

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N  
2N-67W-04 Whiston Pad  
WHISTON 16N-33HZ**

**Plan A**

**Plan: Permit Rev-1**

## **Standard Planning Report**

**27 July, 2016**



Azimuths to True North  
Magnetic North: 8.23°

Magnetic Field  
Strength: 52459.7snT  
Dip Angle: 66.67°  
Date: 7/19/2016  
Model: IGRF2010

SITE: 2N-67W-04 Whiston Pad

Well: WHISTON 16N-33HZ  
Wellbore: Plan A  
Design: Permit Rev-1

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
952.00	953.06	Fox Hills
3871.00	3844.61	Parkman
4287.00	4371.57	Sussex
7087.00	7257.95	Sharon Springs
7175.00	7392.16	Niobrara
7227.00	7495.05	Nio B
7280.00	7666.71	Nio C

#### WELL DETAILS: WHISTON 16N-33HZ

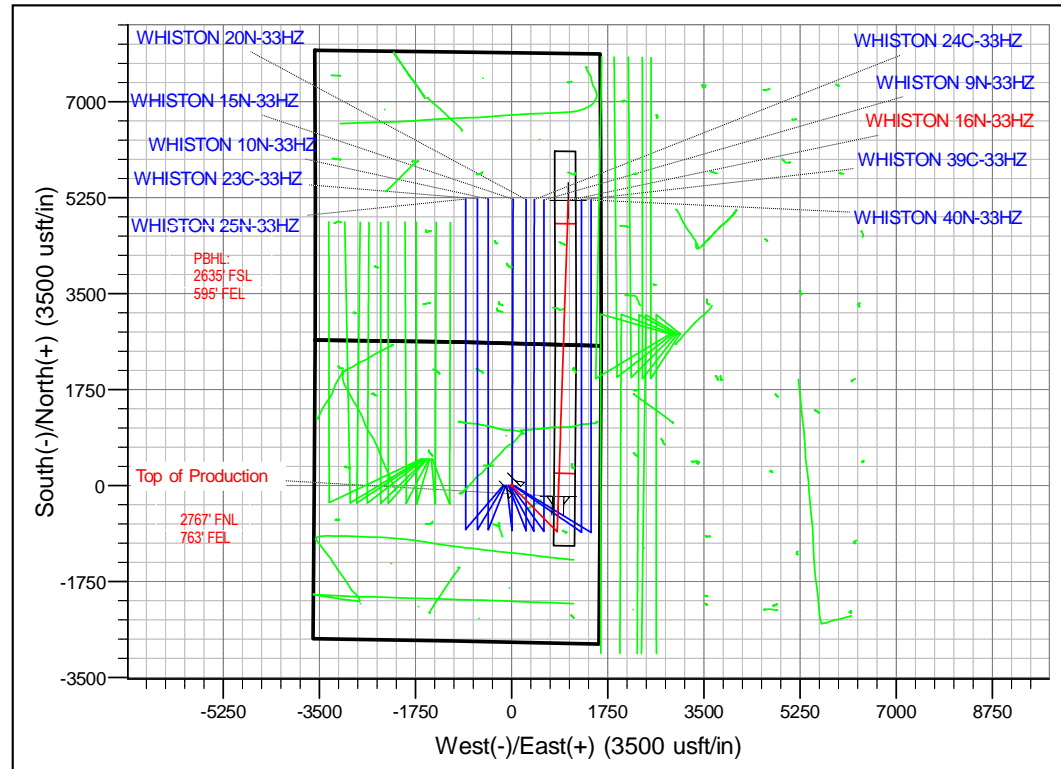
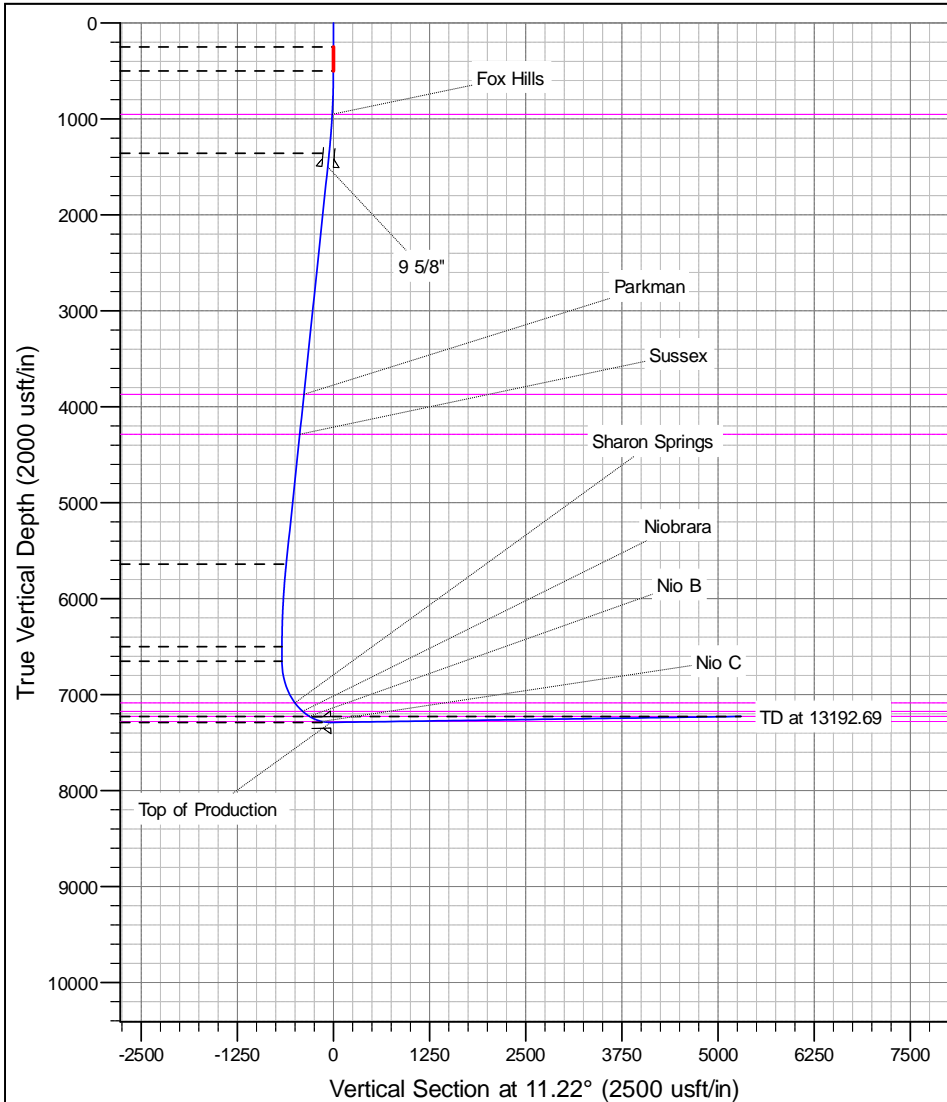
+N/-S	+E/-W	GL: 4887.00	RKB @ 4904.00usft (D Rig)	Longitude	Slot
0.00	0.00	Northing 14587873.46	Easting 1670711.47	Latitude 40.167849	
				Longitude -104.891558	

#### SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	Vsect
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
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00
1367.43	13.01	135.55	1360.00	-70.01	68.68	1.50	-55.31
5760.23	13.01	135.55	5640.00	-775.99	761.32	0.00	-613.08
6627.66	0.00	0.00	6500.00	-846.00	830.00	1.50	-668.38
6781.33	0.00	0.00	6653.67	-846.00	830.00	0.00	-668.38
7788.66	90.66	1.90	7290.25	-202.40	851.39	9.00	-32.92
13192.69	90.66	1.90	7228.00	5198.29	1030.88	0.00	5299.52

#### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Whiston 16N-33HZ_PBHL	7228.00	5198.29	1030.88	14593073.00	1671736.00	40.182124	-104.887867



# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well WHISTON 16N-33HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Site:</b>	2N-67W-04 Whiston Pad	<b>North Reference:</b>	True
<b>Well:</b>	WHISTON 16N-33HZ	<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)		

Site		2N-67W-04 Whiston Pad			
Site Position:		Northing:	14,587,875.82 usft	Latitude:	40.167856
From:	Lat/Long	Easting:	1,670,561.72 usft	Longitude:	-104.892094
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.07

Well	WHISTON 16N-33HZ					
Well Position	+N/-S	-2.55 usft	Northing:	14,587,873.45 usft	Latitude:	40.167849
	+E/-W	149.74 usft	Easting:	1,670,711.46 usft	Longitude:	-104.891558
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,887.00 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	7/19/2016	8.23	66.67	52,460

<b>Design</b>	Permit Rev-1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<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	11.22

<b>Plan Sections</b>										
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	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,367.43	13.01	135.55	1,360.00	-70.01	68.68	1.50	1.50	0.00	135.55	
5,760.23	13.01	135.55	5,640.00	-775.99	761.32	0.00	0.00	0.00	0.00	
6,627.66	0.00	0.00	6,500.00	-846.00	830.00	1.50	-1.50	0.00	180.00	
6,781.33	0.00	0.00	6,653.67	-846.00	830.00	0.00	0.00	0.00	0.00	
7,788.66	90.66	1.90	7,290.25	-202.40	851.39	9.00	9.00	0.00	1.90	
13,192.69	90.66	1.90	7,228.00	5,198.29	1,030.88	0.00	0.00	0.00	0.00	Whiston 16N-33HZ

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well WHISTON 16N-33HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Site:</b>	2N-67W-04 Whiston Pad	<b>North Reference:</b>	True
<b>Well:</b>	WHISTON 16N-33HZ	<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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	1.50	135.55	599.99	-0.93	0.92	-0.74	1.50	1.50	0.00
700.00	3.00	135.55	699.91	-3.74	3.67	-2.95	1.50	1.50	0.00
800.00	4.50	135.55	799.69	-8.41	8.25	-6.64	1.50	1.50	0.00
900.00	6.00	135.55	899.27	-14.94	14.65	-11.80	1.50	1.50	0.00
953.06	6.80	135.55	952.00	-19.16	18.80	-15.14	1.50	1.50	0.00
<b>Fox Hills</b>									
1,000.00	7.50	135.55	998.57	-23.33	22.89	-18.43	1.50	1.50	0.00
1,100.00	9.00	135.55	1,097.54	-33.57	32.93	-26.52	1.50	1.50	0.00
1,200.00	10.50	135.55	1,196.09	-45.66	44.79	-36.07	1.50	1.50	0.00
1,300.00	12.00	135.55	1,294.16	-59.58	58.46	-47.07	1.50	1.50	0.00
1,367.43	13.01	135.55	1,360.00	-70.01	68.68	-55.31	1.50	1.50	0.00
1,400.00	13.01	135.55	1,391.73	-75.24	73.82	-59.44	0.00	0.00	0.00
1,500.00	13.01	135.55	1,489.16	-91.31	89.58	-72.14	0.00	0.00	0.00
1,511.13	13.01	135.55	1,500.00	-93.10	91.34	-73.55	0.00	0.00	0.00
<b>9 5/8"</b>									
1,600.00	13.01	135.55	1,586.59	-107.38	105.35	-84.84	0.00	0.00	0.00
1,700.00	13.01	135.55	1,684.02	-123.45	121.12	-97.54	0.00	0.00	0.00
1,800.00	13.01	135.55	1,781.46	-139.53	136.89	-110.23	0.00	0.00	0.00
1,900.00	13.01	135.55	1,878.89	-155.60	152.65	-122.93	0.00	0.00	0.00
2,000.00	13.01	135.55	1,976.32	-171.67	168.42	-135.63	0.00	0.00	0.00
2,100.00	13.01	135.55	2,073.75	-187.74	184.19	-148.32	0.00	0.00	0.00
2,200.00	13.01	135.55	2,171.19	-203.81	199.96	-161.02	0.00	0.00	0.00
2,300.00	13.01	135.55	2,268.62	-219.88	215.72	-173.72	0.00	0.00	0.00
2,400.00	13.01	135.55	2,366.05	-235.96	231.49	-186.42	0.00	0.00	0.00
2,500.00	13.01	135.55	2,463.48	-252.03	247.26	-199.11	0.00	0.00	0.00
2,600.00	13.01	135.55	2,560.92	-268.10	263.03	-211.81	0.00	0.00	0.00
2,700.00	13.01	135.55	2,658.35	-284.17	278.80	-224.51	0.00	0.00	0.00
2,800.00	13.01	135.55	2,755.78	-300.24	294.56	-237.21	0.00	0.00	0.00
2,900.00	13.01	135.55	2,853.21	-316.31	310.33	-249.90	0.00	0.00	0.00
3,000.00	13.01	135.55	2,950.65	-332.38	326.10	-262.60	0.00	0.00	0.00
3,100.00	13.01	135.55	3,048.08	-348.46	341.87	-275.30	0.00	0.00	0.00
3,200.00	13.01	135.55	3,145.51	-364.53	357.63	-288.00	0.00	0.00	0.00
3,300.00	13.01	135.55	3,242.94	-380.60	373.40	-300.69	0.00	0.00	0.00
3,400.00	13.01	135.55	3,340.38	-396.67	389.17	-313.39	0.00	0.00	0.00
3,500.00	13.01	135.55	3,437.81	-412.74	404.94	-326.09	0.00	0.00	0.00
3,600.00	13.01	135.55	3,535.24	-428.81	420.70	-338.79	0.00	0.00	0.00
3,700.00	13.01	135.55	3,632.67	-444.88	436.47	-351.48	0.00	0.00	0.00
3,800.00	13.01	135.55	3,730.11	-460.96	452.24	-364.18	0.00	0.00	0.00
3,900.00	13.01	135.55	3,827.54	-477.03	468.01	-376.88	0.00	0.00	0.00
3,944.61	13.01	135.55	3,871.00	-484.20	475.04	-382.54	0.00	0.00	0.00
<b>Parkman</b>									
4,000.00	13.01	135.55	3,924.97	-493.10	483.77	-389.57	0.00	0.00	0.00
4,100.00	13.01	135.55	4,022.40	-509.17	499.54	-402.27	0.00	0.00	0.00
4,200.00	13.01	135.55	4,119.84	-525.24	515.31	-414.97	0.00	0.00	0.00
4,300.00	13.01	135.55	4,217.27	-541.31	531.08	-427.67	0.00	0.00	0.00
4,371.57	13.01	135.55	4,287.00	-552.82	542.36	-436.75	0.00	0.00	0.00
<b>Sussex</b>									

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## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well WHISTON 16N-33HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Site:</b>	2N-67W-04 Whiston Pad	<b>North Reference:</b>	True
<b>Well:</b>	WHISTON 16N-33HZ	<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	13.01	135.55	4,314.70	-557.39	546.84	-440.36	0.00	0.00	0.00
4,500.00	13.01	135.55	4,412.13	-573.46	562.61	-453.06	0.00	0.00	0.00
4,600.00	13.01	135.55	4,509.57	-589.53	578.38	-465.76	0.00	0.00	0.00
4,700.00	13.01	135.55	4,607.00	-605.60	594.15	-478.46	0.00	0.00	0.00
4,800.00	13.01	135.55	4,704.43	-621.67	609.91	-491.15	0.00	0.00	0.00
4,900.00	13.01	135.55	4,801.86	-637.74	625.68	-503.85	0.00	0.00	0.00
5,000.00	13.01	135.55	4,899.30	-653.81	641.45	-516.55	0.00	0.00	0.00
5,100.00	13.01	135.55	4,996.73	-669.89	657.22	-529.25	0.00	0.00	0.00
5,200.00	13.01	135.55	5,094.16	-685.96	672.98	-541.94	0.00	0.00	0.00
5,300.00	13.01	135.55	5,191.59	-702.03	688.75	-554.64	0.00	0.00	0.00
5,400.00	13.01	135.55	5,289.03	-718.10	704.52	-567.34	0.00	0.00	0.00
5,500.00	13.01	135.55	5,386.46	-734.17	720.29	-580.03	0.00	0.00	0.00
5,600.00	13.01	135.55	5,483.89	-750.24	736.05	-592.73	0.00	0.00	0.00
5,700.00	13.01	135.55	5,581.32	-766.31	751.82	-605.43	0.00	0.00	0.00
5,760.23	13.01	135.55	5,640.00	-775.99	761.32	-613.08	0.00	0.00	0.00
5,800.00	12.41	135.55	5,678.80	-782.24	767.45	-618.01	1.50	-1.50	0.00
5,900.00	10.91	135.55	5,776.73	-796.67	781.61	-629.42	1.50	-1.50	0.00
6,000.00	9.41	135.55	5,875.16	-809.27	793.97	-639.37	1.50	-1.50	0.00
6,100.00	7.91	135.55	5,974.02	-820.03	804.52	-647.86	1.50	-1.50	0.00
6,200.00	6.41	135.55	6,073.23	-828.93	813.25	-654.90	1.50	-1.50	0.00
6,300.00	4.91	135.55	6,172.74	-835.97	820.16	-660.46	1.50	-1.50	0.00
6,400.00	3.41	135.55	6,272.48	-841.16	825.25	-664.56	1.50	-1.50	0.00
6,500.00	1.91	135.55	6,372.37	-844.48	828.51	-667.18	1.50	-1.50	0.00
6,600.00	0.41	135.55	6,472.34	-845.93	829.93	-668.33	1.50	-1.50	0.00
6,627.66	0.00	0.00	6,500.00	-846.00	830.00	-668.38	1.50	-1.50	0.00
6,700.00	0.00	0.00	6,572.34	-846.00	830.00	-668.38	0.00	0.00	0.00
6,781.33	0.00	0.00	6,653.67	-846.00	830.00	-668.38	0.00	0.00	0.00
6,800.00	1.68	1.90	6,672.34	-845.73	830.01	-668.11	9.00	9.00	0.00
6,900.00	10.68	1.90	6,771.66	-834.98	830.37	-657.50	9.00	9.00	0.00
7,000.00	19.68	1.90	6,868.07	-808.83	831.24	-631.69	9.00	9.00	0.00
7,100.00	28.68	1.90	6,959.20	-767.94	832.59	-591.31	9.00	9.00	0.00
7,200.00	37.68	1.90	7,042.81	-713.30	834.41	-537.36	9.00	9.00	0.00
7,257.95	42.90	1.90	7,087.00	-675.85	835.65	-500.39	9.00	9.00	0.00
<b>Sharon Springs</b>									
7,300.00	46.68	1.90	7,116.84	-646.25	836.64	-471.16	9.00	9.00	0.00
7,392.16	54.97	1.90	7,175.00	-574.91	839.01	-400.72	9.00	9.00	0.00
<b>Niobrara</b>									
7,400.00	55.68	1.90	7,179.46	-568.47	839.22	-394.36	9.00	9.00	0.00
7,495.05	64.23	1.90	7,227.00	-486.31	841.95	-313.24	9.00	9.00	0.00
<b>Nio B</b>									
7,500.00	64.68	1.90	7,229.13	-481.84	842.10	-308.83	9.00	9.00	0.00
7,600.00	73.68	1.90	7,264.64	-388.52	845.20	-216.69	9.00	9.00	0.00
7,666.71	79.68	1.90	7,280.00	-323.67	847.36	-152.66	9.00	9.00	0.00
<b>Nio C</b>									
7,700.00	82.68	1.90	7,285.10	-290.80	848.45	-120.20	9.00	9.00	0.00
7,788.66	90.66	1.90	7,290.25	-202.41	851.39	-32.92	9.00	9.00	0.00
<b>Top of Production - WHISTON 16N-33HZ_PHL</b>									
7,800.00	90.66	1.90	7,290.12	-191.07	851.77	-21.73	0.00	0.00	0.00
7,900.00	90.66	1.90	7,288.97	-91.13	855.09	76.94	0.00	0.00	0.00
8,000.00	90.66	1.90	7,287.81	8.80	858.41	175.62	0.00	0.00	0.00
8,100.00	90.66	1.90	7,286.66	108.74	861.73	274.29	0.00	0.00	0.00
8,200.00	90.66	1.90	7,285.51	208.68	865.05	372.97	0.00	0.00	0.00
8,300.00	90.66	1.90	7,284.36	308.62	868.37	471.64	0.00	0.00	0.00

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## Planning Report

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<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Site:</b>	2N-67W-04 Whiston Pad	<b>North Reference:</b>	True
<b>Well:</b>	WHISTON 16N-33HZ	<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)
8,400.00	90.66	1.90	7,283.21	408.56	871.70	570.32	0.00	0.00	0.00
8,500.00	90.66	1.90	7,282.05	508.50	875.02	668.99	0.00	0.00	0.00
8,600.00	90.66	1.90	7,280.90	608.43	878.34	767.67	0.00	0.00	0.00
8,700.00	90.66	1.90	7,279.75	708.37	881.66	866.34	0.00	0.00	0.00
8,800.00	90.66	1.90	7,278.60	808.31	884.98	965.02	0.00	0.00	0.00
8,900.00	90.66	1.90	7,277.45	908.25	888.30	1,063.69	0.00	0.00	0.00
9,000.00	90.66	1.90	7,276.30	1,008.19	891.62	1,162.37	0.00	0.00	0.00
9,100.00	90.66	1.90	7,275.14	1,108.12	894.95	1,261.04	0.00	0.00	0.00
9,200.00	90.66	1.90	7,273.99	1,208.06	898.27	1,359.72	0.00	0.00	0.00
9,300.00	90.66	1.90	7,272.84	1,308.00	901.59	1,458.40	0.00	0.00	0.00
9,400.00	90.66	1.90	7,271.69	1,407.94	904.91	1,557.07	0.00	0.00	0.00
9,500.00	90.66	1.90	7,270.54	1,507.88	908.23	1,655.75	0.00	0.00	0.00
9,600.00	90.66	1.90	7,269.38	1,607.82	911.55	1,754.42	0.00	0.00	0.00
9,700.00	90.66	1.90	7,268.23	1,707.75	914.87	1,853.10	0.00	0.00	0.00
9,800.00	90.66	1.90	7,267.08	1,807.69	918.20	1,951.77	0.00	0.00	0.00
9,900.00	90.66	1.90	7,265.93	1,907.63	921.52	2,050.45	0.00	0.00	0.00
10,000.00	90.66	1.90	7,264.78	2,007.57	924.84	2,149.12	0.00	0.00	0.00
10,100.00	90.66	1.90	7,263.62	2,107.51	928.16	2,247.80	0.00	0.00	0.00
10,200.00	90.66	1.90	7,262.47	2,207.44	931.48	2,346.47	0.00	0.00	0.00
10,300.00	90.66	1.90	7,261.32	2,307.38	934.80	2,445.15	0.00	0.00	0.00
10,400.00	90.66	1.90	7,260.17	2,407.32	938.12	2,543.82	0.00	0.00	0.00
10,500.00	90.66	1.90	7,259.02	2,507.26	941.45	2,642.50	0.00	0.00	0.00
10,600.00	90.66	1.90	7,257.87	2,607.20	944.77	2,741.17	0.00	0.00	0.00
10,700.00	90.66	1.90	7,256.71	2,707.14	948.09	2,839.85	0.00	0.00	0.00
10,800.00	90.66	1.90	7,255.56	2,807.07	951.41	2,938.52	0.00	0.00	0.00
10,900.00	90.66	1.90	7,254.41	2,907.01	954.73	3,037.20	0.00	0.00	0.00
11,000.00	90.66	1.90	7,253.26	3,006.95	958.05	3,135.87	0.00	0.00	0.00
11,100.00	90.66	1.90	7,252.11	3,106.89	961.37	3,234.55	0.00	0.00	0.00
11,200.00	90.66	1.90	7,250.95	3,206.83	964.70	3,333.23	0.00	0.00	0.00
11,300.00	90.66	1.90	7,249.80	3,306.76	968.02	3,431.90	0.00	0.00	0.00
11,400.00	90.66	1.90	7,248.65	3,406.70	971.34	3,530.58	0.00	0.00	0.00
11,500.00	90.66	1.90	7,247.50	3,506.64	974.66	3,629.25	0.00	0.00	0.00
11,600.00	90.66	1.90	7,246.35	3,606.58	977.98	3,727.93	0.00	0.00	0.00
11,700.00	90.66	1.90	7,245.19	3,706.52	981.30	3,826.60	0.00	0.00	0.00
11,800.00	90.66	1.90	7,244.04	3,806.46	984.62	3,925.28	0.00	0.00	0.00
11,900.00	90.66	1.90	7,242.89	3,906.39	987.95	4,023.95	0.00	0.00	0.00
12,000.00	90.66	1.90	7,241.74	4,006.33	991.27	4,122.63	0.00	0.00	0.00
12,100.00	90.66	1.90	7,240.59	4,106.27	994.59	4,221.30	0.00	0.00	0.00
12,200.00	90.66	1.90	7,239.43	4,206.21	997.91	4,319.98	0.00	0.00	0.00
12,300.00	90.66	1.90	7,238.28	4,306.15	1,001.23	4,418.65	0.00	0.00	0.00
12,400.00	90.66	1.90	7,237.13	4,406.08	1,004.55	4,517.33	0.00	0.00	0.00
12,500.00	90.66	1.90	7,235.98	4,506.02	1,007.87	4,616.00	0.00	0.00	0.00
12,600.00	90.66	1.90	7,234.83	4,605.96	1,011.20	4,714.68	0.00	0.00	0.00
12,700.00	90.66	1.90	7,233.68	4,705.90	1,014.52	4,813.35	0.00	0.00	0.00
12,800.00	90.66	1.90	7,232.52	4,805.84	1,017.84	4,912.03	0.00	0.00	0.00
12,900.00	90.66	1.90	7,231.37	4,905.78	1,021.16	5,010.70	0.00	0.00	0.00
13,000.00	90.66	1.90	7,230.22	5,005.71	1,024.48	5,109.38	0.00	0.00	0.00
13,100.00	90.66	1.90	7,229.07	5,105.65	1,027.80	5,208.05	0.00	0.00	0.00
13,192.69	90.66	1.90	7,228.00	5,198.29	1,030.88	5,299.52	0.00	0.00	0.00
Whiston 16N-33HZ_PBHL									

# Anadarko

## Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well WHISTON 16N-33HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB @ 4904.00usft (D Rig)
<b>Site:</b>	2N-67W-04 Whiston Pad	<b>North Reference:</b>	True
<b>Well:</b>	WHISTON 16N-33HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
Whiston 16N-33HZ_P	0.00	0.00	7,228.00	5,198.29	1,030.88	14,593,073.00	1,671,736.00	40.182124	-104.887867
- plan hits target center									
- Point									
WHISTON 16N-33HZ	0.00	0.00	7,290.25	-202.41	851.39	14,587,672.09	1,671,563.10	40.167293	-104.888511
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter
(usft)	(usft)	Name		(")	(")
1,511.13	1,500.00	9 5/8"		9-5/8	13-1/2
7,788.66	7,290.25	Top of Production		5-1/2	8-1/2

Formations						
Measured Depth	Vertical Depth				Dip	Dip Direction
(usft)	(usft)	Name		Lithology	(°)	(°)
953.06	952.00	Fox Hills				
3,944.61	3,871.00	Parkman				
4,371.57	4,287.00	Sussex				
7,257.95	7,087.00	Sharon Springs				
7,392.16	7,175.00	Niobrara				
7,495.05	7,227.00	Nio B				
7,666.71	7,280.00	Nio C				