

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N**

**1N-66W-26 BEIERLE 2-26HZ PAD**

**BEIERLE 26-16HZ**

**Plan A**

**Plan: Permit Rev-2**

SHL Lat/Long: 40.028279/-104.740974

Survey Program: MWD+IFR

## **Standard Planning Report**

**08 May, 2018**

Project: WELD-NAD83-UTMFT13N  
Site: 1N-66W-26 BEIERLE 2-26HZ PAD  
Well: BEIERLE 26-16HZ  
Wellbore: Plan A  
Design: Permit Rev-2

# US ROCKIES WATTENBERG PLANNING

## CASING DETAILS

TVD	MD	Size
1500.00	1525.25	9-5/8
7660.00	8314.10	5-1/2

WELL DETAILS: BEIERLE 26-16HZ

GL = 5118'

RKB = 17' @ 5135.00usft (Drilling Rig)

## 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	220.00	0.00	0.00	220.00	0.00	0.00	0.00	0.00	0.00	
3	1616.67	20.95	98.60	1585.75	-37.76	249.67	1.50	98.60	-41.07	
4	4416.67	20.95	98.60	4200.65	-187.47	1239.56	0.00	0.00	-203.89	
5	5464.17	0.00	0.00	5224.97	-215.79	1426.82	2.00	-180.00	-234.69	
6	7183.03	0.00	0.00	6943.83	-215.79	1426.82	0.00	0.00	-234.69	
7	8314.10	90.49	359.24	7660.00	506.42	1417.22	8.00	359.24	487.58	
8	13502.98	90.49	359.24	7616.00	5694.66	1348.31	0.00	0.00	5676.27	BEIERLE 26-16HZ_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
BEIERLE 26-16HZ_SHL	0.00	0.00	0.00	40.028279	-104.740974
BEIERLE 26-16HZ_BHL	7616.00	5694.66	1348.31	40.043917	-104.736156

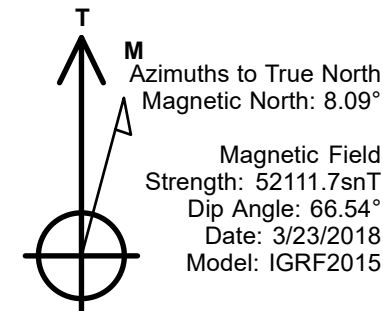
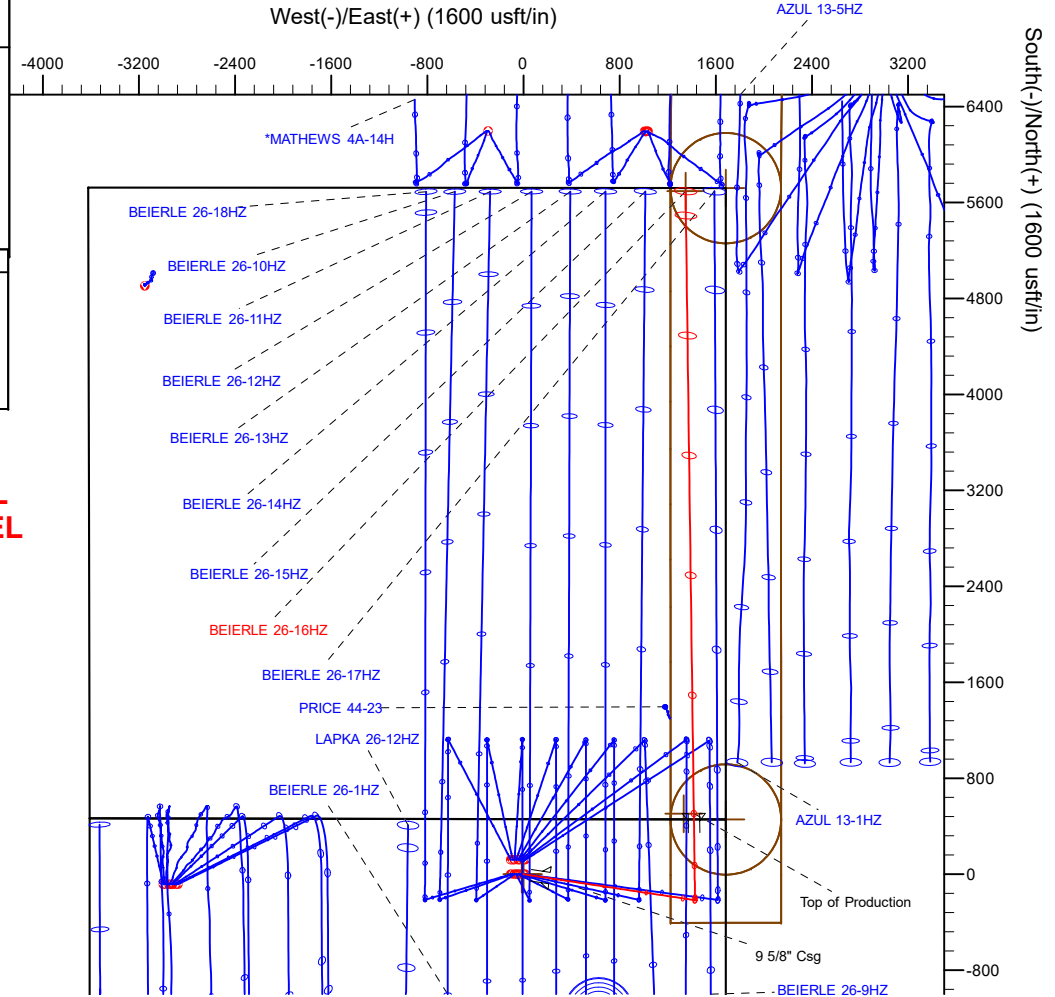
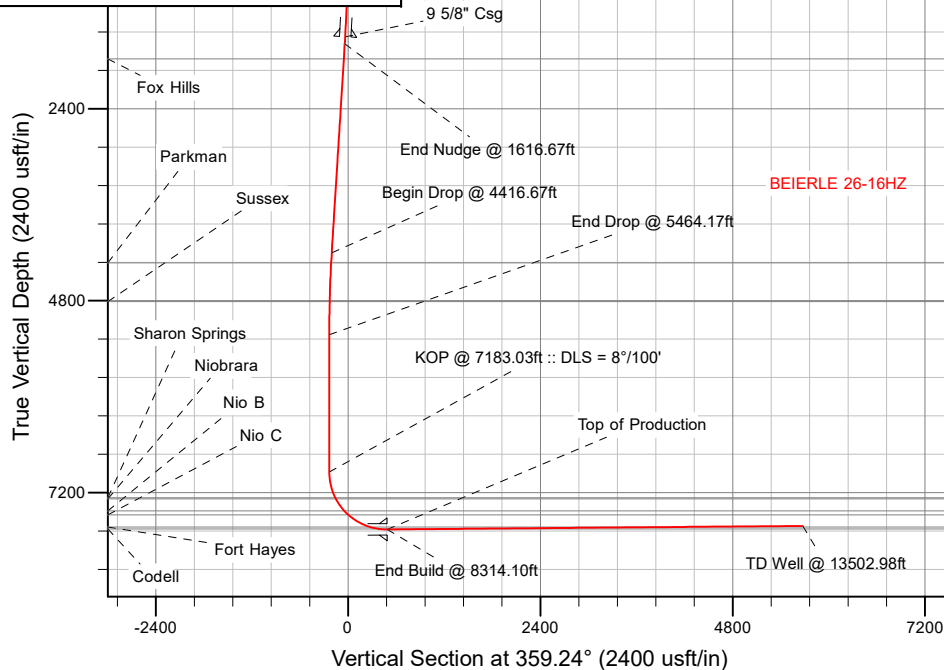
## FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1775.00	1819.31	Fox Hills
4327.00	4550.81	Parkman
4811.00	5048.75	Sussex
7264.00	7514.96	Sharon Springs
7279.00	7531.83	Niobrara
7428.00	7714.71	Nio B
7477.00	7784.42	Nio C
7630.00	8099.91	Fort Hayes
7652.00	8200.70	Codell

**SHL**  
**460' FNL**  
**1684' FEL**

**HEEL**  
**47' FSL**  
**266' FEL**

**TOE**  
**50' FNL**  
**346' FEL**



Plan: Permit Rev-2 (BEIERLE 26-16HZ/Plan A)

Date: 5/8/2018

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well BEIERLE 26-16HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5135.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5135.00usft (Drilling Rig)
<b>Site:</b>	1N-66W-26 BEIERLE 2-26HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	BEIERLE 26-16HZ	<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-66W-26 BEIERLE 2-26HZ PAD			
<b>Site Position:</b>		<b>Northing:</b>	14,537,256.31 usft	<b>Latitude:</b> 40.028609
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,712,821.93 usft	<b>Longitude:</b> -104.741349
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b> 0.17 °

<b>Well</b>	BEIERLE 26-16HZ			
<b>Well Position</b>	<b>+N/-S</b>	-120.17 usft	<b>Northing:</b>	14,537,136.45 usft
	<b>+E/-W</b>	104.98 usft	<b>Easting:</b>	1,712,927.25 usft
<b>Position Uncertainty</b>	3.28 usft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b> 5,118.00 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	3/23/2018	8.09	66.54	52,111.71514532

<b>Design</b>	Permit Rev-2			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	359.24

<b>Plan Survey Tool Program</b>	<b>Date</b>	5/8/2018		
<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	13,502.99	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:crustal field declinatio

Corporate  
Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well BEIERLE 26-16HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5135.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5135.00usft (Drilling Rig)
Site:	1N-66W-26 BEIERLE 2-26HZ PAD	North Reference:	True
Well:	BEIERLE 26-16HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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	
220.00	0.00	0.00	220.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,616.67	20.95	98.60	1,585.75	-37.76	249.67	1.50	1.50	0.00	98.60	
4,416.67	20.95	98.60	4,200.65	-187.47	1,239.56	0.00	0.00	0.00	0.00	
5,464.17	0.00	0.00	5,224.97	-215.79	1,426.82	2.00	-2.00	-9.41	-180.00	
7,183.03	0.00	0.00	6,943.83	-215.79	1,426.82	0.00	0.00	0.00	0.00	
8,314.10	90.49	359.24	7,660.00	506.42	1,417.22	8.00	8.00	-0.07	359.24	
13,502.99	90.49	359.24	7,616.00	5,694.66	1,348.31	0.00	0.00	0.00	0.00	BEIERLE 26-16HZ_B

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well BEIERLE 26-16HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5135.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5135.00usft (Drilling Rig)
<b>Site:</b>	1N-66W-26 BEIERLE 2-26HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	BEIERLE 26-16HZ	<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
220.00	0.00	0.00	220.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 220.00ft									
300.00	1.20	98.60	299.99	-0.13	0.83	-0.14	1.50	1.50	0.00
400.00	2.70	98.60	399.93	-0.63	4.19	-0.69	1.50	1.50	0.00
500.00	4.20	98.60	499.75	-1.53	10.14	-1.67	1.50	1.50	0.00
600.00	5.70	98.60	599.37	-2.82	18.67	-3.07	1.50	1.50	0.00
700.00	7.20	98.60	698.74	-4.50	29.78	-4.90	1.50	1.50	0.00
800.00	8.70	98.60	797.77	-6.57	43.46	-7.15	1.50	1.50	0.00
900.00	10.20	98.60	896.41	-9.03	59.69	-9.82	1.50	1.50	0.00
1,000.00	11.70	98.60	994.59	-11.87	78.47	-12.91	1.50	1.50	0.00
1,100.00	13.20	98.60	1,092.24	-15.09	99.79	-16.41	1.50	1.50	0.00
1,200.00	14.70	98.60	1,189.28	-18.70	123.62	-20.33	1.50	1.50	0.00
1,300.00	16.20	98.60	1,285.67	-22.68	149.96	-24.67	1.50	1.50	0.00
1,400.00	17.70	98.60	1,381.32	-27.04	178.79	-29.41	1.50	1.50	0.00
1,500.00	19.20	98.60	1,476.18	-31.77	210.08	-34.55	1.50	1.50	0.00
1,525.25	19.58	98.60	1,500.00	-33.02	218.37	-35.92	1.50	1.50	0.00
9 5/8" Csg									
1,600.00	20.70	98.60	1,570.17	-36.87	243.81	-40.10	1.50	1.50	0.00
1,616.67	20.95	98.60	1,585.75	-37.76	249.67	-41.07	1.50	1.50	0.00
End Nudge @ 1616.67ft									
1,700.00	20.95	98.60	1,663.58	-42.21	279.13	-45.91	0.00	0.00	0.00
1,800.00	20.95	98.60	1,756.97	-47.56	314.49	-51.73	0.00	0.00	0.00
1,819.31	20.95	98.60	1,775.00	-48.59	321.31	-52.85	0.00	0.00	0.00
Fox Hills									
1,900.00	20.95	98.60	1,850.36	-52.91	349.84	-57.54	0.00	0.00	0.00
2,000.00	20.95	98.60	1,943.74	-58.25	385.19	-63.36	0.00	0.00	0.00
2,100.00	20.95	98.60	2,037.13	-63.60	420.55	-69.17	0.00	0.00	0.00
2,200.00	20.95	98.60	2,130.52	-68.95	455.90	-74.99	0.00	0.00	0.00
2,300.00	20.95	98.60	2,223.91	-74.29	491.25	-80.80	0.00	0.00	0.00
2,400.00	20.95	98.60	2,317.30	-79.64	526.61	-86.62	0.00	0.00	0.00
2,500.00	20.95	98.60	2,410.69	-84.99	561.96	-92.43	0.00	0.00	0.00
2,600.00	20.95	98.60	2,504.08	-90.34	597.31	-98.25	0.00	0.00	0.00
2,700.00	20.95	98.60	2,597.47	-95.68	632.67	-104.07	0.00	0.00	0.00
2,800.00	20.95	98.60	2,690.86	-101.03	668.02	-109.88	0.00	0.00	0.00
2,900.00	20.95	98.60	2,784.25	-106.38	703.37	-115.70	0.00	0.00	0.00
3,000.00	20.95	98.60	2,877.64	-111.72	738.73	-121.51	0.00	0.00	0.00
3,100.00	20.95	98.60	2,971.03	-117.07	774.08	-127.33	0.00	0.00	0.00
3,200.00	20.95	98.60	3,064.42	-122.42	809.43	-133.14	0.00	0.00	0.00
3,300.00	20.95	98.60	3,157.81	-127.76	844.79	-138.96	0.00	0.00	0.00
3,400.00	20.95	98.60	3,251.19	-133.11	880.14	-144.77	0.00	0.00	0.00
3,500.00	20.95	98.60	3,344.58	-138.46	915.49	-150.59	0.00	0.00	0.00
3,600.00	20.95	98.60	3,437.97	-143.80	950.85	-156.40	0.00	0.00	0.00
3,700.00	20.95	98.60	3,531.36	-149.15	986.20	-162.22	0.00	0.00	0.00
3,800.00	20.95	98.60	3,624.75	-154.50	1,021.55	-168.03	0.00	0.00	0.00
3,900.00	20.95	98.60	3,718.14	-159.84	1,056.91	-173.85	0.00	0.00	0.00
4,000.00	20.95	98.60	3,811.53	-165.19	1,092.26	-179.66	0.00	0.00	0.00
4,100.00	20.95	98.60	3,904.92	-170.54	1,127.61	-185.48	0.00	0.00	0.00
4,200.00	20.95	98.60	3,998.31	-175.88	1,162.97	-191.29	0.00	0.00	0.00
4,300.00	20.95	98.60	4,091.70	-181.23	1,198.32	-197.11	0.00	0.00	0.00
4,400.00	20.95	98.60	4,185.09	-186.58	1,233.67	-202.92	0.00	0.00	0.00
4,416.67	20.95	98.60	4,200.65	-187.47	1,239.56	-203.89	0.00	0.00	0.00

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well BEIERLE 26-16HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5135.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5135.00usft (Drilling Rig)
<b>Site:</b>	1N-66W-26 BEIERLE 2-26HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	BEIERLE 26-16HZ	<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)
<b>Begin Drop @ 4416.67ft</b>									
4,500.00	19.28	98.60	4,278.90	-191.75	1,267.90	-208.55	2.00	-2.00	0.00
4,550.81	18.27	98.60	4,327.00	-194.20	1,284.07	-211.21	2.00	-2.00	0.00
<b>Parkman</b>									
4,600.00	17.28	98.60	4,373.85	-196.44	1,298.92	-213.65	2.00	-2.00	0.00
4,700.00	15.28	98.60	4,469.83	-200.64	1,326.64	-218.21	2.00	-2.00	0.00
4,800.00	13.28	98.60	4,566.73	-204.32	1,351.03	-222.23	2.00	-2.00	0.00
4,900.00	11.28	98.60	4,664.44	-207.51	1,372.07	-225.69	2.00	-2.00	0.00
5,000.00	9.28	98.60	4,762.83	-210.18	1,389.72	-228.59	2.00	-2.00	0.00
5,048.75	8.31	98.60	4,811.00	-211.29	1,397.09	-229.80	2.00	-2.00	0.00
<b>Sussex</b>									
5,100.00	7.28	98.60	4,861.78	-212.33	1,403.96	-230.93	2.00	-2.00	0.00
5,200.00	5.28	98.60	4,961.17	-213.97	1,414.78	-232.71	2.00	-2.00	0.00
5,300.00	3.28	98.60	5,060.89	-215.08	1,422.17	-233.93	2.00	-2.00	0.00
5,400.00	1.28	98.60	5,160.81	-215.68	1,426.11	-234.58	2.00	-2.00	0.00
5,464.17	0.00	0.00	5,224.97	-215.79	1,426.82	-234.69	2.00	-2.00	-153.66
<b>End Drop @ 5464.17ft</b>									
5,500.00	0.00	0.00	5,260.80	-215.79	1,426.82	-234.69	0.00	0.00	0.00
5,600.00	0.00	0.00	5,360.80	-215.79	1,426.82	-234.69	0.00	0.00	0.00
5,700.00	0.00	0.00	5,460.80	-215.79	1,426.82	-234.69	0.00	0.00	0.00
5,800.00	0.00	0.00	5,560.80	-215.79	1,426.82	-234.69	0.00	0.00	0.00
5,900.00	0.00	0.00	5,660.80	-215.79	1,426.82	-234.69	0.00	0.00	0.00
6,000.00	0.00	0.00	5,760.80	-215.79	1,426.82	-234.69	0.00	0.00	0.00
6,100.00	0.00	0.00	5,860.80	-215.79	1,426.82	-234.69	0.00	0.00	0.00
6,200.00	0.00	0.00	5,960.80	-215.79	1,426.82	-234.69	0.00	0.00	0.00
6,300.00	0.00	0.00	6,060.80	-215.79	1,426.82	-234.69	0.00	0.00	0.00
6,400.00	0.00	0.00	6,160.80	-215.79	1,426.82	-234.69	0.00	0.00	0.00
6,500.00	0.00	0.00	6,260.80	-215.79	1,426.82	-234.69	0.00	0.00	0.00
6,600.00	0.00	0.00	6,360.80	-215.79	1,426.82	-234.69	0.00	0.00	0.00
6,700.00	0.00	0.00	6,460.80	-215.79	1,426.82	-234.69	0.00	0.00	0.00
6,800.00	0.00	0.00	6,560.80	-215.79	1,426.82	-234.69	0.00	0.00	0.00
6,900.00	0.00	0.00	6,660.80	-215.79	1,426.82	-234.69	0.00	0.00	0.00
7,000.00	0.00	0.00	6,760.80	-215.79	1,426.82	-234.69	0.00	0.00	0.00
7,100.00	0.00	0.00	6,860.80	-215.79	1,426.82	-234.69	0.00	0.00	0.00
7,183.03	0.00	0.00	6,943.83	-215.79	1,426.82	-234.69	0.00	0.00	0.00
<b>KOP @ 7183.03ft :: DLS = 8°/100'</b>									
7,200.00	1.36	359.24	6,960.80	-215.58	1,426.82	-234.49	8.00	8.00	-4.48
7,300.00	9.36	359.24	7,060.28	-206.26	1,426.69	-225.16	8.00	8.00	0.00
7,400.00	17.36	359.24	7,157.50	-183.17	1,426.38	-202.08	8.00	8.00	0.00
7,500.00	25.36	359.24	7,250.55	-146.79	1,425.90	-165.69	8.00	8.00	0.00
7,514.96	26.55	359.24	7,264.00	-140.24	1,425.81	-159.14	8.00	8.00	0.00
<b>Sharon Springs</b>									
7,531.83	27.90	359.24	7,279.00	-132.53	1,425.71	-151.42	8.00	8.00	0.00
<b>Niobrara</b>									
7,600.00	33.36	359.24	7,337.64	-97.81	1,425.25	-116.70	8.00	8.00	0.00
7,700.00	41.36	359.24	7,417.06	-37.18	1,424.45	-56.07	8.00	8.00	0.00
7,714.71	42.53	359.24	7,428.00	-27.35	1,424.31	-46.24	8.00	8.00	0.00
<b>Nio B</b>									
7,784.42	48.11	359.24	7,477.00	22.20	1,423.66	3.31	8.00	8.00	0.00
<b>Nio C</b>									
7,800.00	49.36	359.24	7,487.27	33.90	1,423.50	15.02	8.00	8.00	0.00
7,900.00	57.36	359.24	7,546.91	114.07	1,422.44	95.19	8.00	8.00	0.00
8,000.00	65.36	359.24	7,594.80	201.75	1,421.27	182.88	8.00	8.00	0.00

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well BEIERLE 26-16HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5135.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5135.00usft (Drilling Rig)
<b>Site:</b>	1N-66W-26 BEIERLE 2-26HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	BEIERLE 26-16HZ	<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)	
8,099.91	73.35	359.24	7,630.00	295.16	1,420.03	276.30	8.00	8.00	0.00	
Fort Hayes										
8,100.00	73.36	359.24	7,630.03	295.25	1,420.03	276.39	8.00	8.00	0.00	
8,200.00	81.36	359.24	7,651.89	392.74	1,418.73	373.88	8.00	8.00	0.00	
8,200.70	81.41	359.24	7,652.00	393.43	1,418.73	374.58	8.00	8.00	0.00	
Codell										
8,300.00	89.36	359.24	7,659.98	492.32	1,417.41	473.48	8.00	8.00	0.00	
8,314.10	90.49	359.24	7,660.00	506.42	1,417.22	487.57	8.00	8.00	0.00	
End Build @ 8314.10ft - Top of Production										
8,400.00	90.49	359.24	7,659.27	592.31	1,416.08	573.47	0.00	0.00	0.00	
8,500.00	90.49	359.24	7,658.42	692.29	1,414.76	673.47	0.00	0.00	0.00	
8,600.00	90.49	359.24	7,657.58	792.28	1,413.43	773.46	0.00	0.00	0.00	
8,700.00	90.49	359.24	7,656.73	892.27	1,412.10	873.46	0.00	0.00	0.00	
8,800.00	90.49	359.24	7,655.88	992.26	1,410.77	973.46	0.00	0.00	0.00	
8,900.00	90.49	359.24	7,655.03	1,092.24	1,409.44	1,073.45	0.00	0.00	0.00	
9,000.00	90.49	359.24	7,654.18	1,192.23	1,408.12	1,173.45	0.00	0.00	0.00	
9,100.00	90.49	359.24	7,653.34	1,292.22	1,406.79	1,273.45	0.00	0.00	0.00	
9,200.00	90.49	359.24	7,652.49	1,392.21	1,405.46	1,373.44	0.00	0.00	0.00	
9,300.00	90.49	359.24	7,651.64	1,492.20	1,404.13	1,473.44	0.00	0.00	0.00	
9,400.00	90.49	359.24	7,650.79	1,592.18	1,402.80	1,573.44	0.00	0.00	0.00	
9,500.00	90.49	359.24	7,649.95	1,692.17	1,401.48	1,673.43	0.00	0.00	0.00	
9,600.00	90.49	359.24	7,649.10	1,792.16	1,400.15	1,773.43	0.00	0.00	0.00	
9,700.00	90.49	359.24	7,648.25	1,892.15	1,398.82	1,873.43	0.00	0.00	0.00	
9,800.00	90.49	359.24	7,647.40	1,992.13	1,397.49	1,973.42	0.00	0.00	0.00	
9,900.00	90.49	359.24	7,646.55	2,092.12	1,396.16	2,073.42	0.00	0.00	0.00	
10,000.00	90.49	359.24	7,645.71	2,192.11	1,394.83	2,173.41	0.00	0.00	0.00	
10,100.00	90.49	359.24	7,644.86	2,292.10	1,393.51	2,273.41	0.00	0.00	0.00	
10,200.00	90.49	359.24	7,644.01	2,392.08	1,392.18	2,373.41	0.00	0.00	0.00	
10,300.00	90.49	359.24	7,643.16	2,492.07	1,390.85	2,473.40	0.00	0.00	0.00	
10,400.00	90.49	359.24	7,642.31	2,592.06	1,389.52	2,573.40	0.00	0.00	0.00	
10,500.00	90.49	359.24	7,641.47	2,692.05	1,388.19	2,673.40	0.00	0.00	0.00	
10,600.00	90.49	359.24	7,640.62	2,792.03	1,386.87	2,773.39	0.00	0.00	0.00	
10,700.00	90.49	359.24	7,639.77	2,892.02	1,385.54	2,873.39	0.00	0.00	0.00	
10,800.00	90.49	359.24	7,638.92	2,992.01	1,384.21	2,973.39	0.00	0.00	0.00	
10,900.00	90.49	359.24	7,638.07	3,092.00	1,382.88	3,073.38	0.00	0.00	0.00	
11,000.00	90.49	359.24	7,637.23	3,191.98	1,381.55	3,173.38	0.00	0.00	0.00	
11,100.00	90.49	359.24	7,636.38	3,291.97	1,380.23	3,273.37	0.00	0.00	0.00	
11,200.00	90.49	359.24	7,635.53	3,391.96	1,378.90	3,373.37	0.00	0.00	0.00	
11,300.00	90.49	359.24	7,634.68	3,491.95	1,377.57	3,473.37	0.00	0.00	0.00	
11,400.00	90.49	359.24	7,633.83	3,591.93	1,376.24	3,573.36	0.00	0.00	0.00	
11,500.00	90.49	359.24	7,632.99	3,691.92	1,374.91	3,673.36	0.00	0.00	0.00	
11,600.00	90.49	359.24	7,632.14	3,791.91	1,373.58	3,773.36	0.00	0.00	0.00	
11,700.00	90.49	359.24	7,631.29	3,891.90	1,372.26	3,873.35	0.00	0.00	0.00	
11,800.00	90.49	359.24	7,630.44	3,991.88	1,370.93	3,973.35	0.00	0.00	0.00	
11,900.00	90.49	359.24	7,629.59	4,091.87	1,369.60	4,073.35	0.00	0.00	0.00	
12,000.00	90.49	359.24	7,628.75	4,191.86	1,368.27	4,173.34	0.00	0.00	0.00	
12,100.00	90.49	359.24	7,627.90	4,291.85	1,366.94	4,273.34	0.00	0.00	0.00	
12,200.00	90.49	359.24	7,627.05	4,391.84	1,365.62	4,373.34	0.00	0.00	0.00	
12,300.00	90.49	359.24	7,626.20	4,491.82	1,364.29	4,473.33	0.00	0.00	0.00	
12,400.00	90.49	359.24	7,625.35	4,591.81	1,362.96	4,573.33	0.00	0.00	0.00	
12,500.00	90.49	359.24	7,624.51	4,691.80	1,361.63	4,673.32	0.00	0.00	0.00	
12,600.00	90.49	359.24	7,623.66	4,791.79	1,360.30	4,773.32	0.00	0.00	0.00	
12,700.00	90.49	359.24	7,622.81	4,891.77	1,358.98	4,873.32	0.00	0.00	0.00	

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well BEIERLE 26-16HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5135.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5135.00usft (Drilling Rig)
<b>Site:</b>	1N-66W-26 BEIERLE 2-26HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	BEIERLE 26-16HZ	<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)
12,800.00	90.49	359.24	7,621.96	4,991.76	1,357.65	4,973.31	0.00	0.00	0.00
12,900.00	90.49	359.24	7,621.11	5,091.75	1,356.32	5,073.31	0.00	0.00	0.00
13,000.00	90.49	359.24	7,620.27	5,191.74	1,354.99	5,173.31	0.00	0.00	0.00
13,100.00	90.49	359.24	7,619.42	5,291.72	1,353.66	5,273.30	0.00	0.00	0.00
13,200.00	90.49	359.24	7,618.57	5,391.71	1,352.34	5,373.30	0.00	0.00	0.00
13,300.00	90.49	359.24	7,617.72	5,491.70	1,351.01	5,473.30	0.00	0.00	0.00
13,400.00	90.49	359.24	7,616.87	5,591.69	1,349.68	5,573.29	0.00	0.00	0.00
13,500.00	90.49	359.24	7,616.03	5,691.67	1,348.35	5,673.29	0.00	0.00	0.00
13,502.99	90.49	359.24	7,616.00	5,694.66	1,348.31	5,676.27	0.00	0.00	0.00
TD Well @ 13502.98ft									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,525.25	1,500.00	9 5/8" Csg	9-5/8	13-1/2
8,314.10	7,660.00	Top of Production	5-1/2	7-7/8

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,819.31	1,775.00	Fox Hills			
4,550.81	4,327.00	Parkman			
5,048.75	4,811.00	Sussex			
7,514.96	7,264.00	Sharon Springs			
7,531.83	7,279.00	Niobrara			
7,714.71	7,428.00	Nio B			
7,784.42	7,477.00	Nio C			
8,099.91	7,630.00	Fort Hayes			
8,200.70	7,652.00	Codell			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
220.00	220.00	0.00	0.00	Begin Nudge @ 220.00ft
1,616.67	1,585.75	-37.76	249.67	End Nudge @ 1616.67ft
4,416.67	4,200.65	-187.47	1,239.56	Begin Drop @ 4416.67ft
5,464.17	5,224.97	-215.79	1,426.82	End Drop @ 5464.17ft
7,183.03	6,943.83	-215.79	1,426.82	KOP @ 7183.03ft :: DLS = 8°/100'
8,314.10	7,660.00	506.42	1,417.22	End Build @ 8314.10ft
13,502.99	7,616.00	5,694.66	1,348.31	TD Well @ 13502.98ft