,411.13	0.00	0.00	0.00
11,700.00	90.00	179.67	7,944.94	-3,510.62	66.86	3,511.12	0.00	0.00	0.00
11,800.00	90.00	179.67	7,944.94	-3,610.61	67.43	3,611.12	0.00	0.00	0.00
11,900.00	90.00	179.67	7,944.94	-3,710.61	68.00	3,711.12	0.00	0.00	0.00
12,000.00	90.00	179.67	7,944.94	-3,810.61	68.57	3,811.12	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well UNITED B S16-20-17N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5279.00usft
Project:	Broomfield County	MD Reference:	KB 25' @ 5279.00usft
Site:	Sec 9-T1S-R68W	North Reference:	True
Well:	UNITED B S16-20-17N	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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	179.67	7,944.94	-3,910.61	69.14	3,911.12	0.00	0.00	0.00
12,200.00	90.00	179.67	7,944.94	-4,010.61	69.71	4,011.12	0.00	0.00	0.00
12,300.00	90.00	179.67	7,944.93	-4,110.61	70.28	4,111.12	0.00	0.00	0.00
12,400.00	90.00	179.67	7,944.93	-4,210.60	70.86	4,211.12	0.00	0.00	0.00
12,500.00	90.00	179.67	7,944.93	-4,310.60	71.43	4,311.12	0.00	0.00	0.00
12,600.00	90.00	179.67	7,944.93	-4,410.60	72.00	4,411.11	0.00	0.00	0.00
12,700.00	90.00	179.67	7,944.93	-4,510.60	72.57	4,511.11	0.00	0.00	0.00
12,800.00	90.00	179.67	7,944.93	-4,610.60	73.14	4,611.11	0.00	0.00	0.00
12,900.00	90.00	179.67	7,944.92	-4,710.60	73.71	4,711.11	0.00	0.00	0.00
13,000.00	90.00	179.67	7,944.92	-4,810.59	74.28	4,811.11	0.00	0.00	0.00
13,100.00	90.00	179.67	7,944.92	-4,910.59	74.85	4,911.11	0.00	0.00	0.00
13,200.00	90.00	179.67	7,944.92	-5,010.59	75.42	5,011.11	0.00	0.00	0.00
13,300.00	90.00	179.67	7,944.92	-5,110.59	75.99	5,111.11	0.00	0.00	0.00
13,400.00	90.00	179.67	7,944.92	-5,210.59	76.56	5,211.10	0.00	0.00	0.00
13,500.00	90.00	179.67	7,944.91	-5,310.59	77.13	5,311.10	0.00	0.00	0.00
13,600.00	90.00	179.67	7,944.91	-5,410.58	77.70	5,411.10	0.00	0.00	0.00
13,700.00	90.00	179.67	7,944.91	-5,510.58	78.28	5,511.10	0.00	0.00	0.00
13,800.00	90.00	179.67	7,944.91	-5,610.58	78.85	5,611.10	0.00	0.00	0.00
13,900.00	90.00	179.67	7,944.91	-5,710.58	79.42	5,711.10	0.00	0.00	0.00
14,000.00	90.00	179.67	7,944.91	-5,810.58	79.99	5,811.10	0.00	0.00	0.00
14,100.00	90.00	179.67	7,944.90	-5,910.58	80.56	5,911.10	0.00	0.00	0.00
14,200.00	90.00	179.67	7,944.90	-6,010.57	81.13	6,011.10	0.00	0.00	0.00
14,300.00	90.00	179.67	7,944.90	-6,110.57	81.70	6,111.09	0.00	0.00	0.00
14,400.00	90.00	179.67	7,944.90	-6,210.57	82.27	6,211.09	0.00	0.00	0.00
14,500.00	90.00	179.67	7,944.90	-6,310.57	82.84	6,311.09	0.00	0.00	0.00
14,600.00	90.00	179.67	7,944.90	-6,410.57	83.41	6,411.09	0.00	0.00	0.00
14,700.00	90.00	179.67	7,944.89	-6,510.57	83.98	6,511.09	0.00	0.00	0.00
14,800.00	90.00	179.67	7,944.89	-6,610.56	84.55	6,611.09	0.00	0.00	0.00
14,900.00	90.00	179.67	7,944.89	-6,710.56	85.12	6,711.09	0.00	0.00	0.00
15,000.00	90.00	179.67	7,944.89	-6,810.56	85.69	6,811.09	0.00	0.00	0.00
15,100.00	90.00	179.67	7,944.89	-6,910.56	86.27	6,911.09	0.00	0.00	0.00
15,200.00	90.00	179.67	7,944.89	-7,010.56	86.84	7,011.08	0.00	0.00	0.00
15,300.00	90.00	179.67	7,944.89	-7,110.56	87.41	7,111.08	0.00	0.00	0.00
15,400.00	90.00	179.67	7,944.88	-7,210.56	87.98	7,211.08	0.00	0.00	0.00
15,500.00	90.00	179.67	7,944.88	-7,310.55	88.55	7,311.08	0.00	0.00	0.00
15,600.00	90.00	179.67	7,944.88	-7,410.55	89.12	7,411.08	0.00	0.00	0.00
15,700.00	90.00	179.67	7,944.88	-7,510.55	89.69	7,511.08	0.00	0.00	0.00
15,800.00	90.00	179.67	7,944.88	-7,610.55	90.26	7,611.08	0.00	0.00	0.00
15,900.00	90.00	179.67	7,944.88	-7,710.55	90.83	7,711.08	0.00	0.00	0.00
16,000.00	90.00	179.67	7,944.87	-7,810.55	91.40	7,811.07	0.00	0.00	0.00
16,100.00	90.00	179.67	7,944.87	-7,910.54	91.97	7,911.07	0.00	0.00	0.00
16,200.00	90.00	179.67	7,944.87	-8,010.54	92.54	8,011.07	0.00	0.00	0.00
16,300.00	90.00	179.67	7,944.87	-8,110.54	93.11	8,111.07	0.00	0.00	0.00
16,400.00	90.00	179.67	7,944.87	-8,210.54	93.68	8,211.07	0.00	0.00	0.00
16,500.00	90.00	179.67	7,944.87	-8,310.54	94.26	8,311.07	0.00	0.00	0.00
16,600.00	90.00	179.67	7,944.86	-8,410.54	94.83	8,411.07	0.00	0.00	0.00
16,700.00	90.00	179.67	7,944.86	-8,510.53	95.40	8,511.07	0.00	0.00	0.00
16,800.00	90.00	179.67	7,944.86	-8,610.53	95.97	8,611.07	0.00	0.00	0.00
16,900.00	90.00	179.67	7,944.86	-8,710.53	96.54	8,711.06	0.00	0.00	0.00
17,000.00	90.00	179.67	7,944.86	-8,810.53	97.11	8,811.06	0.00	0.00	0.00
17,100.00	90.00	179.67	7,944.86	-8,910.53	97.68	8,911.06	0.00	0.00	0.00
17,200.00	90.00	179.67	7,944.85	-9,010.53	98.25	9,011.06	0.00	0.00	0.00
17,300.00	90.00	179.67	7,944.85	-9,110.52	98.82	9,111.06	0.00	0.00	0.00
17,400.00	90.00	179.67	7,944.85	-9,210.52	99.39	9,211.06	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well UNITED B S16-20-17N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5279.00usft
Project:	Broomfield County	MD Reference:	KB 25' @ 5279.00usft
Site:	Sec 9-T1S-R68W	North Reference:	True
Well:	UNITED B S16-20-17N	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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	179.67	7,944.85	-9,310.52	99.96	9,311.06	0.00	0.00	0.00
17,600.00	90.00	179.67	7,944.85	-9,410.52	100.53	9,411.06	0.00	0.00	0.00
17,700.00	90.00	179.67	7,944.85	-9,510.52	101.10	9,511.06	0.00	0.00	0.00
17,800.00	90.00	179.67	7,944.84	-9,610.52	101.67	9,611.05	0.00	0.00	0.00
17,865.66	90.00	179.67	7,945.00	-9,676.17	101.76	9,676.71	0.00	0.00	0.00
TD at 17865.66									

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
UNITED B S16-17N - PE - plan hits target center - Point	0.00	0.00	7,945.00	-9,676.17	101.76	1,228,275.99	3,140,125.96	39° 57' 32.098 N	105° 0' 0.443 W
UNITED B S16-17N - LF - plan hits target center - Point	0.00	0.00	7,945.00	-44.04	47.08	1,237,907.66	3,140,017.02	39° 59' 7.289 N	105° 0' 1.145 W

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
5,099.85	5,090.00	SUSSEX				
7,817.41	7,775.00	NIOBRARA				
8,135.47	7,935.00	NIO B TARGET				

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,300.00	1,300.00	0.00	0.00	Start Build 2.00
1,510.22	1,510.03	7.67	0.78	Start 5732.87 hold at 1510.22 MD
7,243.09	7,227.47	425.79	43.57	Start Drop -2.00
7,453.31	7,437.50	433.46	44.35	Start 30.00 hold at 7453.31 MD
7,483.31	7,467.50	433.46	44.35	Start DLS 12.00 TFO 179.67
8,233.37	7,945.00	-44.04	47.08	Start 9632.29 hold at 8233.37 MD
17,865.66	7,945.00	-9,676.17	101.76	TD at 17865.66