

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
2N-65W-33 ROCKY 1-33HZ Pad
ROCKY 38N-33HZ**

Plan A

Plan: Permit Rev-3

Standard Planning Report

07 November, 2016



Azimuths to True North
Magnetic North: 8.09°

Magnetic Field
Strength: 52444.2snT
Dip Angle: 66.65°
Date: 8/2/2016
Model: IGRF2010

SITE: 2N-65W-33 ROCKY 1-33HZ Pad

Well: ROCKY 38N-33HZ
Wellbore: Plan A
Design: Permit Rev-3

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1375.00	1391.93	Fox Hills
4006.00	4260.81	Parkman
6941.00	7306.94	Sharon Springs
6990.00	7380.56	Niobrara
7064.00	7519.80	Nio B
7120.00	7706.68	Nio C

WELL DETAILS: ROCKY 38N-33HZ

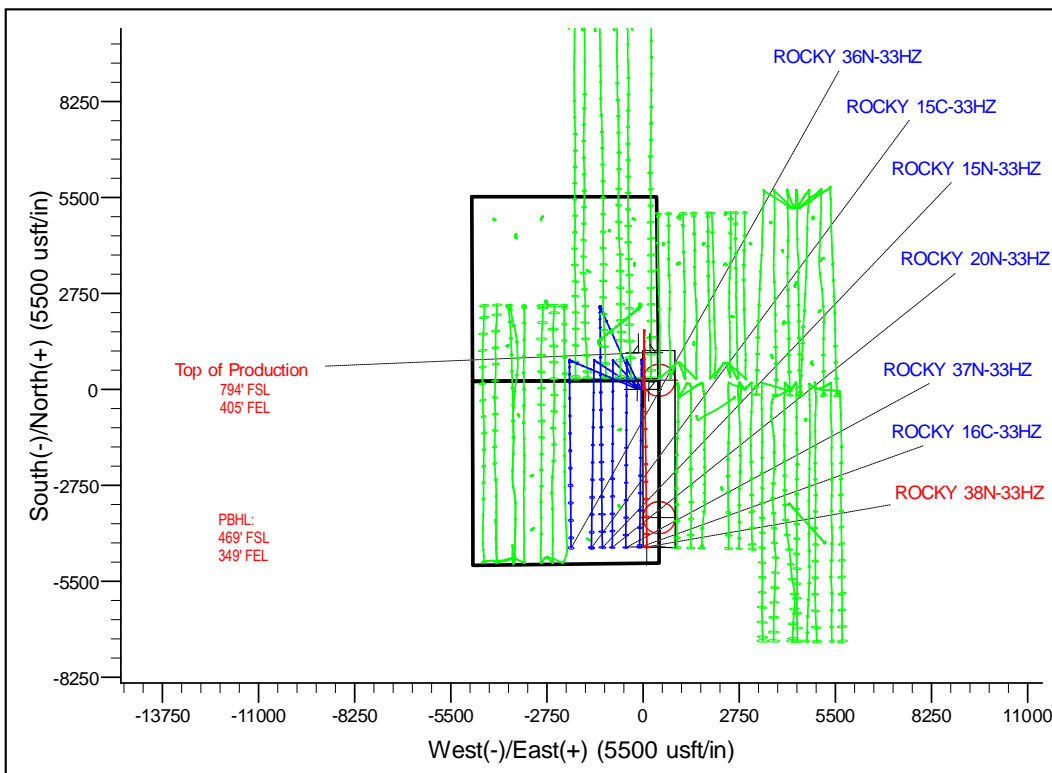
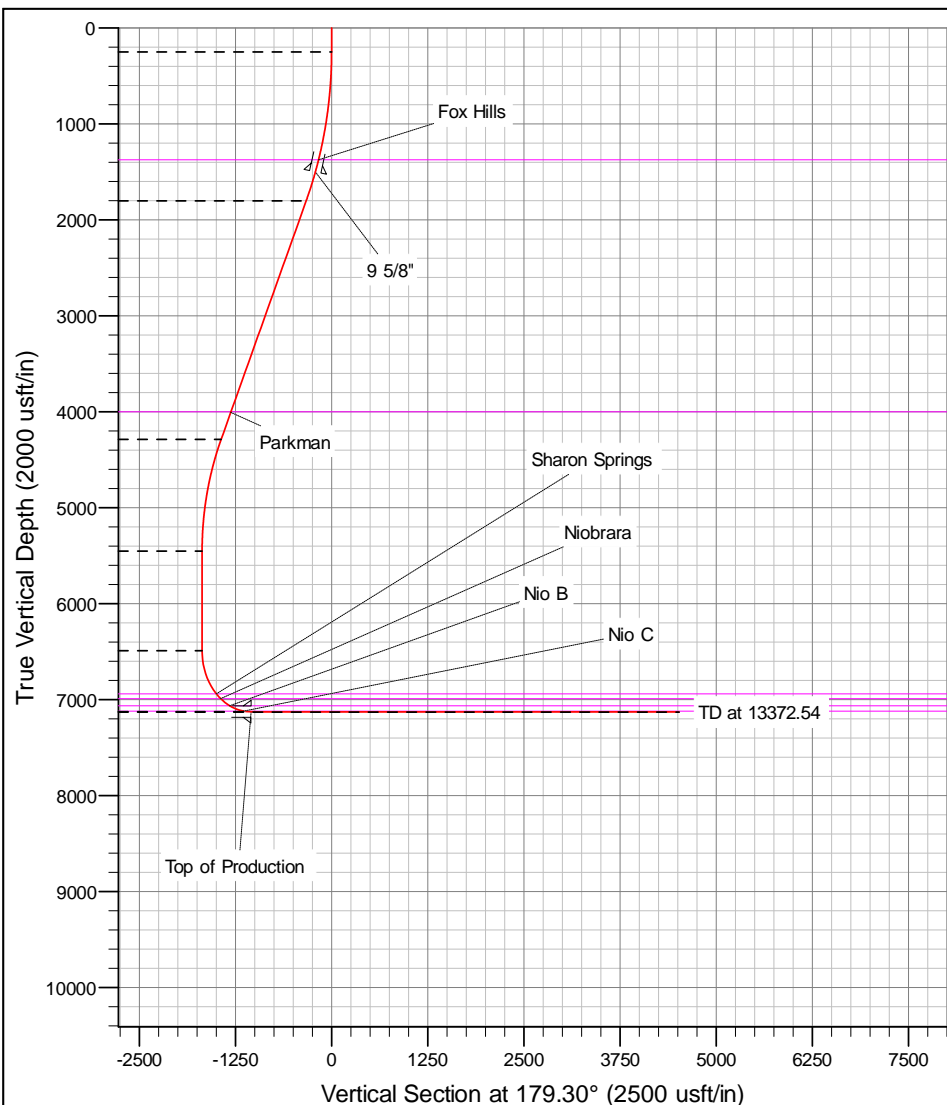
+N/-S	+E/-W	GL: 4930.00	RKB @ 4947.00usft (D Rig)	Longitude	Slot
0.00	0.00	Northing 14563915.26	Easting 1735250.63	Latitude 40.101611	-104.660866

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	Vsect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00
1850.00	24.00	1.00	1803.62	330.18	5.76	1.50	-330.09
4570.00	24.00	1.00	4288.46	1436.34	25.07	0.00	1435.92
5770.00	0.00	0.00	5453.68	1683.97	29.39	2.00	1683.49
6807.70	0.00	0.00	6491.38	1683.97	29.39	0.00	1683.49
7807.47	89.98	179.30	7128.00	1047.63	37.16	9.00	1047.10
13372.54	89.98	179.30	7130.00	-4517.02	105.08	0.00	4517.97

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
ROCKY 38N-33HZ_PBHL	7130.00	105.08	-4517.02	14559398.67	1735372.94	40.089207	-104.660490



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROCKY 38N-33HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4947.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4947.00usft (D Rig)
Site:	2N-65W-33 ROCKY 1-33HZ Pad	North Reference:	True
Well:	ROCKY 38N-33HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-3		

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						2N-65W-33 ROCKY 1-33HZ Pad											
Site Position:						Northing:			14,563,706.36 usft			Latitude:			40.101040		
From:			Lat/Long			Easting:			1,734,998.07 usft			Longitude:			-104.661772		
Position Uncertainty:			0.00 usft			Slot Radius:			13-3/16 "			Grid Convergence:			0.22		

Well	ROCKY 38N-33HZ					
Well Position	+N/-S	207.93 usft	Northing:	14,563,915.25 usft	Latitude:	40.101611
	+E/-W	253.35 usft	Easting:	1,735,250.63 usft	Longitude:	-104.660866
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,930.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/2/2016	8.09	66.65	52,444.24265229

Design	Permit Rev-3			
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	179.30

Plan Survey Tool Program	Date	11/7/2016			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,500.00	Permit Rev-3 (Plan A)	APC_ISCWSA REV 2 MWI Fixed:v2:crustal field declinat	
2	1,500.00	13,372.54	Permit Rev-3 (Plan A)	APC_ISCWSA REV 2 MWI Fixed:v2:crustal field declinat	

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4947.00usft (D Rig)
Site:	2N-65W-33 ROCKY 1-33HZ Pad	North Reference:	True
Well:	ROCKY 38N-33HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-3		

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	
1,850.00	24.00	1.00	1,803.62	330.18	5.76	1.50	1.50	0.00	1.00	
4,570.00	24.00	1.00	4,288.46	1,436.34	25.07	0.00	0.00	0.00	0.00	
5,770.00	0.00	0.00	5,453.68	1,683.97	29.39	2.00	-2.00	-0.08	-180.00	
6,807.70	0.00	0.00	6,491.38	1,683.97	29.39	0.00	0.00	0.00	0.00	
7,807.47	89.98	179.30	7,128.00	1,047.63	37.16	9.00	9.00	17.93	179.30	
13,372.54	89.98	179.30	7,130.00	-4,517.02	105.08	0.00	0.00	0.00	0.00	ROCKY 38N-33HZ_

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROCKY 38N-33HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4947.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4947.00usft (D Rig)
Site:	2N-65W-33 ROCKY 1-33HZ Pad	North Reference:	True
Well:	ROCKY 38N-33HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-3		

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	
ROCKY 38N-33HZ_Hardline Box - ROCKY 38N-33HZ_460' Circle2 - ROCKY 38N-33HZ_SHL - ROCKY 38N-33HZ_460' Circle										
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.75	1.00	300.00	0.33	0.01	-0.33	1.50	1.50	0.00	
400.00	2.25	1.00	399.96	2.94	0.05	-2.94	1.50	1.50	0.00	
500.00	3.75	1.00	499.82	8.18	0.14	-8.17	1.50	1.50	0.00	
600.00	5.25	1.00	599.51	16.02	0.28	-16.02	1.50	1.50	0.00	
700.00	6.75	1.00	698.96	26.47	0.46	-26.46	1.50	1.50	0.00	
800.00	8.25	1.00	798.10	39.52	0.69	-39.51	1.50	1.50	0.00	
900.00	9.75	1.00	896.87	55.16	0.96	-55.15	1.50	1.50	0.00	
1,000.00	11.25	1.00	995.19	73.38	1.28	-73.36	1.50	1.50	0.00	
1,100.00	12.75	1.00	1,093.00	94.17	1.64	-94.14	1.50	1.50	0.00	
1,200.00	14.25	1.00	1,190.24	117.51	2.05	-117.48	1.50	1.50	0.00	
1,300.00	15.75	1.00	1,286.83	143.39	2.50	-143.35	1.50	1.50	0.00	
1,391.93	17.13	1.00	1,375.00	169.40	2.96	-169.35	1.50	1.50	0.00	
Fox Hills										
1,400.00	17.25	1.00	1,382.71	171.78	3.00	-171.74	1.50	1.50	0.00	
1,500.00	18.75	1.00	1,477.81	202.68	3.54	-202.62	1.50	1.50	0.00	
1,523.46	19.10	1.00	1,500.00	210.29	3.67	-210.23	1.50	1.50	0.00	
9 5/8"										
1,600.00	20.25	1.00	1,572.07	236.06	4.12	-235.99	1.50	1.50	0.00	
1,700.00	21.75	1.00	1,665.43	271.89	4.75	-271.81	1.50	1.50	0.00	
1,800.00	23.25	1.00	1,757.81	310.15	5.41	-310.06	1.50	1.50	0.00	
1,850.00	24.00	1.00	1,803.62	330.18	5.76	-330.09	1.50	1.50	0.00	
1,900.00	24.00	1.00	1,849.30	350.52	6.12	-350.41	0.00	0.00	0.00	
2,000.00	24.00	1.00	1,940.65	391.18	6.83	-391.07	0.00	0.00	0.00	
2,100.00	24.00	1.00	2,032.01	431.85	7.54	-431.73	0.00	0.00	0.00	
2,200.00	24.00	1.00	2,123.36	472.52	8.25	-472.38	0.00	0.00	0.00	
2,300.00	24.00	1.00	2,214.72	513.19	8.96	-513.04	0.00	0.00	0.00	
2,400.00	24.00	1.00	2,306.07	553.85	9.67	-553.69	0.00	0.00	0.00	
2,500.00	24.00	1.00	2,397.42	594.52	10.38	-594.35	0.00	0.00	0.00	
2,600.00	24.00	1.00	2,488.78	635.19	11.09	-635.00	0.00	0.00	0.00	
2,700.00	24.00	1.00	2,580.13	675.86	11.80	-675.66	0.00	0.00	0.00	
2,800.00	24.00	1.00	2,671.49	716.52	12.51	-716.32	0.00	0.00	0.00	
2,900.00	24.00	1.00	2,762.84	757.19	13.22	-756.97	0.00	0.00	0.00	
3,000.00	24.00	1.00	2,854.20	797.86	13.93	-797.63	0.00	0.00	0.00	
3,100.00	24.00	1.00	2,945.55	838.53	14.64	-838.28	0.00	0.00	0.00	
3,200.00	24.00	1.00	3,036.91	879.19	15.35	-878.94	0.00	0.00	0.00	
3,300.00	24.00	1.00	3,128.26	919.86	16.06	-919.60	0.00	0.00	0.00	
3,400.00	24.00	1.00	3,219.62	960.53	16.77	-960.25	0.00	0.00	0.00	
3,500.00	24.00	1.00	3,310.97	1,001.19	17.48	-1,000.91	0.00	0.00	0.00	
3,600.00	24.00	1.00	3,402.32	1,041.86	18.19	-1,041.56	0.00	0.00	0.00	
3,700.00	24.00	1.00	3,493.68	1,082.53	18.90	-1,082.22	0.00	0.00	0.00	
3,800.00	24.00	1.00	3,585.03	1,123.20	19.61	-1,122.87	0.00	0.00	0.00	
3,900.00	24.00	1.00	3,676.39	1,163.86	20.32	-1,163.53	0.00	0.00	0.00	
4,000.00	24.00	1.00	3,767.74	1,204.53	21.03	-1,204.19	0.00	0.00	0.00	
4,100.00	24.00	1.00	3,859.10	1,245.20	21.74	-1,244.84	0.00	0.00	0.00	
4,200.00	24.00	1.00	3,950.45	1,285.87	22.44	-1,285.50	0.00	0.00	0.00	
4,260.81	24.00	1.00	4,006.00	1,310.60	22.88	-1,310.22	0.00	0.00	0.00	
Parkman										
4,300.00	24.00	1.00	4,041.81	1,326.53	23.15	-1,326.15	0.00	0.00	0.00	
4,400.00	24.00	1.00	4,133.16	1,367.20	23.86	-1,366.81	0.00	0.00	0.00	

Corporate Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4947.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4947.00usft (D Rig)
Site:	2N-65W-33 ROCKY 1-33HZ Pad	North Reference:	True
Well:	ROCKY 38N-33HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-3		

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)
4,500.00	24.00	1.00	4,224.52	1,407.87	24.57	-1,407.46	0.00	0.00	0.00
4,570.00	24.00	1.00	4,288.46	1,436.34	25.07	-1,435.92	0.00	0.00	0.00
4,600.00	23.40	1.00	4,315.93	1,448.39	25.28	-1,447.98	2.00	-2.00	0.00
4,700.00	21.40	1.00	4,408.38	1,486.49	25.95	-1,486.06	2.00	-2.00	0.00
4,800.00	19.40	1.00	4,502.11	1,521.34	26.56	-1,520.90	2.00	-2.00	0.00
4,900.00	17.40	1.00	4,596.99	1,552.90	27.11	-1,552.45	2.00	-2.00	0.00
5,000.00	15.40	1.00	4,692.92	1,581.13	27.60	-1,580.67	2.00	-2.00	0.00
5,100.00	13.40	1.00	4,789.77	1,605.99	28.03	-1,605.53	2.00	-2.00	0.00
5,200.00	11.40	1.00	4,887.43	1,627.46	28.41	-1,626.99	2.00	-2.00	0.00
5,300.00	9.40	1.00	4,985.78	1,645.51	28.72	-1,645.04	2.00	-2.00	0.00
5,400.00	7.40	1.00	5,084.71	1,660.12	28.98	-1,659.64	2.00	-2.00	0.00
5,500.00	5.40	1.00	5,184.08	1,671.26	29.17	-1,670.78	2.00	-2.00	0.00
5,600.00	3.40	1.00	5,283.78	1,678.93	29.31	-1,678.45	2.00	-2.00	0.00
5,700.00	1.40	1.00	5,383.68	1,683.12	29.38	-1,682.63	2.00	-2.00	0.00
5,770.00	0.00	0.00	5,453.68	1,683.97	29.39	-1,683.49	2.00	-2.00	-1.43
5,800.00	0.00	0.00	5,483.68	1,683.97	29.39	-1,683.49	0.00	0.00	0.00
5,900.00	0.00	0.00	5,583.68	1,683.97	29.39	-1,683.49	0.00	0.00	0.00
6,000.00	0.00	0.00	5,683.68	1,683.97	29.39	-1,683.49	0.00	0.00	0.00
6,100.00	0.00	0.00	5,783.68	1,683.97	29.39	-1,683.49	0.00	0.00	0.00
6,200.00	0.00	0.00	5,883.68	1,683.97	29.39	-1,683.49	0.00	0.00	0.00
6,300.00	0.00	0.00	5,983.68	1,683.97	29.39	-1,683.49	0.00	0.00	0.00
6,400.00	0.00	0.00	6,083.68	1,683.97	29.39	-1,683.49	0.00	0.00	0.00
6,500.00	0.00	0.00	6,183.68	1,683.97	29.39	-1,683.49	0.00	0.00	0.00
6,600.00	0.00	0.00	6,283.68	1,683.97	29.39	-1,683.49	0.00	0.00	0.00
6,700.00	0.00	0.00	6,383.68	1,683.97	29.39	-1,683.49	0.00	0.00	0.00
6,800.00	0.00	0.00	6,483.68	1,683.97	29.39	-1,683.49	0.00	0.00	0.00
6,807.70	0.00	0.00	6,491.38	1,683.97	29.39	-1,683.49	0.00	0.00	0.00
6,900.00	8.31	179.30	6,583.35	1,677.29	29.48	-1,676.81	9.00	9.00	194.26
7,000.00	17.31	179.30	6,680.77	1,655.15	29.75	-1,654.67	9.00	9.00	0.00
7,100.00	26.31	179.30	6,773.52	1,618.04	30.20	-1,617.56	9.00	9.00	0.00
7,200.00	35.31	179.30	6,859.32	1,566.89	30.82	-1,566.39	9.00	9.00	0.00
7,300.00	44.31	179.30	6,936.06	1,502.94	31.60	-1,502.44	9.00	9.00	0.00
7,306.94	44.93	179.30	6,941.00	1,498.06	31.66	-1,497.56	9.00	9.00	0.00
Sharon Springs									
7,380.56	51.56	179.30	6,990.00	1,443.18	32.33	-1,442.67	9.00	9.00	0.00
Niobrara									
7,400.00	53.31	179.30	7,001.85	1,427.77	32.52	-1,427.27	9.00	9.00	0.00
7,500.00	62.31	179.30	7,055.07	1,343.24	33.55	-1,342.73	9.00	9.00	0.00
7,519.80	64.09	179.30	7,064.00	1,325.57	33.77	-1,325.06	9.00	9.00	0.00
Nio B									
7,600.00	71.31	179.30	7,094.42	1,251.42	34.67	-1,250.90	9.00	9.00	0.00
7,700.00	80.31	179.30	7,118.91	1,154.58	35.86	-1,154.06	9.00	9.00	0.00
7,706.68	80.91	179.30	7,120.00	1,147.99	35.94	-1,147.46	9.00	9.00	0.00
Nio C									
7,800.00	89.31	179.30	7,127.95	1,055.10	37.07	-1,054.57	9.00	9.00	0.00
7,807.47	89.98	179.30	7,128.00	1,047.63	37.16	-1,047.10	9.00	9.00	0.00
Top of Production - ROCKY 38N-33HZ_PHL									
7,900.00	89.98	179.30	7,128.03	955.11	38.29	-954.57	0.00	0.00	0.00
8,000.00	89.98	179.30	7,128.07	855.12	39.51	-854.57	0.00	0.00	0.00
8,100.00	89.98	179.30	7,128.10	755.12	40.73	-754.57	0.00	0.00	0.00
8,200.00	89.98	179.30	7,128.14	655.13	41.95	-654.57	0.00	0.00	0.00
8,300.00	89.98	179.30	7,128.17	555.14	43.17	-554.57	0.00	0.00	0.00
8,400.00	89.98	179.30	7,128.21	455.14	44.39	-454.57	0.00	0.00	0.00

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Database:	PLANNING	Local Co-ordinate Reference:	Well ROCKY 38N-33HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4947.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4947.00usft (D Rig)
Site:	2N-65W-33 ROCKY 1-33HZ Pad	North Reference:	True
Well:	ROCKY 38N-33HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-3		

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)
8,500.00	89.98	179.30	7,128.25	355.15	45.61	-354.57	0.00	0.00	0.00
8,600.00	89.98	179.30	7,128.28	255.16	46.83	-254.57	0.00	0.00	0.00
8,700.00	89.98	179.30	7,128.32	155.17	48.05	-154.57	0.00	0.00	0.00
8,800.00	89.98	179.30	7,128.35	55.17	49.27	-54.57	0.00	0.00	0.00
8,900.00	89.98	179.30	7,128.39	-44.82	50.50	45.43	0.00	0.00	0.00
9,000.00	89.98	179.30	7,128.43	-144.81	51.72	145.43	0.00	0.00	0.00
9,100.00	89.98	179.30	7,128.46	-244.80	52.94	245.43	0.00	0.00	0.00
9,200.00	89.98	179.30	7,128.50	-344.80	54.16	345.43	0.00	0.00	0.00
9,300.00	89.98	179.30	7,128.53	-444.79	55.38	445.43	0.00	0.00	0.00
9,400.00	89.98	179.30	7,128.57	-544.78	56.60	545.43	0.00	0.00	0.00
9,500.00	89.98	179.30	7,128.61	-644.77	57.82	645.43	0.00	0.00	0.00
9,600.00	89.98	179.30	7,128.64	-744.77	59.04	745.43	0.00	0.00	0.00
9,700.00	89.98	179.30	7,128.68	-844.76	60.26	845.43	0.00	0.00	0.00
9,800.00	89.98	179.30	7,128.71	-944.75	61.48	945.43	0.00	0.00	0.00
9,900.00	89.98	179.30	7,128.75	-1,044.74	62.70	1,045.43	0.00	0.00	0.00
10,000.00	89.98	179.30	7,128.79	-1,144.74	63.92	1,145.43	0.00	0.00	0.00
10,100.00	89.98	179.30	7,128.82	-1,244.73	65.14	1,245.43	0.00	0.00	0.00
10,200.00	89.98	179.30	7,128.86	-1,344.72	66.36	1,345.43	0.00	0.00	0.00
10,300.00	89.98	179.30	7,128.89	-1,444.71	67.58	1,445.43	0.00	0.00	0.00
10,400.00	89.98	179.30	7,128.93	-1,544.71	68.80	1,545.43	0.00	0.00	0.00
10,500.00	89.98	179.30	7,128.97	-1,644.70	70.02	1,645.43	0.00	0.00	0.00
10,600.00	89.98	179.30	7,129.00	-1,744.69	71.24	1,745.43	0.00	0.00	0.00
10,700.00	89.98	179.30	7,129.04	-1,844.68	72.46	1,845.43	0.00	0.00	0.00
10,800.00	89.98	179.30	7,129.07	-1,944.68	73.68	1,945.43	0.00	0.00	0.00
10,900.00	89.98	179.30	7,129.11	-2,044.67	74.91	2,045.43	0.00	0.00	0.00
11,000.00	89.98	179.30	7,129.15	-2,144.66	76.13	2,145.43	0.00	0.00	0.00
11,100.00	89.98	179.30	7,129.18	-2,244.65	77.35	2,245.43	0.00	0.00	0.00
11,200.00	89.98	179.30	7,129.22	-2,344.65	78.57	2,345.43	0.00	0.00	0.00
11,300.00	89.98	179.30	7,129.25	-2,444.64	79.79	2,445.43	0.00	0.00	0.00
11,400.00	89.98	179.30	7,129.29	-2,544.63	81.01	2,545.43	0.00	0.00	0.00
11,500.00	89.98	179.30	7,129.33	-2,644.62	82.23	2,645.43	0.00	0.00	0.00
11,600.00	89.98	179.30	7,129.36	-2,744.62	83.45	2,745.43	0.00	0.00	0.00
11,700.00	89.98	179.30	7,129.40	-2,844.61	84.67	2,845.43	0.00	0.00	0.00
11,800.00	89.98	179.30	7,129.43	-2,944.60	85.89	2,945.43	0.00	0.00	0.00
11,900.00	89.98	179.30	7,129.47	-3,044.59	87.11	3,045.43	0.00	0.00	0.00
12,000.00	89.98	179.30	7,129.51	-3,144.59	88.33	3,145.43	0.00	0.00	0.00
12,100.00	89.98	179.30	7,129.54	-3,244.58	89.55	3,245.43	0.00	0.00	0.00
12,200.00	89.98	179.30	7,129.58	-3,344.57	90.77	3,345.43	0.00	0.00	0.00
12,300.00	89.98	179.30	7,129.61	-3,444.56	91.99	3,445.43	0.00	0.00	0.00
12,400.00	89.98	179.30	7,129.65	-3,544.56	93.21	3,545.43	0.00	0.00	0.00
12,500.00	89.98	179.30	7,129.69	-3,644.55	94.43	3,645.43	0.00	0.00	0.00
12,600.00	89.98	179.30	7,129.72	-3,744.54	95.65	3,745.43	0.00	0.00	0.00
12,700.00	89.98	179.30	7,129.76	-3,844.53	96.87	3,845.43	0.00	0.00	0.00
12,800.00	89.98	179.30	7,129.79	-3,944.53	98.10	3,945.43	0.00	0.00	0.00
12,900.00	89.98	179.30	7,129.83	-4,044.52	99.32	4,045.43	0.00	0.00	0.00
13,000.00	89.98	179.30	7,129.87	-4,144.51	100.54	4,145.43	0.00	0.00	0.00
13,100.00	89.98	179.30	7,129.90	-4,244.50	101.76	4,245.43	0.00	0.00	0.00
13,200.00	89.98	179.30	7,129.94	-4,344.50	102.98	4,345.43	0.00	0.00	0.00
13,300.00	89.98	179.30	7,129.97	-4,444.49	104.20	4,445.43	0.00	0.00	0.00
13,372.54	89.98	179.30	7,130.00	-4,517.02	105.08	4,517.97	0.00	0.00	0.00
ROCKY 38N-33HZ_PBHL									

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROCKY 38N-33HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4947.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4947.00usft (D Rig)
Site:	2N-65W-33 ROCKY 1-33HZ Pad	North Reference:	True
Well:	ROCKY 38N-33HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-3		

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)		
ROCKY 38N-33HZ_SI - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	14,563,915.25	1,735,250.63	40.101611	-104.660866
ROCKY 38N-33HZ_HI - plan hits target center - Polygon	0.00	0.00	0.00	0.00	0.00	14,563,915.25	1,735,250.63	40.101611	-104.660866
Point 1			0.00	1,110.71	-16.80	14,565,025.89	1,735,229.60		
Point 2			0.00	1,112.57	439.31	14,565,029.49	1,735,685.70		
Point 3			0.00	1,109.60	903.30	14,565,028.29	1,736,149.70		
Point 4			0.00	256.46	913.95	14,564,175.20	1,736,163.60		
Point 5			0.00	-1,050.85	913.46	14,562,867.90	1,736,168.09		
Point 6			0.00	-2,368.96	912.94	14,561,549.79	1,736,172.60		
Point 7			0.00	-3,685.48	916.12	14,560,233.29	1,736,180.80		
Point 8			0.00	-4,541.79	918.15	14,559,377.00	1,736,186.09		
Point 9			0.00	-4,528.96	463.60	14,559,388.10	1,735,731.50		
Point 10			0.00	-4,533.19	-1.82	14,559,382.09	1,735,266.10		
Point 11			0.00	-3,678.87	-3.86	14,560,236.40	1,735,260.80		
Point 12			0.00	-2,364.55	-7.05	14,561,550.69	1,735,252.60		
Point 13			0.00	-1,050.44	-6.54	14,562,864.80	1,735,248.10		
Point 14			0.00	259.27	-6.05	14,564,174.50	1,735,243.60		
Point 15			0.00	1,110.71	-16.80	14,565,025.89	1,735,229.60		
ROCKY 38N-33HZ_46 - plan misses target center by 522.70usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Circle (radius 460.00)	0.00	0.00	0.00	259.11	453.96	14,564,176.10	1,735,703.60	40.102323	-104.659243
ROCKY 38N-33HZ_46 - plan misses target center by 3702.92usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Circle (radius 460.00)	0.00	0.00	0.00	-3,674.72	456.06	14,560,242.30	1,735,720.70	40.091520	-104.659236
ROCKY 38N-33HZ_PI - plan hits target center - Point	0.00	0.00	7,128.00	1,047.63	37.16	14,564,963.02	1,735,283.80	40.104488	-104.660733
ROCKY 38N-33HZ_PI - plan hits target center - Point	0.00	0.00	7,130.00	-4,517.02	105.08	14,559,398.67	1,735,372.94	40.089207	-104.660491

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,523.46	1,500.00	9 5/8"	9-5/8	13-1/2	
7,807.47	7,128.00	Top of Production	5-1/2	7-7/8	

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROCKY 38N-33HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4947.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4947.00usft (D Rig)
Site:	2N-65W-33 ROCKY 1-33HZ Pad	North Reference:	True
Well:	ROCKY 38N-33HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-3		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,391.93	1,375.00	Fox Hills				
4,260.81	4,006.00	Parkman				
7,306.94	6,941.00	Sharon Springs				
7,380.56	6,990.00	Niobrara				
7,519.80	7,064.00	Nio B				
7,706.68	7,120.00	Nio C				