

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
3N-68W-33 Newby 15-33HZ Pad
NEWBY STATE 34N-3HZ**

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 34N-3HZ
 Wellbore: Plan A
 Design: Permit Rev-2

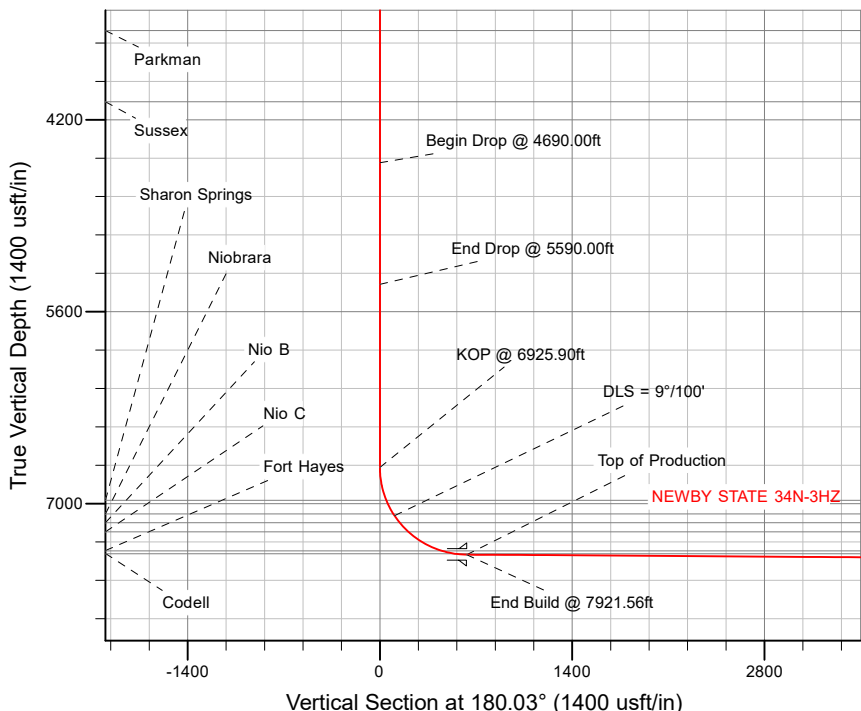
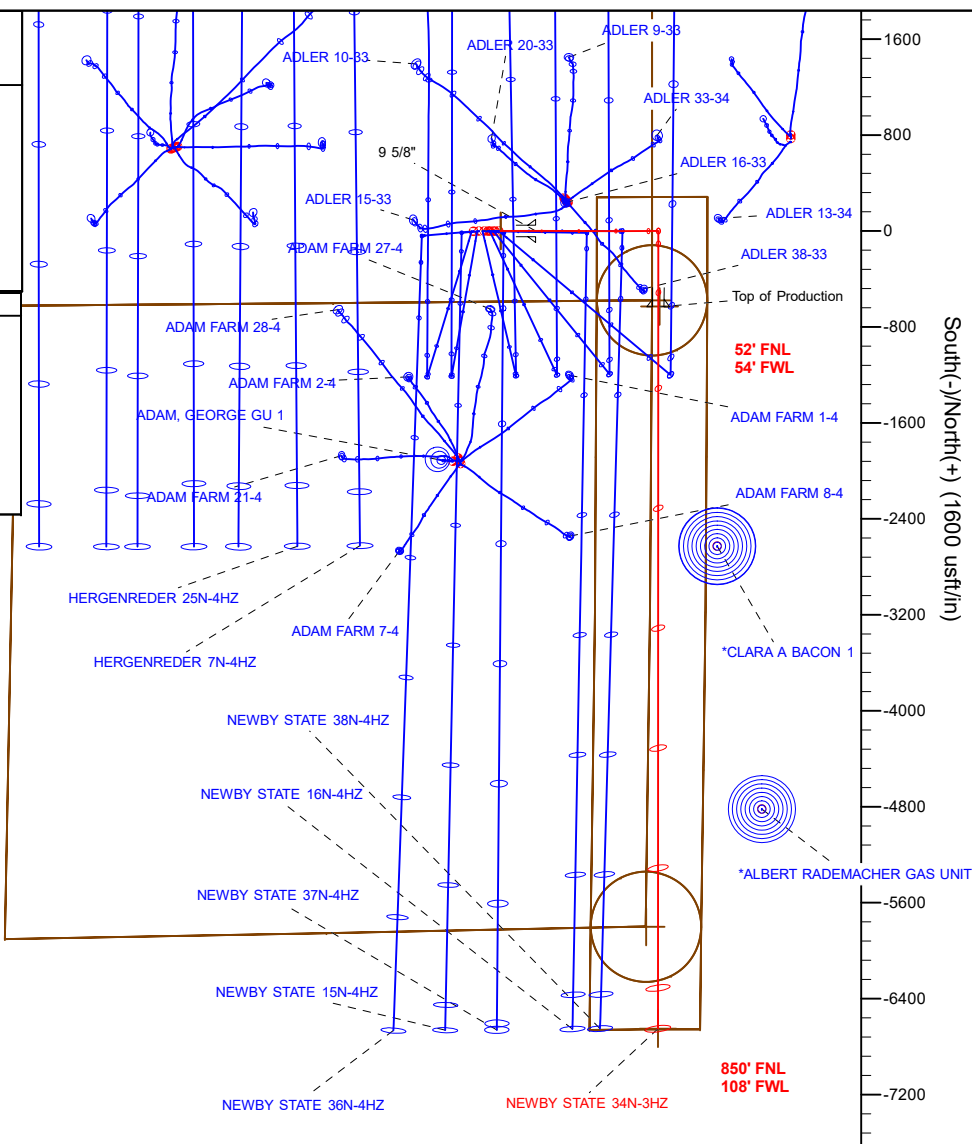
US ROCKIES WATTENBERG PLANNING

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	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	1500.00	18.00	90.00	1480.36	0.00	186.95	1.50	90.00	-0.10	
4	4690.00	18.00	90.00	4514.23	0.00	1172.71	0.00	0.00	-0.61	
5	5590.00	0.00	0.00	5399.50	0.00	1312.93	2.00	-180.00	-0.69	
6	6925.90	0.00	0.00	6735.40	0.00	1312.93	0.00	0.00	-0.69	
7	7921.56	89.61	180.03	7372.00	-632.28	1312.57	9.00	180.03	631.60	
8	13939.76	89.61	180.03	7413.00	-6650.34	1309.15	0.00	0.00	6649.66	NEWBY STATE 34N-3HZ_Toe

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
NEWBY STATE 34N-3HZ_SHL	0.00	0.00	0.00	40.176580	-105.002859	Point
NEWBY STATE 34N-3HZ_Toe	7413.00	-6650.34	1309.15	40.158317	-104.998173	Point



WELL DETAILS: NEWBY STATE 34N-3HZ	
Ground Level:	4894'
RKB = 20' @ 4914.00usft (D Rig)	
Plan: Permit Rev-2 (NEWBY STATE 34N-3HZ/Plan A)	
Created By: Clint Eshelman	Date: 4/19/2017
Reviewed:	Date:

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 34N-3HZ
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 34N-3HZ	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:	40.176575
		Longitude:	-105.003718
		Grid Convergence:	0.00 °

Well NEWBY STATE 34N-3HZ			
Well Position	+N-S	1.82 usft	Northing: 14,591,034.38 usft
	+E-W	239.94 usft	Easting: 1,639,618.06 usft
Position Uncertainty		3.28 usft	Wellhead Elevation: 0.00 usft
			Latitude: 40.176580
			Longitude: -105.002859
			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	52,506.12857047

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	180.03

Plan Survey Tool Program		Date	4/17/2017		
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	13,939.76	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:crustal field declinatio	

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 34N-3HZ	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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	18.00	90.00	1,480.36	0.00	186.95	1.50	1.50	0.00	90.00	
4,690.00	18.00	90.00	4,514.23	0.00	1,172.71	0.00	0.00	0.00	0.00	
5,590.00	0.00	0.00	5,399.50	0.00	1,312.93	2.00	-2.00	-10.00	-180.00	
6,925.90	0.00	0.00	6,735.40	0.00	1,312.93	0.00	0.00	0.00	0.00	
7,921.56	89.61	180.03	7,372.00	-632.28	1,312.57	9.00	9.00	-18.08	180.03	
13,939.76	89.61	180.03	7,413.00	-6,650.34	1,309.15	0.00	0.00	0.00	0.00	NEWBY STATE 34N-

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 34N-3HZ
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 34N-3HZ	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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 300.00ft										
400.00	1.50	90.00	399.99	0.00	1.31	0.00	1.50	1.50	0.00	0.00
500.00	3.00	90.00	499.91	0.00	5.23	0.00	1.50	1.50	0.00	0.00
600.00	4.50	90.00	599.69	0.00	11.77	-0.01	1.50	1.50	0.00	0.00
700.00	6.00	90.00	699.27	0.00	20.92	-0.01	1.50	1.50	0.00	0.00
800.00	7.50	90.00	798.57	0.00	32.68	-0.02	1.50	1.50	0.00	0.00
820.61	7.81	90.00	819.00	0.00	35.42	-0.02	1.50	1.50	0.00	0.00
Fox Hills										
900.00	9.00	90.00	897.54	0.00	47.03	-0.02	1.50	1.50	0.00	0.00
1,000.00	10.50	90.00	996.09	0.00	63.96	-0.03	1.50	1.50	0.00	0.00
1,100.00	12.00	90.00	1,094.16	0.00	83.47	-0.04	1.50	1.50	0.00	0.00
1,200.00	13.50	90.00	1,191.70	0.00	105.54	-0.06	1.50	1.50	0.00	0.00
1,300.00	15.00	90.00	1,288.62	0.00	130.15	-0.07	1.50	1.50	0.00	0.00
1,400.00	16.50	90.00	1,384.86	0.00	157.30	-0.08	1.50	1.50	0.00	0.00
1,500.00	18.00	90.00	1,480.36	0.00	186.95	-0.10	1.50	1.50	0.00	0.00
End Nudge @ 1500.00ft										
1,600.00	18.00	90.00	1,575.46	0.00	217.85	-0.11	0.00	0.00	0.00	0.00
1,700.00	18.00	90.00	1,670.57	0.00	248.75	-0.13	0.00	0.00	0.00	0.00
1,800.00	18.00	90.00	1,765.67	0.00	279.66	-0.15	0.00	0.00	0.00	0.00
1,836.09	18.00	90.00	1,800.00	0.00	290.81	-0.15	0.00	0.00	0.00	0.00
9 5/8"										
1,900.00	18.00	90.00	1,860.78	0.00	310.56	-0.16	0.00	0.00	0.00	0.00
2,000.00	18.00	90.00	1,955.89	0.00	341.46	-0.18	0.00	0.00	0.00	0.00
2,100.00	18.00	90.00	2,050.99	0.00	372.36	-0.19	0.00	0.00	0.00	0.00
2,200.00	18.00	90.00	2,146.10	0.00	403.26	-0.21	0.00	0.00	0.00	0.00
2,300.00	18.00	90.00	2,241.20	0.00	434.16	-0.23	0.00	0.00	0.00	0.00
2,400.00	18.00	90.00	2,336.31	0.00	465.07	-0.24	0.00	0.00	0.00	0.00
2,500.00	18.00	90.00	2,431.41	0.00	495.97	-0.26	0.00	0.00	0.00	0.00
2,600.00	18.00	90.00	2,526.52	0.00	526.87	-0.28	0.00	0.00	0.00	0.00
2,700.00	18.00	90.00	2,621.63	0.00	557.77	-0.29	0.00	0.00	0.00	0.00
2,800.00	18.00	90.00	2,716.73	0.00	588.67	-0.31	0.00	0.00	0.00	0.00
2,900.00	18.00	90.00	2,811.84	0.00	619.57	-0.32	0.00	0.00	0.00	0.00
3,000.00	18.00	90.00	2,906.94	0.00	650.48	-0.34	0.00	0.00	0.00	0.00
3,100.00	18.00	90.00	3,002.05	0.00	681.38	-0.36	0.00	0.00	0.00	0.00
3,200.00	18.00	90.00	3,097.15	0.00	712.28	-0.37	0.00	0.00	0.00	0.00
3,300.00	18.00	90.00	3,192.26	0.00	743.18	-0.39	0.00	0.00	0.00	0.00
3,400.00	18.00	90.00	3,287.37	0.00	774.08	-0.41	0.00	0.00	0.00	0.00
3,500.00	18.00	90.00	3,382.47	0.00	804.98	-0.42	0.00	0.00	0.00	0.00
3,600.00	18.00	90.00	3,477.58	0.00	835.89	-0.44	0.00	0.00	0.00	0.00
3,675.10	18.00	90.00	3,549.00	0.00	859.09	-0.45	0.00	0.00	0.00	0.00
Parkman										
3,700.00	18.00	90.00	3,572.68	0.00	866.79	-0.45	0.00	0.00	0.00	0.00
3,800.00	18.00	90.00	3,667.79	0.00	897.69	-0.47	0.00	0.00	0.00	0.00
3,900.00	18.00	90.00	3,762.89	0.00	928.59	-0.49	0.00	0.00	0.00	0.00
4,000.00	18.00	90.00	3,858.00	0.00	959.49	-0.50	0.00	0.00	0.00	0.00
4,100.00	18.00	90.00	3,953.11	0.00	990.39	-0.52	0.00	0.00	0.00	0.00
4,200.00	18.00	90.00	4,048.21	0.00	1,021.30	-0.53	0.00	0.00	0.00	0.00
4,220.81	18.00	90.00	4,068.00	0.00	1,027.73	-0.54	0.00	0.00	0.00	0.00
Sussex										

Corporate Planning Report

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 20' @ 4914.00usft (D Rig)
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Well:	NEWBY STATE 34N-3HZ	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)	
4,300.00	18.00	90.00	4,143.32	0.00	1,052.20	-0.55	0.00	0.00	0.00	
4,400.00	18.00	90.00	4,238.42	0.00	1,083.10	-0.57	0.00	0.00	0.00	
4,500.00	18.00	90.00	4,333.53	0.00	1,114.00	-0.58	0.00	0.00	0.00	
4,600.00	18.00	90.00	4,428.63	0.00	1,144.90	-0.60	0.00	0.00	0.00	
4,690.00	18.00	90.00	4,514.23	0.00	1,172.71	-0.61	0.00	0.00	0.00	
Begin Drop @ 4690.00ft										
4,700.00	17.80	90.00	4,523.74	0.00	1,175.79	-0.62	2.00	-2.00	0.00	
4,800.00	15.80	90.00	4,619.47	0.00	1,204.69	-0.63	2.00	-2.00	0.00	
4,900.00	13.80	90.00	4,716.15	0.00	1,230.23	-0.64	2.00	-2.00	0.00	
5,000.00	11.80	90.00	4,813.66	0.00	1,252.39	-0.66	2.00	-2.00	0.00	
5,100.00	9.80	90.00	4,911.88	0.00	1,271.12	-0.67	2.00	-2.00	0.00	
5,200.00	7.80	90.00	5,010.70	0.00	1,286.42	-0.67	2.00	-2.00	0.00	
5,300.00	5.80	90.00	5,109.99	0.00	1,298.26	-0.68	2.00	-2.00	0.00	
5,400.00	3.80	90.00	5,209.64	0.00	1,306.63	-0.68	2.00	-2.00	0.00	
5,500.00	1.80	90.00	5,309.51	0.00	1,311.51	-0.69	2.00	-2.00	0.00	
5,590.00	0.00	0.00	5,399.50	0.00	1,312.93	-0.69	2.00	-2.00	-100.00	
End Drop @ 5590.00ft										
5,600.00	0.00	0.00	5,409.50	0.00	1,312.93	-0.69	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,509.50	0.00	1,312.93	-0.69	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,609.50	0.00	1,312.93	-0.69	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,709.50	0.00	1,312.93	-0.69	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,809.50	0.00	1,312.93	-0.69	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,909.50	0.00	1,312.93	-0.69	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,009.50	0.00	1,312.93	-0.69	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,109.50	0.00	1,312.93	-0.69	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,209.50	0.00	1,312.93	-0.69	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,309.50	0.00	1,312.93	-0.69	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,409.50	0.00	1,312.93	-0.69	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,509.50	0.00	1,312.93	-0.69	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,609.50	0.00	1,312.93	-0.69	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,709.50	0.00	1,312.93	-0.69	0.00	0.00	0.00	
6,925.90	0.00	0.00	6,735.40	0.00	1,312.93	-0.69	0.00	0.00	0.00	
KOP @ 6925.90ft										
7,000.00	6.67	180.03	6,809.33	-4.31	1,312.92	3.62	9.00	9.00	-242.87	
7,100.00	15.67	180.03	6,907.33	-23.66	1,312.91	22.97	9.00	9.00	0.00	
7,172.63	22.21	180.03	6,976.00	-47.22	1,312.90	46.53	9.00	9.00	0.00	
Sharon Springs										
7,200.00	24.67	180.03	7,001.11	-58.10	1,312.89	57.41	9.00	9.00	0.00	
7,285.29	32.35	180.03	7,076.00	-98.78	1,312.87	98.09	9.00	9.00	0.00	
Niobrara										
7,300.00	33.67	180.03	7,088.34	-106.79	1,312.87	106.10	9.00	9.00	0.00	
DLS = 9°/100'										
7,364.35	39.46	180.03	7,140.00	-145.11	1,312.84	144.42	9.00	9.00	0.00	
Nio B										
7,400.00	42.67	180.03	7,166.87	-168.53	1,312.83	167.84	9.00	9.00	0.00	
7,455.51	47.67	180.03	7,206.00	-207.88	1,312.81	207.19	9.00	9.00	0.00	
Nio C										
7,500.00	51.67	180.03	7,234.79	-241.79	1,312.79	241.10	9.00	9.00	0.00	
7,600.00	60.67	180.03	7,290.40	-324.77	1,312.74	324.08	9.00	9.00	0.00	
7,700.00	69.67	180.03	7,332.36	-415.43	1,312.69	414.74	9.00	9.00	0.00	
7,739.77	73.25	180.03	7,345.00	-453.13	1,312.67	452.44	9.00	9.00	0.00	
Fort Hayes										
7,800.00	78.67	180.03	7,359.61	-511.54	1,312.64	510.85	9.00	9.00	0.00	

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 34N-3HZ
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 34N-3HZ	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)
7,831.29	81.49	180.03	7,365.00	-542.36	1,312.62	541.67	9.00	9.00	0.00
Codell									
7,900.00	87.67	180.03	7,371.49	-610.73	1,312.58	610.04	9.00	9.00	0.00
7,921.56	89.61	180.03	7,372.00	-632.28	1,312.57	631.59	9.00	9.00	0.00
End Build @ 7921.56ft - Top of Production									
8,000.00	89.61	180.03	7,372.54	-710.72	1,312.52	710.03	0.00	0.00	0.00
8,100.00	89.61	180.03	7,373.22	-810.72	1,312.47	810.03	0.00	0.00	0.00
8,200.00	89.61	180.03	7,373.90	-910.71	1,312.41	910.03	0.00	0.00	0.00
8,300.00	89.61	180.03	7,374.58	-1,010.71	1,312.35	1,010.02	0.00	0.00	0.00
8,400.00	89.61	180.03	7,375.26	-1,110.71	1,312.30	1,110.02	0.00	0.00	0.00
8,500.00	89.61	180.03	7,375.94	-1,210.71	1,312.24	1,210.02	0.00	0.00	0.00
8,600.00	89.61	180.03	7,376.62	-1,310.70	1,312.18	1,310.02	0.00	0.00	0.00
8,700.00	89.61	180.03	7,377.30	-1,410.70	1,312.13	1,410.01	0.00	0.00	0.00
8,800.00	89.61	180.03	7,377.99	-1,510.70	1,312.07	1,510.01	0.00	0.00	0.00
8,900.00	89.61	180.03	7,378.67	-1,610.70	1,312.01	1,610.01	0.00	0.00	0.00
9,000.00	89.61	180.03	7,379.35	-1,710.69	1,311.95	1,710.01	0.00	0.00	0.00
9,100.00	89.61	180.03	7,380.03	-1,810.69	1,311.90	1,810.01	0.00	0.00	0.00
9,200.00	89.61	180.03	7,380.71	-1,910.69	1,311.84	1,910.00	0.00	0.00	0.00
9,300.00	89.61	180.03	7,381.39	-2,010.69	1,311.78	2,010.00	0.00	0.00	0.00
9,400.00	89.61	180.03	7,382.07	-2,110.69	1,311.73	2,110.00	0.00	0.00	0.00
9,500.00	89.61	180.03	7,382.75	-2,210.68	1,311.67	2,210.00	0.00	0.00	0.00
9,600.00	89.61	180.03	7,383.44	-2,310.68	1,311.61	2,309.99	0.00	0.00	0.00
9,700.00	89.61	180.03	7,384.12	-2,410.68	1,311.56	2,409.99	0.00	0.00	0.00
9,800.00	89.61	180.03	7,384.80	-2,510.68	1,311.50	2,509.99	0.00	0.00	0.00
9,900.00	89.61	180.03	7,385.48	-2,610.67	1,311.44	2,609.99	0.00	0.00	0.00
10,000.00	89.61	180.03	7,386.16	-2,710.67	1,311.39	2,709.98	0.00	0.00	0.00
10,100.00	89.61	180.03	7,386.84	-2,810.67	1,311.33	2,809.98	0.00	0.00	0.00
10,200.00	89.61	180.03	7,387.52	-2,910.67	1,311.27	2,909.98	0.00	0.00	0.00
10,300.00	89.61	180.03	7,388.20	-3,010.66	1,311.22	3,009.98	0.00	0.00	0.00
10,400.00	89.61	180.03	7,388.89	-3,110.66	1,311.16	3,109.97	0.00	0.00	0.00
10,500.00	89.61	180.03	7,389.57	-3,210.66	1,311.10	3,209.97	0.00	0.00	0.00
10,600.00	89.61	180.03	7,390.25	-3,310.66	1,311.05	3,309.97	0.00	0.00	0.00
10,700.00	89.61	180.03	7,390.93	-3,410.65	1,310.99	3,409.97	0.00	0.00	0.00
10,800.00	89.61	180.03	7,391.61	-3,510.65	1,310.93	3,509.97	0.00	0.00	0.00
10,900.00	89.61	180.03	7,392.29	-3,610.65	1,310.87	3,609.96	0.00	0.00	0.00
11,000.00	89.61	180.03	7,392.97	-3,710.65	1,310.82	3,709.96	0.00	0.00	0.00
11,100.00	89.61	180.03	7,393.65	-3,810.65	1,310.76	3,809.96	0.00	0.00	0.00
11,200.00	89.61	180.03	7,394.34	-3,910.64	1,310.70	3,909.96	0.00	0.00	0.00
11,300.00	89.61	180.03	7,395.02	-4,010.64	1,310.65	4,009.95	0.00	0.00	0.00
11,400.00	89.61	180.03	7,395.70	-4,110.64	1,310.59	4,109.95	0.00	0.00	0.00
11,500.00	89.61	180.03	7,396.38	-4,210.64	1,310.53	4,209.95	0.00	0.00	0.00
11,600.00	89.61	180.03	7,397.06	-4,310.63	1,310.48	4,309.95	0.00	0.00	0.00
11,700.00	89.61	180.03	7,397.74	-4,410.63	1,310.42	4,409.94	0.00	0.00	0.00
11,800.00	89.61	180.03	7,398.42	-4,510.63	1,310.36	4,509.94	0.00	0.00	0.00
11,900.00	89.61	180.03	7,399.10	-4,610.63	1,310.31	4,609.94	0.00	0.00	0.00
12,000.00	89.61	180.03	7,399.79	-4,710.62	1,310.25	4,709.94	0.00	0.00	0.00
12,100.00	89.61	180.03	7,400.47	-4,810.62	1,310.19	4,809.94	0.00	0.00	0.00
12,200.00	89.61	180.03	7,401.15	-4,910.62	1,310.14	4,909.93	0.00	0.00	0.00
12,300.00	89.61	180.03	7,401.83	-5,010.62	1,310.08	5,009.93	0.00	0.00	0.00
12,400.00	89.61	180.03	7,402.51	-5,110.62	1,310.02	5,109.93	0.00	0.00	0.00
12,500.00	89.61	180.03	7,403.19	-5,210.61	1,309.97	5,209.93	0.00	0.00	0.00
12,600.00	89.61	180.03	7,403.87	-5,310.61	1,309.91	5,309.92	0.00	0.00	0.00
12,700.00	89.61	180.03	7,404.55	-5,410.61	1,309.85	5,409.92	0.00	0.00	0.00
12,800.00	89.61	180.03	7,405.24	-5,510.61	1,309.79	5,509.92	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 34N-3HZ
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 34N-3HZ	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)	
12,900.00	89.61	180.03	7,405.92	-5,610.60	1,309.74	5,609.92	0.00	0.00	0.00	
13,000.00	89.61	180.03	7,406.60	-5,710.60	1,309.68	5,709.91	0.00	0.00	0.00	
13,100.00	89.61	180.03	7,407.28	-5,810.60	1,309.62	5,809.91	0.00	0.00	0.00	
13,200.00	89.61	180.03	7,407.96	-5,910.60	1,309.57	5,909.91	0.00	0.00	0.00	
13,300.00	89.61	180.03	7,408.64	-6,010.59	1,309.51	6,009.91	0.00	0.00	0.00	
13,400.00	89.61	180.03	7,409.32	-6,110.59	1,309.45	6,109.91	0.00	0.00	0.00	
13,500.00	89.61	180.03	7,410.00	-6,210.59	1,309.40	6,209.90	0.00	0.00	0.00	
13,600.00	89.61	180.03	7,410.69	-6,310.59	1,309.34	6,309.90	0.00	0.00	0.00	
13,700.00	89.61	180.03	7,411.37	-6,410.58	1,309.28	6,409.90	0.00	0.00	0.00	
13,800.00	89.61	180.03	7,412.05	-6,510.58	1,309.23	6,509.90	0.00	0.00	0.00	
13,900.00	89.61	180.03	7,412.73	-6,610.58	1,309.17	6,609.89	0.00	0.00	0.00	
13,939.76	89.61	180.03	7,413.00	-6,650.34	1,309.15	6,649.65	0.00	0.00	0.00	
TD Well @ 13939.76ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,836.09	1,800.00	9 5/8"	9-5/8	13-1/2	
7,921.56	7,372.00	Top of Production	5-1/2	7-7/8	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
820.61	819.00	Fox Hills			
3,675.10	3,549.00	Parkman			
4,220.81	4,068.00	Sussex			
7,172.63	6,976.00	Sharon Springs			
7,285.29	7,076.00	Niobrara			
7,364.35	7,140.00	Nio B			
7,455.51	7,206.00	Nio C			
7,739.77	7,345.00	Fort Hayes			
7,831.29	7,365.00	Codell			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
300.00	300.00	0.00	0.00	Begin Nudge @ 300.00ft	
1,500.00	1,480.36	0.00	186.95	End Nudge @ 1500.00ft	
4,690.00	4,514.23	0.00	1,172.71	Begin Drop @ 4690.00ft	
5,590.00	5,399.50	0.00	1,312.93	End Drop @ 5590.00ft	
6,925.90	6,735.40	0.00	1,312.93	KOP @ 6925.90ft	
7,300.00	7,088.34	-106.79	1,312.87	DLS = 9°/100'	
7,921.56	7,372.00	-632.28	1,312.57	End Build @ 7921.56ft	
13,939.76	7,413.00	-6,650.34	1,309.15	TD Well @ 13939.76ft	