

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
3N-67W-20 SALAZAR PAD
SALAZAR 20-5HZ**

Plan A

Plan: Permit Rev-1

Standard Planning Report

15 February, 2023

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SALAZAR 20-5HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4919.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4919.00usft (RIG)
Site:	3N-67W-20 SALAZAR PAD	North Reference:	True
Well:	SALAZAR 20-5HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

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-67W-20 SALAZAR PAD			
Site Position:		Northing:	14,604,493.87 usft
From:	Map	Easting:	1,662,351.59 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	40.213515
		Longitude:	-104.921430

Well SALAZAR 20-5HZ			
Well Position	+N/-S	0.00 usft	Northing: 14,604,433.89 usft
	+E/-W	0.00 usft	Easting: 1,662,351.25 usft
Position Uncertainty		3.28 usft	Wellhead Elevation: usft
Grid Convergence:		0.05 °	Ground Level: 4,902.00 usft
			Latitude: 40.213350
			Longitude: -104.921432

Wellbore Plan A					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF202013	2/9/2023	7.74	66.41	51,664.75428325

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	87.07

Plan Survey Tool Program		Date 2/10/2023		
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+I	Fixed:v2:crustal field declinatio
2	1,500.00	20,617.40 Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+I	Fixed:v2:Rockies, crustal dec +

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Wellbore:	Plan A		
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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	
375.00	0.00	0.00	375.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,548.33	32.60	270.15	2,432.95	1.58	-601.79	1.50	1.50	0.00	270.15	
6,921.30	32.60	270.15	6,116.97	7.74	-2,957.80	0.00	0.00	0.00	0.00	
8,455.72	90.15	89.69	7,219.00	16.65	-2,352.54	8.00	3.75	11.70	179.46	
17,063.22	90.15	89.69	7,195.80	62.89	6,254.81	0.00	0.00	0.00	0.00	SALAZAR 20-5HZ IN
17,724.96	90.25	79.77	7,193.48	123.60	6,912.92	1.50	0.01	-1.50	-89.45	
20,617.40	90.25	79.77	7,181.00	637.47	9,759.32	0.00	0.00	0.00	0.00	SALAZAR 20-5HZ B+

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Site:	3N-67W-20 SALAZAR PAD	North Reference:	True
Well:	SALAZAR 20-5HZ	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	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
221.00	0.00	0.00	221.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills										
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
375.00	0.00	0.00	375.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 375.00ft										
400.00	0.38	270.15	400.00	0.00	-0.08	-0.08	1.50	1.50	0.00	0.00
500.00	1.88	270.15	499.98	0.01	-2.05	-2.04	1.50	1.50	0.00	0.00
600.00	3.38	270.15	599.87	0.02	-6.62	-6.62	1.50	1.50	0.00	0.00
700.00	4.88	270.15	699.61	0.04	-13.82	-13.80	1.50	1.50	0.00	0.00
800.00	6.38	270.15	799.12	0.06	-23.62	-23.59	1.50	1.50	0.00	0.00
900.00	7.88	270.15	898.35	0.09	-36.02	-35.97	1.50	1.50	0.00	0.00
1,000.00	9.38	270.15	997.21	0.13	-51.02	-50.95	1.50	1.50	0.00	0.00
1,100.00	10.88	270.15	1,095.65	0.18	-68.60	-68.50	1.50	1.50	0.00	0.00
1,200.00	12.38	270.15	1,193.60	0.23	-88.75	-88.62	1.50	1.50	0.00	0.00
1,300.00	13.88	270.15	1,290.99	0.29	-111.45	-111.29	1.50	1.50	0.00	0.00
1,400.00	15.38	270.15	1,387.74	0.36	-136.70	-136.51	1.50	1.50	0.00	0.00
1,500.00	16.88	270.15	1,483.81	0.43	-164.48	-164.24	1.50	1.50	0.00	0.00
1,516.93	17.13	270.15	1,500.00	0.44	-169.43	-169.18	1.50	1.50	0.00	0.00
9 5/8"										
1,600.00	18.38	270.15	1,579.11	0.51	-194.75	-194.47	1.50	1.50	0.00	0.00
1,700.00	19.88	270.15	1,673.59	0.60	-227.51	-227.19	1.50	1.50	0.00	0.00
1,800.00	21.38	270.15	1,767.17	0.69	-262.74	-262.36	1.50	1.50	0.00	0.00
1,900.00	22.88	270.15	1,859.81	0.79	-300.40	-299.97	1.50	1.50	0.00	0.00
2,000.00	24.38	270.15	1,951.42	0.89	-340.47	-339.98	1.50	1.50	0.00	0.00
2,100.00	25.88	270.15	2,041.96	1.00	-382.93	-382.38	1.50	1.50	0.00	0.00
2,200.00	27.38	270.15	2,131.35	1.12	-427.75	-427.13	1.50	1.50	0.00	0.00
2,300.00	28.88	270.15	2,219.54	1.24	-474.88	-474.20	1.50	1.50	0.00	0.00
2,400.00	30.38	270.15	2,306.47	1.37	-524.31	-523.56	1.50	1.50	0.00	0.00
2,500.00	31.88	270.15	2,392.07	1.51	-576.00	-575.17	1.50	1.50	0.00	0.00
2,548.33	32.60	270.15	2,432.95	1.58	-601.79	-600.92	1.50	1.50	0.00	0.00
Hold Tangent @ 2548.33ft										
2,600.00	32.60	270.15	2,476.48	1.65	-629.62	-628.71	0.00	0.00	0.00	0.00
2,700.00	32.60	270.15	2,560.72	1.79	-683.50	-682.51	0.00	0.00	0.00	0.00
2,800.00	32.60	270.15	2,644.97	1.93	-737.38	-736.31	0.00	0.00	0.00	0.00
2,900.00	32.60	270.15	2,729.22	2.07	-791.25	-790.11	0.00	0.00	0.00	0.00
3,000.00	32.60	270.15	2,813.46	2.21	-845.13	-843.91	0.00	0.00	0.00	0.00
3,100.00	32.60	270.15	2,897.71	2.35	-899.01	-897.71	0.00	0.00	0.00	0.00
3,200.00	32.60	270.15	2,981.95	2.49	-952.88	-951.51	0.00	0.00	0.00	0.00
3,300.00	32.60	270.15	3,066.20	2.64	-1,006.76	-1,005.31	0.00	0.00	0.00	0.00
3,400.00	32.60	270.15	3,150.44	2.78	-1,060.64	-1,059.11	0.00	0.00	0.00	0.00
3,500.00	32.60	270.15	3,234.69	2.92	-1,114.51	-1,112.91	0.00	0.00	0.00	0.00
3,600.00	32.60	270.15	3,318.93	3.06	-1,168.39	-1,166.71	0.00	0.00	0.00	0.00
3,700.00	32.60	270.15	3,403.18	3.20	-1,222.27	-1,220.51	0.00	0.00	0.00	0.00
3,800.00	32.60	270.15	3,487.42	3.34	-1,276.14	-1,274.31	0.00	0.00	0.00	0.00
3,900.00	32.60	270.15	3,571.67	3.48	-1,330.02	-1,328.10	0.00	0.00	0.00	0.00
4,000.00	32.60	270.15	3,655.91	3.62	-1,383.90	-1,381.90	0.00	0.00	0.00	0.00
4,021.47	32.60	270.15	3,674.00	3.65	-1,395.47	-1,393.45	0.00	0.00	0.00	0.00
Parkman										
4,100.00	32.60	270.15	3,740.16	3.76	-1,437.78	-1,435.70	0.00	0.00	0.00	0.00
4,200.00	32.60	270.15	3,824.40	3.91	-1,491.65	-1,489.50	0.00	0.00	0.00	0.00
4,300.00	32.60	270.15	3,908.65	4.05	-1,545.53	-1,543.30	0.00	0.00	0.00	0.00

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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)
4,400.00	32.60	270.15	3,992.89	4.19	-1,599.41	-1,597.10	0.00	0.00	0.00
4,500.00	32.60	270.15	4,077.14	4.33	-1,653.28	-1,650.90	0.00	0.00	0.00
4,548.50	32.60	270.15	4,118.00	4.40	-1,679.41	-1,676.99	0.00	0.00	0.00
Sussex									
4,600.00	32.60	270.15	4,161.38	4.47	-1,707.16	-1,704.70	0.00	0.00	0.00
4,700.00	32.60	270.15	4,245.63	4.61	-1,761.04	-1,758.50	0.00	0.00	0.00
4,800.00	32.60	270.15	4,329.87	4.75	-1,814.91	-1,812.30	0.00	0.00	0.00
4,900.00	32.60	270.15	4,414.12	4.89	-1,868.79	-1,866.10	0.00	0.00	0.00
5,000.00	32.60	270.15	4,498.37	5.03	-1,922.67	-1,919.90	0.00	0.00	0.00
5,100.00	32.60	270.15	4,582.61	5.17	-1,976.54	-1,973.70	0.00	0.00	0.00
5,200.00	32.60	270.15	4,666.86	5.32	-2,030.42	-2,027.50	0.00	0.00	0.00
5,300.00	32.60	270.15	4,751.10	5.46	-2,084.30	-2,081.29	0.00	0.00	0.00
5,400.00	32.60	270.15	4,835.35	5.60	-2,138.17	-2,135.09	0.00	0.00	0.00
5,500.00	32.60	270.15	4,919.59	5.74	-2,192.05	-2,188.89	0.00	0.00	0.00
5,600.00	32.60	270.15	5,003.84	5.88	-2,245.93	-2,242.69	0.00	0.00	0.00
5,700.00	32.60	270.15	5,088.08	6.02	-2,299.81	-2,296.49	0.00	0.00	0.00
5,800.00	32.60	270.15	5,172.33	6.16	-2,353.68	-2,350.29	0.00	0.00	0.00
5,900.00	32.60	270.15	5,256.57	6.30	-2,407.56	-2,404.09	0.00	0.00	0.00
6,000.00	32.60	270.15	5,340.82	6.44	-2,461.44	-2,457.89	0.00	0.00	0.00
6,100.00	32.60	270.15	5,425.06	6.59	-2,515.31	-2,511.69	0.00	0.00	0.00
6,200.00	32.60	270.15	5,509.31	6.73	-2,569.19	-2,565.49	0.00	0.00	0.00
6,300.00	32.60	270.15	5,593.55	6.87	-2,623.07	-2,619.29	0.00	0.00	0.00
6,400.00	32.60	270.15	5,677.80	7.01	-2,676.94	-2,673.09	0.00	0.00	0.00
6,500.00	32.60	270.15	5,762.04	7.15	-2,730.82	-2,726.89	0.00	0.00	0.00
6,600.00	32.60	270.15	5,846.29	7.29	-2,784.70	-2,780.68	0.00	0.00	0.00
6,700.00	32.60	270.15	5,930.53	7.43	-2,838.57	-2,834.48	0.00	0.00	0.00
6,800.00	32.60	270.15	6,014.78	7.57	-2,892.45	-2,888.28	0.00	0.00	0.00
6,900.00	32.60	270.15	6,099.02	7.71	-2,946.33	-2,942.08	0.00	0.00	0.00
6,921.30	32.60	270.15	6,116.97	7.74	-2,957.80	-2,953.54	0.00	0.00	0.00
KOP @ 6921.30ft :: DLS = 8°/100'									
6,950.00	30.30	270.19	6,141.45	7.79	-2,972.78	-2,968.49	8.00	-8.00	0.15
7,000.00	26.30	270.28	6,185.46	7.89	-2,996.48	-2,992.16	8.00	-8.00	0.18
7,050.00	22.30	270.41	6,231.02	8.01	-3,017.06	-3,012.70	8.00	-8.00	0.24
7,100.00	18.31	270.58	6,277.91	8.15	-3,034.40	-3,030.02	8.00	-8.00	0.34
7,150.00	14.31	270.84	6,325.89	8.32	-3,048.44	-3,044.03	8.00	-8.00	0.53
7,200.00	10.31	271.30	6,374.73	8.52	-3,059.09	-3,054.65	8.00	-8.00	0.93
7,250.00	6.31	272.34	6,424.19	8.73	-3,066.31	-3,061.85	8.00	-7.99	2.08
7,300.00	2.32	276.95	6,474.04	8.97	-3,070.06	-3,065.59	8.00	-7.98	9.20
7,350.00	1.72	79.89	6,524.03	9.22	-3,070.33	-3,065.84	8.00	-1.20	325.89
7,400.00	5.70	86.75	6,573.91	9.49	-3,067.10	-3,062.61	8.00	7.96	13.73
7,450.00	9.70	87.98	6,623.45	9.78	-3,060.41	-3,055.91	8.00	7.99	2.44
7,500.00	13.70	88.49	6,672.40	10.09	-3,050.28	-3,045.77	8.00	8.00	1.03
7,550.00	17.70	88.77	6,720.53	10.41	-3,036.75	-3,032.25	8.00	8.00	0.57
7,600.00	21.70	88.95	6,767.59	10.74	-3,019.91	-3,015.41	8.00	8.00	0.36
7,650.00	25.70	89.08	6,813.37	11.08	-2,999.82	-2,995.33	8.00	8.00	0.26
7,700.00	29.70	89.18	6,857.63	11.43	-2,976.58	-2,972.11	8.00	8.00	0.19
7,750.00	33.70	89.25	6,900.16	11.79	-2,950.32	-2,945.86	8.00	8.00	0.15
7,770.44	35.33	89.28	6,917.00	11.94	-2,938.74	-2,934.29	8.00	8.00	0.13
Sharon Springs									
7,800.00	37.70	89.31	6,940.76	12.16	-2,921.15	-2,916.71	8.00	8.00	0.12
7,832.48	40.30	89.35	6,966.00	12.40	-2,900.71	-2,896.29	8.00	8.00	0.10
Niobrara									
7,850.00	41.70	89.36	6,979.22	12.53	-2,889.22	-2,884.81	8.00	8.00	0.10

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Wellbore:	Plan A		
Design:	Permit Rev-1		

Planned Survey										
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7,900.00	45.70	89.41	7,015.36	12.90	-2,854.69	-2,850.30	8.00	8.00	0.09	
7,913.94	46.81	89.42	7,025.00	13.00	-2,844.62	-2,840.24	8.00	8.00	0.08	
Nio B										
7,950.00	49.70	89.44	7,049.01	13.27	-2,817.72	-2,813.36	8.00	8.00	0.07	
8,000.00	53.70	89.48	7,079.99	13.64	-2,778.49	-2,774.16	8.00	8.00	0.07	
8,013.70	54.79	89.48	7,088.00	13.74	-2,767.37	-2,763.05	8.00	8.00	0.06	
Nio C										
8,050.00	57.70	89.51	7,108.17	14.01	-2,737.20	-2,732.90	8.00	8.00	0.06	
8,100.00	61.70	89.53	7,133.39	14.37	-2,694.04	-2,689.78	8.00	8.00	0.05	
8,150.00	65.70	89.56	7,155.54	14.72	-2,649.22	-2,645.01	8.00	8.00	0.05	
8,200.00	69.70	89.58	7,174.51	15.07	-2,602.98	-2,598.80	8.00	8.00	0.05	
8,250.00	73.70	89.61	7,190.21	15.40	-2,555.52	-2,551.39	8.00	8.00	0.05	
8,256.48	74.22	89.61	7,192.00	15.45	-2,549.29	-2,545.17	8.00	8.00	0.04	
Fort Hayes										
8,300.00	77.70	89.63	7,202.56	15.73	-2,507.08	-2,503.00	8.00	8.00	0.04	
8,350.00	81.70	89.65	7,211.50	16.04	-2,457.89	-2,453.86	8.00	8.00	0.04	
8,388.15	84.75	89.66	7,216.00	16.27	-2,420.02	-2,416.02	8.00	8.00	0.04	
Codell										
8,400.00	85.70	89.67	7,216.99	16.34	-2,408.21	-2,404.22	8.00	8.00	0.04	
8,450.00	89.70	89.69	7,219.00	16.61	-2,358.26	-2,354.33	8.00	8.00	0.04	
8,455.72	90.15	89.69	7,219.00	16.65	-2,352.54	-2,348.62	8.00	8.00	0.04	
End Build @ 8455.72ft										
8,500.00	90.15	89.69	7,218.88	16.88	-2,308.26	-2,304.38	0.00	0.00	0.00	
8,600.00	90.15	89.69	7,218.61	17.42	-2,208.26	-2,204.48	0.00	0.00	0.00	
8,700.00	90.15	89.69	7,218.34	17.96	-2,108.26	-2,104.59	0.00	0.00	0.00	
8,800.00	90.15	89.69	7,218.08	18.50	-2,008.26	-2,004.69	0.00	0.00	0.00	
8,900.00	90.15	89.69	7,217.81	19.03	-1,908.27	-1,904.80	0.00	0.00	0.00	
9,000.00	90.15	89.69	7,217.54	19.57	-1,808.27	-1,804.90	0.00	0.00	0.00	
9,100.00	90.15	89.69	7,217.27	20.11	-1,708.27	-1,705.01	0.00	0.00	0.00	
9,200.00	90.15	89.69	7,217.00	20.64	-1,608.27	-1,605.11	0.00	0.00	0.00	
9,300.00	90.15	89.69	7,216.73	21.18	-1,508.27	-1,505.22	0.00	0.00	0.00	
9,400.00	90.15	89.69	7,216.46	21.72	-1,408.28	-1,405.32	0.00	0.00	0.00	
9,500.00	90.15	89.69	7,216.19	22.26	-1,308.28	-1,305.43	0.00	0.00	0.00	
9,600.00	90.15	89.69	7,215.92	22.79	-1,208.28	-1,205.53	0.00	0.00	0.00	
9,700.00	90.15	89.69	7,215.65	23.33	-1,108.28	-1,105.64	0.00	0.00	0.00	
9,800.00	90.15	89.69	7,215.38	23.87	-1,008.28	-1,005.74	0.00	0.00	0.00	
9,900.00	90.15	89.69	7,215.11	24.41	-908.28	-905.85	0.00	0.00	0.00	
10,000.00	90.15	89.69	7,214.84	24.94	-808.29	-805.95	0.00	0.00	0.00	
10,100.00	90.15	89.69	7,214.57	25.48	-708.29	-706.06	0.00	0.00	0.00	
10,200.00	90.15	89.69	7,214.30	26.02	-608.29	-606.17	0.00	0.00	0.00	
10,300.00	90.15	89.69	7,214.03	26.55	-508.29	-506.27	0.00	0.00	0.00	
10,400.00	90.15	89.69	7,213.76	27.09	-408.29	-406.38	0.00	0.00	0.00	
10,500.00	90.15	89.69	7,213.49	27.63	-308.30	-306.48	0.00	0.00	0.00	
10,600.00	90.15	89.69	7,213.22	28.17	-208.30	-206.59	0.00	0.00	0.00	
10,700.00	90.15	89.69	7,212.95	28.70	-108.30	-106.69	0.00	0.00	0.00	
10,800.00	90.15	89.69	7,212.68	29.24	-8.30	-6.80	0.00	0.00	0.00	
10,900.00	90.15	89.69	7,212.41	29.78	91.70	93.10	0.00	0.00	0.00	
11,000.00	90.15	89.69	7,212.14	30.32	191.70	192.99	0.00	0.00	0.00	
11,100.00	90.15	89.69	7,211.88	30.85	291.69	292.89	0.00	0.00	0.00	
11,200.00	90.15	89.69	7,211.61	31.39	391.69	392.78	0.00	0.00	0.00	
11,300.00	90.15	89.69	7,211.34	31.93	491.69	492.68	0.00	0.00	0.00	
11,400.00	90.15	89.69	7,211.07	32.46	591.69	592.57	0.00	0.00	0.00	
11,500.00	90.15	89.69	7,210.80	33.00	691.69	692.47	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SALAZAR 20-5HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4919.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4919.00usft (RIG)
Site:	3N-67W-20 SALAZAR PAD	North Reference:	True
Well:	SALAZAR 20-5HZ	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)
11,600.00	90.15	89.69	7,210.53	33.54	791.68	792.36	0.00	0.00	0.00
11,700.00	90.15	89.69	7,210.26	34.08	891.68	892.26	0.00	0.00	0.00
11,800.00	90.15	89.69	7,209.99	34.61	991.68	992.15	0.00	0.00	0.00
11,900.00	90.15	89.69	7,209.72	35.15	1,091.68	1,092.05	0.00	0.00	0.00
12,000.00	90.15	89.69	7,209.45	35.69	1,191.68	1,191.94	0.00	0.00	0.00
12,100.00	90.15	89.69	7,209.18	36.23	1,291.68	1,291.84	0.00	0.00	0.00
12,200.00	90.15	89.69	7,208.91	36.76	1,391.67	1,391.73	0.00	0.00	0.00
12,300.00	90.15	89.69	7,208.64	37.30	1,491.67	1,491.63	0.00	0.00	0.00
12,400.00	90.15	89.69	7,208.37	37.84	1,591.67	1,591.52	0.00	0.00	0.00
12,500.00	90.15	89.69	7,208.10	38.37	1,691.67	1,691.42	0.00	0.00	0.00
12,600.00	90.15	89.69	7,207.83	38.91	1,791.67	1,791.31	0.00	0.00	0.00
12,700.00	90.15	89.69	7,207.56	39.45	1,891.66	1,891.21	0.00	0.00	0.00
12,800.00	90.15	89.69	7,207.29	39.99	1,991.66	1,991.10	0.00	0.00	0.00
12,900.00	90.15	89.69	7,207.02	40.52	2,091.66	2,091.00	0.00	0.00	0.00
13,000.00	90.15	89.69	7,206.75	41.06	2,191.66	2,190.89	0.00	0.00	0.00
13,100.00	90.15	89.69	7,206.48	41.60	2,291.66	2,290.79	0.00	0.00	0.00
13,200.00	90.15	89.69	7,206.21	42.14	2,391.66	2,390.68	0.00	0.00	0.00
13,300.00	90.15	89.69	7,205.94	42.67	2,491.65	2,490.58	0.00	0.00	0.00
13,400.00	90.15	89.69	7,205.68	43.21	2,591.65	2,590.47	0.00	0.00	0.00
13,500.00	90.15	89.69	7,205.41	43.75	2,691.65	2,690.37	0.00	0.00	0.00
13,600.00	90.15	89.69	7,205.14	44.28	2,791.65	2,790.26	0.00	0.00	0.00
13,700.00	90.15	89.69	7,204.87	44.82	2,891.65	2,890.16	0.00	0.00	0.00
13,800.00	90.15	89.69	7,204.60	45.36	2,991.64	2,990.05	0.00	0.00	0.00
13,900.00	90.15	89.69	7,204.33	45.90	3,091.64	3,089.95	0.00	0.00	0.00
14,000.00	90.15	89.69	7,204.06	46.43	3,191.64	3,189.84	0.00	0.00	0.00
14,100.00	90.15	89.69	7,203.79	46.97	3,291.64	3,289.74	0.00	0.00	0.00
14,200.00	90.15	89.69	7,203.52	47.51	3,391.64	3,389.63	0.00	0.00	0.00
14,300.00	90.15	89.69	7,203.25	48.05	3,491.64	3,489.53	0.00	0.00	0.00
14,400.00	90.15	89.69	7,202.98	48.58	3,591.63	3,589.42	0.00	0.00	0.00
14,500.00	90.15	89.69	7,202.71	49.12	3,691.63	3,689.32	0.00	0.00	0.00
14,600.00	90.15	89.69	7,202.44	49.66	3,791.63	3,789.21	0.00	0.00	0.00
14,700.00	90.15	89.69	7,202.17	50.19	3,891.63	3,889.11	0.00	0.00	0.00
14,800.00	90.15	89.69	7,201.90	50.73	3,991.63	3,989.00	0.00	0.00	0.00
14,900.00	90.15	89.69	7,201.63	51.27	4,091.63	4,088.90	0.00	0.00	0.00
15,000.00	90.15	89.69	7,201.36	51.81	4,191.62	4,188.79	0.00	0.00	0.00
15,100.00	90.15	89.69	7,201.09	52.34	4,291.62	4,288.69	0.00	0.00	0.00
15,200.00	90.15	89.69	7,200.82	52.88	4,391.62	4,388.58	0.00	0.00	0.00
15,300.00	90.15	89.69	7,200.55	53.42	4,491.62	4,488.48	0.00	0.00	0.00
15,400.00	90.15	89.69	7,200.28	53.96	4,591.62	4,588.37	0.00	0.00	0.00
15,500.00	90.15	89.69	7,200.01	54.49	4,691.61	4,688.27	0.00	0.00	0.00
15,600.00	90.15	89.69	7,199.74	55.03	4,791.61	4,788.16	0.00	0.00	0.00
15,700.00	90.15	89.69	7,199.47	55.57	4,891.61	4,888.06	0.00	0.00	0.00
15,800.00	90.15	89.69	7,199.21	56.10	4,991.61	4,987.95	0.00	0.00	0.00
15,900.00	90.15	89.69	7,198.94	56.64	5,091.61	5,087.85	0.00	0.00	0.00
16,000.00	90.15	89.69	7,198.67	57.18	5,191.61	5,187.74	0.00	0.00	0.00
16,100.00	90.15	89.69	7,198.40	57.72	5,291.60	5,287.64	0.00	0.00	0.00
16,200.00	90.15	89.69	7,198.13	58.25	5,391.60	5,387.53	0.00	0.00	0.00
16,300.00	90.15	89.69	7,197.86	58.79	5,491.60	5,487.43	0.00	0.00	0.00
16,400.00	90.15	89.69	7,197.59	59.33	5,591.60	5,587.32	0.00	0.00	0.00
16,500.00	90.15	89.69	7,197.32	59.87	5,691.60	5,687.22	0.00	0.00	0.00
16,600.00	90.15	89.69	7,197.05	60.40	5,791.59	5,787.11	0.00	0.00	0.00
16,700.00	90.15	89.69	7,196.78	60.94	5,891.59	5,887.01	0.00	0.00	0.00
16,800.00	90.15	89.69	7,196.51	61.48	5,991.59	5,986.90	0.00	0.00	0.00
16,900.00	90.15	89.69	7,196.24	62.02	6,091.59	6,086.80	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SALAZAR 20-5HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4919.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4919.00usft (RIG)
Site:	3N-67W-20 SALAZAR PAD	North Reference:	True
Well:	SALAZAR 20-5HZ	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)	
17,000.00	90.15	89.69	7,195.97	62.55	6,191.59	6,186.69	0.00	0.00	0.00	
17,063.22	90.15	89.69	7,195.80	62.89	6,254.81	6,249.85	0.00	0.00	0.00	
Begin Turn to BHL @ 17063.22ft										
17,100.00	90.16	89.14	7,195.70	63.27	6,291.58	6,286.59	1.50	0.01	-1.50	
17,200.00	90.17	87.64	7,195.41	66.08	6,391.54	6,386.56	1.50	0.01	-1.50	
17,300.00	90.19	86.14	7,195.09	71.50	6,491.39	6,486.56	1.50	0.01	-1.50	
17,400.00	90.20	84.64	7,194.75	79.54	6,591.06	6,586.51	1.50	0.01	-1.50	
17,500.00	90.22	83.14	7,194.39	90.18	6,690.49	6,686.36	1.50	0.01	-1.50	
17,600.00	90.23	81.64	7,194.00	103.42	6,789.61	6,786.02	1.50	0.01	-1.50	
17,700.00	90.24	80.14	7,193.58	119.25	6,888.34	6,885.43	1.50	0.01	-1.50	
17,724.96	90.25	79.77	7,193.48	123.60	6,912.92	6,910.20	1.50	0.01	-1.50	
End Turn @ 17724.96ft										
17,800.00	90.25	79.77	7,193.15	136.94	6,986.77	6,984.63	0.00	0.00	0.00	
17,900.00	90.25	79.77	7,192.72	154.70	7,085.17	7,083.82	0.00	0.00	0.00	
18,000.00	90.25	79.77	7,192.29	172.47	7,183.58	7,183.01	0.00	0.00	0.00	
18,100.00	90.25	79.77	7,191.86	190.23	7,281.99	7,282.20	0.00	0.00	0.00	
18,200.00	90.25	79.77	7,191.43	208.00	7,380.40	7,381.38	0.00	0.00	0.00	
18,300.00	90.25	79.77	7,191.00	225.76	7,478.81	7,480.57	0.00	0.00	0.00	
18,400.00	90.25	79.77	7,190.56	243.53	7,577.22	7,579.76	0.00	0.00	0.00	
18,500.00	90.25	79.77	7,190.13	261.30	7,675.62	7,678.95	0.00	0.00	0.00	
18,600.00	90.25	79.77	7,189.70	279.06	7,774.03	7,778.13	0.00	0.00	0.00	
18,700.00	90.25	79.77	7,189.27	296.83	7,872.44	7,877.32	0.00	0.00	0.00	
18,800.00	90.25	79.77	7,188.84	314.59	7,970.85	7,976.51	0.00	0.00	0.00	
18,900.00	90.25	79.77	7,188.41	332.36	8,069.26	8,075.70	0.00	0.00	0.00	
19,000.00	90.25	79.77	7,187.98	350.13	8,167.67	8,174.88	0.00	0.00	0.00	
19,100.00	90.25	79.77	7,187.54	367.89	8,266.07	8,274.07	0.00	0.00	0.00	
19,200.00	90.25	79.77	7,187.11	385.66	8,364.48	8,373.26	0.00	0.00	0.00	
19,300.00	90.25	79.77	7,186.68	403.42	8,462.89	8,472.45	0.00	0.00	0.00	
19,400.00	90.25	79.77	7,186.25	421.19	8,561.30	8,571.64	0.00	0.00	0.00	
19,500.00	90.25	79.77	7,185.82	438.95	8,659.71	8,670.82	0.00	0.00	0.00	
19,600.00	90.25	79.77	7,185.39	456.72	8,758.11	8,770.01	0.00	0.00	0.00	
19,700.00	90.25	79.77	7,184.96	474.49	8,856.52	8,869.20	0.00	0.00	0.00	
19,800.00	90.25	79.77	7,184.53	492.25	8,954.93	8,968.39	0.00	0.00	0.00	
19,900.00	90.25	79.77	7,184.09	510.02	9,053.34	9,067.57	0.00	0.00	0.00	
20,000.00	90.25	79.77	7,183.66	527.78	9,151.75	9,166.76	0.00	0.00	0.00	
20,100.00	90.25	79.77	7,183.23	545.55	9,250.16	9,265.95	0.00	0.00	0.00	
20,200.00	90.25	79.77	7,182.80	563.32	9,348.56	9,365.14	0.00	0.00	0.00	
20,300.00	90.25	79.77	7,182.37	581.08	9,446.97	9,464.33	0.00	0.00	0.00	
20,400.00	90.25	79.77	7,181.94	598.85	9,545.38	9,563.51	0.00	0.00	0.00	
20,500.00	90.25	79.77	7,181.51	616.61	9,643.79	9,662.70	0.00	0.00	0.00	
20,600.00	90.25	79.77	7,181.08	634.38	9,742.20	9,761.89	0.00	0.00	0.00	
20,617.40	90.25	79.77	7,181.00	637.47	9,759.32	9,779.15	0.00	0.00	0.00	
TD Well @ 20617.40ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,516.93	1,500.00	9 5/8"	9-5/8	13-1/2	
20,617.40	7,181.00	5.5" CSG	5-1/2	7-7/8	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SALAZAR 20-5HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4919.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4919.00usft (RIG)
Site:	3N-67W-20 SALAZAR PAD	North Reference:	True
Well:	SALAZAR 20-5HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Formations						
	Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
	221.00	221.00	Fox Hills			
	4,021.47	3,674.00	Parkman			
	4,548.50	4,118.00	Sussex			
	7,770.44	6,917.00	Sharon Springs			
	7,832.48	6,966.00	Niobrara			
	7,913.94	7,025.00	Nio B			
	8,013.70	7,088.00	Nio C			
	8,256.48	7,192.00	Fort Hayes			
	8,388.15	7,216.00	Codell			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			Comment
		+N/-S (usft)	+E/-W (usft)		
375.00	375.00	0.00	0.00		Begin Nudge @ 375.00ft
2,548.33	2,432.95	1.58	-601.79		Hold Tangent @ 2548.33ft
6,921.30	6,116.97	7.74	-2,957.80		KOP @ 6921.30ft :: DLS = 8°/100'
8,455.72	7,219.00	16.65	-2,352.54		End Build @ 8455.72ft
17,063.22	7,195.80	62.89	6,254.81		Begin Turn to BHL @ 17063.22ft
17,724.96	7,193.48	123.60	6,912.92		End Turn @ 17724.96ft
20,617.40	7,181.00	637.47	9,759.32		TD Well @ 20617.40ft