

US ROCKIES WATTENBERG PLANNING

LARIMER-NAD83-UTMFT13N

5N-68W-25 JODSTER NORTH 8-25HZ PAD

JODSTER NORTH 25-3HZ

Plan A

Plan: Permit Rev-1

SHL Lat/Long: 40.373802/-104.949091

Survey Program: MWD+IFR+MSA

Standard Planning Report

10 September, 2018

US ROCKIES WATTENBERG PLANNING

CASING DETAILS		
TVD	MD	Size
1500.00	1523.14	9-5/8
6766.00	7342.71	5-1/2

WELL DETAILS: JODSTER NORTH 25-3HZ

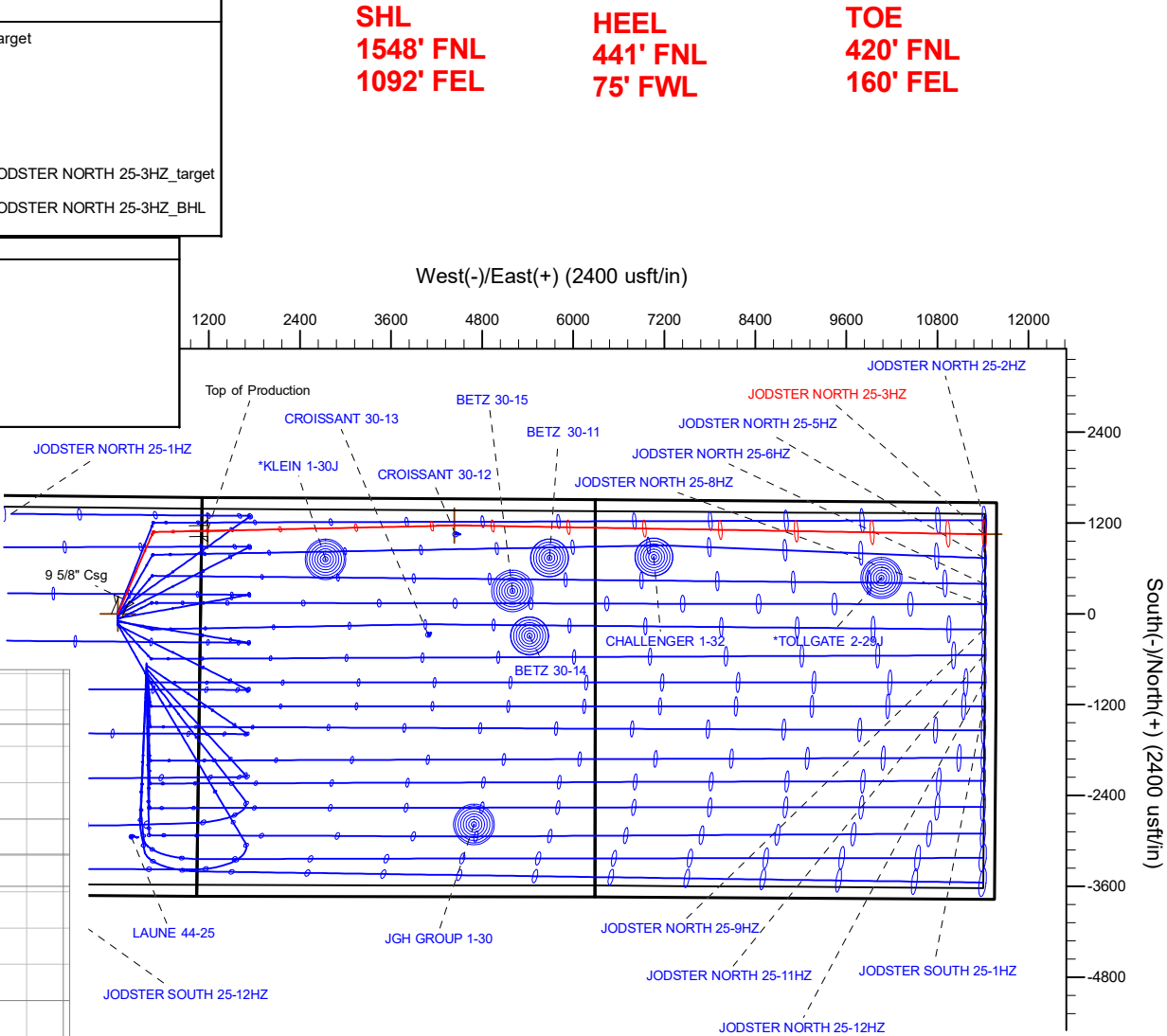
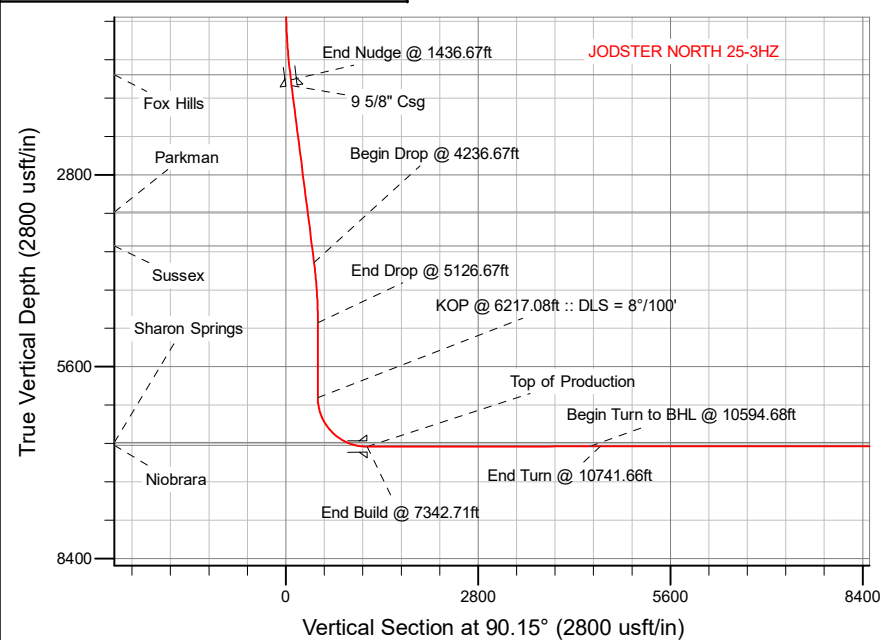
GL = 4861.00

RKB = 17' @ 4878.00usft (Drilling Rig)

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	1436.67	17.80	23.40	1417.67	167.81	72.62	1.50	23.40	72.18	
4	4236.67	17.80	23.40	4083.63	953.36	412.56	0.00	0.00	410.06	
5	5126.67	0.00	0.00	4959.38	1079.22	467.02	2.00	180.00	464.19	
6	6217.08	0.00	0.00	6049.80	1079.22	467.02	0.00	0.00	464.19	
7	7342.71	90.05	88.76	6766.00	1094.72	1183.68	8.00	88.76	1180.81	
8	10594.68	90.05	88.76	6763.14	1165.00	4434.89	0.00	0.00	4431.82	JODSTER NORTH 25-3HZ_target
9	10741.66	90.05	90.97	6763.01	1165.35	4581.86	1.50	90.00	4578.79	
10	17578.64	90.05	90.97	6757.00	1050.05	11417.87	0.00	0.00	11415.08	JODSTER NORTH 25-3HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
JODSTER NORTH 25-3HZ_SHL	0.00			40.373802	-104.949091
JODSTER NORTH 25-3HZ_BHL	6757.00	1050.05	11417.87	40.376678	-104.908094
FORMATION TOP DETAILS					

FORMATION TOP DETAILS		
TVDPPath	MDPath	Formation
1340.00	1355.36	Fox Hills
3342.00	3457.75	Parkman
3837.00	3977.63	Sussex
6705.00	7044.36	Sharon Springs
6748.00	7181.19	Niobrara



Plan: Permit Rev-1 (JODSTER NORTH 25-3HZ/Plan A)

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well JODSTER NORTH 25-3HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4878.00usft (Drilling Rig)
Project:	LARIMER-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4878.00usft (Drilling Rig)
Site:	5N-68W-25 JODSTER NORTH 8-25HZ PAD	North Reference:	True
Well:	JODSTER NORTH 25-3HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Project	LARIMER-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	5N-68W-25 JODSTER NORTH 8-25HZ PAD			
Site Position:		Northing:	14,662,888.23 usft	Latitude: 40.373884
From:	Lat/Long	Easting:	1,654,595.99 usft	Longitude: -104.949090
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.03 °

Well	JODSTER NORTH 25-3HZ			
Well Position	+N/-S	-29.86 usft	Northing:	14,662,858.37 usft
	+E/-W	-0.28 usft	Easting:	1,654,595.73 usft
Position Uncertainty		3.28 usft	Wellhead Elevation:	Ground Level: 4,861.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/5/2018	8.18	66.77	52,219.95120825

Design	Permit Rev-1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	90.15

Plan Survey Tool Program	Date	9/10/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	1,500.00	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+II Fixed:v2:crustal field declination
2	1,500.00	17,578.64	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+II Fixed:v2:Rockies, crustal dec +

Corporate
Planning Report

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Project:	LARIMER-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4878.00usft (Drilling Rig)
Site:	5N-68W-25 JODSTER NORTH 8-25HZ PAD	North Reference:	True
Well:	JODSTER NORTH 25-3HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

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	
1,436.67	17.80	23.40	1,417.67	167.81	72.62	1.50	1.50	0.00	23.40	
4,236.67	17.80	23.40	4,083.63	953.36	412.56	0.00	0.00	0.00	0.00	
5,126.67	0.00	0.00	4,959.39	1,079.22	467.02	2.00	-2.00	0.00	180.00	
6,217.08	0.00	0.00	6,049.80	1,079.22	467.02	0.00	0.00	0.00	0.00	
7,342.71	90.05	88.76	6,766.00	1,094.72	1,183.68	8.00	8.00	7.89	88.76	
10,594.68	90.05	88.76	6,763.14	1,165.00	4,434.89	0.00	0.00	0.00	0.00	JODSTER NORTH 25-
10,741.66	90.05	90.97	6,763.01	1,165.35	4,581.86	1.50	0.00	1.50	90.00	
17,578.65	90.05	90.97	6,757.00	1,050.05	11,417.87	0.00	0.00	0.00	0.00	JODSTER NORTH 25-

Corporate Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4878.00usft (Drilling Rig)
Project:	LARIMER-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4878.00usft (Drilling Rig)
Site:	5N-68W-25 JODSTER NORTH 8-25HZ PAD	North Reference:	True
Well:	JODSTER NORTH 25-3HZ	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	23.40	300.00	0.30	0.13	0.13	1.50	1.50	0.00
400.00	2.25	23.40	399.96	2.70	1.17	1.16	1.50	1.50	0.00
500.00	3.75	23.40	499.82	7.51	3.25	3.23	1.50	1.50	0.00
600.00	5.25	23.40	599.51	14.71	6.36	6.33	1.50	1.50	0.00
700.00	6.75	23.40	698.96	24.30	10.52	10.45	1.50	1.50	0.00
800.00	8.25	23.40	798.10	36.28	15.70	15.60	1.50	1.50	0.00
900.00	9.75	23.40	896.87	50.63	21.91	21.78	1.50	1.50	0.00
1,000.00	11.25	23.40	995.19	67.36	29.15	28.97	1.50	1.50	0.00
1,100.00	12.75	23.40	1,093.00	86.44	37.41	37.18	1.50	1.50	0.00
1,200.00	14.25	23.40	1,190.24	107.86	46.68	46.39	1.50	1.50	0.00
1,300.00	15.75	23.40	1,286.83	131.62	56.96	56.61	1.50	1.50	0.00
1,355.36	16.58	23.40	1,340.00	145.76	63.08	62.69	1.50	1.50	0.00
Fox Hills									
1,400.00	17.25	23.40	1,382.71	157.68	68.23	67.82	1.50	1.50	0.00
1,436.67	17.80	23.40	1,417.67	167.81	72.62	72.18	1.50	1.50	0.00
End Nudge @ 1436.67ft									
1,500.00	17.80	23.40	1,477.97	185.58	80.31	79.82	0.00	0.00	0.00
1,523.14	17.80	23.40	1,500.00	192.07	83.12	82.61	0.00	0.00	0.00
9 5/8" Csg									
1,600.00	17.80	23.40	1,573.18	213.64	92.45	91.89	0.00	0.00	0.00
1,700.00	17.80	23.40	1,668.40	241.69	104.59	103.96	0.00	0.00	0.00
1,800.00	17.80	23.40	1,763.61	269.75	116.73	116.02	0.00	0.00	0.00
1,900.00	17.80	23.40	1,858.82	297.80	128.87	128.09	0.00	0.00	0.00
2,000.00	17.80	23.40	1,954.04	325.86	141.01	140.16	0.00	0.00	0.00
2,100.00	17.80	23.40	2,049.25	353.91	153.15	152.23	0.00	0.00	0.00
2,200.00	17.80	23.40	2,144.46	381.97	165.29	164.29	0.00	0.00	0.00
2,300.00	17.80	23.40	2,239.68	410.02	177.43	176.36	0.00	0.00	0.00
2,400.00	17.80	23.40	2,334.89	438.08	189.57	188.43	0.00	0.00	0.00
2,500.00	17.80	23.40	2,430.10	466.14	201.71	200.49	0.00	0.00	0.00
2,600.00	17.80	23.40	2,525.31	494.19	213.86	212.56	0.00	0.00	0.00
2,700.00	17.80	23.40	2,620.53	522.25	226.00	224.63	0.00	0.00	0.00
2,800.00	17.80	23.40	2,715.74	550.30	238.14	236.70	0.00	0.00	0.00
2,900.00	17.80	23.40	2,810.95	578.36	250.28	248.76	0.00	0.00	0.00
3,000.00	17.80	23.40	2,906.17	606.41	262.42	260.83	0.00	0.00	0.00
3,100.00	17.80	23.40	3,001.38	634.47	274.56	272.90	0.00	0.00	0.00
3,200.00	17.80	23.40	3,096.59	662.52	286.70	284.96	0.00	0.00	0.00
3,300.00	17.80	23.40	3,191.80	690.58	298.84	297.03	0.00	0.00	0.00
3,400.00	17.80	23.40	3,287.02	718.63	310.98	309.10	0.00	0.00	0.00
3,457.75	17.80	23.40	3,342.00	734.83	317.99	316.07	0.00	0.00	0.00
Parkman									
3,500.00	17.80	23.40	3,382.23	746.69	323.12	321.17	0.00	0.00	0.00
3,600.00	17.80	23.40	3,477.44	774.74	335.26	333.23	0.00	0.00	0.00
3,700.00	17.80	23.40	3,572.66	802.80	347.40	345.30	0.00	0.00	0.00
3,800.00	17.80	23.40	3,667.87	830.85	359.54	357.37	0.00	0.00	0.00
3,900.00	17.80	23.40	3,763.08	858.91	371.68	369.43	0.00	0.00	0.00
3,977.63	17.80	23.40	3,837.00	880.69	381.11	378.80	0.00	0.00	0.00
Sussex									
4,000.00	17.80	23.40	3,858.30	886.97	383.82	381.50	0.00	0.00	0.00

Corporate Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4878.00usft (Drilling Rig)
Project:	LARIMER-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4878.00usft (Drilling Rig)
Site:	5N-68W-25 JODSTER NORTH 8-25HZ PAD	North Reference:	True
Well:	JODSTER NORTH 25-3HZ	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)
4,100.00	17.80	23.40	3,953.51	915.02	395.96	393.57	0.00	0.00	0.00
4,200.00	17.80	23.40	4,048.72	943.08	408.11	405.63	0.00	0.00	0.00
4,236.67	17.80	23.40	4,083.63	953.36	412.56	410.06	0.00	0.00	0.00
Begin Drop @ 4236.67ft									
4,300.00	16.53	23.40	4,144.14	970.52	419.98	417.44	2.00	-2.00	0.00
4,400.00	14.53	23.40	4,240.49	995.09	430.62	428.01	2.00	-2.00	0.00
4,500.00	12.53	23.40	4,337.70	1,016.57	439.91	437.25	2.00	-2.00	0.00
4,600.00	10.53	23.40	4,435.68	1,034.92	447.85	445.14	2.00	-2.00	0.00
4,700.00	8.53	23.40	4,534.29	1,050.12	454.43	451.68	2.00	-2.00	0.00
4,800.00	6.53	23.40	4,633.43	1,062.15	459.63	456.85	2.00	-2.00	0.00
4,900.00	4.53	23.40	4,732.95	1,071.00	463.46	460.66	2.00	-2.00	0.00
5,000.00	2.53	23.40	4,832.76	1,076.65	465.91	463.09	2.00	-2.00	0.00
5,100.00	0.53	23.40	4,932.72	1,079.11	466.97	464.15	2.00	-2.00	0.00
5,126.67	0.00	0.00	4,959.39	1,079.22	467.02	464.19	2.00	-2.00	0.00
End Drop @ 5126.67ft									
5,200.00	0.00	0.00	5,032.72	1,079.22	467.02	464.19	0.00	0.00	0.00
5,300.00	0.00	0.00	5,132.72	1,079.22	467.02	464.19	0.00	0.00	0.00
5,400.00	0.00	0.00	5,232.72	1,079.22	467.02	464.19	0.00	0.00	0.00
5,500.00	0.00	0.00	5,332.72	1,079.22	467.02	464.19	0.00	0.00	0.00
5,600.00	0.00	0.00	5,432.72	1,079.22	467.02	464.19	0.00	0.00	0.00
5,700.00	0.00	0.00	5,532.72	1,079.22	467.02	464.19	0.00	0.00	0.00
5,800.00	0.00	0.00	5,632.72	1,079.22	467.02	464.19	0.00	0.00	0.00
5,900.00	0.00	0.00	5,732.72	1,079.22	467.02	464.19	0.00	0.00	0.00
6,000.00	0.00	0.00	5,832.72	1,079.22	467.02	464.19	0.00	0.00	0.00
6,100.00	0.00	0.00	5,932.72	1,079.22	467.02	464.19	0.00	0.00	0.00
6,200.00	0.00	0.00	6,032.72	1,079.22	467.02	464.19	0.00	0.00	0.00
6,217.08	0.00	0.00	6,049.80	1,079.22	467.02	464.19	0.00	0.00	0.00
KOP @ 6217.08ft :: DLS = 8°/100'									
6,300.00	6.63	88.76	6,132.53	1,079.33	471.82	468.99	8.00	8.00	0.00
6,400.00	14.63	88.76	6,230.74	1,079.72	490.25	487.42	8.00	8.00	0.00
6,500.00	22.63	88.76	6,325.42	1,080.41	522.17	519.34	8.00	8.00	0.00
6,600.00	30.63	88.76	6,414.73	1,081.38	566.95	564.12	8.00	8.00	0.00
6,700.00	38.63	88.76	6,496.95	1,082.61	623.72	620.88	8.00	8.00	0.00
6,800.00	46.63	88.76	6,570.46	1,084.07	691.38	688.54	8.00	8.00	0.00
6,900.00	54.63	88.76	6,633.83	1,085.74	768.61	765.77	8.00	8.00	0.00
7,000.00	62.63	88.76	6,685.84	1,087.59	853.91	851.06	8.00	8.00	0.00
7,044.36	66.18	88.76	6,705.00	1,088.45	893.90	891.04	8.00	8.00	0.00
Sharon Springs									
7,100.00	70.63	88.76	6,725.47	1,089.57	945.61	942.75	8.00	8.00	0.00
7,181.19	77.13	88.76	6,748.00	1,091.25	1,023.55	1,020.69	8.00	8.00	0.00
Niobrara									
7,200.00	78.63	88.76	6,751.95	1,091.65	1,041.93	1,039.07	8.00	8.00	0.00
7,300.00	86.63	88.76	6,764.76	1,093.79	1,141.01	1,138.14	8.00	8.00	0.00
7,342.71	90.05	88.76	6,766.00	1,094.72	1,183.68	1,180.81	8.00	8.00	0.00
End Build @ 7342.71ft - Top of Production									
7,400.00	90.05	88.76	6,765.95	1,095.95	1,240.96	1,238.08	0.00	0.00	0.00
7,500.00	90.05	88.76	6,765.86	1,098.12	1,340.93	1,338.05	0.00	0.00	0.00
7,600.00	90.05	88.76	6,765.77	1,100.28	1,440.91	1,438.03	0.00	0.00	0.00
7,700.00	90.05	88.76	6,765.68	1,102.44	1,540.89	1,538.00	0.00	0.00	0.00
7,800.00	90.05	88.76	6,765.59	1,104.60	1,640.86	1,637.97	0.00	0.00	0.00
7,900.00	90.05	88.76	6,765.51	1,106.76	1,740.84	1,737.94	0.00	0.00	0.00
8,000.00	90.05	88.76	6,765.42	1,108.92	1,840.82	1,837.91	0.00	0.00	0.00
8,100.00	90.05	88.76	6,765.33	1,111.08	1,940.79	1,937.88	0.00	0.00	0.00

Corporate Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4878.00usft (Drilling Rig)
Project:	LARIMER-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4878.00usft (Drilling Rig)
Site:	5N-68W-25 JODSTER NORTH 8-25HZ PAD	North Reference:	True
Well:	JODSTER NORTH 25-3HZ	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)	
8,200.00	90.05	88.76	6,765.24	1,113.24	2,040.77	2,037.85	0.00	0.00	0.00	
8,300.00	90.05	88.76	6,765.15	1,115.41	2,140.75	2,137.82	0.00	0.00	0.00	
8,400.00	90.05	88.76	6,765.07	1,117.57	2,240.72	2,237.79	0.00	0.00	0.00	
8,500.00	90.05	88.76	6,764.98	1,119.73	2,340.70	2,337.76	0.00	0.00	0.00	
8,600.00	90.05	88.76	6,764.89	1,121.89	2,440.68	2,437.73	0.00	0.00	0.00	
8,700.00	90.05	88.76	6,764.80	1,124.05	2,540.65	2,537.70	0.00	0.00	0.00	
8,800.00	90.05	88.76	6,764.72	1,126.21	2,640.63	2,637.67	0.00	0.00	0.00	
8,900.00	90.05	88.76	6,764.63	1,128.37	2,740.61	2,737.64	0.00	0.00	0.00	
9,000.00	90.05	88.76	6,764.54	1,130.53	2,840.58	2,837.61	0.00	0.00	0.00	
9,100.00	90.05	88.76	6,764.45	1,132.70	2,940.56	2,937.58	0.00	0.00	0.00	
9,200.00	90.05	88.76	6,764.36	1,134.86	3,040.54	3,037.56	0.00	0.00	0.00	
9,300.00	90.05	88.76	6,764.28	1,137.02	3,140.51	3,137.53	0.00	0.00	0.00	
9,400.00	90.05	88.76	6,764.19	1,139.18	3,240.49	3,237.50	0.00	0.00	0.00	
9,500.00	90.05	88.76	6,764.10	1,141.34	3,340.47	3,337.47	0.00	0.00	0.00	
9,600.00	90.05	88.76	6,764.01	1,143.50	3,440.44	3,437.44	0.00	0.00	0.00	
9,700.00	90.05	88.76	6,763.93	1,145.66	3,540.42	3,537.41	0.00	0.00	0.00	
9,800.00	90.05	88.76	6,763.84	1,147.82	3,640.40	3,637.38	0.00	0.00	0.00	
9,900.00	90.05	88.76	6,763.75	1,149.99	3,740.37	3,737.35	0.00	0.00	0.00	
10,000.00	90.05	88.76	6,763.66	1,152.15	3,840.35	3,837.32	0.00	0.00	0.00	
10,100.00	90.05	88.76	6,763.57	1,154.31	3,940.33	3,937.29	0.00	0.00	0.00	
10,200.00	90.05	88.76	6,763.49	1,156.47	4,040.30	4,037.26	0.00	0.00	0.00	
10,300.00	90.05	88.76	6,763.40	1,158.63	4,140.28	4,137.23	0.00	0.00	0.00	
10,400.00	90.05	88.76	6,763.31	1,160.79	4,240.26	4,237.20	0.00	0.00	0.00	
10,500.00	90.05	88.76	6,763.22	1,162.95	4,340.23	4,337.17	0.00	0.00	0.00	
10,594.68	90.05	88.76	6,763.14	1,165.00	4,434.89	4,431.82	0.00	0.00	0.00	
Begin Turn to BHL @ 10594.68ft										
10,600.00	90.05	88.84	6,763.14	1,165.11	4,440.21	4,437.14	1.50	0.00	1.50	
10,700.00	90.05	90.34	6,763.05	1,165.82	4,540.20	4,537.14	1.50	0.00	1.50	
10,741.66	90.05	90.97	6,763.01	1,165.35	4,581.86	4,578.79	1.50	0.00	1.50	
End Turn @ 10741.66ft										
10,800.00	90.05	90.97	6,762.96	1,164.37	4,640.19	4,637.13	0.00	0.00	0.00	
10,900.00	90.05	90.97	6,762.87	1,162.68	4,740.18	4,737.12	0.00	0.00	0.00	
11,000.00	90.05	90.97	6,762.78	1,160.99	4,840.16	4,837.11	0.00	0.00	0.00	
11,100.00	90.05	90.97	6,762.70	1,159.31	4,940.15	4,937.10	0.00	0.00	0.00	
11,200.00	90.05	90.97	6,762.61	1,157.62	5,040.14	5,037.09	0.00	0.00	0.00	
11,300.00	90.05	90.97	6,762.52	1,155.93	5,140.12	5,137.08	0.00	0.00	0.00	
11,400.00	90.05	90.97	6,762.43	1,154.25	5,240.11	5,237.07	0.00	0.00	0.00	
11,500.00	90.05	90.97	6,762.34	1,152.56	5,340.09	5,337.06	0.00	0.00	0.00	
11,600.00	90.05	90.97	6,762.26	1,150.87	5,440.08	5,437.05	0.00	0.00	0.00	
11,700.00	90.05	90.97	6,762.17	1,149.19	5,540.06	5,537.04	0.00	0.00	0.00	
11,800.00	90.05	90.97	6,762.08	1,147.50	5,640.05	5,637.03	0.00	0.00	0.00	
11,900.00	90.05	90.97	6,761.99	1,145.82	5,740.04	5,737.02	0.00	0.00	0.00	
12,000.00	90.05	90.97	6,761.90	1,144.13	5,840.02	5,837.01	0.00	0.00	0.00	
12,100.00	90.05	90.97	6,761.82	1,142.44	5,940.01	5,937.00	0.00	0.00	0.00	
12,200.00	90.05	90.97	6,761.73	1,140.76	6,039.99	6,036.99	0.00	0.00	0.00	
12,300.00	90.05	90.97	6,761.64	1,139.07	6,139.98	6,136.98	0.00	0.00	0.00	
12,400.00	90.05	90.97	6,761.55	1,137.38	6,239.96	6,236.97	0.00	0.00	0.00	
12,500.00	90.05	90.97	6,761.47	1,135.70	6,339.95	6,336.96	0.00	0.00	0.00	
12,600.00	90.05	90.97	6,761.38	1,134.01	6,439.94	6,436.95	0.00	0.00	0.00	
12,700.00	90.05	90.97	6,761.29	1,132.32	6,539.92	6,536.93	0.00	0.00	0.00	
12,800.00	90.05	90.97	6,761.20	1,130.64	6,639.91	6,636.92	0.00	0.00	0.00	
12,900.00	90.05	90.97	6,761.11	1,128.95	6,739.89	6,736.91	0.00	0.00	0.00	
13,000.00	90.05	90.97	6,761.03	1,127.27	6,839.88	6,836.90	0.00	0.00	0.00	

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well JODSTER NORTH 25-3HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4878.00usft (Drilling Rig)
Project:	LARIMER-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4878.00usft (Drilling Rig)
Site:	5N-68W-25 JODSTER NORTH 8-25HZ PAD	North Reference:	True
Well:	JODSTER NORTH 25-3HZ	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)	
13,100.00	90.05	90.97	6,760.94	1,125.58	6,939.86	6,936.89	0.00	0.00	0.00	
13,200.00	90.05	90.97	6,760.85	1,123.89	7,039.85	7,036.88	0.00	0.00	0.00	
13,300.00	90.05	90.97	6,760.76	1,122.21	7,139.84	7,136.87	0.00	0.00	0.00	
13,400.00	90.05	90.97	6,760.67	1,120.52	7,239.82	7,236.86	0.00	0.00	0.00	
13,500.00	90.05	90.97	6,760.59	1,118.83	7,339.81	7,336.85	0.00	0.00	0.00	
13,600.00	90.05	90.97	6,760.50	1,117.15	7,439.79	7,436.84	0.00	0.00	0.00	
13,700.00	90.05	90.97	6,760.41	1,115.46	7,539.78	7,536.83	0.00	0.00	0.00	
13,800.00	90.05	90.97	6,760.32	1,113.77	7,639.76	7,636.82	0.00	0.00	0.00	
13,900.00	90.05	90.97	6,760.23	1,112.09	7,739.75	7,736.81	0.00	0.00	0.00	
14,000.00	90.05	90.97	6,760.15	1,110.40	7,839.74	7,836.80	0.00	0.00	0.00	
14,100.00	90.05	90.97	6,760.06	1,108.72	7,939.72	7,936.79	0.00	0.00	0.00	
14,200.00	90.05	90.97	6,759.97	1,107.03	8,039.71	8,036.78	0.00	0.00	0.00	
14,300.00	90.05	90.97	6,759.88	1,105.34	8,139.69	8,136.77	0.00	0.00	0.00	
14,400.00	90.05	90.97	6,759.79	1,103.66	8,239.68	8,236.76	0.00	0.00	0.00	
14,500.00	90.05	90.97	6,759.71	1,101.97	8,339.67	8,336.75	0.00	0.00	0.00	
14,600.00	90.05	90.97	6,759.62	1,100.28	8,439.65	8,436.74	0.00	0.00	0.00	
14,700.00	90.05	90.97	6,759.53	1,098.60	8,539.64	8,536.73	0.00	0.00	0.00	
14,800.00	90.05	90.97	6,759.44	1,096.91	8,639.62	8,636.72	0.00	0.00	0.00	
14,900.00	90.05	90.97	6,759.36	1,095.22	8,739.61	8,736.71	0.00	0.00	0.00	
15,000.00	90.05	90.97	6,759.27	1,093.54	8,839.59	8,836.70	0.00	0.00	0.00	
15,100.00	90.05	90.97	6,759.18	1,091.85	8,939.58	8,936.69	0.00	0.00	0.00	
15,200.00	90.05	90.97	6,759.09	1,090.17	9,039.57	9,036.68	0.00	0.00	0.00	
15,300.00	90.05	90.97	6,759.00	1,088.48	9,139.55	9,136.67	0.00	0.00	0.00	
15,400.00	90.05	90.97	6,758.92	1,086.79	9,239.54	9,236.66	0.00	0.00	0.00	
15,500.00	90.05	90.97	6,758.83	1,085.11	9,339.52	9,336.65	0.00	0.00	0.00	
15,600.00	90.05	90.97	6,758.74	1,083.42	9,439.51	9,436.64	0.00	0.00	0.00	
15,700.00	90.05	90.97	6,758.65	1,081.73	9,539.49	9,536.63	0.00	0.00	0.00	
15,800.00	90.05	90.97	6,758.56	1,080.05	9,639.48	9,636.62	0.00	0.00	0.00	
15,900.00	90.05	90.97	6,758.48	1,078.36	9,739.47	9,736.61	0.00	0.00	0.00	
16,000.00	90.05	90.97	6,758.39	1,076.67	9,839.45	9,836.60	0.00	0.00	0.00	
16,100.00	90.05	90.97	6,758.30	1,074.99	9,939.44	9,936.59	0.00	0.00	0.00	
16,200.00	90.05	90.97	6,758.21	1,073.30	10,039.42	10,036.58	0.00	0.00	0.00	
16,300.00	90.05	90.97	6,758.12	1,071.62	10,139.41	10,136.57	0.00	0.00	0.00	
16,400.00	90.05	90.97	6,758.04	1,069.93	10,239.39	10,236.56	0.00	0.00	0.00	
16,500.00	90.05	90.97	6,757.95	1,068.24	10,339.38	10,336.55	0.00	0.00	0.00	
16,600.00	90.05	90.97	6,757.86	1,066.56	10,439.37	10,436.54	0.00	0.00	0.00	
16,700.00	90.05	90.97	6,757.77	1,064.87	10,539.35	10,536.53	0.00	0.00	0.00	
16,800.00	90.05	90.97	6,757.68	1,063.18	10,639.34	10,636.52	0.00	0.00	0.00	
16,900.00	90.05	90.97	6,757.60	1,061.50	10,739.32	10,736.51	0.00	0.00	0.00	
17,000.00	90.05	90.97	6,757.51	1,059.81	10,839.31	10,836.50	0.00	0.00	0.00	
17,100.00	90.05	90.97	6,757.42	1,058.12	10,939.29	10,936.49	0.00	0.00	0.00	
17,200.00	90.05	90.97	6,757.33	1,056.44	11,039.28	11,036.48	0.00	0.00	0.00	
17,300.00	90.05	90.97	6,757.25	1,054.75	11,139.27	11,136.47	0.00	0.00	0.00	
17,400.00	90.05	90.97	6,757.16	1,053.07	11,239.25	11,236.46	0.00	0.00	0.00	
17,500.00	90.05	90.97	6,757.07	1,051.38	11,339.24	11,336.45	0.00	0.00	0.00	
17,578.65	90.05	90.97	6,757.00	1,050.05	11,417.87	11,415.08	0.00	0.00	0.00	
TD Well @ 17578.64ft										

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well JODSTER NORTH 25-3HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4878.00usft (Drilling Rig)
Project:	LARIMER-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4878.00usft (Drilling Rig)
Site:	5N-68W-25 JODSTER NORTH 8-25HZ PAD	North Reference:	True
Well:	JODSTER NORTH 25-3HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,523.14	1,500.00	9 5/8" Csg	9-5/8	13-1/2	
7,342.71	6,766.00	Top of Production	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,355.36	1,340.00	Fox Hills				
3,457.75	3,342.00	Parkman				
3,977.63	3,837.00	Sussex				
7,044.36	6,705.00	Sharon Springs				
7,181.19	6,748.00	Niobrara				

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	
1,436.67	1,417.67	167.81	72.62	End Nudge @ 1436.67ft	
4,236.67	4,083.63	953.36	412.56	Begin Drop @ 4236.67ft	
5,126.67	4,959.39	1,079.22	467.02	End Drop @ 5126.67ft	
6,217.08	6,049.80	1,079.22	467.02	KOP @ 6217.08ft :: DLS = 8°/100'	
7,342.71	6,766.00	1,094.72	1,183.68	End Build @ 7342.71ft	
10,594.68	6,763.14	1,165.00	4,434.89	Begin Turn to BHL @ 10594.68ft	
10,741.66	6,763.01	1,165.35	4,581.86	End Turn @ 10741.66ft	
17,578.65	6,757.00	1,050.05	11,417.87	TD Well @ 17578.64ft	