

# **EXTRACTION OIL & GAS**

**Broomfield County**

**Sec 10-T1S-R68W**

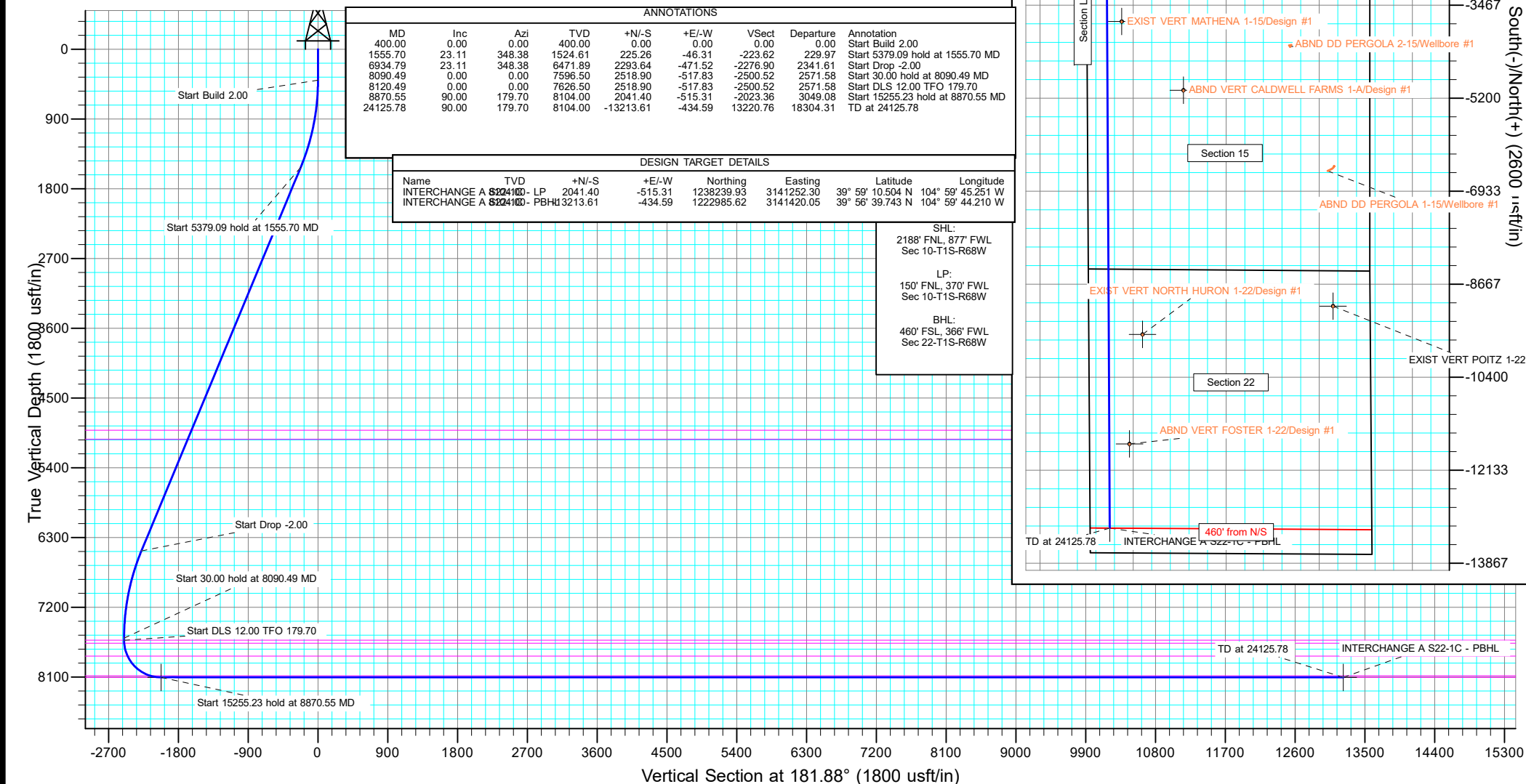
**INTERCHANGE A S22-30-1C**

**ORIGINAL WELLBORE**

**Plan: PROPOSAL 1**

## **Standard Planning Report**

**23 January, 2018**



## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well INTERCHANGE A S22-30-1C
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5261.00usft
<b>Project:</b>	Broomfield County	<b>MD Reference:</b>	KB 25' @ 5261.00usft
<b>Site:</b>	Sec 10-T1S-R68W	<b>North Reference:</b>	True
<b>Well:</b>	INTERCHANGE A S22-30-1C	<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 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 A S22-30-1C					
Well Position	+N/-S	-2,194.13 usft	Northing:	1,236,201.50 usft	Latitude:	39° 58' 50.329 N
	+E/-W	885.67 usft	Easting:	3,141,779.24 usft	Longitude:	104° 59' 38.630 W
Position Uncertainty	0.00 usft		Wellhead Elevation:		Ground Level:	5,236.00 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	1/9/2018	8.24	66.47	52,081.53887112

<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	181.88

<b>Plan Survey Tool Program</b>	<b>Date</b>	1/23/2018		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	24,125.78	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	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,555.70	23.11	348.38	1,524.61	225.26	-46.31	2.00	2.00	0.00	348.38	
6,934.79	23.11	348.38	6,471.89	2,293.64	-471.52	0.00	0.00	0.00	0.00	
8,090.49	0.00	0.00	7,596.50	2,518.90	-517.83	2.00	-2.00	0.00	180.00	
8,120.49	0.00	0.00	7,626.50	2,518.90	-517.83	0.00	0.00	0.00	0.00	
8,870.55	90.00	179.70	8,104.00	2,041.40	-515.31	12.00	12.00	23.96	179.70	INTERCHANGE A S2
24,125.78	90.00	179.70	8,104.00	-13,213.61	-434.59	0.00	0.00	0.00	0.00	INTERCHANGE A S2

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well INTERCHANGE A S22-30-1C
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5261.00usft
<b>Project:</b>	Broomfield County	<b>MD Reference:</b>	KB 25' @ 5261.00usft
<b>Site:</b>	Sec 10-T1S-R68W	<b>North Reference:</b>	True
<b>Well:</b>	INTERCHANGE A S22-30-1C	<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
Start Build 2.00									
500.00	2.00	348.38	499.98	1.71	-0.35	-1.70	2.00	2.00	0.00
600.00	4.00	348.38	599.84	6.84	-1.41	-6.79	2.00	2.00	0.00
700.00	6.00	348.38	699.45	15.37	-3.16	-15.26	2.00	2.00	0.00
800.00	8.00	348.38	798.70	27.31	-5.61	-27.11	2.00	2.00	0.00
900.00	10.00	348.38	897.47	42.63	-8.76	-42.32	2.00	2.00	0.00
1,000.00	12.00	348.38	995.62	61.32	-12.61	-60.87	2.00	2.00	0.00
1,100.00	14.00	348.38	1,093.06	83.35	-17.14	-82.75	2.00	2.00	0.00
1,200.00	16.00	348.38	1,189.64	108.70	-22.35	-107.91	2.00	2.00	0.00
1,300.00	18.00	348.38	1,285.27	137.34	-28.23	-136.34	2.00	2.00	0.00
1,400.00	20.00	348.38	1,379.82	169.23	-34.79	-167.99	2.00	2.00	0.00
1,500.00	22.00	348.38	1,473.17	204.33	-42.01	-202.84	2.00	2.00	0.00
1,555.70	23.11	348.38	1,524.61	225.26	-46.31	-223.62	2.00	2.00	0.00
Start 5379.09 hold at 1555.70 MD									
1,600.00	23.11	348.38	1,565.35	242.29	-49.81	-240.52	0.00	0.00	0.00
1,700.00	23.11	348.38	1,657.32	280.75	-57.72	-278.70	0.00	0.00	0.00
1,800.00	23.11	348.38	1,749.30	319.20	-65.62	-316.87	0.00	0.00	0.00
1,900.00	23.11	348.38	1,841.27	357.65	-73.52	-355.04	0.00	0.00	0.00
2,000.00	23.11	348.38	1,933.24	396.10	-81.43	-393.21	0.00	0.00	0.00
2,100.00	23.11	348.38	2,025.21	434.55	-89.33	-431.38	0.00	0.00	0.00
2,200.00	23.11	348.38	2,117.19	473.01	-97.24	-469.55	0.00	0.00	0.00
2,300.00	23.11	348.38	2,209.16	511.46	-105.14	-507.73	0.00	0.00	0.00
2,400.00	23.11	348.38	2,301.13	549.91	-113.05	-545.90	0.00	0.00	0.00
2,500.00	23.11	348.38	2,393.10	588.36	-120.95	-584.07	0.00	0.00	0.00
2,600.00	23.11	348.38	2,485.08	626.82	-128.86	-622.24	0.00	0.00	0.00
2,700.00	23.11	348.38	2,577.05	665.27	-136.76	-660.41	0.00	0.00	0.00
2,800.00	23.11	348.38	2,669.02	703.72	-144.67	-698.58	0.00	0.00	0.00
2,900.00	23.11	348.38	2,760.99	742.17	-152.57	-736.76	0.00	0.00	0.00
3,000.00	23.11	348.38	2,852.97	780.62	-160.48	-774.93	0.00	0.00	0.00
3,100.00	23.11	348.38	2,944.94	819.08	-168.38	-813.10	0.00	0.00	0.00
3,200.00	23.11	348.38	3,036.91	857.53	-176.29	-851.27	0.00	0.00	0.00
3,300.00	23.11	348.38	3,128.88	895.98	-184.19	-889.44	0.00	0.00	0.00
3,400.00	23.11	348.38	3,220.86	934.43	-192.10	-927.61	0.00	0.00	0.00
3,500.00	23.11	348.38	3,312.83	972.89	-200.00	-965.79	0.00	0.00	0.00
3,600.00	23.11	348.38	3,404.80	1,011.34	-207.91	-1,003.96	0.00	0.00	0.00
3,700.00	23.11	348.38	3,496.77	1,049.79	-215.81	-1,042.13	0.00	0.00	0.00
3,800.00	23.11	348.38	3,588.75	1,088.24	-223.72	-1,080.30	0.00	0.00	0.00
3,900.00	23.11	348.38	3,680.72	1,126.69	-231.62	-1,118.47	0.00	0.00	0.00
4,000.00	23.11	348.38	3,772.69	1,165.15	-239.53	-1,156.64	0.00	0.00	0.00
4,100.00	23.11	348.38	3,864.66	1,203.60	-247.43	-1,194.82	0.00	0.00	0.00
4,200.00	23.11	348.38	3,956.64	1,242.05	-255.34	-1,232.99	0.00	0.00	0.00
4,300.00	23.11	348.38	4,048.61	1,280.50	-263.24	-1,271.16	0.00	0.00	0.00
4,400.00	23.11	348.38	4,140.58	1,318.96	-271.15	-1,309.33	0.00	0.00	0.00
4,500.00	23.11	348.38	4,232.55	1,357.41	-279.05	-1,347.50	0.00	0.00	0.00
4,600.00	23.11	348.38	4,324.53	1,395.86	-286.96	-1,385.67	0.00	0.00	0.00
4,700.00	23.11	348.38	4,416.50	1,434.31	-294.86	-1,423.84	0.00	0.00	0.00
4,800.00	23.11	348.38	4,508.47	1,472.76	-302.77	-1,462.02	0.00	0.00	0.00
4,900.00	23.11	348.38	4,600.44	1,511.22	-310.67	-1,500.19	0.00	0.00	0.00

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<b>Site:</b>	Sec 10-T1S-R68W	<b>North Reference:</b>	True
<b>Well:</b>	INTERCHANGE A S22-30-1C	<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	23.11	348.38	4,692.42	1,549.67	-318.58	-1,538.36	0.00	0.00	0.00
5,100.00	23.11	348.38	4,784.39	1,588.12	-326.48	-1,576.53	0.00	0.00	0.00
5,200.00	23.11	348.38	4,876.36	1,626.57	-334.39	-1,614.70	0.00	0.00	0.00
5,242.01	23.11	348.38	4,915.00	1,642.73	-337.71	-1,630.74	0.00	0.00	0.00
<b>PARKMAN</b>									
5,300.00	23.11	348.38	4,968.33	1,665.03	-342.29	-1,652.87	0.00	0.00	0.00
5,367.05	23.11	348.38	5,030.00	1,690.81	-347.59	-1,678.47	0.00	0.00	0.00
<b>SUSSEX</b>									
5,400.00	23.11	348.38	5,060.31	1,703.48	-350.20	-1,691.05	0.00	0.00	0.00
5,500.00	23.11	348.38	5,152.28	1,741.93	-358.10	-1,729.22	0.00	0.00	0.00
5,600.00	23.11	348.38	5,244.25	1,780.38	-366.01	-1,767.39	0.00	0.00	0.00
5,700.00	23.11	348.38	5,336.22	1,818.84	-373.91	-1,805.56	0.00	0.00	0.00
5,800.00	23.11	348.38	5,428.19	1,857.29	-381.82	-1,843.73	0.00	0.00	0.00
5,900.00	23.11	348.38	5,520.17	1,895.74	-389.72	-1,881.90	0.00	0.00	0.00
6,000.00	23.11	348.38	5,612.14	1,934.19	-397.63	-1,920.08	0.00	0.00	0.00
6,100.00	23.11	348.38	5,704.11	1,972.64	-405.53	-1,958.25	0.00	0.00	0.00
6,200.00	23.11	348.38	5,796.08	2,011.10	-413.44	-1,996.42	0.00	0.00	0.00
6,300.00	23.11	348.38	5,888.06	2,049.55	-421.34	-2,034.59	0.00	0.00	0.00
6,400.00	23.11	348.38	5,980.03	2,088.00	-429.25	-2,072.76	0.00	0.00	0.00
6,500.00	23.11	348.38	6,072.00	2,126.45	-437.15	-2,110.93	0.00	0.00	0.00
6,600.00	23.11	348.38	6,163.97	2,164.91	-445.06	-2,149.11	0.00	0.00	0.00
6,700.00	23.11	348.38	6,255.95	2,203.36	-452.96	-2,187.28	0.00	0.00	0.00
6,800.00	23.11	348.38	6,347.92	2,241.81	-460.87	-2,225.45	0.00	0.00	0.00
6,900.00	23.11	348.38	6,439.89	2,280.26	-468.77	-2,263.62	0.00	0.00	0.00
6,934.79	23.11	348.38	6,471.89	2,293.64	-471.52	-2,276.90	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
7,000.00	21.81	348.38	6,532.15	2,318.04	-476.54	-2,301.13	2.00	-2.00	0.00
7,100.00	19.81	348.38	6,625.62	2,352.84	-483.69	-2,335.67	2.00	-2.00	0.00
7,200.00	17.81	348.38	6,720.28	2,384.42	-490.18	-2,367.02	2.00	-2.00	0.00
7,300.00	15.81	348.38	6,816.00	2,412.75	-496.01	-2,395.14	2.00	-2.00	0.00
7,400.00	13.81	348.38	6,912.67	2,437.78	-501.15	-2,419.99	2.00	-2.00	0.00
7,500.00	11.81	348.38	7,010.18	2,459.50	-505.62	-2,441.55	2.00	-2.00	0.00
7,600.00	9.81	348.38	7,108.40	2,477.87	-509.40	-2,459.79	2.00	-2.00	0.00
7,700.00	7.81	348.38	7,207.21	2,492.87	-512.48	-2,474.68	2.00	-2.00	0.00
7,800.00	5.81	348.38	7,306.50	2,504.49	-514.87	-2,486.21	2.00	-2.00	0.00
7,900.00	3.81	348.38	7,406.15	2,512.70	-516.56	-2,494.36	2.00	-2.00	0.00
8,000.00	1.81	348.38	7,506.02	2,517.50	-517.54	-2,499.13	2.00	-2.00	0.00
8,090.49	0.00	0.00	7,596.50	2,518.90	-517.83	-2,500.52	2.00	-2.00	12.84
<b>Start 30.00 hold at 8090.49 MD</b>									
8,100.00	0.00	0.00	7,606.01	2,518.90	-517.83	-2,500.52	0.00	0.00	0.00
8,117.99	0.00	0.00	7,624.00	2,518.90	-517.83	-2,500.52	0.00	0.00	0.00
<b>SHANNON</b>									
8,120.49	0.00	0.00	7,626.50	2,518.90	-517.83	-2,500.52	0.00	0.00	0.00
<b>Start DLS 12.00 TFO 179.70</b>									
8,125.00	0.54	179.70	7,631.01	2,518.88	-517.83	-2,500.50	12.00	12.00	0.00
8,150.00	3.54	179.70	7,655.99	2,517.99	-517.83	-2,499.61	12.00	12.00	0.00
8,158.03	4.50	179.70	7,664.00	2,517.43	-517.82	-2,499.04	12.00	12.00	0.00
<b>NIOBRARA</b>									
8,175.00	6.54	179.70	7,680.89	2,515.79	-517.81	-2,497.41	12.00	12.00	0.00
8,200.00	9.54	179.70	7,705.64	2,512.30	-517.80	-2,493.92	12.00	12.00	0.00
8,225.00	12.54	179.70	7,730.17	2,507.51	-517.77	-2,489.13	12.00	12.00	0.00
8,250.00	15.54	179.70	7,754.42	2,501.45	-517.74	-2,483.07	12.00	12.00	0.00
8,275.00	18.54	179.70	7,778.32	2,494.12	-517.70	-2,475.76	12.00	12.00	0.00

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<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5261.00usft
<b>Project:</b>	Broomfield County	<b>MD Reference:</b>	KB 25' @ 5261.00usft
<b>Site:</b>	Sec 10-T1S-R68W	<b>North Reference:</b>	True
<b>Well:</b>	INTERCHANGE A S22-30-1C	<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	21.54	179.70	7,801.81	2,485.56	-517.65	-2,467.20	12.00	12.00	0.00	
8,325.00	24.54	179.70	7,824.81	2,475.77	-517.60	-2,457.42	12.00	12.00	0.00	
8,330.72	25.23	179.70	7,830.00	2,473.37	-517.59	-2,455.02	12.00	12.00	0.00	
NIO B TARGET										
8,350.00	27.54	179.70	7,847.27	2,464.80	-517.54	-2,446.45	12.00	12.00	0.00	
8,375.00	30.54	179.70	7,869.13	2,452.67	-517.48	-2,434.33	12.00	12.00	0.00	
8,400.00	33.54	179.70	7,890.32	2,439.41	-517.41	-2,421.08	12.00	12.00	0.00	
8,425.00	36.54	179.70	7,910.78	2,425.05	-517.33	-2,406.74	12.00	12.00	0.00	
8,450.00	39.54	179.70	7,930.47	2,409.65	-517.25	-2,391.35	12.00	12.00	0.00	
8,475.00	42.54	179.70	7,949.33	2,393.24	-517.17	-2,374.95	12.00	12.00	0.00	
8,500.00	45.54	179.70	7,967.30	2,375.86	-517.07	-2,357.58	12.00	12.00	0.00	
8,525.00	48.54	179.70	7,984.33	2,357.57	-516.98	-2,339.30	12.00	12.00	0.00	
8,550.00	51.54	179.70	8,000.39	2,338.41	-516.88	-2,320.16	12.00	12.00	0.00	
8,575.00	54.54	179.70	8,015.42	2,318.44	-516.77	-2,300.20	12.00	12.00	0.00	
8,600.00	57.54	179.70	8,029.38	2,297.71	-516.66	-2,279.48	12.00	12.00	0.00	
8,625.00	60.54	179.70	8,042.24	2,276.27	-516.55	-2,258.06	12.00	12.00	0.00	
8,650.00	63.54	179.70	8,053.97	2,254.19	-516.43	-2,236.00	12.00	12.00	0.00	
8,675.00	66.54	179.70	8,064.52	2,231.53	-516.31	-2,213.36	12.00	12.00	0.00	
8,700.00	69.54	179.70	8,073.86	2,208.35	-516.19	-2,190.19	12.00	12.00	0.00	
8,725.00	72.54	179.70	8,081.99	2,184.71	-516.06	-2,166.57	12.00	12.00	0.00	
8,728.41	72.94	179.70	8,083.00	2,181.45	-516.05	-2,163.31	12.00	12.00	0.00	
FORT HAYS										
8,750.00	75.54	179.70	8,088.86	2,160.68	-515.94	-2,142.55	12.00	12.00	0.00	
8,775.00	78.53	179.70	8,094.47	2,136.32	-515.81	-2,118.21	12.00	12.00	0.00	
8,800.00	81.53	179.70	8,098.80	2,111.70	-515.68	-2,093.61	12.00	12.00	0.00	
8,825.00	84.53	179.70	8,101.83	2,086.89	-515.55	-2,068.81	12.00	12.00	0.00	
8,850.00	87.53	179.70	8,103.56	2,061.95	-515.41	-2,043.89	12.00	12.00	0.00	
8,870.55	90.00	179.70	8,104.00	2,041.40	-515.31	-2,023.36	12.00	12.00	0.00	
Start 15255.23 hold at 8870.55 MD - CODELL										
8,900.00	90.00	179.70	8,104.00	2,011.96	-515.15	-1,993.94	0.00	0.00	0.00	
9,000.00	90.00	179.70	8,104.00	1,911.96	-514.62	-1,894.01	0.00	0.00	0.00	
9,100.00	90.00	179.70	8,104.00	1,811.96	-514.09	-1,794.08	0.00	0.00	0.00	
9,200.00	90.00	179.70	8,104.00	1,711.96	-513.57	-1,694.15	0.00	0.00	0.00	
9,300.00	90.00	179.70	8,104.00	1,611.96	-513.04	-1,594.23	0.00	0.00	0.00	
9,400.00	90.00	179.70	8,103.99	1,511.96	-512.51	-1,494.30	0.00	0.00	0.00	
9,500.00	90.00	179.70	8,103.99	1,411.96	-511.98	-1,394.37	0.00	0.00	0.00	
9,600.00	90.00	179.70	8,103.99	1,311.97	-511.45	-1,294.44	0.00	0.00	0.00	
9,700.00	90.00	179.70	8,103.99	1,211.97	-510.92	-1,194.52	0.00	0.00	0.00	
9,800.00	90.00	179.70	8,103.99	1,111.97	-510.39	-1,094.59	0.00	0.00	0.00	
9,900.00	90.00	179.70	8,103.99	1,011.97	-509.87	-994.66	0.00	0.00	0.00	
10,000.00	90.00	179.70	8,103.99	911.97	-509.34	-894.74	0.00	0.00	0.00	
10,100.00	90.00	179.70	8,103.99	811.97	-508.81	-794.81	0.00	0.00	0.00	
10,200.00	90.00	179.70	8,103.99	711.97	-508.28	-694.88	0.00	0.00	0.00	
10,300.00	90.00	179.70	8,103.98	611.98	-507.75	-594.95	0.00	0.00	0.00	
10,400.00	90.00	179.70	8,103.98	511.98	-507.22	-495.03	0.00	0.00	0.00	
10,500.00	90.00	179.70	8,103.98	411.98	-506.69	-395.10	0.00	0.00	0.00	
10,600.00	90.00	179.70	8,103.98	311.98	-506.17	-295.17	0.00	0.00	0.00	
10,700.00	90.00	179.70	8,103.98	211.98	-505.64	-195.25	0.00	0.00	0.00	
10,800.00	90.00	179.70	8,103.98	111.98	-505.11	-95.32	0.00	0.00	0.00	
10,900.00	90.00	179.70	8,103.98	11.98	-504.58	4.61	0.00	0.00	0.00	
11,000.00	90.00	179.70	8,103.98	-88.01	-504.05	104.54	0.00	0.00	0.00	
11,100.00	90.00	179.70	8,103.98	-188.01	-503.52	204.46	0.00	0.00	0.00	
11,200.00	90.00	179.70	8,103.97	-288.01	-502.99	304.39	0.00	0.00	0.00	

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well INTERCHANGE A S22-30-1C
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5261.00usft
<b>Project:</b>	Broomfield County	<b>MD Reference:</b>	KB 25' @ 5261.00usft
<b>Site:</b>	Sec 10-T1S-R68W	<b>North Reference:</b>	True
<b>Well:</b>	INTERCHANGE A S22-30-1C	<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)
11,300.00	90.00	179.70	8,103.97	-388.01	-502.47	404.32	0.00	0.00	0.00
11,400.00	90.00	179.70	8,103.97	-488.01	-501.94	504.24	0.00	0.00	0.00
11,500.00	90.00	179.70	8,103.97	-588.01	-501.41	604.17	0.00	0.00	0.00
11,600.00	90.00	179.70	8,103.97	-688.01	-500.88	704.10	0.00	0.00	0.00
11,700.00	90.00	179.70	8,103.97	-788.00	-500.35	804.03	0.00	0.00	0.00
11,800.00	90.00	179.70	8,103.97	-888.00	-499.82	903.95	0.00	0.00	0.00
11,900.00	90.00	179.70	8,103.97	-988.00	-499.30	1,003.88	0.00	0.00	0.00
12,000.00	90.00	179.70	8,103.97	-1,088.00	-498.77	1,103.81	0.00	0.00	0.00
12,100.00	90.00	179.70	8,103.96	-1,188.00	-498.24	1,203.73	0.00	0.00	0.00
12,200.00	90.00	179.70	8,103.96	-1,288.00	-497.71	1,303.66	0.00	0.00	0.00
12,300.00	90.00	179.70	8,103.96	-1,388.00	-497.18	1,403.59	0.00	0.00	0.00
12,400.00	90.00	179.70	8,103.96	-1,487.99	-496.65	1,503.52	0.00	0.00	0.00
12,500.00	90.00	179.70	8,103.96	-1,587.99	-496.12	1,603.44	0.00	0.00	0.00
12,600.00	90.00	179.70	8,103.96	-1,687.99	-495.60	1,703.37	0.00	0.00	0.00
12,700.00	90.00	179.70	8,103.96	-1,787.99	-495.07	1,803.30	0.00	0.00	0.00
12,800.00	90.00	179.70	8,103.96	-1,887.99	-494.54	1,903.23	0.00	0.00	0.00
12,900.00	90.00	179.70	8,103.96	-1,987.99	-494.01	2,003.15	0.00	0.00	0.00
13,000.00	90.00	179.70	8,103.95	-2,087.99	-493.48	2,103.08	0.00	0.00	0.00
13,100.00	90.00	179.70	8,103.95	-2,187.98	-492.95	2,203.01	0.00	0.00	0.00
13,200.00	90.00	179.70	8,103.95	-2,287.98	-492.42	2,302.93	0.00	0.00	0.00
13,300.00	90.00	179.70	8,103.95	-2,387.98	-491.90	2,402.86	0.00	0.00	0.00
13,400.00	90.00	179.70	8,103.95	-2,487.98	-491.37	2,502.79	0.00	0.00	0.00
13,500.00	90.00	179.70	8,103.95	-2,587.98	-490.84	2,602.72	0.00	0.00	0.00
13,600.00	90.00	179.70	8,103.95	-2,687.98	-490.31	2,702.64	0.00	0.00	0.00
13,700.00	90.00	179.70	8,103.95	-2,787.98	-489.78	2,802.57	0.00	0.00	0.00
13,800.00	90.00	179.70	8,103.95	-2,887.98	-489.25	2,902.50	0.00	0.00	0.00
13,900.00	90.00	179.70	8,103.94	-2,987.97	-488.73	3,002.42	0.00	0.00	0.00
14,000.00	90.00	179.70	8,103.94	-3,087.97	-488.20	3,102.35	0.00	0.00	0.00
14,100.00	90.00	179.70	8,103.94	-3,187.97	-487.67	3,202.28	0.00	0.00	0.00
14,200.00	90.00	179.70	8,103.94	-3,287.97	-487.14	3,302.21	0.00	0.00	0.00
14,300.00	90.00	179.70	8,103.94	-3,387.97	-486.61	3,402.13	0.00	0.00	0.00
14,400.00	90.00	179.70	8,103.94	-3,487.97	-486.08	3,502.06	0.00	0.00	0.00
14,500.00	90.00	179.70	8,103.94	-3,587.97	-485.55	3,601.99	0.00	0.00	0.00
14,600.00	90.00	179.70	8,103.94	-3,687.96	-485.03	3,701.91	0.00	0.00	0.00
14,700.00	90.00	179.70	8,103.94	-3,787.96	-484.50	3,801.84	0.00	0.00	0.00
14,800.00	90.00	179.70	8,103.93	-3,887.96	-483.97	3,901.77	0.00	0.00	0.00
14,900.00	90.00	179.70	8,103.93	-3,987.96	-483.44	4,001.70	0.00	0.00	0.00
15,000.00	90.00	179.70	8,103.93	-4,087.96	-482.91	4,101.62	0.00	0.00	0.00
15,100.00	90.00	179.70	8,103.93	-4,187.96	-482.38	4,201.55	0.00	0.00	0.00
15,200.00	90.00	179.70	8,103.93	-4,287.96	-481.85	4,301.48	0.00	0.00	0.00
15,300.00	90.00	179.70	8,103.93	-4,387.95	-481.33	4,401.40	0.00	0.00	0.00
15,400.00	90.00	179.70	8,103.93	-4,487.95	-480.80	4,501.33	0.00	0.00	0.00
15,500.00	90.00	179.70	8,103.93	-4,587.95	-480.27	4,601.26	0.00	0.00	0.00
15,600.00	90.00	179.70	8,103.93	-4,687.95	-479.74	4,701.19	0.00	0.00	0.00
15,700.00	90.00	179.70	8,103.92	-4,787.95	-479.21	4,801.11	0.00	0.00	0.00
15,800.00	90.00	179.70	8,103.92	-4,887.95	-478.68	4,901.04	0.00	0.00	0.00
15,900.00	90.00	179.70	8,103.92	-4,987.95	-478.15	5,000.97	0.00	0.00	0.00
16,000.00	90.00	179.70	8,103.92	-5,087.94	-477.63	5,100.90	0.00	0.00	0.00
16,100.00	90.00	179.70	8,103.92	-5,187.94	-477.10	5,200.82	0.00	0.00	0.00
16,200.00	90.00	179.70	8,103.92	-5,287.94	-476.57	5,300.75	0.00	0.00	0.00
16,300.00	90.00	179.70	8,103.92	-5,387.94	-476.04	5,400.68	0.00	0.00	0.00
16,400.00	90.00	179.70	8,103.92	-5,487.94	-475.51	5,500.60	0.00	0.00	0.00
16,500.00	90.00	179.70	8,103.92	-5,587.94	-474.98	5,600.53	0.00	0.00	0.00
16,600.00	90.00	179.70	8,103.91	-5,687.94	-474.46	5,700.46	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well INTERCHANGE A S22-30-1C
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5261.00usft
<b>Project:</b>	Broomfield County	<b>MD Reference:</b>	KB 25' @ 5261.00usft
<b>Site:</b>	Sec 10-T1S-R68W	<b>North Reference:</b>	True
<b>Well:</b>	INTERCHANGE A S22-30-1C	<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)
16,700.00	90.00	179.70	8,103.91	-5,787.93	-473.93	5,800.39	0.00	0.00	0.00
16,800.00	90.00	179.70	8,103.91	-5,887.93	-473.40	5,900.31	0.00	0.00	0.00
16,900.00	90.00	179.70	8,103.91	-5,987.93	-472.87	6,000.24	0.00	0.00	0.00
17,000.00	90.00	179.70	8,103.91	-6,087.93	-472.34	6,100.17	0.00	0.00	0.00
17,100.00	90.00	179.70	8,103.91	-6,187.93	-471.81	6,200.09	0.00	0.00	0.00
17,200.00	90.00	179.70	8,103.91	-6,287.93	-471.28	6,300.02	0.00	0.00	0.00
17,300.00	90.00	179.70	8,103.91	-6,387.93	-470.76	6,399.95	0.00	0.00	0.00
17,400.00	90.00	179.70	8,103.91	-6,487.92	-470.23	6,499.88	0.00	0.00	0.00
17,500.00	90.00	179.70	8,103.90	-6,587.92	-469.70	6,599.80	0.00	0.00	0.00
17,600.00	90.00	179.70	8,103.90	-6,687.92	-469.17	6,699.73	0.00	0.00	0.00
17,700.00	90.00	179.70	8,103.90	-6,787.92	-468.64	6,799.66	0.00	0.00	0.00
17,800.00	90.00	179.70	8,103.90	-6,887.92	-468.11	6,899.58	0.00	0.00	0.00
17,900.00	90.00	179.70	8,103.90	-6,987.92	-467.58	6,999.51	0.00	0.00	0.00
18,000.00	90.00	179.70	8,103.90	-7,087.92	-467.06	7,099.44	0.00	0.00	0.00
18,100.00	90.00	179.70	8,103.90	-7,187.92	-466.53	7,199.37	0.00	0.00	0.00
18,200.00	90.00	179.70	8,103.90	-7,287.91	-466.00	7,299.29	0.00	0.00	0.00
18,300.00	90.00	179.70	8,103.90	-7,387.91	-465.47	7,399.22	0.00	0.00	0.00
18,400.00	90.00	179.70	8,103.89	-7,487.91	-464.94	7,499.15	0.00	0.00	0.00
18,500.00	90.00	179.70	8,103.89	-7,587.91	-464.41	7,599.08	0.00	0.00	0.00
18,600.00	90.00	179.70	8,103.89	-7,687.91	-463.88	7,699.00	0.00	0.00	0.00
18,700.00	90.00	179.70	8,103.89	-7,787.91	-463.36	7,798.93	0.00	0.00	0.00
18,800.00	90.00	179.70	8,103.89	-7,887.91	-462.83	7,898.86	0.00	0.00	0.00
18,900.00	90.00	179.70	8,103.89	-7,987.90	-462.30	7,998.78	0.00	0.00	0.00
19,000.00	90.00	179.70	8,103.89	-8,087.90	-461.77	8,098.71	0.00	0.00	0.00
19,100.00	90.00	179.70	8,103.89	-8,187.90	-461.24	8,198.64	0.00	0.00	0.00
19,200.00	90.00	179.70	8,103.89	-8,287.90	-460.71	8,298.57	0.00	0.00	0.00
19,300.00	90.00	179.70	8,103.88	-8,387.90	-460.19	8,398.49	0.00	0.00	0.00
19,400.00	90.00	179.70	8,103.88	-8,487.90	-459.66	8,498.42	0.00	0.00	0.00
19,500.00	90.00	179.70	8,103.88	-8,587.90	-459.13	8,598.35	0.00	0.00	0.00
19,600.00	90.00	179.70	8,103.88	-8,687.89	-458.60	8,698.27	0.00	0.00	0.00
19,700.00	90.00	179.70	8,103.88	-8,787.89	-458.07	8,798.20	0.00	0.00	0.00
19,800.00	90.00	179.70	8,103.88	-8,887.89	-457.54	8,898.13	0.00	0.00	0.00
19,900.00	90.00	179.70	8,103.88	-8,987.89	-457.01	8,998.06	0.00	0.00	0.00
20,000.00	90.00	179.70	8,103.88	-9,087.89	-456.49	9,097.98	0.00	0.00	0.00
20,100.00	90.00	179.70	8,103.88	-9,187.89	-455.96	9,197.91	0.00	0.00	0.00
20,200.00	90.00	179.70	8,103.87	-9,287.89	-455.43	9,297.84	0.00	0.00	0.00
20,300.00	90.00	179.70	8,103.87	-9,387.88	-454.90	9,397.76	0.00	0.00	0.00
20,400.00	90.00	179.70	8,103.87	-9,487.88	-454.37	9,497.69	0.00	0.00	0.00
20,500.00	90.00	179.70	8,103.87	-9,587.88	-453.84	9,597.62	0.00	0.00	0.00
20,600.00	90.00	179.70	8,103.87	-9,687.88	-453.31	9,697.55	0.00	0.00	0.00
20,700.00	90.00	179.70	8,103.87	-9,787.88	-452.79	9,797.47	0.00	0.00	0.00
20,800.00	90.00	179.70	8,103.87	-9,887.88	-452.26	9,897.40	0.00	0.00	0.00
20,900.00	90.00	179.70	8,103.87	-9,987.88	-451.73	9,997.33	0.00	0.00	0.00
21,000.00	90.00	179.70	8,103.87	-10,087.87	-451.20	10,097.25	0.00	0.00	0.00
24,125.78	90.00	179.70	8,104.00	-13,213.61	-434.59	13,220.76	0.00	0.00	0.00
TD at 24125.78									



## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well INTERCHANGE A S22-30-1C
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5261.00usft
<b>Project:</b>	Broomfield County	<b>MD Reference:</b>	KB 25' @ 5261.00usft
<b>Site:</b>	Sec 10-T1S-R68W	<b>North Reference:</b>	True
<b>Well:</b>	INTERCHANGE A S22-30-1C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
INTERCHANGE A S22-' - plan hits target center - Point	0.00	0.00	8,104.00	-13,213.61	-434.59	1,222,985.62	3,141,420.05	39° 56' 39.743 N	104° 59' 44.210 W
INTERCHANGE A S22-' - plan hits target center - Point	0.00	0.00	8,104.00	2,041.40	-515.31	1,238,239.93	3,141,252.30	39° 59' 10.504 N	104° 59' 45.251 W

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
5,242.01	4,915.00	PARKMAN				
5,367.05	5,030.00	SUSSEX				
8,117.99	7,624.00	SHANNON				
8,158.03	7,664.00	NIOBRARA				
8,330.72	7,830.00	NIO B TARGET				
8,728.41	8,083.00	FORT HAYS				
8,870.55	8,104.00	CODELL				

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
400.00	400.00	0.00	0.00	Start Build 2.00
1,555.70	1,524.61	225.26	-46.31	Start 5379.09 hold at 1555.70 MD
6,934.79	6,471.89	2,293.64	-471.52	Start Drop -2.00
8,090.49	7,596.50	2,518.90	-517.83	Start 30.00 hold at 8090.49 MD
8,120.49	7,626.50	2,518.90	-517.83	Start DLS 12.00 TFO 179.70
8,870.55	8,104.00	2,041.40	-515.31	Start 15255.23 hold at 8870.55 MD
24,125.78	8,104.00	-13,213.61	-434.59	TD at 24125.78