

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
3N-68W-33 Newby 15-33HZ Pad
NEWBY STATE 37N-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 37N-4HZ
 Wellbore: Plan A
 Design: Permit Rev-2

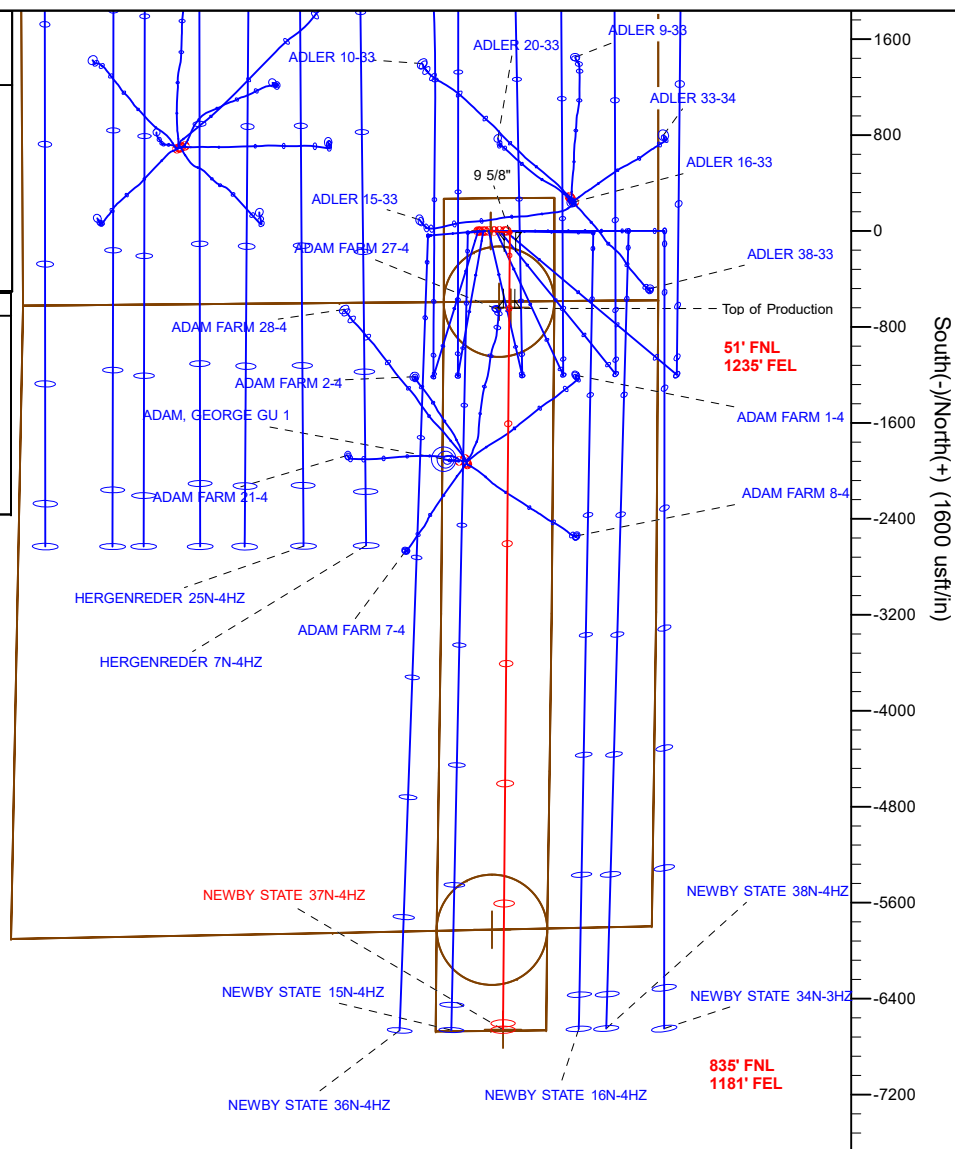
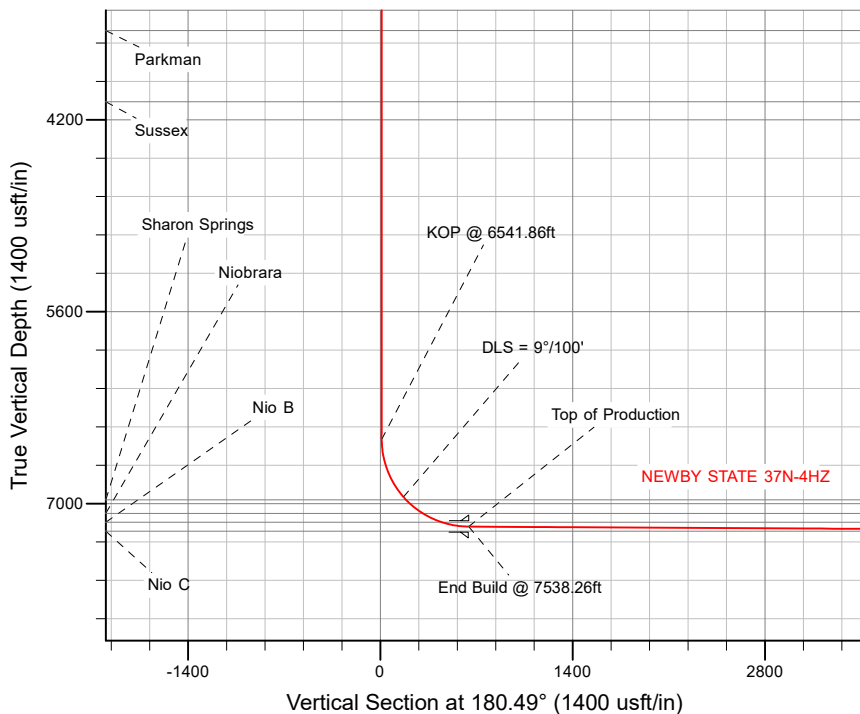
US ROCKIES WATTENBERG PLANNING

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	850.00	9.00	94.00	847.54	-3.28	46.91	1.50	94.00	2.88	
4	1350.00	9.00	94.00	1341.38	-8.74	124.94	0.00	0.00	7.67	
5	1800.00	0.00	0.00	1789.53	-11.20	160.12	2.00	180.00	9.83	
6	6541.86	0.00	0.00	6531.39	-11.20	160.12	0.00	0.00	9.83	
7	7538.26	89.68	180.49	7168.00	-644.19	154.69	9.00	180.49	642.85	
8	13552.68	89.68	180.49	7202.00	-6658.29	103.10	0.00	0.00	6657.17	NEWBY STATE 37N-4HZ_TOE

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
NEWBY STATE 37N-4HZ_SHL	0.00	0.00	0.00	40.176577	-105.003342	Point
NEWBY STATE 37N-4HZ_TOE	7202.00	-6658.29	103.10	40.158293	-105.002973	Point



WELL DETAILS: NEWBY STATE 37N-4HZ

Ground Level: 4894'

RKB = 20' @ 4914.00usft (D Rig)

Plan: Permit Rev-2 (NEWBY STATE 37N-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 37N-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 37N-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	Latitude:	40.176575
From:	Lat/Long	Easting:	1,639,378.12 usft	Longitude:	-105.003718
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.00 °

Well	NEWBY STATE 37N-4HZ					
Well Position	+N/-S	0.73 usft	Northing:	14,591,033.29 usft	Latitude:	40.176577
	+E/-W	105.03 usft	Easting:	1,639,483.15 usft	Longitude:	-105.003342
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	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	52,506.07626166

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	180.49	

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	7,533.00	13,552.68	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:crustal field declination	

Corporate Planning Report

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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 37N-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	
850.00	9.00	94.00	847.54	-3.28	46.91	1.50	1.50	0.00	94.00	
1,350.00	9.00	94.00	1,341.38	-8.74	124.94	0.00	0.00	0.00	0.00	
1,800.00	0.00	0.00	1,789.53	-11.20	160.12	2.00	-2.00	0.00	180.00	
6,541.86	0.00	0.00	6,531.39	-11.20	160.12	0.00	0.00	0.00	0.00	
7,538.26	89.68	180.49	7,168.00	-644.19	154.69	9.00	9.00	-18.02	180.49	
13,552.68	89.68	180.49	7,202.00	-6,658.29	103.10	0.00	0.00	0.00	0.00	NEWBY STATE 37N-4

Corporate
Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 37N-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 37N-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
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	94.00	300.00	-0.02	0.33	0.02	1.50	1.50	0.00
400.00	2.25	94.00	399.96	-0.21	2.94	0.18	1.50	1.50	0.00
500.00	3.75	94.00	499.82	-0.57	8.16	0.50	1.50	1.50	0.00
600.00	5.25	94.00	599.51	-1.12	15.98	0.98	1.50	1.50	0.00
700.00	6.75	94.00	698.96	-1.85	26.41	1.62	1.50	1.50	0.00
800.00	8.25	94.00	798.10	-2.76	39.43	2.42	1.50	1.50	0.00
821.13	8.57	94.00	819.00	-2.97	42.51	2.61	1.50	1.50	0.00
Fox Hills									
850.00	9.00	94.00	847.54	-3.28	46.91	2.88	1.50	1.50	0.00
End Nudge @ 850.00ft									
900.00	9.00	94.00	896.92	-3.83	54.72	3.36	0.00	0.00	0.00
1,000.00	9.00	94.00	995.69	-4.92	70.32	4.32	0.00	0.00	0.00
1,100.00	9.00	94.00	1,094.46	-6.01	85.93	5.27	0.00	0.00	0.00
1,200.00	9.00	94.00	1,193.23	-7.10	101.53	6.23	0.00	0.00	0.00
1,300.00	9.00	94.00	1,292.00	-8.19	117.14	7.19	0.00	0.00	0.00
1,350.00	9.00	94.00	1,341.38	-8.74	124.94	7.67	0.00	0.00	0.00
Begin Drop @ 1350.00ft									
1,400.00	8.00	94.00	1,390.83	-9.25	132.31	8.12	2.00	-2.00	0.00
1,500.00	6.00	94.00	1,490.08	-10.10	144.47	8.87	2.00	-2.00	0.00
1,600.00	4.00	94.00	1,589.69	-10.71	153.16	9.40	2.00	-2.00	0.00
1,700.00	2.00	94.00	1,689.55	-11.08	158.38	9.72	2.00	-2.00	0.00
1,800.00	0.00	0.00	1,789.53	-11.20	160.12	9.83	2.00	-2.00	0.00
End Drop @ 1800.00ft									
1,810.47	0.00	0.00	1,800.00	-11.20	160.12	9.83	0.00	0.00	0.00
9 5/8"									
1,900.00	0.00	0.00	1,889.53	-11.20	160.12	9.83	0.00	0.00	0.00
2,000.00	0.00	0.00	1,989.53	-11.20	160.12	9.83	0.00	0.00	0.00
2,100.00	0.00	0.00	2,089.53	-11.20	160.12	9.83	0.00	0.00	0.00
2,200.00	0.00	0.00	2,189.53	-11.20	160.12	9.83	0.00	0.00	0.00
2,300.00	0.00	0.00	2,289.53	-11.20	160.12	9.83	0.00	0.00	0.00
2,400.00	0.00	0.00	2,389.53	-11.20	160.12	9.83	0.00	0.00	0.00
2,500.00	0.00	0.00	2,489.53	-11.20	160.12	9.83	0.00	0.00	0.00
2,600.00	0.00	0.00	2,589.53	-11.20	160.12	9.83	0.00	0.00	0.00
2,700.00	0.00	0.00	2,689.53	-11.20	160.12	9.83	0.00	0.00	0.00
2,800.00	0.00	0.00	2,789.53	-11.20	160.12	9.83	0.00	0.00	0.00
2,900.00	0.00	0.00	2,889.53	-11.20	160.12	9.83	0.00	0.00	0.00
3,000.00	0.00	0.00	2,989.53	-11.20	160.12	9.83	0.00	0.00	0.00
3,100.00	0.00	0.00	3,089.53	-11.20	160.12	9.83	0.00	0.00	0.00
3,200.00	0.00	0.00	3,189.53	-11.20	160.12	9.83	0.00	0.00	0.00
3,300.00	0.00	0.00	3,289.53	-11.20	160.12	9.83	0.00	0.00	0.00
3,400.00	0.00	0.00	3,389.53	-11.20	160.12	9.83	0.00	0.00	0.00
3,500.00	0.00	0.00	3,489.53	-11.20	160.12	9.83	0.00	0.00	0.00
3,559.47	0.00	0.00	3,549.00	-11.20	160.12	9.83	0.00	0.00	0.00
Parkman									
3,600.00	0.00	0.00	3,589.53	-11.20	160.12	9.83	0.00	0.00	0.00
3,700.00	0.00	0.00	3,689.53	-11.20	160.12	9.83	0.00	0.00	0.00
3,800.00	0.00	0.00	3,789.53	-11.20	160.12	9.83	0.00	0.00	0.00
3,900.00	0.00	0.00	3,889.53	-11.20	160.12	9.83	0.00	0.00	0.00

Corporate
Planning Report

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Well:	NEWBY STATE 37N-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)
4,000.00	0.00	0.00	3,989.53	-11.20	160.12	9.83	0.00	0.00	0.00
4,078.47	0.00	0.00	4,068.00	-11.20	160.12	9.83	0.00	0.00	0.00
Sussex									
4,100.00	0.00	0.00	4,089.53	-11.20	160.12	9.83	0.00	0.00	0.00
4,200.00	0.00	0.00	4,189.53	-11.20	160.12	9.83	0.00	0.00	0.00
4,300.00	0.00	0.00	4,289.53	-11.20	160.12	9.83	0.00	0.00	0.00
4,400.00	0.00	0.00	4,389.53	-11.20	160.12	9.83	0.00	0.00	0.00
4,500.00	0.00	0.00	4,489.53	-11.20	160.12	9.83	0.00	0.00	0.00
4,600.00	0.00	0.00	4,589.53	-11.20	160.12	9.83	0.00	0.00	0.00
4,700.00	0.00	0.00	4,689.53	-11.20	160.12	9.83	0.00	0.00	0.00
4,800.00	0.00	0.00	4,789.53	-11.20	160.12	9.83	0.00	0.00	0.00
4,900.00	0.00	0.00	4,889.53	-11.20	160.12	9.83	0.00	0.00	0.00
5,000.00	0.00	0.00	4,989.53	-11.20	160.12	9.83	0.00	0.00	0.00
5,100.00	0.00	0.00	5,089.53	-11.20	160.12	9.83	0.00	0.00	0.00
5,200.00	0.00	0.00	5,189.53	-11.20	160.12	9.83	0.00	0.00	0.00
5,300.00	0.00	0.00	5,289.53	-11.20	160.12	9.83	0.00	0.00	0.00
5,400.00	0.00	0.00	5,389.53	-11.20	160.12	9.83	0.00	0.00	0.00
5,500.00	0.00	0.00	5,489.53	-11.20	160.12	9.83	0.00	0.00	0.00
5,600.00	0.00	0.00	5,589.53	-11.20	160.12	9.83	0.00	0.00	0.00
5,700.00	0.00	0.00	5,689.53	-11.20	160.12	9.83	0.00	0.00	0.00
5,800.00	0.00	0.00	5,789.53	-11.20	160.12	9.83	0.00	0.00	0.00
5,900.00	0.00	0.00	5,889.53	-11.20	160.12	9.83	0.00	0.00	0.00
6,000.00	0.00	0.00	5,989.53	-11.20	160.12	9.83	0.00	0.00	0.00
6,100.00	0.00	0.00	6,089.53	-11.20	160.12	9.83	0.00	0.00	0.00
6,200.00	0.00	0.00	6,189.53	-11.20	160.12	9.83	0.00	0.00	0.00
6,300.00	0.00	0.00	6,289.53	-11.20	160.12	9.83	0.00	0.00	0.00
6,400.00	0.00	0.00	6,389.53	-11.20	160.12	9.83	0.00	0.00	0.00
6,500.00	0.00	0.00	6,489.53	-11.20	160.12	9.83	0.00	0.00	0.00
6,541.86	0.00	0.00	6,531.39	-11.20	160.12	9.83	0.00	0.00	0.00
KOP @ 6541.86ft									
6,600.00	5.23	180.49	6,589.45	-13.85	160.10	12.48	9.00	9.00	0.00
6,700.00	14.23	180.49	6,687.91	-30.74	159.96	29.37	9.00	9.00	0.00
6,800.00	23.23	180.49	6,782.52	-62.82	159.68	61.45	9.00	9.00	0.00
6,900.00	32.23	180.49	6,870.94	-109.30	159.28	107.94	9.00	9.00	0.00
7,000.00	41.23	180.49	6,951.00	-169.05	158.77	167.68	9.00	9.00	0.00
DLS = 9°/100'									
7,028.49	43.80	180.49	6,972.00	-188.30	158.60	186.94	9.00	9.00	0.00
Sharon Springs									
7,100.00	50.23	180.49	7,020.73	-240.58	158.16	239.22	9.00	9.00	0.00
7,187.67	58.12	180.49	7,072.00	-311.61	157.55	310.25	9.00	9.00	0.00
Niobrara									
7,200.00	59.23	180.49	7,078.41	-322.14	157.46	320.78	9.00	9.00	0.00
7,300.00	68.23	180.49	7,122.62	-411.72	156.69	410.36	9.00	9.00	0.00
7,339.12	71.75	180.49	7,136.00	-448.47	156.37	447.11	9.00	9.00	0.00
Nio B									
7,400.00	77.23	180.49	7,152.27	-507.11	155.87	505.76	9.00	9.00	0.00
7,500.00	86.23	180.49	7,166.64	-605.96	155.02	604.62	9.00	9.00	0.00
7,538.26	89.68	180.49	7,168.00	-644.19	154.69	642.85	9.00	9.00	0.00
End Build @ 7538.26ft - Top of Production									
7,600.00	89.68	180.49	7,168.35	-705.93	154.16	704.59	0.00	0.00	0.00
7,700.00	89.68	180.49	7,168.92	-805.92	153.31	804.58	0.00	0.00	0.00
7,800.00	89.68	180.49	7,169.48	-905.92	152.45	904.58	0.00	0.00	0.00
7,900.00	89.68	180.49	7,170.05	-1,005.91	151.59	1,004.58	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 37N-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 37N-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)
8,000.00	89.68	180.49	7,170.61	-1,105.91	150.73	1,104.58	0.00	0.00	0.00
8,100.00	89.68	180.49	7,171.18	-1,205.90	149.87	1,204.58	0.00	0.00	0.00
8,200.00	89.68	180.49	7,171.74	-1,305.90	149.02	1,304.58	0.00	0.00	0.00
8,300.00	89.68	180.49	7,172.31	-1,405.89	148.16	1,404.57	0.00	0.00	0.00
8,400.00	89.68	180.49	7,172.87	-1,505.89	147.30	1,504.57	0.00	0.00	0.00
8,500.00	89.68	180.49	7,173.44	-1,605.88	146.44	1,604.57	0.00	0.00	0.00
8,600.00	89.68	180.49	7,174.00	-1,705.88	145.59	1,704.57	0.00	0.00	0.00
8,700.00	89.68	180.49	7,174.57	-1,805.87	144.73	1,804.57	0.00	0.00	0.00
8,800.00	89.68	180.49	7,175.13	-1,905.87	143.87	1,904.57	0.00	0.00	0.00
8,900.00	89.68	180.49	7,175.70	-2,005.86	143.01	2,004.57	0.00	0.00	0.00
9,000.00	89.68	180.49	7,176.26	-2,105.86	142.15	2,104.56	0.00	0.00	0.00
9,100.00	89.68	180.49	7,176.83	-2,205.85	141.30	2,204.56	0.00	0.00	0.00
9,200.00	89.68	180.49	7,177.39	-2,305.85	140.44	2,304.56	0.00	0.00	0.00
9,300.00	89.68	180.49	7,177.96	-2,405.84	139.58	2,404.56	0.00	0.00	0.00
9,400.00	89.68	180.49	7,178.53	-2,505.84	138.72	2,504.56	0.00	0.00	0.00
9,500.00	89.68	180.49	7,179.09	-2,605.83	137.86	2,604.56	0.00	0.00	0.00
9,600.00	89.68	180.49	7,179.66	-2,705.82	137.01	2,704.55	0.00	0.00	0.00
9,700.00	89.68	180.49	7,180.22	-2,805.82	136.15	2,804.55	0.00	0.00	0.00
9,800.00	89.68	180.49	7,180.79	-2,905.81	135.29	2,904.55	0.00	0.00	0.00
9,900.00	89.68	180.49	7,181.35	-3,005.81	134.43	3,004.55	0.00	0.00	0.00
10,000.00	89.68	180.49	7,181.92	-3,105.80	133.58	3,104.55	0.00	0.00	0.00
10,100.00	89.68	180.49	7,182.48	-3,205.80	132.72	3,204.55	0.00	0.00	0.00
10,200.00	89.68	180.49	7,183.05	-3,305.79	131.86	3,304.54	0.00	0.00	0.00
10,300.00	89.68	180.49	7,183.61	-3,405.79	131.00	3,404.54	0.00	0.00	0.00
10,400.00	89.68	180.49	7,184.18	-3,505.78	130.14	3,504.54	0.00	0.00	0.00
10,500.00	89.68	180.49	7,184.74	-3,605.78	129.29	3,604.54	0.00	0.00	0.00
10,600.00	89.68	180.49	7,185.31	-3,705.77	128.43	3,704.54	0.00	0.00	0.00
10,700.00	89.68	180.49	7,185.87	-3,805.77	127.57	3,804.54	0.00	0.00	0.00
10,800.00	89.68	180.49	7,186.44	-3,905.76	126.71	3,904.53	0.00	0.00	0.00
10,900.00	89.68	180.49	7,187.00	-4,005.76	125.85	4,004.53	0.00	0.00	0.00
11,000.00	89.68	180.49	7,187.57	-4,105.75	125.00	4,104.53	0.00	0.00	0.00
11,100.00	89.68	180.49	7,188.14	-4,205.75	124.14	4,204.53	0.00	0.00	0.00
11,200.00	89.68	180.49	7,188.70	-4,305.74	123.28	4,304.53	0.00	0.00	0.00
11,300.00	89.68	180.49	7,189.27	-4,405.74	122.42	4,404.53	0.00	0.00	0.00
11,400.00	89.68	180.49	7,189.83	-4,505.73	121.57	4,504.53	0.00	0.00	0.00
11,500.00	89.68	180.49	7,190.40	-4,605.72	120.71	4,604.52	0.00	0.00	0.00
11,600.00	89.68	180.49	7,190.96	-4,705.72	119.85	4,704.52	0.00	0.00	0.00
11,700.00	89.68	180.49	7,191.53	-4,805.71	118.99	4,804.52	0.00	0.00	0.00
11,800.00	89.68	180.49	7,192.09	-4,905.71	118.13	4,904.52	0.00	0.00	0.00
11,900.00	89.68	180.49	7,192.66	-5,005.70	117.28	5,004.52	0.00	0.00	0.00
12,000.00	89.68	180.49	7,193.22	-5,105.70	116.42	5,104.52	0.00	0.00	0.00
12,100.00	89.68	180.49	7,193.79	-5,205.69	115.56	5,204.51	0.00	0.00	0.00
12,200.00	89.68	180.49	7,194.35	-5,305.69	114.70	5,304.51	0.00	0.00	0.00
12,300.00	89.68	180.49	7,194.92	-5,405.68	113.85	5,404.51	0.00	0.00	0.00
12,400.00	89.68	180.49	7,195.48	-5,505.68	112.99	5,504.51	0.00	0.00	0.00
12,500.00	89.68	180.49	7,196.05	-5,605.67	112.13	5,604.51	0.00	0.00	0.00
12,600.00	89.68	180.49	7,196.61	-5,705.67	111.27	5,704.51	0.00	0.00	0.00
12,700.00	89.68	180.49	7,197.18	-5,805.66	110.41	5,804.50	0.00	0.00	0.00
12,800.00	89.68	180.49	7,197.75	-5,905.66	109.56	5,904.50	0.00	0.00	0.00
12,900.00	89.68	180.49	7,198.31	-6,005.65	108.70	6,004.50	0.00	0.00	0.00
13,000.00	89.68	180.49	7,198.88	-6,105.65	107.84	6,104.50	0.00	0.00	0.00
13,100.00	89.68	180.49	7,199.44	-6,205.64	106.98	6,204.50	0.00	0.00	0.00
13,200.00	89.68	180.49	7,200.01	-6,305.63	106.12	6,304.50	0.00	0.00	0.00
13,300.00	89.68	180.49	7,200.57	-6,405.63	105.27	6,404.50	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 37N-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 37N-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)
13,375.78	89.68	180.49	7,201.00	-6,481.40	104.62	6,480.27	0.00	0.00	0.00
Nio C									
13,400.00	89.68	180.49	7,201.14	-6,505.62	104.41	6,504.49	0.00	0.00	0.00
13,500.00	89.68	180.49	7,201.70	-6,605.62	103.55	6,604.49	0.00	0.00	0.00
13,552.68	89.68	180.49	7,202.00	-6,658.29	103.10	6,657.17	0.00	0.00	0.00
TD Well @ 13552.68ft									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,810.47	1,800.00	9 5/8"	9-5/8	13-1/2
7,538.26	7,168.00	Top of Production	5-1/2	7-7/8

Formations				
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)
821.13	819.00	Fox Hills		
3,559.47	3,549.00	Parkman		
4,078.47	4,068.00	Sussex		
7,028.49	6,972.00	Sharon Springs		
7,187.67	7,072.00	Niobrara		
7,339.12	7,136.00	Nio B		
13,375.78	7,201.00	Nio C		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
250.00	250.00	0.00	0.00	Begin Nudge @ 250.00ft
850.00	847.54	-3.28	46.91	End Nudge @ 850.00ft
1,350.00	1,341.38	-8.74	124.94	Begin Drop @ 1350.00ft
1,800.00	1,789.53	-11.20	160.12	End Drop @ 1800.00ft
6,541.86	6,531.39	-11.20	160.12	KOP @ 6541.86ft
7,000.00	6,951.00	-169.05	158.77	DLS = 9°/100'
7,538.26	7,168.00	-644.19	154.69	End Build @ 7538.26ft
13,552.68	7,202.00	-6,658.29	103.10	TD Well @ 13552.68ft