

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N  
4N-68W-11 S&B 5-11HZ PAD  
BAKE 11-22HZ**

## **Plan A**

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

SHL Lat/Long: 40.329879/-104.976933  
Survey Program: MWD+IFR+MSA

## **Standard Planning Report**

**14 February, 2019**

Project: WELD-NAD83-UTMFT13N  
Site: 4N-68W-11 S&B 5-11HZ PAD  
Well: BAKE 11-22HZ  
Wellbore: Plan A  
Design: Permit Rev-1

## US ROCKIES WATTENBERG PLANNING

### CASING DETAILS

TVD	MD	Size
1500.00	1521.32	9-5/8
7109.00	7663.28	5-1/2

WELL DETAILS: BAKE 11-22HZ

GL = 4994.00

RKB = 17' @ 5011.00usft (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	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	1290.00	15.60	187.40	1277.20	-139.54	-18.12	1.50	187.40	19.78	
4	4090.00	15.60	187.40	3974.05	-886.24	-115.10	0.00	0.00	125.61	
5	4870.00	0.00	0.00	4744.45	-990.89	-128.69	2.00	180.00	140.45	
6	6518.62	0.00	0.00	6393.07	-990.89	-128.69	0.00	0.00	140.45	
7	7663.28	91.57	269.32	7109.00	-999.64	-864.50	8.00	269.32	876.30	
8	17717.98	91.57	269.32	6833.00	-1119.17	-10914.70	0.00	0.00	10927.21	BAKE 11-22HZ BHL

**SHL**  
**2056' FNL**  
**792' FWL**

**HEEL**  
**2272' FSL**  
**75' FEL**

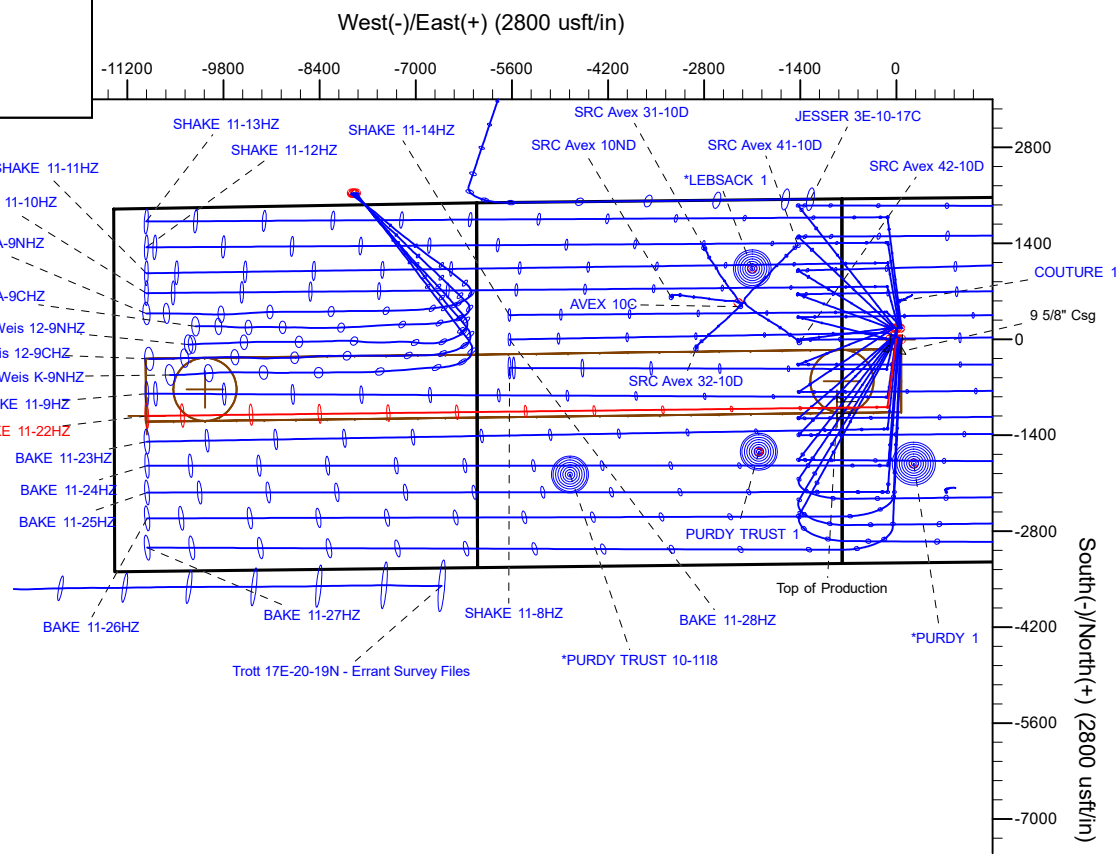
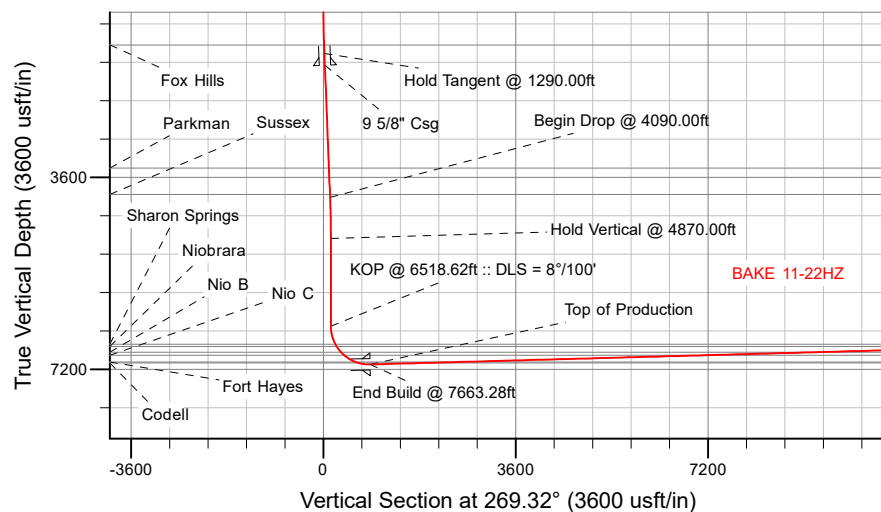
**TOE**  
**2269' FSL**  
**476' FWL**

### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
BAKE 11-22HZ SHL	0.00	0.00	0.00	40.329879	-104.976933
BAKE 11-22HZ BHL	6833.00	-1119.17	-10914.70	40.326799	-105.016094

### FORMATION TOP DETAILS

TVDPATH	MDPATH	Formation
1119.00	1126.68	Fox Hills
3424.00	3518.91	Parkman
3920.00	4033.88	Sussex
6730.00	6869.41	Sharon Springs
6773.00	6919.09	Niobrara
6880.00	7054.05	Nio B
6937.00	7136.34	Nio C
7064.00	7387.62	Fort Hayes
7083.00	7449.04	Codell



Plan: Permit Rev-1 (BAKE 11-22HZ/Plan A)

Date: 2/14/2019

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well BAKE 11-22HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5011.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5011.00usft (Drilling Rig)
<b>Site:</b>	4N-68W-11 S&B 5-11HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	BAKE 11-22HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<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>	4N-68W-11 S&B 5-11HZ PAD			
<b>Site Position:</b>		<b>Northing:</b>	14,647,020.58 usft	<b>Latitude:</b> 40.330320
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,646,741.13 usft	<b>Longitude:</b> -104.977307
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b> 0.01 °

<b>Well</b>	BAKE 11-22HZ			
<b>Well Position</b>	<b>+N/-S</b>	-160.59 usft	<b>Northing:</b>	14,646,860.02 usft
	<b>+E/-W</b>	104.23 usft	<b>Easting:</b>	1,646,845.41 usft
<b>Position Uncertainty</b>	3.28 usft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b> 4,994.00 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	2/7/2019	8.14	66.72	52,144.78647039

<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	269.32

<b>Plan Survey Tool Program</b>	<b>Date</b>	2/13/2019		
<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 A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:crustal field declinatio
2	1,500.00	17,717.98	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:Rockies, crustal dec +

Corporate  
Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well BAKE 11-22HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5011.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5011.00usft (Drilling Rig)
Site:	4N-68W-11 S&B 5-11HZ PAD	North Reference:	True
Well:	BAKE 11-22HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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	
1,290.00	15.60	187.40	1,277.20	-139.54	-18.12	1.50	1.50	0.00	187.40	
4,090.00	15.60	187.40	3,974.05	-886.24	-115.10	0.00	0.00	0.00	0.00	
4,870.00	0.00	0.00	4,744.45	-990.89	-128.69	2.00	-2.00	0.00	180.00	
6,518.62	0.00	0.00	6,393.07	-990.89	-128.69	0.00	0.00	0.00	0.00	
7,663.28	91.57	269.32	7,109.00	-999.64	-864.50	8.00	8.00	-7.92	269.32	
17,717.98	91.57	269.32	6,833.00	-1,119.17	-10,914.70	0.00	0.00	0.00	0.00	BAKE 11-22HZ BHL

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well BAKE 11-22HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5011.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5011.00usft (Drilling Rig)
<b>Site:</b>	4N-68W-11 S&B 5-11HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	BAKE 11-22HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<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	187.40	300.00	-0.32	-0.04	0.05	1.50	1.50	0.00
400.00	2.25	187.40	399.96	-2.92	-0.38	0.41	1.50	1.50	0.00
500.00	3.75	187.40	499.82	-8.11	-1.05	1.15	1.50	1.50	0.00
600.00	5.25	187.40	599.51	-15.89	-2.06	2.25	1.50	1.50	0.00
700.00	6.75	187.40	698.96	-26.26	-3.41	3.72	1.50	1.50	0.00
800.00	8.25	187.40	798.10	-39.20	-5.09	5.56	1.50	1.50	0.00
900.00	9.75	187.40	896.87	-54.71	-7.11	7.75	1.50	1.50	0.00
1,000.00	11.25	187.40	995.19	-72.78	-9.45	10.32	1.50	1.50	0.00
1,100.00	12.75	187.40	1,093.00	-93.40	-12.13	13.24	1.50	1.50	0.00
1,126.68	13.15	187.40	1,119.00	-99.33	-12.90	14.08	1.50	1.50	0.00
Fox Hills									
1,200.00	14.25	187.40	1,190.24	-116.55	-15.14	16.52	1.50	1.50	0.00
1,290.00	15.60	187.40	1,277.20	-139.54	-18.12	19.78	1.50	1.50	0.00
Hold Tangent @ 1290.00ft									
1,300.00	15.60	187.40	1,286.83	-142.20	-18.47	20.16	0.00	0.00	0.00
1,400.00	15.60	187.40	1,383.15	-168.87	-21.93	23.94	0.00	0.00	0.00
1,500.00	15.60	187.40	1,479.46	-195.54	-25.40	27.72	0.00	0.00	0.00
1,521.32	15.60	187.40	1,500.00	-201.23	-26.13	28.52	0.00	0.00	0.00
9 5/8" Csg									
1,600.00	15.60	187.40	1,575.78	-222.21	-28.86	31.49	0.00	0.00	0.00
1,700.00	15.60	187.40	1,672.09	-248.88	-32.32	35.27	0.00	0.00	0.00
1,800.00	15.60	187.40	1,768.41	-275.54	-35.79	39.05	0.00	0.00	0.00
1,900.00	15.60	187.40	1,864.73	-302.21	-39.25	42.83	0.00	0.00	0.00
2,000.00	15.60	187.40	1,961.04	-328.88	-42.71	46.61	0.00	0.00	0.00
2,100.00	15.60	187.40	2,057.36	-355.55	-46.18	50.39	0.00	0.00	0.00
2,200.00	15.60	187.40	2,153.68	-382.22	-49.64	54.17	0.00	0.00	0.00
2,300.00	15.60	187.40	2,249.99	-408.88	-53.10	57.95	0.00	0.00	0.00
2,400.00	15.60	187.40	2,346.31	-435.55	-56.57	61.73	0.00	0.00	0.00
2,500.00	15.60	187.40	2,442.62	-462.22	-60.03	65.51	0.00	0.00	0.00
2,600.00	15.60	187.40	2,538.94	-488.89	-63.50	69.29	0.00	0.00	0.00
2,700.00	15.60	187.40	2,635.26	-515.56	-66.96	73.07	0.00	0.00	0.00
2,800.00	15.60	187.40	2,731.57	-542.22	-70.42	76.85	0.00	0.00	0.00
2,900.00	15.60	187.40	2,827.89	-568.89	-73.89	80.63	0.00	0.00	0.00
3,000.00	15.60	187.40	2,924.21	-595.56	-77.35	84.41	0.00	0.00	0.00
3,100.00	15.60	187.40	3,020.52	-622.23	-80.81	88.19	0.00	0.00	0.00
3,200.00	15.60	187.40	3,116.84	-648.90	-84.28	91.97	0.00	0.00	0.00
3,300.00	15.60	187.40	3,213.15	-675.56	-87.74	95.75	0.00	0.00	0.00
3,400.00	15.60	187.40	3,309.47	-702.23	-91.20	99.53	0.00	0.00	0.00
3,500.00	15.60	187.40	3,405.79	-728.90	-94.67	103.31	0.00	0.00	0.00
3,518.91	15.60	187.40	3,424.00	-733.94	-95.32	104.03	0.00	0.00	0.00
Parkman									
3,600.00	15.60	187.40	3,502.10	-755.57	-98.13	107.09	0.00	0.00	0.00
3,700.00	15.60	187.40	3,598.42	-782.24	-101.59	110.87	0.00	0.00	0.00
3,800.00	15.60	187.40	3,694.74	-808.90	-105.06	114.65	0.00	0.00	0.00
3,900.00	15.60	187.40	3,791.05	-835.57	-108.52	118.43	0.00	0.00	0.00
4,000.00	15.60	187.40	3,887.37	-862.24	-111.99	122.21	0.00	0.00	0.00
4,033.88	15.60	187.40	3,920.00	-871.27	-113.16	123.49	0.00	0.00	0.00
Sussex									

**Corporate**  
Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well BAKE 11-22HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5011.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5011.00usft (Drilling Rig)
<b>Site:</b>	4N-68W-11 S&B 5-11HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	BAKE 11-22HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<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)	
4,090.00	15.60	187.40	3,974.05	-886.24	-115.10	125.61	0.00	0.00	0.00	
<b>Begin Drop @ 4090.00ft</b>										
4,100.00	15.40	187.40	3,983.69	-888.89	-115.45	125.99	2.00	-2.00	0.00	
4,200.00	13.40	187.40	4,080.54	-913.55	-118.65	129.48	2.00	-2.00	0.00	
4,300.00	11.40	187.40	4,178.21	-934.85	-121.42	132.50	2.00	-2.00	0.00	
4,400.00	9.40	187.40	4,276.56	-952.75	-123.74	135.04	2.00	-2.00	0.00	
4,500.00	7.40	187.40	4,375.48	-967.23	-125.62	137.09	2.00	-2.00	0.00	
4,600.00	5.40	187.40	4,474.85	-978.29	-127.06	138.66	2.00	-2.00	0.00	
4,700.00	3.40	187.40	4,574.55	-985.89	-128.05	139.74	2.00	-2.00	0.00	
4,800.00	1.40	187.40	4,674.46	-990.05	-128.58	140.33	2.00	-2.00	0.00	
4,870.00	0.00	0.00	4,744.45	-990.89	-128.69	140.45	2.00	-2.00	0.00	
<b>Hold Vertical @ 4870.00ft</b>										
4,900.00	0.00	0.00	4,774.45	-990.89	-128.69	140.45	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,874.45	-990.89	-128.69	140.45	0.00	0.00	0.00	
5,100.00	0.00	0.00	4,974.45	-990.89	-128.69	140.45	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,074.45	-990.89	-128.69	140.45	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,174.45	-990.89	-128.69	140.45	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,274.45	-990.89	-128.69	140.45	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,374.45	-990.89	-128.69	140.45	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,474.45	-990.89	-128.69	140.45	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,574.45	-990.89	-128.69	140.45	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,674.45	-990.89	-128.69	140.45	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,774.45	-990.89	-128.69	140.45	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,874.45	-990.89	-128.69	140.45	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,974.45	-990.89	-128.69	140.45	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,074.45	-990.89	-128.69	140.45	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,174.45	-990.89	-128.69	140.45	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,274.45	-990.89	-128.69	140.45	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,374.45	-990.89	-128.69	140.45	0.00	0.00	0.00	
6,518.62	0.00	0.00	6,393.07	-990.89	-128.69	140.45	0.00	0.00	0.00	
<b>KOP @ 6518.62ft :: DLS = 8°/100'</b>										
6,600.00	6.51	269.32	6,474.28	-990.95	-133.31	145.06	8.00	8.00	0.00	
6,700.00	14.51	269.32	6,572.52	-991.17	-151.54	163.29	8.00	8.00	0.00	
6,800.00	22.51	269.32	6,667.27	-991.54	-183.26	195.01	8.00	8.00	0.00	
6,869.41	28.06	269.32	6,730.00	-991.89	-212.89	224.65	8.00	8.00	0.00	
<b>Sharon Springs</b>										
6,900.00	30.51	269.32	6,756.68	-992.07	-227.85	239.61	8.00	8.00	0.00	
6,919.09	32.04	269.32	6,773.00	-992.19	-237.77	249.52	8.00	8.00	0.00	
<b>Niobrara</b>										
7,000.00	38.51	269.32	6,839.02	-992.75	-284.46	296.22	8.00	8.00	0.00	
7,054.05	42.83	269.32	6,880.00	-993.16	-319.67	331.44	8.00	8.00	0.00	
<b>Nio B</b>										
7,100.00	46.51	269.32	6,912.67	-993.55	-351.97	363.74	8.00	8.00	0.00	
7,136.34	49.42	269.32	6,937.00	-993.87	-378.96	390.72	8.00	8.00	0.00	
<b>Nio C</b>										
7,200.00	54.51	269.32	6,976.21	-994.47	-429.08	440.85	8.00	8.00	0.00	
7,300.00	62.51	269.32	7,028.41	-995.48	-514.28	526.05	8.00	8.00	0.00	
7,387.62	69.52	269.32	7,064.00	-996.43	-594.27	606.06	8.00	8.00	0.00	
<b>Fort Hayes</b>										
7,400.00	70.51	269.32	7,068.23	-996.57	-605.91	617.69	8.00	8.00	0.00	
7,449.04	74.43	269.32	7,083.00	-997.13	-652.66	664.45	8.00	8.00	0.00	
<b>Codell</b>										
7,500.00	78.51	269.32	7,094.92	-997.71	-702.19	713.98	8.00	8.00	0.00	

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well BAKE 11-22HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5011.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5011.00usft (Drilling Rig)
<b>Site:</b>	4N-68W-11 S&B 5-11HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	BAKE 11-22HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<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)	
7,600.00	86.51	269.32	7,107.94	-998.89	-801.25	813.05	8.00	8.00	0.00	
7,663.28	91.57	269.32	7,109.00	-999.64	-864.50	876.30	8.00	8.00	0.00	
End Build @ 7663.28ft - Top of Production										
7,700.00	91.57	269.32	7,107.99	-1,000.08	-901.20	913.01	0.00	0.00	0.00	
7,800.00	91.57	269.32	7,105.25	-1,001.27	-1,001.16	1,012.97	0.00	0.00	0.00	
7,900.00	91.57	269.32	7,102.50	-1,002.46	-1,101.11	1,112.93	0.00	0.00	0.00	
8,000.00	91.57	269.32	7,099.76	-1,003.65	-1,201.07	1,212.89	0.00	0.00	0.00	
8,100.00	91.57	269.32	7,097.01	-1,004.84	-1,301.02	1,312.86	0.00	0.00	0.00	
8,200.00	91.57	269.32	7,094.27	-1,006.02	-1,400.98	1,412.82	0.00	0.00	0.00	
8,300.00	91.57	269.32	7,091.52	-1,007.21	-1,500.93	1,512.78	0.00	0.00	0.00	
8,400.00	91.57	269.32	7,088.78	-1,008.40	-1,600.89	1,612.74	0.00	0.00	0.00	
8,500.00	91.57	269.32	7,086.03	-1,009.59	-1,700.84	1,712.70	0.00	0.00	0.00	
8,600.00	91.57	269.32	7,083.29	-1,010.78	-1,800.80	1,812.67	0.00	0.00	0.00	
8,700.00	91.57	269.32	7,080.54	-1,011.97	-1,900.75	1,912.63	0.00	0.00	0.00	
8,800.00	91.57	269.32	7,077.80	-1,013.16	-2,000.71	2,012.59	0.00	0.00	0.00	
8,900.00	91.57	269.32	7,075.05	-1,014.35	-2,100.66	2,112.55	0.00	0.00	0.00	
9,000.00	91.57	269.32	7,072.31	-1,015.54	-2,200.62	2,212.52	0.00	0.00	0.00	
9,100.00	91.57	269.32	7,069.56	-1,016.72	-2,300.57	2,312.48	0.00	0.00	0.00	
9,200.00	91.57	269.32	7,066.82	-1,017.91	-2,400.53	2,412.44	0.00	0.00	0.00	
9,300.00	91.57	269.32	7,064.07	-1,019.10	-2,500.48	2,512.40	0.00	0.00	0.00	
9,400.00	91.57	269.32	7,061.33	-1,020.29	-2,600.44	2,612.37	0.00	0.00	0.00	
9,500.00	91.57	269.32	7,058.58	-1,021.48	-2,700.40	2,712.33	0.00	0.00	0.00	
9,600.00	91.57	269.32	7,055.84	-1,022.67	-2,800.35	2,812.29	0.00	0.00	0.00	
9,700.00	91.57	269.32	7,053.09	-1,023.86	-2,900.31	2,912.25	0.00	0.00	0.00	
9,800.00	91.57	269.32	7,050.35	-1,025.05	-3,000.26	3,012.22	0.00	0.00	0.00	
9,900.00	91.57	269.32	7,047.60	-1,026.23	-3,100.22	3,112.18	0.00	0.00	0.00	
10,000.00	91.57	269.32	7,044.86	-1,027.42	-3,200.17	3,212.14	0.00	0.00	0.00	
10,100.00	91.57	269.32	7,042.11	-1,028.61	-3,300.13	3,312.10	0.00	0.00	0.00	
10,200.00	91.57	269.32	7,039.37	-1,029.80	-3,400.08	3,412.06	0.00	0.00	0.00	
10,300.00	91.57	269.32	7,036.62	-1,030.99	-3,500.04	3,512.03	0.00	0.00	0.00	
10,400.00	91.57	269.32	7,033.88	-1,032.18	-3,599.99	3,611.99	0.00	0.00	0.00	
10,500.00	91.57	269.32	7,031.13	-1,033.37	-3,699.95	3,711.95	0.00	0.00	0.00	
10,600.00	91.57	269.32	7,028.39	-1,034.56	-3,799.90	3,811.91	0.00	0.00	0.00	
10,700.00	91.57	269.32	7,025.64	-1,035.74	-3,899.86	3,911.88	0.00	0.00	0.00	
10,800.00	91.57	269.32	7,022.90	-1,036.93	-3,999.81	4,011.84	0.00	0.00	0.00	
10,900.00	91.57	269.32	7,020.15	-1,038.12	-4,099.77	4,111.80	0.00	0.00	0.00	
11,000.00	91.57	269.32	7,017.41	-1,039.31	-4,199.72	4,211.76	0.00	0.00	0.00	
11,100.00	91.57	269.32	7,014.66	-1,040.50	-4,299.68	4,311.73	0.00	0.00	0.00	
11,200.00	91.57	269.32	7,011.92	-1,041.69	-4,399.63	4,411.69	0.00	0.00	0.00	
11,300.00	91.57	269.32	7,009.17	-1,042.88	-4,499.59	4,511.65	0.00	0.00	0.00	
11,400.00	91.57	269.32	7,006.43	-1,044.07	-4,599.55	4,611.61	0.00	0.00	0.00	
11,500.00	91.57	269.32	7,003.68	-1,045.26	-4,699.50	4,711.57	0.00	0.00	0.00	
11,600.00	91.57	269.32	7,000.94	-1,046.44	-4,799.46	4,811.54	0.00	0.00	0.00	
11,700.00	91.57	269.32	6,998.19	-1,047.63	-4,899.41	4,911.50	0.00	0.00	0.00	
11,800.00	91.57	269.32	6,995.45	-1,048.82	-4,999.37	5,011.46	0.00	0.00	0.00	
11,900.00	91.57	269.32	6,992.70	-1,050.01	-5,099.32	5,111.42	0.00	0.00	0.00	
12,000.00	91.57	269.32	6,989.96	-1,051.20	-5,199.28	5,211.39	0.00	0.00	0.00	
12,100.00	91.57	269.32	6,987.21	-1,052.39	-5,299.23	5,311.35	0.00	0.00	0.00	
12,200.00	91.57	269.32	6,984.47	-1,053.58	-5,399.19	5,411.31	0.00	0.00	0.00	
12,300.00	91.57	269.32	6,981.72	-1,054.77	-5,499.14	5,511.27	0.00	0.00	0.00	
12,400.00	91.57	269.32	6,978.98	-1,055.95	-5,599.10	5,611.24	0.00	0.00	0.00	
12,500.00	91.57	269.32	6,976.23	-1,057.14	-5,699.05	5,711.20	0.00	0.00	0.00	
12,600.00	91.57	269.32	6,973.49	-1,058.33	-5,799.01	5,811.16	0.00	0.00	0.00	
12,700.00	91.57	269.32	6,970.74	-1,059.52	-5,898.96	5,911.12	0.00	0.00	0.00	

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well BAKE 11-22HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5011.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5011.00usft (Drilling Rig)
<b>Site:</b>	4N-68W-11 S&B 5-11HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	BAKE 11-22HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<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	91.57	269.32	6,968.00	-1,060.71	-5,998.92	6,011.08	0.00	0.00	0.00
12,900.00	91.57	269.32	6,965.25	-1,061.90	-6,098.87	6,111.05	0.00	0.00	0.00
13,000.00	91.57	269.32	6,962.51	-1,063.09	-6,198.83	6,211.01	0.00	0.00	0.00
13,100.00	91.57	269.32	6,959.76	-1,064.28	-6,298.78	6,310.97	0.00	0.00	0.00
13,200.00	91.57	269.32	6,957.02	-1,065.46	-6,398.74	6,410.93	0.00	0.00	0.00
13,300.00	91.57	269.32	6,954.27	-1,066.65	-6,498.69	6,510.90	0.00	0.00	0.00
13,400.00	91.57	269.32	6,951.53	-1,067.84	-6,598.65	6,610.86	0.00	0.00	0.00
13,500.00	91.57	269.32	6,948.78	-1,069.03	-6,698.61	6,710.82	0.00	0.00	0.00
13,600.00	91.57	269.32	6,946.04	-1,070.22	-6,798.56	6,810.78	0.00	0.00	0.00
13,700.00	91.57	269.32	6,943.29	-1,071.41	-6,898.52	6,910.75	0.00	0.00	0.00
13,800.00	91.57	269.32	6,940.55	-1,072.60	-6,998.47	7,010.71	0.00	0.00	0.00
13,900.00	91.57	269.32	6,937.80	-1,073.79	-7,098.43	7,110.67	0.00	0.00	0.00
14,000.00	91.57	269.32	6,935.06	-1,074.97	-7,198.38	7,210.63	0.00	0.00	0.00
14,100.00	91.57	269.32	6,932.31	-1,076.16	-7,298.34	7,310.59	0.00	0.00	0.00
14,200.00	91.57	269.32	6,929.57	-1,077.35	-7,398.29	7,410.56	0.00	0.00	0.00
14,300.00	91.57	269.32	6,926.82	-1,078.54	-7,498.25	7,510.52	0.00	0.00	0.00
14,400.00	91.57	269.32	6,924.08	-1,079.73	-7,598.20	7,610.48	0.00	0.00	0.00
14,500.00	91.57	269.32	6,921.33	-1,080.92	-7,698.16	7,710.44	0.00	0.00	0.00
14,600.00	91.57	269.32	6,918.59	-1,082.11	-7,798.11	7,810.41	0.00	0.00	0.00
14,700.00	91.57	269.32	6,915.84	-1,083.30	-7,898.07	7,910.37	0.00	0.00	0.00
14,800.00	91.57	269.32	6,913.10	-1,084.49	-7,998.02	8,010.33	0.00	0.00	0.00
14,900.00	91.57	269.32	6,910.35	-1,085.67	-8,097.98	8,110.29	0.00	0.00	0.00
15,000.00	91.57	269.32	6,907.61	-1,086.86	-8,197.93	8,210.26	0.00	0.00	0.00
15,100.00	91.57	269.32	6,904.86	-1,088.05	-8,297.89	8,310.22	0.00	0.00	0.00
15,200.00	91.57	269.32	6,902.12	-1,089.24	-8,397.84	8,410.18	0.00	0.00	0.00
15,300.00	91.57	269.32	6,899.37	-1,090.43	-8,497.80	8,510.14	0.00	0.00	0.00
15,400.00	91.57	269.32	6,896.63	-1,091.62	-8,597.76	8,610.11	0.00	0.00	0.00
15,500.00	91.57	269.32	6,893.88	-1,092.81	-8,697.71	8,710.07	0.00	0.00	0.00
15,600.00	91.57	269.32	6,891.14	-1,094.00	-8,797.67	8,810.03	0.00	0.00	0.00
15,700.00	91.57	269.32	6,888.39	-1,095.18	-8,897.62	8,909.99	0.00	0.00	0.00
15,800.00	91.57	269.32	6,885.65	-1,096.37	-8,997.58	9,009.95	0.00	0.00	0.00
15,900.00	91.57	269.32	6,882.90	-1,097.56	-9,097.53	9,109.92	0.00	0.00	0.00
16,000.00	91.57	269.32	6,880.16	-1,098.75	-9,197.49	9,209.88	0.00	0.00	0.00
16,100.00	91.57	269.32	6,877.41	-1,099.94	-9,297.44	9,309.84	0.00	0.00	0.00
16,200.00	91.57	269.32	6,874.67	-1,101.13	-9,397.40	9,409.80	0.00	0.00	0.00
16,300.00	91.57	269.32	6,871.92	-1,102.32	-9,497.35	9,509.77	0.00	0.00	0.00
16,400.00	91.57	269.32	6,869.18	-1,103.51	-9,597.31	9,609.73	0.00	0.00	0.00
16,500.00	91.57	269.32	6,866.43	-1,104.69	-9,697.26	9,709.69	0.00	0.00	0.00
16,600.00	91.57	269.32	6,863.69	-1,105.88	-9,797.22	9,809.65	0.00	0.00	0.00
16,700.00	91.57	269.32	6,860.94	-1,107.07	-9,897.17	9,909.62	0.00	0.00	0.00
16,800.00	91.57	269.32	6,858.20	-1,108.26	-9,997.13	10,009.58	0.00	0.00	0.00
16,900.00	91.57	269.32	6,855.45	-1,109.45	-10,097.08	10,109.54	0.00	0.00	0.00
17,000.00	91.57	269.32	6,852.71	-1,110.64	-10,197.04	10,209.50	0.00	0.00	0.00
17,100.00	91.57	269.32	6,849.96	-1,111.83	-10,296.99	10,309.46	0.00	0.00	0.00
17,200.00	91.57	269.32	6,847.22	-1,113.02	-10,396.95	10,409.43	0.00	0.00	0.00
17,300.00	91.57	269.32	6,844.47	-1,114.20	-10,496.91	10,509.39	0.00	0.00	0.00
17,400.00	91.57	269.32	6,841.73	-1,115.39	-10,596.86	10,609.35	0.00	0.00	0.00
17,500.00	91.57	269.32	6,838.98	-1,116.58	-10,696.82	10,709.31	0.00	0.00	0.00
17,600.00	91.57	269.32	6,836.24	-1,117.77	-10,796.77	10,809.28	0.00	0.00	0.00
17,700.00	91.57	269.32	6,833.49	-1,118.96	-10,896.73	10,909.24	0.00	0.00	0.00
17,717.98	91.57	269.32	6,833.00	-1,119.17	-10,914.70	10,927.21	0.00	0.00	0.00
TD Well @ 17717.98ft									

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well BAKE 11-22HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5011.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5011.00usft (Drilling Rig)
<b>Site:</b>	4N-68W-11 S&B 5-11HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	BAKE 11-22HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,521.32	1,500.00	9 5/8" Csg	9-5/8	13-1/2	
7,663.28	7,109.00	Top of Production	5-1/2	7-7/8	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,126.68	1,119.00	Fox Hills			
3,518.91	3,424.00	Parkman			
4,033.88	3,920.00	Sussex			
6,869.41	6,730.00	Sharon Springs			
6,919.09	6,773.00	Niobrara			
7,054.05	6,880.00	Nio B			
7,136.34	6,937.00	Nio C			
7,387.62	7,064.00	Fort Hayes			
7,449.04	7,083.00	Codell			

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
1,290.00	1,277.20	-139.54	-18.12	Hold Tangent @ 1290.00ft
4,090.00	3,974.05	-886.24	-115.10	Begin Drop @ 4090.00ft
4,870.00	4,744.45	-990.89	-128.69	Hold Vertical @ 4870.00ft
6,518.62	6,393.07	-990.89	-128.69	KOP @ 6518.62ft :: DLS = 8"/100'
7,663.28	7,109.00	-999.64	-864.50	End Build @ 7663.28ft
17,717.98	6,833.00	-1,119.17	-10,914.70	TD Well @ 17717.98ft