

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N**

**1N-68W-21 WINDSOCK 15-21HZ PAD**

**WINDSOCK 21-4HZ**

## **Plan A**

### **Plan: Permit Rev-2**

SHL Lat/Long: 40.030294/-105.007497

Survey Program: MWD+IFR+MSA

## **Standard Planning Report**

**15 February, 2019**

Project: WELD-NAD83-UTMFT13N  
Site: 1N-68W-21 WINDSOCK 15-21HZ PAD  
Well: WINDSOCK 21-4HZ  
Wellbore: Plan A  
Design: Permit Rev-2

# US ROCKIES WATTENBERG PLANNING

## CASING DETAILS

TVD	MD	Name	Size
1500.00	1523.30	9 5/8" Csg	9-5/8
7799.00	8385.50	Top of Production	5-1/2

## 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	
2	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	1463.33	18.20	231.00	1443.03	-120.26	-148.51	1.50	231.00	-118.09	
4	4263.33	18.20	231.00	4102.95	-670.62	-828.15	0.00	0.00	-658.56	
5	5173.33	0.00	0.00	4997.73	-760.82	-939.53	2.00	180.00	-747.13	
6	7258.41	0.00	0.00	7082.80	-760.82	-939.53	0.00	0.00	-747.13	
7	8385.50	90.17	356.68	7799.00	-43.73	-981.10	8.00	356.68	-29.51	
8	10267.11	90.17	356.68	7793.50	1834.71	-1090.00	0.00	0.00	1850.31	WINDSOCK 21-4HZ_target
9	10487.59	90.17	359.99	7792.85	2055.07	-1096.40	1.50	89.98	2070.73	
10	18607.60	90.17	359.99	7769.00	10175.05	-1097.91	0.00	0.00	10189.88	WINDSOCK 21-4HZ_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
WINDSOCK 21-4HZ_SHL	0.00	0.00	0.00	40.030294	-105.007497
WINDSOCK 21-4HZ_BHL	7769.00	10175.05	-1097.91	40.058236	-105.011421

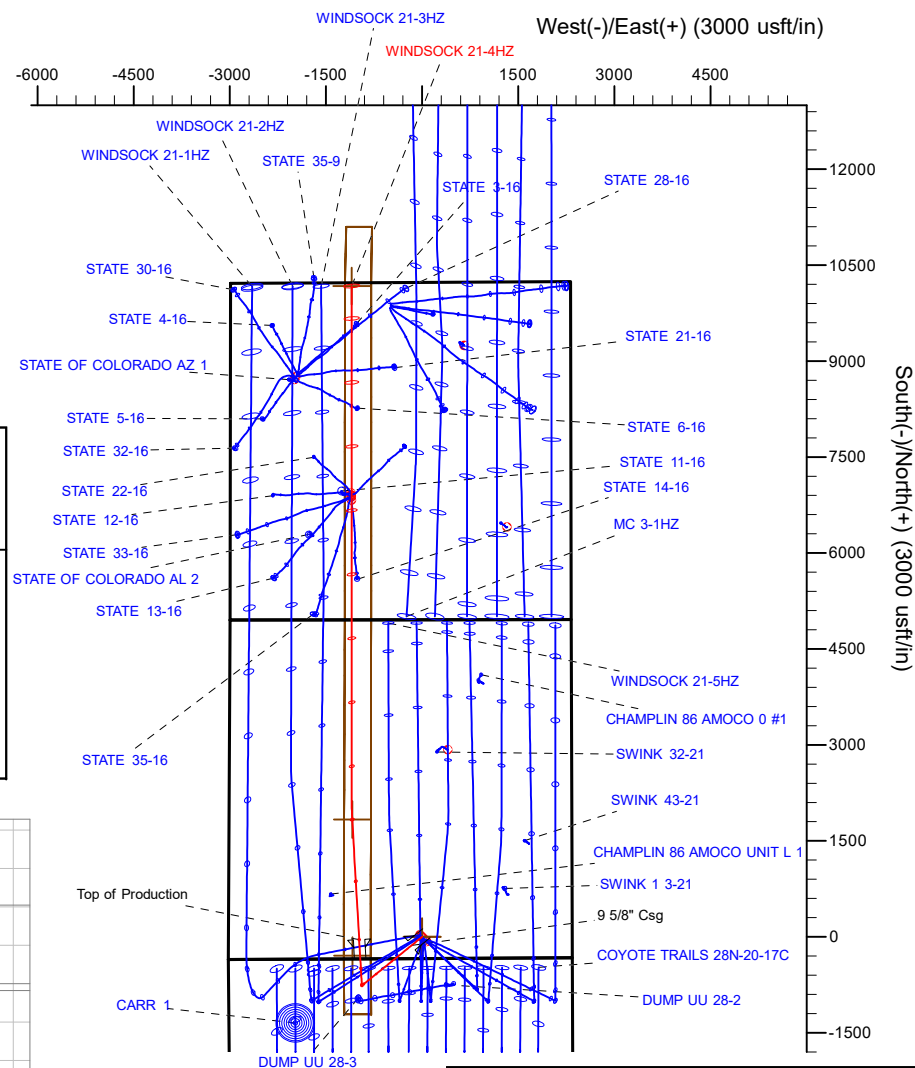
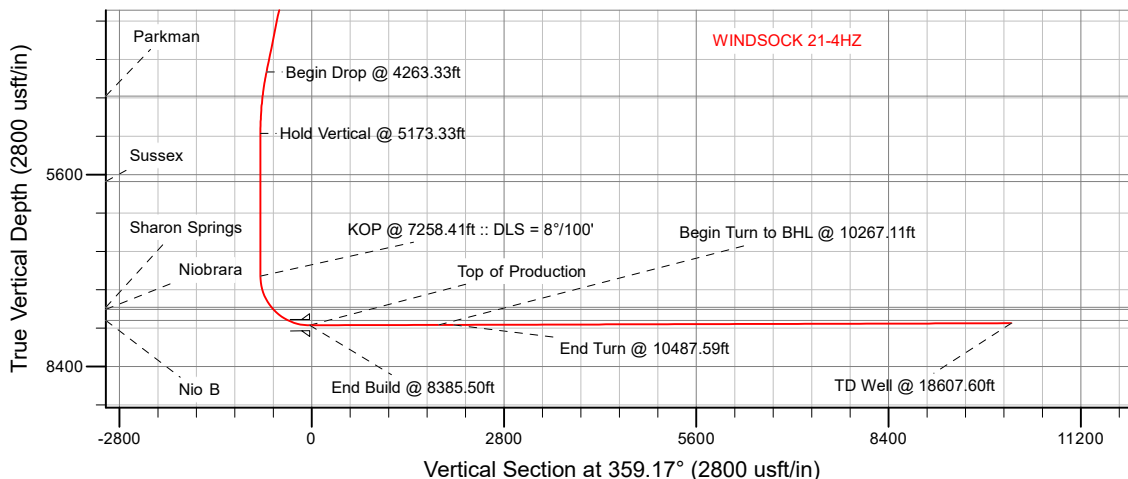
**SHL**  
**338' FSL**  
**2343' FEL**

**HEEL**  
**302' FSL**  
**2041' FWL**

**BHL**  
**50' FNL**  
**1891' FWL**

## FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1309.00	1323.06	Fox Hills
4456.00	4628.32	Parkman
5701.00	5876.61	Sussex
7535.00	7747.82	Sharon Springs
7567.00	7790.12	Niobrara
7729.00	8064.12	Nio B



## WELL DETAILS: WINDSOCK 21-4HZ

GL = 5222'

RKB = 17' @ 5239.00usft (Drilling Rig)

Plan: Permit Rev-2 (WINDSOCK 21-4HZ/Plan A)

Date: 2/15/2019

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well WINDSOCK 21-4HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5239.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5239.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-21 WINDSOCK 15-21HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	WINDSOCK 21-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<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>	1N-68W-21 WINDSOCK 15-21HZ PAD			
<b>Site Position:</b>		<b>Northing:</b>	14,537,796.91 usft	<b>Latitude:</b> 40.030382
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,638,286.42 usft	<b>Longitude:</b> -105.007610
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b> 0.00 °

<b>Well</b>	WINDSOCK 21-4HZ			
<b>Well Position</b>	<b>+N/-S</b>	-32.04 usft	<b>Northing:</b>	14,537,764.87 usft
	<b>+E/-W</b>	31.63 usft	<b>Easting:</b>	1,638,318.05 usft
<b>Position Uncertainty</b>		3.28 usft	<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 5,222.00 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	11/19/2018	8.16	66.49	52,008.62714666

<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>
	7,769.00	0.00	0.00	359.17

<b>Plan Survey Tool Program</b>	<b>Date</b>	2/15/2019		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	1,500.00	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:crustal field declinatio
2	1,500.00	18,607.60	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:Rockies, crustal dec +

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well WINDSOCK 21-4HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5239.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5239.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-21 WINDSOCK 15-21HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	WINDSOCK 21-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-2		

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	
1,463.33	18.20	231.00	1,443.03	-120.26	-148.51	1.50	1.50	0.00	231.00	
4,263.33	18.20	231.00	4,102.95	-670.62	-828.15	0.00	0.00	0.00	0.00	
5,173.33	0.00	0.00	4,997.73	-760.82	-939.53	2.00	-2.00	14.18	180.00	
7,258.41	0.00	0.00	7,082.80	-760.82	-939.53	0.00	0.00	0.00	0.00	
8,385.50	90.17	356.68	7,799.00	-43.73	-981.10	8.00	8.00	-0.29	356.68	
10,267.11	90.17	356.68	7,793.50	1,834.71	-1,090.00	0.00	0.00	0.00	0.00	WINDSOCK 21-4HZ_
10,487.59	90.17	359.99	7,792.85	2,055.07	-1,096.40	1.50	0.00	1.50	89.98	
18,607.60	90.17	359.99	7,769.00	10,175.05	-1,097.91	0.00	0.00	0.00	0.00	WINDSOCK 21-4HZ_

## Planning Report

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<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5239.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-21 WINDSOCK 15-21HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	WINDSOCK 21-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 250.00ft									
300.00	0.75	231.00	300.00	-0.21	-0.25	-0.20	1.50	1.50	0.00
400.00	2.25	231.00	399.96	-1.85	-2.29	-1.82	1.50	1.50	0.00
500.00	3.75	231.00	499.82	-5.15	-6.36	-5.05	1.50	1.50	0.00
600.00	5.25	231.00	599.51	-10.08	-12.45	-9.90	1.50	1.50	0.00
700.00	6.75	231.00	698.96	-16.66	-20.58	-16.36	1.50	1.50	0.00
800.00	8.25	231.00	798.10	-24.88	-30.72	-24.43	1.50	1.50	0.00
900.00	9.75	231.00	896.87	-34.72	-42.88	-34.10	1.50	1.50	0.00
1,000.00	11.25	231.00	995.19	-46.19	-57.04	-45.36	1.50	1.50	0.00
1,100.00	12.75	231.00	1,093.00	-59.27	-73.20	-58.21	1.50	1.50	0.00
1,200.00	14.25	231.00	1,190.24	-73.96	-91.34	-72.63	1.50	1.50	0.00
1,300.00	15.75	231.00	1,286.83	-90.25	-111.45	-88.63	1.50	1.50	0.00
1,323.06	16.10	231.00	1,309.00	-94.23	-116.37	-92.54	1.50	1.50	0.00
Fox Hills									
1,400.00	17.25	231.00	1,382.71	-108.12	-133.52	-106.18	1.50	1.50	0.00
1,463.33	18.20	231.00	1,443.03	-120.26	-148.51	-118.09	1.50	1.50	0.00
Hold Tangent @ 1463.33ft									
1,500.00	18.20	231.00	1,477.86	-127.47	-157.41	-125.17	0.00	0.00	0.00
1,523.30	18.20	231.00	1,500.00	-132.05	-163.06	-129.67	0.00	0.00	0.00
9 5/8" Csg									
1,600.00	18.20	231.00	1,572.86	-147.12	-181.68	-144.47	0.00	0.00	0.00
1,700.00	18.20	231.00	1,667.86	-166.78	-205.95	-163.78	0.00	0.00	0.00
1,800.00	18.20	231.00	1,762.86	-186.43	-230.23	-183.08	0.00	0.00	0.00
1,900.00	18.20	231.00	1,857.85	-206.09	-254.50	-202.38	0.00	0.00	0.00
2,000.00	18.20	231.00	1,952.85	-225.75	-278.77	-221.68	0.00	0.00	0.00
2,100.00	18.20	231.00	2,047.85	-245.40	-303.04	-240.99	0.00	0.00	0.00
2,200.00	18.20	231.00	2,142.84	-265.06	-327.32	-260.29	0.00	0.00	0.00
2,300.00	18.20	231.00	2,237.84	-284.71	-351.59	-279.59	0.00	0.00	0.00
2,400.00	18.20	231.00	2,332.84	-304.37	-375.86	-298.89	0.00	0.00	0.00
2,500.00	18.20	231.00	2,427.84	-324.02	-400.14	-318.19	0.00	0.00	0.00
2,600.00	18.20	231.00	2,522.83	-343.68	-424.41	-337.50	0.00	0.00	0.00
2,700.00	18.20	231.00	2,617.83	-363.34	-448.68	-356.80	0.00	0.00	0.00
2,800.00	18.20	231.00	2,712.83	-382.99	-472.96	-376.10	0.00	0.00	0.00
2,900.00	18.20	231.00	2,807.82	-402.65	-497.23	-395.40	0.00	0.00	0.00
3,000.00	18.20	231.00	2,902.82	-422.30	-521.50	-414.71	0.00	0.00	0.00
3,100.00	18.20	231.00	2,997.82	-441.96	-545.77	-434.01	0.00	0.00	0.00</

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<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5239.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5239.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-21 WINDSOCK 15-21HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	WINDSOCK 21-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<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)	
4,300.00	17.47	231.00	4,137.86	-677.69	-836.88	-665.50	2.00	-2.00	0.00	
4,400.00	15.47	231.00	4,233.75	-695.53	-858.90	-683.01	2.00	-2.00	0.00	
4,500.00	13.47	231.00	4,330.58	-711.25	-878.32	-698.45	2.00	-2.00	0.00	
4,600.00	11.47	231.00	4,428.21	-724.83	-895.09	-711.79	2.00	-2.00	0.00	
4,628.32	10.90	231.00	4,456.00	-728.29	-899.36	-715.19	2.00	-2.00	0.00	
Parkman										
4,700.00	9.47	231.00	4,526.54	-736.26	-909.21	-723.02	2.00	-2.00	0.00	
4,800.00	7.47	231.00	4,625.45	-745.53	-920.65	-732.12	2.00	-2.00	0.00	
4,900.00	5.47	231.00	4,724.81	-752.62	-929.40	-739.07	2.00	-2.00	0.00	
5,000.00	3.47	231.00	4,824.50	-757.52	-935.46	-743.89	2.00	-2.00	0.00	
5,100.00	1.47	231.00	4,924.40	-760.23	-938.80	-746.55	2.00	-2.00	0.00	
5,173.33	0.00	0.00	4,997.73	-760.82	-939.53	-747.13	2.00	-2.00	175.91	
Hold Vertical @ 5173.33ft										
5,200.00	0.00	0.00	5,024.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,124.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,224.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,324.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,424.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,524.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,624.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
5,876.61	0.00	0.00	5,701.00	-760.82	-939.53	-747.13	0.00	0.00	0.00	
Sussex										
5,900.00	0.00	0.00	5,724.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,824.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,924.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,024.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,124.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,224.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,324.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,424.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,524.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,624.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,724.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,824.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
7,100.00	0.00	0.00	6,924.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,024.39	-760.82	-939.53	-747.13	0.00	0.00	0.00	
7,258.41	0.00	0.00	7,082.80	-760.82	-939.53	-747.13	0.00	0.00	0.00	
KOP @ 7258.41ft :: DLS = 8°/100'										
7,300.00	3.33	356.68	7,124.37	-759.61	-939.60	-745.92	8.00	8.00	-7.98	
7,400.00	11.33	356.68	7,223.47	-746.89	-940.34	-733.19	8.00	8.00	0.00	
7,500.00	19.33	356.68	7,319.84	-720.52	-941.87	-706.80	8.00	8.00	0.00	
7,600.00	27.33	356.68	7,411.59	-681.02	-944.16	-667.27	8.00	8.00	0.00	
7,700.00	35.33	356.68	7,496.94	-629.16	-947.16	-615.37	8.00	8.00	0.00	
7,747.82	39.15	356.68	7,535.00	-600.28	-948.84	-586.47	8.00	8.00	0.00	
Sharon Springs										
7,790.12	42.54	356.68	7,567.00	-572.66	-950.44	-558.83	8.00	8.00	0.00	
Niobrara										
7,800.00	43.33	356.68	7,574.23	-565.94	-950.83	-552.11	8.00	8.00	0.00	
7,900.00	51.33	356.68	7,641.96	-492.60	-955.08	-478.71	8.00	8.00	0.00	
8,000.00	59.33	356.68	7,698.80	-410.56	-959.84	-396.62	8.00	8.00	0.00	
8,064.12	64.46	356.68	7,729.00	-354.12	-963.11	-340.13	8.00	8.00	0.00	
Nio B										
8,100.00	67.33	356.68	7,743.65	-321.43	-965.00	-307.42	8.00	8.00	0.00	

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well WINDSOCK 21-4HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5239.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5239.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-21 WINDSOCK 15-21HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	WINDSOCK 21-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<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)	
8,200.00	75.33	356.68	7,775.64	-226.93	-970.48	-212.85	8.00	8.00	0.00	
8,300.00	83.33	356.68	7,794.15	-128.90	-976.16	-114.75	8.00	8.00	0.00	
8,385.50	90.17	356.68	7,799.00	-43.73	-981.10	-29.52	8.00	8.00	0.00	
End Build @ 8385.50ft - Top of Production										
8,400.00	90.17	356.68	7,798.96	-29.26	-981.94	-15.03	0.00	0.00	0.00	
8,500.00	90.17	356.68	7,798.66	70.57	-987.73	84.87	0.00	0.00	0.00	
8,600.00	90.17	356.68	7,798.37	170.41	-993.52	184.78	0.00	0.00	0.00	
8,700.00	90.17	356.68	7,798.08	270.24	-999.30	284.69	0.00	0.00	0.00	
8,800.00	90.17	356.68	7,797.79	370.07	-1,005.09	384.59	0.00	0.00	0.00	
8,900.00	90.17	356.68	7,797.49	469.90	-1,010.88	484.50	0.00	0.00	0.00	
9,000.00	90.17	356.68	7,797.20	569.73	-1,016.67	584.40	0.00	0.00	0.00	
9,100.00	90.17	356.68	7,796.91	669.57	-1,022.45	684.31	0.00	0.00	0.00	
9,200.00	90.17	356.68	7,796.62	769.40	-1,028.24	784.21	0.00	0.00	0.00	
9,300.00	90.17	356.68	7,796.33	869.23	-1,034.03	884.12	0.00	0.00	0.00	
9,400.00	90.17	356.68	7,796.03	969.06	-1,039.82	984.02	0.00	0.00	0.00	
9,500.00	90.17	356.68	7,795.74	1,068.89	-1,045.60	1,083.93	0.00	0.00	0.00	
9,600.00	90.17	356.68	7,795.45	1,168.73	-1,051.39	1,183.83	0.00	0.00	0.00	
9,700.00	90.17	356.68	7,795.16	1,268.56	-1,057.18	1,283.74	0.00	0.00	0.00	
9,800.00	90.17	356.68	7,794.86	1,368.39	-1,062.97	1,383.64	0.00	0.00	0.00	
9,900.00	90.17	356.68	7,794.57	1,468.22	-1,068.75	1,483.55	0.00	0.00	0.00	
10,000.00	90.17	356.68	7,794.28	1,568.05	-1,074.54	1,583.45	0.00	0.00	0.00	
10,100.00	90.17	356.68	7,793.99	1,667.89	-1,080.33	1,683.36	0.00	0.00	0.00	
10,200.00	90.17	356.68	7,793.70	1,767.72	-1,086.12	1,783.27	0.00	0.00	0.00	
10,267.11	90.17	356.68	7,793.50	1,834.71	-1,090.00	1,850.31	0.00	0.00	0.00	
Begin Turn to BHL @ 10267.11ft										
10,300.00	90.17	357.18	7,793.40	1,867.56	-1,091.76	1,883.18	1.50	0.00	1.50	
10,400.00	90.17	358.68	7,793.11	1,967.49	-1,095.38	1,983.15	1.50	0.00	1.50	
10,487.59	90.17	359.99	7,792.85	2,055.07	-1,096.40	2,070.73	1.50	0.00	1.50	
End Turn @ 10487.59ft										
10,500.00	90.17	359.99	7,792.82	2,067.48	-1,096.40	2,083.15	0.00	0.00	0.00	
10,600.00	90.17	359.99	7,792.52	2,167.48	-1,096.42	2,183.13	0.00	0.00	0.00	
10,700.00	90.17	359.99	7,792.23	2,267.48	-1,096.44	2,283.12	0.00	0.00	0.00	
10,800.00	90.17	359.99	7,791.94	2,367.48	-1,096.46	2,383.11	0.00	0.00	0.00	
10,900.00	90.17	359.99	7,791.64	2,467.48	-1,096.48	2,483.10	0.00	0.00	0.00	
11,000.00	90.17	359.99	7,791.35	2,567.48	-1,096.50	2,583.09	0.00	0.00	0.00	
11,100.00	90.17	359.99	7,791.05	2,667.48	-1,096.52	2,683.08	0.00	0.00	0.00	
11,200.00	90.17	359.99	7,790.76	2,767.48	-1,096.53	2,783.07	0.00	0.00	0.00	
11,300.00	90.17	359.99	7,790.47	2,867.48	-1,096.55	2,883.06	0.00	0.00	0.00	
11,400.00	90.17	359.99	7,790.17	2,967.48	-1,096.57	2,983.05	0.00	0.00	0.00	
11,500.00	90.17	359.99	7,789.88	3,067.48	-1,096.59	3,083.04	0.00	0.00	0.00	
11,600.00	90.17	359.99	7,789.59	3,167.48	-1,096.61	3,183.03	0.00	0.00	0.00	
11,700.00	90.17	359.99	7,789.29	3,267.47	-1,096.63	3,283.02	0.00	0.00	0.00	
11,800.00	90.17	359.99	7,789.00	3,367.47	-1,096.65	3,383.01	0.00	0.00	0.00	
11,900.00	90.17	359.99	7,788.70	3,467.47	-1,096.66	3,483.00	0.00	0.00	0.00	
12,000.00	90.17	359.99	7,788.41	3,567.47	-1,096.68	3,582.99	0.00	0.00	0.00	
12,100.00	90.17	359.99	7,788.12	3,667.47	-1,096.70	3,682.97	0.00	0.00	0.00	
12,200.00	90.17	359.99	7,787.82	3,767.47	-1,096.72	3,782.96	0.00	0.00	0.00	
12,300.00	90.17	359.99	7,787.53	3,867.47	-1,096.74	3,882.95	0.00	0.00	0.00	
12,400.00	90.17	359.99	7,787.24	3,967.47	-1,096.76	3,982.94	0.00	0.00	0.00	
12,500.00	90.17	359.99	7,786.94	4,067.47	-1,096.78	4,082.93	0.00	0.00	0.00	
12,600.00	90.17	359.99	7,786.65	4,167.47	-1,096.79	4,182.92	0.00	0.00	0.00	
12,700.00	90.17	359.99	7,786.35	4,267.47	-1,096.81	4,282.91	0.00	0.00	0.00	
12,800.00	90.17	359.99	7,786.06	4,367.47	-1,096.83	4,382.90	0.00	0.00	0.00	

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well WINDSOCK 21-4HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5239.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5239.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-21 WINDSOCK 15-21HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	WINDSOCK 21-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<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)
12,900.00	90.17	359.99	7,785.77	4,467.47	-1,096.85	4,482.89	0.00	0.00	0.00
13,000.00	90.17	359.99	7,785.47	4,567.47	-1,096.87	4,582.88	0.00	0.00	0.00
13,100.00	90.17	359.99	7,785.18	4,667.47	-1,096.89	4,682.87	0.00	0.00	0.00
13,200.00	90.17	359.99	7,784.89	4,767.47	-1,096.91	4,782.86	0.00	0.00	0.00
13,300.00	90.17	359.99	7,784.59	4,867.47	-1,096.92	4,882.85	0.00	0.00	0.00
13,400.00	90.17	359.99	7,784.30	4,967.47	-1,096.94	4,982.84	0.00	0.00	0.00
13,500.00	90.17	359.99	7,784.00	5,067.47	-1,096.96	5,082.83	0.00	0.00	0.00
13,600.00	90.17	359.99	7,783.71	5,167.47	-1,096.98	5,182.81	0.00	0.00	0.00
13,700.00	90.17	359.99	7,783.42	5,267.47	-1,097.00	5,282.80	0.00	0.00	0.00
13,800.00	90.17	359.99	7,783.12	5,367.47	-1,097.02	5,382.79	0.00	0.00	0.00
13,900.00	90.17	359.99	7,782.83	5,467.47	-1,097.04	5,482.78	0.00	0.00	0.00
14,000.00	90.17	359.99	7,782.54	5,567.46	-1,097.05	5,582.77	0.00	0.00	0.00
14,100.00	90.17	359.99	7,782.24	5,667.46	-1,097.07	5,682.76	0.00	0.00	0.00
14,200.00	90.17	359.99	7,781.95	5,767.46	-1,097.09	5,782.75	0.00	0.00	0.00
14,300.00	90.17	359.99	7,781.65	5,867.46	-1,097.11	5,882.74	0.00	0.00	0.00
14,400.00	90.17	359.99	7,781.36	5,967.46	-1,097.13	5,982.73	0.00	0.00	0.00
14,500.00	90.17	359.99	7,781.07	6,067.46	-1,097.15	6,082.72	0.00	0.00	0.00
14,600.00	90.17	359.99	7,780.77	6,167.46	-1,097.17	6,182.71	0.00	0.00	0.00
14,700.00	90.17	359.99	7,780.48	6,267.46	-1,097.18	6,282.70	0.00	0.00	0.00
14,800.00	90.17	359.99	7,780.19	6,367.46	-1,097.20	6,382.69	0.00	0.00	0.00
14,900.00	90.17	359.99	7,779.89	6,467.46	-1,097.22	6,482.68	0.00	0.00	0.00
15,000.00	90.17	359.99	7,779.60	6,567.46	-1,097.24	6,582.67	0.00	0.00	0.00
15,100.00	90.17	359.99	7,779.30	6,667.46	-1,097.26	6,682.66	0.00	0.00	0.00
15,200.00	90.17	359.99	7,779.01	6,767.46	-1,097.28	6,782.64	0.00	0.00	0.00
15,300.00	90.17	359.99	7,778.72	6,867.46	-1,097.30	6,882.63	0.00	0.00	0.00
15,400.00	90.17	359.99	7,778.42	6,967.46	-1,097.31	6,982.62	0.00	0.00	0.00
15,500.00	90.17	359.99	7,778.13	7,067.46	-1,097.33	7,082.61	0.00	0.00	0.00
15,600.00	90.17	359.99	7,777.84	7,167.46	-1,097.35	7,182.60	0.00	0.00	0.00
15,700.00	90.17	359.99	7,777.54	7,267.46	-1,097.37	7,282.59	0.00	0.00	0.00
15,800.00	90.17	359.99	7,777.25	7,367.46	-1,097.39	7,382.58	0.00	0.00	0.00
15,900.00	90.17	359.99	7,776.95	7,467.46	-1,097.41	7,482.57	0.00	0.00	0.00
16,000.00	90.17	359.99	7,776.66	7,567.46	-1,097.43	7,582.56	0.00	0.00	0.00
16,100.00	90.17	359.99	7,776.37	7,667.46	-1,097.44	7,682.55	0.00	0.00	0.00
16,200.00	90.17	359.99	7,776.07	7,767.46	-1,097.46	7,782.54	0.00	0.00	0.00
16,300.00	90.17	359.99	7,775.78	7,867.45	-1,097.48	7,882.53	0.00	0.00	0.00
16,400.00	90.17	359.99	7,775.49	7,967.45	-1,097.50	7,982.52	0.00	0.00	0.00
16,500.00	90.17	359.99	7,775.19	8,067.45	-1,097.52	8,082.51	0.00	0.00	0.00
16,600.00	90.17	359.99	7,774.90	8,167.45	-1,097.54	8,182.50	0.00	0.00	0.00
16,700.00	90.17	359.99	7,774.60	8,267.45	-1,097.56	8,282.48	0.00	0.00	0.00
16,800.00	90.17	359.99	7,774.31	8,367.45	-1,097.57	8,382.47	0.00	0.00	0.00
16,900.00	90.17	359.99	7,774.02	8,467.45	-1,097.59	8,482.46	0.00	0.00	0.00
17,000.00	90.17	359.99	7,773.72	8,567.45	-1,097.61	8,582.45	0.00	0.00	0.00
17,100.00	90.17	359.99	7,773.43	8,667.45	-1,097.63	8,682.44	0.00	0.00	0.00
17,200.00	90.17	359.99	7,773.14	8,767.45	-1,097.65	8,782.43	0.00	0.00	0.00
17,300.00	90.17	359.99	7,772.84	8,867.45	-1,097.67	8,882.42	0.00	0.00	0.00
17,400.00	90.17	359.99	7,772.55	8,967.45	-1,097.69	8,982.41	0.00	0.00	0.00
17,500.00	90.17	359.99	7,772.25	9,067.45	-1,097.70	9,082.40	0.00	0.00	0.00
17,600.00	90.17	359.99	7,771.96	9,167.45	-1,097.72	9,182.39	0.00	0.00	0.00
17,700.00	90.17	359.99	7,771.67	9,267.45	-1,097.74	9,282.38	0.00	0.00	0.00
17,800.00	90.17	359.99	7,771.37	9,367.45	-1,097.76	9,382.37	0.00	0.00	0.00
17,900.00	90.17	359.99	7,771.08	9,467.45	-1,097.78	9,482.36	0.00	0.00	0.00
18,000.00	90.17	359.99	7,770.79	9,567.45	-1,097.80	9,582.35	0.00	0.00	0.00
18,100.00	90.17	359.99	7,770.49	9,667.45	-1,097.81	9,682.34	0.00	0.00	0.00



# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well WINDSOCK 21-4HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5239.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5239.00usft (Drilling Rig)
<b>Site:</b>	1N-68W-21 WINDSOCK 15-21HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	WINDSOCK 21-4HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<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)	
18,200.00	90.17	359.99	7,770.20	9,767.45	-1,097.83	9,782.32	0.00	0.00	0.00	
18,300.00	90.17	359.99	7,769.90	9,867.45	-1,097.85	9,882.31	0.00	0.00	0.00	
18,400.00	90.17	359.99	7,769.61	9,967.45	-1,097.87	9,982.30	0.00	0.00	0.00	
18,500.00	90.17	359.99	7,769.32	10,067.45	-1,097.89	10,082.29	0.00	0.00	0.00	
18,600.00	90.17	359.99	7,769.02	10,167.45	-1,097.91	10,182.28	0.00	0.00	0.00	
18,607.60	90.17	359.99	7,769.00	10,175.05	-1,097.91	10,189.88	0.00	0.00	0.00	
TD Well @ 18607.60ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,523.30	1,500.00	9 5/8" Csg	9-5/8	13-1/2	
8,385.50	7,799.00	Top of Production	5-1/2	7-7/8	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,323.06	1,309.00	Fox Hills			
4,628.32	4,456.00	Parkman			
5,876.61	5,701.00	Sussex			
7,747.82	7,535.00	Sharon Springs			
7,790.12	7,567.00	Niobrara			
8,064.12	7,729.00	Nio B			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
250.00	250.00	0.00	0.00	Begin Nudge @ 250.00ft	
1,463.33	1,443.03	-120.26	-148.51	Hold Tangent @ 1463.33ft	
4,263.33	4,102.95	-670.62	-828.15	Begin Drop @ 4263.33ft	
5,173.33	4,997.73	-760.82	-939.53	Hold Vertical @ 5173.33ft	
7,258.41	7,082.80	-760.82	-939.53	KOP @ 7258.41ft :: DLS = 8°/100'	
8,385.50	7,799.00	-43.73	-981.10	End Build @ 8385.50ft	
10,267.11	7,793.50	1,834.71	-1,090.00	Begin Turn to BHL @ 10267.11ft	
10,487.59	7,792.85	2,055.07	-1,096.40	End Turn @ 10487.59ft	
18,607.60	7,769.00	10,175.05	-1,097.91	TD Well @ 18607.60ft	