

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
3N-68W-22 Hilgers 9-22HZ Pad
HILGERS 33N1-22HZ**

Plan A

Plan: Permit Rev-1

Standard Planning Report

06 September, 2015

Project: WELD-NAD83-UTMFT13N

Site: 3N-68W-22 Hilgers 9-22HZ Pad

Well: HILGERS 33N1-22HZ

Wellbore: Plan A

Design: Permit Rev-1

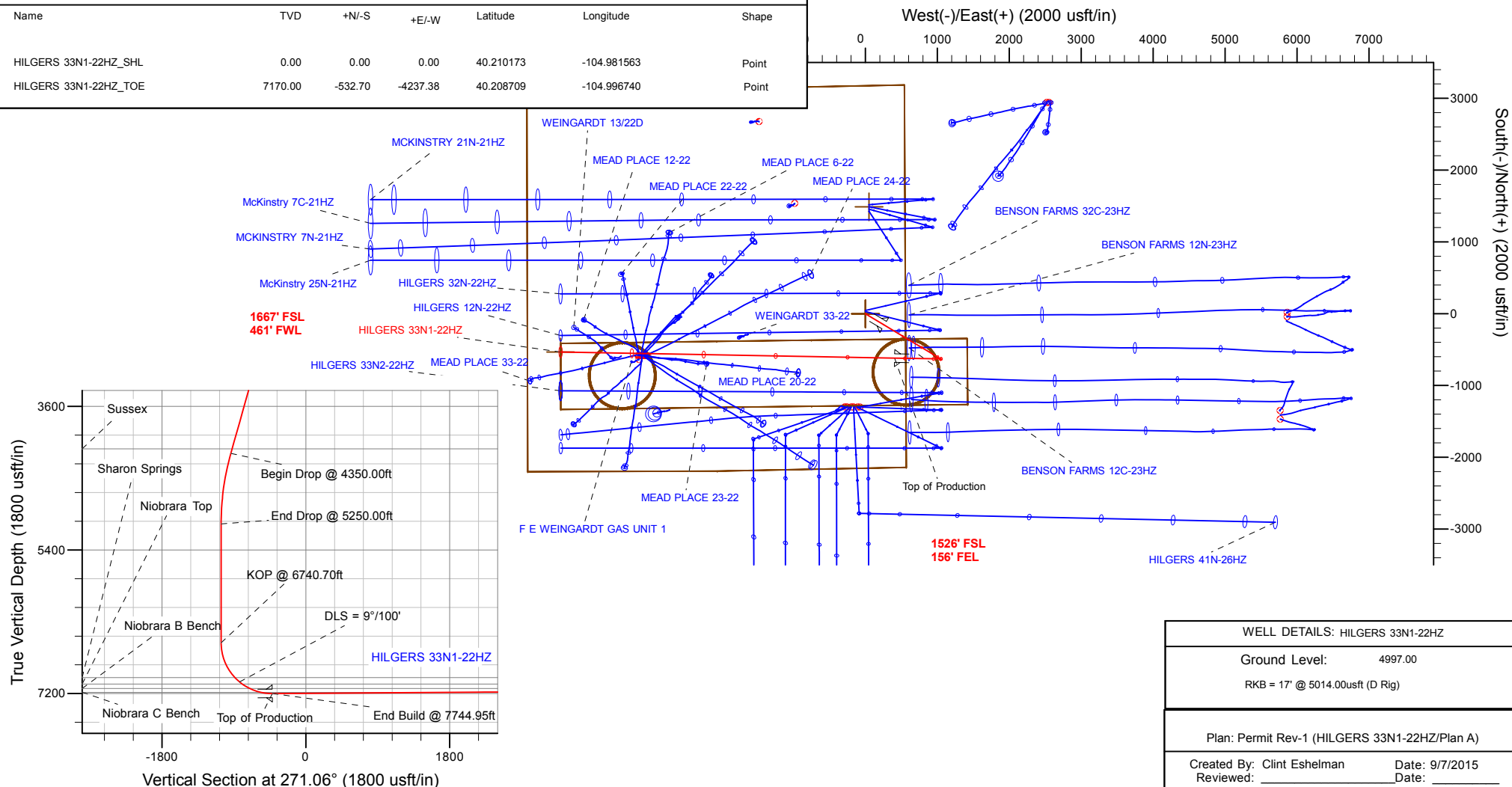
US ROCKIES WATTENBERG PLANNING

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	1450.00	18.00	121.00	1430.36	-96.29	160.25	1.50	121.00	-162.00	
4	4350.00	18.00	121.00	4188.42	-557.84	928.40	0.00	0.00	-938.56	
5	5250.00	0.00	0.00	5073.69	-630.05	1048.58	2.00	180.00	-1060.06	
6	6740.70	0.00	0.00	6564.39	-630.05	1048.58	0.00	0.00	-1060.06	
7	7744.95	90.38	271.06	7201.00	-618.25	407.83	9.00	271.06	-419.19	
8	12391.04	90.38	271.06	7170.00	-532.70	-4237.38	0.00	0.00	4226.80	HILGERS 33N1-22HZ_TOE

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
HILGERS 33N1-22HZ_SHL	0.00	0.00	0.00	40.210173	-104.981563	Point
HILGERS 33N1-22HZ_TOE	7170.00	-532.70	-4237.38	40.208709	-104.996740	Point



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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well HILGERS 33N1-22HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Site:	3N-68W-22 Hilgers 9-22HZ Pad	North Reference:	True
Well:	HILGERS 33N1-22HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Project	WELD-NAD83-UTMFT13N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site		3N-68W-22 Hilgers 9-22HZ Pad			
Site Position:		Northing:	14,603,313.04 usft	Latitude:	40.210297
From:	Lat/Long	Easting:	1,645,564.09 usft	Longitude:	-104.981563
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.01 °

Well	HILGERS 33N1-22HZ					
Well Position	+N/-S	-45.16 usft	Northing:	14,603,267.88 usft	Latitude:	40.210173
	+E/-W	0.00 usft	Easting:	1,645,564.10 usft	Longitude:	-104.981563
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,997.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/4/2015	8.40	66.72	52,563

Design	Permit Rev-1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	271.06

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	
1,450.00	18.00	121.00	1,430.36	-96.29	160.25	1.50	1.50	0.00	121.00	
4,350.00	18.00	121.00	4,188.42	-557.84	928.40	0.00	0.00	0.00	0.00	
5,250.00	0.00	0.00	5,073.69	-630.05	1,048.58	2.00	-2.00	0.00	180.00	
6,740.70	0.00	0.00	6,564.39	-630.05	1,048.58	0.00	0.00	0.00	0.00	
7,744.95	90.38	271.06	7,201.00	-618.25	407.83	9.00	9.00	-8.86	271.06	
12,391.04	90.38	271.06	7,170.00	-532.70	-4,237.38	0.00	0.00	0.00	0.00	HILGERS 33N1-22HZ

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Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Site:	3N-68W-22 Hilgers 9-22HZ Pad	North Reference:	True
Well:	HILGERS 33N1-22HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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	121.00	300.00	-0.17	0.28	-0.28	1.50	1.50	0.00
314.00	0.96	121.00	314.00	-0.28	0.46	-0.46	1.50	1.50	0.00
Fox Hills									
400.00	2.25	121.00	399.96	-1.52	2.52	-2.55	1.50	1.50	0.00
500.00	3.75	121.00	499.82	-4.21	7.01	-7.09	1.50	1.50	0.00
600.00	5.25	121.00	599.51	-8.25	13.74	-13.89	1.50	1.50	0.00
700.00	6.75	121.00	698.96	-13.64	22.69	-22.94	1.50	1.50	0.00
800.00	8.25	121.00	798.10	-20.36	33.88	-34.25	1.50	1.50	0.00
900.00	9.75	121.00	896.87	-28.42	47.29	-47.81	1.50	1.50	0.00
1,000.00	11.25	121.00	995.19	-37.80	62.91	-63.60	1.50	1.50	0.00
1,100.00	12.75	121.00	1,093.00	-48.51	80.73	-81.62	1.50	1.50	0.00
1,200.00	14.25	121.00	1,190.24	-60.53	100.74	-101.84	1.50	1.50	0.00
1,300.00	15.75	121.00	1,286.83	-73.86	122.93	-124.27	1.50	1.50	0.00
1,400.00	17.25	121.00	1,382.71	-88.49	147.27	-148.88	1.50	1.50	0.00
1,450.00	18.00	121.00	1,430.36	-96.29	160.25	-162.00	1.50	1.50	0.00
End Nudge @ 1450.00ft									
1,500.00	18.00	121.00	1,477.91	-104.24	173.49	-175.39	0.00	0.00	0.00
1,600.00	18.00	121.00	1,573.02	-120.16	199.98	-202.17	0.00	0.00	0.00
1,700.00	18.00	121.00	1,668.12	-136.08	226.47	-228.95	0.00	0.00	0.00
1,800.00	18.00	121.00	1,763.23	-151.99	252.96	-255.72	0.00	0.00	0.00
1,838.66	18.00	121.00	1,800.00	-158.14	263.20	-266.08	0.00	0.00	0.00
9 5/8"									
1,900.00	18.00	121.00	1,858.33	-167.91	279.44	-282.50	0.00	0.00	0.00
2,000.00	18.00	121.00	1,953.44	-183.82	305.93	-309.28	0.00	0.00	0.00
2,100.00	18.00	121.00	2,048.54	-199.74	332.42	-336.06	0.00	0.00	0.00
2,200.00	18.00	121.00	2,143.65	-215.65	358.91	-362.84	0.00	0.00	0.00
2,300.00	18.00	121.00	2,238.76	-231.57	385.40	-389.61	0.00	0.00	0.00
2,400.00	18.00	121.00	2,333.86	-247.48	411.88	-416.39	0.00	0.00	0.00
2,500.00	18.00	121.00	2,428.97	-263.40	438.37	-443.17	0.00	0.00	0.00
2,600.00	18.00	121.00	2,524.07	-279.32	464.86	-469.95	0.00	0.00	0.00
2,700.00	18.00	121.00	2,619.18	-295.23	491.35	-496.72	0.00	0.00	0.00
2,800.00	18.00	121.00	2,714.28	-311.15	517.83	-523.50	0.00	0.00	0.00
2,900.00	18.00	121.00	2,809.39	-327.06	544.32	-550.28	0.00	0.00	0.00
3,000.00	18.00	121.00	2,904.50	-342.98	570.81	-577.06	0.00	0.00	0.00
3,100.00	18.00	121.00	2,999.60	-358.89	597.30	-603.84	0.00	0.00	0.00
3,200.00	18.00	121.00	3,094.71	-374.81	623.79	-630.61	0.00	0.00	0.00
3,300.00	18.00	121.00	3,189.81	-390.72	650.27	-657.39	0.00	0.00	0.00
3,400.00	18.00	121.00	3,284.92	-406.64	676.76	-684.17	0.00	0.00	0.00
3,500.00	18.00	121.00	3,380.02	-422.56	703.25	-710.95	0.00	0.00	0.00
3,600.00	18.00	121.00	3,475.13	-438.47	729.74	-737.72	0.00	0.00	0.00
3,700.00	18.00	121.00	3,570.24	-454.39	756.23	-764.50	0.00	0.00	0.00
3,800.00	18.00	121.00	3,665.34	-470.30	782.71	-791.28	0.00	0.00	0.00
3,900.00	18.00	121.00	3,760.45	-486.22	809.20	-818.06	0.00	0.00	0.00
4,000.00	18.00	121.00	3,855.55	-502.13	835.69	-844.84	0.00	0.00	0.00
4,100.00	18.00	121.00	3,950.66	-518.05	862.18	-871.61	0.00	0.00	0.00
4,200.00	18.00	121.00	4,045.76	-533.96	888.67	-898.39	0.00	0.00	0.00
4,292.78	18.00	121.00	4,134.00	-548.73	913.24	-923.24	0.00	0.00	0.00
Sussex									
4,300.00	18.00	121.00	4,140.87	-549.88	915.15	-925.17	0.00	0.00	0.00

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Planning Report

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Well:	HILGERS 33N1-22HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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)
4,350.00	18.00	121.00	4,188.42	-557.84	928.40	-938.56	0.00	0.00	0.00
Begin Drop @ 4350.00ft									
4,400.00	17.00	121.00	4,236.11	-565.58	941.29	-951.59	2.00	-2.00	0.00
4,500.00	15.00	121.00	4,332.23	-579.78	964.91	-975.47	2.00	-2.00	0.00
4,600.00	13.00	121.00	4,429.25	-592.24	985.65	-996.43	2.00	-2.00	0.00
4,700.00	11.00	121.00	4,527.06	-602.94	1,003.47	-1,014.45	2.00	-2.00	0.00
4,800.00	9.00	121.00	4,625.54	-611.89	1,018.35	-1,029.50	2.00	-2.00	0.00
4,900.00	7.00	121.00	4,724.56	-619.05	1,030.28	-1,041.56	2.00	-2.00	0.00
5,000.00	5.00	121.00	4,824.01	-624.44	1,039.24	-1,050.61	2.00	-2.00	0.00
5,100.00	3.00	121.00	4,923.76	-628.03	1,045.22	-1,056.66	2.00	-2.00	0.00
5,200.00	1.00	121.00	5,023.69	-629.83	1,048.21	-1,059.68	2.00	-2.00	0.00
5,250.00	0.00	0.00	5,073.69	-630.05	1,048.58	-1,060.06	2.00	-2.00	0.00
End Drop @ 5250.00ft									
5,300.00	0.00	0.00	5,123.69	-630.05	1,048.58	-1,060.06	0.00	0.00	0.00
5,400.00	0.00	0.00	5,223.69	-630.05	1,048.58	-1,060.06	0.00	0.00	0.00
5,500.00	0.00	0.00	5,323.69	-630.05	1,048.58	-1,060.06	0.00	0.00	0.00
5,600.00	0.00	0.00	5,423.69	-630.05	1,048.58	-1,060.06	0.00	0.00	0.00
5,700.00	0.00	0.00	5,523.69	-630.05	1,048.58	-1,060.06	0.00	0.00	0.00
5,800.00	0.00	0.00	5,623.69	-630.05	1,048.58	-1,060.06	0.00	0.00	0.00
5,900.00	0.00	0.00	5,723.69	-630.05	1,048.58	-1,060.06	0.00	0.00	0.00
6,000.00	0.00	0.00	5,823.69	-630.05	1,048.58	-1,060.06	0.00	0.00	0.00
6,100.00	0.00	0.00	5,923.69	-630.05	1,048.58	-1,060.06	0.00	0.00	0.00
6,200.00	0.00	0.00	6,023.69	-630.05	1,048.58	-1,060.06	0.00	0.00	0.00
6,300.00	0.00	0.00	6,123.69	-630.05	1,048.58	-1,060.06	0.00	0.00	0.00
6,400.00	0.00	0.00	6,223.69	-630.05	1,048.58	-1,060.06	0.00	0.00	0.00
6,500.00	0.00	0.00	6,323.69	-630.05	1,048.58	-1,060.06	0.00	0.00	0.00
6,600.00	0.00	0.00	6,423.69	-630.05	1,048.58	-1,060.06	0.00	0.00	0.00
6,700.00	0.00	0.00	6,523.69	-630.05	1,048.58	-1,060.06	0.00	0.00	0.00
6,740.70	0.00	0.00	6,564.39	-630.05	1,048.58	-1,060.06	0.00	0.00	0.00
KOP @ 6740.70ft									
6,800.00	5.34	271.06	6,623.60	-630.00	1,045.82	-1,057.30	9.00	9.00	0.00
6,900.00	14.34	271.06	6,722.03	-629.69	1,028.76	-1,040.23	9.00	9.00	0.00
7,000.00	23.34	271.06	6,816.58	-629.09	996.51	-1,007.98	9.00	9.00	0.00
7,100.00	32.34	271.06	6,904.92	-628.23	949.87	-961.33	9.00	9.00	0.00
7,200.00	41.34	271.06	6,984.87	-627.13	889.99	-901.44	9.00	9.00	0.00
7,221.82	43.30	271.06	7,001.00	-626.86	875.30	-886.75	9.00	9.00	0.00
Sharon Springs									
7,300.00	50.34	271.06	7,054.47	-625.81	818.34	-829.78	9.00	9.00	0.00
DLS = 9°/100'									
7,343.38	54.24	271.06	7,081.00	-625.18	784.03	-795.46	9.00	9.00	0.00
Niobrara Top									
7,400.00	59.34	271.06	7,112.00	-624.31	736.68	-748.11	9.00	9.00	0.00
7,453.46	64.15	271.06	7,137.30	-623.44	689.62	-701.04	9.00	9.00	0.00
Niobrara B Bench									
7,500.00	68.34	271.06	7,156.05	-622.66	647.04	-658.45	9.00	9.00	0.00
7,600.00	77.34	271.06	7,185.53	-620.90	551.61	-563.00	9.00	9.00	0.00
7,604.99	77.79	271.06	7,186.60	-620.81	546.73	-558.12	9.00	9.00	0.00
Niobrara C Bench									
7,700.00	86.34	271.06	7,199.71	-619.08	452.74	-464.11	9.00	9.00	0.00
7,744.95	90.38	271.06	7,201.00	-618.25	407.82	-419.19	9.00	9.00	0.00
End Build @ 7744.95ft - Top of Production									
7,800.00	90.38	271.06	7,200.63	-617.24	352.78	-364.14	0.00	0.00	0.00
7,900.00	90.38	271.06	7,199.96	-615.40	252.80	-264.14	0.00	0.00	0.00

Anadarko

Planning Report

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Site:	3N-68W-22 Hilgers 9-22HZ Pad	North Reference:	True
Well:	HILGERS 33N1-22HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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)	
8,000.00	90.38	271.06	7,199.29	-613.56	152.82	-164.15	0.00	0.00	0.00	
8,100.00	90.38	271.06	7,198.63	-611.71	52.84	-64.15	0.00	0.00	0.00	
8,200.00	90.38	271.06	7,197.96	-609.87	-47.14	35.85	0.00	0.00	0.00	
8,300.00	90.38	271.06	7,197.29	-608.03	-147.12	135.85	0.00	0.00	0.00	
8,400.00	90.38	271.06	7,196.63	-606.19	-247.10	235.85	0.00	0.00	0.00	
8,500.00	90.38	271.06	7,195.96	-604.35	-347.08	335.84	0.00	0.00	0.00	
8,600.00	90.38	271.06	7,195.29	-602.51	-447.06	435.84	0.00	0.00	0.00	
8,700.00	90.38	271.06	7,194.62	-600.67	-547.04	535.84	0.00	0.00	0.00	
8,800.00	90.38	271.06	7,193.96	-598.82	-647.03	635.84	0.00	0.00	0.00	
8,900.00	90.38	271.06	7,193.29	-596.98	-747.01	735.83	0.00	0.00	0.00	
9,000.00	90.38	271.06	7,192.62	-595.14	-846.99	835.83	0.00	0.00	0.00	
9,100.00	90.38	271.06	7,191.96	-593.30	-946.97	935.83	0.00	0.00	0.00	
9,200.00	90.38	271.06	7,191.29	-591.46	-1,046.95	1,035.83	0.00	0.00	0.00	
9,300.00	90.38	271.06	7,190.62	-589.62	-1,146.93	1,135.83	0.00	0.00	0.00	
9,400.00	90.38	271.06	7,189.95	-587.78	-1,246.91	1,235.82	0.00	0.00	0.00	
9,500.00	90.38	271.06	7,189.29	-585.93	-1,346.89	1,335.82	0.00	0.00	0.00	
9,600.00	90.38	271.06	7,188.62	-584.09	-1,446.87	1,435.82	0.00	0.00	0.00	
9,700.00	90.38	271.06	7,187.95	-582.25	-1,546.85	1,535.82	0.00	0.00	0.00	
9,800.00	90.38	271.06	7,187.29	-580.41	-1,646.83	1,635.81	0.00	0.00	0.00	
9,900.00	90.38	271.06	7,186.62	-578.57	-1,746.81	1,735.81	0.00	0.00	0.00	
10,000.00	90.38	271.06	7,185.95	-576.73	-1,846.80	1,835.81	0.00	0.00	0.00	
10,100.00	90.38	271.06	7,185.28	-574.89	-1,946.78	1,935.81	0.00	0.00	0.00	
10,200.00	90.38	271.06	7,184.62	-573.05	-2,046.76	2,035.81	0.00	0.00	0.00	
10,300.00	90.38	271.06	7,183.95	-571.20	-2,146.74	2,135.80	0.00	0.00	0.00	
10,400.00	90.38	271.06	7,183.28	-569.36	-2,246.72	2,235.80	0.00	0.00	0.00	
10,500.00	90.38	271.06	7,182.62	-567.52	-2,346.70	2,335.80	0.00	0.00	0.00	
10,600.00	90.38	271.06	7,181.95	-565.68	-2,446.68	2,435.80	0.00	0.00	0.00	
10,700.00	90.38	271.06	7,181.28	-563.84	-2,546.66	2,535.79	0.00	0.00	0.00	
10,800.00	90.38	271.06	7,180.61	-562.00	-2,646.64	2,635.79	0.00	0.00	0.00	
10,900.00	90.38	271.06	7,179.95	-560.16	-2,746.62	2,735.79	0.00	0.00	0.00	
11,000.00	90.38	271.06	7,179.28	-558.31	-2,846.60	2,835.79	0.00	0.00	0.00	
11,100.00	90.38	271.06	7,178.61	-556.47	-2,946.58	2,935.79	0.00	0.00	0.00	
11,200.00	90.38	271.06	7,177.95	-554.63	-3,046.57	3,035.78	0.00	0.00	0.00	
11,300.00	90.38	271.06	7,177.28	-552.79	-3,146.55	3,135.78	0.00	0.00	0.00	
11,400.00	90.38	271.06	7,176.61	-550.95	-3,246.53	3,235.78	0.00	0.00	0.00	
11,500.00	90.38	271.06	7,175.94	-549.11	-3,346.51	3,335.78	0.00	0.00	0.00	
11,600.00	90.38	271.06	7,175.28	-547.27	-3,446.49	3,435.77	0.00	0.00	0.00	
11,700.00	90.38	271.06	7,174.61	-545.42	-3,546.47	3,535.77	0.00	0.00	0.00	
11,800.00	90.38	271.06	7,173.94	-543.58	-3,646.45	3,635.77	0.00	0.00	0.00	
11,900.00	90.38	271.06	7,173.28	-541.74	-3,746.43	3,735.77	0.00	0.00	0.00	
12,000.00	90.38	271.06	7,172.61	-539.90	-3,846.41	3,835.77	0.00	0.00	0.00	
12,100.00	90.38	271.06	7,171.94	-538.06	-3,946.39	3,935.76	0.00	0.00	0.00	
12,200.00	90.38	271.06	7,171.27	-536.22	-4,046.37	4,035.76	0.00	0.00	0.00	
12,300.00	90.38	271.06	7,170.61	-534.38	-4,146.35	4,135.76	0.00	0.00	0.00	
12,391.04	90.38	271.06	7,170.00	-532.70	-4,237.38	4,226.80	0.00	0.00	0.00	
TD Well @ 12391.04ft										

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well HILGERS 33N1-22HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Site:	3N-68W-22 Hilgers 9-22HZ Pad	North Reference:	True
Well:	HILGERS 33N1-22HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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)		
HILGERS 33N1-22HZ_4	0.00	0.00	0.00	0.00	0.00	14,603,267.88	1,645,564.10	40.210173	-104.981563
- plan hits target center									
- Polygon									
Point 1			0.00	-342.30	565.66	14,602,925.70	1,646,129.83		
Point 2			0.00	-343.60	600.03	14,602,924.41	1,646,164.20		
Point 3			0.00	-347.52	634.96	14,602,920.49	1,646,199.13		
Point 4			0.00	-354.02	669.50	14,602,914.00	1,646,233.67		
Point 5			0.00	-363.10	703.45	14,602,904.93	1,646,267.62		
Point 6			0.00	-374.69	736.63	14,602,893.34	1,646,300.81		
Point 7			0.00	-388.72	768.86	14,602,879.32	1,646,333.04		
Point 8			0.00	-405.13	799.94	14,602,862.92	1,646,364.12		
Point 9			0.00	-423.82	829.71	14,602,844.23	1,646,393.90		
Point 10			0.00	-444.67	858.01	14,602,823.39	1,646,422.20		
Point 11			0.00	-467.58	884.66	14,602,800.48	1,646,448.85		
Point 12			0.00	-492.41	909.53	14,602,775.66	1,646,473.73		
Point 13			0.00	-519.05	932.47	14,602,749.02	1,646,496.68		
Point 14			0.00	-547.31	953.36	14,602,720.77	1,646,517.57		
Point 15			0.00	-577.06	972.07	14,602,691.02	1,646,536.29		
Point 16			0.00	-608.13	988.51	14,602,659.96	1,646,552.73		
Point 17			0.00	-640.33	1,002.59	14,602,627.76	1,646,566.82		
Point 18			0.00	-673.49	1,014.22	14,602,594.60	1,646,578.46		
Point 19			0.00	-707.45	1,023.33	14,602,560.64	1,646,587.57		
Point 20			0.00	-741.98	1,029.88	14,602,526.11	1,646,594.13		
Point 21			0.00	-776.90	1,033.85	14,602,491.20	1,646,598.11		
Point 22			0.00	-812.02	1,035.18	14,602,456.08	1,646,599.45		
Point 23			0.00	-847.14	1,033.88	14,602,420.96	1,646,598.15		
Point 24			0.00	-882.07	1,029.97	14,602,386.02	1,646,594.25		
Point 25			0.00	-916.61	1,023.46	14,602,351.48	1,646,587.75		
Point 26			0.00	-950.57	1,014.38	14,602,317.52	1,646,578.68		
Point 27			0.00	-983.74	1,002.79	14,602,284.35	1,646,567.09		
Point 28			0.00	-1,015.97	988.76	14,602,252.12	1,646,553.07		
Point 29			0.00	-1,047.06	972.35	14,602,221.02	1,646,536.67		
Point 30			0.00	-1,076.82	953.67	14,602,191.26	1,646,517.99		
Point 31			0.00	-1,105.12	932.81	14,602,162.95	1,646,497.14		
Point 32			0.00	-1,131.77	909.90	14,602,136.30	1,646,474.23		
Point 33			0.00	-1,156.64	885.07	14,602,111.42	1,646,449.41		
Point 34			0.00	-1,179.58	858.43	14,602,088.48	1,646,422.77		
Point 35			0.00	-1,200.47	830.17	14,602,067.58	1,646,394.52		
Point 36			0.00	-1,219.18	800.43	14,602,048.87	1,646,364.78		
Point 37			0.00	-1,235.62	769.35	14,602,032.42	1,646,333.70		
Point 38			0.00	-1,249.70	737.15	14,602,018.33	1,646,301.51		
Point 39			0.00	-1,261.33	703.99	14,602,006.70	1,646,268.35		
Point 40			0.00	-1,270.44	670.03	14,601,997.58	1,646,234.39		
Point 41			0.00	-1,277.00	635.50	14,601,991.01	1,646,199.86		
Point 42			0.00	-1,280.96	600.58	14,601,987.05	1,646,164.94		
Point 43			0.00	-1,282.30	565.08	14,601,985.70	1,646,129.44		
Point 44			0.00	-1,280.99	530.34	14,601,987.00	1,646,094.70		
Point 45			0.00	-1,277.08	495.41	14,601,990.90	1,646,059.77		
Point 46			0.00	-1,270.57	460.87	14,601,997.41	1,646,025.23		
Point 47			0.00	-1,261.49	426.92	14,602,006.48	1,645,991.28		
Point 48			0.00	-1,249.91	393.74	14,602,018.05	1,645,958.10		
Point 49			0.00	-1,235.87	361.51	14,602,032.09	1,645,925.86		
Point 50			0.00	-1,219.46	330.43	14,602,048.49	1,645,894.78		
Point 51			0.00	-1,200.78	300.66	14,602,067.16	1,645,865.01		
Point 52			0.00	-1,179.92	272.36	14,602,088.02	1,645,836.70		
Point 53			0.00	-1,157.02	245.71	14,602,110.91	1,645,810.05		
Point 54			0.00	-1,132.18	220.84	14,602,135.75	1,645,785.17		
Point 55			0.00	-1,105.55	197.90	14,602,162.37	1,645,762.23		

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well HILGERS 33N1-22HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Site:	3N-68W-22 Hilgers 9-22HZ Pad	North Reference:	True
Well:	HILGERS 33N1-22HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Point 56	0.00	-1,077.28	177.02	14,602,190.64	1,645,741.34
Point 57	0.00	-1,047.54	158.30	14,602,220.37	1,645,722.62
Point 58	0.00	-1,016.46	141.86	14,602,251.45	1,645,706.17
Point 59	0.00	-984.26	127.78	14,602,283.65	1,645,692.08
Point 60	0.00	-951.10	116.15	14,602,316.80	1,645,680.45
Point 61	0.00	-917.15	107.04	14,602,350.75	1,645,671.33
Point 62	0.00	-882.62	100.49	14,602,385.28	1,645,664.77
Point 63	0.00	-847.69	96.52	14,602,420.21	1,645,660.79
Point 64	0.00	-812.57	95.19	14,602,455.33	1,645,659.46
Point 65	0.00	-777.45	96.49	14,602,490.45	1,645,660.75
Point 66	0.00	-742.53	100.40	14,602,525.37	1,645,664.65
Point 67	0.00	-707.99	106.91	14,602,559.91	1,645,671.15
Point 68	0.00	-674.03	115.99	14,602,593.87	1,645,680.23
Point 69	0.00	-640.85	127.58	14,602,627.06	1,645,691.81
Point 70	0.00	-608.62	141.61	14,602,659.29	1,645,705.83
Point 71	0.00	-577.54	158.02	14,602,690.37	1,645,722.24
Point 72	0.00	-547.77	176.71	14,602,720.15	1,645,740.92
Point 73	0.00	-519.48	197.56	14,602,748.44	1,645,761.77
Point 74	0.00	-492.82	220.47	14,602,775.11	1,645,784.67
Point 75	0.00	-467.96	245.30	14,602,799.97	1,645,809.50
Point 76	0.00	-445.01	271.94	14,602,822.93	1,645,836.13
Point 77	0.00	-424.13	300.20	14,602,843.81	1,645,864.39
Point 78	0.00	-405.41	329.94	14,602,862.54	1,645,894.12
Point 79	0.00	-388.97	361.02	14,602,878.99	1,645,925.20
Point 80	0.00	-374.90	393.22	14,602,893.06	1,645,957.40
Point 81	0.00	-363.26	426.38	14,602,904.71	1,645,990.55
Point 82	0.00	-354.15	460.34	14,602,913.83	1,646,024.51
Point 83	0.00	-347.60	494.87	14,602,920.38	1,646,059.04
Point 84	0.00	-343.63	529.79	14,602,924.36	1,646,093.96
Point 85	0.00	-342.30	564.91	14,602,925.70	1,646,129.08
Point 86	0.00	-362.29	565.65	14,602,905.71	1,646,129.82
Point 87	0.00	-363.51	532.02	14,602,904.48	1,646,096.19
Point 88	0.00	-367.25	498.57	14,602,900.73	1,646,062.74
Point 89	0.00	-373.47	465.50	14,602,894.51	1,646,029.68
Point 90	0.00	-382.14	432.99	14,602,885.83	1,645,997.17
Point 91	0.00	-393.23	401.22	14,602,874.73	1,645,965.40
Point 92	0.00	-406.65	370.35	14,602,861.31	1,645,934.53
Point 93	0.00	-422.35	340.59	14,602,845.60	1,645,904.78
Point 94	0.00	-440.22	312.08	14,602,827.73	1,645,876.27
Point 95	0.00	-460.17	284.97	14,602,807.77	1,645,849.16
Point 96	0.00	-482.10	259.45	14,602,785.83	1,645,823.65
Point 97	0.00	-505.87	235.62	14,602,762.06	1,645,799.82
Point 98	0.00	-531.36	213.65	14,602,736.57	1,645,777.86
Point 99	0.00	-558.41	193.63	14,602,709.51	1,645,757.84
Point 100	0.00	-586.89	175.70	14,602,681.03	1,645,739.92
Point 101	0.00	-616.63	159.94	14,602,651.28	1,645,724.17
Point 102	0.00	-647.45	146.45	14,602,620.46	1,645,710.68
Point 103	0.00	-679.21	135.31	14,602,588.70	1,645,699.55
Point 104	0.00	-711.70	126.56	14,602,556.21	1,645,690.81
Point 105	0.00	-744.77	120.27	14,602,523.14	1,645,684.52
Point 106	0.00	-778.20	116.47	14,602,489.70	1,645,680.73
Point 107	0.00	-811.83	115.18	14,602,456.07	1,645,679.45
Point 108	0.00	-845.46	116.40	14,602,422.44	1,645,680.67
Point 109	0.00	-878.91	120.14	14,602,389.00	1,645,684.42
Point 110	0.00	-911.98	126.36	14,602,355.93	1,645,690.65
Point 111	0.00	-944.49	135.03	14,602,323.42	1,645,699.32
Point 112	0.00	-976.26	146.12	14,602,291.65	1,645,710.42
Point 113	0.00	-1,007.13	159.54	14,602,260.78	1,645,723.85
Point 114	0.00	-1,036.89	175.23	14,602,231.03	1,645,739.54
Point 115	0.00	-1,065.40	193.11	14,602,202.52	1,645,757.43
Point 116	0.00	-1,092.51	213.06	14,602,175.41	1,645,777.38
Point 117	0.00	-1,118.03	234.99	14,602,149.90	1,645,799.32
Point 118	0.00	-1,141.86	258.76	14,602,126.07	1,645,823.10
Point 119	0.00	-1,163.83	284.25	14,602,104.11	1,645,848.59

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well HILGERS 33N1-22HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Site:	3N-68W-22 Hilgers 9-22HZ Pad	North Reference:	True
Well:	HILGERS 33N1-22HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Point 120			0.00	-1,183.85	311.30	14,602,084.10	1,645,875.64		
Point 121			0.00	-1,201.78	339.78	14,602,066.17	1,645,904.13		
Point 122			0.00	-1,217.54	369.52	14,602,050.42	1,645,933.87		
Point 123			0.00	-1,231.03	400.34	14,602,036.93	1,645,964.69		
Point 124			0.00	-1,242.17	432.10	14,602,025.80	1,645,996.46		
Point 125			0.00	-1,250.92	464.59	14,602,017.06	1,646,028.95		
Point 126			0.00	-1,257.21	497.66	14,602,010.77	1,646,062.02		
Point 127			0.00	-1,261.01	531.09	14,602,006.98	1,646,095.45		
Point 128			0.00	-1,262.29	565.09	14,602,005.71	1,646,129.45		
Point 129			0.00	-1,261.08	598.35	14,602,006.92	1,646,162.71		
Point 130			0.00	-1,257.35	631.80	14,602,010.66	1,646,196.16		
Point 131			0.00	-1,251.12	664.87	14,602,016.90	1,646,229.23		
Point 132			0.00	-1,242.45	697.38	14,602,025.58	1,646,261.74		
Point 133			0.00	-1,231.37	729.15	14,602,036.66	1,646,293.50		
Point 134			0.00	-1,217.94	760.02	14,602,050.10	1,646,324.37		
Point 135			0.00	-1,202.25	789.78	14,602,065.79	1,646,354.13		
Point 136			0.00	-1,184.37	818.29	14,602,083.68	1,646,382.63		
Point 137			0.00	-1,164.42	845.40	14,602,103.64	1,646,409.74		
Point 138			0.00	-1,142.50	870.92	14,602,125.56	1,646,435.26		
Point 139			0.00	-1,118.72	894.75	14,602,149.35	1,646,459.08		
Point 140			0.00	-1,093.23	916.72	14,602,174.84	1,646,481.04		
Point 141			0.00	-1,066.18	936.74	14,602,201.90	1,646,501.06		
Point 142			0.00	-1,037.70	954.67	14,602,230.38	1,646,518.98		
Point 143			0.00	-1,007.97	970.42	14,602,260.11	1,646,534.73		
Point 144			0.00	-977.14	983.92	14,602,290.95	1,646,548.22		
Point 145			0.00	-945.38	995.06	14,602,322.71	1,646,559.35		
Point 146			0.00	-912.89	1,003.81	14,602,355.20	1,646,568.10		
Point 147			0.00	-879.82	1,010.10	14,602,388.27	1,646,574.38		
Point 148			0.00	-846.39	1,013.90	14,602,421.70	1,646,578.17		
Point 149			0.00	-812.77	1,015.19	14,602,455.32	1,646,579.46		
Point 150			0.00	-779.13	1,013.97	14,602,488.96	1,646,578.23		
Point 151			0.00	-745.68	1,010.23	14,602,522.41	1,646,574.48		
Point 152			0.00	-712.61	1,004.01	14,602,555.48	1,646,568.26		
Point 153			0.00	-680.10	995.34	14,602,587.99	1,646,559.58		
Point 154			0.00	-648.33	984.25	14,602,619.76	1,646,548.48		
Point 155			0.00	-617.47	970.83	14,602,650.61	1,646,535.06		
Point 156			0.00	-587.70	955.14	14,602,680.38	1,646,519.36		
Point 157			0.00	-559.19	937.26	14,602,708.89	1,646,501.47		
Point 158			0.00	-532.08	917.31	14,602,735.99	1,646,481.52		
Point 159			0.00	-506.56	895.38	14,602,761.51	1,646,459.58		
Point 160			0.00	-482.74	871.61	14,602,785.32	1,646,435.81		
Point 161			0.00	-460.76	846.12	14,602,807.30	1,646,410.31		
Point 162			0.00	-440.74	819.07	14,602,827.31	1,646,383.26		
Point 163			0.00	-422.81	790.59	14,602,845.23	1,646,354.78		
Point 164			0.00	-407.05	760.85	14,602,860.99	1,646,325.03		
Point 165			0.00	-393.57	730.03	14,602,874.46	1,646,294.21		
Point 166			0.00	-382.42	698.27	14,602,885.61	1,646,262.45		
Point 167			0.00	-373.67	665.78	14,602,894.35	1,646,229.96		
Point 168			0.00	-367.39	632.71	14,602,900.62	1,646,196.88		
Point 169			0.00	-363.58	599.28	14,602,904.43	1,646,163.45		
Point 170			0.00	-362.29	564.90	14,602,905.71	1,646,129.07		
Point 171			0.00	-342.30	565.66	14,602,925.70	1,646,129.83		
HILGERS 33N1-22HZ_4	0.00	0.00	0.00	0.00	0.00	14,603,267.88	1,645,564.10	40.210173	-104.981563
- plan hits target center									
- Polygon									
Point 1			0.00	-392.55	-3,379.47	14,602,874.63	1,642,184.71		
Point 2			0.00	-393.85	-3,345.09	14,602,873.34	1,642,219.09		
Point 3			0.00	-397.77	-3,310.16	14,602,869.42	1,642,254.02		
Point 4			0.00	-404.27	-3,275.63	14,602,862.93	1,642,288.55		
Point 5			0.00	-413.35	-3,241.68	14,602,853.86	1,642,322.50		
Point 6			0.00	-424.94	-3,208.49	14,602,842.27	1,642,355.70		
Point 7			0.00	-438.97	-3,176.27	14,602,828.25	1,642,387.92		
Point 8			0.00	-455.38	-3,145.19	14,602,811.85	1,642,419.00		

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well HILGERS 33N1-22HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Site:	3N-68W-22 Hilgers 9-22HZ Pad	North Reference:	True
Well:	HILGERS 33N1-22HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Point 9	0.00	-474.07	-3,115.41	14,602,793.16	1,642,448.79
Point 10	0.00	-494.92	-3,087.12	14,602,772.32	1,642,477.08
Point 11	0.00	-517.83	-3,060.47	14,602,749.41	1,642,503.74
Point 12	0.00	-542.66	-3,035.60	14,602,724.59	1,642,528.61
Point 13	0.00	-569.30	-3,012.66	14,602,697.95	1,642,551.56
Point 14	0.00	-597.56	-2,991.77	14,602,669.70	1,642,572.45
Point 15	0.00	-627.32	-2,973.05	14,602,639.94	1,642,591.18
Point 16	0.00	-658.38	-2,956.61	14,602,608.89	1,642,607.62
Point 17	0.00	-690.58	-2,942.53	14,602,576.69	1,642,621.71
Point 18	0.00	-723.76	-2,930.91	14,602,543.51	1,642,633.34
Point 19	0.00	-757.70	-2,921.79	14,602,509.57	1,642,642.47
Point 20	0.00	-792.23	-2,915.24	14,602,475.05	1,642,649.02
Point 21	0.00	-827.15	-2,911.28	14,602,440.13	1,642,652.99
Point 22	0.00	-862.27	-2,909.95	14,602,405.01	1,642,654.33
Point 23	0.00	-897.40	-2,911.24	14,602,369.88	1,642,653.04
Point 24	0.00	-932.32	-2,915.15	14,602,334.96	1,642,649.14
Point 25	0.00	-966.86	-2,921.67	14,602,300.41	1,642,642.63
Point 26	0.00	-1,000.82	-2,930.75	14,602,266.45	1,642,633.56
Point 27	0.00	-1,034.00	-2,942.34	14,602,233.27	1,642,621.97
Point 28	0.00	-1,066.22	-2,956.37	14,602,201.05	1,642,607.95
Point 29	0.00	-1,097.31	-2,972.78	14,602,169.95	1,642,591.55
Point 30	0.00	-1,127.07	-2,991.46	14,602,140.19	1,642,572.87
Point 31	0.00	-1,155.37	-3,012.31	14,602,111.88	1,642,552.03
Point 32	0.00	-1,182.02	-3,035.23	14,602,085.23	1,642,529.11
Point 33	0.00	-1,206.89	-3,060.06	14,602,060.35	1,642,504.29
Point 34	0.00	-1,229.83	-3,086.69	14,602,037.41	1,642,477.66
Point 35	0.00	-1,250.72	-3,114.96	14,602,016.51	1,642,449.40
Point 36	0.00	-1,269.43	-3,144.70	14,601,997.80	1,642,419.66
Point 37	0.00	-1,285.87	-3,175.77	14,601,981.35	1,642,388.59
Point 38	0.00	-1,299.95	-3,207.97	14,601,967.26	1,642,356.40
Point 39	0.00	-1,311.58	-3,241.14	14,601,955.63	1,642,323.23
Point 40	0.00	-1,320.69	-3,275.09	14,601,946.51	1,642,289.28
Point 41	0.00	-1,327.25	-3,309.62	14,601,939.94	1,642,254.75
Point 42	0.00	-1,331.21	-3,344.55	14,601,935.98	1,642,219.82
Point 43	0.00	-1,332.55	-3,380.04	14,601,934.63	1,642,184.33
Point 44	0.00	-1,331.24	-3,414.79	14,601,935.93	1,642,149.58
Point 45	0.00	-1,327.33	-3,449.72	14,601,939.83	1,642,114.65
Point 46	0.00	-1,320.82	-3,484.26	14,601,946.34	1,642,080.11
Point 47	0.00	-1,311.74	-3,518.21	14,601,955.41	1,642,046.16
Point 48	0.00	-1,300.16	-3,551.39	14,601,966.98	1,642,012.98
Point 49	0.00	-1,286.12	-3,583.62	14,601,981.02	1,641,980.75
Point 50	0.00	-1,269.71	-3,614.69	14,601,997.42	1,641,949.67
Point 51	0.00	-1,251.03	-3,644.47	14,602,016.09	1,641,919.89
Point 52	0.00	-1,230.17	-3,672.76	14,602,036.95	1,641,891.59
Point 53	0.00	-1,207.27	-3,699.41	14,602,059.84	1,641,864.94
Point 54	0.00	-1,182.43	-3,724.29	14,602,084.68	1,641,840.05
Point 55	0.00	-1,155.80	-3,747.22	14,602,111.30	1,641,817.12
Point 56	0.00	-1,127.53	-3,768.12	14,602,139.57	1,641,796.21
Point 57	0.00	-1,097.79	-3,786.83	14,602,169.30	1,641,777.50
Point 58	0.00	-1,066.71	-3,803.27	14,602,200.38	1,641,761.05
Point 59	0.00	-1,034.51	-3,817.35	14,602,232.58	1,641,746.96
Point 60	0.00	-1,001.35	-3,828.97	14,602,265.74	1,641,735.34
Point 61	0.00	-967.40	-3,838.09	14,602,299.68	1,641,726.21
Point 62	0.00	-932.87	-3,844.64	14,602,334.21	1,641,719.65
Point 63	0.00	-897.94	-3,848.60	14,602,369.14	1,641,715.68
Point 64	0.00	-862.82	-3,849.93	14,602,404.26	1,641,714.35
Point 65	0.00	-827.70	-3,848.64	14,602,439.38	1,641,715.63
Point 66	0.00	-792.78	-3,844.73	14,602,474.30	1,641,719.53
Point 67	0.00	-758.24	-3,838.21	14,602,508.84	1,641,726.05
Point 68	0.00	-724.28	-3,829.13	14,602,542.81	1,641,735.12
Point 69	0.00	-691.10	-3,817.54	14,602,575.99	1,641,746.70
Point 70	0.00	-658.87	-3,803.51	14,602,608.22	1,641,760.72
Point 71	0.00	-627.79	-3,787.10	14,602,639.30	1,641,777.13
Point 72	0.00	-598.02	-3,768.43	14,602,669.08	1,641,795.79

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well HILGERS 33N1-22HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Site:	3N-68W-22 Hilgers 9-22HZ Pad	North Reference:	True
Well:	HILGERS 33N1-22HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Point 73	0.00	-569.73	-3,747.57	14,602,697.37	1,641,816.65
Point 74	0.00	-543.07	-3,724.65	14,602,724.04	1,641,839.56
Point 75	0.00	-518.21	-3,699.82	14,602,748.90	1,641,864.39
Point 76	0.00	-495.26	-3,673.19	14,602,771.86	1,641,891.01
Point 77	0.00	-474.38	-3,644.93	14,602,792.74	1,641,919.27
Point 78	0.00	-455.66	-3,615.18	14,602,811.47	1,641,949.01
Point 79	0.00	-439.22	-3,584.11	14,602,827.92	1,641,980.08
Point 80	0.00	-425.15	-3,551.91	14,602,841.99	1,642,012.28
Point 81	0.00	-413.51	-3,518.74	14,602,853.64	1,642,045.44
Point 82	0.00	-404.40	-3,484.80	14,602,862.76	1,642,079.38
Point 83	0.00	-397.85	-3,450.26	14,602,869.31	1,642,113.92
Point 84	0.00	-393.88	-3,415.34	14,602,873.29	1,642,148.84
Point 85	0.00	-392.55	-3,380.21	14,602,874.63	1,642,183.97
Point 86	0.00	-412.54	-3,379.48	14,602,854.64	1,642,184.70
Point 87	0.00	-413.77	-3,413.11	14,602,853.40	1,642,151.07
Point 88	0.00	-417.50	-3,446.55	14,602,849.66	1,642,117.63
Point 89	0.00	-423.72	-3,479.62	14,602,843.44	1,642,084.57
Point 90	0.00	-432.39	-3,512.14	14,602,834.76	1,642,052.05
Point 91	0.00	-443.48	-3,543.91	14,602,823.66	1,642,020.28
Point 92	0.00	-456.90	-3,574.77	14,602,810.24	1,641,989.42
Point 93	0.00	-472.60	-3,604.54	14,602,794.53	1,641,959.66
Point 94	0.00	-490.47	-3,633.05	14,602,776.66	1,641,931.15
Point 95	0.00	-510.42	-3,660.15	14,602,756.70	1,641,904.05
Point 96	0.00	-532.35	-3,685.68	14,602,734.76	1,641,878.53
Point 97	0.00	-556.12	-3,709.50	14,602,710.99	1,641,854.71
Point 98	0.00	-581.61	-3,731.48	14,602,685.50	1,641,832.74
Point 99	0.00	-608.66	-3,751.49	14,602,658.44	1,641,812.73
Point 100	0.00	-637.14	-3,769.42	14,602,629.96	1,641,794.81
Point 101	0.00	-666.88	-3,785.18	14,602,600.21	1,641,779.06
Point 102	0.00	-697.71	-3,798.67	14,602,569.38	1,641,765.57
Point 103	0.00	-729.46	-3,809.81	14,602,537.63	1,641,754.44
Point 104	0.00	-761.95	-3,818.56	14,602,505.14	1,641,745.70
Point 105	0.00	-795.02	-3,824.86	14,602,472.07	1,641,739.40
Point 106	0.00	-828.45	-3,828.65	14,602,438.64	1,641,735.62
Point 107	0.00	-862.08	-3,829.95	14,602,405.00	1,641,734.33
Point 108	0.00	-895.71	-3,828.73	14,602,371.38	1,641,735.55
Point 109	0.00	-929.16	-3,824.99	14,602,337.93	1,641,739.30
Point 110	0.00	-962.23	-3,818.77	14,602,304.86	1,641,745.53
Point 111	0.00	-994.74	-3,810.10	14,602,272.35	1,641,754.20
Point 112	0.00	-1,026.52	-3,799.01	14,602,240.57	1,641,765.30
Point 113	0.00	-1,057.38	-3,785.59	14,602,209.71	1,641,778.73
Point 114	0.00	-1,087.15	-3,769.90	14,602,179.95	1,641,794.42
Point 115	0.00	-1,115.65	-3,752.01	14,602,151.45	1,641,812.32
Point 116	0.00	-1,142.76	-3,732.06	14,602,124.35	1,641,832.28
Point 117	0.00	-1,168.28	-3,710.13	14,602,098.83	1,641,854.21
Point 118	0.00	-1,192.11	-3,686.37	14,602,075.00	1,641,877.98
Point 119	0.00	-1,214.08	-3,660.88	14,602,053.04	1,641,903.47
Point 120	0.00	-1,234.10	-3,633.83	14,602,033.03	1,641,930.52
Point 121	0.00	-1,252.04	-3,605.35	14,602,015.09	1,641,959.01
Point 122	0.00	-1,267.79	-3,575.61	14,601,999.35	1,641,988.75
Point 123	0.00	-1,281.28	-3,544.78	14,601,985.86	1,642,019.58
Point 124	0.00	-1,292.42	-3,513.03	14,601,974.73	1,642,051.34
Point 125	0.00	-1,301.17	-3,480.53	14,601,965.99	1,642,083.84
Point 126	0.00	-1,307.46	-3,447.47	14,601,959.70	1,642,116.90
Point 127	0.00	-1,311.27	-3,414.03	14,601,955.90	1,642,150.34
Point 128	0.00	-1,312.54	-3,380.03	14,601,954.64	1,642,184.34
Point 129	0.00	-1,311.33	-3,346.77	14,601,955.86	1,642,217.60
Point 130	0.00	-1,307.60	-3,313.33	14,601,959.59	1,642,251.04
Point 131	0.00	-1,301.37	-3,280.26	14,601,965.83	1,642,284.11
Point 132	0.00	-1,292.70	-3,247.75	14,601,974.51	1,642,316.62
Point 133	0.00	-1,281.62	-3,215.97	14,601,985.59	1,642,348.39
Point 134	0.00	-1,268.19	-3,185.11	14,601,999.03	1,642,379.25
Point 135	0.00	-1,252.50	-3,155.34	14,602,014.73	1,642,409.02
Point 136	0.00	-1,234.62	-3,126.83	14,602,032.61	1,642,437.52

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well HILGERS 33N1-22HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Site:	3N-68W-22 Hilgers 9-22HZ Pad	North Reference:	True
Well:	HILGERS 33N1-22HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Point 137	0.00	-1,214.67	-3,099.73	14,602,052.57	1,642,464.62			
Point 138	0.00	-1,192.75	-3,074.20	14,602,074.49	1,642,490.15			
Point 139	0.00	-1,168.97	-3,050.38	14,602,098.28	1,642,513.96			
Point 140	0.00	-1,143.49	-3,028.40	14,602,123.76	1,642,535.94			
Point 141	0.00	-1,116.43	-3,008.39	14,602,150.83	1,642,555.94			
Point 142	0.00	-1,087.95	-2,990.46	14,602,179.31	1,642,573.86			
Point 143	0.00	-1,058.22	-2,974.70	14,602,209.04	1,642,589.62			
Point 144	0.00	-1,027.39	-2,961.21	14,602,239.88	1,642,603.10			
Point 145	0.00	-995.63	-2,950.07	14,602,271.64	1,642,614.23			
Point 146	0.00	-963.14	-2,941.32	14,602,304.13	1,642,622.98			
Point 147	0.00	-930.08	-2,935.03	14,602,337.19	1,642,629.26			
Point 148	0.00	-896.65	-2,931.23	14,602,370.62	1,642,633.05			
Point 149	0.00	-863.02	-2,929.93	14,602,404.25	1,642,634.35			
Point 150	0.00	-829.39	-2,931.15	14,602,437.88	1,642,633.12			
Point 151	0.00	-795.94	-2,934.89	14,602,471.33	1,642,629.37			
Point 152	0.00	-762.86	-2,941.11	14,602,504.41	1,642,623.15			
Point 153	0.00	-730.35	-2,949.79	14,602,536.92	1,642,614.46			
Point 154	0.00	-698.58	-2,960.87	14,602,568.69	1,642,603.37			
Point 155	0.00	-667.72	-2,974.30	14,602,599.54	1,642,589.94			
Point 156	0.00	-637.95	-2,989.99	14,602,629.31	1,642,574.24			
Point 157	0.00	-609.44	-3,007.87	14,602,657.82	1,642,556.35			
Point 158	0.00	-582.34	-3,027.82	14,602,684.91	1,642,536.40			
Point 159	0.00	-556.81	-3,049.75	14,602,710.44	1,642,514.46			
Point 160	0.00	-532.99	-3,073.51	14,602,734.25	1,642,490.70			
Point 161	0.00	-511.01	-3,099.00	14,602,756.23	1,642,465.20			
Point 162	0.00	-490.99	-3,126.05	14,602,776.24	1,642,438.15			
Point 163	0.00	-473.06	-3,154.53	14,602,794.17	1,642,409.67			
Point 164	0.00	-457.31	-3,184.27	14,602,809.91	1,642,379.92			
Point 165	0.00	-443.82	-3,215.10	14,602,823.39	1,642,349.09			
Point 166	0.00	-432.67	-3,246.85	14,602,834.54	1,642,317.34			
Point 167	0.00	-423.92	-3,279.35	14,602,843.28	1,642,284.84			
Point 168	0.00	-417.64	-3,312.41	14,602,849.55	1,642,251.77			
Point 169	0.00	-413.83	-3,345.85	14,602,853.36	1,642,218.33			
Point 170	0.00	-412.54	-3,380.22	14,602,854.64	1,642,183.96			
Point 171	0.00	-392.55	-3,379.47	14,602,874.63	1,642,184.71			
HILGERS 33N1-22HZ_Σ	0.00	0.00	0.00	0.00	14,603,267.88	1,645,564.10	40.210173	-104.981563
- plan hits target center								
- Point								
HILGERS 33N1-22HZ_Π	0.00	0.00	0.00	0.00	14,603,267.88	1,645,564.10	40.210173	-104.981563
- plan hits target center								
- Polygon								
Point 1	0.00	-413.41	-4,235.79	14,602,853.59	1,641,328.39			
Point 2	0.00	-402.52	-3,381.09	14,602,864.66	1,642,183.09			
Point 3	0.00	-385.77	-2,066.41	14,602,881.68	1,643,497.77			
Point 4	0.00	-369.04	-751.73	14,602,898.68	1,644,812.44			
Point 5	0.00	-352.30	562.97	14,602,915.70	1,646,127.14			
Point 6	0.00	-345.46	1,415.65	14,602,922.71	1,646,979.82			
Point 7	0.00	-1,265.42	1,423.92	14,602,002.76	1,646,988.28			
Point 8	0.00	-1,272.30	567.40	14,601,995.70	1,646,131.76			
Point 9	0.00	-1,289.05	-747.41	14,601,978.68	1,644,816.96			
Point 10	0.00	-1,305.80	-2,062.22	14,601,961.65	1,643,502.15			
Point 11	0.00	-1,322.56	-3,378.20	14,601,944.62	1,642,186.17			
Point 12	0.00	-1,333.46	-4,234.20	14,601,933.54	1,641,330.17			
Point 13	0.00	-413.41	-4,235.79	14,602,853.59	1,641,328.39			
3N-R68W-Sec. 22_Secti	0.00	0.00	13.00	1,488.66	50.53	14,604,756.55	1,645,614.32	40.214261
- plan misses target center by 1489.52usft at 13.00usft MD (13.00 TVD, 0.00 N, 0.00 E)								
- Polygon								
Point 1	13.00	1,609.13	-4,756.64	14,606,364.69	1,640,857.34			
Point 2	13.00	1,644.10	-2,132.46	14,606,400.21	1,643,481.52			
Point 3	13.00	1,698.21	493.16	14,606,454.86	1,646,107.13			
Point 4	13.00	-967.02	505.37	14,603,789.64	1,646,119.89			
Point 5	13.00	-3,630.21	518.25	14,601,126.45	1,646,133.32			
Point 6	13.00	-3,681.09	-2,110.42	14,601,075.02	1,643,504.66			

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well HILGERS 33N1-22HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5014.00usft (D Rig)
Site:	3N-68W-22 Hilgers 9-22HZ Pad	North Reference:	True
Well:	HILGERS 33N1-22HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Point 7			13.00	-3,689.13	-4,746.07	14,601,066.44	1,640,869.02		
Point 8			13.00	-1,042.08	-4,750.66	14,603,713.48	1,640,863.88		
HILGERS 33N1-22HZ_1	0.00	0.00	7,170.00	-532.70	-4,237.38	14,602,734.30	1,641,326.83	40.208709	-104.996740
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,838.66	1,800.00	9 5/8"		9-5/8	13-1/2
7,744.95	7,201.00	Top of Production		5-1/2	7-7/8

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
314.00	314.00	Fox Hills				
4,292.78	4,134.00	Sussex				
7,221.82	7,001.00	Sharon Springs				
7,343.38	7,081.00	Niobrara Top				
7,453.46	7,137.30	Niobrara B Bench				
7,604.99	7,186.60	Niobrara C Bench				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
250.00	250.00	0.00	0.00	Begin Nudge @ 250.00ft	
1,450.00	1,430.36	-96.29	160.25	End Nudge @ 1450.00ft	
4,350.00	4,188.42	-557.84	928.40	Begin Drop @ 4350.00ft	
5,250.00	5,073.69	-630.05	1,048.58	End Drop @ 5250.00ft	
6,740.70	6,564.39	-630.05	1,048.58	KOP @ 6740.70ft	
7,300.00	7,054.47	-625.81	818.34	DLS = 9°/100'	
7,744.95	7,201.00	-618.25	407.82	End Build @ 7744.95ft	
12,391.04	7,170.00	-532.70	-4,237.38	TD Well @ 12391.04ft	