

US ROCKIES WATTENBERG PLANNING

LARIMER-NAD83-UTMFT13N

5N-68W-25 JODSTER SOUTH 24-25HZ PAD

JODSTER SOUTH 25-8HZ

Plan A

Plan: Permit Rev-2

SHL Lat/Long: 40.371723/-104.947736

Survey Program: MWD+IFR+MSA

Standard Planning Report

30 December, 2018

Project: LARIMER-NAD83-UTMFT13N
Site: 5N-68W-25 JODSTER SOUTH 24-25HZ PAD
Well: JODSTER SOUTH 25-8HZ
Wellbore: Plan A
Design: Permit Rev-2

US ROCKIES WATTENBERG PLANNING

CASING DETAILS			WELL DETAILS: JODSTER SOUTH 25-8HZ
TVD	MD	Size	
1500.00 6742.00	1521.76 7647.53	9-5/8 5-1/2	
			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	280.00	0.00	0.00	280.00	0.00	0.00	0.00	0.00	0.00	
3	2276.67	29.95	179.10	2186.97	-510.02	8.01	1.50	179.10	6.94	
4	4825.67	29.95	179.10	4395.58	-1782.43	28.00	0.00	0.00	24.27	
5	6323.17	0.00	0.00	5825.81	-2164.95	34.01	2.00	180.00	29.48	
6	6523.16	0.00	0.00	6025.80	-2164.95	34.01	0.00	0.00	29.48	
7	7647.53	89.95	90.34	6742.00	-2169.14	749.57	8.00	90.34	745.02	
8	11212.62	89.95	90.34	6745.12	-2190.00	4314.59	0.00	0.00	4309.99	JODSTER SOUTH 25-8HZ_target
9	11260.76	89.95	89.61	6745.16	-2189.98	4362.73	1.50	-90.01	4358.14	
10	17921.34	89.95	89.61	6751.00	-2145.01	11023.16	0.00	0.00	11018.64	JODSTER SOUTH 25-8HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
JODSTER SOUTH 25-8HZ_SHL	0.00	0.00	0.00	40.371723	-104.947736
JODSTER SOUTH 25-8HZ_BHL	6751.00	-2145.01	11023.16	40.365826	-104.908163

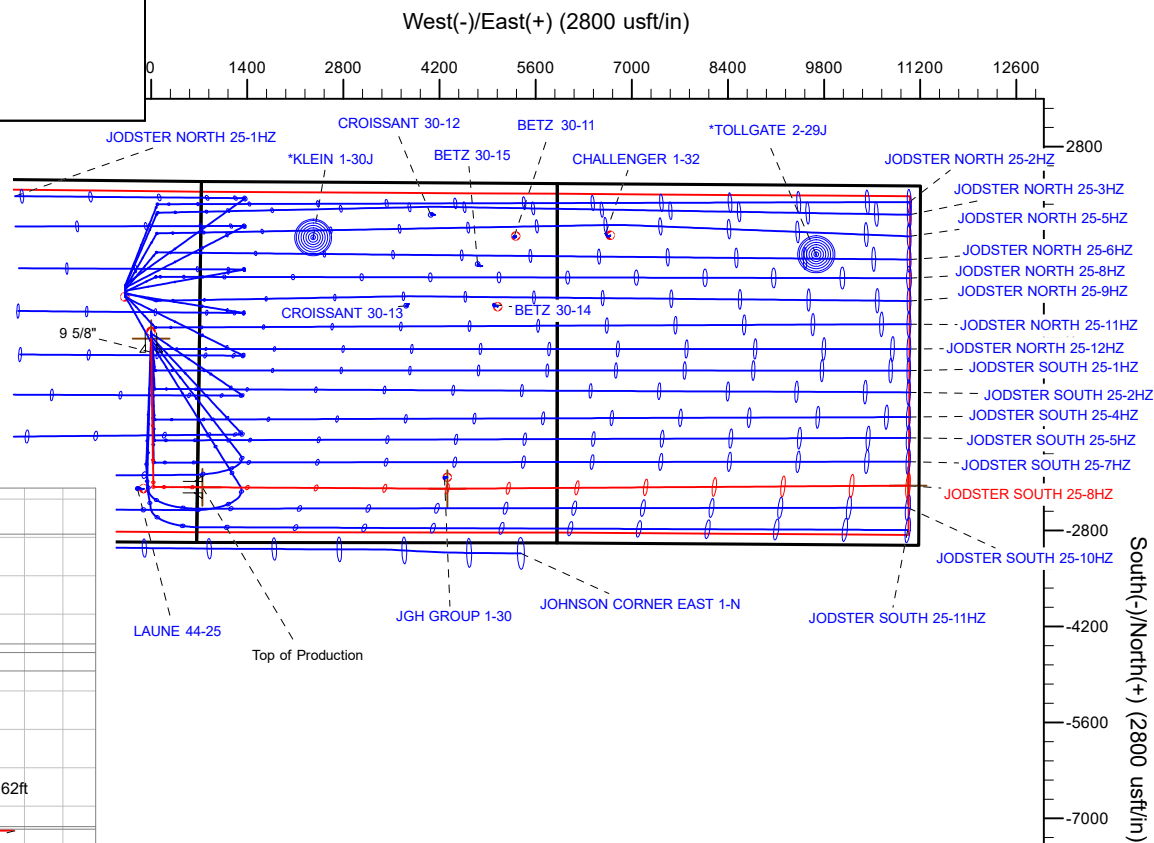
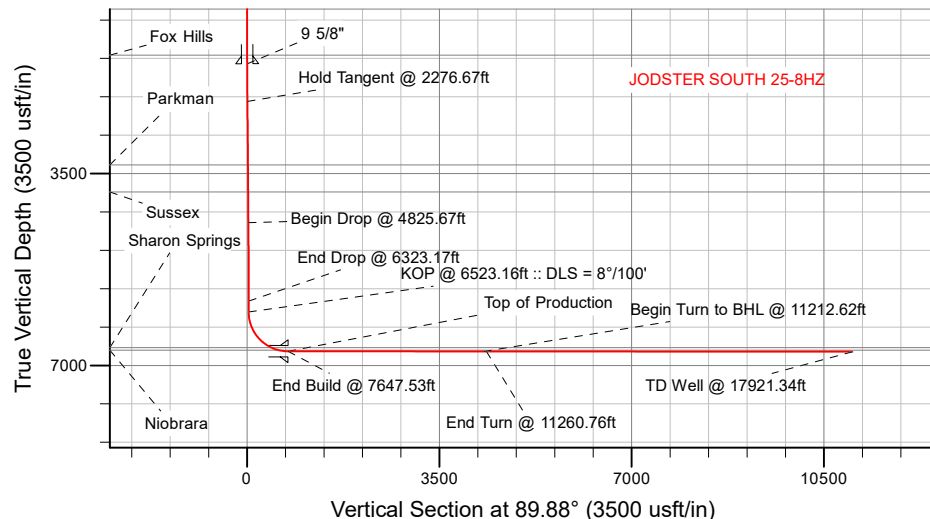
SHL
2302' FNL
704' FEL

HEEL
804' FSL
75' FWL

TOE
870' FSL
160' FEL

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1340.00	1354.10	Fox Hills
3342.00	3609.71	Parkman
3837.00	4181.00	Sussex
6677.00	7340.67	Sharon Springs
6720.00	7470.18	Niobrara



Plan: Permit Rev-2 (JODSTER SOUTH 25-8HZ/Plan A)

Date: 12/30/2018

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well JODSTER SOUTH 25-8HZ
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 SOUTH 24-25HZ PAD	North Reference:	True
Well:	JODSTER SOUTH 25-8HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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 SOUTH 24-25HZ PAD			
Site Position:		Northing:	14,662,206.38 usft	Latitude: 40.372011
From:	Lat/Long	Easting:	1,654,974.62 usft	Longitude: -104.947732
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.03 °

Well	JODSTER SOUTH 25-8HZ			
Well Position	+N/-S	-104.88 usft	Northing:	14,662,101.50 usft
	+E/-W	-1.11 usft	Easting:	1,654,973.57 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	52,219.01668349

Design	Permit Rev-2			
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	89.88

Plan Survey Tool Program	Date	12/30/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	1,500.00	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:crustal field declinatio
2	1,500.00	17,921.34	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:Rockies, crustal dec +

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Well:	JODSTER SOUTH 25-8HZ	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	
280.00	0.00	0.00	280.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,276.67	29.95	179.10	2,186.97	-510.02	8.01	1.50	1.50	0.00	179.10	
4,825.67	29.95	179.10	4,395.58	-1,782.43	28.00	0.00	0.00	0.00	0.00	
6,323.17	0.00	0.00	5,825.81	-2,164.95	34.01	2.00	-2.00	0.00	180.00	
6,523.16	0.00	0.00	6,025.80	-2,164.95	34.01	0.00	0.00	0.00	0.00	
7,647.53	89.95	90.34	6,742.00	-2,169.14	749.57	8.00	8.00	8.03	90.34	
11,212.62	89.95	90.34	6,745.12	-2,190.00	4,314.59	0.00	0.00	0.00	0.00	JODSTER SOUTH 25
11,260.76	89.95	89.61	6,745.16	-2,189.98	4,362.73	1.50	0.00	-1.50	-90.01	
17,921.34	89.95	89.61	6,751.00	-2,145.01	11,023.16	0.00	0.00	0.00	0.00	JODSTER SOUTH 25

Corporate Planning Report

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Site:	5N-68W-25 JODSTER SOUTH 24-25HZ PAD	North Reference:	True
Well:	JODSTER SOUTH 25-8HZ	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
280.00	0.00	0.00	280.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 280.00ft									
300.00	0.30	179.10	300.00	-0.05	0.00	0.00	1.50	1.50	0.00
400.00	1.80	179.10	399.98	-1.88	0.03	0.03	1.50	1.50	0.00
500.00	3.30	179.10	499.88	-6.33	0.10	0.09	1.50	1.50	0.00
600.00	4.80	179.10	599.63	-13.39	0.21	0.18	1.50	1.50	0.00
700.00	6.30	179.10	699.15	-23.06	0.36	0.31	1.50	1.50	0.00
800.00	7.80	179.10	798.40	-35.34	0.56	0.48	1.50	1.50	0.00
900.00	9.30	179.10	897.28	-50.20	0.79	0.68	1.50	1.50	0.00
1,000.00	10.80	179.10	995.74	-67.65	1.06	0.92	1.50	1.50	0.00
1,100.00	12.30	179.10	1,093.72	-87.67	1.38	1.19	1.50	1.50	0.00
1,200.00	13.80	179.10	1,191.13	-110.25	1.73	1.50	1.50	1.50	0.00
1,300.00	15.30	179.10	1,287.92	-135.36	2.13	1.84	1.50	1.50	0.00
1,354.10	16.11	179.10	1,340.00	-150.01	2.36	2.04	1.50	1.50	0.00
Fox Hills									
1,400.00	16.80	179.10	1,384.02	-163.01	2.56	2.22	1.50	1.50	0.00
1,500.00	18.30	179.10	1,479.36	-193.16	3.03	2.63	1.50	1.50	0.00
1,521.76	18.63	179.10	1,500.00	-200.05	3.14	2.72	1.50	1.50	0.00
9 5/8"									
1,600.00	19.80	179.10	1,573.88	-225.79	3.55	3.07	1.50	1.50	0.00
1,700.00	21.30	179.10	1,667.52	-260.89	4.10	3.55	1.50	1.50	0.00
1,800.00	22.80	179.10	1,760.20	-298.42	4.69	4.06	1.50	1.50	0.00
1,900.00	24.30	179.10	1,851.87	-338.37	5.32	4.61	1.50	1.50	0.00
2,000.00	25.80	179.10	1,942.46	-380.71	5.98	5.18	1.50	1.50	0.00
2,100.00	27.30	179.10	2,031.91	-425.40	6.68	5.79	1.50	1.50	0.00
2,200.00	28.80	179.10	2,120.16	-472.42	7.42	6.43	1.50	1.50	0.00
2,276.67	29.95	179.10	2,186.97	-510.02	8.01	6.94	1.50	1.50	0.00
Hold Tangent @ 2276.67ft									
2,300.00	29.95	179.10	2,207.19	-521.66	8.19	7.10	0.00	0.00	0.00
2,400.00	29.95	179.10	2,293.84	-571.58	8.98	7.78	0.00	0.00	0.00
2,500.00	29.95	179.10	2,380.48	-621.50	9.76	8.46	0.00	0.00	0.00
2,600.00	29.95	179.10	2,467.13	-671.42	10.55	9.14	0.00	0.00	0.00
2,700.00	29.95	179.10	2,553.77	-721.34	11.33	9.82	0.00	0.00	0.00
2,800.00	29.95	179.10	2,640.42	-771.26	12.12	10.50	0.00	0.00	0.00
2,900.00	29.95	179.10	2,727.07	-821.17	12.90	11.18	0.00	0.00	0.00
3,000.00	29.95	179.10	2,813.71	-871.09	13.68	11.86	0.00	0.00	0.00
3,100.00	29.95	179.10	2,900.36	-921.01	14.47	12.54	0.00	0.00	0.00
3,200.00	29.95	179.10	2,987.00	-970.93	15.25	13.22	0.00	0.00	0.00
3,300.00	29.95	179.10	3,073.65	-1,020.85	16.04	13.90	0.00	0.00	0.00
3,400.00	29.95	179.10	3,160.30	-1,070.77	16.82	14.58	0.00	0.00	0.00
3,500.00	29.95	179.10	3,246.94	-1,120.68	17.61	15.26	0.00	0.00	0.00
3,600.00	29.95	179.10	3,333.59	-1,170.60	18.39	15.94	0.00	0.00	0.00
3,609.71	29.95	179.10	3,342.00	-1,175.45	18.47	16.00	0.00	0.00	0.00
Parkman									
3,700.00	29.95	179.10	3,420.24	-1,220.52	19.17	16.62	0.00	0.00	0.00
3,800.00	29.95	179.10	3,506.88	-1,270.44	19.96	17.30	0.00	0.00	0.00
3,900.00	29.95	179.10	3,593.53	-1,320.36	20.74	17.98	0.00	0.00	0.00
4,000.00	29.95	179.10	3,680.17	-1,370.27	21.53	18.66	0.00	0.00	0.00
4,100.00	29.95	179.10	3,766.82	-1,420.19	22.31	19.34	0.00	0.00	0.00
4,181.00	29.95	179.10	3,837.00	-1,460.62	22.95	19.89	0.00	0.00	0.00

Corporate
Planning Report

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Project:	LARIMER-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4878.00usft (Drilling Rig)
Site:	5N-68W-25 JODSTER SOUTH 24-25HZ PAD	North Reference:	True
Well:	JODSTER SOUTH 25-8HZ	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)
Sussex									
4,200.00	29.95	179.10	3,853.47	-1,470.11	23.09	20.02	0.00	0.00	0.00
4,300.00	29.95	179.10	3,940.11	-1,520.03	23.88	20.69	0.00	0.00	0.00
4,400.00	29.95	179.10	4,026.76	-1,569.95	24.66	21.37	0.00	0.00	0.00
4,500.00	29.95	179.10	4,113.40	-1,619.87	25.45	22.05	0.00	0.00	0.00
4,600.00	29.95	179.10	4,200.05	-1,669.78	26.23	22.73	0.00	0.00	0.00
4,700.00	29.95	179.10	4,286.70	-1,719.70	27.02	23.41	0.00	0.00	0.00
4,800.00	29.95	179.10	4,373.34	-1,769.62	27.80	24.09	0.00	0.00	0.00
4,825.67	29.95	179.10	4,395.58	-1,782.43	28.00	24.27	0.00	0.00	0.00
Begin Drop @ 4825.67ft									
4,900.00	28.46	179.10	4,460.46	-1,818.70	28.57	24.76	2.00	-2.00	0.00
5,000.00	26.46	179.10	4,549.19	-1,864.81	29.29	25.39	2.00	-2.00	0.00
5,100.00	24.46	179.10	4,639.47	-1,907.80	29.97	25.97	2.00	-2.00	0.00
5,200.00	22.46	179.10	4,731.20	-1,947.60	30.60	26.52	2.00	-2.00	0.00
5,300.00	20.46	179.10	4,824.26	-1,984.19	31.17	27.01	2.00	-2.00	0.00
5,400.00	18.46	179.10	4,918.54	-2,017.50	31.69	27.47	2.00	-2.00	0.00
5,500.00	16.46	179.10	5,013.92	-2,047.51	32.16	27.88	2.00	-2.00	0.00
5,600.00	14.46	179.10	5,110.30	-2,074.17	32.58	28.24	2.00	-2.00	0.00
5,700.00	12.46	179.10	5,207.55	-2,097.44	32.95	28.56	2.00	-2.00	0.00
5,800.00	10.46	179.10	5,305.55	-2,117.32	33.26	28.83	2.00	-2.00	0.00
5,900.00	8.46	179.10	5,404.18	-2,133.75	33.52	29.05	2.00	-2.00	0.00
6,000.00	6.46	179.10	5,503.33	-2,146.74	33.72	29.23	2.00	-2.00	0.00
6,100.00	4.46	179.10	5,602.87	-2,156.26	33.87	29.36	2.00	-2.00	0.00
6,200.00	2.46	179.10	5,702.68	-2,162.30	33.97	29.44	2.00	-2.00	0.00
6,300.00	0.46	179.10	5,802.64	-2,164.85	34.01	29.47	2.00	-2.00	0.00
6,323.17	0.00	0.00	5,825.81	-2,164.95	34.01	29.48	2.00	-2.00	0.00
End Drop @ 6323.17ft									
6,400.00	0.00	0.00	5,902.64	-2,164.95	34.01	29.48	0.00	0.00	0.00
6,500.00	0.00	0.00	6,002.64	-2,164.95	34.01	29.48	0.00	0.00	0.00
6,523.16	0.00	0.00	6,025.80	-2,164.95	34.01	29.48	0.00	0.00	0.00
KOP @ 6523.16ft :: DLS = 8°/100'									
6,600.00	6.15	90.34	6,102.50	-2,164.97	38.13	33.59	8.00	8.00	0.00
6,700.00	14.15	90.34	6,200.85	-2,165.07	55.73	51.20	8.00	8.00	0.00
6,800.00	22.15	90.34	6,295.80	-2,165.26	86.85	82.32	8.00	8.00	0.00
6,900.00	30.15	90.34	6,385.49	-2,165.51	130.88	126.35	8.00	8.00	0.00
7,000.00	38.15	90.34	6,468.19	-2,165.84	186.97	182.43	8.00	8.00	0.00
7,100.00	46.15	90.34	6,542.27	-2,166.24	254.02	249.48	8.00	8.00	0.00
7,200.00	54.15	90.34	6,606.30	-2,166.68	330.72	326.18	8.00	8.00	0.00
7,300.00	62.15	90.34	6,659.03	-2,167.18	415.59	411.05	8.00	8.00	0.00
7,340.67	65.40	90.34	6,677.00	-2,167.39	452.07	447.53	8.00	8.00	0.00
Sharon Springs									
7,400.00	70.15	90.34	6,699.44	-2,167.72	506.97	502.43	8.00	8.00	0.00
7,470.18	75.76	90.34	6,720.00	-2,168.11	574.04	569.50	8.00	8.00	0.00
Niobrara									
7,500.00	78.15	90.34	6,726.73	-2,168.28	603.09	598.55	8.00	8.00	0.00
7,600.00	86.15	90.34	6,740.38	-2,168.86	702.07	697.53	8.00	8.00	0.00
7,647.53	89.95	90.34	6,742.00	-2,169.14	749.56	745.02	8.00	8.00	0.00
End Build @ 7647.53ft - Top of Production									
7,700.00	89.95	90.34	6,742.05	-2,169.44	802.03	797.49	0.00	0.00	0.00
7,800.00	89.95	90.34	6,742.13	-2,170.03	902.03	897.49	0.00	0.00	0.00
7,900.00	89.95	90.34	6,742.22	-2,170.61	1,002.03	997.48	0.00	0.00	0.00
8,000.00	89.95	90.34	6,742.31	-2,171.20	1,102.03	1,097.48	0.00	0.00	0.00
8,100.00	89.95	90.34	6,742.40	-2,171.78	1,202.03	1,197.48	0.00	0.00	0.00

Corporate Planning Report

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Project:	LARIMER-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4878.00usft (Drilling Rig)
Site:	5N-68W-25 JODSTER SOUTH 24-25HZ PAD	North Reference:	True
Well:	JODSTER SOUTH 25-8HZ	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)	
8,200.00	89.95	90.34	6,742.48	-2,172.37	1,302.03	1,297.47	0.00	0.00	0.00	
8,300.00	89.95	90.34	6,742.57	-2,172.95	1,402.02	1,397.47	0.00	0.00	0.00	
8,400.00	89.95	90.34	6,742.66	-2,173.54	1,502.02	1,497.47	0.00	0.00	0.00	
8,500.00	89.95	90.34	6,742.75	-2,174.12	1,602.02	1,597.46	0.00	0.00	0.00	
8,600.00	89.95	90.34	6,742.83	-2,174.71	1,702.02	1,697.46	0.00	0.00	0.00	
8,700.00	89.95	90.34	6,742.92	-2,175.29	1,802.02	1,797.46	0.00	0.00	0.00	
8,800.00	89.95	90.34	6,743.01	-2,175.88	1,902.01	1,897.45	0.00	0.00	0.00	
8,900.00	89.95	90.34	6,743.10	-2,176.47	2,002.01	1,997.45	0.00	0.00	0.00	
9,000.00	89.95	90.34	6,743.18	-2,177.05	2,102.01	2,097.45	0.00	0.00	0.00	
9,100.00	89.95	90.34	6,743.27	-2,177.64	2,202.01	2,197.44	0.00	0.00	0.00	
9,200.00	89.95	90.34	6,743.36	-2,178.22	2,302.01	2,297.44	0.00	0.00	0.00	
9,300.00	89.95	90.34	6,743.45	-2,178.81	2,402.01	2,397.44	0.00	0.00	0.00	
9,400.00	89.95	90.34	6,743.53	-2,179.39	2,502.00	2,497.43	0.00	0.00	0.00	
9,500.00	89.95	90.34	6,743.62	-2,179.98	2,602.00	2,597.43	0.00	0.00	0.00	
9,600.00	89.95	90.34	6,743.71	-2,180.56	2,702.00	2,697.43	0.00	0.00	0.00	
9,700.00	89.95	90.34	6,743.80	-2,181.15	2,802.00	2,797.42	0.00	0.00	0.00	
9,800.00	89.95	90.34	6,743.88	-2,181.73	2,902.00	2,897.42	0.00	0.00	0.00	
9,900.00	89.95	90.34	6,743.97	-2,182.32	3,002.00	2,997.42	0.00	0.00	0.00	
10,000.00	89.95	90.34	6,744.06	-2,182.90	3,101.99	3,097.41	0.00	0.00	0.00	
10,100.00	89.95	90.34	6,744.15	-2,183.49	3,201.99	3,197.41	0.00	0.00	0.00	
10,200.00	89.95	90.34	6,744.23	-2,184.07	3,301.99	3,297.41	0.00	0.00	0.00	
10,300.00	89.95	90.34	6,744.32	-2,184.66	3,401.99	3,397.41	0.00	0.00	0.00	
10,400.00	89.95	90.34	6,744.41	-2,185.24	3,501.99	3,497.40	0.00	0.00	0.00	
10,500.00	89.95	90.34	6,744.50	-2,185.83	3,601.98	3,597.40	0.00	0.00	0.00	
10,600.00	89.95	90.34	6,744.58	-2,186.41	3,701.98	3,697.40	0.00	0.00	0.00	
10,700.00	89.95	90.34	6,744.67	-2,187.00	3,801.98	3,797.39	0.00	0.00	0.00	
10,800.00	89.95	90.34	6,744.76	-2,187.59	3,901.98	3,897.39	0.00	0.00	0.00	
10,900.00	89.95	90.34	6,744.85	-2,188.17	4,001.98	3,997.39	0.00	0.00	0.00	
11,000.00	89.95	90.34	6,744.93	-2,188.76	4,101.98	4,097.38	0.00	0.00	0.00	
11,100.00	89.95	90.34	6,745.02	-2,189.34	4,201.97	4,197.38	0.00	0.00	0.00	
11,200.00	89.95	90.34	6,745.11	-2,189.93	4,301.97	4,297.38	0.00	0.00	0.00	
11,212.62	89.95	90.34	6,745.12	-2,190.00	4,314.59	4,309.99	0.00	0.00	0.00	
Begin Turn to BHL @ 11212.62ft										
11,260.76	89.95	89.61	6,745.16	-2,189.98	4,362.73	4,358.14	1.50	0.00	-1.50	
End Turn @ 11260.76ft										
11,300.00	89.95	89.61	6,745.20	-2,189.71	4,401.97	4,397.38	0.00	0.00	0.00	
11,400.00	89.95	89.61	6,745.28	-2,189.04	4,501.97	4,497.37	0.00	0.00	0.00	
11,500.00	89.95	89.61	6,745.37	-2,188.36	4,601.97	4,597.37	0.00	0.00	0.00	
11,600.00	89.95	89.61	6,745.46	-2,187.69	4,701.96	4,697.37	0.00	0.00	0.00	
11,700.00	89.95	89.61	6,745.55	-2,187.01	4,801.96	4,797.37	0.00	0.00	0.00	
11,800.00	89.95	89.61	6,745.63	-2,186.34	4,901.96	4,897.37	0.00	0.00	0.00	
11,900.00	89.95	89.61	6,745.72	-2,185.66	5,001.96	4,997.37	0.00	0.00	0.00	
12,000.00	89.95	89.61	6,745.81	-2,184.99	5,101.95	5,097.37	0.00	0.00	0.00	
12,100.00	89.95	89.61	6,745.90	-2,184.31	5,201.95	5,197.37	0.00	0.00	0.00	
12,200.00	89.95	89.61	6,745.99	-2,183.64	5,301.95	5,297.37	0.00	0.00	0.00	
12,300.00	89.95	89.61	6,746.07	-2,182.96	5,401.95	5,397.36	0.00	0.00	0.00	
12,400.00	89.95	89.61	6,746.16	-2,182.29	5,501.95	5,497.36	0.00	0.00	0.00	
12,500.00	89.95	89.61	6,746.25	-2,181.61	5,601.94	5,597.36	0.00	0.00	0.00	
12,600.00	89.95	89.61	6,746.34	-2,180.94	5,701.94	5,697.36	0.00	0.00	0.00	
12,700.00	89.95	89.61	6,746.42	-2,180.26	5,801.94	5,797.36	0.00	0.00	0.00	
12,800.00	89.95	89.61	6,746.51	-2,179.59	5,901.94	5,897.36	0.00	0.00	0.00	
12,900.00	89.95	89.61	6,746.60	-2,178.91	6,001.93	5,997.36	0.00	0.00	0.00	
13,000.00	89.95	89.61	6,746.69	-2,178.24	6,101.93	6,097.36	0.00	0.00	0.00	

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well JODSTER SOUTH 25-8HZ
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 SOUTH 24-25HZ PAD	North Reference:	True
Well:	JODSTER SOUTH 25-8HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Planned Survey

Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Rate
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
13,100.00	89.95	89.61	6,746.77	-2,177.56	6,201.93	6,197.36	0.00	0.00	0.00
13,200.00	89.95	89.61	6,746.86	-2,176.89	6,301.93	6,297.35	0.00	0.00	0.00
13,300.00	89.95	89.61	6,746.95	-2,176.21	6,401.92	6,397.35	0.00	0.00	0.00
13,400.00	89.95	89.61	6,747.04	-2,175.54	6,501.92	6,497.35	0.00	0.00	0.00
13,500.00	89.95	89.61	6,747.12	-2,174.86	6,601.92	6,597.35	0.00	0.00	0.00
13,600.00	89.95	89.61	6,747.21	-2,174.19	6,701.92	6,697.35	0.00	0.00	0.00
13,700.00	89.95	89.61	6,747.30	-2,173.51	6,801.92	6,797.35	0.00	0.00	0.00
13,800.00	89.95	89.61	6,747.39	-2,172.84	6,901.91	6,897.35	0.00	0.00	0.00
13,900.00	89.95	89.61	6,747.48	-2,172.16	7,001.91	6,997.35	0.00	0.00	0.00
14,000.00	89.95	89.61	6,747.56	-2,171.49	7,101.91	7,097.35	0.00	0.00	0.00
14,100.00	89.95	89.61	6,747.65	-2,170.81	7,201.91	7,197.34	0.00	0.00	0.00
14,200.00	89.95	89.61	6,747.74	-2,170.14	7,301.90	7,297.34	0.00	0.00	0.00
14,300.00	89.95	89.61	6,747.83	-2,169.46	7,401.90	7,397.34	0.00	0.00	0.00
14,400.00	89.95	89.61	6,747.91	-2,168.79	7,501.90	7,497.34	0.00	0.00	0.00
14,500.00	89.95	89.61	6,748.00	-2,168.11	7,601.90	7,597.34	0.00	0.00	0.00
14,600.00	89.95	89.61	6,748.09	-2,167.43	7,701.89	7,697.34	0.00	0.00	0.00
14,700.00	89.95	89.61	6,748.18	-2,166.76	7,801.89	7,797.34	0.00	0.00	0.00
14,800.00	89.95	89.61	6,748.26	-2,166.08	7,901.89	7,897.34	0.00	0.00	0.00
14,900.00	89.95	89.61	6,748.35	-2,165.41	8,001.89	7,997.34	0.00	0.00	0.00
15,000.00	89.95	89.61	6,748.44	-2,164.73	8,101.89	8,097.33	0.00	0.00	0.00
15,100.00	89.95	89.61	6,748.53	-2,164.06	8,201.88	8,197.33	0.00	0.00	0.00
15,200.00	89.95	89.61	6,748.61	-2,163.38	8,301.88	8,297.33	0.00	0.00	0.00
15,300.00	89.95	89.61	6,748.70	-2,162.71	8,401.88	8,397.33	0.00	0.00	0.00
15,400.00	89.95	89.61	6,748.79	-2,162.03	8,501.88	8,497.33	0.00	0.00	0.00
15,500.00	89.95	89.61	6,748.88	-2,161.36	8,601.87	8,597.33	0.00	0.00	0.00
15,600.00	89.95	89.61	6,748.97	-2,160.68	8,701.87	8,697.33	0.00	0.00	0.00
15,700.00	89.95	89.61	6,749.05	-2,160.01	8,801.87	8,797.33	0.00	0.00	0.00
15,800.00	89.95	89.61	6,749.14	-2,159.33	8,901.87	8,897.32	0.00	0.00	0.00
15,900.00	89.95	89.61	6,749.23	-2,158.66	9,001.86	8,997.32	0.00	0.00	0.00
16,000.00	89.95	89.61	6,749.32	-2,157.98	9,101.86	9,097.32	0.00	0.00	0.00
16,100.00	89.95	89.61	6,749.40	-2,157.31	9,201.86	9,197.32	0.00	0.00	0.00
16,200.00	89.95	89.61	6,749.49	-2,156.63	9,301.86	9,297.32	0.00	0.00	0.00
16,300.00	89.95	89.61	6,749.58	-2,155.96	9,401.86	9,397.32	0.00	0.00	0.00
16,400.00	89.95	89.61	6,749.67	-2,155.28	9,501.85	9,497.32	0.00	0.00	0.00
16,500.00	89.95	89.61	6,749.75	-2,154.61	9,601.85	9,597.32	0.00	0.00	0.00
16,600.00	89.95	89.61	6,749.84	-2,153.93	9,701.85	9,697.32	0.00	0.00	0.00
16,700.00	89.95	89.61	6,749.93	-2,153.26	9,801.85	9,797.31	0.00	0.00	0.00
16,800.00	89.95	89.61	6,750.02	-2,152.58	9,901.84	9,897.31	0.00	0.00	0.00
16,900.00	89.95	89.61	6,750.10	-2,151.91	10,001.84	9,997.31	0.00	0.00	0.00
17,000.00	89.95	89.61	6,750.19	-2,151.23	10,101.84	10,097.31	0.00	0.00	0.00
17,100.00	89.95	89.61	6,750.28	-2,150.56	10,201.84	10,197.31	0.00	0.00	0.00
17,200.00	89.95	89.61	6,750.37	-2,149.88	10,301.83	10,297.31	0.00	0.00	0.00
17,300.00	89.95	89.61	6,750.46	-2,149.21	10,401.83	10,397.31	0.00	0.00	0.00
17,400.00	89.95	89.61	6,750.54	-2,148.53	10,501.83	10,497.31	0.00	0.00	0.00
17,500.00	89.95	89.61	6,750.63	-2,147.86	10,601.83	10,597.31	0.00	0.00	0.00
17,600.00	89.95	89.61	6,750.72	-2,147.18	10,701.83	10,697.30	0.00	0.00	0.00
17,700.00	89.95	89.61	6,750.81	-2,146.51	10,801.82	10,797.30	0.00	0.00	0.00
17,800.00	89.95	89.61	6,750.89	-2,145.83	10,901.82	10,897.30	0.00	0.00	0.00
17,900.00	89.95	89.61	6,750.98	-2,145.16	11,001.82	10,997.30	0.00	0.00	0.00
17,921.34	89.95	89.61	6,751.00	-2,145.01	11,023.16	11,018.64	0.00	0.00	0.00

TD Well @ 17921.34ft

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well JODSTER SOUTH 25-8HZ
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 SOUTH 24-25HZ PAD	North Reference:	True
Well:	JODSTER SOUTH 25-8HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,521.76	1,500.00	9 5/8"	9-5/8	13-1/2	
7,647.53	6,742.00	Top of Production	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,354.10	1,340.00	Fox Hills				
3,609.71	3,342.00	Parkman				
4,181.00	3,837.00	Sussex				
7,340.67	6,677.00	Sharon Springs				
7,470.18	6,720.00	Niobrara				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
280.00	280.00	0.00	0.00	Begin Nudge @ 280.00ft	
2,276.67	2,186.97	-510.02	8.01	Hold Tangent @ 2276.67ft	
4,825.67	4,395.58	-1,782.43	28.00	Begin Drop @ 4825.67ft	
6,323.17	5,825.81	-2,164.95	34.01	End Drop @ 6323.17ft	
6,523.16	6,025.80	-2,164.95	34.01	KOP @ 6523.16ft :: DLS = 8°/100'	
7,647.53	6,742.00	-2,169.14	749.57	End Build @ 7647.53ft	
11,212.62	6,745.12	-2,190.00	4,314.59	Begin Turn to BHL @ 11212.62ft	
11,260.76	6,745.16	-2,189.98	4,362.73	End Turn @ 11260.76ft	
17,921.34	6,751.00	-2,145.01	11,023.16	TD Well @ 17921.34ft	