

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

3N-67W-05 Schlagel 10-5HZ Pad

SCHLAGEL 5-5HZ

PLAN A

Plan: PERMIT REV 0

Standard Planning Report

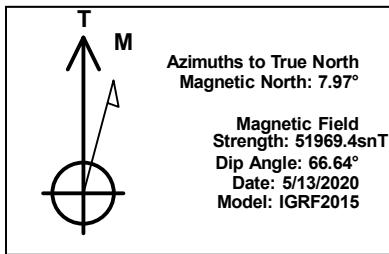
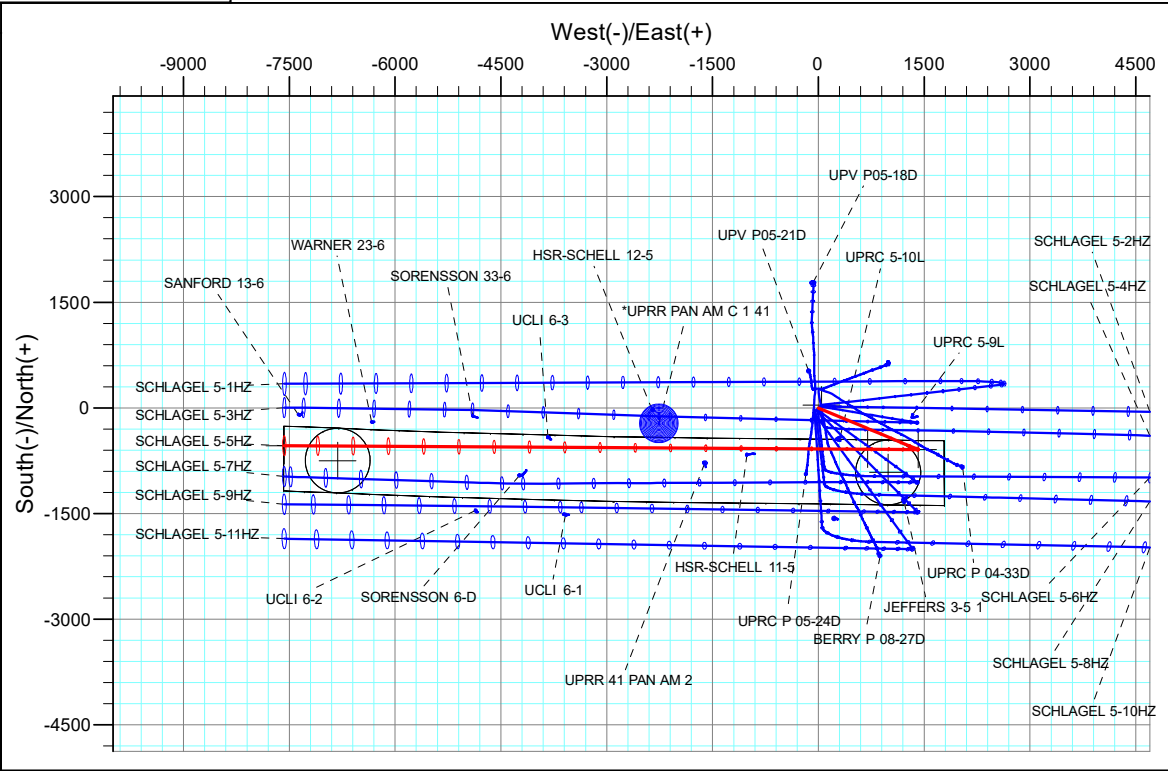
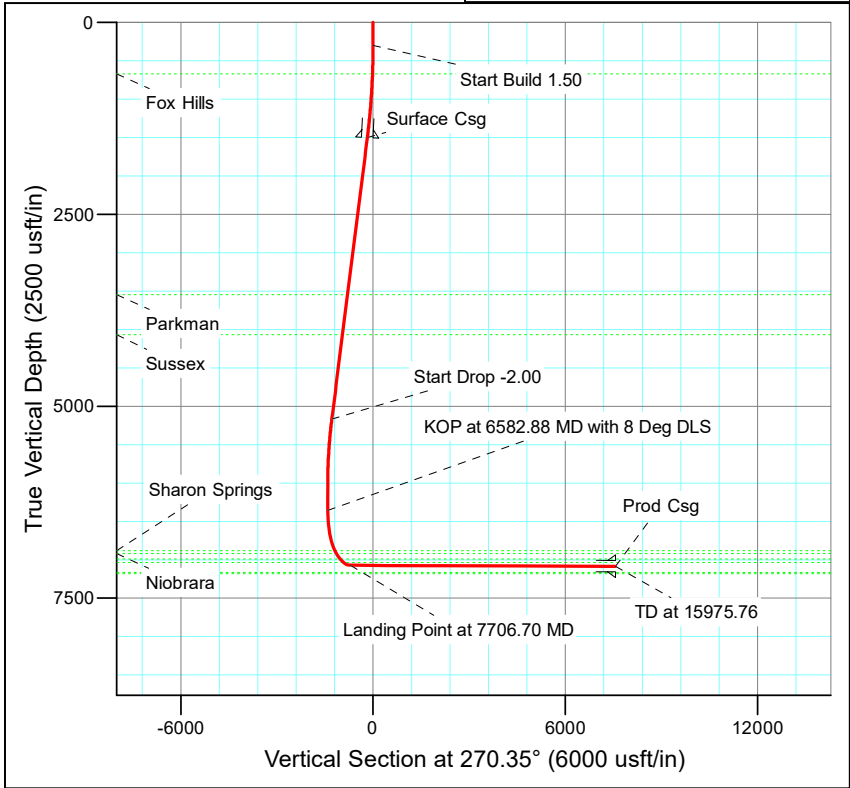
22 May, 2020

US ROCKIES WATTENBERG PLANNING

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	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	1505.29	18.08	112.71	1485.39	-72.82	173.96	1.50	112.71	-174.41	
4	5378.91	18.08	112.71	5167.76	-536.96	1282.86	0.00	0.00	-1286.11	
5	6282.88	0.00	0.00	6056.80	-591.58	1413.33	2.00	180.00	-1416.92	
6	6582.88	0.00	0.00	6356.80	-591.58	1413.33	0.00	0.00	-1416.92	SCHLAGEL 5-5HZ KOP
7	7706.70	89.91	270.35	7072.98	-587.18	698.32	8.00	270.35	-701.89	Schlagel 5-5HZ Heel
8	15975.76	89.91	270.35	7086.52	-536.34	-7570.58	0.00	0.00	7567.16	Schlagel 5-5HZ Toe

SURFACE HOLE LOCATION: SCHLAGEL 5-5HZ						
+N/-S 0.00	+E/-W 0.00	Northing 14619171.78	Easting 1664715.05	Latitude 40.253815	Longitude -104.912913	
DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	
SCHLAGEL 5-5HZ KOP	6356.80	-591.58	1413.33	40.252191	-104.907847	
Schlagel 5-5HZ Heel	7072.98	-587.18	698.32	40.252203	-104.910410	
Schlagel 5-5HZ Toe	7086.52	-536.34	-7570.58	40.252339	-104.940046	

			FORMATION TOP DETAILS		
SHL	Heel	Toe	TVDPath	MDPath	Formation
2238' FSL	1659' FSL	1505' FSL	672.00	672.59	Fox Hills
2242' FEL	1546' FEL	470' FWL	3548.00	3675.03	Parkman
			4070.00	4224.14	Sussex
			6883.00	7173.92	Sharon Springs
			6920.00	7230.99	Niobrara
			6988.00	7355.42	Nio B
			7035.00	7473.57	Nio C



CASING DETAILS			
TVD	MD	Name	Size
1500.00	1520.66	Surface Csg	9-5/8
7086.34	15975.76	Prod Csg	5-1/2
ELEVATION			
GROUND ELEVATION:		4870.00	
RKB = 17' @		4887ft	

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well SCHLAGEL 5-5HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4887.00usft
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4887.00usft
Site:	3N-67W-05 Schlagel 10-5HZ Pad	North Reference:	True
Well:	SCHLAGEL 5-5HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	PLAN A		
Design:	PERMIT REV 0		

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-05 Schlagel 10-5HZ Pad			
Site Position:		Northing:	14,619,213.65 usft	Latitude:	40.253930
From:	Lat/Long	Easting:	1,664,758.13 usft	Longitude:	-104.912758
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.06 °

Well		SCHLAGEL 5-5HZ				
Well Position	+N/-S	-41.83 usft	Northing:	14,619,171.78 usft	Latitude:	40.253815
	+E/-W	-43.12 usft	Easting:	1,664,715.05 usft	Longitude:	-104.912913
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	4,870.00 usft

Wellbore	PLAN A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/13/2020	7.97	66.64	51,969.44352935

Design	PERMIT REV 0				
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	270.35	

Plan Survey Tool Program	Date	5/21/2020			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	300.00	PERMIT REV 0 (PLAN A)	APC_ISCWSA REV 2 MWD Fixed:v2:standard declination	
2	2,000.00	15,975.76	PERMIT REV 0 (PLAN A)	APC_ISCWSA REV 2 MWD+II Fixed:v2:Rockies, crustal dec +	

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Site:	3N-67W-05 Schlagel 10-5HZ Pad	North Reference:	True
Well:	SCHLAGEL 5-5HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	PLAN A		
Design:	PERMIT REV 0		

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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,505.29	18.08	112.71	1,485.39	-72.82	173.96	1.50	1.50	0.00	112.71	
5,378.91	18.08	112.71	5,167.76	-536.96	1,282.86	0.00	0.00	0.00	0.00	
6,282.88	0.00	0.00	6,056.80	-591.58	1,413.33	2.00	-2.00	0.00	180.00	
6,582.88	0.00	0.00	6,356.80	-591.58	1,413.33	0.00	0.00	0.00	0.00	SCHLAGEL 5-5HZ KC
7,706.70	89.91	270.35	7,072.98	-587.18	698.32	8.00	8.00	-7.98	270.35	Schlagel 5-5HZ Heel
15,975.76	89.91	270.35	7,086.52	-536.34	-7,570.58	0.00	0.00	0.00	0.00	Schlagel 5-5HZ Toe

Corporate
Planning Report

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4887.00usft
Site:	3N-67W-05 Schlagel 10-5HZ Pad	North Reference:	True
Well:	SCHLAGEL 5-5HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	PLAN A		
Design:	PERMIT REV 0		

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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.50									
400.00	1.50	112.71	399.99	-0.51	1.21	-1.21	1.50	1.50	0.00
500.00	3.00	112.71	499.91	-2.02	4.83	-4.84	1.50	1.50	0.00
600.00	4.50	112.71	599.69	-4.55	10.86	-10.89	1.50	1.50	0.00
672.59	5.59	112.71	672.00	-7.01	16.75	-16.79	1.50	1.50	0.00
Fox Hills									
700.00	6.00	112.71	699.27	-8.08	19.30	-19.35	1.50	1.50	0.00
800.00	7.50	112.71	798.57	-12.62	30.14	-30.22	1.50	1.50	0.00
900.00	9.00	112.71	897.54	-18.16	43.38	-43.49	1.50	1.50	0.00
1,000.00	10.50	112.71	996.09	-24.70	59.00	-59.15	1.50	1.50	0.00
1,100.00	12.00	112.71	1,094.16	-32.23	77.00	-77.19	1.50	1.50	0.00
1,200.00	13.50	112.71	1,191.70	-40.75	97.35	-97.60	1.50	1.50	0.00
1,300.00	15.00	112.71	1,288.62	-50.25	120.06	-120.37	1.50	1.50	0.00
1,400.00	16.50	112.71	1,384.86	-60.73	145.10	-145.47	1.50	1.50	0.00
1,505.29	18.08	112.71	1,485.39	-72.82	173.96	-174.41	1.50	1.50	0.00
1,520.66	18.08	112.71	1,500.00	-74.66	178.36	-178.82	0.00	0.00	0.00
Surface Csg									
1,600.00	18.08	112.71	1,575.42	-84.16	201.08	-201.59	0.00	0.00	0.00
1,700.00	18.08	112.71	1,670.48	-96.15	229.70	-230.29	0.00	0.00	0.00
1,800.00	18.08	112.71	1,765.55	-108.13	258.33	-258.99	0.00	0.00	0.00
1,900.00	18.08	112.71	1,860.61	-120.11	286.96	-287.69	0.00	0.00	0.00
2,000.00	18.08	112.71	1,955.67	-132.09	315.58	-316.38	0.00	0.00	0.00
2,100.00	18.08	112.71	2,050.74	-144.08	344.21	-345.08	0.00	0.00	0.00
2,200.00	18.08	112.71	2,145.80	-156.06	372.84	-373.78	0.00	0.00	0.00
2,300.00	18.08	112.71	2,240.86	-168.04	401.46	-402.48	0.00	0.00	0.00
2,400.00	18.08	112.71	2,335.92	-180.02	430.09	-431.18	0.00	0.00	0.00
2,500.00	18.08	112.71	2,430.99	-192.00	458.72	-459.88	0.00	0.00	0.00
2,600.00	18.08	112.71	2,526.05	-203.99	487.34	-488.58	0.00	0.00	0.00
2,700.00	18.08	112.71	2,621.11	-215.97	515.97	-517.28	0.00	0.00	0.00
2,800.00	18.08	112.71	2,716.18	-227.95	544.60	-545.98	0.00	0.00	0.00
2,900.00	18.08	112.71	2,811.24	-239.93	573.23	-574.68	0.00	0.00	0.00
3,000.00	18.08	112.71	2,906.30	-251.92	601.85	-603.38	0.00	0.00	0.00
3,100.00	18.08	112.71	3,001.36	-263.90	630.48	-632.08	0.00	0.00	0.00
3,200.00	18.08	112.71	3,096.43	-275.88	659.11	-660.78	0.00	0.00	0.00
3,300.00	18.08	112.71	3,191.49	-287.86	687.73	-689.48	0.00	0.00	0.00
3,400.00	18.08	112.71	3,286.55	-299.85	716.36	-718.18	0.00	0.00	0.00
3,500.00	18.08	112.71	3,381.61	-311.83	744.99	-746.88	0.00	0.00	0.00
3,600.00	18.08	112.71	3,476.68	-323.81	773.61	-775.58	0.00	0.00	0.00
3,675.03	18.08	112.71	3,548.00	-332.80	795.09	-797.11	0.00	0.00	0.00
Parkman									
3,700.00	18.08	112.71	3,571.74	-335.79	802.24	-804.28	0.00	0.00	0.00
3,800.00	18.08	112.71	3,666.80	-347.77	830.87	-832.98	0.00	0.00	0.00
3,900.00	18.08	112.71	3,761.87	-359.76	859.49	-861.67	0.00	0.00	0.00
4,000.00	18.08	112.71	3,856.93	-371.74	888.12	-890.37	0.00	0.00	0.00
4,100.00	18.08	112.71	3,951.99	-383.72	916.75	-919.07	0.00	0.00	0.00
4,200.00	18.08	112.71	4,047.05	-395.70	945.37	-947.77	0.00	0.00	0.00
4,224.14	18.08	112.71	4,070.00	-398.60	952.28	-954.70	0.00	0.00	0.00
Sussex									
4,300.00	18.08	112.71	4,142.12	-407.69	974.00	-976.47	0.00	0.00	0.00
4,400.00	18.08	112.71	4,237.18	-419.67	1,002.63	-1,005.17	0.00	0.00	0.00

Corporate
Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well SCHLAGEL 5-5HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4887.00usft
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4887.00usft
Site:	3N-67W-05 Schlagel 10-5HZ Pad	North Reference:	True
Well:	SCHLAGEL 5-5HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	PLAN A		
Design:	PERMIT REV 0		

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	18.08	112.71	4,332.24	-431.65	1,031.25	-1,033.87	0.00	0.00	0.00
4,600.00	18.08	112.71	4,427.31	-443.63	1,059.88	-1,062.57	0.00	0.00	0.00
4,700.00	18.08	112.71	4,522.37	-455.62	1,088.51	-1,091.27	0.00	0.00	0.00
4,800.00	18.08	112.71	4,617.43	-467.60	1,117.13	-1,119.97	0.00	0.00	0.00
4,900.00	18.08	112.71	4,712.49	-479.58	1,145.76	-1,148.67	0.00	0.00	0.00
5,000.00	18.08	112.71	4,807.56	-491.56	1,174.39	-1,177.37	0.00	0.00	0.00
5,100.00	18.08	112.71	4,902.62	-503.54	1,203.02	-1,206.07	0.00	0.00	0.00
5,200.00	18.08	112.71	4,997.68	-515.53	1,231.64	-1,234.77	0.00	0.00	0.00
5,300.00	18.08	112.71	5,092.74	-527.51	1,260.27	-1,263.47	0.00	0.00	0.00
5,378.91	18.08	112.71	5,167.76	-536.96	1,282.86	-1,286.11	0.00	0.00	0.00
Start Drop -2.00									
5,400.00	17.66	112.71	5,187.83	-539.46	1,288.83	-1,292.10	2.00	-2.00	0.00
5,500.00	15.66	112.71	5,283.63	-550.53	1,315.27	-1,318.61	2.00	-2.00	0.00
5,600.00	13.66	112.71	5,380.37	-560.30	1,338.61	-1,342.01	2.00	-2.00	0.00
5,700.00	11.66	112.71	5,477.94	-568.76	1,358.82	-1,362.27	2.00	-2.00	0.00
5,800.00	9.66	112.71	5,576.21	-575.90	1,375.88	-1,379.37	2.00	-2.00	0.00
5,900.00	7.66	112.71	5,675.06	-581.71	1,389.76	-1,393.29	2.00	-2.00	0.00
6,000.00	5.66	112.71	5,774.38	-586.19	1,400.46	-1,404.01	2.00	-2.00	0.00
6,100.00	3.66	112.71	5,874.05	-589.32	1,407.95	-1,411.52	2.00	-2.00	0.00
6,200.00	1.66	112.71	5,973.93	-591.11	1,412.23	-1,415.81	2.00	-2.00	0.00
6,282.88	0.00	0.00	6,056.80	-591.58	1,413.33	-1,416.92	2.00	-2.00	0.00
6,300.00	0.00	0.00	6,073.92	-591.58	1,413.33	-1,416.92	0.00	0.00	0.00
6,400.00	0.00	0.00	6,173.92	-591.58	1,413.33	-1,416.92	0.00	0.00	0.00
6,500.00	0.00	0.00	6,273.92	-591.58	1,413.33	-1,416.92	0.00	0.00	0.00
6,582.88	0.00	0.00	6,356.80	-591.58	1,413.33	-1,416.92	0.00	0.00	0.00
KOP at 6582.88 MD with 8 Deg DLS									
6,600.00	1.37	270.35	6,373.92	-591.57	1,413.13	-1,416.71	8.00	8.00	0.00
6,650.00	5.37	270.35	6,423.82	-591.56	1,410.19	-1,413.78	8.00	8.00	0.00
6,700.00	9.37	270.35	6,473.40	-591.52	1,403.78	-1,407.36	8.00	8.00	0.00
6,750.00	13.37	270.35	6,522.41	-591.46	1,393.92	-1,397.51	8.00	8.00	0.00
6,800.00	17.37	270.35	6,570.61	-591.37	1,380.67	-1,384.26	8.00	8.00	0.00
6,850.00	21.37	270.35	6,617.77	-591.27	1,364.09	-1,367.68	8.00	8.00	0.00
6,900.00	25.37	270.35	6,663.66	-591.15	1,344.26	-1,347.85	8.00	8.00	0.00
6,950.00	29.37	270.35	6,708.05	-591.01	1,321.28	-1,324.87	8.00	8.00	0.00
7,000.00	33.37	270.35	6,750.74	-590.85	1,295.26	-1,298.84	8.00	8.00	0.00
7,050.00	37.37	270.35	6,791.50	-590.67	1,266.32	-1,269.90	8.00	8.00	0.00
7,100.00	41.37	270.35	6,830.14	-590.48	1,234.61	-1,238.19	8.00	8.00	0.00
7,150.00	45.37	270.35	6,866.48	-590.27	1,200.28	-1,203.87	8.00	8.00	0.00
7,173.92	47.28	270.35	6,883.00	-590.16	1,182.98	-1,186.56	8.00	8.00	0.00
Sharon Springs									
7,200.00	49.37	270.35	6,900.34	-590.04	1,163.50	-1,167.09	8.00	8.00	0.00
7,230.99	51.85	270.35	6,920.00	-589.89	1,139.56	-1,143.14	8.00	8.00	0.00
Niobrara									
7,250.00	53.37	270.35	6,931.55	-589.80	1,124.45	-1,128.03	8.00	8.00	0.00
7,300.00	57.37	270.35	6,959.95	-589.55	1,083.32	-1,086.90	8.00	8.00	0.00
7,350.00	61.37	270.35	6,985.42	-589.28	1,040.30	-1,043.88	8.00	8.00	0.00
7,355.42	61.80	270.35	6,988.00	-589.25	1,035.54	-1,039.12	8.00	8.00	0.00
Nio B									
7,400.00	65.37	270.35	7,007.83	-589.01	995.62	-999.20	8.00	8.00	0.00
7,450.00	69.37	270.35	7,027.06	-588.72	949.48	-953.05	8.00	8.00	0.00
7,473.57	71.26	270.35	7,035.00	-588.59	927.29	-930.87	8.00	8.00	0.00
Nio C									
7,500.00	73.37	270.35	7,043.03	-588.43	902.11	-905.68	8.00	8.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well SCHLAGEL 5-5HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4887.00usft
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4887.00usft
Site:	3N-67W-05 Schlagel 10-5HZ Pad	North Reference:	True
Well:	SCHLAGEL 5-5HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	PLAN A		
Design:	PERMIT REV 0		

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)
7,550.00	77.37	270.35	7,055.66	-588.14	853.74	-857.31	8.00	8.00	0.00
7,600.00	81.37	270.35	7,064.88	-587.83	804.61	-808.18	8.00	8.00	0.00
7,650.00	85.37	270.35	7,070.65	-587.53	754.95	-758.53	8.00	8.00	0.00
7,700.00	89.37	270.35	7,072.94	-587.22	705.02	-708.59	8.00	8.00	0.00
7,706.70	89.91	270.35	7,072.98	-587.18	698.32	-701.89	7.99	7.99	0.00
Landing Point at 7706.70 MD									
7,800.00	89.91	270.35	7,073.13	-586.61	605.02	-608.59	0.00	0.00	0.00
7,900.00	89.91	270.35	7,073.29	-585.99	505.02	-508.59	0.00	0.00	0.00
8,000.00	89.91	270.35	7,073.45	-585.38	405.02	-408.59	0.00	0.00	0.00
8,100.00	89.91	270.35	7,073.62	-584.76	305.02	-308.59	0.00	0.00	0.00
8,200.00	89.91	270.35	7,073.78	-584.15	205.03	-208.59	0.00	0.00	0.00
8,300.00	89.91	270.35	7,073.94	-583.53	105.03	-108.59	0.00	0.00	0.00
8,400.00	89.91	270.35	7,074.10	-582.92	5.03	-8.59	0.00	0.00	0.00
8,500.00	89.91	270.35	7,074.26	-582.30	-94.97	91.41	0.00	0.00	0.00
8,600.00	89.91	270.35	7,074.42	-581.69	-194.97	191.41	0.00	0.00	0.00
8,700.00	89.91	270.35	7,074.59	-581.07	-294.96	291.41	0.00	0.00	0.00
8,800.00	89.91	270.35	7,074.75	-580.46	-394.96	391.41	0.00	0.00	0.00
8,900.00	89.91	270.35	7,074.91	-579.84	-494.96	491.41	0.00	0.00	0.00
9,000.00	89.91	270.35	7,075.07	-579.23	-594.96	591.41	0.00	0.00	0.00
9,100.00	89.91	270.35	7,075.23	-578.61	-694.96	691.41	0.00	0.00	0.00
9,200.00	89.91	270.35	7,075.39	-578.00	-794.95	791.41	0.00	0.00	0.00
9,300.00	89.91	270.35	7,075.56	-577.38	-894.95	891.41	0.00	0.00	0.00
9,400.00	89.91	270.35	7,075.72	-576.77	-994.95	991.41	0.00	0.00	0.00
9,500.00	89.91	270.35	7,075.88	-576.16	-1,094.95	1,091.41	0.00	0.00	0.00
9,600.00	89.91	270.35	7,076.04	-575.54	-1,194.95	1,191.41	0.00	0.00	0.00
9,700.00	89.91	270.35	7,076.20	-574.93	-1,294.94	1,291.41	0.00	0.00	0.00
9,800.00	89.91	270.35	7,076.36	-574.31	-1,394.94	1,391.41	0.00	0.00	0.00
9,900.00	89.91	270.35	7,076.52	-573.70	-1,494.94	1,491.41	0.00	0.00	0.00
10,000.00	89.91	270.35	7,076.69	-573.08	-1,594.94	1,591.41	0.00	0.00	0.00
10,100.00	89.91	270.35	7,076.85	-572.47	-1,694.94	1,691.41	0.00	0.00	0.00
10,200.00	89.91	270.35	7,077.01	-571.85	-1,794.93	1,791.41	0.00	0.00	0.00
10,300.00	89.91	270.35	7,077.17	-571.24	-1,894.93	1,891.41	0.00	0.00	0.00
10,400.00	89.91	270.35	7,077.33	-570.62	-1,994.93	1,991.41	0.00	0.00	0.00
10,500.00	89.91	270.35	7,077.49	-570.01	-2,094.93	2,091.41	0.00	0.00	0.00
10,600.00	89.91	270.35	7,077.66	-569.39	-2,194.93	2,191.41	0.00	0.00	0.00
10,700.00	89.91	270.35	7,077.82	-568.78	-2,294.92	2,291.41	0.00	0.00	0.00
10,800.00	89.91	270.35	7,077.98	-568.16	-2,394.92	2,391.41	0.00	0.00	0.00
10,900.00	89.91	270.35	7,078.14	-567.55	-2,494.92	2,491.41	0.00	0.00	0.00
11,000.00	89.91	270.35	7,078.30	-566.93	-2,594.92	2,591.41	0.00	0.00	0.00
11,100.00	89.91	270.35	7,078.46	-566.32	-2,694.92	2,691.41	0.00	0.00	0.00
11,200.00	89.91	270.35	7,078.63	-565.70	-2,794.91	2,791.41	0.00	0.00	0.00
11,300.00	89.91	270.35	7,078.79	-565.09	-2,894.91	2,891.41	0.00	0.00	0.00
11,400.00	89.91	270.35	7,078.95	-564.47	-2,994.91	2,991.41	0.00	0.00	0.00
11,500.00	89.91	270.35	7,079.11	-563.86	-3,094.91	3,091.41	0.00	0.00	0.00
11,600.00	89.91	270.35	7,079.27	-563.25	-3,194.91	3,191.41	0.00	0.00	0.00
11,700.00	89.91	270.35	7,079.43	-562.63	-3,294.90	3,291.41	0.00	0.00	0.00
11,800.00	89.91	270.35	7,079.60	-562.02	-3,394.90	3,391.41	0.00	0.00	0.00
11,900.00	89.91	270.35	7,079.76	-561.40	-3,494.90	3,491.41	0.00	0.00	0.00
12,000.00	89.91	270.35	7,079.92	-560.79	-3,594.90	3,591.40	0.00	0.00	0.00
12,100.00	89.91	270.35	7,080.08	-560.17	-3,694.90	3,691.40	0.00	0.00	0.00
12,200.00	89.91	270.35	7,080.24	-559.56	-3,794.89	3,791.40	0.00	0.00	0.00
12,300.00	89.91	270.35	7,080.40	-558.94	-3,894.89	3,891.40	0.00	0.00	0.00
12,400.00	89.91	270.35	7,080.57	-558.33	-3,994.89	3,991.40	0.00	0.00	0.00
12,500.00	89.91	270.35	7,080.73	-557.71	-4,094.89	4,091.40	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well SCHLAGEL 5-5HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4887.00usft
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4887.00usft
Site:	3N-67W-05 Schlagel 10-5HZ Pad	North Reference:	True
Well:	SCHLAGEL 5-5HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	PLAN A		
Design:	PERMIT REV 0		

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)
12,600.00	89.91	270.35	7,080.89	-557.10	-4,194.89	4,191.40	0.00	0.00	0.00
12,700.00	89.91	270.35	7,081.05	-556.48	-4,294.88	4,291.40	0.00	0.00	0.00
12,800.00	89.91	270.35	7,081.21	-555.87	-4,394.88	4,391.40	0.00	0.00	0.00
12,900.00	89.91	270.35	7,081.37	-555.25	-4,494.88	4,491.40	0.00	0.00	0.00
13,000.00	89.91	270.35	7,081.53	-554.64	-4,594.88	4,591.40	0.00	0.00	0.00
13,100.00	89.91	270.35	7,081.70	-554.02	-4,694.88	4,691.40	0.00	0.00	0.00
13,200.00	89.91	270.35	7,081.86	-553.41	-4,794.87	4,791.40	0.00	0.00	0.00
13,300.00	89.91	270.35	7,082.02	-552.79	-4,894.87	4,891.40	0.00	0.00	0.00
13,400.00	89.91	270.35	7,082.18	-552.18	-4,994.87	4,991.40	0.00	0.00	0.00
13,500.00	89.91	270.35	7,082.34	-551.56	-5,094.87	5,091.40	0.00	0.00	0.00
13,600.00	89.91	270.35	7,082.50	-550.95	-5,194.87	5,191.40	0.00	0.00	0.00
13,700.00	89.91	270.35	7,082.67	-550.33	-5,294.86	5,291.40	0.00	0.00	0.00
13,800.00	89.91	270.35	7,082.83	-549.72	-5,394.86	5,391.40	0.00	0.00	0.00
13,900.00	89.91	270.35	7,082.99	-549.11	-5,494.86	5,491.40	0.00	0.00	0.00
14,000.00	89.91	270.35	7,083.15	-548.49	-5,594.86	5,591.40	0.00	0.00	0.00
14,100.00	89.91	270.35	7,083.31	-547.88	-5,694.86	5,691.40	0.00	0.00	0.00
14,200.00	89.91	270.35	7,083.47	-547.26	-5,794.85	5,791.40	0.00	0.00	0.00
14,300.00	89.91	270.35	7,083.64	-546.65	-5,894.85	5,891.40	0.00	0.00	0.00
14,400.00	89.91	270.35	7,083.80	-546.03	-5,994.85	5,991.40	0.00	0.00	0.00
14,500.00	89.91	270.35	7,083.96	-545.42	-6,094.85	6,091.40	0.00	0.00	0.00
14,600.00	89.91	270.35	7,084.12	-544.80	-6,194.85	6,191.40	0.00	0.00	0.00
14,700.00	89.91	270.35	7,084.28	-544.19	-6,294.84	6,291.40	0.00	0.00	0.00
14,800.00	89.91	270.35	7,084.44	-543.57	-6,394.84	6,391.40	0.00	0.00	0.00
14,900.00	89.91	270.35	7,084.61	-542.96	-6,494.84	6,491.40	0.00	0.00	0.00
15,000.00	89.91	270.35	7,084.77	-542.34	-6,594.84	6,591.40	0.00	0.00	0.00
15,100.00	89.91	270.35	7,084.93	-541.73	-6,694.84	6,691.40	0.00	0.00	0.00
15,200.00	89.91	270.35	7,085.09	-541.11	-6,794.83	6,791.40	0.00	0.00	0.00
15,300.00	89.91	270.35	7,085.25	-540.50	-6,894.83	6,891.40	0.00	0.00	0.00
15,400.00	89.91	270.35	7,085.41	-539.88	-6,994.83	6,991.40	0.00	0.00	0.00
15,500.00	89.91	270.35	7,085.58	-539.27	-7,094.83	7,091.40	0.00	0.00	0.00
15,600.00	89.91	270.35	7,085.74	-538.65	-7,194.83	7,191.40	0.00	0.00	0.00
15,700.00	89.91	270.35	7,085.90	-538.04	-7,294.82	7,291.40	0.00	0.00	0.00
15,800.00	89.91	270.35	7,086.06	-537.42	-7,394.82	7,391.40	0.00	0.00	0.00
15,900.00	89.91	270.35	7,086.22	-536.81	-7,494.82	7,491.40	0.00	0.00	0.00
15,975.76	89.91	270.35	7,086.34	-536.34	-7,570.58	7,567.16	0.00	0.00	0.00
TD at 15975.76 - Prod Csg									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SCHLAGEL 5-5HZ KOP - hit/miss target - Shape	0.00	0.00	6,356.80	-591.58	1,413.33	14,618,581.59	1,666,128.96	40.252191	-104.907847
Schlagel 5-5HZ Heel - plan hits target center - Point	0.00	0.00	7,072.98	-587.18	698.32	14,618,585.28	1,665,413.94	40.252203	-104.910410
Schlagel 5-5HZ Toe - plan misses target center by 0.18usft at 15975.76usft MD (7086.34 TVD, -536.34 N, -7570.58 E) - Point	0.00	0.00	7,086.52	-536.34	-7,570.58	14,618,628.00	1,657,145.00	40.252339	-104.940046

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well SCHLAGEL 5-5HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4887.00usft
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4887.00usft
Site:	3N-67W-05 Schlagel 10-5HZ Pad	North Reference:	True
Well:	SCHLAGEL 5-5HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	PLAN A		
Design:	PERMIT REV 0		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,520.66	1,500.00	Surface Csg	9-5/8	13-1/2	
15,975.76	7,086.34	Prod Csg	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
672.59	672.00	Fox Hills				
3,675.03	3,548.00	Parkman				
4,224.14	4,070.00	Sussex				
7,173.92	6,883.00	Sharon Springs				
7,230.99	6,920.00	Niobrara				
7,355.42	6,988.00	Nio B				
7,473.57	7,035.00	Nio C				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
300.00	300.00	0.00	0.00	Start Build 1.50	
5,378.91	5,167.76	-536.96	1,282.86	Start Drop -2.00	
6,582.88	6,356.80	-591.58	1,413.33	KOP at 6582.88 MD with 8 Deg DLS	
7,706.70	7,072.98	-587.18	698.32	Landing Point at 7706.70 MD	
15,975.76	7,086.34	-536.34	-7,570.58	TD at 15975.76	