

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N  
4N-68W-13 SBJ 22-13HZ PAD  
SBJ 13-12HZ**

**Plan C**

**Plan: PERMIT REV-2**

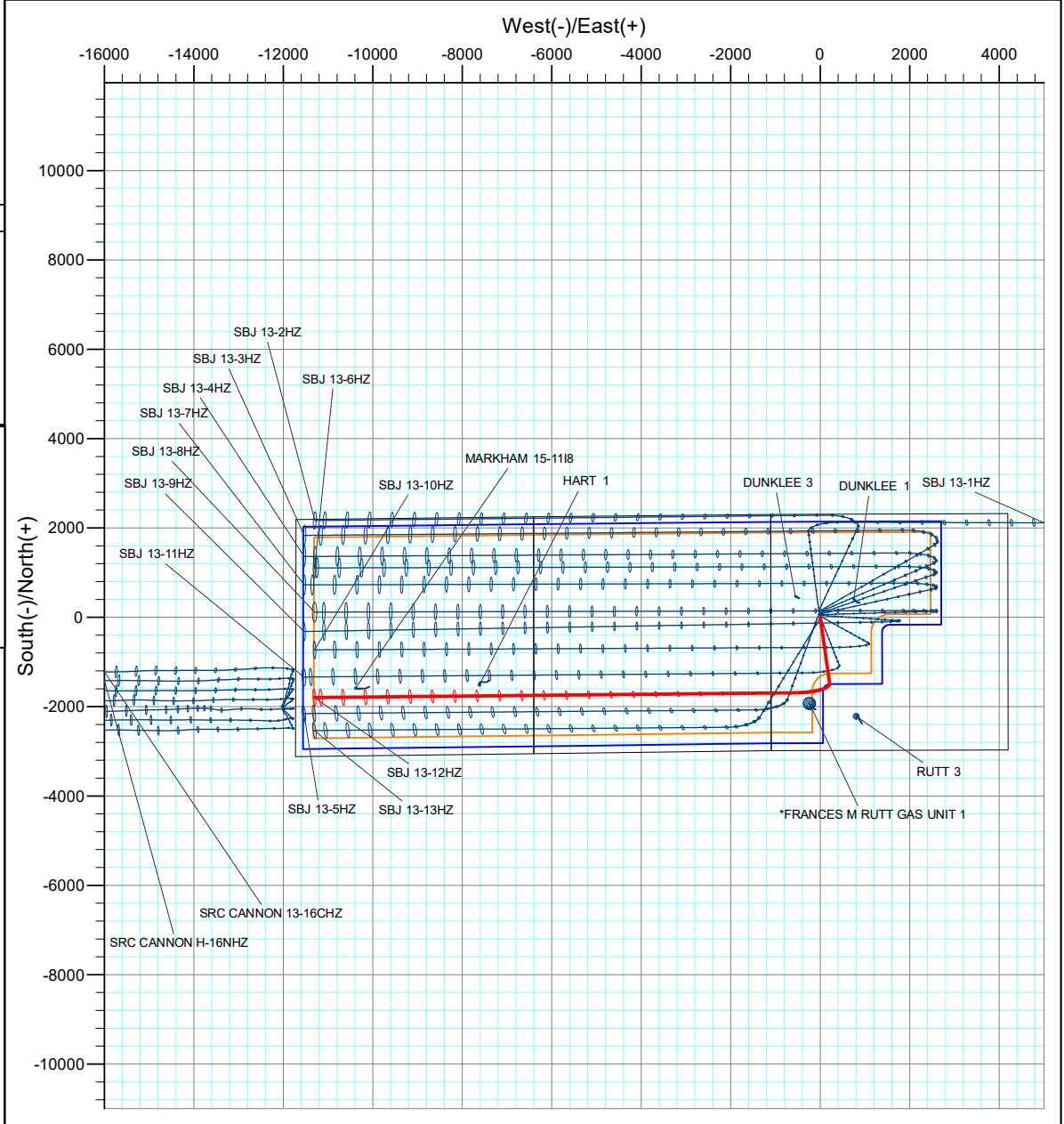
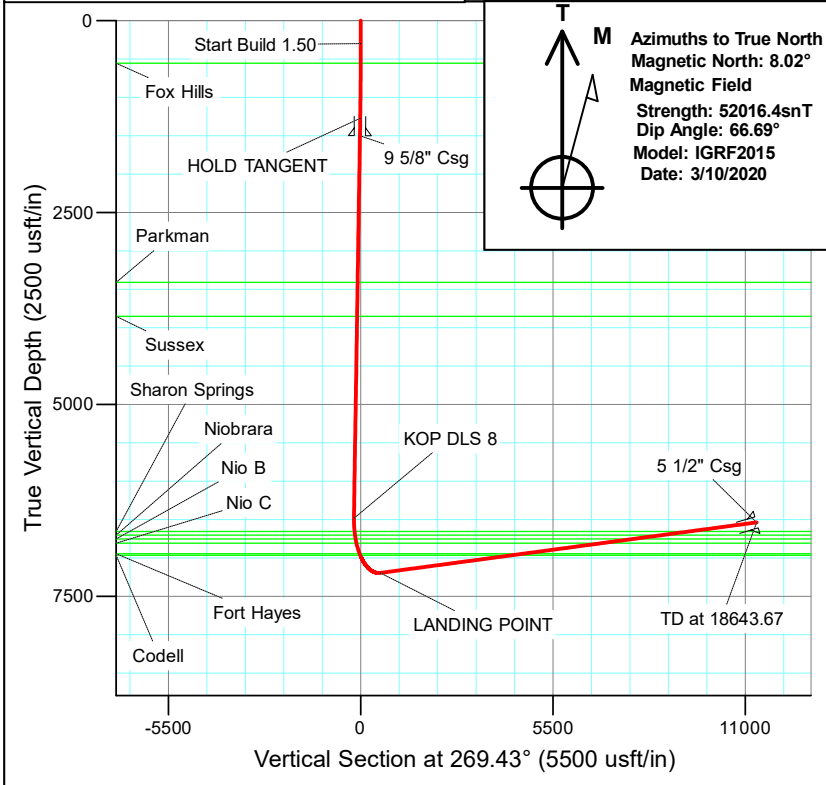
## **Standard Planning Report**

**04 May, 2021**

<b>Project:</b> WELD-NAD83-UTMFT13N <b>Site:</b> 4N-68W-13 SBJ 22-13HZ PAD <b>Well:</b> SBJ 13-12HZ <b>Wellbore:</b> Plan C <b>Design:</b> PERMIT REV-2	<b>ELEVATION</b>		<b>SURFACE HOLE LOCATION: SBJ 13-12HZ</b>					
	GROUND ELEVATION: 4859.00 RKB = 17' @ 4876ft		+N/-S 0.00	+E/-W 0.00	Northing 14641342.90	Easting 1652462.49	Latitude 40.314723	Longitude -104.956788
	<b>CASING DETAILS</b>		<b>DESIGN TARGET DETAILS</b>					
		TVD 1500.00	MD 1518.58	Name 9 5/8" Csg	Size 9-5/8			
		6538.00	18643.67	5 1/2" Csg	5-1/2			
<b>SECTION DETAILS</b>								

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	1283.71	14.76	171.92	1272.87	-124.72	17.71	1.50	171.92	-16.47	
4	6672.82	14.76	171.92	6484.25	-1483.68	210.67	0.00	0.00	-195.90	
5	7863.98	93.50	269.43	7196.00	-1689.63	-545.31	8.00	96.38	562.09	SBJ 13-12HZ LP
6	18643.67	93.50	269.43	6538.00	-1797.38	-11304.37	0.00	0.00	11321.69	SBJ 13-12HZ BHL

<b>SHL</b> <b>HEEL</b> <b>TOE</b> <b>2306' FNL</b> <b>1295' FSL</b> <b>1316' FSL</b> <b>1096' FWL</b> <b>551' FWL</b> <b>420' FWL</b> <b>Section 13</b> <b>Section 13</b> <b>Section 15</b> <b>SWNW</b> <b>SWSW</b> <b>SWSW</b>	<b>FORMATION TOP DETAILS</b>		
	TVDPath	MDPath	Formation
	556.00	556.19	Fox Hills
	3411.00	3494.76	Parkman
	3854.00	3952.86	Sussex
	6656.00	6851.62	Sharon Springs
	6703.00	6901.85	Niobrara
6755.00	6958.68	Nio B	
6808.00	7018.48	Nio C	
6947.00	7189.88	Fort Hayes	
6967.00	7217.19	Codell	



## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well SBJ 13-12HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4876.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4876.00usft (Drilling Rig)
<b>Site:</b>	4N-68W-13 SBJ 22-13HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	SBJ 13-12HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan C		
<b>Design:</b>	PERMIT REV-2		

<b>Project</b> WELD-NAD83-UTMFT13N			
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Zone 13N (108 W to 102 W)		

<b>Site</b> 4N-68W-13 SBJ 22-13HZ PAD			
<b>Site Position:</b>		<b>Northing:</b>	14,641,145.55 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,652,517.50 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	40.314181
		<b>Longitude:</b>	-104.956591
		<b>Grid Convergence:</b>	0.03 °

<b>Well</b> SBJ 13-12HZ			
<b>Well Position</b>	<b>+N/-S</b>	197.37 usft	<b>Northing:</b> 14,641,342.90 usft
	<b>+E/-W</b>	-54.92 usft	<b>Easting:</b> 1,652,462.48 usft
<b>Position Uncertainty</b>		3.28 usft	<b>Wellhead Elevation:</b>
			<b>Latitude:</b> 40.314723
			<b>Longitude:</b> -104.956788
			<b>Ground Level:</b> 4,859.00 usft

<b>Wellbore</b> Plan C					
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	3/10/2020	8.02	66.69	52,016.37100131

<b>Design</b> PERMIT REV-2				
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<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	269.43

<b>Plan Survey Tool Program</b>		<b>Date</b>	5/4/2021		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	2,000.00	PERMIT REV-2 (Plan C)	APC_ISCWSA REV 2 MWD Fixed:v2:standard declination	
2	2,000.00	18,643.67	PERMIT REV-2 (Plan C)	APC_ISCWSA REV 2 MWD+II Fixed:v2:Rockies, crustal dec +	

<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 (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,283.71	14.76	171.92	1,272.87	-124.72	17.71	1.50	1.50	0.00	171.92	
6,672.82	14.76	171.92	6,484.25	-1,483.68	210.67	0.00	0.00	0.00	0.00	
7,863.98	93.50	269.43	7,196.00	-1,689.63	-545.31	8.00	6.61	8.19	96.38	SBJ 13-12HZ LP
18,643.67	93.50	269.43	6,538.00	-1,797.38	-11,304.37	0.00	0.00	0.00	0.00	SBJ 13-12HZ BHL

## Corporate Planning Report

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<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4876.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4876.00usft (Drilling Rig)
<b>Site:</b>	4N-68W-13 SBJ 22-13HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	SBJ 13-12HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan C		
<b>Design:</b>	PERMIT REV-2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
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
<b>Start Build 1.50</b>									
400.00	1.50	171.92	399.99	-1.30	0.18	-0.17	1.50	1.50	0.00
500.00	3.00	171.92	499.91	-5.18	0.74	-0.68	1.50	1.50	0.00
556.19	3.84	171.92	556.00	-8.50	1.21	-1.12	1.50	1.50	0.00
<b>Fox Hills</b>									
600.00	4.50	171.92	599.69	-11.66	1.66	-1.54	1.50	1.50	0.00
700.00	6.00	171.92	699.27	-20.72	2.94	-2.74	1.50	1.50	0.00
800.00	7.50	171.92	798.57	-32.35	4.59	-4.27	1.50	1.50	0.00
900.00	9.00	171.92	897.54	-46.56	6.61	-6.15	1.50	1.50	0.00
1,000.00	10.50	171.92	996.09	-63.33	8.99	-8.36	1.50	1.50	0.00
1,100.00	12.00	171.92	1,094.16	-82.64	11.73	-10.91	1.50	1.50	0.00
1,200.00	13.50	171.92	1,191.70	-104.49	14.84	-13.80	1.50	1.50	0.00
1,283.71	14.76	171.92	1,272.87	-124.72	17.71	-16.47	1.50	1.50	0.00
<b>HOLD TANGENT</b>									
1,300.00	14.76	171.92	1,288.62	-128.83	18.29	-17.01	0.00	0.00	0.00
1,400.00	14.76	171.92	1,385.33	-154.04	21.87	-20.34	0.00	0.00	0.00
1,500.00	14.76	171.92	1,482.03	-179.26	25.45	-23.67	0.00	0.00	0.00
1,518.58	14.76	171.92	1,500.00	-183.95	26.12	-24.29	0.00	0.00	0.00
<b>9 5/8" Csg</b>									
1,600.00	14.76	171.92	1,578.73	-204.48	29.03	-27.00	0.00	0.00	0.00
1,700.00	14.76	171.92	1,675.43	-229.69	32.61	-30.33	0.00	0.00	0.00
1,800.00	14.76	171.92	1,772.14	-254.91	36.19	-33.66	0.00	0.00	0.00
1,900.00	14.76	171.92	1,868.84	-280.13	39.78	-36.99	0.00	0.00	0.00
2,000.00	14.76	171.92	1,965.54	-305.34	43.36	-40.32	0.00	0.00	0.00
2,100.00	14.76	171.92	2,062.24	-330.56	46.94	-43.65	0.00	0.00	0.00
2,200.00	14.76	171.92	2,158.94	-355.78	50.52	-46.97	0.00	0.00	0.00
2,300.00	14.76	171.92	2,255.65	-381.00	54.10	-50.30	0.00	0.00	0.00
2,400.00	14.76	171.92	2,352.35	-406.21	57.68	-53.63	0.00	0.00	0.00
2,500.00	14.76	171.92	2,449.05	-431.43	61.26	-56.96	0.00	0.00	0.00
2,600.00	14.76	171.92	2,545.75	-456.65	64.84	-60.29	0.00	0.00	0.00
2,700.00	14.76	171.92	2,642.45	-481.86	68.42	-63.62	0.00	0.00	0.00
2,800.00	14.76	171.92	2,739.16	-507.08	72.00	-66.95	0.00	0.00	0.00
2,900.00	14.76	171.92	2,835.86	-532.30	75.58	-70.28	0.00	0.00	0.00
3,000.00	14.76	171.92	2,932.56	-557.51	79.16	-73.61	0.00	0.00	0.00
3,100.00	14.76	171.92	3,029.26	-582.73	82.74	-76.94	0.00	0.00	0.00
3,200.00	14.76	171.92	3,125.96	-607.95	86.32	-80.27	0.00	0.00	0.00
3,300.00	14.76	171.92	3,222.67	-633.16	89.90	-83.60	0.00	0.00	0.00
3,400.00	14.76	171.92	3,319.37	-658.38	93.48	-86.93	0.00	0.00	0.00
3,494.76	14.76	171.92	3,411.00	-682.27	96.88	-90.08	0.00	0.00	0.00
<b>Parkman</b>									
3,500.00	14.76	171.92	3,416.07	-683.60	97.06	-90.26	0.00	0.00	0.00
3,600.00	14.76	171.92	3,512.77	-708.81	100.64	-93.59	0.00	0.00	0.00
3,700.00	14.76	171.92	3,609.48	-734.03	104.22	-96.92	0.00	0.00	0.00
3,800.00	14.76	171.92	3,706.18	-759.25	107.80	-100.25	0.00	0.00	0.00
3,900.00	14.76	171.92	3,802.88	-784.46	111.39	-103.58	0.00	0.00	0.00
3,952.86	14.76	171.92	3,854.00	-797.79	113.28	-105.34	0.00	0.00	0.00
<b>Sussex</b>									
4,000.00	14.76	171.92	3,899.58	-809.68	114.97	-106.91	0.00	0.00	0.00
4,100.00	14.76	171.92	3,996.28	-834.90	118.55	-110.23	0.00	0.00	0.00

**Corporate  
Planning Report**

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well SBJ 13-12HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4876.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4876.00usft (Drilling Rig)
<b>Site:</b>	4N-68W-13 SBJ 22-13HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	SBJ 13-12HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan C		
<b>Design:</b>	PERMIT REV-2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,200.00	14.76	171.92	4,092.99	-860.11	122.13	-113.56	0.00	0.00	0.00
4,300.00	14.76	171.92	4,189.69	-885.33	125.71	-116.89	0.00	0.00	0.00
4,400.00	14.76	171.92	4,286.39	-910.55	129.29	-120.22	0.00	0.00	0.00
4,500.00	14.76	171.92	4,383.09	-935.76	132.87	-123.55	0.00	0.00	0.00
4,600.00	14.76	171.92	4,479.79	-960.98	136.45	-126.88	0.00	0.00	0.00
4,700.00	14.76	171.92	4,576.50	-986.20	140.03	-130.21	0.00	0.00	0.00
4,800.00	14.76	171.92	4,673.20	-1,011.41	143.61	-133.54	0.00	0.00	0.00
4,900.00	14.76	171.92	4,769.90	-1,036.63	147.19	-136.87	0.00	0.00	0.00
5,000.00	14.76	171.92	4,866.60	-1,061.85	150.77	-140.20	0.00	0.00	0.00
5,100.00	14.76	171.92	4,963.31	-1,087.06	154.35	-143.53	0.00	0.00	0.00
5,200.00	14.76	171.92	5,060.01	-1,112.28	157.93	-146.86	0.00	0.00	0.00
5,300.00	14.76	171.92	5,156.71	-1,137.50	161.51	-150.19	0.00	0.00	0.00
5,400.00	14.76	171.92	5,253.41	-1,162.71	165.09	-153.52	0.00	0.00	0.00
5,500.00	14.76	171.92	5,350.11	-1,187.93	168.67	-156.85	0.00	0.00	0.00
5,600.00	14.76	171.92	5,446.82	-1,213.15	172.25	-160.18	0.00	0.00	0.00
5,700.00	14.76	171.92	5,543.52	-1,238.36	175.83	-163.51	0.00	0.00	0.00
5,800.00	14.76	171.92	5,640.22	-1,263.58	179.42	-166.84	0.00	0.00	0.00
5,900.00	14.76	171.92	5,736.92	-1,288.80	183.00	-170.17	0.00	0.00	0.00
6,000.00	14.76	171.92	5,833.62	-1,314.01	186.58	-173.49	0.00	0.00	0.00
6,100.00	14.76	171.92	5,930.33	-1,339.23	190.16	-176.82	0.00	0.00	0.00
6,200.00	14.76	171.92	6,027.03	-1,364.45	193.74	-180.15	0.00	0.00	0.00
6,300.00	14.76	171.92	6,123.73	-1,389.66	197.32	-183.48	0.00	0.00	0.00
6,400.00	14.76	171.92	6,220.43	-1,414.88	200.90	-186.81	0.00	0.00	0.00
6,500.00	14.76	171.92	6,317.13	-1,440.10	204.48	-190.14	0.00	0.00	0.00
6,600.00	14.76	171.92	6,413.84	-1,465.31	208.06	-193.47	0.00	0.00	0.00
6,672.82	14.76	171.92	6,484.25	-1,483.68	210.67	-195.90	0.00	0.00	0.00
<b>KOP DLS 8</b>									
6,700.00	14.67	180.48	6,510.55	-1,490.55	211.12	-196.29	8.00	-0.31	31.50
6,800.00	16.90	209.07	6,606.91	-1,515.95	203.94	-188.85	8.00	2.23	28.58
6,851.62	19.26	220.03	6,656.00	-1,529.04	194.82	-179.60	8.00	4.57	21.23
<b>Sharon Springs</b>									
6,900.00	21.94	227.99	6,701.29	-1,541.20	182.97	-167.63	8.00	5.53	16.47
6,901.85	22.05	228.26	6,703.00	-1,541.66	182.45	-167.11	8.00	5.90	14.44
<b>Niobrara</b>									
6,958.68	25.58	235.37	6,755.00	-1,555.74	164.39	-148.90	8.00	6.22	12.51
<b>Nio B</b>									
7,000.00	28.32	239.46	6,791.83	-1,565.79	148.60	-133.02	8.00	6.63	9.89
7,018.48	29.58	241.06	6,808.00	-1,570.23	140.84	-125.21	8.00	6.82	8.65
<b>Nio C</b>									
7,100.00	35.32	246.84	6,876.78	-1,589.25	101.52	-85.71	8.00	7.04	7.09
7,189.88	41.89	251.55	6,947.00	-1,608.99	49.10	-33.09	8.00	7.31	5.24
<b>Fort Hayes</b>									
7,200.00	42.64	252.00	6,954.49	-1,611.12	42.64	-26.61	8.00	7.41	4.48
7,217.19	43.92	252.74	6,967.00	-1,614.69	31.41	-15.35	8.00	7.43	4.31
<b>Codell</b>									
7,300.00	50.13	255.89	7,023.43	-1,630.98	-26.90	43.13	8.00	7.50	3.80
7,400.00	57.73	259.00	7,082.28	-1,648.43	-105.75	122.14	8.00	7.60	3.11
7,500.00	65.39	261.63	7,129.88	-1,663.14	-192.36	208.89	8.00	7.66	2.63
7,600.00	73.09	263.95	7,165.31	-1,674.83	-285.05	301.70	8.00	7.70	2.32
7,700.00	80.81	266.08	7,187.88	-1,683.26	-382.02	398.75	8.00	7.72	2.14
7,800.00	88.55	268.13	7,197.14	-1,688.27	-481.38	498.15	8.00	7.74	2.05
7,863.98	93.50	269.43	7,196.00	-1,689.63	-545.31	562.09	8.00	7.74	2.03
<b>LANDING POINT</b>									

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well SBJ 13-12HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4876.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4876.00usft (Drilling Rig)
<b>Site:</b>	4N-68W-13 SBJ 22-13HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	SBJ 13-12HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan C		
<b>Design:</b>	PERMIT REV-2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,900.00	93.50	269.43	7,193.80	-1,689.99	-581.27	598.05	0.00	0.00	0.00
8,000.00	93.50	269.43	7,187.70	-1,690.99	-681.08	697.86	0.00	0.00	0.00
8,100.00	93.50	269.43	7,181.59	-1,691.99	-780.88	797.68	0.00	0.00	0.00
8,200.00	93.50	269.43	7,175.49	-1,692.99	-880.69	897.49	0.00	0.00	0.00
8,300.00	93.50	269.43	7,169.38	-1,693.99	-980.50	997.31	0.00	0.00	0.00
8,400.00	93.50	269.43	7,163.28	-1,694.99	-1,080.31	1,097.12	0.00	0.00	0.00
8,500.00	93.50	269.43	7,157.18	-1,695.99	-1,180.12	1,196.93	0.00	0.00	0.00
8,600.00	93.50	269.43	7,151.07	-1,696.99	-1,279.93	1,296.75	0.00	0.00	0.00
8,700.00	93.50	269.43	7,144.97	-1,697.99	-1,379.74	1,396.56	0.00	0.00	0.00
8,800.00	93.50	269.43	7,138.86	-1,698.99	-1,479.54	1,496.37	0.00	0.00	0.00
8,900.00	93.50	269.43	7,132.76	-1,699.99	-1,579.35	1,596.19	0.00	0.00	0.00
9,000.00	93.50	269.43	7,126.66	-1,700.99	-1,679.16	1,696.00	0.00	0.00	0.00
9,100.00	93.50	269.43	7,120.55	-1,701.99	-1,778.97	1,795.81	0.00	0.00	0.00
9,200.00	93.50	269.43	7,114.45	-1,702.99	-1,878.78	1,895.63	0.00	0.00	0.00
9,300.00	93.50	269.43	7,108.34	-1,703.99	-1,978.59	1,995.44	0.00	0.00	0.00
9,400.00	93.50	269.43	7,102.24	-1,704.99	-2,078.40	2,095.25	0.00	0.00	0.00
9,500.00	93.50	269.43	7,096.14	-1,705.99	-2,178.20	2,195.07	0.00	0.00	0.00
9,600.00	93.50	269.43	7,090.03	-1,706.99	-2,278.01	2,294.88	0.00	0.00	0.00
9,700.00	93.50	269.43	7,083.93	-1,707.99	-2,377.82	2,394.69	0.00	0.00	0.00
9,800.00	93.50	269.43	7,077.82	-1,708.98	-2,477.63	2,494.51	0.00	0.00	0.00
9,900.00	93.50	269.43	7,071.72	-1,709.98	-2,577.44	2,594.32	0.00	0.00	0.00
10,000.00	93.50	269.43	7,065.62	-1,710.98	-2,677.25	2,694.14	0.00	0.00	0.00
10,100.00	93.50	269.43	7,059.51	-1,711.98	-2,777.06	2,793.95	0.00	0.00	0.00
10,200.00	93.50	269.43	7,053.41	-1,712.98	-2,876.86	2,893.76	0.00	0.00	0.00
10,300.00	93.50	269.43	7,047.30	-1,713.98	-2,976.67	2,993.58	0.00	0.00	0.00
10,400.00	93.50	269.43	7,041.20	-1,714.98	-3,076.48	3,093.39	0.00	0.00	0.00
10,500.00	93.50	269.43	7,035.10	-1,715.98	-3,176.29	3,193.20	0.00	0.00	0.00
10,600.00	93.50	269.43	7,028.99	-1,716.98	-3,276.10	3,293.02	0.00	0.00	0.00
10,700.00	93.50	269.43	7,022.89	-1,717.98	-3,375.91	3,392.83	0.00	0.00	0.00
10,800.00	93.50	269.43	7,016.78	-1,718.98	-3,475.72	3,492.64	0.00	0.00	0.00
10,900.00	93.50	269.43	7,010.68	-1,719.98	-3,575.52	3,592.46	0.00	0.00	0.00
11,000.00	93.50	269.43	7,004.58	-1,720.98	-3,675.33	3,692.27	0.00	0.00	0.00
11,100.00	93.50	269.43	6,998.47	-1,721.98	-3,775.14	3,792.08	0.00	0.00	0.00
11,200.00	93.50	269.43	6,992.37	-1,722.98	-3,874.95	3,891.90	0.00	0.00	0.00
11,300.00	93.50	269.43	6,986.26	-1,723.98	-3,974.76	3,991.71	0.00	0.00	0.00
11,400.00	93.50	269.43	6,980.16	-1,724.98	-4,074.57	4,091.53	0.00	0.00	0.00
11,500.00	93.50	269.43	6,974.05	-1,725.98	-4,174.37	4,191.34	0.00	0.00	0.00
11,600.00	93.50	269.43	6,967.95	-1,726.98	-4,274.18	4,291.15	0.00	0.00	0.00
11,700.00	93.50	269.43	6,961.85	-1,727.98	-4,373.99	4,390.97	0.00	0.00	0.00
11,800.00	93.50	269.43	6,955.74	-1,728.98	-4,473.80	4,490.78	0.00	0.00	0.00
11,900.00	93.50	269.43	6,949.64	-1,729.98	-4,573.61	4,590.59	0.00	0.00	0.00
12,000.00	93.50	269.43	6,943.53	-1,730.98	-4,673.42	4,690.41	0.00	0.00	0.00
12,100.00	93.50	269.43	6,937.43	-1,731.97	-4,773.23	4,790.22	0.00	0.00	0.00
12,200.00	93.50	269.43	6,931.33	-1,732.97	-4,873.03	4,890.03	0.00	0.00	0.00
12,300.00	93.50	269.43	6,925.22	-1,733.97	-4,972.84	4,989.85	0.00	0.00	0.00
12,400.00	93.50	269.43	6,919.12	-1,734.97	-5,072.65	5,089.66	0.00	0.00	0.00
12,500.00	93.50	269.43	6,913.01	-1,735.97	-5,172.46	5,189.47	0.00	0.00	0.00
12,600.00	93.50	269.43	6,906.91	-1,736.97	-5,272.27	5,289.29	0.00	0.00	0.00
12,700.00	93.50	269.43	6,900.81	-1,737.97	-5,372.08	5,389.10	0.00	0.00	0.00
12,800.00	93.50	269.43	6,894.70	-1,738.97	-5,471.89	5,488.91	0.00	0.00	0.00
12,900.00	93.50	269.43	6,888.60	-1,739.97	-5,571.69	5,588.73	0.00	0.00	0.00
13,000.00	93.50	269.43	6,882.49	-1,740.97	-5,671.50	5,688.54	0.00	0.00	0.00
13,100.00	93.50	269.43	6,876.39	-1,741.97	-5,771.31	5,788.36	0.00	0.00	0.00
13,200.00	93.50	269.43	6,870.29	-1,742.97	-5,871.12	5,888.17	0.00	0.00	0.00

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well SBJ 13-12HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4876.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4876.00usft (Drilling Rig)
<b>Site:</b>	4N-68W-13 SBJ 22-13HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	SBJ 13-12HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan C		
<b>Design:</b>	PERMIT REV-2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
13,300.00	93.50	269.43	6,864.18	-1,743.97	-5,970.93	5,987.98	0.00	0.00	0.00	
13,400.00	93.50	269.43	6,858.08	-1,744.97	-6,070.74	6,087.80	0.00	0.00	0.00	
13,500.00	93.50	269.43	6,851.97	-1,745.97	-6,170.55	6,187.61	0.00	0.00	0.00	
13,600.00	93.50	269.43	6,845.87	-1,746.97	-6,270.35	6,287.42	0.00	0.00	0.00	
13,700.00	93.50	269.43	6,839.77	-1,747.97	-6,370.16	6,387.24	0.00	0.00	0.00	
13,800.00	93.50	269.43	6,833.66	-1,748.97	-6,469.97	6,487.05	0.00	0.00	0.00	
13,900.00	93.50	269.43	6,827.56	-1,749.97	-6,569.78	6,586.86	0.00	0.00	0.00	
14,000.00	93.50	269.43	6,821.45	-1,750.97	-6,669.59	6,686.68	0.00	0.00	0.00	
14,100.00	93.50	269.43	6,815.35	-1,751.97	-6,769.40	6,786.49	0.00	0.00	0.00	
14,200.00	93.50	269.43	6,809.24	-1,752.97	-6,869.20	6,886.30	0.00	0.00	0.00	
14,300.00	93.50	269.43	6,803.14	-1,753.97	-6,969.01	6,986.12	0.00	0.00	0.00	
14,400.00	93.50	269.43	6,797.04	-1,754.96	-7,068.82	7,085.93	0.00	0.00	0.00	
14,500.00	93.50	269.43	6,790.93	-1,755.96	-7,168.63	7,185.74	0.00	0.00	0.00	
14,600.00	93.50	269.43	6,784.83	-1,756.96	-7,268.44	7,285.56	0.00	0.00	0.00	
14,700.00	93.50	269.43	6,778.72	-1,757.96	-7,368.25	7,385.37	0.00	0.00	0.00	
14,800.00	93.50	269.43	6,772.62	-1,758.96	-7,468.06	7,485.19	0.00	0.00	0.00	
14,900.00	93.50	269.43	6,766.52	-1,759.96	-7,567.86	7,585.00	0.00	0.00	0.00	
15,000.00	93.50	269.43	6,760.41	-1,760.96	-7,667.67	7,684.81	0.00	0.00	0.00	
15,100.00	93.50	269.43	6,754.31	-1,761.96	-7,767.48	7,784.63	0.00	0.00	0.00	
15,200.00	93.50	269.43	6,748.20	-1,762.96	-7,867.29	7,884.44	0.00	0.00	0.00	
15,300.00	93.50	269.43	6,742.10	-1,763.96	-7,967.10	7,984.25	0.00	0.00	0.00	
15,400.00	93.50	269.43	6,736.00	-1,764.96	-8,066.91	8,084.07	0.00	0.00	0.00	
15,500.00	93.50	269.43	6,729.89	-1,765.96	-8,166.72	8,183.88	0.00	0.00	0.00	
15,600.00	93.50	269.43	6,723.79	-1,766.96	-8,266.52	8,283.69	0.00	0.00	0.00	
15,700.00	93.50	269.43	6,717.68	-1,767.96	-8,366.33	8,383.51	0.00	0.00	0.00	
15,800.00	93.50	269.43	6,711.58	-1,768.96	-8,466.14	8,483.32	0.00	0.00	0.00	
15,900.00	93.50	269.43	6,705.48	-1,769.96	-8,565.95	8,583.13	0.00	0.00	0.00	
16,000.00	93.50	269.43	6,699.37	-1,770.96	-8,665.76	8,682.95	0.00	0.00	0.00	
16,100.00	93.50	269.43	6,693.27	-1,771.96	-8,765.57	8,782.76	0.00	0.00	0.00	
16,200.00	93.50	269.43	6,687.16	-1,772.96	-8,865.38	8,882.57	0.00	0.00	0.00	
16,300.00	93.50	269.43	6,681.06	-1,773.96	-8,965.18	8,982.39	0.00	0.00	0.00	
16,400.00	93.50	269.43	6,674.96	-1,774.96	-9,064.99	9,082.20	0.00	0.00	0.00	
16,500.00	93.50	269.43	6,668.85	-1,775.96	-9,164.80	9,182.02	0.00	0.00	0.00	
16,600.00	93.50	269.43	6,662.75	-1,776.96	-9,264.61	9,281.83	0.00	0.00	0.00	
16,700.00	93.50	269.43	6,656.64	-1,777.95	-9,364.42	9,381.64	0.00	0.00	0.00	
16,800.00	93.50	269.43	6,650.54	-1,778.95	-9,464.23	9,481.46	0.00	0.00	0.00	
16,900.00	93.50	269.43	6,644.43	-1,779.95	-9,564.04	9,581.27	0.00	0.00	0.00	
17,000.00	93.50	269.43	6,638.33	-1,780.95	-9,663.84	9,681.08	0.00	0.00	0.00	
17,100.00	93.50	269.43	6,632.23	-1,781.95	-9,763.65	9,780.90	0.00	0.00	0.00	
17,200.00	93.50	269.43	6,626.12	-1,782.95	-9,863.46	9,880.71	0.00	0.00	0.00	
17,300.00	93.50	269.43	6,620.02	-1,783.95	-9,963.27	9,980.52	0.00	0.00	0.00	
17,400.00	93.50	269.43	6,613.91	-1,784.95	-10,063.08	10,080.34	0.00	0.00	0.00	
17,500.00	93.50	269.43	6,607.81	-1,785.95	-10,162.89	10,180.15	0.00	0.00	0.00	
17,600.00	93.50	269.43	6,601.71	-1,786.95	-10,262.69	10,279.96	0.00	0.00	0.00	
17,700.00	93.50	269.43	6,595.60	-1,787.95	-10,362.50	10,379.78	0.00	0.00	0.00	
17,800.00	93.50	269.43	6,589.50	-1,788.95	-10,462.31	10,479.59	0.00	0.00	0.00	
17,900.00	93.50	269.43	6,583.39	-1,789.95	-10,562.12	10,579.40	0.00	0.00	0.00	
18,000.00	93.50	269.43	6,577.29	-1,790.95	-10,661.93	10,679.22	0.00	0.00	0.00	
18,100.00	93.50	269.43	6,571.19	-1,791.95	-10,761.74	10,779.03	0.00	0.00	0.00	
18,200.00	93.50	269.43	6,565.08	-1,792.95	-10,861.55	10,878.85	0.00	0.00	0.00	
18,300.00	93.50	269.43	6,558.98	-1,793.95	-10,961.35	10,978.66	0.00	0.00	0.00	
18,400.00	93.50	269.43	6,552.87	-1,794.95	-11,061.16	11,078.47	0.00	0.00	0.00	
18,500.00	93.50	269.43	6,546.77	-1,795.95	-11,160.97	11,178.29	0.00	0.00	0.00	
18,600.00	93.50	269.43	6,540.67	-1,796.95	-11,260.78	11,278.10	0.00	0.00	0.00	

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well SBJ 13-12HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4876.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4876.00usft (Drilling Rig)
<b>Site:</b>	4N-68W-13 SBJ 22-13HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	SBJ 13-12HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan C		
<b>Design:</b>	PERMIT REV-2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
18,643.67	93.50	269.43	6,538.00	-1,797.38	-11,304.37	11,321.69	0.00	0.00	0.00
<b>TD at 18643.67</b>									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SBJ 13-12HZ BHL - hit/miss target - Shape - Point	0.00	0.00	6,538.00	-1,797.38	-11,304.37	14,639,540.00	1,641,159.00	40.309780	-104.997337
SBJ 13-12HZ LP - plan hits target center - Point	0.00	0.00	7,196.00	-1,689.63	-545.31	14,639,653.00	1,651,918.00	40.310083	-104.958744

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")		
1,518.58	1,500.00	9 5/8" Csg	9-5/8	13-1/2		
18,643.67	6,538.00	5 1/2" Csg	5-1/2	7-7/8		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
556.19	556.00	Fox Hills			
3,494.76	3,411.00	Parkman			
3,952.86	3,854.00	Sussex			
6,851.62	6,656.00	Sharon Springs			
6,901.85	6,703.00	Niobrara			
6,958.68	6,755.00	Nio B			
7,018.48	6,808.00	Nio C			
7,189.88	6,947.00	Fort Hayes			
7,217.19	6,967.00	Codell			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
300.00	300.00	0.00	0.00	Start Build 1.50	
1,283.71	1,272.87	-124.72	17.71	HOLD TANGENT	
6,672.82	6,484.25	-1,483.68	210.67	KOP DLS 8	
7,863.98	7,196.00	-1,689.63	-545.31	LANDING POINT	
18,643.67	6,538.00	-1,797.38	-11,304.37	TD at 18643.67	