

EXTRACTION OIL & GAS

Broomfield County

Sec 10-T1S-R68W

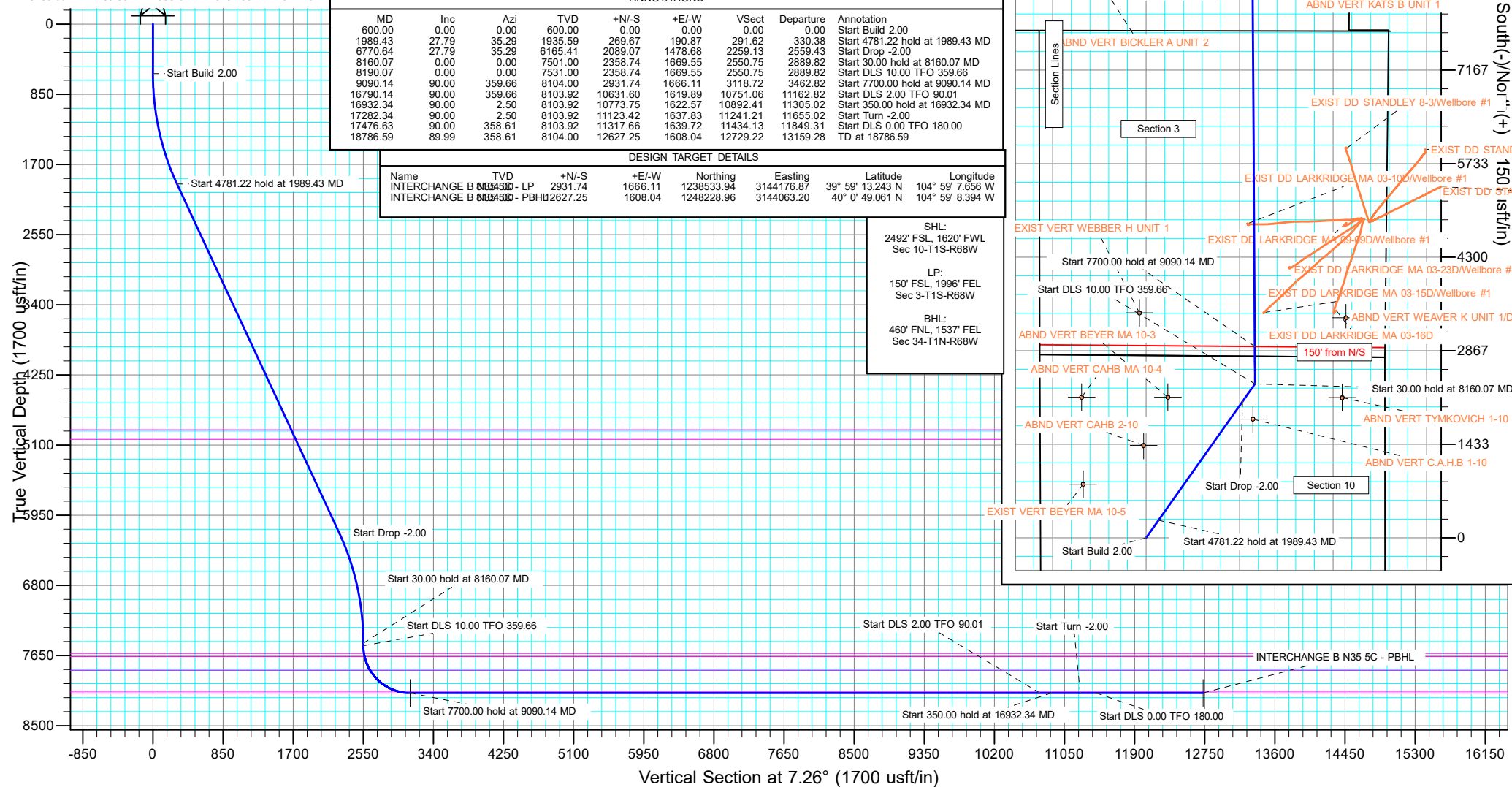
INTERCHANGE B N35-20-5C

ORIGINAL WELLBORE

Plan: PROPOSAL 1

Standard Planning Report

13 February, 2018



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well INTERCHANGE B N35-20-5C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5261.00usft
Project:	Broomfield County	MD Reference:	KB 25' @ 5261.00usft
Site:	Sec 10-T1S-R68W	North Reference:	True
Well:	INTERCHANGE B N35-20-5C	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 10-T1S-R68W			
Site Position:		Northing:	1,238,390.57 usft	Latitude:	39° 59' 12.013 N
From:	Lat/Long	Easting:	3,140,881.15 usft	Longitude:	104° 59' 50.008 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.32 °

Well	INTERCHANGE B N35-20-5C					
Well Position	+N/-S	-2,807.16 usft	Northing:	1,235,592.70 usft	Latitude:	39° 58' 44.270 N
	+E/-W	1,630.57 usft	Easting:	3,142,527.60 usft	Longitude:	104° 59' 29.062 W
Position Uncertainty	0.00 usft		Wellhead Elevation:		Ground Level:	5,236.00 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	11/28/2017	8.25	66.47	52,094.00238225

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	7.26	

Plan Survey Tool Program	Date	2/13/2018			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	18,786.29	PROPOSAL 1 (ORIGINAL WELL	MWD OWSG	
			OWSG MWD - Standard		

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well INTERCHANGE B N35-20-5C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5261.00usft
Project:	Broomfield County	MD Reference:	KB 25' @ 5261.00usft
Site:	Sec 10-T1S-R68W	North Reference:	True
Well:	INTERCHANGE B N35-20-5C	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,989.43	27.79	35.29	1,935.59	269.67	190.87	2.00	2.00	0.00	35.29	
6,770.64	27.79	35.29	6,165.41	2,089.07	1,478.68	0.00	0.00	0.00	0.00	
8,160.07	0.00	0.00	7,501.00	2,358.74	1,669.55	2.00	-2.00	0.00	180.00	
8,190.07	0.00	0.00	7,531.00	2,358.74	1,669.55	0.00	0.00	0.00	0.00	
9,090.14	90.00	359.66	8,104.00	2,931.74	1,666.11	10.00	10.00	-0.04	359.66	INTERCHANGE B N3
16,790.14	90.00	359.66	8,103.92	10,631.60	1,619.89	0.00	0.00	0.00	0.00	
16,932.34	90.00	2.50	8,103.92	10,773.75	1,622.57	2.00	0.00	2.00	90.01	
17,282.34	90.00	2.50	8,103.92	11,123.42	1,637.83	0.00	0.00	0.00	0.00	
17,476.63	90.00	358.61	8,103.92	11,317.66	1,639.72	2.00	0.00	-2.00	-90.00	INTERCHANGE B N3
18,786.59	89.99	358.61	8,104.00	12,627.25	1,608.04	0.00	0.00	0.00	180.00	INTERCHANGE B N3

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Project:	Broomfield County	MD Reference:	KB 25' @ 5261.00usft
Site:	Sec 10-T1S-R68W	North Reference:	True
Well:	INTERCHANGE B N35-20-5C	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
Start Build 2.00									
700.00	2.00	35.29	699.98	1.42	1.01	1.54	2.00	2.00	0.00
800.00	4.00	35.29	799.84	5.70	4.03	6.16	2.00	2.00	0.00
900.00	6.00	35.29	899.45	12.81	9.07	13.85	2.00	2.00	0.00
1,000.00	8.00	35.29	998.70	22.76	16.11	24.61	2.00	2.00	0.00
1,100.00	10.00	35.29	1,097.47	35.52	25.14	38.42	2.00	2.00	0.00
1,200.00	12.00	35.29	1,195.62	51.10	36.17	55.26	2.00	2.00	0.00
1,300.00	14.00	35.29	1,293.06	69.46	49.16	75.11	2.00	2.00	0.00
1,400.00	16.00	35.29	1,389.64	90.58	64.12	97.96	2.00	2.00	0.00
1,500.00	18.00	35.29	1,485.27	114.45	81.01	123.76	2.00	2.00	0.00
1,600.00	20.00	35.29	1,579.82	141.02	99.81	152.50	2.00	2.00	0.00
1,700.00	22.00	35.29	1,673.17	170.27	120.52	184.13	2.00	2.00	0.00
1,800.00	24.00	35.29	1,765.21	202.16	143.09	218.61	2.00	2.00	0.00
1,900.00	26.00	35.29	1,855.84	236.65	167.51	255.92	2.00	2.00	0.00
1,989.43	27.79	35.29	1,935.59	269.67	190.87	291.62	2.00	2.00	0.00
Start 4781.22 hold at 1989.43 MD									
2,000.00	27.79	35.29	1,944.95	273.69	193.72	295.97	0.00	0.00	0.00
2,100.00	27.79	35.29	2,033.41	311.74	220.66	337.12	0.00	0.00	0.00
2,200.00	27.79	35.29	2,121.88	349.80	247.59	378.27	0.00	0.00	0.00
2,300.00	27.79	35.29	2,210.35	387.85	274.53	419.42	0.00	0.00	0.00
2,400.00	27.79	35.29	2,298.82	425.90	301.46	460.57	0.00	0.00	0.00
2,500.00	27.79	35.29	2,387.28	463.96	328.40	501.72	0.00	0.00	0.00
2,600.00	27.79	35.29	2,475.75	502.01	355.33	542.88	0.00	0.00	0.00
2,700.00	27.79	35.29	2,564.22	540.06	382.26	584.03	0.00	0.00	0.00
2,800.00	27.79	35.29	2,652.69	578.12	409.20	625.18	0.00	0.00	0.00
2,900.00	27.79	35.29	2,741.15	616.17	436.13	666.33	0.00	0.00	0.00
3,000.00	27.79	35.29	2,829.62	654.22	463.07	707.48	0.00	0.00	0.00
3,100.00	27.79	35.29	2,918.09	692.28	490.00	748.63	0.00	0.00	0.00
3,200.00	27.79	35.29	3,006.55	730.33	516.94	789.78	0.00	0.00	0.00
3,300.00	27.79	35.29	3,095.02	768.38	543.87	830.93	0.00	0.00	0.00
3,400.00	27.79	35.29	3,183.49	806.44	570.81	872.08	0.00	0.00	0.00
3,500.00	27.79	35.29	3,271.96	844.49	597.74	913.23	0.00	0.00	0.00
3,600.00	27.79	35.29	3,360.42	882.54	624.68	954.38	0.00	0.00	0.00
3,700.00	27.79	35.29	3,448.89	920.60	651.61	995.53	0.00	0.00	0.00
3,800.00	27.79	35.29	3,537.36	958.65	678.55	1,036.68	0.00	0.00	0.00
3,900.00	27.79	35.29	3,625.83	996.70	705.48	1,077.84	0.00	0.00	0.00
4,000.00	27.79	35.29	3,714.29	1,034.76	732.41	1,118.99	0.00	0.00	0.00
4,100.00	27.79	35.29	3,802.76	1,072.81	759.35	1,160.14	0.00	0.00	0.00
4,200.00	27.79	35.29	3,891.23	1,110.86	786.28	1,201.29	0.00	0.00	0.00
4,300.00	27.79	35.29	3,979.70	1,148.91	813.22	1,242.44	0.00	0.00	0.00
4,400.00	27.79	35.29	4,068.16	1,186.97	840.15	1,283.59	0.00	0.00	0.00
4,500.00	27.79	35.29	4,156.63	1,225.02	867.09	1,324.74	0.00	0.00	0.00
4,600.00	27.79	35.29	4,245.10	1,263.07	894.02	1,365.89	0.00	0.00	0.00
4,700.00	27.79	35.29	4,333.57	1,301.13	920.96	1,407.04	0.00	0.00	0.00
4,800.00	27.79	35.29	4,422.03	1,339.18	947.89	1,448.19	0.00	0.00	0.00
4,900.00	27.79	35.29	4,510.50	1,377.23	974.83	1,489.34	0.00	0.00	0.00
5,000.00	27.79	35.29	4,598.97	1,415.29	1,001.76	1,530.49	0.00	0.00	0.00

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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)	
5,100.00	27.79	35.29	4,687.44	1,453.34	1,028.70	1,571.64	0.00	0.00	0.00	
5,200.00	27.79	35.29	4,775.90	1,491.39	1,055.63	1,612.80	0.00	0.00	0.00	
5,300.00	27.79	35.29	4,864.37	1,529.45	1,082.56	1,653.95	0.00	0.00	0.00	
5,357.23	27.79	35.29	4,915.00	1,551.22	1,097.98	1,677.50	0.00	0.00	0.00	
PARKMAN										
5,400.00	27.79	35.29	4,952.84	1,567.50	1,109.50	1,695.10	0.00	0.00	0.00	
5,487.22	27.79	35.29	5,030.00	1,600.69	1,132.99	1,730.99	0.00	0.00	0.00	
SUSSEX										
5,500.00	27.79	35.29	5,041.31	1,605.55	1,136.43	1,736.25	0.00	0.00	0.00	
5,600.00	27.79	35.29	5,129.77	1,643.61	1,163.37	1,777.40	0.00	0.00	0.00	
5,700.00	27.79	35.29	5,218.24	1,681.66	1,190.30	1,818.55	0.00	0.00	0.00	
5,800.00	27.79	35.29	5,306.71	1,719.71	1,217.24	1,859.70	0.00	0.00	0.00	
5,900.00	27.79	35.29	5,395.17	1,757.77	1,244.17	1,900.85	0.00	0.00	0.00	
6,000.00	27.79	35.29	5,483.64	1,795.82	1,271.11	1,942.00	0.00	0.00	0.00	
6,100.00	27.79	35.29	5,572.11	1,833.87	1,298.04	1,983.15	0.00	0.00	0.00	
6,200.00	27.79	35.29	5,660.58	1,871.93	1,324.98	2,024.30	0.00	0.00	0.00	
6,300.00	27.79	35.29	5,749.04	1,909.98	1,351.91	2,065.45	0.00	0.00	0.00	
6,400.00	27.79	35.29	5,837.51	1,948.03	1,378.84	2,106.61	0.00	0.00	0.00	
6,500.00	27.79	35.29	5,925.98	1,986.08	1,405.78	2,147.76	0.00	0.00	0.00	
6,600.00	27.79	35.29	6,014.45	2,024.14	1,432.71	2,188.91	0.00	0.00	0.00	
6,700.00	27.79	35.29	6,102.91	2,062.19	1,459.65	2,230.06	0.00	0.00	0.00	
6,770.64	27.79	35.29	6,165.41	2,089.07	1,478.68	2,259.13	0.00	0.00	0.00	
Start Drop -2.00										
6,800.00	27.20	35.29	6,191.45	2,100.14	1,486.51	2,271.09	2.00	-2.00	0.00	
6,900.00	25.20	35.29	6,281.17	2,136.17	1,512.01	2,310.06	2.00	-2.00	0.00	
7,000.00	23.20	35.29	6,372.38	2,169.63	1,535.70	2,346.24	2.00	-2.00	0.00	
7,100.00	21.20	35.29	6,464.96	2,200.47	1,557.53	2,379.59	2.00	-2.00	0.00	
7,200.00	19.20	35.29	6,558.80	2,228.66	1,577.47	2,410.07	2.00	-2.00	0.00	
7,300.00	17.20	35.29	6,653.79	2,254.15	1,595.52	2,437.64	2.00	-2.00	0.00	
7,400.00	15.20	35.29	6,749.82	2,276.92	1,611.64	2,462.27	2.00	-2.00	0.00	
7,500.00	13.20	35.29	6,846.76	2,296.95	1,625.81	2,483.92	2.00	-2.00	0.00	
7,600.00	11.20	35.29	6,944.49	2,314.20	1,638.02	2,502.58	2.00	-2.00	0.00	
7,700.00	9.20	35.29	7,042.91	2,328.65	1,648.25	2,518.21	2.00	-2.00	0.00	
7,800.00	7.20	35.29	7,141.88	2,340.29	1,656.49	2,530.80	2.00	-2.00	0.00	
7,900.00	5.20	35.29	7,241.29	2,349.11	1,662.73	2,540.33	2.00	-2.00	0.00	
8,000.00	3.20	35.29	7,341.02	2,355.09	1,666.97	2,546.80	2.00	-2.00	0.00	
8,100.00	1.20	35.29	7,440.94	2,358.23	1,669.19	2,550.19	2.00	-2.00	0.00	
8,160.07	0.00	0.00	7,501.00	2,358.74	1,669.55	2,550.75	2.00	-2.00	0.00	
Start 30.00 hold at 8160.07 MD										
8,190.07	0.00	0.00	7,531.00	2,358.74	1,669.55	2,550.75	0.00	0.00	0.00	
Start DLS 10.00 TFO 359.66										
8,200.00	0.99	359.66	7,540.93	2,358.83	1,669.55	2,550.83	10.00	10.00	0.00	
8,250.00	5.99	359.66	7,590.82	2,361.87	1,669.53	2,553.85	10.00	10.00	0.00	
8,283.48	9.34	359.66	7,624.00	2,366.34	1,669.50	2,558.28	10.00	10.00	0.00	
SHANNON										
8,300.00	10.99	359.66	7,640.26	2,369.25	1,669.49	2,561.17	10.00	10.00	0.00	
8,324.29	13.42	359.66	7,664.00	2,374.39	1,669.46	2,566.26	10.00	10.00	0.00	
NIORARA										
8,350.00	15.99	359.66	7,688.86	2,380.91	1,669.42	2,572.73	10.00	10.00	0.00	
8,400.00	20.99	359.66	7,736.27	2,396.77	1,669.32	2,588.44	10.00	10.00	0.00	
8,450.00	25.99	359.66	7,782.11	2,416.69	1,669.20	2,608.19	10.00	10.00	0.00	
8,500.00	30.99	359.66	7,826.04	2,440.54	1,669.06	2,631.82	10.00	10.00	0.00	
8,504.63	31.45	359.66	7,830.00	2,442.94	1,669.04	2,634.20	10.00	10.00	0.00	

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Project:	Broomfield County	MD Reference:	KB 25' @ 5261.00usft
Site:	Sec 10-T1S-R68W	North Reference:	True
Well:	INTERCHANGE B N35-20-5C	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)
NIO B TARGET									
8,550.00	35.99	359.66	7,867.73	2,468.12	1,668.89	2,659.16	10.00	10.00	0.00
8,600.00	40.99	359.66	7,906.85	2,499.22	1,668.71	2,690.00	10.00	10.00	0.00
8,650.00	45.99	359.66	7,943.11	2,533.62	1,668.50	2,724.10	10.00	10.00	0.00
8,700.00	50.99	359.66	7,976.24	2,571.05	1,668.28	2,761.20	10.00	10.00	0.00
8,750.00	55.99	359.66	8,005.98	2,611.23	1,668.03	2,801.02	10.00	10.00	0.00
8,800.00	60.99	359.66	8,032.10	2,653.84	1,667.78	2,843.26	10.00	10.00	0.00
8,850.00	65.99	359.66	8,054.41	2,698.57	1,667.51	2,887.59	10.00	10.00	0.00
8,900.00	70.99	359.66	8,072.74	2,745.07	1,667.23	2,933.69	10.00	10.00	0.00
8,934.52	74.44	359.66	8,083.00	2,778.03	1,667.03	2,966.36	10.00	10.00	0.00
FORT HAYS									
8,950.00	75.99	359.66	8,086.95	2,792.99	1,666.94	2,981.19	10.00	10.00	0.00
9,000.00	80.99	359.66	8,096.93	2,841.97	1,666.65	3,029.74	10.00	10.00	0.00
9,050.00	85.99	359.66	8,102.60	2,891.63	1,666.35	3,078.96	10.00	10.00	0.00
9,090.14	90.00	359.66	8,104.00	2,931.74	1,666.11	3,118.72	10.00	10.00	0.00
Start 7700.00 hold at 9090.14 MD - CODELL									
9,100.00	90.00	359.66	8,104.00	2,941.60	1,666.05	3,128.49	0.00	0.00	0.00
9,200.00	90.00	359.66	8,104.00	3,041.59	1,665.45	3,227.61	0.00	0.00	0.00
9,300.00	90.00	359.66	8,104.00	3,141.59	1,664.85	3,326.73	0.00	0.00	0.00
9,400.00	90.00	359.66	8,104.00	3,241.59	1,664.25	3,425.85	0.00	0.00	0.00
9,500.00	90.00	359.66	8,104.00	3,341.59	1,663.65	3,524.98	0.00	0.00	0.00
9,600.00	90.00	359.66	8,103.99	3,441.59	1,663.05	3,624.10	0.00	0.00	0.00
9,700.00	90.00	359.66	8,103.99	3,541.59	1,662.45	3,723.22	0.00	0.00	0.00
9,800.00	90.00	359.66	8,103.99	3,641.58	1,661.85	3,822.34	0.00	0.00	0.00
9,900.00	90.00	359.66	8,103.99	3,741.58	1,661.25	3,921.46	0.00	0.00	0.00
10,000.00	90.00	359.66	8,103.99	3,841.58	1,660.65	4,020.58	0.00	0.00	0.00
10,100.00	90.00	359.66	8,103.99	3,941.58	1,660.05	4,119.70	0.00	0.00	0.00
10,200.00	90.00	359.66	8,103.99	4,041.58	1,659.45	4,218.83	0.00	0.00	0.00
10,300.00	90.00	359.66	8,103.99	4,141.57	1,658.85	4,317.95	0.00	0.00	0.00
10,400.00	90.00	359.66	8,103.99	4,241.57	1,658.25	4,417.07	0.00	0.00	0.00
10,500.00	90.00	359.66	8,103.99	4,341.57	1,657.65	4,516.19	0.00	0.00	0.00
10,600.00	90.00	359.66	8,103.98	4,441.57	1,657.05	4,615.31	0.00	0.00	0.00
10,700.00	90.00	359.66	8,103.98	4,541.57	1,656.45	4,714.43	0.00	0.00	0.00
10,800.00	90.00	359.66	8,103.98	4,641.57	1,655.85	4,813.55	0.00	0.00	0.00
10,900.00	90.00	359.66	8,103.98	4,741.56	1,655.25	4,912.67	0.00	0.00	0.00
11,000.00	90.00	359.66	8,103.98	4,841.56	1,654.65	5,011.80	0.00	0.00	0.00
11,100.00	90.00	359.66	8,103.98	4,941.56	1,654.05	5,110.92	0.00	0.00	0.00
11,200.00	90.00	359.66	8,103.98	5,041.56	1,653.45	5,210.04	0.00	0.00	0.00
11,300.00	90.00	359.66	8,103.98	5,141.56	1,652.85	5,309.16	0.00	0.00	0.00
11,400.00	90.00	359.66	8,103.98	5,241.55	1,652.25	5,408.28	0.00	0.00	0.00
11,500.00	90.00	359.66	8,103.97	5,341.55	1,651.65	5,507.40	0.00	0.00	0.00
11,600.00	90.00	359.66	8,103.97	5,441.55	1,651.04	5,606.52	0.00	0.00	0.00
11,700.00	90.00	359.66	8,103.97	5,541.55	1,650.44	5,705.65	0.00	0.00	0.00
11,800.00	90.00	359.66	8,103.97	5,641.55	1,649.84	5,804.77	0.00	0.00	0.00
11,900.00	90.00	359.66	8,103.97	5,741.55	1,649.24	5,903.89	0.00	0.00	0.00
12,000.00	90.00	359.66	8,103.97	5,841.54	1,648.64	6,003.01	0.00	0.00	0.00
12,100.00	90.00	359.66	8,103.97	5,941.54	1,648.04	6,102.13	0.00	0.00	0.00
12,200.00	90.00	359.66	8,103.97	6,041.54	1,647.44	6,201.25	0.00	0.00	0.00
12,300.00	90.00	359.66	8,103.97	6,141.54	1,646.84	6,300.37	0.00	0.00	0.00
12,400.00	90.00	359.66	8,103.97	6,241.54	1,646.24	6,399.49	0.00	0.00	0.00
12,500.00	90.00	359.66	8,103.96	6,341.53	1,645.64	6,498.62	0.00	0.00	0.00
12,600.00	90.00	359.66	8,103.96	6,441.53	1,645.04	6,597.74	0.00	0.00	0.00
12,700.00	90.00	359.66	8,103.96	6,541.53	1,644.44	6,696.86	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well INTERCHANGE B N35-20-5C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5261.00usft
Project:	Broomfield County	MD Reference:	KB 25' @ 5261.00usft
Site:	Sec 10-T1S-R68W	North Reference:	True
Well:	INTERCHANGE B N35-20-5C	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)
12,800.00	90.00	359.66	8,103.96	6,641.53	1,643.84	6,795.98	0.00	0.00	0.00
12,900.00	90.00	359.66	8,103.96	6,741.53	1,643.24	6,895.10	0.00	0.00	0.00
13,000.00	90.00	359.66	8,103.96	6,841.53	1,642.64	6,994.22	0.00	0.00	0.00
13,100.00	90.00	359.66	8,103.96	6,941.52	1,642.04	7,093.34	0.00	0.00	0.00
13,200.00	90.00	359.66	8,103.96	7,041.52	1,641.44	7,192.46	0.00	0.00	0.00
13,300.00	90.00	359.66	8,103.96	7,141.52	1,640.84	7,291.59	0.00	0.00	0.00
13,400.00	90.00	359.66	8,103.95	7,241.52	1,640.24	7,390.71	0.00	0.00	0.00
13,500.00	90.00	359.66	8,103.95	7,341.52	1,639.64	7,489.83	0.00	0.00	0.00
13,600.00	90.00	359.66	8,103.95	7,441.51	1,639.04	7,588.95	0.00	0.00	0.00
13,700.00	90.00	359.66	8,103.95	7,541.51	1,638.44	7,688.07	0.00	0.00	0.00
13,800.00	90.00	359.66	8,103.95	7,641.51	1,637.84	7,787.19	0.00	0.00	0.00
13,900.00	90.00	359.66	8,103.95	7,741.51	1,637.24	7,886.31	0.00	0.00	0.00
14,000.00	90.00	359.66	8,103.95	7,841.51	1,636.64	7,985.44	0.00	0.00	0.00
14,100.00	90.00	359.66	8,103.95	7,941.51	1,636.04	8,084.56	0.00	0.00	0.00
14,200.00	90.00	359.66	8,103.95	8,041.50	1,635.44	8,183.68	0.00	0.00	0.00
14,300.00	90.00	359.66	8,103.95	8,141.50	1,634.84	8,282.80	0.00	0.00	0.00
14,400.00	90.00	359.66	8,103.94	8,241.50	1,634.24	8,381.92	0.00	0.00	0.00
14,500.00	90.00	359.66	8,103.94	8,341.50	1,633.64	8,481.04	0.00	0.00	0.00
14,600.00	90.00	359.66	8,103.94	8,441.50	1,633.04	8,580.16	0.00	0.00	0.00
14,700.00	90.00	359.66	8,103.94	8,541.50	1,632.44	8,679.28	0.00	0.00	0.00
14,800.00	90.00	359.66	8,103.94	8,641.49	1,631.84	8,778.41	0.00	0.00	0.00
14,900.00	90.00	359.66	8,103.94	8,741.49	1,631.24	8,877.53	0.00	0.00	0.00
15,000.00	90.00	359.66	8,103.94	8,841.49	1,630.64	8,976.65	0.00	0.00	0.00
15,100.00	90.00	359.66	8,103.94	8,941.49	1,630.04	9,075.77	0.00	0.00	0.00
15,200.00	90.00	359.66	8,103.94	9,041.49	1,629.44	9,174.89	0.00	0.00	0.00
15,300.00	90.00	359.66	8,103.93	9,141.48	1,628.84	9,274.01	0.00	0.00	0.00
15,400.00	90.00	359.66	8,103.93	9,241.48	1,628.24	9,373.13	0.00	0.00	0.00
15,500.00	90.00	359.66	8,103.93	9,341.48	1,627.63	9,472.26	0.00	0.00	0.00
15,600.00	90.00	359.66	8,103.93	9,441.48	1,627.03	9,571.38	0.00	0.00	0.00
15,700.00	90.00	359.66	8,103.93	9,541.48	1,626.43	9,670.50	0.00	0.00	0.00
15,800.00	90.00	359.66	8,103.93	9,641.48	1,625.83	9,769.62	0.00	0.00	0.00
15,900.00	90.00	359.66	8,103.93	9,741.47	1,625.23	9,868.74	0.00	0.00	0.00
16,000.00	90.00	359.66	8,103.93	9,841.47	1,624.63	9,967.86	0.00	0.00	0.00
16,100.00	90.00	359.66	8,103.93	9,941.47	1,624.03	10,066.98	0.00	0.00	0.00
16,200.00	90.00	359.66	8,103.93	10,041.47	1,623.43	10,166.10	0.00	0.00	0.00
16,300.00	90.00	359.66	8,103.92	10,141.47	1,622.83	10,265.23	0.00	0.00	0.00
16,400.00	90.00	359.66	8,103.92	10,241.46	1,622.23	10,364.35	0.00	0.00	0.00
16,500.00	90.00	359.66	8,103.92	10,341.46	1,621.63	10,463.47	0.00	0.00	0.00
16,600.00	90.00	359.66	8,103.92	10,441.46	1,621.03	10,562.59	0.00	0.00	0.00
16,700.00	90.00	359.66	8,103.92	10,541.46	1,620.43	10,661.71	0.00	0.00	0.00
16,790.14	90.00	359.66	8,103.92	10,631.60	1,619.89	10,751.06	0.00	0.00	0.00
Start DLS 2.00 TFO 90.01									
16,800.00	90.00	359.85	8,103.92	10,641.46	1,619.85	10,760.83	2.00	0.00	2.00
16,900.00	90.00	1.85	8,103.92	10,741.44	1,621.34	10,860.21	2.00	0.00	2.00
16,932.34	90.00	2.50	8,103.92	10,773.75	1,622.57	10,892.41	2.00	0.00	2.00
Start 350.00 hold at 16932.34 MD									
17,000.00	90.00	2.50	8,103.92	10,841.35	1,625.52	10,959.85	0.00	0.00	0.00
17,100.00	90.00	2.50	8,103.92	10,941.26	1,629.88	11,059.50	0.00	0.00	0.00
17,200.00	90.00	2.50	8,103.92	11,041.16	1,634.24	11,159.16	0.00	0.00	0.00
17,282.34	90.00	2.50	8,103.92	11,123.42	1,637.83	11,241.21	0.00	0.00	0.00
Start Turn -2.00									
17,300.00	90.00	2.15	8,103.92	11,141.07	1,638.55	11,258.81	2.00	0.00	-2.00
17,400.00	90.00	0.15	8,103.92	11,241.05	1,640.55	11,358.23	2.00	0.00	-2.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well INTERCHANGE B N35-20-5C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5261.00usft
Project:	Broomfield County	MD Reference:	KB 25' @ 5261.00usft
Site:	Sec 10-T1S-R68W	North Reference:	True
Well:	INTERCHANGE B N35-20-5C	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)
17,476.63	90.00	358.61	8,103.92	11,317.66	1,639.72	11,434.13	2.00	0.00	-2.00
Start DLS 0.00 TFO 180.00									
17,500.00	90.00	358.61	8,103.92	11,341.03	1,639.16	11,457.24	0.00	0.00	0.00
17,600.00	90.00	358.61	8,103.92	11,441.00	1,636.74	11,556.11	0.00	0.00	0.00
17,700.00	90.00	358.61	8,103.92	11,540.97	1,634.32	11,654.97	0.00	0.00	0.00
17,800.00	90.00	358.61	8,103.92	11,640.94	1,631.90	11,753.84	0.00	0.00	0.00
17,900.00	90.00	358.61	8,103.93	11,740.91	1,629.48	11,852.70	0.00	0.00	0.00
18,000.00	90.00	358.61	8,103.93	11,840.89	1,627.06	11,951.57	0.00	0.00	0.00
18,100.00	90.00	358.61	8,103.94	11,940.86	1,624.65	12,050.43	0.00	0.00	0.00
18,200.00	90.00	358.61	8,103.94	12,040.83	1,622.23	12,149.29	0.00	0.00	0.00
18,300.00	90.00	358.61	8,103.95	12,140.80	1,619.81	12,248.16	0.00	0.00	0.00
18,400.00	89.99	358.61	8,103.96	12,240.77	1,617.39	12,347.02	0.00	0.00	0.00
18,500.00	89.99	358.61	8,103.97	12,340.74	1,614.97	12,445.89	0.00	0.00	0.00
18,600.00	89.99	358.61	8,103.98	12,440.71	1,612.55	12,544.75	0.00	0.00	0.00
18,700.00	89.99	358.61	8,103.99	12,540.68	1,610.13	12,643.62	0.00	0.00	0.00
18,786.59	89.99	358.61	8,104.00	12,627.25	1,608.04	12,729.22	0.00	0.00	0.00
TD at 18786.59									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
INTERCHANGE B N35 ! - hit/miss target - Shape - Point	0.00	0.00	8,104.00	2,931.74	1,666.11	1,238,533.94	3,144,176.87	39° 59' 13.243 N	104° 59' 7.656 W
INTERCHANGE B N35 ! - plan hits target center - Point	0.00	0.00	8,104.00	12,627.25	1,608.04	1,248,228.96	3,144,063.20	40° 0' 49.061 N	104° 59' 8.394 W

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
5,357.23	4,915.00	PARKMAN				
5,487.22	5,030.00	SUSSEX				
8,283.48	7,624.00	SHANNON				
8,324.29	7,664.00	NIOBRARA				
8,504.63	7,830.00	NIO B TARGET				
8,934.52	8,083.00	FORT HAYS				
9,090.14	8,104.00	CODELL				

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well INTERCHANGE B N35-20-5C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5261.00usft
Project:	Broomfield County	MD Reference:	KB 25' @ 5261.00usft
Site:	Sec 10-T1S-R68W	North Reference:	True
Well:	INTERCHANGE B N35-20-5C	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
600.00	600.00	0.00	0.00	Start Build 2.00
1,989.43	1,935.59	269.67	190.87	Start 4781.22 hold at 1989.43 MD
6,770.64	6,165.41	2,089.07	1,478.68	Start Drop -2.00
8,160.07	7,501.00	2,358.74	1,669.55	Start 30.00 hold at 8160.07 MD
8,190.07	7,531.00	2,358.74	1,669.55	Start DLS 10.00 TFO 359.66
9,090.14	8,104.00	2,931.74	1,666.11	Start 7700.00 hold at 9090.14 MD
16,790.14	8,103.92	10,631.60	1,619.89	Start DLS 2.00 TFO 90.01
16,932.34	8,103.92	10,773.75	1,622.57	Start 350.00 hold at 16932.34 MD
17,282.34	8,103.92	11,123.42	1,637.83	Start Turn -2.00
17,476.63	8,103.92	11,317.66	1,639.72	Start DLS 0.00 TFO 180.00
18,786.59	8,104.00	12,627.25	1,608.04	TD at 18786.59