

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
3N-67W-04 SWARTZ 2-4HZ PAD
SWARTZ 4-10HZ**

Plan B

Plan: Permit Rev-1

Standard Planning Report

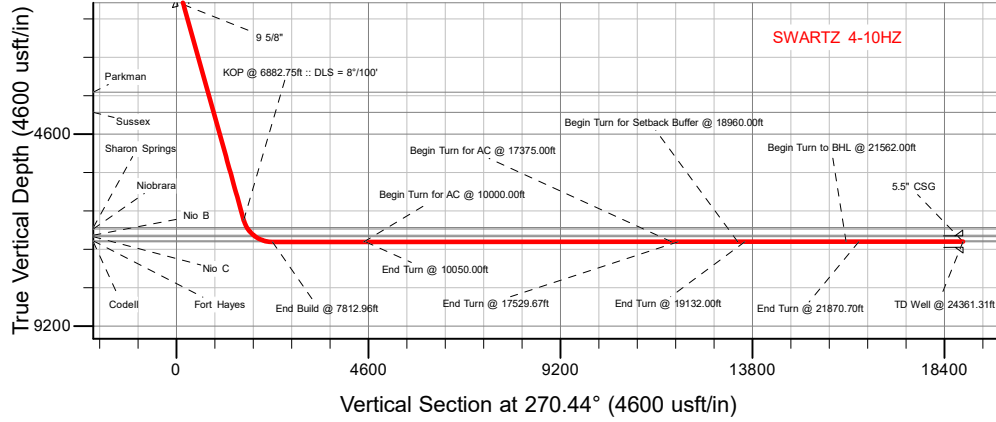
26 June, 2023

Project: WELD-NAD83-UTMFT13N
 Site: 3N-67W-04 SWARTZ 2-4HZ PAD
 Well: SWARTZ 4-10HZ
 Wellbore: Plan B
 Design: Permit Rev-1

US ROCKIES WATTENBERG PLANNING

CASING DETAILS

TVD	MD	Name	Size
1500.00	1516.88	9 5/8"	9-5/8
7174.00	24361.31	5.5" CSG	5-1/2



SHL
 717' FNL
 1583' FEL

LP
 379' FNL
 1369' FWL

BHL
 480' FNL
 415' FWL

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	
370.00	0.00	0.00	370.00	0.00	0.00	0.00	0.00	0.00	
1430.67	15.91	281.80	1417.09	29.92	-143.23	1.50	281.80	143.45	
6882.75	15.91	281.80	6660.32	335.55	-1606.21	0.00	0.00	1608.74	
7812.96	90.03	270.85	7183.00	374.11	-2295.86	8.00	-11.37	2296.66	
10000.00	90.03	270.85	7181.85	406.55	-4482.65	0.00	0.00	4485.64	
10050.00	90.03	271.60	7181.83	407.62	-4532.64	1.50	90.00	4535.64	
17375.00	90.03	271.60	7177.99	612.14	-11854.78	0.00	0.00	11859.14	
17529.67	90.03	269.28	7177.91	613.33	-12009.44	1.50	-90.00	12013.79	
18960.00	90.03	269.28	7177.16	595.36	-13439.66	0.00	0.00	13443.83	
19132.00	90.03	266.70	7177.07	589.33	-13611.54	1.50	-90.00	13615.66	
21562.00	90.03	266.70	7175.80	449.45	-16037.51	0.00	0.00	16040.48	
21870.70	90.04	271.33	7175.62	444.14	-16346.08	1.50	89.91	16349.01	
24361.31	90.04	271.33	7174.00	501.97	-18836.01	0.00	0.00	18839.31	SWARTZ 4-10HZ BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	Northing	Easting	Latitude	Longitude
SWARTZ 4-10HZ SHL	0.00	14621494.03	1670621.61	40.260174	-104.891733
SWARTZ 4-10HZ LP	7183.00	14621865.34	1668325.29	40.261201	-104.899962
SWARTZ 4-10HZ BHL	7174.00	14621973.00	1651785.00	40.261533	-104.959250

WELL DETAILS: SWARTZ 4-10HZ

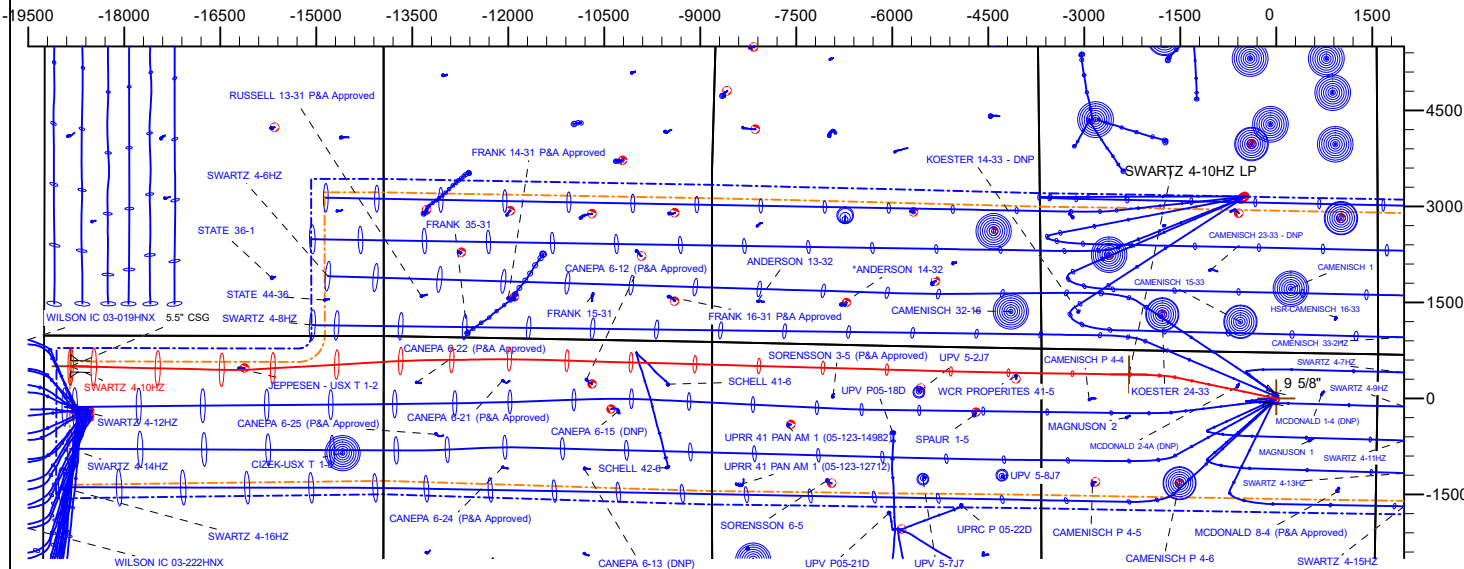
GL = 4825'

RKB = 17' @ 4842.00usft (RIG)

Plan: Permit Rev-1 (SWARTZ 4-10HZ/Plan B)

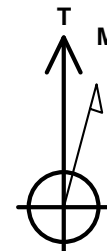
Date: 6/27/2023

West(-)/East(+) (3000 usft/in)



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
707.00	707.44	Fox Hills
3598.00	3698.45	Parkman
4080.00	4199.65	Sussex
6841.00	7080.74	Sharon Springs
6871.00	7116.52	Niobrara
7023.00	7324.10	No B
7055.00	7377.43	No C
7157.00	7618.88	Fort Hayes
7178.00	7727.87	Codell



Azimuths to True North
 Magnetic North: 7.71°

Magnetic Field
 Strength: 51668.5nT
 Dip Angle: 66.45°
 Date: 5/5/2023
 Model: IGRF2020

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SWARTZ 4-10HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4842.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4842.00usft (RIG)
Site:	3N-67W-04 SWARTZ 2-4HZ PAD	North Reference:	True
Well:	SWARTZ 4-10HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
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-04 SWARTZ 2-4HZ PAD			
Site Position:		Northing:	14,621,599.90 usft
From:	Map	Easting:	1,670,705.29 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	40.260465
		Longitude:	-104.891433

Well SWARTZ 4-10HZ			
Well Position	+N/-S	0.00 usft	Northing: 14,621,494.03 usft
	+E/-W	0.00 usft	Easting: 1,670,621.61 usft
Position Uncertainty		3.28 usft	Wellhead Elevation: usft
Grid Convergence:		0.07 °	Ground Level: 4,825.00 usft

Wellbore Plan B					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF202013	5/5/2023	7.71	66.45	51,668.46933350

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	270.44

Plan Survey Tool Program		Date	6/23/2023		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	2,000.00	Permit Rev-1 (Plan B)	APC_ISCWSA REV 2 MWD+I Fixed:v2:crustal field declinatio	
2	2,000.00	24,361.31	Permit Rev-1 (Plan B)	APC_ISCWSA REV 2 MWD+I Fixed:v2:Rockies, crustal dec +	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SWARTZ 4-10HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4842.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4842.00usft (RIG)
Site:	3N-67W-04 SWARTZ 2-4HZ PAD	North Reference:	True
Well:	SWARTZ 4-10HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
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	
370.00	0.00	0.00	370.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,430.67	15.91	281.80	1,417.09	29.92	-143.23	1.50	1.50	0.00	281.80	
6,882.75	15.91	281.80	6,660.32	335.55	-1,606.21	0.00	0.00	0.00	0.00	
7,812.96	90.03	270.85	7,183.00	374.11	-2,295.86	8.00	7.97	-1.18	-11.37	
10,000.00	90.03	270.85	7,181.85	406.55	-4,482.65	0.00	0.00	0.00	0.00	
10,050.00	90.03	271.60	7,181.83	407.62	-4,532.64	1.50	0.00	1.50	90.00	
17,375.00	90.03	271.60	7,177.99	612.14	-11,854.78	0.00	0.00	0.00	0.00	
17,529.67	90.03	269.28	7,177.91	613.33	-12,009.44	1.50	0.00	-1.50	-90.00	
18,960.00	90.03	269.28	7,177.16	595.36	-13,439.66	0.00	0.00	0.00	0.00	
19,132.00	90.03	266.70	7,177.07	589.33	-13,611.54	1.50	0.00	-1.50	-90.00	
21,562.00	90.03	266.70	7,175.80	449.45	-16,037.51	0.00	0.00	0.00	0.00	
21,870.70	90.04	271.33	7,175.62	444.14	-16,346.08	1.50	0.00	1.50	89.91	
24,361.31	90.04	271.33	7,174.00	501.97	-18,836.01	0.00	0.00	0.00	0.00	SWARTZ 4-10HZ BHI

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SWARTZ 4-10HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4842.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4842.00usft (RIG)
Site:	3N-67W-04 SWARTZ 2-4HZ PAD	North Reference:	True
Well:	SWARTZ 4-10HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
370.00	0.00	0.00	370.00	0.00	0.00	0.00	0.00	0.00	0.00	
Begin Nudge @ 370.00ft										
400.00	0.45	281.80	400.00	0.02	-0.12	0.12	1.50	1.50	0.00	
500.00	1.95	281.80	499.97	0.45	-2.17	2.17	1.50	1.50	0.00	
600.00	3.45	281.80	599.86	1.42	-6.78	6.79	1.50	1.50	0.00	
700.00	4.95	281.80	699.59	2.91	-13.95	13.97	1.50	1.50	0.00	
707.44	5.06	281.80	707.00	3.05	-14.58	14.60	1.50	1.50	0.00	
Fox Hills										
800.00	6.45	281.80	799.09	4.94	-23.67	23.70	1.50	1.50	0.00	
900.00	7.95	281.80	898.30	7.51	-35.93	35.99	1.50	1.50	0.00	
1,000.00	9.45	281.80	997.15	10.60	-50.74	50.82	1.50	1.50	0.00	
1,100.00	10.95	281.80	1,095.56	14.22	-68.07	68.18	1.50	1.50	0.00	
1,200.00	12.45	281.80	1,193.48	18.37	-87.92	88.06	1.50	1.50	0.00	
1,300.00	13.95	281.80	1,290.84	23.04	-110.28	110.45	1.50	1.50	0.00	
1,400.00	15.45	281.80	1,387.56	28.23	-135.12	135.33	1.50	1.50	0.00	
1,430.67	15.91	281.80	1,417.09	29.92	-143.23	143.45	1.50	1.50	0.00	
Hold Tangent @ 1430.67ft										
1,500.00	15.91	281.80	1,483.77	33.81	-161.83	162.09	0.00	0.00	0.00	
1,516.88	15.91	281.80	1,500.00	34.75	-166.36	166.62	0.00	0.00	0.00	
9 5/8"										
1,600.00	15.91	281.80	1,579.94	39.41	-188.67	188.96	0.00	0.00	0.00	
1,700.00	15.91	281.80	1,676.10	45.02	-215.50	215.84	0.00	0.00	0.00	
1,800.00	15.91	281.80	1,772.27	50.63	-242.33	242.71	0.00	0.00	0.00	
1,900.00	15.91	281.80	1,868.44	56.23	-269.17	269.59	0.00	0.00	0.00	
2,000.00	15.91	281.80	1,964.61	61.84	-296.00	296.47	0.00	0.00	0.00	
2,100.00	15.91	281.80	2,060.78	67.44	-322.83	323.34	0.00	0.00	0.00	
2,200.00	15.91	281.80	2,156.95	73.05	-349.67	350.22	0.00	0.00	0.00	
2,300.00	15.91	281.80	2,253.12	78.65	-376.50	377.09	0.00	0.00	0.00	
2,400.00	15.91	281.80	2,349.29	84.26	-403.33	403.97	0.00	0.00	0.00	
2,500.00	15.91	281.80	2,445.46	89.87	-430.17	430.84	0.00	0.00	0.00	
2,600.00	15.91	281.80	2,541.63	95.47	-457.00	457.72	0.00	0.00	0.00	
2,700.00	15.91	281.80	2,637.80	101.08	-483.83	484.60	0.00	0.00	0.00	
2,800.00	15.91	281.80	2,733.97	106.68	-510.67	511.47	0.00	0.00	0.00	
2,900.00	15.91	281.80	2,830.14	112.29	-537.50	538.35	0.00	0.00	0.00	
3,000.00	15.91	281.80	2,926.31	117.90	-564.33	565.22	0.00	0.00	0.00	
3,100.00	15.91	281.80	3,022.48	123.50	-591.17	592.10	0.00	0.00	0.00	
3,200.00	15.91	281.80	3,118.64	129.11	-618.00	618.97	0.00	0.00	0.00	
3,300.00	15.91	281.80	3,214.81	134.71	-644.83	645.85	0.00	0.00	0.00	
3,400.00	15.91	281.80	3,310.98	140.32	-671.67	672.72	0.00	0.00	0.00	
3,500.00	15.91	281.80	3,407.15	145.92	-698.50	699.60	0.00	0.00	0.00	
3,600.00	15.91	281.80	3,503.32	151.53	-725.33	726.48	0.00	0.00	0.00	
3,698.45	15.91	281.80	3,598.00	157.05	-751.75	752.94	0.00	0.00	0.00	
Parkman										
3,700.00	15.91	281.80	3,599.49	157.14	-752.17	753.35	0.00	0.00	0.00	
3,800.00	15.91	281.80	3,695.66	162.74	-779.00	780.23	0.00	0.00	0.00	
3,900.00	15.91	281.80	3,791.83	168.35	-805.83	807.10	0.00	0.00	0.00	
4,000.00	15.91	281.80	3,888.00	173.95	-832.67	833.98	0.00	0.00	0.00	
4,100.00	15.91	281.80	3,984.17	179.56	-859.50	860.85	0.00	0.00	0.00	
4,199.65	15.91	281.80	4,080.00	185.15	-886.24	887.64	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SWARTZ 4-10HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4842.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4842.00usft (RIG)
Site:	3N-67W-04 SWARTZ 2-4HZ PAD	North Reference:	True
Well:	SWARTZ 4-10HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
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)	
Sussex										
4,200.00	15.91	281.80	4,080.34	185.16	-886.33	887.73	0.00	0.00	0.00	
4,300.00	15.91	281.80	4,176.51	190.77	-913.17	914.61	0.00	0.00	0.00	
4,400.00	15.91	281.80	4,272.68	196.38	-940.00	941.48	0.00	0.00	0.00	
4,500.00	15.91	281.80	4,368.85	201.98	-966.83	968.36	0.00	0.00	0.00	
4,600.00	15.91	281.80	4,465.02	207.59	-993.67	995.23	0.00	0.00	0.00	
4,700.00	15.91	281.80	4,561.18	213.19	-1,020.50	1,022.11	0.00	0.00	0.00	
4,800.00	15.91	281.80	4,657.35	218.80	-1,047.33	1,048.98	0.00	0.00	0.00	
4,900.00	15.91	281.80	4,753.52	224.41	-1,074.17	1,075.86	0.00	0.00	0.00	
5,000.00	15.91	281.80	4,849.69	230.01	-1,101.00	1,102.74	0.00	0.00	0.00	
5,100.00	15.91	281.80	4,945.86	235.62	-1,127.84	1,129.61	0.00	0.00	0.00	
5,200.00	15.91	281.80	5,042.03	241.22	-1,154.67	1,156.49	0.00	0.00	0.00	
5,300.00	15.91	281.80	5,138.20	246.83	-1,181.50	1,183.36	0.00	0.00	0.00	
5,400.00	15.91	281.80	5,234.37	252.43	-1,208.34	1,210.24	0.00	0.00	0.00	
5,500.00	15.91	281.80	5,330.54	258.04	-1,235.17	1,237.11	0.00	0.00	0.00	
5,600.00	15.91	281.80	5,426.71	263.65	-1,262.00	1,263.99	0.00	0.00	0.00	
5,700.00	15.91	281.80	5,522.88	269.25	-1,288.84	1,290.87	0.00	0.00	0.00	
5,800.00	15.91	281.80	5,619.05	274.86	-1,315.67	1,317.74	0.00	0.00	0.00	
5,900.00	15.91	281.80	5,715.22	280.46	-1,342.50	1,344.62	0.00	0.00	0.00	
6,000.00	15.91	281.80	5,811.39	286.07	-1,369.34	1,371.49	0.00	0.00	0.00	
6,100.00	15.91	281.80	5,907.56	291.67	-1,396.17	1,398.37	0.00	0.00	0.00	
6,200.00	15.91	281.80	6,003.73	297.28	-1,423.00	1,425.24	0.00	0.00	0.00	
6,300.00	15.91	281.80	6,099.89	302.89	-1,449.84	1,452.12	0.00	0.00	0.00	
6,400.00	15.91	281.80	6,196.06	308.49	-1,476.67	1,478.99	0.00	0.00	0.00	
6,500.00	15.91	281.80	6,292.23	314.10	-1,503.50	1,505.87	0.00	0.00	0.00	
6,600.00	15.91	281.80	6,388.40	319.70	-1,530.34	1,532.75	0.00	0.00	0.00	
6,700.00	15.91	281.80	6,484.57	325.31	-1,557.17	1,559.62	0.00	0.00	0.00	
6,800.00	15.91	281.80	6,580.74	330.92	-1,584.00	1,586.50	0.00	0.00	0.00	
6,882.75	15.91	281.80	6,660.32	335.55	-1,606.21	1,608.74	0.00	0.00	0.00	
KOP @ 6882.75ft :: DLS = 8°/100'										
6,900.00	17.26	280.88	6,676.85	336.52	-1,611.04	1,613.57	8.00	7.86	-5.32	
6,950.00	21.21	278.87	6,724.05	339.32	-1,627.27	1,629.82	8.00	7.89	-4.03	
7,000.00	25.17	277.47	6,770.00	342.10	-1,646.75	1,649.33	8.00	7.92	-2.81	
7,050.00	29.14	276.42	6,814.48	344.84	-1,669.40	1,672.00	8.00	7.94	-2.09	
7,080.74	31.59	275.90	6,841.00	346.51	-1,684.85	1,687.46	8.00	7.95	-1.69	
Sharon Springs										
7,100.00	33.12	275.61	6,857.27	347.54	-1,695.11	1,697.73	8.00	7.96	-1.51	
7,116.52	34.44	275.38	6,871.00	348.42	-1,704.25	1,706.87	8.00	7.96	-1.40	
Niobrara										
7,150.00	37.10	274.96	6,898.17	350.18	-1,723.74	1,726.38	8.00	7.97	-1.27	
7,200.00	41.09	274.41	6,936.96	352.75	-1,755.16	1,757.82	8.00	7.97	-1.09	
7,250.00	45.08	273.95	6,973.47	355.23	-1,789.22	1,791.89	8.00	7.97	-0.93	
7,300.00	49.07	273.54	7,007.52	357.62	-1,825.74	1,828.43	8.00	7.98	-0.81	
7,324.10	50.99	273.37	7,023.00	358.73	-1,844.17	1,846.87	8.00	7.98	-0.74	
Nio B										
7,350.00	53.06	273.18	7,038.94	359.89	-1,864.56	1,867.27	8.00	7.98	-0.70	
7,377.43	55.25	273.00	7,055.00	361.09	-1,886.75	1,889.47	8.00	7.98	-0.66	
Nio C										
7,400.00	57.05	272.86	7,067.58	362.05	-1,905.47	1,908.20	8.00	7.98	-0.63	
7,450.00	61.04	272.57	7,093.29	364.08	-1,948.30	1,951.03	8.00	7.98	-0.59	
7,500.00	65.03	272.30	7,115.96	365.97	-1,992.81	1,995.56	8.00	7.99	-0.54	
7,550.00	69.03	272.04	7,135.47	367.71	-2,038.80	2,041.57	8.00	7.99	-0.51	
7,600.00	73.02	271.80	7,151.72	369.29	-2,086.05	2,088.82	8.00	7.99	-0.48	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SWARTZ 4-10HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4842.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4842.00usft (RIG)
Site:	3N-67W-04 SWARTZ 2-4HZ PAD	North Reference:	True
Well:	SWARTZ 4-10HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
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)	
7,618.88	74.53	271.71	7,157.00	369.85	-2,104.17	2,106.95	8.00	7.99	-0.47	
Fort Hayes										
7,650.00	77.01	271.57	7,164.65	370.71	-2,134.32	2,137.10	8.00	7.99	-0.46	
7,700.00	81.01	271.34	7,174.18	371.96	-2,183.38	2,186.17	8.00	7.99	-0.45	
7,727.87	83.23	271.22	7,178.00	372.57	-2,210.97	2,213.77	8.00	7.99	-0.44	
Codell										
7,750.00	85.00	271.12	7,180.27	373.02	-2,232.98	2,235.78	8.00	7.99	-0.44	
7,800.00	88.99	270.91	7,182.89	373.91	-2,282.90	2,285.70	8.00	7.99	-0.43	
7,812.96	90.03	270.85	7,183.00	374.11	-2,295.86	2,298.66	8.00	7.99	-0.43	
End Build @ 7812.96ft										
7,900.00	90.03	270.85	7,182.95	375.40	-2,382.88	2,385.70	0.00	0.00	0.00	
8,000.00	90.03	270.85	7,182.90	376.88	-2,482.87	2,485.69	0.00	0.00	0.00	
8,100.00	90.03	270.85	7,182.85	378.36	-2,582.86	2,585.69	0.00	0.00	0.00	
8,200.00	90.03	270.85	7,182.79	379.85	-2,682.85	2,685.69	0.00	0.00	0.00	
8,300.00	90.03	270.85	7,182.74	381.33	-2,782.84	2,785.69	0.00	0.00	0.00	
8,400.00	90.03	270.85	7,182.69	382.81	-2,882.83	2,885.68	0.00	0.00	0.00	
8,500.00	90.03	270.85	7,182.64	384.30	-2,982.82	2,985.68	0.00	0.00	0.00	
8,600.00	90.03	270.85	7,182.59	385.78	-3,082.81	3,085.68	0.00	0.00	0.00	
8,700.00	90.03	270.85	7,182.53	387.26	-3,182.80	3,185.68	0.00	0.00	0.00	
8,800.00	90.03	270.85	7,182.48	388.75	-3,282.78	3,285.67	0.00	0.00	0.00	
8,900.00	90.03	270.85	7,182.43	390.23	-3,382.77	3,385.67	0.00	0.00	0.00	
9,000.00	90.03	270.85	7,182.38	391.71	-3,482.76	3,485.67	0.00	0.00	0.00	
9,100.00	90.03	270.85	7,182.32	393.20	-3,582.75	3,585.67	0.00	0.00	0.00	
9,200.00	90.03	270.85	7,182.27	394.68	-3,682.74	3,685.66	0.00	0.00	0.00	
9,300.00	90.03	270.85	7,182.22	396.16	-3,782.73	3,785.66	0.00	0.00	0.00	
9,400.00	90.03	270.85	7,182.17	397.65	-3,882.72	3,885.66	0.00	0.00	0.00	
9,500.00	90.03	270.85	7,182.11	399.13	-3,982.71	3,985.66	0.00	0.00	0.00	
9,600.00	90.03	270.85	7,182.06	400.62	-4,082.70	4,085.65	0.00	0.00	0.00	
9,700.00	90.03	270.85	7,182.01	402.10	-4,182.69	4,185.65	0.00	0.00	0.00	
9,800.00	90.03	270.85	7,181.96	403.58	-4,282.67	4,285.65	0.00	0.00	0.00	
9,900.00	90.03	270.85	7,181.90	405.07	-4,382.66	4,385.65	0.00	0.00	0.00	
10,000.00	90.03	270.85	7,181.85	406.55	-4,482.65	4,485.64	0.00	0.00	0.00	
Begin Turn for AC @ 10000.00ft										
10,050.00	90.03	271.60	7,181.83	407.62	-4,532.64	4,535.64	1.50	0.00	1.50	
End Turn @ 10050.00ft										
10,100.00	90.03	271.60	7,181.80	409.01	-4,582.62	4,585.63	0.00	0.00	0.00	
10,200.00	90.03	271.60	7,181.75	411.81	-4,682.58	4,685.61	0.00	0.00	0.00	
10,300.00	90.03	271.60	7,181.70	414.60	-4,782.54	4,785.59	0.00	0.00	0.00	
10,400.00	90.03	271.60	7,181.64	417.39	-4,882.50	4,885.57	0.00	0.00	0.00	
10,500.00	90.03	271.60	7,181.59	420.18	-4,982.47	4,985.55	0.00	0.00	0.00	
10,600.00	90.03	271.60	7,181.54	422.98	-5,082.43	5,085.52	0.00	0.00	0.00	
10,700.00	90.03	271.60	7,181.49	425.77	-5,182.39	5,185.50	0.00	0.00	0.00	
10,800.00	90.03	271.60	7,181.43	428.56	-5,282.35	5,285.48	0.00	0.00	0.00	
10,900.00	90.03	271.60	7,181.38	431.35	-5,382.31	5,385.46	0.00	0.00	0.00	
11,000.00	90.03	271.60	7,181.33	434.14	-5,482.27	5,485.44	0.00	0.00	0.00	
11,100.00	90.03	271.60	7,181.28	436.94	-5,582.23	5,585.42	0.00	0.00	0.00	
11,200.00	90.03	271.60	7,181.22	439.73	-5,682.19	5,685.40	0.00	0.00	0.00	
11,300.00	90.03	271.60	7,181.17	442.52	-5,782.15	5,785.38	0.00	0.00	0.00	
11,400.00	90.03	271.60	7,181.12	445.31	-5,882.11	5,885.36	0.00	0.00	0.00	
11,500.00	90.03	271.60	7,181.07	448.10	-5,982.08	5,985.34	0.00	0.00	0.00	
11,600.00	90.03	271.60	7,181.01	450.90	-6,082.04	6,085.32	0.00	0.00	0.00	
11,700.00	90.03	271.60	7,180.96	453.69	-6,182.00	6,185.30	0.00	0.00	0.00	
11,800.00	90.03	271.60	7,180.91	456.48	-6,281.96	6,285.28	0.00	0.00	0.00	
11,900.00	90.03	271.60	7,180.86	459.27	-6,381.92	6,385.26	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SWARTZ 4-10HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4842.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4842.00usft (RIG)
Site:	3N-67W-04 SWARTZ 2-4HZ PAD	North Reference:	True
Well:	SWARTZ 4-10HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
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)
12,000.00	90.03	271.60	7,180.81	462.07	-6,481.88	6,485.24	0.00	0.00	0.00
12,100.00	90.03	271.60	7,180.75	464.86	-6,581.84	6,585.22	0.00	0.00	0.00
12,200.00	90.03	271.60	7,180.70	467.65	-6,681.80	6,685.20	0.00	0.00	0.00
12,300.00	90.03	271.60	7,180.65	470.44	-6,781.76	6,785.18	0.00	0.00	0.00
12,400.00	90.03	271.60	7,180.60	473.23	-6,881.72	6,885.16	0.00	0.00	0.00
12,500.00	90.03	271.60	7,180.54	476.03	-6,981.69	6,985.14	0.00	0.00	0.00
12,600.00	90.03	271.60	7,180.49	478.82	-7,081.65	7,085.11	0.00	0.00	0.00
12,700.00	90.03	271.60	7,180.44	481.61	-7,181.61	7,185.09	0.00	0.00	0.00
12,800.00	90.03	271.60	7,180.39	484.40	-7,281.57	7,285.07	0.00	0.00	0.00
12,900.00	90.03	271.60	7,180.33	487.19	-7,381.53	7,385.05	0.00	0.00	0.00
13,000.00	90.03	271.60	7,180.28	489.99	-7,481.49	7,485.03	0.00	0.00	0.00
13,100.00	90.03	271.60	7,180.23	492.78	-7,581.45	7,585.01	0.00	0.00	0.00
13,200.00	90.03	271.60	7,180.18	495.57	-7,681.41	7,684.99	0.00	0.00	0.00
13,300.00	90.03	271.60	7,180.12	498.36	-7,781.37	7,784.97	0.00	0.00	0.00
13,400.00	90.03	271.60	7,180.07	501.16	-7,881.33	7,884.95	0.00	0.00	0.00
13,500.00	90.03	271.60	7,180.02	503.95	-7,981.30	7,984.93	0.00	0.00	0.00
13,600.00	90.03	271.60	7,179.97	506.74	-8,081.26	8,084.91	0.00	0.00	0.00
13,700.00	90.03	271.60	7,179.92	509.53	-8,181.22	8,184.89	0.00	0.00	0.00
13,800.00	90.03	271.60	7,179.86	512.32	-8,281.18	8,284.87	0.00	0.00	0.00
13,900.00	90.03	271.60	7,179.81	515.12	-8,381.14	8,384.85	0.00	0.00	0.00
14,000.00	90.03	271.60	7,179.76	517.91	-8,481.10	8,484.83	0.00	0.00	0.00
14,100.00	90.03	271.60	7,179.71	520.70	-8,581.06	8,584.81	0.00	0.00	0.00
14,200.00	90.03	271.60	7,179.65	523.49	-8,681.02	8,684.79	0.00	0.00	0.00
14,300.00	90.03	271.60	7,179.60	526.29	-8,780.98	8,784.77	0.00	0.00	0.00
14,400.00	90.03	271.60	7,179.55	529.08	-8,880.94	8,884.75	0.00	0.00	0.00
14,500.00	90.03	271.60	7,179.50	531.87	-8,980.91	8,984.72	0.00	0.00	0.00
14,600.00	90.03	271.60	7,179.44	534.66	-9,080.87	9,084.70	0.00	0.00	0.00
14,700.00	90.03	271.60	7,179.39	537.45	-9,180.83	9,184.68	0.00	0.00	0.00
14,800.00	90.03	271.60	7,179.34	540.25	-9,280.79	9,284.66	0.00	0.00	0.00
14,900.00	90.03	271.60	7,179.29	543.04	-9,380.75	9,384.64	0.00	0.00	0.00
15,000.00	90.03	271.60	7,179.23	545.83	-9,480.71	9,484.62	0.00	0.00	0.00
15,100.00	90.03	271.60	7,179.18	548.62	-9,580.67	9,584.60	0.00	0.00	0.00
15,200.00	90.03	271.60	7,179.13	551.41	-9,680.63	9,684.58	0.00	0.00	0.00
15,300.00	90.03	271.60	7,179.08	554.21	-9,780.59	9,784.56	0.00	0.00	0.00
15,400.00	90.03	271.60	7,179.03	557.00	-9,880.55	9,884.54	0.00	0.00	0.00
15,500.00	90.03	271.60	7,178.97	559.79	-9,980.52	9,984.52	0.00	0.00	0.00
15,600.00	90.03	271.60	7,178.92	562.58	-10,080.48	10,084.50	0.00	0.00	0.00
15,700.00	90.03	271.60	7,178.87	565.38	-10,180.44	10,184.48	0.00	0.00	0.00
15,800.00	90.03	271.60	7,178.82	568.17	-10,280.40	10,284.46	0.00	0.00	0.00
15,900.00	90.03	271.60	7,178.76	570.96	-10,380.36	10,384.44	0.00	0.00	0.00
16,000.00	90.03	271.60	7,178.71	573.75	-10,480.32	10,484.42	0.00	0.00	0.00
16,100.00	90.03	271.60	7,178.66	576.54	-10,580.28	10,584.40	0.00	0.00	0.00
16,200.00	90.03	271.60	7,178.61	579.34	-10,680.24	10,684.38	0.00	0.00	0.00
16,300.00	90.03	271.60	7,178.55	582.13	-10,780.20	10,784.36	0.00	0.00	0.00
16,400.00	90.03	271.60	7,178.50	584.92	-10,880.16	10,884.34	0.00	0.00	0.00
16,500.00	90.03	271.60	7,178.45	587.71	-10,980.13	10,984.31	0.00	0.00	0.00
16,600.00	90.03	271.60	7,178.40	590.50	-11,080.09	11,084.29	0.00	0.00	0.00
16,700.00	90.03	271.60	7,178.34	593.30	-11,180.05	11,184.27	0.00	0.00	0.00
16,800.00	90.03	271.60	7,178.29	596.09	-11,280.01	11,284.25	0.00	0.00	0.00
16,900.00	90.03	271.60	7,178.24	598.88	-11,379.97	11,384.23	0.00	0.00	0.00
17,000.00	90.03	271.60	7,178.19	601.67	-11,479.93	11,484.21	0.00	0.00	0.00
17,100.00	90.03	271.60	7,178.13	604.47	-11,579.89	11,584.19	0.00	0.00	0.00
17,200.00	90.03	271.60	7,178.08	607.26	-11,679.85	11,684.17	0.00	0.00	0.00
17,300.00	90.03	271.60	7,178.03	610.05	-11,779.81	11,784.15	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SWARTZ 4-10HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4842.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4842.00usft (RIG)
Site:	3N-67W-04 SWARTZ 2-4HZ PAD	North Reference:	True
Well:	SWARTZ 4-10HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
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)
17,375.00	90.03	271.60	7,177.99	612.14	-11,854.78	11,859.14	0.00	0.00	0.00
Begin Turn for AC @ 17375.00ft									
17,400.00	90.03	271.23	7,177.98	612.76	-11,879.78	11,884.13	1.50	0.00	-1.50
17,500.00	90.03	269.73	7,177.93	613.59	-11,979.77	11,984.13	1.50	0.00	-1.50
17,529.67	90.03	269.28	7,177.91	613.33	-12,009.44	12,013.79	1.50	0.00	-1.50
End Turn @ 17529.67ft									
17,600.00	90.03	269.28	7,177.87	612.45	-12,079.76	12,084.11	0.00	0.00	0.00
17,700.00	90.03	269.28	7,177.82	611.19	-12,179.76	12,184.09	0.00	0.00	0.00
17,800.00	90.03	269.28	7,177.77	609.93	-12,279.75	12,284.07	0.00	0.00	0.00
17,900.00	90.03	269.28	7,177.72	608.68	-12,379.74	12,384.05	0.00	0.00	0.00
18,000.00	90.03	269.28	7,177.66	607.42	-12,479.73	12,484.03	0.00	0.00	0.00
18,100.00	90.03	269.28	7,177.61	606.16	-12,579.72	12,584.01	0.00	0.00	0.00
18,200.00	90.03	269.28	7,177.56	604.91	-12,679.72	12,683.99	0.00	0.00	0.00
18,300.00	90.03	269.28	7,177.51	603.65	-12,779.71	12,783.97	0.00	0.00	0.00
18,400.00	90.03	269.28	7,177.45	602.40	-12,879.70	12,883.95	0.00	0.00	0.00
18,500.00	90.03	269.28	7,177.40	601.14	-12,979.69	12,983.93	0.00	0.00	0.00
18,600.00	90.03	269.28	7,177.35	599.88	-13,079.68	13,083.91	0.00	0.00	0.00
18,700.00	90.03	269.28	7,177.30	598.63	-13,179.68	13,183.88	0.00	0.00	0.00
18,800.00	90.03	269.28	7,177.24	597.37	-13,279.67	13,283.86	0.00	0.00	0.00
18,900.00	90.03	269.28	7,177.19	596.11	-13,379.66	13,383.84	0.00	0.00	0.00
18,960.00	90.03	269.28	7,177.16	595.36	-13,439.66	13,443.83	0.00	0.00	0.00
Begin Turn for Setback Buffer @ 18960.00ft									
19,000.00	90.03	268.68	7,177.14	594.65	-13,479.65	13,483.82	1.50	0.00	-1.50
19,100.00	90.03	267.18	7,177.09	591.03	-13,579.58	13,583.72	1.50	0.00	-1.50
19,132.00	90.03	266.70	7,177.07	589.33	-13,611.54	13,615.66	1.50	0.00	-1.50
End Turn @ 19132.00ft									
19,200.00	90.03	266.70	7,177.04	585.41	-13,679.42	13,683.51	0.00	0.00	0.00
19,300.00	90.03	266.70	7,176.98	579.66	-13,779.26	13,783.30	0.00	0.00	0.00
19,400.00	90.03	266.70	7,176.93	573.90	-13,879.09	13,883.09	0.00	0.00	0.00
19,500.00	90.03	266.70	7,176.88	568.14	-13,978.93	13,982.88	0.00	0.00	0.00
19,600.00	90.03	266.70	7,176.83	562.39	-14,078.76	14,082.66	0.00	0.00	0.00
19,700.00	90.03	266.70	7,176.77	556.63	-14,178.59	14,182.45	0.00	0.00	0.00
19,800.00	90.03	266.70	7,176.72	550.87	-14,278.43	14,282.24	0.00	0.00	0.00
19,900.00	90.03	266.70	7,176.67	545.12	-14,378.26	14,382.02	0.00	0.00	0.00
20,000.00	90.03	266.70	7,176.62	539.36	-14,478.10	14,481.81	0.00	0.00	0.00
20,100.00	90.03	266.70	7,176.56	533.60	-14,577.93	14,581.60	0.00	0.00	0.00
20,200.00	90.03	266.70	7,176.51	527.85	-14,677.76	14,681.39	0.00	0.00	0.00
20,300.00	90.03	266.70	7,176.46	522.09	-14,777.60	14,781.17	0.00	0.00	0.00
20,400.00	90.03	266.70	7,176.41	516.33	-14,877.43	14,880.96	0.00	0.00	0.00
20,500.00	90.03	266.70	7,176.35	510.58	-14,977.27	14,980.75	0.00	0.00	0.00
20,600.00	90.03	266.70	7,176.30	504.82	-15,077.10	15,080.53	0.00	0.00	0.00
20,700.00	90.03	266.70	7,176.25	499.07	-15,176.94	15,180.32	0.00	0.00	0.00
20,800.00	90.03	266.70	7,176.20	493.31	-15,276.77	15,280.11	0.00	0.00	0.00
20,900.00	90.03	266.70	7,176.15	487.55	-15,376.60	15,379.89	0.00	0.00	0.00
21,000.00	90.03	266.70	7,176.09	481.80	-15,476.44	15,479.68	0.00	0.00	0.00
21,100.00	90.03	266.70	7,176.04	476.04	-15,576.27	15,579.47	0.00	0.00	0.00
21,200.00	90.03	266.70	7,175.99	470.28	-15,676.11	15,679.26	0.00	0.00	0.00
21,300.00	90.03	266.70	7,175.94	464.53	-15,775.94	15,779.04	0.00	0.00	0.00
21,400.00	90.03	266.70	7,175.88	458.77	-15,875.77	15,878.83	0.00	0.00	0.00
21,500.00	90.03	266.70	7,175.83	453.01	-15,975.61	15,978.62	0.00	0.00	0.00
21,562.00	90.03	266.70	7,175.80	449.45	-16,037.51	16,040.48	0.00	0.00	0.00
Begin Turn to BHL @ 21562.00ft									
21,600.00	90.03	267.27	7,175.78	447.45	-16,075.45	16,078.42	1.50	0.00	1.50

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SWARTZ 4-10HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4842.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4842.00usft (RIG)
Site:	3N-67W-04 SWARTZ 2-4HZ PAD	North Reference:	True
Well:	SWARTZ 4-10HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
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)
21,700.00	90.03	268.77	7,175.72	443.99	-16,175.39	16,178.32	1.50	0.00	1.50
21,800.00	90.04	270.27	7,175.66	443.15	-16,275.38	16,278.31	1.50	0.00	1.50
21,870.70	90.04	271.33	7,175.62	444.14	-16,346.08	16,349.01	1.50	0.00	1.50
End Turn @ 21870.70ft									
21,900.00	90.04	271.33	7,175.60	444.82	-16,375.37	16,378.30	0.00	0.00	0.00
22,000.00	90.04	271.33	7,175.53	447.14	-16,475.34	16,478.29	0.00	0.00	0.00
22,100.00	90.04	271.33	7,175.47	449.47	-16,575.31	16,578.28	0.00	0.00	0.00
22,200.00	90.04	271.33	7,175.40	451.79	-16,675.29	16,678.27	0.00	0.00	0.00
22,300.00	90.04	271.33	7,175.34	454.11	-16,775.26	16,778.25	0.00	0.00	0.00
22,400.00	90.04	271.33	7,175.27	456.43	-16,875.23	16,878.24	0.00	0.00	0.00
22,500.00	90.04	271.33	7,175.21	458.75	-16,975.21	16,978.23	0.00	0.00	0.00
22,600.00	90.04	271.33	7,175.14	461.08	-17,075.18	17,078.22	0.00	0.00	0.00
22,700.00	90.04	271.33	7,175.08	463.40	-17,175.15	17,178.20	0.00	0.00	0.00
22,800.00	90.04	271.33	7,175.01	465.72	-17,275.13	17,278.19	0.00	0.00	0.00
22,900.00	90.04	271.33	7,174.95	468.04	-17,375.10	17,378.18	0.00	0.00	0.00
23,000.00	90.04	271.33	7,174.88	470.36	-17,475.07	17,478.17	0.00	0.00	0.00
23,100.00	90.04	271.33	7,174.82	472.69	-17,575.04	17,578.16	0.00	0.00	0.00
23,200.00	90.04	271.33	7,174.75	475.01	-17,675.02	17,678.14	0.00	0.00	0.00
23,300.00	90.04	271.33	7,174.69	477.33	-17,774.99	17,778.13	0.00	0.00	0.00
23,400.00	90.04	271.33	7,174.62	479.65	-17,874.96	17,878.12	0.00	0.00	0.00
23,500.00	90.04	271.33	7,174.56	481.97	-17,974.94	17,978.11	0.00	0.00	0.00
23,600.00	90.04	271.33	7,174.49	484.30	-18,074.91	18,078.10	0.00	0.00	0.00
23,700.00	90.04	271.33	7,174.43	486.62	-18,174.88	18,178.08	0.00	0.00	0.00
23,800.00	90.04	271.33	7,174.36	488.94	-18,274.86	18,278.07	0.00	0.00	0.00
23,900.00	90.04	271.33	7,174.30	491.26	-18,374.83	18,378.06	0.00	0.00	0.00
24,000.00	90.04	271.33	7,174.23	493.58	-18,474.80	18,478.05	0.00	0.00	0.00
24,100.00	90.04	271.33	7,174.17	495.91	-18,574.77	18,578.04	0.00	0.00	0.00
24,200.00	90.04	271.33	7,174.10	498.23	-18,674.75	18,678.02	0.00	0.00	0.00
24,300.00	90.04	271.33	7,174.04	500.55	-18,774.72	18,778.01	0.00	0.00	0.00
24,361.31	90.04	271.33	7,174.00	501.97	-18,836.01	18,839.31	0.00	0.00	0.00
TD Well @ 24361.31ft									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,516.88	1,500.00	9 5/8"	9-5/8	13-1/2
24,361.31	7,174.00	5.5" CSG	5-1/2	7-7/8

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SWARTZ 4-10HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4842.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4842.00usft (RIG)
Site:	3N-67W-04 SWARTZ 2-4HZ PAD	North Reference:	True
Well:	SWARTZ 4-10HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	Permit Rev-1		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
707.44	707.00	Fox Hills			
3,698.45	3,598.00	Parkman			
4,199.65	4,080.00	Sussex			
7,080.74	6,841.00	Sharon Springs			
7,116.52	6,871.00	Niobrara			
7,324.10	7,023.00	Nio B			
7,377.43	7,055.00	Nio C			
7,618.88	7,157.00	Fort Hayes			
7,727.87	7,178.00	Codell			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
370.00	370.00	0.00	0.00	Begin Nudge @ 370.00ft
1,430.67	1,417.09	29.92	-143.23	Hold Tangent @ 1430.67ft
6,882.75	6,660.32	335.55	-1,606.21	KOP @ 6882.75ft :: DLS = 8°/100'
7,812.96	7,183.00	374.11	-2,295.86	End Build @ 7812.96ft
10,000.00	7,181.85	406.55	-4,482.65	Begin Turn for AC @ 10000.00ft
10,050.00	7,181.83	407.62	-4,532.64	End Turn @ 10050.00ft
17,375.00	7,177.99	612.14	-11,854.78	Begin Turn for AC @ 17375.00ft
17,529.67	7,177.91	613.33	-12,009.44	End Turn @ 17529.67ft
18,960.00	7,177.16	595.36	-13,439.66	Begin Turn for Setback Buffer @ 18960.00ft
19,132.00	7,177.07	589.33	-13,611.54	End Turn @ 19132.00ft
21,562.00	7,175.80	449.45	-16,037.51	Begin Turn to BHL @ 21562.00ft
21,870.70	7,175.62	444.14	-16,346.08	End Turn @ 21870.70ft
24,361.31	7,174.00	501.97	-18,836.01	TD Well @ 24361.31ft