

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
3N-68W-33 Newby 15-33HZ Pad
NEWBY STATE 15N-4HZ**

Plan A

Plan: Permit Rev-2

Standard Planning Report

19 April, 2017

Project: WELD-NAD83-UTMFT13N
 Site: 3N-68W-33 Newby 15-33HZ Pad
 Well: NEWBY STATE 15N-4HZ
 Wellbore: Plan A
 Design: Permit Rev-2

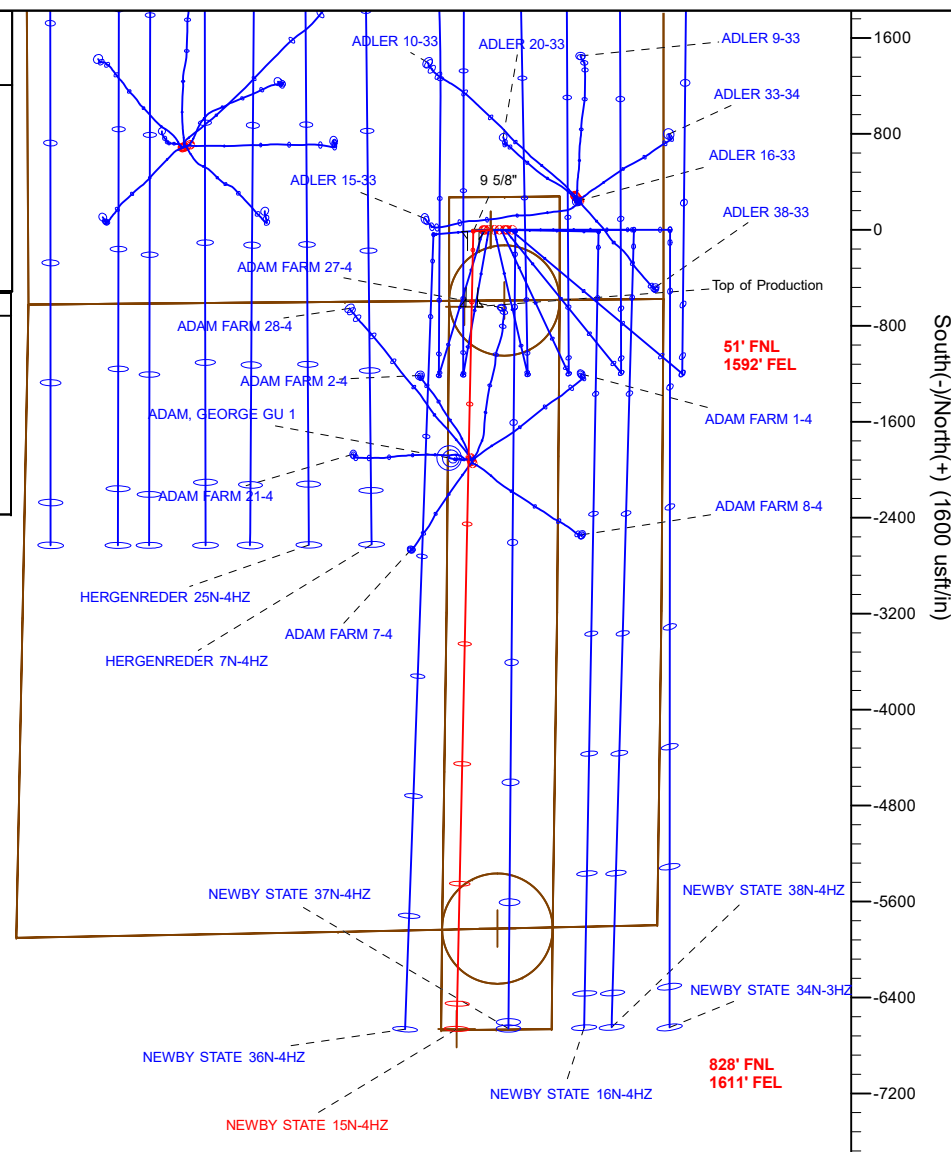
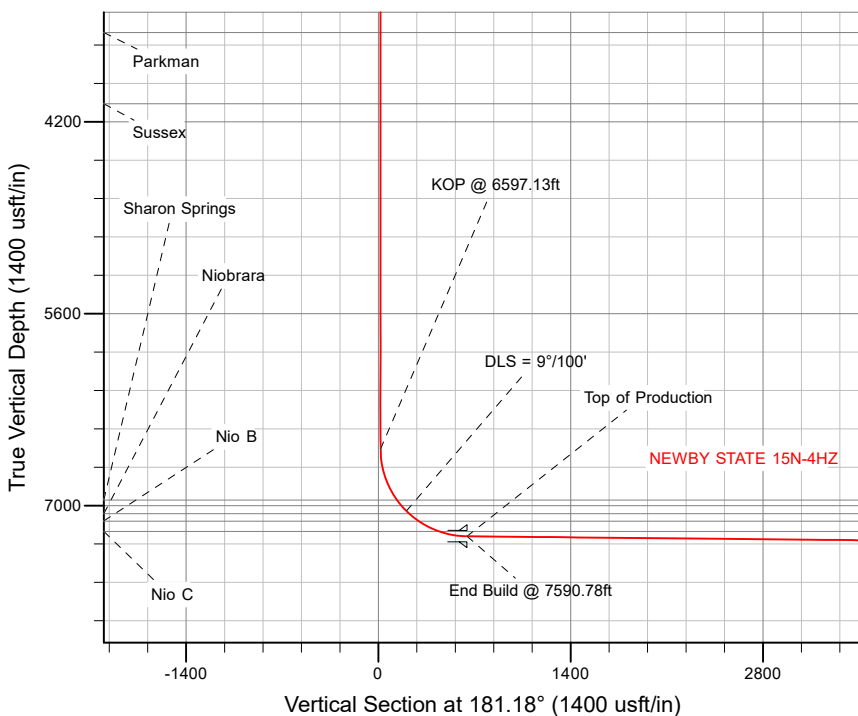
US ROCKIES WATTENBERG PLANNING

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	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	916.67	10.00	265.00	913.29	-5.06	-57.81	1.50	265.00	6.25	
4	1166.67	10.00	265.00	1159.49	-8.84	-101.06	0.00	0.00	10.92	
5	1666.67	0.00	0.00	1656.95	-12.63	-144.41	2.00	180.00	15.61	
6	6597.13	0.00	0.00	6587.41	-12.63	-144.41	0.00	0.00	15.61	
7	7590.78	89.43	181.18	7224.00	-642.77	-157.45	9.00	181.18	645.88	
8	13610.54	89.43	181.18	7284.00	-6660.94	-281.92	0.00	0.00	6665.34	NEWBY STATE 15N-4HZ_TOE

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
NEWBY STATE 15N-4HZ_SHL	0.00	0.00	0.00	40.176576	-105.003503	Point
NEWBY STATE 15N-4HZ_TOE	7284.00	-6660.94	-281.92	40.158284	-105.004512	Point



WELL DETAILS: NEWBY STATE 15N-4HZ	
Ground Level:	4894'
RKB = 20' @ 4914.00usft (D Rig)	
Plan: Permit Rev-2 (NEWBY STATE 15N-4HZ/Plan A)	
Created By: Clint Eshelman	Date: 4/19/2017
Reviewed:	Date:

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 15N-4HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Site:	3N-68W-33 Newby 15-33HZ Pad	North Reference:	True
Well:	NEWBY STATE 15N-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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-33 Newby 15-33HZ Pad			
Site Position:		Northing:	14,591,032.57 usft
From:	Lat/Long	Easting:	1,639,378.12 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	40.176576
		Longitude:	-105.003718
		Grid Convergence:	0.00 °

Well NEWBY STATE 15N-4HZ			
Well Position	+N-S	0.36 usft	Northing: 14,591,032.93 usft
	+E-W	60.06 usft	Easting: 1,639,438.18 usft
Position Uncertainty		3.28 usft	Wellhead Elevation: 0.00 usft
			Latitude: 40.176576
			Longitude: -105.003503
			Ground Level: 4,894.00 usft

Wellbore Plan A					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/14/2016	8.36	66.67	52,506.05882504

Design Permit Rev-2				
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	181.18

Plan Survey Tool Program		Date	4/19/2017		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,800.00 Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD	Fixed:v2:standard declination	
2	1,800.00	13,610.54 Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD+I	Fixed:v2:crustal field declinatio	

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 15N-4HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Site:	3N-68W-33 Newby 15-33HZ Pad	North Reference:	True
Well:	NEWBY STATE 15N-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
916.67	10.00	265.00	913.29	-5.06	-57.81	1.50	1.50	0.00	265.00	
1,166.67	10.00	265.00	1,159.49	-8.84	-101.06	0.00	0.00	0.00	0.00	
1,666.67	0.00	0.00	1,656.95	-12.63	-144.41	2.00	-2.00	0.00	180.00	
6,597.13	0.00	0.00	6,587.41	-12.63	-144.41	0.00	0.00	0.00	0.00	
7,590.78	89.43	181.18	7,224.00	-642.77	-157.45	9.00	9.00	-18.00	181.18	
13,610.54	89.43	181.18	7,284.00	-6,660.95	-281.92	0.00	0.00	0.00	0.00	NEWBY STATE 15N-

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 15N-4HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Site:	3N-68W-33 Newby 15-33HZ Pad	North Reference:	True
Well:	NEWBY STATE 15N-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 250.00ft										
300.00	0.75	265.00	300.00	-0.03	-0.33	0.04	1.50	1.50	0.00	
400.00	2.25	265.00	399.96	-0.26	-2.93	0.32	1.50	1.50	0.00	
500.00	3.75	265.00	499.82	-0.71	-8.15	0.88	1.50	1.50	0.00	
600.00	5.25	265.00	599.51	-1.40	-15.96	1.73	1.50	1.50	0.00	
700.00	6.75	265.00	698.96	-2.31	-26.38	2.85	1.50	1.50	0.00	
800.00	8.25	265.00	798.10	-3.45	-39.38	4.26	1.50	1.50	0.00	
821.13	8.57	265.00	819.00	-3.71	-42.46	4.59	1.50	1.50	0.00	
Fox Hills										
900.00	9.75	265.00	896.87	-4.81	-54.96	5.94	1.50	1.50	0.00	
916.67	10.00	265.00	913.29	-5.06	-57.81	6.25	1.50	1.50	0.00	
End Nudge @ 916.67ft										
1,000.00	10.00	265.00	995.35	-6.32	-72.22	7.80	0.00	0.00	0.00	
1,100.00	10.00	265.00	1,093.84	-7.83	-89.52	9.67	0.00	0.00	0.00	
1,166.67	10.00	265.00	1,159.49	-8.84	-101.06	10.92	0.00	0.00	0.00	
Begin Drop @ 1166.67ft										
1,200.00	9.33	265.00	1,192.35	-9.33	-106.63	11.52	2.00	-2.00	0.00	
1,300.00	7.33	265.00	1,291.29	-10.59	-121.07	13.08	2.00	-2.00	0.00	
1,400.00	5.33	265.00	1,390.67	-11.55	-132.06	14.27	2.00	-2.00	0.00	
1,500.00	3.33	265.00	1,490.38	-12.21	-139.58	15.08	2.00	-2.00	0.00	
1,600.00	1.33	265.00	1,590.29	-12.57	-143.64	15.52	2.00	-2.00	0.00	
1,666.67	0.00	0.00	1,656.96	-12.63	-144.41	15.61	2.00	-2.00	0.00	
End Drop @ 1666.67ft										
1,700.00	0.00	0.00	1,690.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
1,800.00	0.00	0.00	1,790.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
1,809.71	0.00	0.00	1,800.00	-12.63	-144.41	15.61	0.00	0.00	0.00	
9 5/8"										
1,900.00	0.00	0.00	1,890.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
2,000.00	0.00	0.00	1,990.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
2,100.00	0.00	0.00	2,090.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,190.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
2,300.00	0.00	0.00	2,290.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
2,400.00	0.00	0.00	2,390.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
2,500.00	0.00	0.00	2,490.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
2,600.00	0.00	0.00	2,590.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
2,700.00	0.00	0.00	2,690.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
2,800.00	0.00	0.00	2,790.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
2,900.00	0.00	0.00	2,890.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
3,000.00	0.00	0.00	2,990.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
3,100.00	0.00	0.00	3,090.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
3,200.00	0.00	0.00	3,190.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
3,300.00	0.00	0.00	3,290.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
3,400.00	0.00	0.00	3,390.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
3,500.00	0.00	0.00	3,490.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
3,558.71	0.00	0.00	3,549.00	-12.63	-144.41	15.61	0.00	0.00	0.00	
Parkman										
3,600.00	0.00	0.00	3,590.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
3,700.00	0.00	0.00	3,690.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
3,800.00	0.00	0.00	3,790.29	-12.63	-144.41	15.61	0.00	0.00	0.00	

Corporate Planning Report

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Site:	3N-68W-33 Newby 15-33HZ Pad	North Reference:	True
Well:	NEWBY STATE 15N-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
3,900.00	0.00	0.00	3,890.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
4,000.00	0.00	0.00	3,990.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
4,077.71	0.00	0.00	4,068.00	-12.63	-144.41	15.61	0.00	0.00	0.00	
Sussex										
4,100.00	0.00	0.00	4,090.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
4,200.00	0.00	0.00	4,190.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
4,300.00	0.00	0.00	4,290.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
4,400.00	0.00	0.00	4,390.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
4,500.00	0.00	0.00	4,490.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
4,600.00	0.00	0.00	4,590.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
4,700.00	0.00	0.00	4,690.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
4,800.00	0.00	0.00	4,790.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,890.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,990.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
5,100.00	0.00	0.00	5,090.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,190.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,290.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,390.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,490.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,590.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,690.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,790.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,890.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,990.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,090.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,190.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,290.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,390.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,490.29	-12.63	-144.41	15.61	0.00	0.00	0.00	
6,597.13	0.00	0.00	6,587.42	-12.63	-144.41	15.61	0.00	0.00	0.00	
KOP @ 6597.13ft										
6,600.00	0.26	181.18	6,590.29	-12.64	-144.41	15.61	9.01	9.01	0.00	
6,700.00	9.26	181.18	6,689.84	-20.93	-144.58	23.90	9.00	9.00	0.00	
6,800.00	18.26	181.18	6,786.87	-44.68	-145.08	47.66	9.00	9.00	0.00	
6,900.00	27.26	181.18	6,878.99	-83.32	-145.87	86.30	9.00	9.00	0.00	
6,993.91	35.71	181.18	6,959.00	-132.31	-146.89	135.30	9.00	9.00	0.00	
Sharon Springs										
7,000.00	36.26	181.18	6,963.93	-135.89	-146.96	138.88	9.00	9.00	0.00	
7,100.00	45.26	181.18	7,039.60	-201.09	-148.31	204.10	9.00	9.00	0.00	
DLS = 9°/100'										
7,128.20	47.80	181.18	7,059.00	-221.55	-148.73	224.57	9.00	9.00	0.00	
Niobrara										
7,200.00	54.26	181.18	7,104.13	-277.33	-149.89	280.36	9.00	9.00	0.00	
7,215.44	55.65	181.18	7,113.00	-289.97	-150.15	293.00	9.00	9.00	0.00	
Nio B										
7,300.00	63.26	181.18	7,155.95	-362.72	-151.65	365.77	9.00	9.00	0.00	
7,384.94	70.90	181.18	7,189.00	-440.88	-153.27	443.95	9.00	9.00	0.00	
Nio C										
7,400.00	72.26	181.18	7,193.76	-455.17	-153.57	458.23	9.00	9.00	0.00	
7,500.00	81.26	181.18	7,216.64	-552.39	-155.58	555.48	9.00	9.00	0.00	
7,590.78	89.43	181.18	7,224.00	-642.77	-157.45	645.88	9.00	9.00	0.00	
End Build @ 7590.78ft - Top of Production										
7,600.00	89.43	181.18	7,224.09	-651.99	-157.64	655.10	0.00	0.00	0.00	

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 15N-4HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Site:	3N-68W-33 Newby 15-33HZ Pad	North Reference:	True
Well:	NEWBY STATE 15N-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,700.00	89.43	181.18	7,225.09	-751.96	-159.70	755.09	0.00	0.00	0.00
7,800.00	89.43	181.18	7,226.09	-851.94	-161.77	855.09	0.00	0.00	0.00
7,900.00	89.43	181.18	7,227.08	-951.91	-163.84	955.08	0.00	0.00	0.00
8,000.00	89.43	181.18	7,228.08	-1,051.89	-165.91	1,055.08	0.00	0.00	0.00
8,100.00	89.43	181.18	7,229.08	-1,151.86	-167.98	1,155.07	0.00	0.00	0.00
8,200.00	89.43	181.18	7,230.07	-1,251.83	-170.04	1,255.07	0.00	0.00	0.00
8,300.00	89.43	181.18	7,231.07	-1,351.81	-172.11	1,355.06	0.00	0.00	0.00
8,400.00	89.43	181.18	7,232.07	-1,451.78	-174.18	1,455.06	0.00	0.00	0.00
8,500.00	89.43	181.18	7,233.06	-1,551.75	-176.25	1,555.05	0.00	0.00	0.00
8,600.00	89.43	181.18	7,234.06	-1,651.73	-178.31	1,655.05	0.00	0.00	0.00
8,700.00	89.43	181.18	7,235.06	-1,751.70	-180.38	1,755.04	0.00	0.00	0.00
8,800.00	89.43	181.18	7,236.05	-1,851.67	-182.45	1,855.04	0.00	0.00	0.00
8,900.00	89.43	181.18	7,237.05	-1,951.65	-184.52	1,955.03	0.00	0.00	0.00
9,000.00	89.43	181.18	7,238.05	-2,051.62	-186.58	2,055.03	0.00	0.00	0.00
9,100.00	89.43	181.18	7,239.04	-2,151.60	-188.65	2,155.02	0.00	0.00	0.00
9,200.00	89.43	181.18	7,240.04	-2,251.57	-190.72	2,255.02	0.00	0.00	0.00
9,300.00	89.43	181.18	7,241.04	-2,351.54	-192.79	2,355.01	0.00	0.00	0.00
9,400.00	89.43	181.18	7,242.03	-2,451.52	-194.86	2,455.01	0.00	0.00	0.00
9,500.00	89.43	181.18	7,243.03	-2,551.49	-196.92	2,555.00	0.00	0.00	0.00
9,600.00	89.43	181.18	7,244.03	-2,651.46	-198.99	2,655.00	0.00	0.00	0.00
9,700.00	89.43	181.18	7,245.02	-2,751.44	-201.06	2,754.99	0.00	0.00	0.00
9,800.00	89.43	181.18	7,246.02	-2,851.41	-203.13	2,854.99	0.00	0.00	0.00
9,900.00	89.43	181.18	7,247.02	-2,951.38	-205.19	2,954.98	0.00	0.00	0.00
10,000.00	89.43	181.18	7,248.01	-3,051.36	-207.26	3,054.98	0.00	0.00	0.00
10,100.00	89.43	181.18	7,249.01	-3,151.33	-209.33	3,154.97	0.00	0.00	0.00
10,200.00	89.43	181.18	7,250.01	-3,251.31	-211.40	3,254.97	0.00	0.00	0.00
10,300.00	89.43	181.18	7,251.00	-3,351.28	-213.46	3,354.96	0.00	0.00	0.00
10,400.00	89.43	181.18	7,252.00	-3,451.25	-215.53	3,454.96	0.00	0.00	0.00
10,500.00	89.43	181.18	7,253.00	-3,551.23	-217.60	3,554.95	0.00	0.00	0.00
10,600.00	89.43	181.18	7,253.99	-3,651.20	-219.67	3,654.95	0.00	0.00	0.00
10,700.00	89.43	181.18	7,254.99	-3,751.17	-221.74	3,754.94	0.00	0.00	0.00
10,800.00	89.43	181.18	7,255.99	-3,851.15	-223.80	3,854.94	0.00	0.00	0.00
10,900.00	89.43	181.18	7,256.98	-3,951.12	-225.87	3,954.93	0.00	0.00	0.00
11,000.00	89.43	181.18	7,257.98	-4,051.09	-227.94	4,054.93	0.00	0.00	0.00
11,100.00	89.43	181.18	7,258.98	-4,151.07	-230.01	4,154.92	0.00	0.00	0.00
11,200.00	89.43	181.18	7,259.97	-4,251.04	-232.07	4,254.92	0.00	0.00	0.00
11,300.00	89.43	181.18	7,260.97	-4,351.02	-234.14	4,354.91	0.00	0.00	0.00
11,400.00	89.43	181.18	7,261.97	-4,450.99	-236.21	4,454.91	0.00	0.00	0.00
11,500.00	89.43	181.18	7,262.96	-4,550.96	-238.28	4,554.90	0.00	0.00	0.00
11,600.00	89.43	181.18	7,263.96	-4,650.94	-240.34	4,654.90	0.00	0.00	0.00
11,700.00	89.43	181.18	7,264.96	-4,750.91	-242.41	4,754.89	0.00	0.00	0.00
11,800.00	89.43	181.18	7,265.96	-4,850.88	-244.48	4,854.89	0.00	0.00	0.00
11,900.00	89.43	181.18	7,266.95	-4,950.86	-246.55	4,954.89	0.00	0.00	0.00
12,000.00	89.43	181.18	7,267.95	-5,050.83	-248.62	5,054.88	0.00	0.00	0.00
12,100.00	89.43	181.18	7,268.95	-5,150.81	-250.68	5,154.88	0.00	0.00	0.00
12,200.00	89.43	181.18	7,269.94	-5,250.78	-252.75	5,254.87	0.00	0.00	0.00
12,300.00	89.43	181.18	7,270.94	-5,350.75	-254.82	5,354.87	0.00	0.00	0.00
12,400.00	89.43	181.18	7,271.94	-5,450.73	-256.89	5,454.86	0.00	0.00	0.00
12,500.00	89.43	181.18	7,272.93	-5,550.70	-258.95	5,554.86	0.00	0.00	0.00
12,600.00	89.43	181.18	7,273.93	-5,650.67	-261.02	5,654.85	0.00	0.00	0.00
12,700.00	89.43	181.18	7,274.93	-5,750.65	-263.09	5,754.85	0.00	0.00	0.00
12,800.00	89.43	181.18	7,275.92	-5,850.62	-265.16	5,854.84	0.00	0.00	0.00
12,900.00	89.43	181.18	7,276.92	-5,950.59	-267.23	5,954.84	0.00	0.00	0.00
13,000.00	89.43	181.18	7,277.92	-6,050.57	-269.29	6,054.83	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 15N-4HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Site:	3N-68W-33 Newby 15-33HZ Pad	North Reference:	True
Well:	NEWBY STATE 15N-4HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,100.00	89.43	181.18	7,278.91	-6,150.54	-271.36	6,154.83	0.00	0.00	0.00
13,200.00	89.43	181.18	7,279.91	-6,250.52	-273.43	6,254.82	0.00	0.00	0.00
13,300.00	89.43	181.18	7,280.91	-6,350.49	-275.50	6,354.82	0.00	0.00	0.00
13,400.00	89.43	181.18	7,281.90	-6,450.46	-277.56	6,454.81	0.00	0.00	0.00
13,500.00	89.43	181.18	7,282.90	-6,550.44	-279.63	6,554.81	0.00	0.00	0.00
13,600.00	89.43	181.18	7,283.90	-6,650.41	-281.70	6,654.80	0.00	0.00	0.00
13,610.54	89.43	181.18	7,284.00	-6,660.95	-281.92	6,665.34	0.00	0.00	0.00
TD Well @ 13610.54ft									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,809.71	1,800.00	9 5/8"	9-5/8	13-1/2	
7,590.78	7,224.00	Top of Production	5-1/2	7-7/8	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
821.13	819.00	Fox Hills			
3,558.71	3,549.00	Parkman			
4,077.71	4,068.00	Sussex			
6,993.91	6,959.00	Sharon Springs			
7,128.20	7,059.00	Niobrara			
7,215.44	7,113.00	Nio B			
7,384.94	7,189.00	Nio C			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment	
250.00	250.00	0.00	0.00	Begin Nudge @ 250.00ft	
916.67	913.29	-5.06	-57.81	End Nudge @ 916.67ft	
1,166.67	1,159.49	-8.84	-101.06	Begin Drop @ 1166.67ft	
1,666.67	1,656.96	-12.63	-144.41	End Drop @ 1666.67ft	
6,597.13	6,587.42	-12.63	-144.41	KOP @ 6597.13ft	
7,100.00	7,039.60	-201.09	-148.31	DLS = 9°/100'	
7,590.78	7,224.00	-642.77	-157.45	End Build @ 7590.78ft	
13,610.54	7,284.00	-6,660.95	-281.92	TD Well @ 13610.54ft	