

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N  
2N-66W-24 POLO 36-24HZ PAD  
POLO 24-11HZ**

**Plan A**

**Plan: Permit Rev-1**

SHL Lat/Long: 40.117673/-104.726130  
Survey Program: MWD+IFR

## **Standard Planning Report**

**11 September, 2017**

Project: WELD-NAD83-UTMFT13N  
 Site: 2N-66W-24 POLO 36-24HZ PAD  
 Well: POLO 24-11HZ  
 Wellbore: Plan A  
 Design: Permit Rev-1

# US ROCKIES WATTENBERG PLANNING

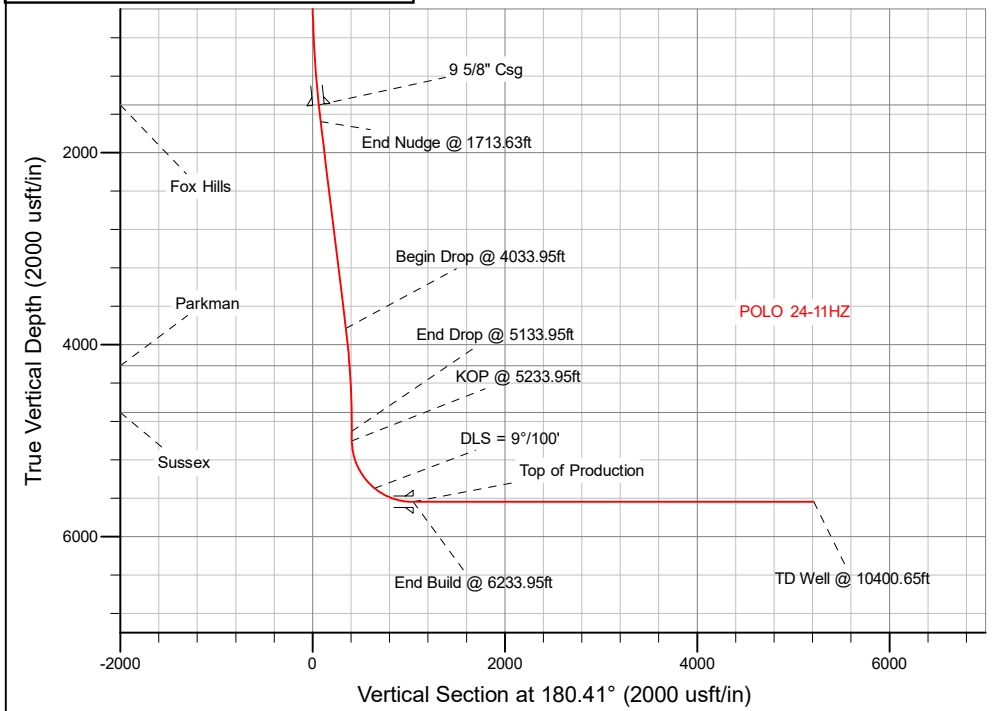
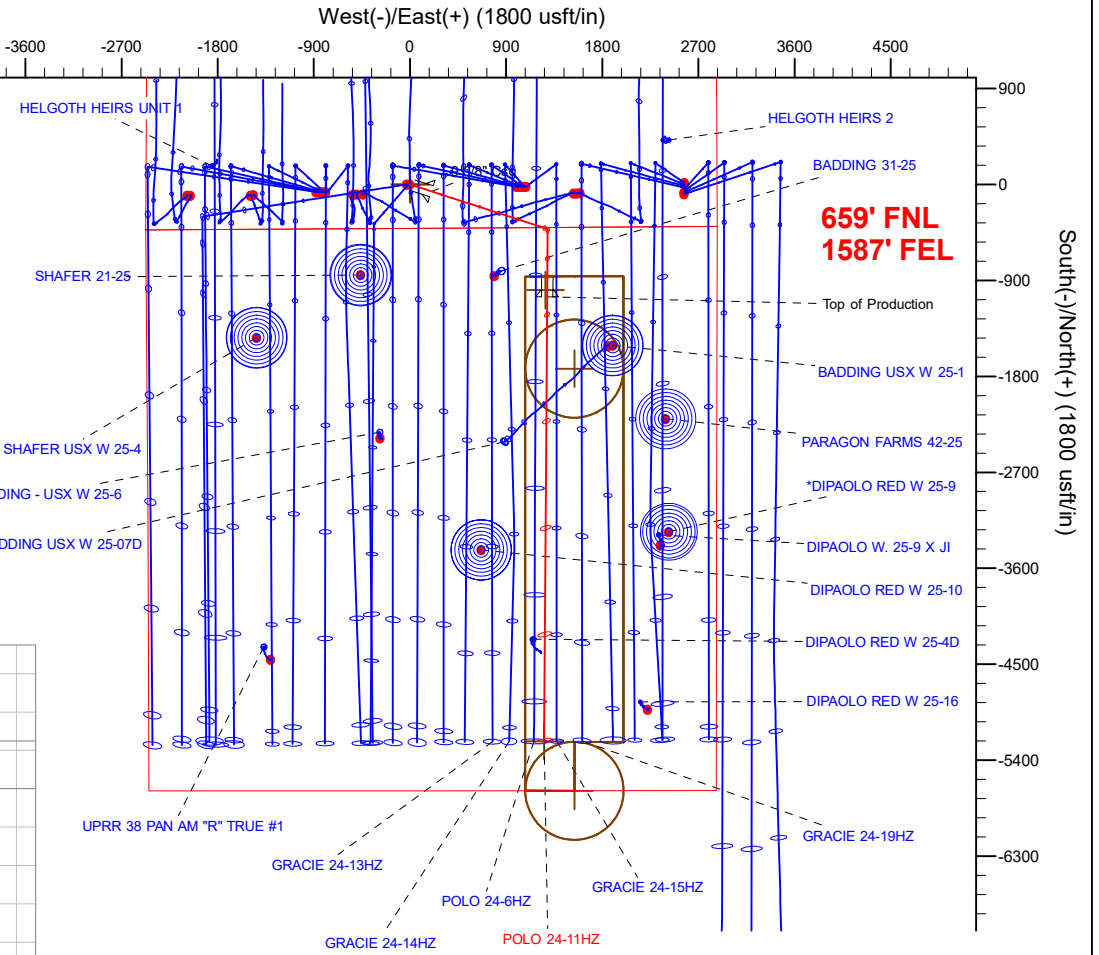
CASING DETAILS		
TVD	MD	Size
1500.00	1523.64	9-5/8
5639.00	6233.95	5-1/2

WELL DETAILS: POLO 24-11HZ  
 GL = 5072'  
 RKB = 17' @ 5089.00usft (Drilling Rig)

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	V Sect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	246.96	0.00	0.00	246.96	0.00	0.00	0.00	0.00	0.00	
3	1713.63	22.00	108.00	1677.85	-85.95	264.52	1.50	108.00	84.05	
4	4033.95	22.00	108.00	3829.22	-354.55	1091.19	0.00	0.00	346.73	
5	5133.95	0.00	0.00	4902.38	-419.01	1289.58	2.00	180.00	409.77	
6	5233.95	0.00	0.00	5002.38	-419.01	1289.58	0.00	0.00	409.77	
7	6233.95	90.00	180.41	5639.00	-1055.62	1285.06	9.00	180.41	1046.39	
8	10400.65	90.00	180.41	5639.00	-5222.21	1255.47	0.00	0.00	5213.09	POLO 24-11HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N-S	+E-W	Latitude	Longitude
POLO 24-11HZ_SHL	0.00	0.00	0.00	40.117673	-104.726130
POLO 24-11HZ_BHL	5639.00	-5222.21	1255.47	40.103332	-104.721640

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1502.00	1525.75	Fox Hills
4219.00	4443.91	Parkman
4707.00	4938.41	Sussex



466' FSL  
1613' FEL

Plan: Permit Rev-1 (POLO 24-11HZ/Plan A)

Created By: \_\_\_\_\_ Date: 9/11/2017  
 Reviewed: \_\_\_\_\_ Date: \_\_\_\_\_

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well POLO 24-11HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5089.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5089.00usft (Drilling Rig)
<b>Site:</b>	2N-66W-24 POLO 36-24HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	POLO 24-11HZ	<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>	2N-66W-24 POLO 36-24HZ PAD				
<b>Site Position:</b>		<b>Northing:</b>	14,569,701.22 usft	<b>Latitude:</b>	40.117673
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,716,952.26 usft	<b>Longitude:</b>	-104.726238
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.18 °

<b>Well</b>	POLO 24-11HZ					
<b>Well Position</b>	<b>+N-S</b>	0.00 usft	<b>Northing:</b>	14,569,701.31 usft	<b>Latitude:</b>	40.117673
	<b>+E-W</b>	30.19 usft	<b>Easting:</b>	1,716,982.45 usft	<b>Longitude:</b>	-104.726130
<b>Position Uncertainty</b>		3.28 usft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	5,072.00 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>
	IGRF2010	9/9/2017	7.98	66.61	52,329.00082124

<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	180.41

<b>Plan Survey Tool Program</b>		<b>Date</b>	9/11/2017		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	1,500.00	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+II Fixed:v2:crustal field declinatio	
2	1,500.00	10,400.65	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+II Fixed:v2:crustal field declinatio	

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well POLO 24-11HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5089.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5089.00usft (Drilling Rig)
<b>Site:</b>	2N-66W-24 POLO 36-24HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	POLO 24-11HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<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	
246.96	0.00	0.00	246.96	0.00	0.00	0.00	0.00	0.00	0.00	
1,713.63	22.00	108.00	1,677.85	-85.95	264.52	1.50	1.50	0.00	108.00	
4,033.95	22.00	108.00	3,829.22	-354.55	1,091.19	0.00	0.00	0.00	0.00	
5,133.95	0.00	0.00	4,902.38	-419.01	1,289.58	2.00	-2.00	0.00	180.00	
5,233.95	0.00	0.00	5,002.38	-419.01	1,289.58	0.00	0.00	0.00	0.00	
6,233.95	90.00	180.41	5,639.00	-1,055.62	1,285.06	9.00	9.00	-17.96	180.41	
10,400.65	90.00	180.41	5,639.00	-5,222.21	1,255.47	0.00	0.00	0.00	0.00	POLO 24-11HZ_BHL

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well POLO 24-11HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5089.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5089.00usft (Drilling Rig)
<b>Site:</b>	2N-66W-24 POLO 36-24HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	POLO 24-11HZ	<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	0.00
100.00	0.00	0.00	100.00	0.00	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	0.00
246.96	0.00	0.00	246.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Begin Nudge @ 246.96ft</b>										
300.00	0.80	108.00	300.00	-0.11	0.35	0.11	1.50	1.50	0.00	
400.00	2.30	108.00	399.96	-0.95	2.92	0.93	1.50	1.50	0.00	
500.00	3.80	108.00	499.81	-2.59	7.97	2.53	1.50	1.50	0.00	
600.00	5.30	108.00	599.50	-5.04	15.51	4.93	1.50	1.50	0.00	
700.00	6.80	108.00	698.94	-8.29	25.52	8.11	1.50	1.50	0.00	
800.00	8.30	108.00	798.07	-12.35	38.01	12.08	1.50	1.50	0.00	
900.00	9.80	108.00	896.82	-17.21	52.96	16.83	1.50	1.50	0.00	
1,000.00	11.30	108.00	995.13	-22.86	70.37	22.36	1.50	1.50	0.00	
1,100.00	12.80	108.00	1,092.93	-29.31	90.21	28.67	1.50	1.50	0.00	
1,200.00	14.30	108.00	1,190.14	-36.55	112.49	35.74	1.50	1.50	0.00	
1,300.00	15.80	108.00	1,286.71	-44.57	137.18	43.59	1.50	1.50	0.00	
1,400.00	17.30	108.00	1,382.57	-53.37	164.26	52.19	1.50	1.50	0.00	
1,500.00	18.80	108.00	1,477.65	-62.94	193.72	61.56	1.50	1.50	0.00	
1,523.64	19.15	108.00	1,500.00	-65.32	201.03	63.88	1.50	1.50	0.00	
<b>9 5/8" Csg</b>										
1,525.76	19.18	108.00	1,502.00	-65.53	201.69	64.09	1.50	1.50	0.00	
<b>Fox Hills</b>										
1,600.00	20.30	108.00	1,571.88	-73.28	225.54	71.67	1.50	1.50	0.00	
1,700.00	21.80	108.00	1,665.21	-84.38	259.69	82.52	1.50	1.50	0.00	
1,713.63	22.00	108.00	1,677.85	-85.95	264.52	84.05	1.50	1.50	0.00	
<b>End Nudge @ 1713.63ft</b>										
1,800.00	22.00	108.00	1,757.94	-95.95	295.30	93.83	0.00	0.00	0.00	
1,900.00	22.00	108.00	1,850.65	-107.52	330.92	105.15	0.00	0.00	0.00	
2,000.00	22.00	108.00	1,943.37	-119.10	366.55	116.47	0.00	0.00	0.00	
2,100.00	22.00	108.00	2,036.09	-130.68	402.18	127.79	0.00	0.00	0.00	
2,200.00	22.00	108.00	2,128.81	-142.25	437.81	139.12	0.00	0.00	0.00	
2,300.00	22.00	108.00	2,221.53	-153.83	473.43	150.44	0.00	0.00	0.00	
2,400.00	22.00	108.00	2,314.25	-165.40	509.06	161.76	0.00	0.00	0.00	
2,500.00	22.00	108.00	2,406.96	-176.98	544.69	173.08	0.00	0.00	0.00	
2,600.00	22.00	108.00	2,499.68	-188.56	580.31	184.40	0.00	0.00	0.00	
2,700.00	22.00	108.00	2,592.40	-200.13	615.94	195.72	0.00	0.00	0.00	
2,800.00	22.00	108.00	2,685.12	-211.71	651.57	207.04	0.00	0.00	0.00	
2,900.00	22.00	108.00	2,777.84	-223.28	687.20	218.36	0.00	0.00	0.00	
3,000.00	22.00	108.00	2,870.56	-234.86	722.82	229.68	0.00	0.00	0.00	
3,100.00	22.00	108.00	2,963.27	-246.44	758.45	241.00	0.00	0.00	0.00	
3,200.00	22.00	108.00	3,055.99	-258.01	794.08	252.32	0.00	0.00	0.00	
3,300.00	22.00	108.00	3,148.71	-269.59	829.70	263.64	0.00	0.00	0.00	
3,400.00	22.00	108.00	3,241.43	-281.16	865.33	274.96	0.00	0.00	0.00	
3,500.00	22.00	108.00	3,334.15	-292.74	900.96	286.28	0.00	0.00	0.00	
3,600.00	22.00	108.00	3,426.87	-304.32	936.59	297.61	0.00	0.00	0.00	
3,700.00	22.00	108.00	3,519.59	-315.89	972.21	308.93	0.00	0.00	0.00	
3,800.00	22.00	108.00	3,612.30	-327.47	1,007.84	320.25	0.00	0.00	0.00	
3,900.00	22.00	108.00	3,705.02	-339.04	1,043.47	331.57	0.00	0.00	0.00	
4,000.00	22.00	108.00	3,797.74	-350.62	1,079.10	342.89	0.00	0.00	0.00	
4,033.95	22.00	108.00	3,829.22	-354.55	1,091.19	346.73	0.00	0.00	0.00	
<b>Begin Drop @ 4033.95ft</b>										
4,100.00	20.68	108.00	3,890.74	-361.98	1,114.05	354.00	2.00	-2.00	0.00	
4,200.00	18.68	108.00	3,984.89	-372.38	1,146.07	364.17	2.00	-2.00	0.00	
4,300.00	16.68	108.00	4,080.17	-381.77	1,174.95	373.35	2.00	-2.00	0.00	

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well POLO 24-11HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5089.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5089.00usft (Drilling Rig)
<b>Site:</b>	2N-66W-24 POLO 36-24HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	POLO 24-11HZ	<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)
4,400.00	14.68	108.00	4,176.44	-390.12	1,200.66	381.51	2.00	-2.00	0.00
4,443.91	13.80	108.00	4,219.00	-393.45	1,210.93	384.78	2.00	-2.00	0.00
<b>Parkman</b>									
4,500.00	12.68	108.00	4,273.60	-397.42	1,223.14	388.66	2.00	-2.00	0.00
4,600.00	10.68	108.00	4,371.52	-403.68	1,242.40	394.78	2.00	-2.00	0.00
4,700.00	8.68	108.00	4,470.09	-408.87	1,258.38	399.86	2.00	-2.00	0.00
4,800.00	6.68	108.00	4,569.19	-413.00	1,271.09	403.90	2.00	-2.00	0.00
4,900.00	4.68	108.00	4,668.70	-416.06	1,280.50	406.89	2.00	-2.00	0.00
4,938.41	3.91	108.00	4,707.00	-416.95	1,283.24	407.76	2.00	-2.00	0.00
<b>Sussex</b>									
5,000.00	2.68	108.00	4,768.49	-418.04	1,286.60	408.83	2.00	-2.00	0.00
5,100.00	0.68	108.00	4,868.44	-418.95	1,289.39	409.71	2.00	-2.00	0.00
5,133.95	0.00	0.00	4,902.38	-419.01	1,289.58	409.77	2.00	-2.00	0.00
<b>End Drop @ 5133.95ft</b>									
5,200.00	0.00	0.00	4,968.44	-419.01	1,289.58	409.77	0.00	0.00	0.00
5,233.95	0.00	0.00	5,002.38	-419.01	1,289.58	409.77	0.00	0.00	0.00
<b>KOP @ 5233.95ft</b>									
5,300.00	5.94	180.41	5,068.32	-422.43	1,289.56	413.20	9.00	9.00	0.00
5,400.00	14.94	180.41	5,166.56	-440.54	1,289.43	431.31	9.00	9.00	0.00
5,500.00	23.94	180.41	5,260.76	-473.80	1,289.19	464.56	9.00	9.00	0.00
5,600.00	32.94	180.41	5,348.60	-521.38	1,288.86	512.14	9.00	9.00	0.00
5,700.00	41.94	180.41	5,427.91	-582.12	1,288.42	572.88	9.00	9.00	0.00
5,800.00	50.94	180.41	5,496.74	-654.51	1,287.91	645.28	9.00	9.00	0.00
<b>DLS = 9°/100'</b>									
5,900.00	59.94	180.41	5,553.41	-736.78	1,287.33	727.55	9.00	9.00	0.00
6,000.00	68.94	180.41	5,596.50	-826.90	1,286.69	817.68	9.00	9.00	0.00
6,100.00	77.94	180.41	5,624.96	-922.66	1,286.01	913.43	9.00	9.00	0.00
6,200.00	86.94	180.41	5,638.10	-1,021.68	1,285.30	1,012.46	9.00	9.00	0.00
6,233.95	90.00	180.41	5,639.00	-1,055.62	1,285.06	1,046.40	9.00	9.00	0.00
<b>End Build @ 6233.95ft - Top of Production</b>									
6,300.00	90.00	180.41	5,639.00	-1,121.67	1,284.59	1,112.45	0.00	0.00	0.00
6,400.00	90.00	180.41	5,639.00	-1,221.66	1,283.88	1,212.45	0.00	0.00	0.00
6,500.00	90.00	180.41	5,639.00	-1,321.66	1,283.17	1,312.45	0.00	0.00	0.00
6,600.00	90.00	180.41	5,639.00	-1,421.66	1,282.46	1,412.45	0.00	0.00	0.00
6,700.00	90.00	180.41	5,639.00	-1,521.66	1,281.75	1,512.45	0.00	0.00	0.00
6,800.00	90.00	180.41	5,639.00	-1,621.65	1,281.04	1,612.45	0.00	0.00	0.00
6,900.00	90.00	180.41	5,639.00	-1,721.65	1,280.33	1,712.45	0.00	0.00	0.00
7,000.00	90.00	180.41	5,639.00	-1,821.65	1,279.62	1,812.45	0.00	0.00	0.00
7,100.00	90.00	180.41	5,639.00	-1,921.65	1,278.91	1,912.45	0.00	0.00	0.00
7,200.00	90.00	180.41	5,639.00	-2,021.64	1,278.20	2,012.45	0.00	0.00	0.00
7,300.00	90.00	180.41	5,639.00	-2,121.64	1,277.49	2,112.45	0.00	0.00	0.00
7,400.00	90.00	180.41	5,639.00	-2,221.64	1,276.78	2,212.45	0.00	0.00	0.00
7,500.00	90.00	180.41	5,639.00	-2,321.64	1,276.07	2,312.45	0.00	0.00	0.00
7,600.00	90.00	180.41	5,639.00	-2,421.63	1,275.36	2,412.45	0.00	0.00	0.00
7,700.00	90.00	180.41	5,639.00	-2,521.63	1,274.65	2,512.45	0.00	0.00	0.00
7,800.00	90.00	180.41	5,639.00	-2,621.63	1,273.94	2,612.45	0.00	0.00	0.00
7,900.00	90.00	180.41	5,639.00	-2,721.63	1,273.23	2,712.45	0.00	0.00	0.00
8,000.00	90.00	180.41	5,639.00	-2,821.62	1,272.52	2,812.45	0.00	0.00	0.00
8,100.00	90.00	180.41	5,639.00	-2,921.62	1,271.81	2,912.45	0.00	0.00	0.00
8,200.00	90.00	180.41	5,639.00	-3,021.62	1,271.10	3,012.45	0.00	0.00	0.00
8,300.00	90.00	180.41	5,639.00	-3,121.62	1,270.39	3,112.45	0.00	0.00	0.00
8,400.00	90.00	180.41	5,639.00	-3,221.61	1,269.68	3,212.45	0.00	0.00	0.00
8,500.00	90.00	180.41	5,639.00	-3,321.61	1,268.97	3,312.45	0.00	0.00	0.00

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well POLO 24-11HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 5089.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 5089.00usft (Drilling Rig)
<b>Site:</b>	2N-66W-24 POLO 36-24HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	POLO 24-11HZ	<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)	
8,600.00	90.00	180.41	5,639.00	-3,421.61	1,268.26	3,412.45	0.00	0.00	0.00	
8,700.00	90.00	180.41	5,639.00	-3,521.61	1,267.55	3,512.45	0.00	0.00	0.00	
8,800.00	90.00	180.41	5,639.00	-3,621.60	1,266.84	3,612.45	0.00	0.00	0.00	
8,900.00	90.00	180.41	5,639.00	-3,721.60	1,266.13	3,712.45	0.00	0.00	0.00	
9,000.00	90.00	180.41	5,639.00	-3,821.60	1,265.42	3,812.45	0.00	0.00	0.00	
9,100.00	90.00	180.41	5,639.00	-3,921.60	1,264.71	3,912.45	0.00	0.00	0.00	
9,200.00	90.00	180.41	5,639.00	-4,021.59	1,264.00	4,012.45	0.00	0.00	0.00	
9,300.00	90.00	180.41	5,639.00	-4,121.59	1,263.28	4,112.45	0.00	0.00	0.00	
9,400.00	90.00	180.41	5,639.00	-4,221.59	1,262.57	4,212.45	0.00	0.00	0.00	
9,500.00	90.00	180.41	5,639.00	-4,321.59	1,261.86	4,312.45	0.00	0.00	0.00	
9,600.00	90.00	180.41	5,639.00	-4,421.58	1,261.15	4,412.45	0.00	0.00	0.00	
9,700.00	90.00	180.41	5,639.00	-4,521.58	1,260.44	4,512.45	0.00	0.00	0.00	
9,800.00	90.00	180.41	5,639.00	-4,621.58	1,259.73	4,612.45	0.00	0.00	0.00	
9,900.00	90.00	180.41	5,639.00	-4,721.58	1,259.02	4,712.45	0.00	0.00	0.00	
10,000.00	90.00	180.41	5,639.00	-4,821.57	1,258.31	4,812.45	0.00	0.00	0.00	
10,100.00	90.00	180.41	5,639.00	-4,921.57	1,257.60	4,912.45	0.00	0.00	0.00	
10,200.00	90.00	180.41	5,639.00	-5,021.57	1,256.89	5,012.45	0.00	0.00	0.00	
10,300.00	90.00	180.41	5,639.00	-5,121.57	1,256.18	5,112.45	0.00	0.00	0.00	
10,400.00	90.00	180.41	5,639.00	-5,221.56	1,255.47	5,212.45	0.00	0.00	0.00	
10,400.65	90.00	180.41	5,639.00	-5,222.21	1,255.47	5,213.09	0.00	0.00	0.00	
<b>TD Well @ 10400.65ft</b>										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,523.64	1,500.00	9 5/8" Csg	9-5/8	13-1/2	
6,233.95	5,639.00	Top of Production	5-1/2	7-7/8	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,525.76	1,502.00	Fox Hills			
4,443.91	4,219.00	Parkman			
4,938.41	4,707.00	Sussex			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
246.96	246.96	0.00	0.00	Begin Nudge @ 246.96ft	
1,713.63	1,677.85	-85.95	264.52	End Nudge @ 1713.63ft	
4,033.95	3,829.22	-354.55	1,091.19	Begin Drop @ 4033.95ft	
5,133.95	4,902.38	-419.01	1,289.58	End Drop @ 5133.95ft	
5,233.95	5,002.38	-419.01	1,289.58	KOP @ 5233.95ft	
5,800.00	5,496.74	-654.51	1,287.91	DLS = 9°/100'	
6,233.95	5,639.00	-1,055.62	1,285.06	End Build @ 6233.95ft	
10,400.65	5,639.00	-5,222.21	1,255.47	TD Well @ 10400.65ft	