

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
4N-68W-13 SBJ 22-13HZ PAD
SBJ 13-2HZ**

Plan C

Plan: PERMIT REV-2

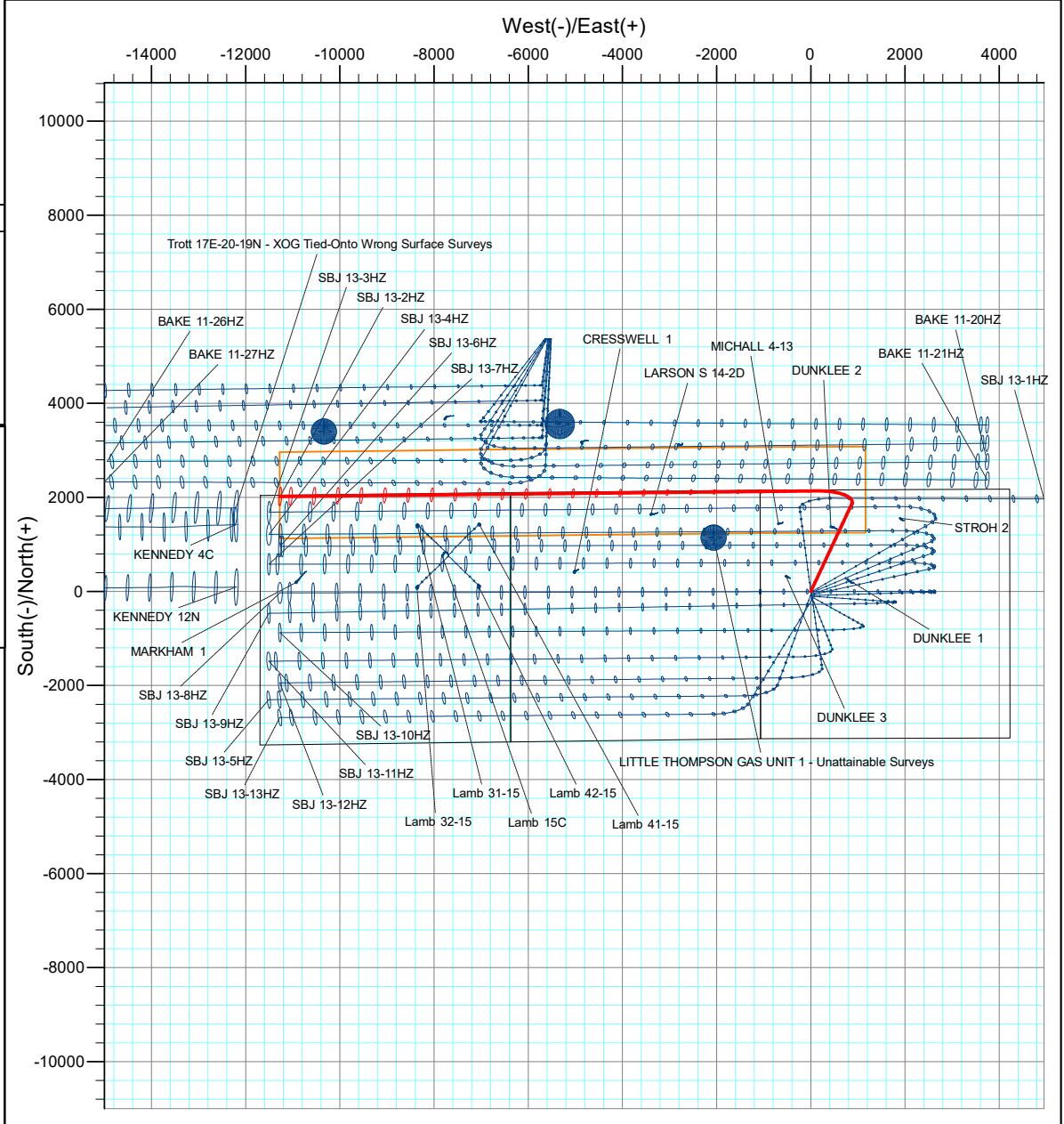
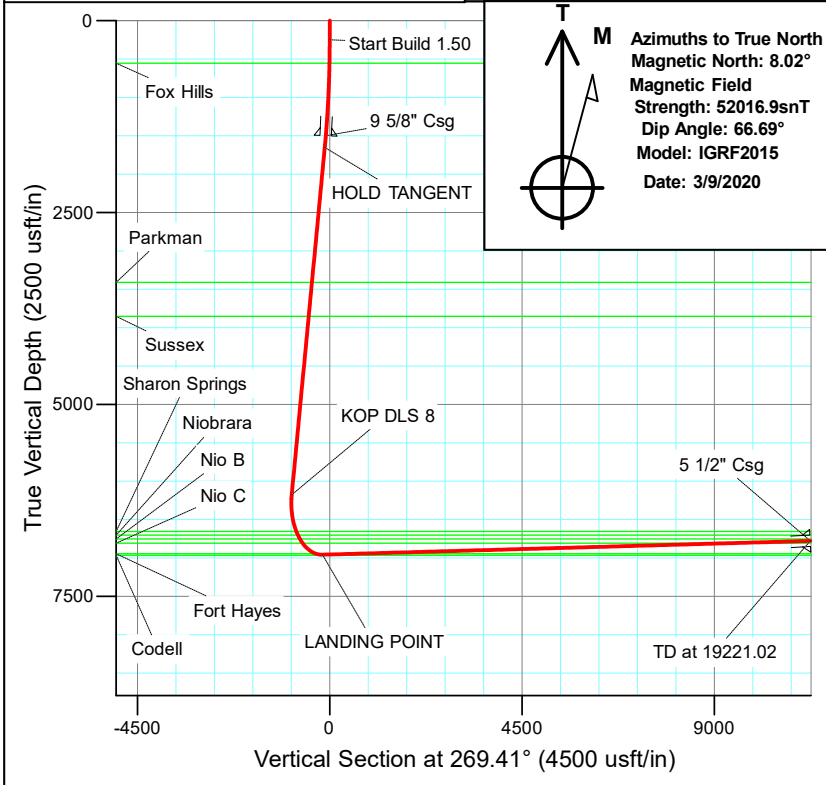
Standard Planning Report

04 May, 2021

Project: WELD-NAD83-UTMFT13N Site: 4N-68W-13 SBJ 22-13HZ PAD Well: SBJ 13-2HZ Wellbore: Plan C Design: PERMIT REV-2	ELEVATION		SURFACE HOLE LOCATION: SBJ 13-2HZ																						
	GROUND ELEVATION: 4859.00 RKB = 17' @ 4876ft		+N/-S 0.00	+E/-W 0.00	Northing 14641490.01	Easting 1652432.87	Latitude 40.315127	Longitude -104.956894																	
	CASING DETAILS		DESIGN TARGET DETAILS																						
	TVD 1500.00 6779.00	MD 1523.46 19221.02	Name 9 5/8" Csg 5 1/2" Csg	Size 9-5/8 5-1/2	<table border="1"> <thead> <tr> <th>Name</th> <th>TVD</th> <th>Northing</th> <th>Easting</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr> <td>SBJ 13-2HZ BHL</td> <td>6779.00</td> <td>14643504.00</td> <td>1641165.00</td> <td>40.320666</td> <td>-104.997315</td> </tr> <tr> <td>SBJ 13-2HZ LP</td> <td>6959.00</td> <td>14643628.00</td> <td>1652581.00</td> <td>40.320998</td> <td>-104.956359</td> </tr> </tbody> </table>			Name	TVD	Northing	Easting	Latitude	Longitude	SBJ 13-2HZ BHL	6779.00	14643504.00	1641165.00	40.320666	-104.997315	SBJ 13-2HZ LP	6959.00	14643628.00	1652581.00	40.320998	-104.956359
Name	TVD	Northing	Easting	Latitude	Longitude																				
SBJ 13-2HZ BHL	6779.00	14643504.00	1641165.00	40.320666	-104.997315																				
SBJ 13-2HZ LP	6959.00	14643628.00	1652581.00	40.320998	-104.956359																				

SECTION DETAILS										
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	0.00
2	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
3	1687.64	21.56	25.03	1653.94	242.25	113.13	1.50	25.03	-115.62	
4	6552.96	21.56	25.03	6178.70	1862.54	869.78	0.00	0.00	-888.91	
5	7802.93	90.90	269.41	6959.00	2137.92	149.17	8.00	-113.73	-171.18	SBJ 13-2HZ LP
6	19221.02	90.90	269.41	6779.00	2019.48	-11266.89	0.00	0.00	11245.49	SBJ 13-2HZ BHL

SHL			HEEL			TOE			FORMATION TOP DETAILS		
2159' FNL	20' FNL	27' FNL	2159' FNL	20' FNL	27' FNL	2159' FNL	20' FNL	27' FNL	TVDPath	MDPath	Formation
1068' FWL	1227' FWL	420' FWL	1068' FWL	1227' FWL	420' FWL	1068' FWL	1227' FWL	420' FWL	556.00	556.33	Fox Hills
Section 13	Section 13	Section 15	Section 13	Section 13	Section 15	Section 13	Section 13	Section 15	3411.00	3576.95	Parkman
SWNW	NWNW	NWNW	SWNW	NWNW	NWNW	SWNW	NWNW	NWNW	3854.00	4053.29	Sussex
									6656.00	7083.54	Sharon Springs
									6703.00	7145.15	Niobrara
									6755.00	7218.66	Nio B
									6808.00	7302.10	Nio C
									6947.00	7655.10	Fort Hayes



Corporate Planning Report

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

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

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

Well	SBJ 13-2HZ					
Well Position	+N/-S	344.50 usft	Northing:	14,641,490.00 usft	Latitude:	40.315127
	+E/-W	-84.46 usft	Easting:	1,652,432.86 usft	Longitude:	-104.956894
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	4,859.00 usft

Wellbore	Plan C				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/9/2020	8.02	66.69	52,016.87916030

Design	PERMIT REV-2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	269.41

Plan Survey Tool Program	Date	5/4/2021			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	2,000.00	PERMIT REV-2 (Plan C)	APC_ISCWSA REV 2 MWD Fixed:v2:standard declination	
2	2,000.00	19,221.02	PERMIT REV-2 (Plan C)	APC_ISCWSA REV 2 MWD+II Fixed:v2:Rockies, crustal dec +	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,687.64	21.56	25.03	1,653.94	242.25	113.13	1.50	1.50	0.00	25.03	
6,552.96	21.56	25.03	6,178.70	1,862.54	869.78	0.00	0.00	0.00	0.00	
7,802.93	90.90	269.41	6,959.00	2,137.92	149.17	8.00	5.55	-9.25	-113.73	SBJ 13-2HZ LP
19,221.02	90.90	269.41	6,779.00	2,019.48	-11,266.89	0.00	0.00	0.00	0.00	SBJ 13-2HZ BHL

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Well:	SBJ 13-2HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan C		
Design:	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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.50									
300.00	0.75	25.03	300.00	0.30	0.14	-0.14	1.50	1.50	0.00
400.00	2.25	25.03	399.96	2.67	1.25	-1.27	1.50	1.50	0.00
500.00	3.75	25.03	499.82	7.41	3.46	-3.54	1.50	1.50	0.00
556.33	4.59	25.03	556.00	11.12	5.19	-5.31	1.50	1.50	0.00
Fox Hills									
600.00	5.25	25.03	599.51	14.52	6.78	-6.93	1.50	1.50	0.00
700.00	6.75	25.03	698.96	23.99	11.20	-11.45	1.50	1.50	0.00
800.00	8.25	25.03	798.10	35.82	16.73	-17.09	1.50	1.50	0.00
900.00	9.75	25.03	896.87	49.99	23.34	-23.86	1.50	1.50	0.00
1,000.00	11.25	25.03	995.19	66.50	31.06	-31.74	1.50	1.50	0.00
1,100.00	12.75	25.03	1,093.00	85.34	39.85	-40.73	1.50	1.50	0.00
1,200.00	14.25	25.03	1,190.24	106.49	49.73	-50.82	1.50	1.50	0.00
1,300.00	15.75	25.03	1,286.83	129.94	60.68	-62.02	1.50	1.50	0.00
1,400.00	17.25	25.03	1,382.71	155.67	72.70	-74.30	1.50	1.50	0.00
1,500.00	18.75	25.03	1,477.81	183.67	85.77	-87.66	1.50	1.50	0.00
1,523.46	19.10	25.03	1,500.00	190.57	88.99	-90.95	1.50	1.50	0.00
9 5/8" Csg									
1,600.00	20.25	25.03	1,572.07	213.92	99.90	-102.09	1.50	1.50	0.00
1,687.64	21.56	25.03	1,653.94	242.25	113.13	-115.62	1.50	1.50	0.00
HOLD TANGENT									
1,700.00	21.56	25.03	1,665.43	246.37	115.05	-117.58	0.00	0.00	0.00
1,800.00	21.56	25.03	1,758.43	279.67	130.60	-133.48	0.00	0.00	0.00
1,900.00	21.56	25.03	1,851.43	312.97	146.16	-149.37	0.00	0.00	0.00
2,000.00	21.56	25.03	1,944.43	346.28	161.71	-165.26	0.00	0.00	0.00
2,100.00	21.56	25.03	2,037.43	379.58	177.26	-181.16	0.00	0.00	0.00
2,200.00	21.56	25.03	2,130.43	412.88	192.81	-197.05	0.00	0.00	0.00
2,300.00	21.56	25.03	2,223.43	446.19	208.36	-212.95	0.00	0.00	0.00
2,400.00	21.56	25.03	2,316.43	479.49	223.91	-228.84	0.00	0.00	0.00
2,500.00	21.56	25.03	2,409.44	512.79	239.47	-244.73	0.00	0.00	0.00
2,600.00	21.56	25.03	2,502.44	546.09	255.02	-260.63	0.00	0.00	0.00
2,700.00	21.56	25.03	2,595.44	579.40	270.57	-276.52	0.00	0.00	0.00
2,800.00	21.56	25.03	2,688.44	612.70	286.12	-292.42	0.00	0.00	0.00
2,900.00	21.56	25.03	2,781.44	646.00	301.67	-308.31	0.00	0.00	0.00
3,000.00	21.56	25.03	2,874.44	679.30	317.23	-324.20	0.00	0.00	0.00
3,100.00	21.56	25.03	2,967.44	712.61	332.78	-340.10	0.00	0.00	0.00
3,200.00	21.56	25.03	3,060.44	745.91	348.33	-355.99	0.00	0.00	0.00
3,300.00	21.56	25.03	3,153.44	779.21	363.88	-371.89	0.00	0.00	0.00
3,400.00	21.56	25.03	3,246.44	812.52	379.43	-387.78	0.00	0.00	0.00
3,500.00	21.56	25.03	3,339.44	845.82	394.99	-403.68	0.00	0.00	0.00
3,576.95	21.56	25.03	3,411.00	871.44	406.95	-415.91	0.00	0.00	0.00
Parkman									
3,600.00	21.56	25.03	3,432.44	879.12	410.54	-419.57	0.00	0.00	0.00
3,700.00	21.56	25.03	3,525.44	912.42	426.09	-435.46	0.00	0.00	0.00
3,800.00	21.56	25.03	3,618.44	945.73	441.64	-451.36	0.00	0.00	0.00
3,900.00	21.56	25.03	3,711.44	979.03	457.19	-467.25	0.00	0.00	0.00
4,000.00	21.56	25.03	3,804.44	1,012.33	472.75	-483.15	0.00	0.00	0.00
4,053.29	21.56	25.03	3,854.00	1,030.08	481.03	-491.62	0.00	0.00	0.00
Sussex									

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Well:	SBJ 13-2HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan C		
Design:	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)	
4,100.00	21.56	25.03	3,897.44	1,045.64	488.30	-499.04	0.00	0.00	0.00	
4,200.00	21.56	25.03	3,990.44	1,078.94	503.85	-514.93	0.00	0.00	0.00	
4,300.00	21.56	25.03	4,083.44	1,112.24	519.40	-530.83	0.00	0.00	0.00	
4,400.00	21.56	25.03	4,176.44	1,145.54	534.95	-546.72	0.00	0.00	0.00	
4,500.00	21.56	25.03	4,269.44	1,178.85	550.51	-562.62	0.00	0.00	0.00	
4,600.00	21.56	25.03	4,362.44	1,212.15	566.06	-578.51	0.00	0.00	0.00	
4,700.00	21.56	25.03	4,455.44	1,245.45	581.61	-594.40	0.00	0.00	0.00	
4,800.00	21.56	25.03	4,548.44	1,278.75	597.16	-610.30	0.00	0.00	0.00	
4,900.00	21.56	25.03	4,641.44	1,312.06	612.71	-626.19	0.00	0.00	0.00	
5,000.00	21.56	25.03	4,734.44	1,345.36	628.27	-642.09	0.00	0.00	0.00	
5,100.00	21.56	25.03	4,827.44	1,378.66	643.82	-657.98	0.00	0.00	0.00	
5,200.00	21.56	25.03	4,920.44	1,411.97	659.37	-673.87	0.00	0.00	0.00	
5,300.00	21.56	25.03	5,013.44	1,445.27	674.92	-689.77	0.00	0.00	0.00	
5,400.00	21.56	25.03	5,106.45	1,478.57	690.47	-705.66	0.00	0.00	0.00	
5,500.00	21.56	25.03	5,199.45	1,511.87	706.03	-721.56	0.00	0.00	0.00	
5,600.00	21.56	25.03	5,292.45	1,545.18	721.58	-737.45	0.00	0.00	0.00	
5,700.00	21.56	25.03	5,385.45	1,578.48	737.13	-753.34	0.00	0.00	0.00	
5,800.00	21.56	25.03	5,478.45	1,611.78	752.68	-769.24	0.00	0.00	0.00	
5,900.00	21.56	25.03	5,571.45	1,645.08	768.23	-785.13	0.00	0.00	0.00	
6,000.00	21.56	25.03	5,664.45	1,678.39	783.79	-801.03	0.00	0.00	0.00	
6,100.00	21.56	25.03	5,757.45	1,711.69	799.34	-816.92	0.00	0.00	0.00	
6,200.00	21.56	25.03	5,850.45	1,744.99	814.89	-832.81	0.00	0.00	0.00	
6,300.00	21.56	25.03	5,943.45	1,778.30	830.44	-848.71	0.00	0.00	0.00	
6,400.00	21.56	25.03	6,036.45	1,811.60	845.99	-864.60	0.00	0.00	0.00	
6,500.00	21.56	25.03	6,129.45	1,844.90	861.55	-880.50	0.00	0.00	0.00	
6,552.96	21.56	25.03	6,178.70	1,862.54	869.78	-888.91	0.00	0.00	0.00	
KOP DLS 8										
6,600.00	20.33	15.07	6,222.65	1,878.27	875.57	-894.86	8.00	-2.62	-21.17	
6,700.00	19.84	351.68	6,316.72	1,911.89	877.63	-897.27	8.00	-0.49	-23.40	
6,800.00	22.29	330.35	6,410.16	1,945.22	865.77	-885.76	8.00	2.45	-21.32	
6,900.00	26.89	314.52	6,501.16	1,977.61	840.22	-860.54	8.00	4.60	-15.84	
7,000.00	32.74	303.48	6,587.95	2,008.44	801.48	-822.11	8.00	5.85	-11.03	
7,083.54	38.18	296.76	6,656.00	2,032.55	759.53	-780.42	8.00	6.50	-8.05	
Sharon Springs										
7,100.00	39.29	295.62	6,668.84	2,037.10	750.29	-771.23	8.00	6.74	-6.88	
7,145.15	42.38	292.78	6,703.00	2,049.18	723.36	-744.42	8.00	6.86	-6.30	
Niobrara										
7,200.00	46.23	289.75	6,742.25	2,063.03	687.66	-708.87	8.00	7.01	-5.53	
7,218.66	47.55	288.80	6,755.00	2,067.53	674.80	-696.05	8.00	7.10	-5.05	
Nio B										
7,300.00	53.41	285.11	6,806.75	2,085.73	614.80	-636.25	8.00	7.20	-4.54	
7,302.10	53.56	285.02	6,808.00	2,086.17	613.17	-634.62	8.00	7.27	-4.17	
Nio C										
7,400.00	60.73	281.28	6,861.09	2,104.76	533.14	-554.78	8.00	7.33	-3.83	
7,500.00	68.15	277.96	6,904.21	2,119.74	444.26	-466.06	8.00	7.42	-3.32	
7,600.00	75.64	274.98	6,935.27	2,130.39	349.89	-371.81	8.00	7.48	-2.99	
7,655.10	79.77	273.42	6,947.00	2,134.33	296.21	-318.17	8.00	7.51	-2.82	
Fort Hayes										
7,700.00	83.15	272.19	6,953.66	2,136.50	251.87	-273.85	8.00	7.52	-2.75	
7,800.00	90.68	269.48	6,959.04	2,137.95	152.10	-174.11	8.00	7.53	-2.70	
7,802.93	90.90	269.41	6,959.00	2,137.92	149.17	-171.18	8.00	7.53	-2.69	
LANDING POINT										
7,900.00	90.90	269.41	6,957.47	2,136.92	52.12	-74.12	0.00	0.00	0.00	

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Well:	SBJ 13-2HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan C		
Design:	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)
8,000.00	90.90	269.41	6,955.89	2,135.88	-47.86	25.86	0.00	0.00	0.00
8,100.00	90.90	269.41	6,954.32	2,134.84	-147.84	125.85	0.00	0.00	0.00
8,200.00	90.90	269.41	6,952.74	2,133.80	-247.82	225.84	0.00	0.00	0.00
8,300.00	90.90	269.41	6,951.16	2,132.77	-347.81	325.83	0.00	0.00	0.00
8,400.00	90.90	269.41	6,949.59	2,131.73	-447.79	425.81	0.00	0.00	0.00
8,500.00	90.90	269.41	6,948.01	2,130.69	-547.77	525.80	0.00	0.00	0.00
8,600.00	90.90	269.41	6,946.43	2,129.65	-647.75	625.79	0.00	0.00	0.00
8,700.00	90.90	269.41	6,944.86	2,128.62	-747.74	725.78	0.00	0.00	0.00
8,800.00	90.90	269.41	6,943.28	2,127.58	-847.72	825.76	0.00	0.00	0.00
8,900.00	90.90	269.41	6,941.71	2,126.54	-947.70	925.75	0.00	0.00	0.00
9,000.00	90.90	269.41	6,940.13	2,125.50	-1,047.68	1,025.74	0.00	0.00	0.00
9,100.00	90.90	269.41	6,938.55	2,124.47	-1,147.66	1,125.73	0.00	0.00	0.00
9,200.00	90.90	269.41	6,936.98	2,123.43	-1,247.65	1,225.72	0.00	0.00	0.00
9,300.00	90.90	269.41	6,935.40	2,122.39	-1,347.63	1,325.70	0.00	0.00	0.00
9,400.00	90.90	269.41	6,933.82	2,121.36	-1,447.61	1,425.69	0.00	0.00	0.00
9,500.00	90.90	269.41	6,932.25	2,120.32	-1,547.59	1,525.68	0.00	0.00	0.00
9,600.00	90.90	269.41	6,930.67	2,119.28	-1,647.58	1,625.67	0.00	0.00	0.00
9,700.00	90.90	269.41	6,929.09	2,118.24	-1,747.56	1,725.65	0.00	0.00	0.00
9,800.00	90.90	269.41	6,927.52	2,117.21	-1,847.54	1,825.64	0.00	0.00	0.00
9,900.00	90.90	269.41	6,925.94	2,116.17	-1,947.52	1,925.63	0.00	0.00	0.00
10,000.00	90.90	269.41	6,924.36	2,115.13	-2,047.50	2,025.62	0.00	0.00	0.00
10,100.00	90.90	269.41	6,922.79	2,114.09	-2,147.49	2,125.60	0.00	0.00	0.00
10,200.00	90.90	269.41	6,921.21	2,113.06	-2,247.47	2,225.59	0.00	0.00	0.00
10,300.00	90.90	269.41	6,919.64	2,112.02	-2,347.45	2,325.58	0.00	0.00	0.00
10,400.00	90.90	269.41	6,918.06	2,110.98	-2,447.43	2,425.57	0.00	0.00	0.00
10,500.00	90.90	269.41	6,916.48	2,109.94	-2,547.42	2,525.55	0.00	0.00	0.00
10,600.00	90.90	269.41	6,914.91	2,108.91	-2,647.40	2,625.54	0.00	0.00	0.00
10,700.00	90.90	269.41	6,913.33	2,107.87	-2,747.38	2,725.53	0.00	0.00	0.00
10,800.00	90.90	269.41	6,911.75	2,106.83	-2,847.36	2,825.52	0.00	0.00	0.00
10,900.00	90.90	269.41	6,910.18	2,105.80	-2,947.34	2,925.50	0.00	0.00	0.00
11,000.00	90.90	269.41	6,908.60	2,104.76	-3,047.33	3,025.49	0.00	0.00	0.00
11,100.00	90.90	269.41	6,907.02	2,103.72	-3,147.31	3,125.48	0.00	0.00	0.00
11,200.00	90.90	269.41	6,905.45	2,102.68	-3,247.29	3,225.47	0.00	0.00	0.00
11,300.00	90.90	269.41	6,903.87	2,101.65	-3,347.27	3,325.45	0.00	0.00	0.00
11,400.00	90.90	269.41	6,902.29	2,100.61	-3,447.26	3,425.44	0.00	0.00	0.00
11,500.00	90.90	269.41	6,900.72	2,099.57	-3,547.24	3,525.43	0.00	0.00	0.00
11,600.00	90.90	269.41	6,899.14	2,098.53	-3,647.22	3,625.42	0.00	0.00	0.00
11,700.00	90.90	269.41	6,897.56	2,097.50	-3,747.20	3,725.40	0.00	0.00	0.00
11,800.00	90.90	269.41	6,895.99	2,096.46	-3,847.18	3,825.39	0.00	0.00	0.00
11,900.00	90.90	269.41	6,894.41	2,095.42	-3,947.17	3,925.38	0.00	0.00	0.00
12,000.00	90.90	269.41	6,892.84	2,094.39	-4,047.15	4,025.37	0.00	0.00	0.00
12,100.00	90.90	269.41	6,891.26	2,093.35	-4,147.13	4,125.35	0.00	0.00	0.00
12,200.00	90.90	269.41	6,889.68	2,092.31	-4,247.11	4,225.34	0.00	0.00	0.00
12,300.00	90.90	269.41	6,888.11	2,091.27	-4,347.09	4,325.33	0.00	0.00	0.00
12,400.00	90.90	269.41	6,886.53	2,090.24	-4,447.08	4,425.32	0.00	0.00	0.00
12,500.00	90.90	269.41	6,884.95	2,089.20	-4,547.06	4,525.31	0.00	0.00	0.00
12,600.00	90.90	269.41	6,883.38	2,088.16	-4,647.04	4,625.29	0.00	0.00	0.00
12,700.00	90.90	269.41	6,881.80	2,087.12	-4,747.02	4,725.28	0.00	0.00	0.00
12,800.00	90.90	269.41	6,880.22	2,086.09	-4,847.01	4,825.27	0.00	0.00	0.00
12,900.00	90.90	269.41	6,878.65	2,085.05	-4,946.99	4,925.26	0.00	0.00	0.00
13,000.00	90.90	269.41	6,877.07	2,084.01	-5,046.97	5,025.24	0.00	0.00	0.00
13,100.00	90.90	269.41	6,875.49	2,082.97	-5,146.95	5,125.23	0.00	0.00	0.00
13,200.00	90.90	269.41	6,873.92	2,081.94	-5,246.93	5,225.22	0.00	0.00	0.00
13,300.00	90.90	269.41	6,872.34	2,080.90	-5,346.92	5,325.21	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well SBJ 13-2HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4876.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4876.00usft (Drilling Rig)
Site:	4N-68W-13 SBJ 22-13HZ PAD	North Reference:	True
Well:	SBJ 13-2HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan C		
Design:	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)
13,400.00	90.90	269.41	6,870.77	2,079.86	-5,446.90	5,425.19	0.00	0.00	0.00
13,500.00	90.90	269.41	6,869.19	2,078.83	-5,546.88	5,525.18	0.00	0.00	0.00
13,600.00	90.90	269.41	6,867.61	2,077.79	-5,646.86	5,625.17	0.00	0.00	0.00
13,700.00	90.90	269.41	6,866.04	2,076.75	-5,746.85	5,725.16	0.00	0.00	0.00
13,800.00	90.90	269.41	6,864.46	2,075.71	-5,846.83	5,825.14	0.00	0.00	0.00
13,900.00	90.90	269.41	6,862.88	2,074.68	-5,946.81	5,925.13	0.00	0.00	0.00
14,000.00	90.90	269.41	6,861.31	2,073.64	-6,046.79	6,025.12	0.00	0.00	0.00
14,100.00	90.90	269.41	6,859.73	2,072.60	-6,146.77	6,125.11	0.00	0.00	0.00
14,200.00	90.90	269.41	6,858.15	2,071.56	-6,246.76	6,225.09	0.00	0.00	0.00
14,300.00	90.90	269.41	6,856.58	2,070.53	-6,346.74	6,325.08	0.00	0.00	0.00
14,400.00	90.90	269.41	6,855.00	2,069.49	-6,446.72	6,425.07	0.00	0.00	0.00
14,500.00	90.90	269.41	6,853.42	2,068.45	-6,546.70	6,525.06	0.00	0.00	0.00
14,600.00	90.90	269.41	6,851.85	2,067.41	-6,646.69	6,625.04	0.00	0.00	0.00
14,700.00	90.90	269.41	6,850.27	2,066.38	-6,746.67	6,725.03	0.00	0.00	0.00
14,800.00	90.90	269.41	6,848.70	2,065.34	-6,846.65	6,825.02	0.00	0.00	0.00
14,900.00	90.90	269.41	6,847.12	2,064.30	-6,946.63	6,925.01	0.00	0.00	0.00
15,000.00	90.90	269.41	6,845.54	2,063.27	-7,046.61	7,024.99	0.00	0.00	0.00
15,100.00	90.90	269.41	6,843.97	2,062.23	-7,146.60	7,124.98	0.00	0.00	0.00
15,200.00	90.90	269.41	6,842.39	2,061.19	-7,246.58	7,224.97	0.00	0.00	0.00
15,300.00	90.90	269.41	6,840.81	2,060.15	-7,346.56	7,324.96	0.00	0.00	0.00
15,400.00	90.90	269.41	6,839.24	2,059.12	-7,446.54	7,424.94	0.00	0.00	0.00
15,500.00	90.90	269.41	6,837.66	2,058.08	-7,546.53	7,524.93	0.00	0.00	0.00
15,600.00	90.90	269.41	6,836.08	2,057.04	-7,646.51	7,624.92	0.00	0.00	0.00
15,700.00	90.90	269.41	6,834.51	2,056.00	-7,746.49	7,724.91	0.00	0.00	0.00
15,800.00	90.90	269.41	6,832.93	2,054.97	-7,846.47	7,824.90	0.00	0.00	0.00
15,900.00	90.90	269.41	6,831.35	2,053.93	-7,946.45	7,924.88	0.00	0.00	0.00
16,000.00	90.90	269.41	6,829.78	2,052.89	-8,046.44	8,024.87	0.00	0.00	0.00
16,100.00	90.90	269.41	6,828.20	2,051.85	-8,146.42	8,124.86	0.00	0.00	0.00
16,200.00	90.90	269.41	6,826.62	2,050.82	-8,246.40	8,224.85	0.00	0.00	0.00
16,300.00	90.90	269.41	6,825.05	2,049.78	-8,346.38	8,324.83	0.00	0.00	0.00
16,400.00	90.90	269.41	6,823.47	2,048.74	-8,446.36	8,424.82	0.00	0.00	0.00
16,500.00	90.90	269.41	6,821.90	2,047.71	-8,546.35	8,524.81	0.00	0.00	0.00
16,600.00	90.90	269.41	6,820.32	2,046.67	-8,646.33	8,624.80	0.00	0.00	0.00
16,700.00	90.90	269.41	6,818.74	2,045.63	-8,746.31	8,724.78	0.00	0.00	0.00
16,800.00	90.90	269.41	6,817.17	2,044.59	-8,846.29	8,824.77	0.00	0.00	0.00
16,900.00	90.90	269.41	6,815.59	2,043.56	-8,946.28	8,924.76	0.00	0.00	0.00
17,000.00	90.90	269.41	6,814.01	2,042.52	-9,046.26	9,024.75	0.00	0.00	0.00
17,100.00	90.90	269.41	6,812.44	2,041.48	-9,146.24	9,124.73	0.00	0.00	0.00
17,200.00	90.90	269.41	6,810.86	2,040.44	-9,246.22	9,224.72	0.00	0.00	0.00
17,300.00	90.90	269.41	6,809.28	2,039.41	-9,346.20	9,324.71	0.00	0.00	0.00
17,400.00	90.90	269.41	6,807.71	2,038.37	-9,446.19	9,424.70	0.00	0.00	0.00
17,500.00	90.90	269.41	6,806.13	2,037.33	-9,546.17	9,524.68	0.00	0.00	0.00
17,600.00	90.90	269.41	6,804.55	2,036.29	-9,646.15	9,624.67	0.00	0.00	0.00
17,700.00	90.90	269.41	6,802.98	2,035.26	-9,746.13	9,724.66	0.00	0.00	0.00
17,800.00	90.90	269.41	6,801.40	2,034.22	-9,846.12	9,824.65	0.00	0.00	0.00
17,900.00	90.90	269.41	6,799.83	2,033.18	-9,946.10	9,924.63	0.00	0.00	0.00
18,000.00	90.90	269.41	6,798.25	2,032.15	-10,046.08	10,024.62	0.00	0.00	0.00
18,100.00	90.90	269.41	6,796.67	2,031.11	-10,146.06	10,124.61	0.00	0.00	0.00
18,200.00	90.90	269.41	6,795.10	2,030.07	-10,246.04	10,224.60	0.00	0.00	0.00
18,300.00	90.90	269.41	6,793.52	2,029.03	-10,346.03	10,324.58	0.00	0.00	0.00
18,400.00	90.90	269.41	6,791.94	2,028.00	-10,446.01	10,424.57	0.00	0.00	0.00
18,500.00	90.90	269.41	6,790.37	2,026.96	-10,545.99	10,524.56	0.00	0.00	0.00
18,600.00	90.90	269.41	6,788.79	2,025.92	-10,645.97	10,624.55	0.00	0.00	0.00
18,700.00	90.90	269.41	6,787.21	2,024.88	-10,745.96	10,724.53	0.00	0.00	0.00

Corporate
Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well SBJ 13-2HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4876.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4876.00usft (Drilling Rig)
Site:	4N-68W-13 SBJ 22-13HZ PAD	North Reference:	True
Well:	SBJ 13-2HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan C		
Design:	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)
18,800.00	90.90	269.41	6,785.64	2,023.85	-10,845.94	10,824.52	0.00	0.00	0.00
18,900.00	90.90	269.41	6,784.06	2,022.81	-10,945.92	10,924.51	0.00	0.00	0.00
19,000.00	90.90	269.41	6,782.48	2,021.77	-11,045.90	11,024.50	0.00	0.00	0.00
19,100.00	90.90	269.41	6,780.91	2,020.73	-11,145.88	11,124.49	0.00	0.00	0.00
19,200.00	90.90	269.41	6,779.33	2,019.70	-11,245.87	11,224.47	0.00	0.00	0.00
19,221.02	90.90	269.41	6,779.00	2,019.48	-11,266.88	11,245.49	0.00	0.00	0.00
TD at 19221.02 - 5 1/2" Csg									

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
SBJ 13-2HZ BHL - plan hits target center - Point	0.00	0.00	6,779.00	2,019.48	-11,266.89	14,643,504.00	1,641,165.00	40.320666	-104.997316
SBJ 13-2HZ LP - plan hits target center - Point	0.00	0.00	6,959.00	2,137.92	149.17	14,643,628.00	1,652,581.00	40.320998	-104.956359

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,523.46	1,500.00	9 5/8" Csg	9-5/8	13-1/2	
19,221.02	6,779.00	5 1/2" Csg	5-1/2	7-7/8	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
556.33	556.00	Fox Hills			
3,576.95	3,411.00	Parkman			
4,053.29	3,854.00	Sussex			
7,083.54	6,656.00	Sharon Springs			
7,145.15	6,703.00	Niobrara			
7,218.66	6,755.00	Nio B			
7,302.10	6,808.00	Nio C			
7,655.10	6,947.00	Fort Hayes			

Corporate Planning Report

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

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
250.00	250.00	0.00	0.00	Start Build 1.50	
1,687.64	1,653.94	242.25	113.13	HOLD TANGENT	
6,552.96	6,178.70	1,862.54	869.78	KOP DLS 8	
7,802.93	6,959.00	2,137.92	149.17	LANDING POINT	
19,221.02	6,779.00	2,019.48	-11,266.89	TD at 19221.02	