

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N**

**1N-68W-01 Carson 13-1HZ WEST PAD**

**CARSON 1-8HZ**

**Plan A**

**Plan: Permit-Rev2**

## **Standard Planning Report**

**16 August, 2017**

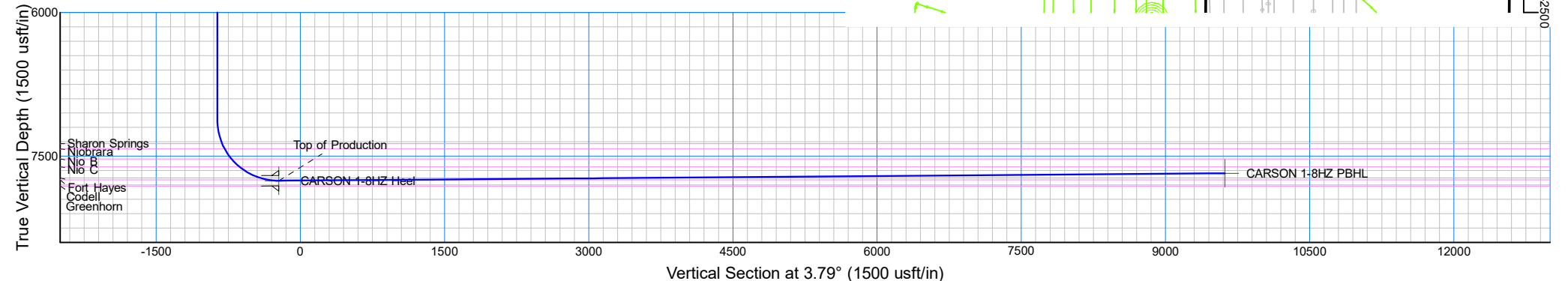
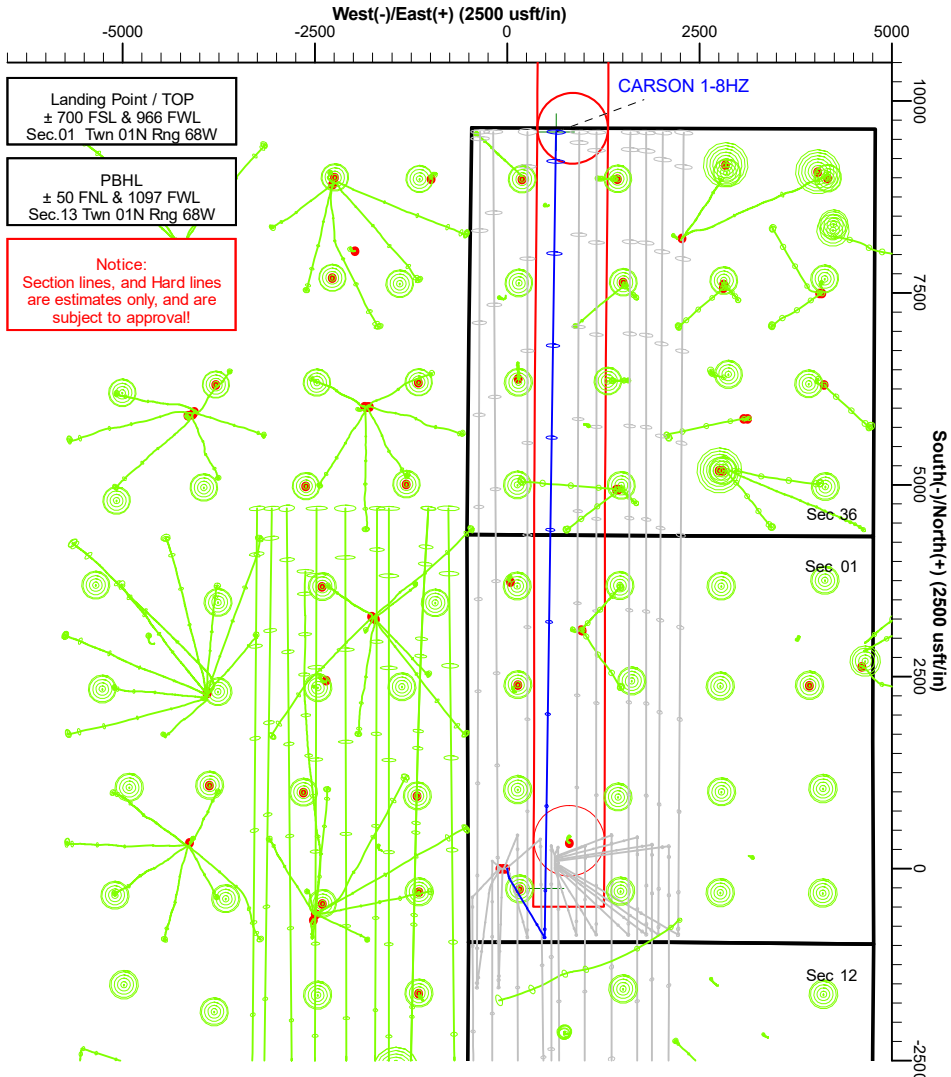
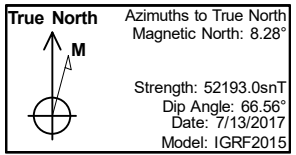
Well: CARSON 1-8HZ	Plan: Permit-Rev2	Field: WELD-NAD83-UTMFT13N	Site: 1N-68W-01 Carson 13-1HZ WEST PAD	Rig: Drilling Rig				
Borehole: Plan A	Plan Date: 9:08, August 16 2017	Datum: UTM (US Survey Ft)	RKB: 5030ft	Latitude: 40.075783	Longitude: -104.959339	Model: IGRF2015	Date: 13-Jul-17	DEC: 8.28°
Grid Conv: 0.03	VSec: 3.79deg	Zone: Zone 13N (108 W to 102 W)	GL: 5013.00ft	Northing / Y: 14554331.98	Easting / X: 1651791.22	DIP: 66.56°	FS: 52192.9853939nT	North Ref: True

Critical Points										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
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	Build 1.5°/100 DLS
3	1100.00	12.00	170.00	1094.16	-82.20	14.49	1.50	170.00	-81.06	Turn 1.5°/100 DLS
4	1385.33	11.99	149.30	1373.39	-136.93	34.79	1.50	-100.22	-134.33	Hold Inc
5	5247.54	11.99	149.30	5151.31	-826.98	444.50	0.00	0.00	-795.81	Drop 1.5°/100 DLS
6	6047.06	0.00	0.00	5945.00	-898.67	487.06	1.50	180.00	-864.53	Vertical Point
7	7222.46	0.00	0.00	7120.40	-898.67	487.06	0.00	0.00	-864.53	KOP, Build 10°/100 DLS
8	8227.50	90.45	0.81	7757.00	-257.08	496.13	9.00	0.81	-223.74	Landing Target
9	18081.97	90.45	0.81	7679.00	9596.11	635.38	0.00	0.00	9617.12	PBHL/TD

Target Details										
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
CARSON 1-8HZ Heel	7757.00	-257.08	496.13	14554075.12	1652287.46	40.075081	-104.957688			
CARSON 1-8HZ PBHL	7679.00	9596.11	635.38	14563928.37	1652422.21	40.102136	-104.957067			

FORMATION TOP DETAILS		
TVDPATH	MDPATH	FORMATION
1137.00	1143.78	Fox Hills
4187.00	4261.72	Parkman
4521.00	4603.17	Sussex
7369.00	7477.86	Sharon Springs
7426.00	7541.21	Niobrara
7531.00	7668.72	Nio B
7611.00	7782.58	Nio C
7727.00	8026.18	Fort Hayes
7748.00	8115.17	Codell



# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CARSON 1-8HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	KB @ 5030.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	KB @ 5030.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-01 Carson 13-1HZ WEST PAD	<b>North Reference:</b>	True
<b>Well:</b>	CARSON 1-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit-Rev2		

<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)		

Site	1N-68W-01 Carson 13-1HZ WEST PAD				
Site Position:		Northing:	14,554,331.85 usft	Latitude:	40.075783
From:	Lat/Long	Easting:	1,651,686.31 usft	Longitude:	-104.959714
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.03 °

Well	CARSON 1-8HZ					
Well Position	+N/-S	0.07 usft	Northing:	14,554,331.97 usft	Latitude:	40.075783
	+E/-W	104.90 usft	Easting:	1,651,791.22 usft	Longitude:	-104.959339
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	5,013.00 usft

<b>Wellbore</b>	Plan A				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	7/13/2017	8.28	66.56	52,192.98539398

<b>Design</b>	Permit-Rev2			
<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	3.79

<b>Plan Survey Tool Program</b>	<b>Date</b>	8/15/2017		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	1,824.00	Permit-Rev2 (Plan A)	APC_ISCWSA REV 2 MWD+II Fixed:v2:crustal field declination
2	1,824.00	18,081.87	Permit-Rev2 (Plan A)	APC_ISCWSA REV 2 MWD+II Fixed:v2:Rockies, crustal dec +

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CARSON 1-8HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	KB @ 5030.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	KB @ 5030.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-01 Carson 13-1HZ WEST PAD	<b>North Reference:</b>	True
<b>Well:</b>	CARSON 1-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit-Rev2		

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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,100.00	12.00	170.00	1,094.16	-82.20	14.49	1.50	1.50	0.00	170.00	
1,385.33	11.99	149.30	1,373.39	-136.93	34.79	1.50	0.00	-7.25	-100.22	
5,247.54	11.99	149.30	5,151.31	-826.98	444.50	0.00	0.00	0.00	0.00	
6,047.06	0.00	0.00	5,945.00	-898.67	487.06	1.50	-1.50	0.00	180.00	
7,222.46	0.00	0.00	7,120.40	-898.67	487.06	0.00	0.00	0.00	0.00	
8,227.50	90.45	0.81	7,757.00	-257.08	496.13	9.00	9.00	0.08	0.81	
18,081.97	90.45	0.81	7,679.00	9,596.11	635.38	0.00	0.00	0.00	0.00	CARSON 1-8HZ PBH

**Corporate**  
Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CARSON 1-8HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	KB @ 5030.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	KB @ 5030.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-01 Carson 13-1HZ WEST PAD	<b>North Reference:</b>	True
<b>Well:</b>	CARSON 1-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit-Rev2		

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>Build 1.5°/100 DLS</b>									
400.00	1.50	170.00	399.99	-1.29	0.23	-1.27	1.50	1.50	0.00
500.00	3.00	170.00	499.91	-5.16	0.91	-5.08	1.50	1.50	0.00
600.00	4.50	170.00	599.69	-11.60	2.04	-11.44	1.50	1.50	0.00
700.00	6.00	170.00	699.27	-20.61	3.63	-20.32	1.50	1.50	0.00
800.00	7.50	170.00	798.57	-32.18	5.67	-31.74	1.50	1.50	0.00
900.00	9.00	170.00	897.54	-46.31	8.17	-45.67	1.50	1.50	0.00
1,000.00	10.50	170.00	996.09	-62.99	11.11	-62.12	1.50	1.50	0.00
1,100.00	12.00	170.00	1,094.16	-82.20	14.49	-81.06	1.50	1.50	0.00
<b>Turn 1.5°/100 DLS</b>									
1,143.78	11.90	166.86	1,137.00	-91.08	16.31	-89.80	1.50	-0.23	-7.16
<b>Fox Hills</b>									
1,200.00	11.82	162.78	1,192.02	-102.23	19.33	-100.73	1.50	-0.13	-7.27
1,300.00	11.84	155.46	1,289.90	-121.34	26.63	-119.32	1.50	0.01	-7.32
1,385.33	11.99	149.30	1,373.39	-136.93	34.79	-134.33	1.50	0.18	-7.21
<b>Hold Inc</b>									
1,400.00	11.99	149.30	1,387.74	-139.55	36.34	-136.84	0.00	0.00	0.00
1,500.00	11.99	149.30	1,485.56	-157.42	46.95	-153.97	0.00	0.00	0.00
1,600.00	11.99	149.30	1,583.38	-175.28	57.56	-171.10	0.00	0.00	0.00
1,700.00	11.99	149.30	1,681.19	-193.15	68.17	-188.22	0.00	0.00	0.00
1,800.00	11.99	149.30	1,779.01	-211.02	78.78	-205.35	0.00	0.00	0.00
1,821.46	11.99	149.30	1,800.00	-214.85	81.05	-209.03	0.00	0.00	0.00
<b>Surface</b>									
1,900.00	11.99	149.30	1,876.83	-228.88	89.39	-222.48	0.00	0.00	0.00
2,000.00	11.99	149.30	1,974.65	-246.75	99.99	-239.61	0.00	0.00	0.00
2,100.00	11.99	149.30	2,072.46	-264.62	110.60	-256.73	0.00	0.00	0.00
2,200.00	11.99	149.30	2,170.28	-282.48	121.21	-273.86	0.00	0.00	0.00
2,300.00	11.99	149.30	2,268.10	-300.35	131.82	-290.99	0.00	0.00	0.00
2,400.00	11.99	149.30	2,365.92	-318.22	142.43	-308.11	0.00	0.00	0.00
2,500.00	11.99	149.30	2,463.73	-336.08	153.03	-325.24	0.00	0.00	0.00
2,600.00	11.99	149.30	2,561.55	-353.95	163.64	-342.37	0.00	0.00	0.00
2,700.00	11.99	149.30	2,659.37	-371.82	174.25	-359.49	0.00	0.00	0.00
2,800.00	11.99	149.30	2,757.19	-389.69	184.86	-376.62	0.00	0.00	0.00
2,900.00	11.99	149.30	2,855.00	-407.55	195.47	-393.75	0.00	0.00	0.00
3,000.00	11.99	149.30	2,952.82	-425.42	206.08	-410.87	0.00	0.00	0.00
3,100.00	11.99	149.30	3,050.64	-443.29	216.68	-428.00	0.00	0.00	0.00
3,200.00	11.99	149.30	3,148.46	-461.15	227.29	-445.13	0.00	0.00	0.00
3,300.00	11.99	149.30	3,246.27	-479.02	237.90	-462.26	0.00	0.00	0.00
3,400.00	11.99	149.30	3,344.09	-496.89	248.51	-479.38	0.00	0.00	0.00
3,500.00	11.99	149.30	3,441.91	-514.75	259.12	-496.51	0.00	0.00	0.00
3,600.00	11.99	149.30	3,539.73	-532.62	269.72	-513.64	0.00	0.00	0.00
3,700.00	11.99	149.30	3,637.54	-550.49	280.33	-530.76	0.00	0.00	0.00
3,800.00	11.99	149.30	3,735.36	-568.35	290.94	-547.89	0.00	0.00	0.00
3,900.00	11.99	149.30	3,833.18	-586.22	301.55	-565.02	0.00	0.00	0.00
4,000.00	11.99	149.30	3,930.99	-604.09	312.16	-582.14	0.00	0.00	0.00
4,100.00	11.99	149.30	4,028.81	-621.95	322.76	-599.27	0.00	0.00	0.00
4,200.00	11.99	149.30	4,126.63	-639.82	333.37	-616.40	0.00	0.00	0.00
4,261.72	11.99	149.30	4,187.00	-650.85	339.92	-626.97	0.00	0.00	0.00
<b>Parkman</b>									

**Corporate**  
Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CARSON 1-8HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	KB @ 5030.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	KB @ 5030.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-01 Carson 13-1HZ WEST PAD	<b>North Reference:</b>	True
<b>Well:</b>	CARSON 1-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit-Rev2		

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)
4,300.00	11.99	149.30	4,224.45	-657.69	343.98	-633.53	0.00	0.00	0.00
4,400.00	11.99	149.30	4,322.26	-675.56	354.59	-650.65	0.00	0.00	0.00
4,500.00	11.99	149.30	4,420.08	-693.42	365.20	-667.78	0.00	0.00	0.00
4,600.00	11.99	149.30	4,517.90	-711.29	375.81	-684.91	0.00	0.00	0.00
4,603.17	11.99	149.30	4,521.00	-711.86	376.14	-685.45	0.00	0.00	0.00
<b>Sussex</b>									
4,700.00	11.99	149.30	4,615.72	-729.16	386.41	-702.03	0.00	0.00	0.00
4,800.00	11.99	149.30	4,713.53	-747.02	397.02	-719.16	0.00	0.00	0.00
4,900.00	11.99	149.30	4,811.35	-764.89	407.63	-736.29	0.00	0.00	0.00
5,000.00	11.99	149.30	4,909.17	-782.76	418.24	-753.41	0.00	0.00	0.00
5,100.00	11.99	149.30	5,006.99	-800.62	428.85	-770.54	0.00	0.00	0.00
5,200.00	11.99	149.30	5,104.80	-818.49	439.45	-787.67	0.00	0.00	0.00
5,247.54	11.99	149.30	5,151.31	-826.98	444.50	-795.81	0.00	0.00	0.00
<b>Drop 1.5°/100 DLS</b>									
5,300.00	11.21	149.30	5,202.69	-836.05	449.88	-804.50	1.50	-1.50	0.00
5,400.00	9.71	149.30	5,301.03	-851.66	459.15	-819.46	1.50	-1.50	0.00
5,500.00	8.21	149.30	5,399.81	-865.04	467.09	-832.29	1.50	-1.50	0.00
5,600.00	6.71	149.30	5,498.96	-876.20	473.72	-842.99	1.50	-1.50	0.00
5,700.00	5.21	149.30	5,598.42	-885.12	479.02	-851.54	1.50	-1.50	0.00
5,800.00	3.71	149.30	5,698.11	-891.80	482.98	-857.95	1.50	-1.50	0.00
5,900.00	2.21	149.30	5,797.98	-896.24	485.61	-862.20	1.50	-1.50	0.00
6,000.00	0.71	149.30	5,897.94	-898.42	486.91	-864.29	1.50	-1.50	0.00
6,047.06	0.00	0.00	5,945.00	-898.67	487.06	-864.53	1.50	-1.50	0.00
<b>Vertical Point</b>									
6,100.00	0.00	0.00	5,997.94	-898.67	487.06	-864.53	0.00	0.00	0.00
6,200.00	0.00	0.00	6,097.94	-898.67	487.06	-864.53	0.00	0.00	0.00
6,300.00	0.00	0.00	6,197.94	-898.67	487.06	-864.53	0.00	0.00	0.00
6,400.00	0.00	0.00	6,297.94	-898.67	487.06	-864.53	0.00	0.00	0.00
6,500.00	0.00	0.00	6,397.94	-898.67	487.06	-864.53	0.00	0.00	0.00
6,600.00	0.00	0.00	6,497.94	-898.67	487.06	-864.53	0.00	0.00	0.00
6,700.00	0.00	0.00	6,597.94	-898.67	487.06	-864.53	0.00	0.00	0.00
6,800.00	0.00	0.00	6,697.94	-898.67	487.06	-864.53	0.00	0.00	0.00
6,900.00	0.00	0.00	6,797.94	-898.67	487.06	-864.53	0.00	0.00	0.00
7,000.00	0.00	0.00	6,897.94	-898.67	487.06	-864.53	0.00	0.00	0.00
7,100.00	0.00	0.00	6,997.94	-898.67	487.06	-864.53	0.00	0.00	0.00
7,200.00	0.00	0.00	7,097.94	-898.67	487.06	-864.53	0.00	0.00	0.00
7,222.46	0.00	0.00	7,120.40	-898.67	487.06	-864.53	0.00	0.00	0.00
<b>KOP, Build 10°/100 DLS</b>									
7,300.00	6.98	0.81	7,197.75	-893.95	487.13	-859.82	9.00	9.00	0.00
7,400.00	15.98	0.81	7,295.65	-874.08	487.41	-839.97	9.00	9.00	0.00
7,477.86	22.99	0.81	7,369.00	-848.13	487.77	-814.05	9.00	9.00	0.00
<b>Sharon Springs</b>									
7,500.00	24.98	0.81	7,389.23	-839.13	487.90	-805.06	9.00	9.00	0.00
7,541.21	28.69	0.81	7,426.00	-820.53	488.16	-786.49	9.00	9.00	0.00
<b>Niobrara</b>									
7,600.00	33.98	0.81	7,476.20	-789.98	488.60	-755.97	9.00	9.00	0.00
7,668.72	40.16	0.81	7,531.00	-748.58	489.18	-714.62	9.00	9.00	0.00
<b>Nio B</b>									
7,700.00	42.98	0.81	7,554.40	-727.82	489.47	-693.90	9.00	9.00	0.00
7,782.58	50.41	0.81	7,611.00	-667.78	490.32	-633.93	9.00	9.00	0.00
<b>Nio C</b>									
7,800.00	51.98	0.81	7,621.92	-654.20	490.51	-620.37	9.00	9.00	0.00
7,900.00	60.98	0.81	7,677.09	-570.93	491.69	-537.20	9.00	9.00	0.00

**Corporate**  
Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CARSON 1-8HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	KB @ 5030.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	KB @ 5030.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-01 Carson 13-1HZ WEST PAD	<b>North Reference:</b>	True
<b>Well:</b>	CARSON 1-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit-Rev2		

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	69.98	0.81	7,718.55	-480.05	492.98	-446.43	9.00	9.00	0.00
8,026.18	72.33	0.81	7,727.00	-455.28	493.33	-421.69	9.00	9.00	0.00
<b>Fort Hayes</b>									
8,100.00	78.98	0.81	7,745.28	-383.81	494.34	-350.31	9.00	9.00	0.00
8,115.17	80.34	0.81	7,748.00	-368.89	494.55	-335.41	9.00	9.00	0.00
<b>Codell</b>									
8,200.00	87.98	0.81	7,756.62	-284.57	495.74	-251.19	9.00	9.00	0.00
8,227.50	90.45	0.81	7,757.00	-257.07	496.13	-223.74	9.00	9.00	0.00
<b>Landing Target - Top of Production</b>									
8,300.00	90.45	0.81	7,756.43	-184.58	497.15	-151.34	0.00	0.00	0.00
8,400.00	90.45	0.81	7,755.63	-84.60	498.56	-51.47	0.00	0.00	0.00
8,500.00	90.45	0.81	7,754.84	15.39	499.98	48.39	0.00	0.00	0.00
8,600.00	90.45	0.81	7,754.05	115.38	501.39	148.25	0.00	0.00	0.00
8,700.00	90.45	0.81	7,753.26	215.36	502.80	248.11	0.00	0.00	0.00
8,800.00	90.45	0.81	7,752.47	315.35	504.22	347.97	0.00	0.00	0.00
8,900.00	90.45	0.81	7,751.68	415.34	505.63	447.84	0.00	0.00	0.00
9,000.00	90.45	0.81	7,750.89	515.32	507.04	547.70	0.00	0.00	0.00
9,100.00	90.45	0.81	7,750.09	615.31	508.46	647.56	0.00	0.00	0.00
9,200.00	90.45	0.81	7,749.30	715.30	509.87	747.42	0.00	0.00	0.00
9,300.00	90.45	0.81	7,748.51	815.28	511.28	847.28	0.00	0.00	0.00
9,400.00	90.45	0.81	7,747.72	915.27	512.70	947.14	0.00	0.00	0.00
9,500.00	90.45	0.81	7,746.93	1,015.26	514.11	1,047.01	0.00	0.00	0.00
9,600.00	90.45	0.81	7,746.14	1,115.25	515.52	1,146.87	0.00	0.00	0.00
9,700.00	90.45	0.81	7,745.34	1,215.23	516.93	1,246.73	0.00	0.00	0.00
9,800.00	90.45	0.81	7,744.55	1,315.22	518.35	1,346.59	0.00	0.00	0.00
9,900.00	90.45	0.81	7,743.76	1,415.21	519.76	1,446.45	0.00	0.00	0.00
10,000.00	90.45	0.81	7,742.97	1,515.19	521.17	1,546.32	0.00	0.00	0.00
10,100.00	90.45	0.81	7,742.18	1,615.18	522.59	1,646.18	0.00	0.00	0.00
10,200.00	90.45	0.81	7,741.39	1,715.17	524.00	1,746.04	0.00	0.00	0.00
10,300.00	90.45	0.81	7,740.60	1,815.15	525.41	1,845.90	0.00	0.00	0.00
10,400.00	90.45	0.81	7,739.80	1,915.14	526.83	1,945.76	0.00	0.00	0.00
10,500.00	90.45	0.81	7,739.01	2,015.13	528.24	2,045.62	0.00	0.00	0.00
10,600.00	90.45	0.81	7,738.22	2,115.11	529.65	2,145.49	0.00	0.00	0.00
10,700.00	90.45	0.81	7,737.43	2,215.10	531.07	2,245.35	0.00	0.00	0.00
10,800.00	90.45	0.81	7,736.64	2,315.09	532.48	2,345.21	0.00	0.00	0.00
10,900.00	90.45	0.81	7,735.85	2,415.07	533.89	2,445.07	0.00	0.00	0.00
11,000.00	90.45	0.81	7,735.06	2,515.06	535.30	2,544.93	0.00	0.00	0.00
11,100.00	90.45	0.81	7,734.26	2,615.05	536.72	2,644.79	0.00	0.00	0.00
11,200.00	90.45	0.81	7,733.47	2,715.04	538.13	2,744.66	0.00	0.00	0.00
11,300.00	90.45	0.81	7,732.68	2,815.02	539.54	2,844.52	0.00	0.00	0.00
11,400.00	90.45	0.81	7,731.89	2,915.01	540.96	2,944.38	0.00	0.00	0.00
11,500.00	90.45	0.81	7,731.10	3,015.00	542.37	3,044.24	0.00	0.00	0.00
11,600.00	90.45	0.81	7,730.31	3,114.98	543.78	3,144.10	0.00	0.00	0.00
11,700.00	90.45	0.81	7,729.51	3,214.97	545.20	3,243.97	0.00	0.00	0.00
11,800.00	90.45	0.81	7,728.72	3,314.96	546.61	3,343.83	0.00	0.00	0.00
11,900.00	90.45	0.81	7,727.93	3,414.94	548.02	3,443.69	0.00	0.00	0.00
12,000.00	90.45	0.81	7,727.14	3,514.93	549.44	3,543.55	0.00	0.00	0.00
12,100.00	90.45	0.81	7,726.35	3,614.92	550.85	3,643.41	0.00	0.00	0.00
12,200.00	90.45	0.81	7,725.56	3,714.90	552.26	3,743.27	0.00	0.00	0.00
12,300.00	90.45	0.81	7,724.77	3,814.89	553.67	3,843.14	0.00	0.00	0.00
12,400.00	90.45	0.81	7,723.97	3,914.88	555.09	3,943.00	0.00	0.00	0.00
12,500.00	90.45	0.81	7,723.18	4,014.87	556.50	4,042.86	0.00	0.00	0.00
12,600.00	90.45	0.81	7,722.39	4,114.85	557.91	4,142.72	0.00	0.00	0.00

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CARSON 1-8HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	KB @ 5030.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	KB @ 5030.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-01 Carson 13-1HZ WEST PAD	<b>North Reference:</b>	True
<b>Well:</b>	CARSON 1-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit-Rev2		

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)
12,700.00	90.45	0.81	7,721.60	4,214.84	559.33	4,242.58	0.00	0.00	0.00
12,800.00	90.45	0.81	7,720.81	4,314.83	560.74	4,342.45	0.00	0.00	0.00
12,900.00	90.45	0.81	7,720.02	4,414.81	562.15	4,442.31	0.00	0.00	0.00
13,000.00	90.45	0.81	7,719.22	4,514.80	563.57	4,542.17	0.00	0.00	0.00
13,100.00	90.45	0.81	7,718.43	4,614.79	564.98	4,642.03	0.00	0.00	0.00
13,200.00	90.45	0.81	7,717.64	4,714.77	566.39	4,741.89	0.00	0.00	0.00
13,300.00	90.45	0.81	7,716.85	4,814.76	567.81	4,841.75	0.00	0.00	0.00
13,400.00	90.45	0.81	7,716.06	4,914.75	569.22	4,941.62	0.00	0.00	0.00
13,500.00	90.45	0.81	7,715.27	5,014.73	570.63	5,041.48	0.00	0.00	0.00
13,600.00	90.45	0.81	7,714.48	5,114.72	572.04	5,141.34	0.00	0.00	0.00
13,700.00	90.45	0.81	7,713.68	5,214.71	573.46	5,241.20	0.00	0.00	0.00
13,800.00	90.45	0.81	7,712.89	5,314.69	574.87	5,341.06	0.00	0.00	0.00
13,900.00	90.45	0.81	7,712.10	5,414.68	576.28	5,440.92	0.00	0.00	0.00
14,000.00	90.45	0.81	7,711.31	5,514.67	577.70	5,540.79	0.00	0.00	0.00
14,100.00	90.45	0.81	7,710.52	5,614.66	579.11	5,640.65	0.00	0.00	0.00
14,200.00	90.45	0.81	7,709.73	5,714.64	580.52	5,740.51	0.00	0.00	0.00
14,300.00	90.45	0.81	7,708.94	5,814.63	581.94	5,840.37	0.00	0.00	0.00
14,400.00	90.45	0.81	7,708.14	5,914.62	583.35	5,940.23	0.00	0.00	0.00
14,500.00	90.45	0.81	7,707.35	6,014.60	584.76	6,040.10	0.00	0.00	0.00
14,600.00	90.45	0.81	7,706.56	6,114.59	586.17	6,139.96	0.00	0.00	0.00
14,700.00	90.45	0.81	7,705.77	6,214.58	587.59	6,239.82	0.00	0.00	0.00
14,800.00	90.45	0.81	7,704.98	6,314.56	589.00	6,339.68	0.00	0.00	0.00
14,900.00	90.45	0.81	7,704.19	6,414.55	590.41	6,439.54	0.00	0.00	0.00
15,000.00	90.45	0.81	7,703.39	6,514.54	591.83	6,539.40	0.00	0.00	0.00
15,100.00	90.45	0.81	7,702.60	6,614.52	593.24	6,639.27	0.00	0.00	0.00
15,200.00	90.45	0.81	7,701.81	6,714.51	594.65	6,739.13	0.00	0.00	0.00
15,300.00	90.45	0.81	7,701.02	6,814.50	596.07	6,838.99	0.00	0.00	0.00
15,400.00	90.45	0.81	7,700.23	6,914.48	597.48	6,938.85	0.00	0.00	0.00
15,500.00	90.45	0.81	7,699.44	7,014.47	598.89	7,038.71	0.00	0.00	0.00
15,600.00	90.45	0.81	7,698.65	7,114.46	600.31	7,138.58	0.00	0.00	0.00
15,700.00	90.45	0.81	7,697.85	7,214.45	601.72	7,238.44	0.00	0.00	0.00
15,800.00	90.45	0.81	7,697.06	7,314.43	603.13	7,338.30	0.00	0.00	0.00
15,900.00	90.45	0.81	7,696.27	7,414.42	604.54	7,438.16	0.00	0.00	0.00
16,000.00	90.45	0.81	7,695.48	7,514.41	605.96	7,538.02	0.00	0.00	0.00
16,100.00	90.45	0.81	7,694.69	7,614.39	607.37	7,637.88	0.00	0.00	0.00
16,200.00	90.45	0.81	7,693.90	7,714.38	608.78	7,737.75	0.00	0.00	0.00
16,300.00	90.45	0.81	7,693.10	7,814.37	610.20	7,837.61	0.00	0.00	0.00
16,400.00	90.45	0.81	7,692.31	7,914.35	611.61	7,937.47	0.00	0.00	0.00
16,500.00	90.45	0.81	7,691.52	8,014.34	613.02	8,037.33	0.00	0.00	0.00
16,600.00	90.45	0.81	7,690.73	8,114.33	614.44	8,137.19	0.00	0.00	0.00
16,700.00	90.45	0.81	7,689.94	8,214.31	615.85	8,237.05	0.00	0.00	0.00
16,800.00	90.45	0.81	7,689.15	8,314.30	617.26	8,336.92	0.00	0.00	0.00
16,900.00	90.45	0.81	7,688.36	8,414.29	618.68	8,436.78	0.00	0.00	0.00
17,000.00	90.45	0.81	7,687.56	8,514.27	620.09	8,536.64	0.00	0.00	0.00
17,100.00	90.45	0.81	7,686.77	8,614.26	621.50	8,636.50	0.00	0.00	0.00
17,200.00	90.45	0.81	7,685.98	8,714.25	622.91	8,736.36	0.00	0.00	0.00
17,300.00	90.45	0.81	7,685.19	8,814.24	624.33	8,836.23	0.00	0.00	0.00
17,400.00	90.45	0.81	7,684.40	8,914.22	625.74	8,936.09	0.00	0.00	0.00
17,500.00	90.45	0.81	7,683.61	9,014.21	627.15	9,035.95	0.00	0.00	0.00
17,600.00	90.45	0.81	7,682.82	9,114.20	628.57	9,135.81	0.00	0.00	0.00
17,700.00	90.45	0.81	7,682.02	9,214.18	629.98	9,235.67	0.00	0.00	0.00
17,800.00	90.45	0.81	7,681.23	9,314.17	631.39	9,335.53	0.00	0.00	0.00
17,900.00	90.45	0.81	7,680.44	9,414.16	632.81	9,435.40	0.00	0.00	0.00
18,000.00	90.45	0.81	7,679.65	9,514.14	634.22	9,535.26	0.00	0.00	0.00



**Corporate**  
Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CARSON 1-8HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	KB @ 5030.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	KB @ 5030.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-01 Carson 13-1HZ WEST PAD	<b>North Reference:</b>	True
<b>Well:</b>	CARSON 1-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit-Rev2		

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)
18,081.97	90.45	0.81	7,679.00	9,596.10	635.38	9,617.11	0.00	0.00	0.00
PBHL/TD									

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
CARSON 1-8HZ PBHL - plan hits target center - Point	0.00	0.00	7,679.00	9,596.11	635.38	14,563,928.37	1,652,422.21	40.102136	-104.957067
CARSON 1-8HZ Heel - plan hits target center - Point	0.00	0.00	7,757.00	-257.08	496.13	14,554,075.12	1,652,287.46	40.075077	-104.957566

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,821.46	1,800.00	Surface	9-5/8	13-1/2	
8,227.50	7,757.00	Top of Production	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,143.78	1,137.00	Fox Hills				
4,261.72	4,187.00	Parkman				
4,603.17	4,521.00	Sussex				
7,477.86	7,369.00	Sharon Springs				
7,541.21	7,426.00	Niobrara				
7,668.72	7,531.00	Nio B				
7,782.58	7,611.00	Nio C				
8,026.18	7,727.00	Fort Hayes				
8,115.17	7,748.00	Codell				

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CARSON 1-8HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	KB @ 5030.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	KB @ 5030.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-01 Carson 13-1HZ WEST PAD	<b>North Reference:</b>	True
<b>Well:</b>	CARSON 1-8HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit-Rev2		

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	Build 1.5°/100 DLS
1,100.00	1,094.16	-82.20	14.49	Turn 1.5°/100 DLS
1,385.33	1,373.39	-136.93	34.79	Hold Inc
5,247.54	5,151.31	-826.98	444.50	Drop 1.5°/100 DLS
6,047.06	5,945.00	-898.67	487.06	Vertical Point
7,222.46	7,120.40	-898.67	487.06	KOP, Build 10°/100 DLS
8,227.50	7,757.00	-257.07	496.13	Landing Target
18,081.97	7,679.00	9,596.10	635.38	PBHL/TD