

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N**

**2N-68W-35 NELSON 28-35HZ PAD**

**NELSON 35-5HZ**

## **Plan B**

### **Plan: Permit Rev-1**

SHL Lat/Long: 40.101354/-104.972280

Survey Program: MWD+IFR+MSA

## **Standard Planning Report**

**22 December, 2019**

Project: WELD-NAD83-UTMFT13N  
Site: 2N-68W-35 NELSON 28-35HZ PAD  
Well: NELSON 35-5HZ  
Wellbore: Plan B  
Design: Permit Rev-1

# US ROCKIES WATTENBERG PLANNING

## CASING DETAILS

TVD	MD	Size
1500.00	1522.85	9-5/8
7503.00	8064.36	5-1/2

WELL DETAILS: NELSON 35-5HZ

GL = 4952.00

RKB = 17" @ 4969.00usft (Drilling Rig)

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	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	1403.33	17.30	331.65	1385.89	152.08	-82.06	1.50	331.65	-152.56	
4	4203.33	17.30	331.65	4059.22	884.86	-477.44	0.00	0.00	-887.68	
5	5068.33	0.00	0.00	4911.13	998.92	-538.99	2.00	180.00	-1002.10	
6	6944.02	0.00	0.00	6786.82	998.92	-538.99	0.00	0.00	-1002.10	
7	8064.36	89.63	178.81	7503.00	287.54	-524.27	8.00	178.81	-290.64	
8	11903.18	89.63	178.81	7528.00	-3550.38	-444.88	0.00	0.00	3547.68	NELSON 35-5HZ_target
9	11996.58	89.63	180.22	7528.61	-3643.78	-444.09	1.50	89.92	3641.08	
10	15306.83	89.63	180.22	7550.04	-6953.93	-456.56	0.00	0.00	6951.10	NELSON 35-5HZ_target2
11	15359.56	89.63	179.42	7550.38	-7006.67	-456.40	1.50	-90.02	7003.84	
12	17206.92	89.63	179.42	7562.35	-8853.89	-437.85	0.00	0.00	8851.14	NELSON 35-5HZ_target3
13	17260.96	89.63	180.24	7562.70	-8907.93	-437.69	1.50	89.58	8905.18	
14	21544.11	89.63	180.24	7590.00	-13190.95	-455.30	0.00	0.00	13188.02	NELSON 35-5HZ_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
NELSON 35-5HZ_SHL	0.00	0.00	0.00	40.101354	-104.972280
NELSON 35-5HZ_BHL	7590.00	-13190.95	-455.30	40.065130	-104.973907

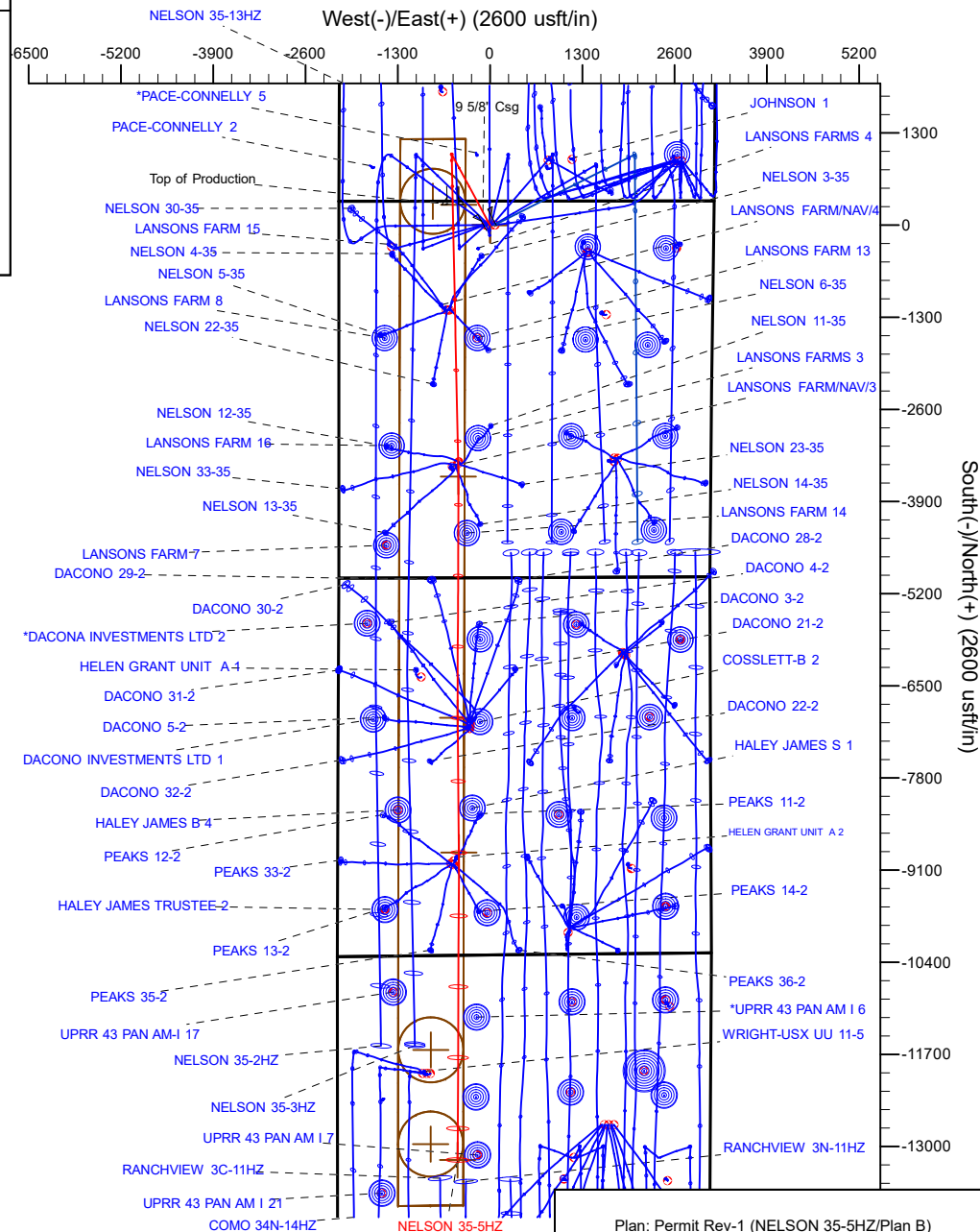
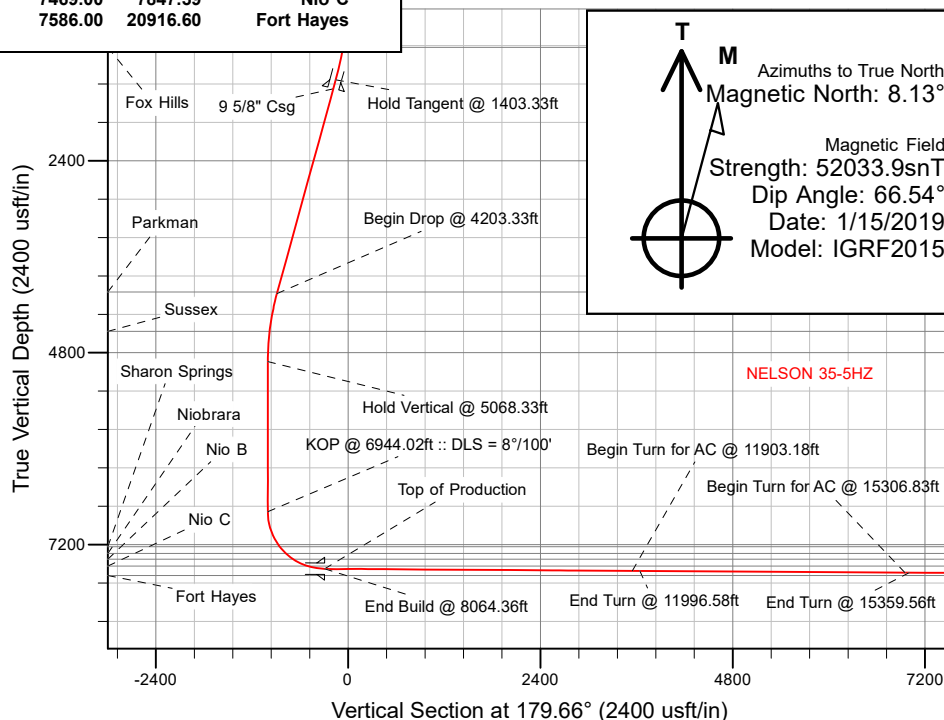
## FORMATION TOP DETAILS

TVDPath	MDPath	Formation
980.00	984.52	Fox Hills
4040.00	4183.20	Parkman
4532.00	4688.08	Sussex
7227.00	7418.06	Sharon Springs
7309.00	7529.16	Niobrara
7382.00	7646.57	Nio B
7469.00	7847.39	Nio C
7586.00	20916.60	Fort Hayes

**SHL**  
**337' FNL**  
**2129' FWL**

**HEEL**  
**50' FNL**  
**1604' FWL**

**TOE**  
**2432' FSL**  
**1694' FWL**



Plan: Permit Rev-1 (NELSON 35-5HZ/Plan B)

Date: 12/22/2019

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well NELSON 35-5HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4969.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4969.00usft (Drilling Rig)
<b>Site:</b>	2N-68W-35 NELSON 28-35HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	NELSON 35-5HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-1		

<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>	2N-68W-35 NELSON 28-35HZ PAD			
<b>Site Position:</b>		<b>Northing:</b>	14,563,661.77 usft	<b>Latitude:</b> 40.101408
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,648,208.17 usft	<b>Longitude:</b> -104.972137
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b> 0.02 °

<b>Well</b>	NELSON 35-5HZ			
<b>Well Position</b>	<b>+N/-S</b>	-19.66 usft	<b>Northing:</b>	14,563,642.09 usft
	<b>+E/-W</b>	-39.99 usft	<b>Easting:</b>	1,648,168.19 usft
<b>Position Uncertainty</b>		3.28 usft	<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 4,952.00 usft

<b>Wellbore</b>	Plan B				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	1/15/2019	8.13	66.54	52,033.91963459

<b>Design</b>	Permit Rev-1			
<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	179.66

<b>Plan Survey Tool Program</b>	<b>Date</b>	12/22/2019		
<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-1 (Plan B)	APC_ISCWSA REV 2 MWD+II Fixed:v2:crustal field declinatio
2	1,500.00	21,544.11	Permit Rev-1 (Plan B)	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 NELSON 35-5HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4969.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4969.00usft (Drilling Rig)
<b>Site:</b>	2N-68W-35 NELSON 28-35HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	NELSON 35-5HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-1		

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	
1,403.33	17.30	331.65	1,385.89	152.08	-82.06	1.50	1.50	0.00	331.65	
4,203.33	17.30	331.65	4,059.22	884.86	-477.44	0.00	0.00	0.00	0.00	
5,068.33	0.00	0.00	4,911.13	998.92	-538.99	2.00	-2.00	0.00	180.00	
6,944.02	0.00	0.00	6,786.82	998.92	-538.99	0.00	0.00	0.00	0.00	
8,064.36	89.63	178.81	7,503.00	287.54	-524.27	8.00	8.00	15.96	178.81	
11,903.18	89.63	178.81	7,528.00	-3,550.38	-444.88	0.00	0.00	0.00	0.00	NELSON 35-5HZ_target
11,996.58	89.63	180.22	7,528.61	-3,643.78	-444.09	1.50	0.00	1.50	89.92	
15,306.83	89.63	180.22	7,550.04	-6,953.93	-456.56	0.00	0.00	0.00	0.00	NELSON 35-5HZ_target
15,359.56	89.63	179.42	7,550.38	-7,006.67	-456.40	1.50	0.00	-1.50	-90.02	
17,206.92	89.63	179.42	7,562.35	-8,853.89	-437.85	0.00	0.00	0.00	0.00	NELSON 35-5HZ_target
17,260.96	89.63	180.24	7,562.70	-8,907.93	-437.69	1.50	0.01	1.50	89.58	
21,544.11	89.63	180.24	7,590.00	-13,190.95	-455.30	0.00	0.00	0.00	0.00	NELSON 35-5HZ_BH

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<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4969.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4969.00usft (Drilling Rig)
<b>Site:</b>	2N-68W-35 NELSON 28-35HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	NELSON 35-5HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-1		

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	331.65	300.00	0.29	-0.16	-0.29	1.50	1.50	0.00
400.00	2.25	331.65	399.96	2.59	-1.40	-2.60	1.50	1.50	0.00
500.00	3.75	331.65	499.82	7.20	-3.88	-7.22	1.50	1.50	0.00
600.00	5.25	331.65	599.51	14.10	-7.61	-14.15	1.50	1.50	0.00
700.00	6.75	331.65	698.96	23.30	-12.57	-23.38	1.50	1.50	0.00
800.00	8.25	331.65	798.10	34.79	-18.77	-34.90	1.50	1.50	0.00
900.00	9.75	331.65	896.87	48.55	-26.20	-48.71	1.50	1.50	0.00
984.52	11.02	331.65	980.00	61.96	-33.43	-62.16	1.50	1.50	0.00
Fox Hills									
1,000.00	11.25	331.65	995.19	64.59	-34.85	-64.80	1.50	1.50	0.00
1,100.00	12.75	331.65	1,093.00	82.89	-44.72	-83.15	1.50	1.50	0.00
1,200.00	14.25	331.65	1,190.24	103.43	-55.81	-103.76	1.50	1.50	0.00
1,300.00	15.75	331.65	1,286.83	126.21	-68.10	-126.61	1.50	1.50	0.00
1,400.00	17.25	331.65	1,382.71	151.20	-81.59	-151.69	1.50	1.50	0.00
1,403.33	17.30	331.65	1,385.89	152.08	-82.06	-152.56	1.50	1.50	0.00
Hold Tangent @ 1403.33ft									
1,500.00	17.30	331.65	1,478.18	177.37	-95.71	-177.94	0.00	0.00	0.00
1,522.85	17.30	331.65	1,500.00	183.35	-98.93	-183.94	0.00	0.00	0.00
9 5/8" Csg									
1,600.00	17.30	331.65	1,573.66	203.55	-109.83	-204.19	0.00	0.00	0.00
1,700.00	17.30	331.65	1,669.13	229.72	-123.95	-230.45	0.00	0.00	0.00
1,800.00	17.30	331.65	1,764.61	255.89	-138.07	-256.70	0.00	0.00	0.00
1,900.00	17.30	331.65	1,860.09	282.06	-152.19	-282.96	0.00	0.00	0.00
2,000.00	17.30	331.65	1,955.56	308.23	-166.31	-309.21	0.00	0.00	0.00
2,100.00	17.30	331.65	2,051.04	334.40	-180.43	-335.46	0.00	0.00	0.00
2,200.00	17.30	331.65	2,146.51	360.57	-194.55	-361.72	0.00	0.00	0.00
2,300.00	17.30	331.65	2,241.99	386.74	-208.67	-387.97	0.00	0.00	0.00
2,400.00	17.30	331.65	2,337.47	412.91	-222.80	-414.23	0.00	0.00	0.00
2,500.00	17.30	331.65	2,432.94	439.08	-236.92	-440.48	0.00	0.00	0.00
2,600.00	17.30	331.65	2,528.42	465.25	-251.04	-466.74	0.00	0.00	0.00
2,700.00	17.30	331.65	2,623.89	491.42	-265.16	-492.99	0.00	0.00	0.00
2,800.00	17.30	331.65	2,719.37	517.60	-279.28	-519.24	0.00	0.00	0.00
2,900.00	17.30	331.65	2,814.85	543.77	-293.40	-545.50	0.00	0.00	0.00
3,000.00	17.30	331.65	2,910.32	569.94	-307.52	-571.75	0.00	0.00	0.00
3,100.00	17.30	331.65	3,005.80	596.11	-321.64	-598.01	0.00	0.00	0.00
3,200.00	17.30	331.65	3,101.28	622.28	-335.76	-624.26	0.00	0.00	0.00
3,300.00	17.30	331.65	3,196.75	648.45	-349.88	-650.51	0.00	0.00	0.00
3,400.00	17.30	331.65	3,292.23	674.62	-364.01	-676.77	0.00	0.00	0.00
3,500.00	17.30	331.65	3,387.70	700.79	-378.13	-703.02	0.00	0.00	0.00
3,600.00	17.30	331.65	3,483.18	726.96	-392.25	-729.28	0.00	0.00	0.00
3,700.00	17.30	331.65	3,578.66	753.13	-406.37	-755.53	0.00	0.00	0.00
3,800.00	17.30	331.65	3,674.13	779.30	-420.49	-781.79	0.00	0.00	0.00
3,900.00	17.30	331.65	3,769.61	805.48	-434.61	-808.04	0.00	0.00	0.00
4,000.00	17.30	331.65	3,865.08	831.65	-448.73	-834.29	0.00	0.00	0.00
4,100.00	17.30	331.65	3,960.56	857.82	-462.85	-860.55	0.00	0.00	0.00
4,183.20	17.30	331.65	4,040.00	879.59	-474.60	-882.39	0.00	0.00	0.00
Parkman									
4,200.00	17.30	331.65	4,056.04	883.99	-476.97	-886.80	0.00	0.00	0.00
4,203.33	17.30	331.65	4,059.22	884.86	-477.44	-887.68	0.00	0.00	0.00

# Corporate Planning Report

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<b>Well:</b>	NELSON 35-5HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-1		

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)
<b>Begin Drop @ 4203.33ft</b>									
4,300.00	15.37	331.65	4,151.98	908.78	-490.35	-911.68	2.00	-2.00	0.00
4,400.00	13.37	331.65	4,248.85	930.62	-502.13	-933.58	2.00	-2.00	0.00
4,500.00	11.37	331.65	4,346.52	949.47	-512.30	-952.49	2.00	-2.00	0.00
4,600.00	9.37	331.65	4,444.88	965.30	-520.85	-968.38	2.00	-2.00	0.00
4,688.08	7.61	331.65	4,532.00	976.74	-527.02	-979.85	2.00	-2.00	0.00
<b>Sussex</b>									
4,700.00	7.37	331.65	4,543.82	978.11	-527.76	-981.22	2.00	-2.00	0.00
4,800.00	5.37	331.65	4,643.19	987.87	-533.02	-991.01	2.00	-2.00	0.00
4,900.00	3.37	331.65	4,742.90	994.57	-536.64	-997.73	2.00	-2.00	0.00
5,000.00	1.37	331.65	4,842.81	998.20	-538.60	-1,001.38	2.00	-2.00	0.00
5,068.33	0.00	0.00	4,911.13	998.92	-538.99	-1,002.10	2.00	-2.00	0.00
<b>Hold Vertical @ 5068.33ft</b>									
5,100.00	0.00	0.00	4,942.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
5,200.00	0.00	0.00	5,042.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
5,300.00	0.00	0.00	5,142.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
5,400.00	0.00	0.00	5,242.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
5,500.00	0.00	0.00	5,342.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
5,600.00	0.00	0.00	5,442.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
5,700.00	0.00	0.00	5,542.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
5,800.00	0.00	0.00	5,642.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
5,900.00	0.00	0.00	5,742.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
6,000.00	0.00	0.00	5,842.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
6,100.00	0.00	0.00	5,942.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
6,200.00	0.00	0.00	6,042.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
6,300.00	0.00	0.00	6,142.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
6,400.00	0.00	0.00	6,242.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
6,500.00	0.00	0.00	6,342.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
6,600.00	0.00	0.00	6,442.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
6,700.00	0.00	0.00	6,542.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
6,800.00	0.00	0.00	6,642.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
6,900.00	0.00	0.00	6,742.80	998.92	-538.99	-1,002.10	0.00	0.00	0.00
6,944.02	0.00	0.00	6,786.82	998.92	-538.99	-1,002.10	0.00	0.00	0.00
<b>KOP @ 6944.02ft :: DLS = 8°/100'</b>									
7,000.00	4.48	178.81	6,842.74	996.73	-538.94	-999.91	8.00	8.00	0.00
7,100.00	12.48	178.81	6,941.57	982.00	-538.64	-985.18	8.00	8.00	0.00
7,200.00	20.48	178.81	7,037.39	953.67	-538.05	-956.84	8.00	8.00	0.00
7,300.00	28.48	178.81	7,128.32	912.27	-537.19	-915.45	8.00	8.00	0.00
7,400.00	36.48	178.81	7,212.62	858.63	-536.08	-861.80	8.00	8.00	0.00
7,418.06	37.92	178.81	7,227.00	847.71	-535.86	-850.88	8.00	8.00	0.00
<b>Sharon Springs</b>									
7,500.00	44.48	178.81	7,288.62	793.78	-534.74	-796.94	8.00	8.00	0.00
7,529.16	46.81	178.81	7,309.00	772.94	-534.31	-776.10	8.00	8.00	0.00
<b>Niobrara</b>									
7,600.00	52.48	178.81	7,354.85	718.99	-533.20	-722.14	8.00	8.00	0.00
7,646.57	56.20	178.81	7,382.00	681.16	-532.41	-684.31	8.00	8.00	0.00
<b>Nio B</b>									
7,700.00	60.48	178.81	7,410.04	635.70	-531.47	-638.85	8.00	8.00	0.00
7,800.00	68.48	178.81	7,453.09	545.56	-529.61	-548.69	8.00	8.00	0.00
7,847.39	72.27	178.81	7,469.00	500.93	-528.68	-504.06	8.00	8.00	0.00
<b>Nio C</b>									
7,900.00	76.48	178.81	7,483.17	450.29	-527.64	-453.42	8.00	8.00	0.00
8,000.00	84.48	178.81	7,499.70	351.77	-525.60	-354.88	8.00	8.00	0.00

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well NELSON 35-5HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4969.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4969.00usft (Drilling Rig)
<b>Site:</b>	2N-68W-35 NELSON 28-35HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	NELSON 35-5HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-1		

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)
8,064.36	89.63	178.81	7,503.00	287.53	-524.27	-290.64	8.00	8.00	0.00
End Build @ 8064.36ft - Top of Production									
8,100.00	89.63	178.81	7,503.24	251.90	-523.53	-255.00	0.00	0.00	0.00
8,200.00	89.63	178.81	7,503.89	151.92	-521.46	-155.02	0.00	0.00	0.00
8,300.00	89.63	178.81	7,504.54	51.95	-519.40	-55.03	0.00	0.00	0.00
8,400.00	89.63	178.81	7,505.19	-48.03	-517.33	44.96	0.00	0.00	0.00
8,500.00	89.63	178.81	7,505.84	-148.01	-515.26	144.95	0.00	0.00	0.00
8,600.00	89.63	178.81	7,506.49	-247.98	-513.19	244.93	0.00	0.00	0.00
8,700.00	89.63	178.81	7,507.14	-347.96	-511.12	344.92	0.00	0.00	0.00
8,800.00	89.63	178.81	7,507.79	-447.94	-509.06	444.91	0.00	0.00	0.00
8,900.00	89.63	178.81	7,508.45	-547.91	-506.99	544.89	0.00	0.00	0.00
9,000.00	89.63	178.81	7,509.10	-647.89	-504.92	644.88	0.00	0.00	0.00
9,100.00	89.63	178.81	7,509.75	-747.86	-502.85	744.87	0.00	0.00	0.00
9,200.00	89.63	178.81	7,510.40	-847.84	-500.78	844.85	0.00	0.00	0.00
9,300.00	89.63	178.81	7,511.05	-947.82	-498.71	944.84	0.00	0.00	0.00
9,400.00	89.63	178.81	7,511.70	-1,047.79	-496.65	1,044.83	0.00	0.00	0.00
9,500.00	89.63	178.81	7,512.35	-1,147.77	-494.58	1,144.82	0.00	0.00	0.00
9,600.00	89.63	178.81	7,513.00	-1,247.75	-492.51	1,244.80	0.00	0.00	0.00
9,700.00	89.63	178.81	7,513.65	-1,347.72	-490.44	1,344.79	0.00	0.00	0.00
9,800.00	89.63	178.81	7,514.31	-1,447.70	-488.37	1,444.78	0.00	0.00	0.00
9,900.00	89.63	178.81	7,514.96	-1,547.68	-486.31	1,544.76	0.00	0.00	0.00
10,000.00	89.63	178.81	7,515.61	-1,647.65	-484.24	1,644.75	0.00	0.00	0.00
10,100.00	89.63	178.81	7,516.26	-1,747.63	-482.17	1,744.74	0.00	0.00	0.00
10,200.00	89.63	178.81	7,516.91	-1,847.61	-480.10	1,844.72	0.00	0.00	0.00
10,300.00	89.63	178.81	7,517.56	-1,947.58	-478.03	1,944.71	0.00	0.00	0.00
10,400.00	89.63	178.81	7,518.21	-2,047.56	-475.96	2,044.70	0.00	0.00	0.00
10,500.00	89.63	178.81	7,518.86	-2,147.54	-473.90	2,144.69	0.00	0.00	0.00
10,600.00	89.63	178.81	7,519.51	-2,247.51	-471.83	2,244.67	0.00	0.00	0.00
10,700.00	89.63	178.81	7,520.17	-2,347.49	-469.76	2,344.66	0.00	0.00	0.00
10,800.00	89.63	178.81	7,520.82	-2,447.46	-467.69	2,444.65	0.00	0.00	0.00
10,900.00	89.63	178.81	7,521.47	-2,547.44	-465.62	2,544.63	0.00	0.00	0.00
11,000.00	89.63	178.81	7,522.12	-2,647.42	-463.56	2,644.62	0.00	0.00	0.00
11,100.00	89.63	178.81	7,522.77	-2,747.39	-461.49	2,744.61	0.00	0.00	0.00
11,200.00	89.63	178.81	7,523.42	-2,847.37	-459.42	2,844.59	0.00	0.00	0.00
11,300.00	89.63	178.81	7,524.07	-2,947.35	-457.35	2,944.58	0.00	0.00	0.00
11,400.00	89.63	178.81	7,524.72	-3,047.32	-455.28	3,044.57	0.00	0.00	0.00
11,500.00	89.63	178.81	7,525.37	-3,147.30	-453.21	3,144.56	0.00	0.00	0.00
11,600.00	89.63	178.81	7,526.03	-3,247.28	-451.15	3,244.54	0.00	0.00	0.00
11,700.00	89.63	178.81	7,526.68	-3,347.25	-449.08	3,344.53	0.00	0.00	0.00
11,800.00	89.63	178.81	7,527.33	-3,447.23	-447.01	3,444.52	0.00	0.00	0.00
11,900.00	89.63	178.81	7,527.98	-3,547.21	-444.94	3,544.50	0.00	0.00	0.00
11,903.18	89.63	178.81	7,528.00	-3,550.38	-444.88	3,547.68	0.00	0.00	0.00
Begin Turn for AC @ 11903.18ft									
11,996.58	89.63	180.22	7,528.61	-3,643.78	-444.09	3,641.08	1.50	0.00	1.50
End Turn @ 11996.58ft									
12,000.00	89.63	180.22	7,528.63	-3,647.20	-444.10	3,644.50	0.00	0.00	0.00
12,100.00	89.63	180.22	7,529.28	-3,747.20	-444.48	3,744.49	0.00	0.00	0.00
12,200.00	89.63	180.22	7,529.92	-3,847.19	-444.85	3,844.48	0.00	0.00	0.00
12,300.00	89.63	180.22	7,530.57	-3,947.19	-445.23	3,944.48	0.00	0.00	0.00
12,400.00	89.63	180.22	7,531.22	-4,047.19	-445.61	4,044.47	0.00	0.00	0.00
12,500.00	89.63	180.22	7,531.87	-4,147.18	-445.98	4,144.46	0.00	0.00	0.00
12,600.00	89.63	180.22	7,532.51	-4,247.18	-446.36	4,244.46	0.00	0.00	0.00
12,700.00	89.63	180.22	7,533.16	-4,347.18	-446.74	4,344.45	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well NELSON 35-5HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4969.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4969.00usft (Drilling Rig)
<b>Site:</b>	2N-68W-35 NELSON 28-35HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	NELSON 35-5HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-1		

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)	
12,800.00	89.63	180.22	7,533.81	-4,447.18	-447.11	4,444.44	0.00	0.00	0.00	
12,900.00	89.63	180.22	7,534.46	-4,547.17	-447.49	4,544.44	0.00	0.00	0.00	
13,000.00	89.63	180.22	7,535.10	-4,647.17	-447.87	4,644.43	0.00	0.00	0.00	
13,100.00	89.63	180.22	7,535.75	-4,747.17	-448.24	4,744.42	0.00	0.00	0.00	
13,200.00	89.63	180.22	7,536.40	-4,847.16	-448.62	4,844.42	0.00	0.00	0.00	
13,300.00	89.63	180.22	7,537.05	-4,947.16	-449.00	4,944.41	0.00	0.00	0.00	
13,400.00	89.63	180.22	7,537.69	-5,047.16	-449.38	5,044.40	0.00	0.00	0.00	
13,500.00	89.63	180.22	7,538.34	-5,147.16	-449.75	5,144.40	0.00	0.00	0.00	
13,600.00	89.63	180.22	7,538.99	-5,247.15	-450.13	5,244.39	0.00	0.00	0.00	
13,700.00	89.63	180.22	7,539.64	-5,347.15	-450.51	5,344.38	0.00	0.00	0.00	
13,800.00	89.63	180.22	7,540.28	-5,447.15	-450.88	5,444.38	0.00	0.00	0.00	
13,900.00	89.63	180.22	7,540.93	-5,547.14	-451.26	5,544.37	0.00	0.00	0.00	
14,000.00	89.63	180.22	7,541.58	-5,647.14	-451.64	5,644.36	0.00	0.00	0.00	
14,100.00	89.63	180.22	7,542.23	-5,747.14	-452.01	5,744.36	0.00	0.00	0.00	
14,200.00	89.63	180.22	7,542.87	-5,847.14	-452.39	5,844.35	0.00	0.00	0.00	
14,300.00	89.63	180.22	7,543.52	-5,947.13	-452.77	5,944.34	0.00	0.00	0.00	
14,400.00	89.63	180.22	7,544.17	-6,047.13	-453.14	6,044.34	0.00	0.00	0.00	
14,500.00	89.63	180.22	7,544.82	-6,147.13	-453.52	6,144.33	0.00	0.00	0.00	
14,600.00	89.63	180.22	7,545.46	-6,247.12	-453.90	6,244.32	0.00	0.00	0.00	
14,700.00	89.63	180.22	7,546.11	-6,347.12	-454.28	6,344.31	0.00	0.00	0.00	
14,800.00	89.63	180.22	7,546.76	-6,447.12	-454.65	6,444.31	0.00	0.00	0.00	
14,900.00	89.63	180.22	7,547.41	-6,547.12	-455.03	6,544.30	0.00	0.00	0.00	
15,000.00	89.63	180.22	7,548.05	-6,647.11	-455.41	6,644.29	0.00	0.00	0.00	
15,100.00	89.63	180.22	7,548.70	-6,747.11	-455.78	6,744.29	0.00	0.00	0.00	
15,200.00	89.63	180.22	7,549.35	-6,847.11	-456.16	6,844.28	0.00	0.00	0.00	
15,300.00	89.63	180.22	7,550.00	-6,947.11	-456.54	6,944.27	0.00	0.00	0.00	
15,306.83	89.63	180.22	7,550.04	-6,953.93	-456.56	6,951.10	0.00	0.00	0.00	
Begin Turn for AC @ 15306.83ft										
15,359.56	89.63	179.42	7,550.38	-7,006.67	-456.40	7,003.84	1.50	0.00	-1.50	
End Turn @ 15359.56ft										
15,400.00	89.63	179.42	7,550.64	-7,047.10	-455.99	7,044.27	0.00	0.00	0.00	
15,500.00	89.63	179.42	7,551.29	-7,147.09	-454.99	7,144.27	0.00	0.00	0.00	
15,600.00	89.63	179.42	7,551.94	-7,247.09	-453.98	7,244.26	0.00	0.00	0.00	
15,700.00	89.63	179.42	7,552.59	-7,347.08	-452.98	7,344.26	0.00	0.00	0.00	
15,800.00	89.63	179.42	7,553.24	-7,447.07	-451.98	7,444.26	0.00	0.00	0.00	
15,900.00	89.63	179.42	7,553.88	-7,547.06	-450.97	7,544.26	0.00	0.00	0.00	
16,000.00	89.63	179.42	7,554.53	-7,647.06	-449.97	7,644.25	0.00	0.00	0.00	
16,100.00	89.63	179.42	7,555.18	-7,747.05	-448.96	7,744.25	0.00	0.00	0.00	
16,200.00	89.63	179.42	7,555.83	-7,847.04	-447.96	7,844.25	0.00	0.00	0.00	
16,300.00	89.63	179.42	7,556.47	-7,947.04	-446.96	7,944.24	0.00	0.00	0.00	
16,400.00	89.63	179.42	7,557.12	-8,047.03	-445.95	8,044.24	0.00	0.00	0.00	
16,500.00	89.63	179.42	7,557.77	-8,147.02	-444.95	8,144.24	0.00	0.00	0.00	
16,600.00	89.63	179.42	7,558.42	-8,247.01	-443.95	8,244.24	0.00	0.00	0.00	
16,700.00	89.63	179.42	7,559.07	-8,347.01	-442.94	8,344.23	0.00	0.00	0.00	
16,800.00	89.63	179.42	7,559.71	-8,447.00	-441.94	8,444.23	0.00	0.00	0.00	
16,900.00	89.63	179.42	7,560.36	-8,546.99	-440.94	8,544.23	0.00	0.00	0.00	
17,000.00	89.63	179.42	7,561.01	-8,646.99	-439.93	8,644.22	0.00	0.00	0.00	
17,100.00	89.63	179.42	7,561.66	-8,746.98	-438.93	8,744.22	0.00	0.00	0.00	
17,200.00	89.63	179.42	7,562.31	-8,846.97	-437.92	8,844.22	0.00	0.00	0.00	
17,206.92	89.63	179.42	7,562.35	-8,853.89	-437.85	8,851.14	0.00	0.00	0.00	
Begin Turn to BHL @ 17206.92ft										
17,260.96	89.63	180.24	7,562.70	-8,907.93	-437.69	8,905.18	1.50	0.01	1.50	
End Turn @ 17260.96ft										



## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well NELSON 35-5HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4969.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4969.00usft (Drilling Rig)
<b>Site:</b>	2N-68W-35 NELSON 28-35HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	NELSON 35-5HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-1		

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)	
17,300.00	89.63	180.24	7,562.95	-8,946.97	-437.85	8,944.21	0.00	0.00	0.00	
17,400.00	89.63	180.24	7,563.58	-9,046.97	-438.27	9,044.21	0.00	0.00	0.00	
17,500.00	89.63	180.24	7,564.22	-9,146.96	-438.68	9,144.20	0.00	0.00	0.00	
17,600.00	89.63	180.24	7,564.86	-9,246.96	-439.09	9,244.19	0.00	0.00	0.00	
17,700.00	89.63	180.24	7,565.50	-9,346.96	-439.50	9,344.18	0.00	0.00	0.00	
17,800.00	89.63	180.24	7,566.13	-9,446.95	-439.91	9,444.18	0.00	0.00	0.00	
17,900.00	89.63	180.24	7,566.77	-9,546.95	-440.32	9,544.17	0.00	0.00	0.00	
18,000.00	89.63	180.24	7,567.41	-9,646.95	-440.73	9,644.16	0.00	0.00	0.00	
18,100.00	89.63	180.24	7,568.05	-9,746.95	-441.14	9,744.16	0.00	0.00	0.00	
18,200.00	89.63	180.24	7,568.68	-9,846.94	-441.55	9,844.15	0.00	0.00	0.00	
18,300.00	89.63	180.24	7,569.32	-9,946.94	-441.97	9,944.14	0.00	0.00	0.00	
18,400.00	89.63	180.24	7,569.96	-10,046.94	-442.38	10,044.13	0.00	0.00	0.00	
18,500.00	89.63	180.24	7,570.60	-10,146.93	-442.79	10,144.13	0.00	0.00	0.00	
18,600.00	89.63	180.24	7,571.23	-10,246.93	-443.20	10,244.12	0.00	0.00	0.00	
18,700.00	89.63	180.24	7,571.87	-10,346.93	-443.61	10,344.11	0.00	0.00	0.00	
18,800.00	89.63	180.24	7,572.51	-10,446.93	-444.02	10,444.11	0.00	0.00	0.00	
18,900.00	89.63	180.24	7,573.15	-10,546.92	-444.43	10,544.10	0.00	0.00	0.00	
19,000.00	89.63	180.24	7,573.78	-10,646.92	-444.84	10,644.09	0.00	0.00	0.00	
19,100.00	89.63	180.24	7,574.42	-10,746.92	-445.25	10,744.09	0.00	0.00	0.00	
19,200.00	89.63	180.24	7,575.06	-10,846.91	-445.66	10,844.08	0.00	0.00	0.00	
19,300.00	89.63	180.24	7,575.70	-10,946.91	-446.08	10,944.07	0.00	0.00	0.00	
19,400.00	89.63	180.24	7,576.33	-11,046.91	-446.49	11,044.06	0.00	0.00	0.00	
19,500.00	89.63	180.24	7,576.97	-11,146.91	-446.90	11,144.06	0.00	0.00	0.00	
19,600.00	89.63	180.24	7,577.61	-11,246.90	-447.31	11,244.05	0.00	0.00	0.00	
19,700.00	89.63	180.24	7,578.25	-11,346.90	-447.72	11,344.04	0.00	0.00	0.00	
19,800.00	89.63	180.24	7,578.88	-11,446.90	-448.13	11,444.04	0.00	0.00	0.00	
19,900.00	89.63	180.24	7,579.52	-11,546.89	-448.54	11,544.03	0.00	0.00	0.00	
20,000.00	89.63	180.24	7,580.16	-11,646.89	-448.95	11,644.02	0.00	0.00	0.00	
20,100.00	89.63	180.24	7,580.79	-11,746.89	-449.36	11,744.01	0.00	0.00	0.00	
20,200.00	89.63	180.24	7,581.43	-11,846.89	-449.78	11,844.01	0.00	0.00	0.00	
20,300.00	89.63	180.24	7,582.07	-11,946.88	-450.19	11,944.00	0.00	0.00	0.00	
20,400.00	89.63	180.24	7,582.71	-12,046.88	-450.60	12,043.99	0.00	0.00	0.00	
20,500.00	89.63	180.24	7,583.34	-12,146.88	-451.01	12,143.99	0.00	0.00	0.00	
20,600.00	89.63	180.24	7,583.98	-12,246.87	-451.42	12,243.98	0.00	0.00	0.00	
20,700.00	89.63	180.24	7,584.62	-12,346.87	-451.83	12,343.97	0.00	0.00	0.00	
20,800.00	89.63	180.24	7,585.26	-12,446.87	-452.24	12,443.97	0.00	0.00	0.00	
20,900.00	89.63	180.24	7,585.89	-12,546.87	-452.65	12,543.96	0.00	0.00	0.00	
20,916.60	89.63	180.24	7,586.00	-12,563.47	-452.72	12,560.56	0.00	0.00	0.00	
Fort Hayes										
21,000.00	89.63	180.24	7,586.53	-12,646.86	-453.06	12,643.95	0.00	0.00	0.00	
21,100.00	89.63	180.24	7,587.17	-12,746.86	-453.47	12,743.94	0.00	0.00	0.00	
21,200.00	89.63	180.24	7,587.81	-12,846.86	-453.89	12,843.94	0.00	0.00	0.00	
21,300.00	89.63	180.24	7,588.44	-12,946.85	-454.30	12,943.93	0.00	0.00	0.00	
21,400.00	89.63	180.24	7,589.08	-13,046.85	-454.71	13,043.92	0.00	0.00	0.00	
21,500.00	89.63	180.24	7,589.72	-13,146.85	-455.12	13,143.92	0.00	0.00	0.00	
21,544.11	89.63	180.24	7,590.00	-13,190.95	-455.30	13,188.02	0.00	0.00	0.00	
TD Well @ 21544.11ft										

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well NELSON 35-5HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4969.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4969.00usft (Drilling Rig)
<b>Site:</b>	2N-68W-35 NELSON 28-35HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	NELSON 35-5HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-1		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,522.85	1,500.00	9 5/8" Csg	9-5/8	13-1/2	
8,064.36	7,503.00	Top of Production	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
984.52	980.00	Fox Hills				
4,183.20	4,040.00	Parkman				
4,688.08	4,532.00	Sussex				
7,418.06	7,227.00	Sharon Springs				
7,529.16	7,309.00	Niobrara				
7,646.57	7,382.00	Nio B				
7,847.39	7,469.00	Nio C				
20,916.60	7,586.00	Fort Hayes				

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	Begin Nudge @ 250.00ft	
1,403.33	1,385.89	152.08	-82.06	Hold Tangent @ 1403.33ft	
4,203.33	4,059.22	884.86	-477.44	Begin Drop @ 4203.33ft	
5,068.33	4,911.13	998.92	-538.99	Hold Vertical @ 5068.33ft	
6,944.02	6,786.82	998.92	-538.99	KOP @ 6944.02ft :: DLS = 8°/100'	
8,064.36	7,503.00	287.54	-524.27	End Build @ 8064.36ft	
11,903.18	7,528.00	-3,550.38	-444.88	Begin Turn for AC @ 11903.18ft	
11,996.58	7,528.61	-3,643.78	-444.09	End Turn @ 11996.58ft	
15,306.83	7,550.04	-6,953.93	-456.56	Begin Turn for AC @ 15306.83ft	
15,359.56	7,550.38	-7,006.67	-456.40	End Turn @ 15359.56ft	
17,206.92	7,562.35	-8,853.89	-437.85	Begin Turn to BHL @ 17206.92ft	
17,260.96	7,562.70	-8,907.93	-437.69	End Turn @ 17260.96ft	
21,544.11	7,590.00	-13,190.95	-455.30	TD Well @ 21544.11ft	