

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

4N-67W-30 TULIP PAD

TULIP WEST 30-1HZ

Plan A

Plan: Permit Rev-1

Standard Planning Report

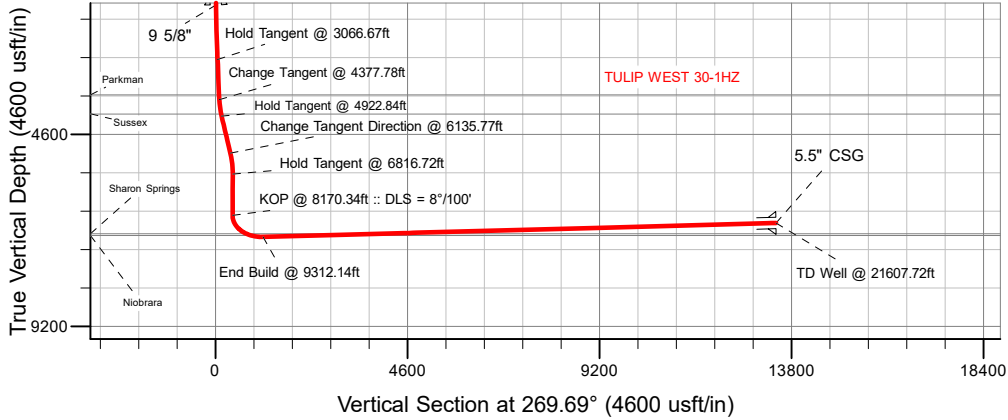
08 April, 2024

Project: WELD-NAD83-UTMFT13N
 Site: 4N-67W-30 TULIP PAD
 Well: TULIP WEST 30-1HZ
 Wellbore: Plan A
 Design: Permit Rev-1

US ROCKIES WATTENBERG PLANNING

CASING DETAILS

TVD	MD	Name	Size
1500.00	1526.50	9 5/8"	9-5/8
6723.00	21607.72	5.5" CSG	5-1/2



SECTION DETAILS

MD	Inc	Azi	TVD	+N-/S	+E-/W	Dleg	TFace	VSect	Target
0.00	0.00	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	
3066.67	43.00	357.00	2805.04	1024.75	-53.70	1.50	357.00	48.16	
4377.78	43.00	357.00	3763.93	1917.70	-100.50	0.00	0.00	90.13	
4922.84	43.00	345.00	4163.24	2283.46	-158.43	1.50	-94.40	146.08	
6135.77	43.00	345.00	5050.32	3082.49	-372.53	0.00	0.00	355.85	
6816.72	43.00	360.00	5549.66	3540.20	-432.79	1.50	95.50	413.63	
8170.34	43.00	360.00	6539.63	4463.37	-432.79	0.00	0.00	408.64	
9312.14	91.55	269.69	7056.00	4959.48	-1165.71	8.00	-89.17	1138.86	
21607.72	91.55	269.69	6723.00	4893.76	-13456.61	0.00	0.00	13429.93	TULIP WEST 30-1HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	Northing	Easting	Latitude	Longitude
TULIP WEST 30-1HZ_SHL	0.00	14632692.69	1659592.40	40.290957	-104.931235
TULIP WEST 30-1HZ_LP	7056.00	14637651.26	1658422.84	40.304576	-104.935416
TULIP WEST 30-1HZ_BHL	6723.00	14637576.00	1646132.00	40.304385	-104.979500

SHL
275' FNL
2282' FEL

LP
647' FNL
1760' FWL

BHL
710' FNL
70' FWL

WELL DETAILS: TULIP WEST 30-1HZ

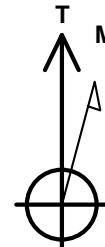
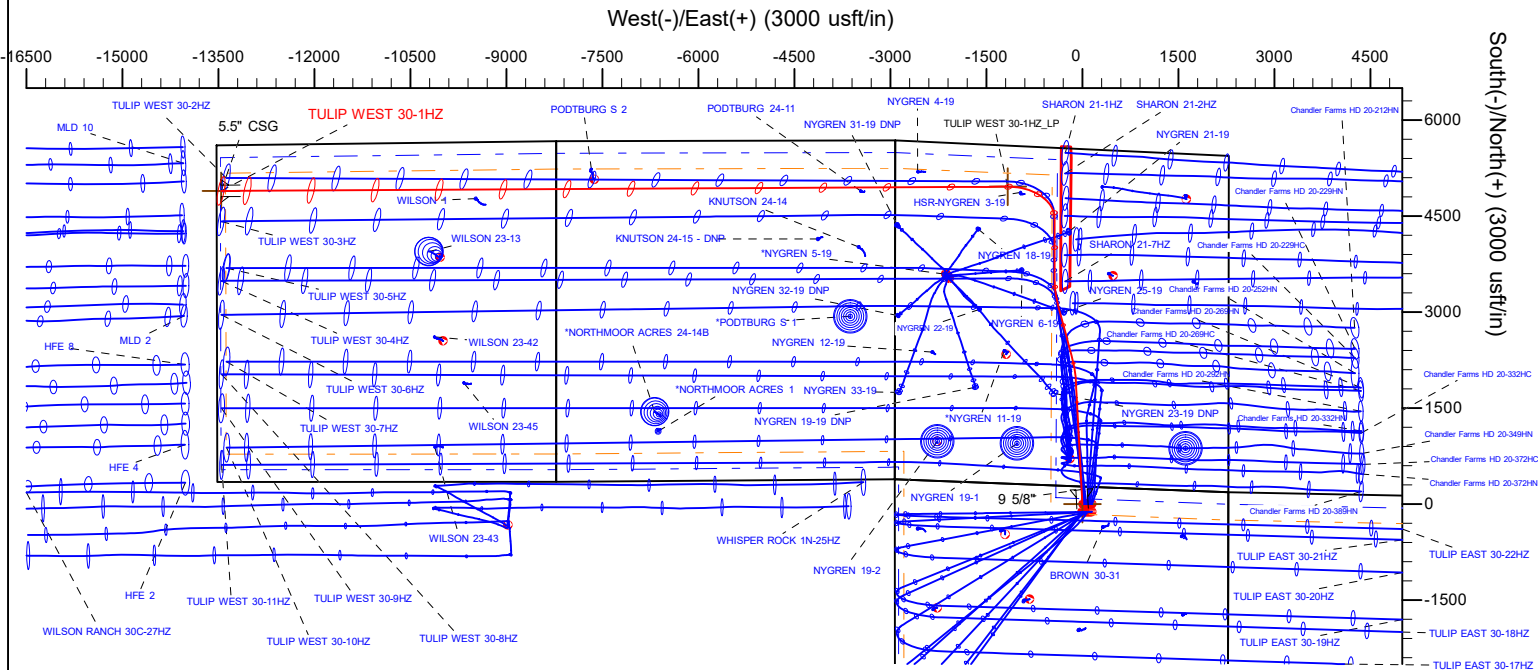
GL = 4968'
 RKB = 17' @ 4985.00usft (RIG)

Plan: Permit Rev-1 (TULIP WEST 30-1HZ/Plan A)

Date: 4/8/2024

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
735.00	736.76	Fox Hills
3650.00	4222.00	Parkman
4111.00	4851.46	Sussex
6983.00	8902.01	Sharon Springs
7025.00	9036.54	Niobrara



Azimuths to True North
 Magnetic North: 7.64°

Magnetic Field
 Strength: 51583.3nT
 Dip Angle: 66.43°
 Date: 4/2/2024
 Model: IGRF2020

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well TULIP WEST 30-1HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4985.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4985.00usft (RIG)
Site:	4N-67W-30 TULIP PAD	North Reference:	True
Well:	TULIP WEST 30-1HZ	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 4N-67W-30 TULIP PAD			
Site Position:		Northing:	14,632,555.28 usft
From:	Map	Easting:	1,659,610.65 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	40.290579
		Longitude:	-104.931170

Well TULIP WEST 30-1HZ			
Well Position	+N/-S	0.00 usft	Northing: 14,632,692.69 usft
	+E/-W	0.00 usft	Easting: 1,659,592.40 usft
Position Uncertainty		3.28 usft	Wellhead Elevation: usft
Grid Convergence:		0.04 °	Ground Level: 4,968.00 usft
			Latitude: 40.290957
			Longitude: -104.931235

Wellbore Plan A					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF202013	4/2/2024	7.64	66.43	51,583.31900561

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	269.69

Plan Survey Tool Program		Date 4/8/2024		
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	21,607.72 Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+I	Fixed:v2:Rockies, crustal dec +

Planning Report

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4985.00usft (RIG)
Site:	4N-67W-30 TULIP PAD	North Reference:	True
Well:	TULIP WEST 30-1HZ	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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,066.67	43.00	357.00	2,805.04	1,024.75	-53.70	1.50	1.50	0.00	357.00	
4,377.78	43.00	357.00	3,763.93	1,917.70	-100.50	0.00	0.00	0.00	0.00	
4,922.84	43.00	345.00	4,163.24	2,283.46	-158.43	1.50	0.00	-2.20	-94.40	
6,135.77	43.00	345.00	5,050.32	3,082.49	-372.53	0.00	0.00	0.00	0.00	
6,816.72	43.00	360.00	5,549.66	3,540.20	-432.79	1.50	0.00	2.20	95.50	
8,170.34	43.00	360.00	6,539.63	4,463.37	-432.79	0.00	0.00	0.00	0.00	
9,312.14	91.55	269.69	7,056.00	4,959.48	-1,165.71	8.00	4.25	-7.91	-89.17	
21,607.72	91.55	269.69	6,723.00	4,893.76	-13,456.61	0.00	0.00	0.00	0.00	TULIP WEST 30-1HZ

Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4985.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4985.00usft (RIG)
Site:	4N-67W-30 TULIP PAD	North Reference:	True
Well:	TULIP WEST 30-1HZ	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	
Begin Nudge @ 200.00ft										
300.00	1.50	357.00	299.99	1.31	-0.07	0.06	1.50	1.50	0.00	
400.00	3.00	357.00	399.91	5.23	-0.27	0.25	1.50	1.50	0.00	
500.00	4.50	357.00	499.69	11.76	-0.62	0.55	1.50	1.50	0.00	
600.00	6.00	357.00	599.27	20.90	-1.10	0.98	1.50	1.50	0.00	
700.00	7.50	357.00	698.57	32.63	-1.71	1.53	1.50	1.50	0.00	
736.76	8.05	357.00	735.00	37.60	-1.97	1.77	1.50	1.50	0.00	
Fox Hills										
800.00	9.00	357.00	797.54	46.96	-2.46	2.21	1.50	1.50	0.00	
900.00	10.50	357.00	896.09	63.87	-3.35	3.00	1.50	1.50	0.00	
1,000.00	12.00	357.00	994.16	83.36	-4.37	3.92	1.50	1.50	0.00	
1,100.00	13.50	357.00	1,091.70	105.39	-5.52	4.95	1.50	1.50	0.00	
1,200.00	15.00	357.00	1,188.62	129.98	-6.81	6.11	1.50	1.50	0.00	
1,300.00	16.50	357.00	1,284.86	157.08	-8.23	7.38	1.50	1.50	0.00	
1,400.00	18.00	357.00	1,380.36	186.69	-9.78	8.77	1.50	1.50	0.00	
1,500.00	19.50	357.00	1,475.05	218.79	-11.47	10.28	1.50	1.50	0.00	
1,526.50	19.90	357.00	1,500.00	227.71	-11.93	10.70	1.50	1.50	0.00	
9 5/8"										
1,600.00	21.00	357.00	1,568.86	253.36	-13.28	11.91	1.50	1.50	0.00	
1,700.00	22.50	357.00	1,661.74	290.36	-15.22	13.65	1.50	1.50	0.00	
1,800.00	24.00	357.00	1,753.62	329.78	-17.28	15.50	1.50	1.50	0.00	
1,900.00	25.50	357.00	1,844.43	371.59	-19.47	17.46	1.50	1.50	0.00	
2,000.00	27.00	357.00	1,934.12	415.75	-21.79	19.54	1.50	1.50	0.00	
2,100.00	28.50	357.00	2,022.61	462.25	-24.23	21.72	1.50	1.50	0.00	
2,200.00	30.00	357.00	2,109.86	511.04	-26.78	24.02	1.50	1.50	0.00	
2,300.00	31.50	357.00	2,195.80	562.10	-29.46	26.42	1.50	1.50	0.00	
2,400.00	33.00	357.00	2,280.37	615.39	-32.25	28.92	1.50	1.50	0.00	
2,500.00	34.50	357.00	2,363.51	670.87	-35.16	31.53	1.50	1.50	0.00	
2,600.00	36.00	357.00	2,445.17	728.50	-38.18	34.24	1.50	1.50	0.00	
2,700.00	37.50	357.00	2,525.30	788.25	-41.31	37.05	1.50	1.50	0.00	
2,800.00	39.00	357.00	2,603.83	850.07	-44.55	39.95	1.50	1.50	0.00	
2,900.00	40.50	357.00	2,680.71	913.93	-47.90	42.95	1.50	1.50	0.00	
3,000.00	42.00	357.00	2,755.89	979.77	-51.35	46.05	1.50	1.50	0.00	
3,066.67	43.00	357.00	2,805.04	1,024.75	-53.70	48.16	1.50	1.50	0.00	
Hold Tangent @ 3066.67ft										
3,100.00	43.00	357.00	2,829.42	1,047.45	-54.89	49.23	0.00	0.00	0.00	
3,200.00	43.00	357.00	2,902.56	1,115.56	-58.46	52.43	0.00	0.00	0.00	
3,300.00	43.00	357.00	2,975.69	1,183.66	-62.03	55.63	0.00	0.00	0.00	
3,400.00	43.00	357.00	3,048.83	1,251.77	-65.60	58.83	0.00	0.00	0.00	
3,500.00	43.00	357.00	3,121.96	1,319.87	-69.17	62.03	0.00	0.00	0.00	
3,600.00	43.00	357.00	3,195.10	1,387.98	-72.74	65.23	0.00	0.00	0.00	
3,700.00	43.00	357.00	3,268.23	1,456.09	-76.31	68.43	0.00	0.00	0.00	
3,800.00	43.00	357.00	3,341.37	1,524.19	-79.88	71.63	0.00	0.00	0.00	
3,900.00	43.00	357.00	3,414.50	1,592.30	-83.45	74.83	0.00	0.00	0.00	
4,000.00	43.00	357.00	3,487.64	1,660.41	-87.02	78.03	0.00	0.00	0.00	
4,100.00	43.00	357.00	3,560.77	1,728.51	-90.59	81.23	0.00	0.00	0.00	
4,200.00	43.00	357.00	3,633.91	1,796.62	-94.16	84.43	0.00	0.00	0.00	
4,222.00	43.00	357.00	3,650.00	1,811.60	-94.94	85.14	0.00	0.00	0.00	
Parkman										
4,300.00	43.00	357.00	3,707.04	1,864.73	-97.73	87.64	0.00	0.00	0.00	
4,377.78	43.00	357.00	3,763.93	1,917.70	-100.50	90.13	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well TULIP WEST 30-1HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4985.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4985.00usft (RIG)
Site:	4N-67W-30 TULIP PAD	North Reference:	True
Well:	TULIP WEST 30-1HZ	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)	
Change Tangent @ 4377.78ft										
4,400.00	42.98	356.51	3,780.18	1,932.82	-101.36	90.90	1.50	-0.11	-2.19	
4,500.00	42.89	354.31	3,853.40	2,000.71	-106.81	95.98	1.50	-0.08	-2.20	
4,600.00	42.85	352.11	3,926.70	2,068.26	-114.85	103.65	1.50	-0.04	-2.20	
4,700.00	42.85	349.90	4,000.02	2,135.42	-125.47	113.92	1.50	0.00	-2.21	
4,800.00	42.89	347.70	4,073.31	2,202.15	-138.69	126.77	1.50	0.04	-2.20	
4,851.46	42.93	346.57	4,111.00	2,236.30	-146.49	134.38	1.50	0.07	-2.20	
Sussex										
4,900.00	42.97	345.50	4,146.53	2,268.40	-154.47	142.19	1.50	0.10	-2.20	
4,922.84	43.00	345.00	4,163.24	2,283.46	-158.43	146.08	1.50	0.11	-2.19	
Hold Tangent @ 4922.84ft										
5,000.00	43.00	345.00	4,219.67	2,334.29	-172.05	159.42	0.00	0.00	0.00	
5,100.00	43.00	345.00	4,292.81	2,400.17	-189.70	176.72	0.00	0.00	0.00	
5,200.00	43.00	345.00	4,365.94	2,466.04	-207.36	194.01	0.00	0.00	0.00	
5,300.00	43.00	345.00	4,439.08	2,531.92	-225.01	211.31	0.00	0.00	0.00	
5,400.00	43.00	345.00	4,512.21	2,597.80	-242.66	228.60	0.00	0.00	0.00	
5,500.00	43.00	345.00	4,585.35	2,663.67	-260.31	245.89	0.00	0.00	0.00	
5,600.00	43.00	345.00	4,658.48	2,729.55	-277.96	263.19	0.00	0.00	0.00	
5,700.00	43.00	345.00	4,731.62	2,795.42	-295.61	280.48	0.00	0.00	0.00	
5,800.00	43.00	345.00	4,804.75	2,861.30	-313.26	297.78	0.00	0.00	0.00	
5,900.00	43.00	345.00	4,877.89	2,927.18	-330.92	315.07	0.00	0.00	0.00	
6,000.00	43.00	345.00	4,951.02	2,993.05	-348.57	332.37	0.00	0.00	0.00	
6,100.00	43.00	345.00	5,024.16	3,058.93	-366.22	349.66	0.00	0.00	0.00	
6,135.77	43.00	345.00	5,050.32	3,082.49	-372.53	355.85	0.00	0.00	0.00	
Change Tangent Direction @ 6135.77ft										
6,200.00	42.92	346.41	5,097.33	3,124.90	-383.34	366.43	1.50	-0.13	2.19	
6,300.00	42.82	348.61	5,170.62	3,191.32	-398.05	380.78	1.50	-0.10	2.20	
6,400.00	42.77	350.82	5,244.01	3,258.15	-410.19	392.55	1.50	-0.05	2.21	
6,500.00	42.76	353.02	5,317.43	3,325.36	-419.73	401.73	1.50	-0.01	2.21	
6,600.00	42.79	355.23	5,390.84	3,392.91	-426.67	408.31	1.50	0.03	2.21	
6,700.00	42.86	357.44	5,464.19	3,460.73	-431.02	412.29	1.50	0.07	2.20	
6,800.00	42.98	359.63	5,537.43	3,528.80	-432.75	413.66	1.50	0.12	2.20	
6,816.72	43.00	360.00	5,549.66	3,540.20	-432.79	413.63	1.50	0.14	2.19	
Hold Tangent @ 6816.72ft										
6,900.00	43.00	360.00	5,610.57	3,597.00	-432.79	413.32	0.00	0.00	0.00	
7,000.00	43.00	360.00	5,683.70	3,665.20	-432.79	412.95	0.00	0.00	0.00	
7,100.00	43.00	360.00	5,756.84	3,733.40	-432.79	412.59	0.00	0.00	0.00	
7,200.00	43.00	360.00	5,829.97	3,801.60	-432.79	412.22	0.00	0.00	0.00	
7,300.00	43.00	360.00	5,903.11	3,869.79	-432.79	411.85	0.00	0.00	0.00	
7,400.00	43.00	360.00	5,976.24	3,937.99	-432.79	411.48	0.00	0.00	0.00	
7,500.00	43.00	360.00	6,049.38	4,006.19	-432.79	411.11	0.00	0.00	0.00	
7,600.00	43.00	360.00	6,122.51	4,074.39	-432.79	410.74	0.00	0.00	0.00	
7,700.00	43.00	360.00	6,195.65	4,142.59	-432.79	410.37	0.00	0.00	0.00	
7,800.00	43.00	360.00	6,268.78	4,210.79	-432.79	410.00	0.00	0.00	0.00	
7,900.00	43.00	360.00	6,341.92	4,278.99	-432.79	409.63	0.00	0.00	0.00	
8,000.00	43.00	360.00	6,415.05	4,347.19	-432.79	409.26	0.00	0.00	0.00	
8,100.00	43.00	360.00	6,488.19	4,415.39	-432.79	408.90	0.00	0.00	0.00	
8,170.34	43.00	360.00	6,539.63	4,463.37	-432.79	408.64	0.00	0.00	0.00	
KOP @ 8170.34ft :: DLS = 8°/100'										
8,200.00	43.09	356.53	6,561.31	4,483.59	-433.41	409.14	8.00	0.29	-11.71	
8,250.00	43.47	350.72	6,597.73	4,517.63	-437.22	412.77	8.00	0.77	-11.62	
8,300.00	44.14	345.02	6,633.83	4,551.44	-444.49	419.86	8.00	1.34	-11.40	
8,350.00	45.09	339.48	6,669.43	4,584.85	-455.21	430.39	8.00	1.90	-11.07	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well TULIP WEST 30-1HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4985.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4985.00usft (RIG)
Site:	4N-67W-30 TULIP PAD	North Reference:	True
Well:	TULIP WEST 30-1HZ	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)
8,400.00	46.30	334.15	6,704.37	4,617.71	-469.29	444.30	8.00	2.41	-10.66
8,450.00	47.74	329.05	6,738.47	4,649.86	-486.70	461.53	8.00	2.89	-10.20
8,500.00	49.40	324.20	6,771.57	4,681.13	-507.32	481.99	8.00	3.32	-9.71
8,550.00	51.25	319.59	6,803.50	4,711.38	-531.08	505.58	8.00	3.70	-9.22
8,600.00	53.27	315.22	6,834.11	4,740.46	-557.84	532.18	8.00	4.05	-8.73
8,650.00	55.44	311.09	6,863.25	4,768.23	-587.48	561.67	8.00	4.35	-8.27
8,700.00	57.75	307.17	6,890.79	4,794.55	-619.86	593.91	8.00	4.61	-7.83
8,750.00	60.17	303.46	6,916.57	4,819.29	-654.82	628.73	8.00	4.84	-7.43
8,800.00	62.69	299.92	6,940.49	4,842.33	-692.18	665.97	8.00	5.04	-7.08
8,850.00	65.30	296.54	6,962.42	4,863.57	-731.77	705.44	8.00	5.21	-6.76
8,900.00	67.97	293.30	6,982.25	4,882.89	-773.39	746.96	8.00	5.35	-6.48
8,902.01	68.08	293.17	6,983.00	4,883.63	-775.10	748.66	8.00	5.42	-6.34
Sharon Springs									
8,950.00	70.71	290.19	6,999.89	4,900.21	-816.84	790.31	8.00	5.48	-6.23
9,000.00	73.50	287.17	7,015.26	4,915.44	-861.90	835.29	8.00	5.58	-6.03
9,036.54	75.57	285.03	7,025.00	4,925.20	-895.73	869.07	8.00	5.65	-5.87
Niobrara									
9,050.00	76.33	284.25	7,028.27	4,928.50	-908.37	881.69	8.00	5.69	-5.80
9,100.00	79.20	281.39	7,038.87	4,939.33	-956.01	929.27	8.00	5.73	-5.71
9,150.00	82.09	278.59	7,047.00	4,947.88	-1,004.58	977.80	8.00	5.78	-5.60
9,200.00	85.00	275.82	7,052.62	4,954.11	-1,053.86	1,027.04	8.00	5.82	-5.53
9,250.00	87.92	273.08	7,055.71	4,957.98	-1,103.61	1,076.77	8.00	5.84	-5.48
9,300.00	90.84	270.36	7,056.26	4,959.48	-1,153.57	1,126.72	8.00	5.85	-5.46
9,312.14	91.55	269.69	7,056.00	4,959.48	-1,165.71	1,138.86	8.00	5.85	-5.46
End Build @ 9312.14ft									
9,400.00	91.55	269.69	7,053.62	4,959.01	-1,253.54	1,226.69	0.00	0.00	0.00
9,500.00	91.55	269.69	7,050.91	4,958.48	-1,353.50	1,326.65	0.00	0.00	0.00
9,600.00	91.55	269.69	7,048.21	4,957.95	-1,453.46	1,426.61	0.00	0.00	0.00
9,700.00	91.55	269.69	7,045.50	4,957.41	-1,553.42	1,526.58	0.00	0.00	0.00
9,800.00	91.55	269.69	7,042.79	4,956.88	-1,653.38	1,626.54	0.00	0.00	0.00
9,900.00	91.55	269.69	7,040.08	4,956.34	-1,753.35	1,726.50	0.00	0.00	0.00
10,000.00	91.55	269.69	7,037.37	4,955.81	-1,853.31	1,826.47	0.00	0.00	0.00
10,100.00	91.55	269.69	7,034.66	4,955.27	-1,953.27	1,926.43	0.00	0.00	0.00
10,200.00	91.55	269.69	7,031.96	4,954.74	-2,053.23	2,026.39	0.00	0.00	0.00
10,300.00	91.55	269.69	7,029.25	4,954.20	-2,153.19	2,126.36	0.00	0.00	0.00
10,400.00	91.55	269.69	7,026.54	4,953.67	-2,253.15	2,226.32	0.00	0.00	0.00
10,500.00	91.55	269.69	7,023.83	4,953.13	-2,353.12	2,326.28	0.00	0.00	0.00
10,600.00	91.55	269.69	7,021.12	4,952.60	-2,453.08	2,426.25	0.00	0.00	0.00
10,700.00	91.55	269.69	7,018.41	4,952.07	-2,553.04	2,526.21	0.00	0.00	0.00
10,800.00	91.55	269.69	7,015.71	4,951.53	-2,653.00	2,626.17	0.00	0.00	0.00
10,900.00	91.55	269.69	7,013.00	4,951.00	-2,752.96	2,726.14	0.00	0.00	0.00
11,000.00	91.55	269.69	7,010.29	4,950.46	-2,852.93	2,826.10	0.00	0.00	0.00
11,100.00	91.55	269.69	7,007.58	4,949.93	-2,952.89	2,926.06	0.00	0.00	0.00
11,200.00	91.55	269.69	7,004.87	4,949.39	-3,052.85	3,026.03	0.00	0.00	0.00
11,300.00	91.55	269.69	7,002.16	4,948.86	-3,152.81	3,125.99	0.00	0.00	0.00
11,400.00	91.55	269.69	6,999.46	4,948.32	-3,252.77	3,225.95	0.00	0.00	0.00
11,500.00	91.55	269.69	6,996.75	4,947.79	-3,352.74	3,325.92	0.00	0.00	0.00
11,600.00	91.55	269.69	6,994.04	4,947.25	-3,452.70	3,425.88	0.00	0.00	0.00
11,700.00	91.55	269.69	6,991.33	4,946.72	-3,552.66	3,525.84	0.00	0.00	0.00
11,800.00	91.55	269.69	6,988.62	4,946.19	-3,652.62	3,625.81	0.00	0.00	0.00
11,900.00	91.55	269.69	6,985.91	4,945.65	-3,752.58	3,725.77	0.00	0.00	0.00
12,000.00	91.55	269.69	6,983.21	4,945.12	-3,852.54	3,825.73	0.00	0.00	0.00
12,100.00	91.55	269.69	6,980.50	4,944.58	-3,952.51	3,925.70	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well TULIP WEST 30-1HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4985.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4985.00usft (RIG)
Site:	4N-67W-30 TULIP PAD	North Reference:	True
Well:	TULIP WEST 30-1HZ	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)
12,200.00	91.55	269.69	6,977.79	4,944.05	-4,052.47	4,025.66	0.00	0.00	0.00
12,300.00	91.55	269.69	6,975.08	4,943.51	-4,152.43	4,125.62	0.00	0.00	0.00
12,400.00	91.55	269.69	6,972.37	4,942.98	-4,252.39	4,225.59	0.00	0.00	0.00
12,500.00	91.55	269.69	6,969.66	4,942.44	-4,352.35	4,325.55	0.00	0.00	0.00
12,600.00	91.55	269.69	6,966.96	4,941.91	-4,452.32	4,425.51	0.00	0.00	0.00
12,700.00	91.55	269.69	6,964.25	4,941.37	-4,552.28	4,525.48	0.00	0.00	0.00
12,800.00	91.55	269.69	6,961.54	4,940.84	-4,652.24	4,625.44	0.00	0.00	0.00
12,900.00	91.55	269.69	6,958.83	4,940.30	-4,752.20	4,725.40	0.00	0.00	0.00
13,000.00	91.55	269.69	6,956.12	4,939.77	-4,852.16	4,825.37	0.00	0.00	0.00
13,100.00	91.55	269.69	6,953.42	4,939.24	-4,952.13	4,925.33	0.00	0.00	0.00
13,200.00	91.55	269.69	6,950.71	4,938.70	-5,052.09	5,025.29	0.00	0.00	0.00
13,300.00	91.55	269.69	6,948.00	4,938.17	-5,152.05	5,125.26	0.00	0.00	0.00
13,400.00	91.55	269.69	6,945.29	4,937.63	-5,252.01	5,225.22	0.00	0.00	0.00
13,500.00	91.55	269.69	6,942.58	4,937.10	-5,351.97	5,325.18	0.00	0.00	0.00
13,600.00	91.55	269.69	6,939.87	4,936.56	-5,451.94	5,425.15	0.00	0.00	0.00
13,700.00	91.55	269.69	6,937.17	4,936.03	-5,551.90	5,525.11	0.00	0.00	0.00
13,800.00	91.55	269.69	6,934.46	4,935.49	-5,651.86	5,625.07	0.00	0.00	0.00
13,900.00	91.55	269.69	6,931.75	4,934.96	-5,751.82	5,725.04	0.00	0.00	0.00
14,000.00	91.55	269.69	6,929.04	4,934.42	-5,851.78	5,825.00	0.00	0.00	0.00
14,100.00	91.55	269.69	6,926.33	4,933.89	-5,951.74	5,924.96	0.00	0.00	0.00
14,200.00	91.55	269.69	6,923.62	4,933.36	-6,051.71	6,024.93	0.00	0.00	0.00
14,300.00	91.55	269.69	6,920.92	4,932.82	-6,151.67	6,124.89	0.00	0.00	0.00
14,400.00	91.55	269.69	6,918.21	4,932.29	-6,251.63	6,224.85	0.00	0.00	0.00
14,500.00	91.55	269.69	6,915.50	4,931.75	-6,351.59	6,324.82	0.00	0.00	0.00
14,600.00	91.55	269.69	6,912.79	4,931.22	-6,451.55	6,424.78	0.00	0.00	0.00
14,700.00	91.55	269.69	6,910.08	4,930.68	-6,551.52	6,524.74	0.00	0.00	0.00
14,800.00	91.55	269.69	6,907.37	4,930.15	-6,651.48	6,624.71	0.00	0.00	0.00
14,900.00	91.55	269.69	6,904.67	4,929.61	-6,751.44	6,724.67	0.00	0.00	0.00
15,000.00	91.55	269.69	6,901.96	4,929.08	-6,851.40	6,824.63	0.00	0.00	0.00
15,100.00	91.55	269.69	6,899.25	4,928.54	-6,951.36	6,924.60	0.00	0.00	0.00
15,200.00	91.55	269.69	6,896.54	4,928.01	-7,051.33	7,024.56	0.00	0.00	0.00
15,300.00	91.55	269.69	6,893.83	4,927.48	-7,151.29	7,124.52	0.00	0.00	0.00
15,400.00	91.55	269.69	6,891.12	4,926.94	-7,251.25	7,224.49	0.00	0.00	0.00
15,500.00	91.55	269.69	6,888.42	4,926.41	-7,351.21	7,324.45	0.00	0.00	0.00
15,600.00	91.55	269.69	6,885.71	4,925.87	-7,451.17	7,424.41	0.00	0.00	0.00
15,700.00	91.55	269.69	6,883.00	4,925.34	-7,551.13	7,524.38	0.00	0.00	0.00
15,800.00	91.55	269.69	6,880.29	4,924.80	-7,651.10	7,624.34	0.00	0.00	0.00
15,900.00	91.55	269.69	6,877.58	4,924.27	-7,751.06	7,724.30	0.00	0.00	0.00
16,000.00	91.55	269.69	6,874.87	4,923.73	-7,851.02	7,824.27	0.00	0.00	0.00
16,100.00	91.55	269.69	6,872.17	4,923.20	-7,950.98	7,924.23	0.00	0.00	0.00
16,200.00	91.55	269.69	6,869.46	4,922.66	-8,050.94	8,024.19	0.00	0.00	0.00
16,300.00	91.55	269.69	6,866.75	4,922.13	-8,150.91	8,124.16	0.00	0.00	0.00
16,400.00	91.55	269.69	6,864.04	4,921.59	-8,250.87	8,224.12	0.00	0.00	0.00
16,500.00	91.55	269.69	6,861.33	4,921.06	-8,350.83	8,324.08	0.00	0.00	0.00
16,600.00	91.55	269.69	6,858.62	4,920.53	-8,450.79	8,424.05	0.00	0.00	0.00
16,700.00	91.55	269.69	6,855.92	4,919.99	-8,550.75	8,524.01	0.00	0.00	0.00
16,800.00	91.55	269.69	6,853.21	4,919.46	-8,650.72	8,623.97	0.00	0.00	0.00
16,900.00	91.55	269.69	6,850.50	4,918.92	-8,750.68	8,723.94	0.00	0.00	0.00
17,000.00	91.55	269.69	6,847.79	4,918.39	-8,850.64	8,823.90	0.00	0.00	0.00
17,100.00	91.55	269.69	6,845.08	4,917.85	-8,950.60	8,923.86	0.00	0.00	0.00
17,200.00	91.55	269.69	6,842.37	4,917.32	-9,050.56	9,023.83	0.00	0.00	0.00
17,300.00	91.55	269.69	6,839.67	4,916.78	-9,150.53	9,123.79	0.00	0.00	0.00
17,400.00	91.55	269.69	6,836.96	4,916.25	-9,250.49	9,223.75	0.00	0.00	0.00
17,500.00	91.55	269.69	6,834.25	4,915.71	-9,350.45	9,323.72	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well TULIP WEST 30-1HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4985.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4985.00usft (RIG)
Site:	4N-67W-30 TULIP PAD	North Reference:	True
Well:	TULIP WEST 30-1HZ	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)
17,600.00	91.55	269.69	6,831.54	4,915.18	-9,450.41	9,423.68	0.00	0.00	0.00
17,700.00	91.55	269.69	6,828.83	4,914.65	-9,550.37	9,523.64	0.00	0.00	0.00
17,800.00	91.55	269.69	6,826.12	4,914.11	-9,650.33	9,623.61	0.00	0.00	0.00
17,900.00	91.55	269.69	6,823.42	4,913.58	-9,750.30	9,723.57	0.00	0.00	0.00
18,000.00	91.55	269.69	6,820.71	4,913.04	-9,850.26	9,823.53	0.00	0.00	0.00
18,100.00	91.55	269.69	6,818.00	4,912.51	-9,950.22	9,923.50	0.00	0.00	0.00
18,200.00	91.55	269.69	6,815.29	4,911.97	-10,050.18	10,023.46	0.00	0.00	0.00
18,300.00	91.55	269.69	6,812.58	4,911.44	-10,150.14	10,123.42	0.00	0.00	0.00
18,400.00	91.55	269.69	6,809.87	4,910.90	-10,250.11	10,223.39	0.00	0.00	0.00
18,500.00	91.55	269.69	6,807.17	4,910.37	-10,350.07	10,323.35	0.00	0.00	0.00
18,600.00	91.55	269.69	6,804.46	4,909.83	-10,450.03	10,423.31	0.00	0.00	0.00
18,700.00	91.55	269.69	6,801.75	4,909.30	-10,549.99	10,523.28	0.00	0.00	0.00
18,800.00	91.55	269.69	6,799.04	4,908.77	-10,649.95	10,623.24	0.00	0.00	0.00
18,900.00	91.55	269.69	6,796.33	4,908.23	-10,749.92	10,723.20	0.00	0.00	0.00
19,000.00	91.55	269.69	6,793.63	4,907.70	-10,849.88	10,823.17	0.00	0.00	0.00
19,100.00	91.55	269.69	6,790.92	4,907.16	-10,949.84	10,923.13	0.00	0.00	0.00
19,200.00	91.55	269.69	6,788.21	4,906.63	-11,049.80	11,023.09	0.00	0.00	0.00
19,300.00	91.55	269.69	6,785.50	4,906.09	-11,149.76	11,123.06	0.00	0.00	0.00
19,400.00	91.55	269.69	6,782.79	4,905.56	-11,249.72	11,223.02	0.00	0.00	0.00
19,500.00	91.55	269.69	6,780.08	4,905.02	-11,349.69	11,322.98	0.00	0.00	0.00
19,600.00	91.55	269.69	6,777.38	4,904.49	-11,449.65	11,422.95	0.00	0.00	0.00
19,700.00	91.55	269.69	6,774.67	4,903.95	-11,549.61	11,522.91	0.00	0.00	0.00
19,800.00	91.55	269.69	6,771.96	4,903.42	-11,649.57	11,622.87	0.00	0.00	0.00
19,900.00	91.55	269.69	6,769.25	4,902.89	-11,749.53	11,722.84	0.00	0.00	0.00
20,000.00	91.55	269.69	6,766.54	4,902.35	-11,849.50	11,822.80	0.00	0.00	0.00
20,100.00	91.55	269.69	6,763.83	4,901.82	-11,949.46	11,922.76	0.00	0.00	0.00
20,200.00	91.55	269.69	6,761.13	4,901.28	-12,049.42	12,022.73	0.00	0.00	0.00
20,300.00	91.55	269.69	6,758.42	4,900.75	-12,149.38	12,122.69	0.00	0.00	0.00
20,400.00	91.55	269.69	6,755.71	4,900.21	-12,249.34	12,222.65	0.00	0.00	0.00
20,500.00	91.55	269.69	6,753.00	4,899.68	-12,349.31	12,322.62	0.00	0.00	0.00
20,600.00	91.55	269.69	6,750.29	4,899.14	-12,449.27	12,422.58	0.00	0.00	0.00
20,700.00	91.55	269.69	6,747.58	4,898.61	-12,549.23	12,522.54	0.00	0.00	0.00
20,800.00	91.55	269.69	6,744.88	4,898.07	-12,649.19	12,622.51	0.00	0.00	0.00
20,900.00	91.55	269.69	6,742.17	4,897.54	-12,749.15	12,722.47	0.00	0.00	0.00
21,000.00	91.55	269.69	6,739.46	4,897.00	-12,849.12	12,822.43	0.00	0.00	0.00
21,100.00	91.55	269.69	6,736.75	4,896.47	-12,949.08	12,922.40	0.00	0.00	0.00
21,200.00	91.55	269.69	6,734.04	4,895.94	-13,049.04	13,022.36	0.00	0.00	0.00
21,300.00	91.55	269.69	6,731.33	4,895.40	-13,149.00	13,122.32	0.00	0.00	0.00
21,400.00	91.55	269.69	6,728.63	4,894.87	-13,248.96	13,222.29	0.00	0.00	0.00
21,500.00	91.55	269.69	6,725.92	4,894.33	-13,348.92	13,322.25	0.00	0.00	0.00
21,607.72	91.55	269.69	6,723.00	4,893.76	-13,456.60	13,429.93	0.00	0.00	0.00
TD Well @ 21607.72ft - 5.5" CSG									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,526.50	1,500.00	9 5/8"	9-5/8	13-1/2	
21,607.72	6,723.00	5.5" CSG	5-1/2	7-7/8	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well TULIP WEST 30-1HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4985.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4985.00usft (RIG)
Site:	4N-67W-30 TULIP PAD	North Reference:	True
Well:	TULIP WEST 30-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
736.76	735.00	Fox Hills			
4,222.00	3,650.00	Parkman			
4,851.46	4,111.00	Sussex			
8,902.01	6,983.00	Sharon Springs			
9,036.54	7,025.00	Niobrara			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
200.00	200.00	0.00	0.00	Begin Nudge @ 200.00ft	
3,066.67	2,805.04	1,024.75	-53.70	Hold Tangent @ 3066.67ft	
4,377.78	3,763.93	1,917.70	-100.50	Change Tangent @ 4377.78ft	
4,922.84	4,163.24	2,283.46	-158.43	Hold Tangent @ 4922.84ft	
6,135.77	5,050.32	3,082.49	-372.53	Change Tangent Direction @ 6135.77ft	
6,816.72	5,549.66	3,540.20	-432.79	Hold Tangent @ 6816.72ft	
8,170.34	6,539.63	4,463.37	-432.79	KOP @ 8170.34ft :: DLS = 8°/100'	
9,312.14	7,056.00	4,959.48	-1,165.71	End Build @ 9312.14ft	
21,607.72	6,723.00	4,893.76	-13,456.61	TD Well @ 21607.72ft	