

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
3N-67W-04 SWARTZ 2-4HZ PAD
SWARTZ 4-16HZ**

Plan A

Plan: Permit Rev-1

Standard Planning Report

15 December, 2021

Project: WELD-NAD83-UTMFT13N Site: 3N-67W-04 SWARTZ 2-4HZ PAD Well: SWARTZ 4-16HZ Wellbore: Plan A Design: Permit Rev-1

SECTION DETAILS	
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Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00
3	1800.00	24.00	213.43	1753.62	-275.60	-181.93	1.50	213.43	-174.95
4	4984.50	24.00	213.43	4662.81	-1356.56	-895.51	0.00	0.00	-861.14
5	6184.50	0.00	0.00	5828.02	-1563.26	-1031.96	2.00	180.00	-992.35
6	6658.30	0.00	0.00	6301.82	-1563.26	-1031.96	0.00	0.00	-992.35
7	7778.45	89.61	91.11	7018.00	-1577.07	-320.74	8.00	91.11	-281.01
8	14538.72	89.61	91.11	7063.75	-1708.30	6438.10	0.00	0.00	6479.00
9	14590.66	88.79	91.75	7064.47	-1709.60	6490.01	2.00	141.95	6530.92
10	22552.94	88.79	91.75	7232.00	-1953.06	14446.81	0.00	0.00	14491.33

CASING DETAILS	
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TVD	MD	Name	Size
1500.00	1526.50	9 5/8"	9-5/8
7232.00	22552.94	5.5" CSG	5-1/2

FORMATION TOP DETAILS	
1	1
2	2
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82	82
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84	84
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89	89
90	90
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92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

TVDPath	MDPPath	Formation
707.00	708.50	Fox Hills
3598.00	3818.93	Parkman
4080.00	4346.54	Sussex
6841.00	7268.76	Sharon Springs
6871.00	7316.17	Niobrara
7023.00	8517.18	Nio B
7055.00	13245.53	Nio C
7157.00	18988.29	Fort Hayes
7178.00	19986.39	Codell

ELEVATION	
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GROUND ELEVATION: 4825.00
RKB = 17' @ 4842ft

FOOTAGE CALLOUTS	
1	00:00:00 - 00:00:05
2	00:00:05 - 00:00:10
3	00:00:10 - 00:00:15
4	00:00:15 - 00:00:20
5	00:00:20 - 00:00:25
6	00:00:25 - 00:00:30
7	00:00:30 - 00:00:35
8	00:00:35 - 00:00:40
9	00:00:40 - 00:00:45
10	00:00:45 - 00:00:50
11	00:00:50 - 00:00:55
12	00:00:55 - 00:01:00
13	00:01:00 - 00:01:05
14	00:01:05 - 00:01:10
15	00:01:10 - 00:01:15
16	00:01:15 - 00:01:20
17	00:01:20 - 00:01:25
18	00:01:25 - 00:01:30
19	00:01:30 - 00:01:35
20	00:01:35 - 00:01:40
21	00:01:40 - 00:01:45
22	00:01:45 - 00:01:50
23	00:01:50 - 00:01:55
24	00:01:55 - 00:02:00
25	00:02:00 - 00:02:05
26	00:02:05 - 00:02:10
27	00:02:10 - 00:02:15
28	00:02:15 - 00:02:20
29	00:02:20 - 00:02:25
30	00:02:25 - 00:02:30
31	00:02:30 - 00:02:35
32	00:02:35 - 00:02:40
33	00:02:40 - 00:02:45
34	00:02:45 - 00:02:50
35	00:02:50 - 00:02:55
36	00:02:55 - 00:03:00
37	00:03:00 - 00:03:05
38	00:03:05 - 00:03:10
39	00:03:10 - 00:03:15
40	00:03:15 - 00:03:20
41	00:03:20 - 00:03:25
42	00:03:25 - 00:03:30
43	00:03:30 - 00:03:35
44	00:03:35 - 00:03:40
45	00:03:40 - 00:03:45
46	00:03:45 - 00:03:50
47	00:03:50 - 00:03:55
48	00:03:55 - 00:04:00
49	00:04:00 - 00:04:05
50	00:04:05 - 00:04:10
51	00:04:10 - 00:04:15
52	00:04:15 - 00:04:20
53	00:04:20 - 00:04:25
54	00:04:25 - 00:04:30
55	00:04:30 - 00:04:35
56	00:04:35 - 00:04:40
57	00:04:40 - 00:04:45
58	00:04:45 - 00:04:50
59	00:04:50 - 00:04:55
60	00:04:55 - 00:05:00
61	00:05:00 - 00:05:05
62	00:05:05 - 00:05:10
63	00:05:10 - 00:05:15
64	00:05:15 - 00:05:20
65	00:05:20 - 00:05:25
66	00:05:25 - 00:05:30
67	00:05:30 - 00:05:35
68	00:05:35 - 00:05:40
69	00:05:40 - 00:05:45
70	00:05:45 - 00:05:50
71	00:05:50 - 00:05:55
72	00:05:55 - 00:06:00
73	00:06:00 - 00:06:05
74	00:06:05 - 00:06:10
75	00:06:10 - 00:06:15
76	00:06:15 - 00:06:20
77	00:06:20 - 00:06:25
78	00:06:25 - 00:06:30
79	00:06:30 - 00:06:35
80	00:06:35 - 00:06:40
81	00:06:40 - 00:06:45
82	00:06:45 - 00:06:50
83	00:06:50 - 00:06:55
84	00:06:55 - 00:07:00
85	00:07:00 - 00:07:05
86	00:07:05 - 00:07:10
87	00:07:10 - 00:07:15
88	00:07:15 - 00:07:20
89	00:07:20 - 00:07:25
90	00:07:25 - 00:07:30
91	00:07:30 - 00:07:35
92	00:07:35 - 00:07:40
93	00:07:40 - 00:07:45
94	00:07:45 - 00:07:50
95	00:07:50 - 00:07:55
96	00:07:55 - 00:08:00
97	00:08:00 - 00:08:05
98	00:08:05 - 00:08:10
99	00:08:10 - 00:08:15
100	00:08:15 - 00:08:20
101	00:08:20 - 00:08:25
102	00:08:25 - 00:08:30
103	00:08:30 - 00:08:35
104	00:08:35 - 00:08:40

SHL	LP	BHL
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SHL	LP	BHL
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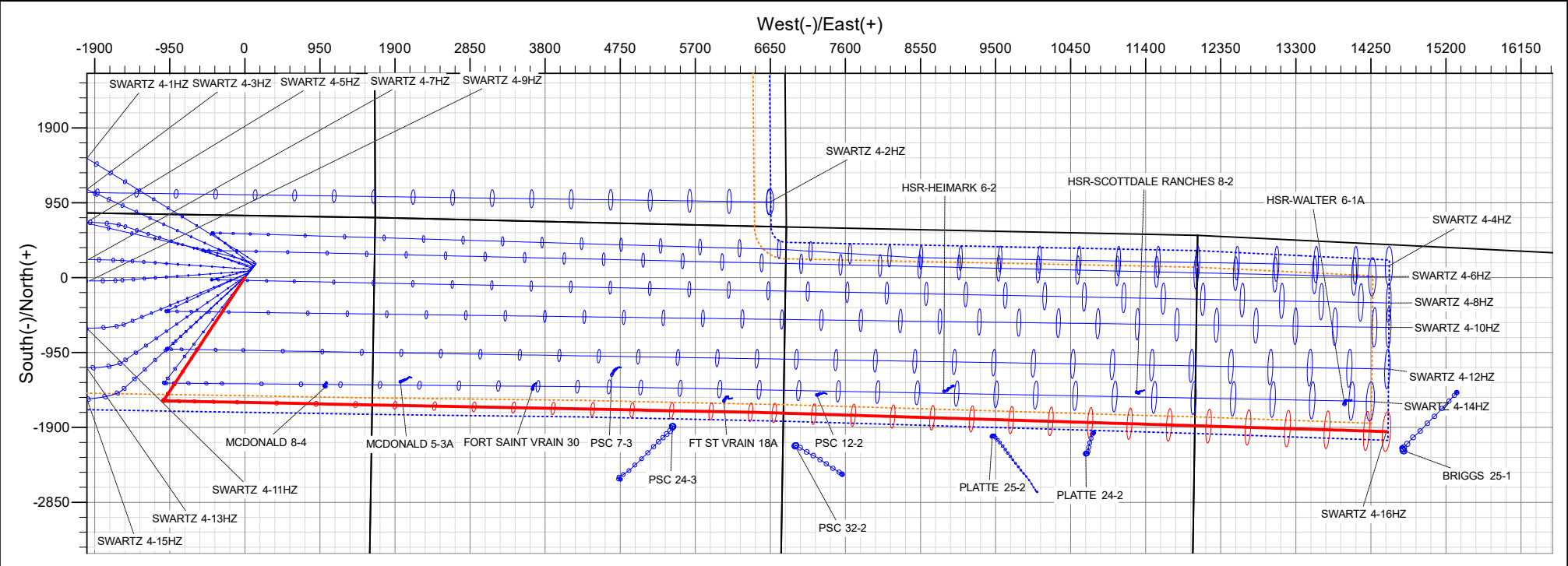
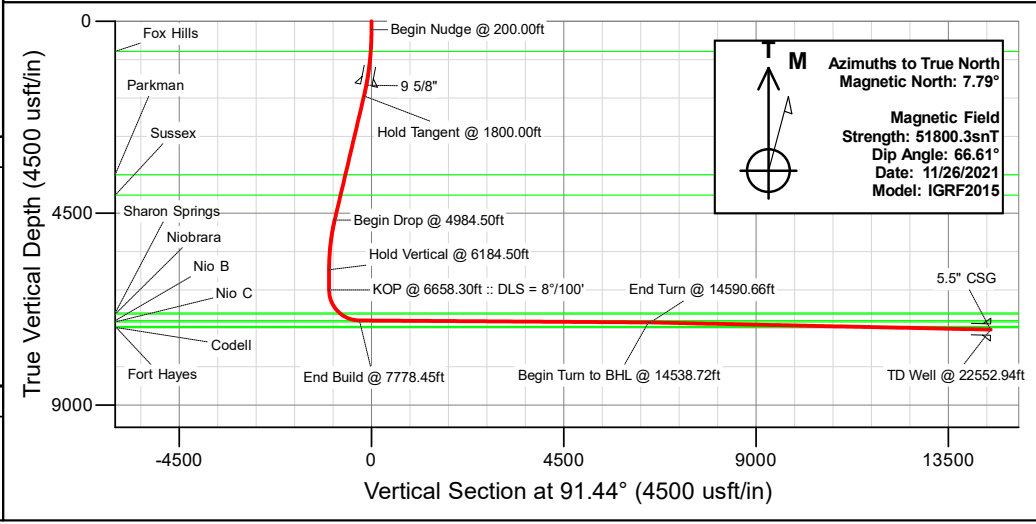
SHL	LP	BHL
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SURFACE HOLE LOCATION: SWARTZ 4-16HZ

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14621423.45	1670565.82	40.259981	-104.891933

	DESIGN TARGET DETAILS

Name	TVD	Northing	Easting	Latitude	Longitude
SWARTZ 4-16HZ KOP	6301.82	14619858.93	1669535.77	40.255688	-104.895632
SWARTZ 4-16HZ LP	7018.00	14619845.99	1670247.00	40.255650	-104.893083
SWARTZ 4-16HZ BHL	7232.00	14619488.00	1685015.00	40.254606	-104.840154



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SWARTZ 4-16HZ
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 4-16HZ	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-04 SWARTZ 2-4HZ PAD			
Site Position:		Northing:	14,621,599.90 usft	Latitude:	40.260465
From:	Map	Easting:	1,670,705.29 usft	Longitude:	-104.891433
Position Uncertainty:		0.00 usft	Slot Radius:	13-3/16 "	

Well		SWARTZ 4-16HZ				
Well Position	+N/-S	0.00 usft	Northing:	14,621,423.45 usft	Latitude:	40.259981
	+E/-W	0.00 usft	Easting:	1,670,565.82 usft	Longitude:	-104.891933
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	4,825.00 usft
Grid Convergence:		0.07 °				

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF202013	11/26/2021	7.86	66.50	51,819.97684957

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	91.44	

Plan Survey Tool Program	Date	12/8/2021			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	2,000.00	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD	
				Fixed:v2:standard declination	
2	2,000.00	22,552.94	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+II	
				Fixed:v2:Rockies, crustal dec +	

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4842.00usft (RIG)
Site:	3N-67W-04 SWARTZ 2-4HZ PAD	North Reference:	True
Well:	SWARTZ 4-16HZ	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	
1,800.00	24.00	213.43	1,753.62	-275.60	-181.93	1.50	1.50	0.00	213.43	
4,984.50	24.00	213.43	4,662.81	-1,356.56	-895.51	0.00	0.00	0.00	0.00	
6,184.50	0.00	0.00	5,828.02	-1,563.26	-1,031.96	2.00	-2.00	12.21	180.00	
6,658.30	0.00	0.00	6,301.82	-1,563.26	-1,031.96	0.00	0.00	0.00	0.00	
7,778.45	89.61	91.11	7,018.00	-1,577.07	-320.74	8.00	8.00	8.13	91.11	
14,538.72	89.61	91.11	7,063.75	-1,708.30	6,438.10	0.00	0.00	0.00	0.00	SWARTZ 4-16HZ_De
14,590.66	88.79	91.75	7,064.47	-1,709.60	6,490.01	2.00	-1.57	1.23	141.95	
22,552.94	88.79	91.75	7,232.00	-1,953.06	14,446.81	0.00	0.00	0.00	0.00	SWARTZ 4-16HZ_BH

Planning Report

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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 4-16HZ	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	213.43	299.99	-1.09	-0.72	-0.69	1.50	1.50	0.00
400.00	3.00	213.43	399.91	-4.37	-2.88	-2.77	1.50	1.50	0.00
500.00	4.50	213.43	499.69	-9.83	-6.49	-6.24	1.50	1.50	0.00
600.00	6.00	213.43	599.27	-17.46	-11.53	-11.09	1.50	1.50	0.00
700.00	7.50	213.43	698.57	-27.27	-18.00	-17.31	1.50	1.50	0.00
708.50	7.63	213.43	707.00	-28.21	-18.62	-17.90	1.50	1.50	0.00
Fox Hills									
800.00	9.00	213.43	797.54	-39.25	-25.91	-24.91	1.50	1.50	0.00
900.00	10.50	213.43	896.09	-53.38	-35.24	-33.88	1.50	1.50	0.00
1,000.00	12.00	213.43	994.16	-69.66	-45.99	-44.22	1.50	1.50	0.00
1,100.00	13.50	213.43	1,091.70	-88.08	-58.14	-55.91	1.50	1.50	0.00
1,200.00	15.00	213.43	1,188.62	-108.62	-71.70	-68.95	1.50	1.50	0.00
1,300.00	16.50	213.43	1,284.86	-131.27	-86.66	-83.33	1.50	1.50	0.00
1,400.00	18.00	213.43	1,380.36	-156.02	-102.99	-99.04	1.50	1.50	0.00
1,500.00	19.50	213.43	1,475.05	-182.85	-120.70	-116.07	1.50	1.50	0.00
1,526.50	19.90	213.43	1,500.00	-190.30	-125.62	-120.80	1.50	1.50	0.00
9 5/8"									
1,600.00	21.00	213.43	1,568.86	-211.73	-139.77	-134.41	1.50	1.50	0.00
1,700.00	22.50	213.43	1,661.74	-242.66	-160.18	-154.04	1.50	1.50	0.00
1,800.00	24.00	213.43	1,753.62	-275.60	-181.93	-174.95	1.50	1.50	0.00
Hold Tangent @ 1800.00ft									
1,900.00	24.00	213.43	1,844.97	-309.54	-204.34	-196.50	0.00	0.00	0.00
2,000.00	24.00	213.43	1,936.33	-343.49	-226.75	-218.04	0.00	0.00	0.00
2,100.00	24.00	213.43	2,027.68	-377.43	-249.15	-239.59	0.00	0.00	0.00
2,200.00	24.00	213.43	2,119.04	-411.38	-271.56	-261.14	0.00	0.00	0.00
2,300.00	24.00	213.43	2,210.39	-445.32	-293.97	-282.69	0.00	0.00	0.00
2,400.00	24.00	213.43	2,301.75	-479.27	-316.38	-304.23	0.00	0.00	0.00
2,500.00	24.00	213.43	2,393.10	-513.21	-338.79	-325.78	0.00	0.00	0.00
2,600.00	24.00	213.43	2,484.46	-547.16	-361.19	-347.33	0.00	0.00	0.00
2,700.00	24.00	213.43	2,575.81	-581.10	-383.60	-368.88	0.00	0.00	0.00
2,800.00	24.00	213.43	2,667.17	-615.04	-406.01	-390.42	0.00	0.00	0.00
2,900.00	24.00	213.43	2,758.52	-648.99	-428.42	-411.97	0.00	0.00	0.00
3,000.00	24.00	213.43	2,849.87	-682.93	-450.82	-433.52	0.00	0.00	0.00
3,100.00	24.00	213.43	2,941.23	-716.88	-473.23	-455.07	0.00	0.00	0.00
3,200.00	24.00	213.43	3,032.58	-750.82	-495.64	-476.62	0.00	0.00	0.00
3,300.00	24.00	213.43	3,123.94	-784.77	-518.05	-498.16	0.00	0.00	0.00
3,400.00	24.00	213.43	3,215.29	-818.71	-540.46	-519.71	0.00	0.00	0.00
3,500.00	24.00	213.43	3,306.65	-852.66	-562.86	-541.26	0.00	0.00	0.00
3,600.00	24.00	213.43	3,398.00	-886.60	-585.27	-562.81	0.00	0.00	0.00
3,700.00	24.00	213.43	3,489.36	-920.55	-607.68	-584.35	0.00	0.00	0.00
3,800.00	24.00	213.43	3,580.71	-954.49	-630.09	-605.90	0.00	0.00	0.00
3,818.93	24.00	213.43	3,598.00	-960.91	-634.33	-609.98	0.00	0.00	0.00
Parkman									
3,900.00	24.00	213.43	3,672.07	-988.43	-652.50	-627.45	0.00	0.00	0.00
4,000.00	24.00	213.43	3,763.42	-1,022.38	-674.90	-649.00	0.00	0.00	0.00
4,100.00	24.00	213.43	3,854.77	-1,056.32	-697.31	-670.55	0.00	0.00	0.00
4,200.00	24.00	213.43	3,946.13	-1,090.27	-719.72	-692.09	0.00	0.00	0.00
4,300.00	24.00	213.43	4,037.48	-1,124.21	-742.13	-713.64	0.00	0.00	0.00
4,346.54	24.00	213.43	4,080.00	-1,140.01	-752.56	-723.67	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SWARTZ 4-16HZ
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 4-16HZ	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)
Sussex									
4,400.00	24.00	213.43	4,128.84	-1,158.16	-764.53	-735.19	0.00	0.00	0.00
4,500.00	24.00	213.43	4,220.19	-1,192.10	-786.94	-756.74	0.00	0.00	0.00
4,600.00	24.00	213.43	4,311.55	-1,226.05	-809.35	-778.28	0.00	0.00	0.00
4,700.00	24.00	213.43	4,402.90	-1,259.99	-831.76	-799.83	0.00	0.00	0.00
4,800.00	24.00	213.43	4,494.26	-1,293.94	-854.17	-821.38	0.00	0.00	0.00
4,900.00	24.00	213.43	4,585.61	-1,327.88	-876.57	-842.93	0.00	0.00	0.00
4,984.50	24.00	213.43	4,662.81	-1,356.56	-895.51	-861.14	0.00	0.00	0.00
Begin Drop @ 4984.50ft									
5,000.00	23.69	213.43	4,676.98	-1,361.79	-898.96	-864.45	2.00	-2.00	0.00
5,100.00	21.69	213.43	4,769.24	-1,393.98	-920.21	-884.89	2.00	-2.00	0.00
5,200.00	19.69	213.43	4,862.78	-1,423.47	-939.67	-903.61	2.00	-2.00	0.00
5,300.00	17.69	213.43	4,957.51	-1,450.21	-957.33	-920.58	2.00	-2.00	0.00
5,400.00	15.69	213.43	5,053.29	-1,474.18	-973.15	-935.80	2.00	-2.00	0.00
5,500.00	13.69	213.43	5,150.01	-1,495.34	-987.12	-949.23	2.00	-2.00	0.00
5,600.00	11.69	213.43	5,247.57	-1,513.67	-999.22	-960.87	2.00	-2.00	0.00
5,700.00	9.69	213.43	5,345.83	-1,529.15	-1,009.44	-970.69	2.00	-2.00	0.00
5,800.00	7.69	213.43	5,444.67	-1,541.76	-1,017.76	-978.70	2.00	-2.00	0.00
5,900.00	5.69	213.43	5,543.99	-1,551.48	-1,024.18	-984.87	2.00	-2.00	0.00
6,000.00	3.69	213.43	5,643.65	-1,558.31	-1,028.68	-989.20	2.00	-2.00	0.00
6,100.00	1.69	213.43	5,743.53	-1,562.22	-1,031.27	-991.69	2.00	-2.00	0.00
6,184.50	0.00	0.00	5,828.02	-1,563.26	-1,031.96	-992.35	2.00	-2.00	173.46
Hold Vertical @ 6184.50ft									
6,200.00	0.00	0.00	5,843.52	-1,563.26	-1,031.96	-992.35	0.00	0.00	0.00
6,300.00	0.00	0.00	5,943.52	-1,563.26	-1,031.96	-992.35	0.00	0.00	0.00
6,400.00	0.00	0.00	6,043.52	-1,563.26	-1,031.96	-992.35	0.00	0.00	0.00
6,500.00	0.00	0.00	6,143.52	-1,563.26	-1,031.96	-992.35	0.00	0.00	0.00
6,600.00	0.00	0.00	6,243.52	-1,563.26	-1,031.96	-992.35	0.00	0.00	0.00
6,658.30	0.00	0.00	6,301.82	-1,563.26	-1,031.96	-992.35	0.00	0.00	0.00
KOP @ 6658.30ft :: DLS = 8°/100'									
6,700.00	3.34	91.11	6,343.50	-1,563.29	-1,030.74	-991.13	8.00	8.00	218.49
6,750.00	7.34	91.11	6,393.27	-1,563.38	-1,026.10	-986.48	8.00	8.00	0.00
6,800.00	11.34	91.11	6,442.60	-1,563.53	-1,017.99	-978.37	8.00	8.00	0.00
6,850.00	15.34	91.11	6,491.24	-1,563.76	-1,006.46	-966.84	8.00	8.00	0.00
6,900.00	19.34	91.11	6,538.96	-1,564.05	-991.57	-951.95	8.00	8.00	0.00
6,950.00	23.34	91.11	6,585.52	-1,564.40	-973.38	-933.76	8.00	8.00	0.00
7,000.00	27.34	91.11	6,630.70	-1,564.82	-951.99	-912.37	8.00	8.00	0.00
7,050.00	31.34	91.11	6,674.28	-1,565.29	-927.51	-887.88	8.00	8.00	0.00
7,100.00	35.34	91.11	6,716.05	-1,565.82	-900.04	-860.41	8.00	8.00	0.00
7,150.00	39.34	91.11	6,755.79	-1,566.41	-869.73	-830.09	8.00	8.00	0.00
7,200.00	43.34	91.11	6,793.33	-1,567.05	-836.72	-797.07	8.00	8.00	0.00
7,250.00	47.34	91.11	6,828.47	-1,567.74	-801.17	-761.52	8.00	8.00	0.00
7,268.76	48.84	91.11	6,841.00	-1,568.01	-787.21	-747.56	8.00	8.00	0.00
Sharon Springs									
7,300.00	51.34	91.11	6,861.04	-1,568.48	-763.26	-723.60	8.00	8.00	0.00
7,316.17	52.63	91.11	6,871.00	-1,568.73	-750.52	-710.86	8.00	8.00	0.00
Niobrara									
7,350.00	55.34	91.11	6,890.89	-1,569.26	-723.16	-683.50	8.00	8.00	0.00
7,400.00	59.34	91.11	6,917.87	-1,570.07	-681.09	-641.42	8.00	8.00	0.00
7,450.00	63.34	91.11	6,941.85	-1,570.93	-637.23	-597.55	8.00	8.00	0.00
7,500.00	67.34	91.11	6,962.71	-1,571.81	-591.81	-552.13	8.00	8.00	0.00
7,550.00	71.34	91.11	6,980.35	-1,572.72	-545.05	-505.35	8.00	8.00	0.00
7,600.00	75.34	91.11	6,994.69	-1,573.65	-497.17	-457.46	8.00	8.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SWARTZ 4-16HZ
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 4-16HZ	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)
7,650.00	79.34	91.11	7,005.65	-1,574.59	-448.40	-408.69	8.00	8.00	0.00
7,700.00	83.34	91.11	7,013.18	-1,575.55	-398.99	-359.27	8.00	8.00	0.00
7,750.00	87.34	91.11	7,017.24	-1,576.52	-349.18	-309.45	8.00	8.00	0.00
7,778.45	89.61	91.11	7,018.00	-1,577.07	-320.74	-281.01	8.00	8.00	0.00
End Build @ 7778.45ft									
7,800.00	89.61	91.11	7,018.15	-1,577.49	-299.20	-259.46	0.00	0.00	0.00
7,900.00	89.61	91.11	7,018.82	-1,579.43	-199.22	-159.46	0.00	0.00	0.00
8,000.00	89.61	91.11	7,019.50	-1,581.37	-99.24	-59.47	0.00	0.00	0.00
8,100.00	89.61	91.11	7,020.18	-1,583.31	0.74	40.53	0.00	0.00	0.00
8,200.00	89.61	91.11	7,020.85	-1,585.25	100.72	140.52	0.00	0.00	0.00
8,300.00	89.61	91.11	7,021.53	-1,587.20	200.70	240.52	0.00	0.00	0.00
8,400.00	89.61	91.11	7,022.21	-1,589.14	300.68	340.52	0.00	0.00	0.00
8,500.00	89.61	91.11	7,022.88	-1,591.08	400.65	440.51	0.00	0.00	0.00
8,517.17	89.61	91.11	7,023.00	-1,591.41	417.82	457.69	0.00	0.00	0.00
Nio B									
8,600.00	89.61	91.11	7,023.56	-1,593.02	500.63	540.51	0.00	0.00	0.00
8,700.00	89.61	91.11	7,024.24	-1,594.96	600.61	640.50	0.00	0.00	0.00
8,800.00	89.61	91.11	7,024.91	-1,596.90	700.59	740.50	0.00	0.00	0.00
8,900.00	89.61	91.11	7,025.59	-1,598.84	800.57	840.50	0.00	0.00	0.00
9,000.00	89.61	91.11	7,026.27	-1,600.78	900.55	940.49	0.00	0.00	0.00
9,100.00	89.61	91.11	7,026.94	-1,602.72	1,000.53	1,040.49	0.00	0.00	0.00
9,200.00	89.61	91.11	7,027.62	-1,604.67	1,100.51	1,140.48	0.00	0.00	0.00
9,300.00	89.61	91.11	7,028.30	-1,606.61	1,200.49	1,240.48	0.00	0.00	0.00
9,400.00	89.61	91.11	7,028.97	-1,608.55	1,300.46	1,340.48	0.00	0.00	0.00
9,500.00	89.61	91.11	7,029.65	-1,610.49	1,400.44	1,440.47	0.00	0.00	0.00
9,600.00	89.61	91.11	7,030.33	-1,612.43	1,500.42	1,540.47	0.00	0.00	0.00
9,700.00	89.61	91.11	7,031.01	-1,614.37	1,600.40	1,640.46	0.00	0.00	0.00
9,800.00	89.61	91.11	7,031.68	-1,616.31	1,700.38	1,740.46	0.00	0.00	0.00
9,900.00	89.61	91.11	7,032.36	-1,618.25	1,800.36	1,840.46	0.00	0.00	0.00
10,000.00	89.61	91.11	7,033.04	-1,620.20	1,900.34	1,940.45	0.00	0.00	0.00
10,100.00	89.61	91.11	7,033.71	-1,622.14	2,000.32	2,040.45	0.00	0.00	0.00
10,200.00	89.61	91.11	7,034.39	-1,624.08	2,100.29	2,140.44	0.00	0.00	0.00
10,300.00	89.61	91.11	7,035.07	-1,626.02	2,200.27	2,240.44	0.00	0.00	0.00
10,400.00	89.61	91.11	7,035.74	-1,627.96	2,300.25	2,340.44	0.00	0.00	0.00
10,500.00	89.61	91.11	7,036.42	-1,629.90	2,400.23	2,440.43	0.00	0.00	0.00
10,600.00	89.61	91.11	7,037.10	-1,631.84	2,500.21	2,540.43	0.00	0.00	0.00
10,700.00	89.61	91.11	7,037.77	-1,633.78	2,600.19	2,640.43	0.00	0.00	0.00
10,800.00	89.61	91.11	7,038.45	-1,635.72	2,700.17	2,740.42	0.00	0.00	0.00
10,900.00	89.61	91.11	7,039.13	-1,637.67	2,800.15	2,840.42	0.00	0.00	0.00
11,000.00	89.61	91.11	7,039.80	-1,639.61	2,900.13	2,940.41	0.00	0.00	0.00
11,100.00	89.61	91.11	7,040.48	-1,641.55	3,000.10	3,040.41	0.00	0.00	0.00
11,200.00	89.61	91.11	7,041.16	-1,643.49	3,100.08	3,140.41	0.00	0.00	0.00
11,300.00	89.61	91.11	7,041.83	-1,645.43	3,200.06	3,240.40	0.00	0.00	0.00
11,400.00	89.61	91.11	7,042.51	-1,647.37	3,300.04	3,340.40	0.00	0.00	0.00
11,500.00	89.61	91.11	7,043.19	-1,649.31	3,400.02	3,440.39	0.00	0.00	0.00
11,600.00	89.61	91.11	7,043.86	-1,651.25	3,500.00	3,540.39	0.00	0.00	0.00
11,700.00	89.61	91.11	7,044.54	-1,653.20	3,599.98	3,640.39	0.00	0.00	0.00
11,800.00	89.61	91.11	7,045.22	-1,655.14	3,699.96	3,740.38	0.00	0.00	0.00
11,900.00	89.61	91.11	7,045.89	-1,657.08	3,799.94	3,840.38	0.00	0.00	0.00
12,000.00	89.61	91.11	7,046.57	-1,659.02	3,899.91	3,940.37	0.00	0.00	0.00
12,100.00	89.61	91.11	7,047.25	-1,660.96	3,999.89	4,040.37	0.00	0.00	0.00
12,200.00	89.61	91.11	7,047.92	-1,662.90	4,099.87	4,140.37	0.00	0.00	0.00
12,300.00	89.61	91.11	7,048.60	-1,664.84	4,199.85	4,240.36	0.00	0.00	0.00
12,400.00	89.61	91.11	7,049.28	-1,666.78	4,299.83	4,340.36	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SWARTZ 4-16HZ
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 4-16HZ	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)	
12,500.00	89.61	91.11	7,049.95	-1,668.72	4,399.81	4,440.35	0.00	0.00	0.00	
12,600.00	89.61	91.11	7,050.63	-1,670.67	4,499.79	4,540.35	0.00	0.00	0.00	
12,700.00	89.61	91.11	7,051.31	-1,672.61	4,599.77	4,640.35	0.00	0.00	0.00	
12,800.00	89.61	91.11	7,051.98	-1,674.55	4,699.75	4,740.34	0.00	0.00	0.00	
12,900.00	89.61	91.11	7,052.66	-1,676.49	4,799.72	4,840.34	0.00	0.00	0.00	
13,000.00	89.61	91.11	7,053.34	-1,678.43	4,899.70	4,940.34	0.00	0.00	0.00	
13,100.00	89.61	91.11	7,054.02	-1,680.37	4,999.68	5,040.33	0.00	0.00	0.00	
13,200.00	89.61	91.11	7,054.69	-1,682.31	5,099.66	5,140.33	0.00	0.00	0.00	
13,245.53	89.61	91.11	7,055.00	-1,683.20	5,145.18	5,185.85	0.00	0.00	0.00	
Nio C										
13,300.00	89.61	91.11	7,055.37	-1,684.25	5,199.64	5,240.32	0.00	0.00	0.00	
13,400.00	89.61	91.11	7,056.05	-1,686.19	5,299.62	5,340.32	0.00	0.00	0.00	
13,500.00	89.61	91.11	7,056.72	-1,688.14	5,399.60	5,440.32	0.00	0.00	0.00	
13,600.00	89.61	91.11	7,057.40	-1,690.08	5,499.58	5,540.31	0.00	0.00	0.00	
13,700.00	89.61	91.11	7,058.08	-1,692.02	5,599.56	5,640.31	0.00	0.00	0.00	
13,800.00	89.61	91.11	7,058.75	-1,693.96	5,699.53	5,740.30	0.00	0.00	0.00	
13,900.00	89.61	91.11	7,059.43	-1,695.90	5,799.51	5,840.30	0.00	0.00	0.00	
14,000.00	89.61	91.11	7,060.11	-1,697.84	5,899.49	5,940.30	0.00	0.00	0.00	
14,100.00	89.61	91.11	7,060.78	-1,699.78	5,999.47	6,040.29	0.00	0.00	0.00	
14,200.00	89.61	91.11	7,061.46	-1,701.72	6,099.45	6,140.29	0.00	0.00	0.00	
14,300.00	89.61	91.11	7,062.14	-1,703.67	6,199.43	6,240.28	0.00	0.00	0.00	
14,400.00	89.61	91.11	7,062.81	-1,705.61	6,299.41	6,340.28	0.00	0.00	0.00	
14,500.00	89.61	91.11	7,063.49	-1,707.55	6,399.39	6,440.28	0.00	0.00	0.00	
14,538.72	89.61	91.11	7,063.75	-1,708.30	6,438.10	6,479.00	0.00	0.00	0.00	
Begin Turn to BHL @ 14538.72ft										
14,590.66	88.79	91.75	7,064.47	-1,709.60	6,490.01	6,530.92	2.00	-1.57	1.23	
End Turn @ 14590.66ft										
14,600.00	88.79	91.75	7,064.67	-1,709.88	6,499.35	6,540.27	0.00	0.00	0.00	
14,700.00	88.79	91.75	7,066.77	-1,712.94	6,599.28	6,640.24	0.00	0.00	0.00	
14,800.00	88.79	91.75	7,068.88	-1,716.00	6,699.21	6,740.22	0.00	0.00	0.00	
14,900.00	88.79	91.75	7,070.98	-1,719.06	6,799.14	6,840.20	0.00	0.00	0.00	
15,000.00	88.79	91.75	7,073.09	-1,722.11	6,899.07	6,940.17	0.00	0.00	0.00	
15,100.00	88.79	91.75	7,075.19	-1,725.17	6,999.01	7,040.15	0.00	0.00	0.00	
15,200.00	88.79	91.75	7,077.29	-1,728.23	7,098.94	7,140.12	0.00	0.00	0.00	
15,300.00	88.79	91.75	7,079.40	-1,731.29	7,198.87	7,240.10	0.00	0.00	0.00	
15,400.00	88.79	91.75	7,081.50	-1,734.34	7,298.80	7,340.08	0.00	0.00	0.00	
15,500.00	88.79	91.75	7,083.61	-1,737.40	7,398.73	7,440.05	0.00	0.00	0.00	
15,600.00	88.79	91.75	7,085.71	-1,740.46	7,498.66	7,540.03	0.00	0.00	0.00	
15,700.00	88.79	91.75	7,087.81	-1,743.52	7,598.59	7,640.01	0.00	0.00	0.00	
15,800.00	88.79	91.75	7,089.92	-1,746.58	7,698.52	7,739.98	0.00	0.00	0.00	
15,900.00	88.79	91.75	7,092.02	-1,749.63	7,798.45	7,839.96	0.00	0.00	0.00	
16,000.00	88.79	91.75	7,094.13	-1,752.69	7,898.39	7,939.94	0.00	0.00	0.00	
16,100.00	88.79	91.75	7,096.23	-1,755.75	7,998.32	8,039.91	0.00	0.00	0.00	
16,200.00	88.79	91.75	7,098.33	-1,758.81	8,098.25	8,139.89	0.00	0.00	0.00	
16,300.00	88.79	91.75	7,100.44	-1,761.86	8,198.18	8,239.87	0.00	0.00	0.00	
16,400.00	88.79	91.75	7,102.54	-1,764.92	8,298.11	8,339.84	0.00	0.00	0.00	
16,500.00	88.79	91.75	7,104.65	-1,767.98	8,398.04	8,439.82	0.00	0.00	0.00	
16,600.00	88.79	91.75	7,106.75	-1,771.04	8,497.97	8,539.79	0.00	0.00	0.00	
16,700.00	88.79	91.75	7,108.85	-1,774.10	8,597.90	8,639.77	0.00	0.00	0.00	
16,800.00	88.79	91.75	7,110.96	-1,777.15	8,697.83	8,739.75	0.00	0.00	0.00	
16,900.00	88.79	91.75	7,113.06	-1,780.21	8,797.76	8,839.72	0.00	0.00	0.00	
17,000.00	88.79	91.75	7,115.17	-1,783.27	8,897.70	8,939.70	0.00	0.00	0.00	
17,100.00	88.79	91.75	7,117.27	-1,786.33	8,997.63	9,039.68	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SWARTZ 4-16HZ
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 4-16HZ	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)
17,200.00	88.79	91.75	7,119.37	-1,789.38	9,097.56	9,139.65	0.00	0.00	0.00
17,300.00	88.79	91.75	7,121.48	-1,792.44	9,197.49	9,239.63	0.00	0.00	0.00
17,400.00	88.79	91.75	7,123.58	-1,795.50	9,297.42	9,339.61	0.00	0.00	0.00
17,500.00	88.79	91.75	7,125.69	-1,798.56	9,397.35	9,439.58	0.00	0.00	0.00
17,600.00	88.79	91.75	7,127.79	-1,801.61	9,497.28	9,539.56	0.00	0.00	0.00
17,700.00	88.79	91.75	7,129.89	-1,804.67	9,597.21	9,639.53	0.00	0.00	0.00
17,800.00	88.79	91.75	7,132.00	-1,807.73	9,697.14	9,739.51	0.00	0.00	0.00
17,900.00	88.79	91.75	7,134.10	-1,810.79	9,797.08	9,839.49	0.00	0.00	0.00
18,000.00	88.79	91.75	7,136.21	-1,813.85	9,897.01	9,939.46	0.00	0.00	0.00
18,100.00	88.79	91.75	7,138.31	-1,816.90	9,996.94	10,039.44	0.00	0.00	0.00
18,200.00	88.79	91.75	7,140.41	-1,819.96	10,096.87	10,139.42	0.00	0.00	0.00
18,300.00	88.79	91.75	7,142.52	-1,823.02	10,196.80	10,239.39	0.00	0.00	0.00
18,400.00	88.79	91.75	7,144.62	-1,826.08	10,296.73	10,339.37	0.00	0.00	0.00
18,500.00	88.79	91.75	7,146.73	-1,829.13	10,396.66	10,439.35	0.00	0.00	0.00
18,600.00	88.79	91.75	7,148.83	-1,832.19	10,496.59	10,539.32	0.00	0.00	0.00
18,700.00	88.79	91.75	7,150.93	-1,835.25	10,596.52	10,639.30	0.00	0.00	0.00
18,800.00	88.79	91.75	7,153.04	-1,838.31	10,696.46	10,739.27	0.00	0.00	0.00
18,900.00	88.79	91.75	7,155.14	-1,841.37	10,796.39	10,839.25	0.00	0.00	0.00
18,988.29	88.79	91.75	7,157.00	-1,844.06	10,884.62	10,927.52	0.00	0.00	0.00
Fort Hayes									
19,000.00	88.79	91.75	7,157.25	-1,844.42	10,896.32	10,939.23	0.00	0.00	0.00
19,100.00	88.79	91.75	7,159.35	-1,847.48	10,996.25	11,039.20	0.00	0.00	0.00
19,200.00	88.79	91.75	7,161.45	-1,850.54	11,096.18	11,139.18	0.00	0.00	0.00
19,300.00	88.79	91.75	7,163.56	-1,853.60	11,196.11	11,239.16	0.00	0.00	0.00
19,400.00	88.79	91.75	7,165.66	-1,856.65	11,296.04	11,339.13	0.00	0.00	0.00
19,500.00	88.79	91.75	7,167.77	-1,859.71	11,395.97	11,439.11	0.00	0.00	0.00
19,600.00	88.79	91.75	7,169.87	-1,862.77	11,495.90	11,539.09	0.00	0.00	0.00
19,700.00	88.79	91.75	7,171.97	-1,865.83	11,595.84	11,639.06	0.00	0.00	0.00
19,800.00	88.79	91.75	7,174.08	-1,868.88	11,695.77	11,739.04	0.00	0.00	0.00
19,900.00	88.79	91.75	7,176.18	-1,871.94	11,795.70	11,839.01	0.00	0.00	0.00
19,986.39	88.79	91.75	7,178.00	-1,874.58	11,882.03	11,925.39	0.00	0.00	0.00
Codell									
20,000.00	88.79	91.75	7,178.29	-1,875.00	11,895.63	11,938.99	0.00	0.00	0.00
20,100.00	88.79	91.75	7,180.39	-1,878.06	11,995.56	12,038.97	0.00	0.00	0.00
20,200.00	88.79	91.75	7,182.49	-1,881.12	12,095.49	12,138.94	0.00	0.00	0.00
20,300.00	88.79	91.75	7,184.60	-1,884.17	12,195.42	12,238.92	0.00	0.00	0.00
20,400.00	88.79	91.75	7,186.70	-1,887.23	12,295.35	12,338.90	0.00	0.00	0.00
20,500.00	88.79	91.75	7,188.81	-1,890.29	12,395.28	12,438.87	0.00	0.00	0.00
20,600.00	88.79	91.75	7,190.91	-1,893.35	12,495.22	12,538.85	0.00	0.00	0.00
20,700.00	88.79	91.75	7,193.01	-1,896.40	12,595.15	12,638.83	0.00	0.00	0.00
20,800.00	88.79	91.75	7,195.12	-1,899.46	12,695.08	12,738.80	0.00	0.00	0.00
20,900.00	88.79	91.75	7,197.22	-1,902.52	12,795.01	12,838.78	0.00	0.00	0.00
21,000.00	88.79	91.75	7,199.33	-1,905.58	12,894.94	12,938.75	0.00	0.00	0.00
21,100.00	88.79	91.75	7,201.43	-1,908.64	12,994.87	13,038.73	0.00	0.00	0.00
21,200.00	88.79	91.75	7,203.53	-1,911.69	13,094.80	13,138.71	0.00	0.00	0.00
21,300.00	88.79	91.75	7,205.64	-1,914.75	13,194.73	13,238.68	0.00	0.00	0.00
21,400.00	88.79	91.75	7,207.74	-1,917.81	13,294.66	13,338.66	0.00	0.00	0.00
21,500.00	88.79	91.75	7,209.85	-1,920.87	13,394.60	13,438.64	0.00	0.00	0.00
21,600.00	88.79	91.75	7,211.95	-1,923.92	13,494.53	13,538.61	0.00	0.00	0.00
21,700.00	88.79	91.75	7,214.05	-1,926.98	13,594.46	13,638.59	0.00	0.00	0.00
21,800.00	88.79	91.75	7,216.16	-1,930.04	13,694.39	13,738.57	0.00	0.00	0.00
21,900.00	88.79	91.75	7,218.26	-1,933.10	13,794.32	13,838.54	0.00	0.00	0.00
22,000.00	88.79	91.75	7,220.37	-1,936.15	13,894.25	13,938.52	0.00	0.00	0.00
22,100.00	88.79	91.75	7,222.47	-1,939.21	13,994.18	14,038.50	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SWARTZ 4-16HZ
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 4-16HZ	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)
22,200.00	88.79	91.75	7,224.57	-1,942.27	14,094.11	14,138.47	0.00	0.00	0.00
22,300.00	88.79	91.75	7,226.68	-1,945.33	14,194.04	14,238.45	0.00	0.00	0.00
22,400.00	88.79	91.75	7,228.78	-1,948.39	14,293.98	14,338.42	0.00	0.00	0.00
22,500.00	88.79	91.75	7,230.89	-1,951.44	14,393.91	14,438.40	0.00	0.00	0.00
22,552.94	88.79	91.75	7,232.00	-1,953.06	14,446.81	14,491.33	0.00	0.00	0.00
TD Well @ 22552.94ft - 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
22,552.94	7,232.00	5.5" CSG	5-1/2	7-7/8

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
708.50	707.00	Fox Hills			
3,818.93	3,598.00	Parkman			
4,346.54	4,080.00	Sussex			
7,268.76	6,841.00	Sharon Springs			
7,316.17	6,871.00	Niobrara			
8,517.17	7,023.00	Nio B			
13,245.53	7,055.00	Nio C			
18,988.29	7,157.00	Fort Hayes			
19,986.39	7,178.00	Codell			

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
1,800.00	1,753.62	-275.60	-181.93	Hold Tangent @ 1800.00ft
4,984.50	4,662.81	-1,356.56	-895.51	Begin Drop @ 4984.50ft
6,184.50	5,828.02	-1,563.26	-1,031.96	Hold Vertical @ 6184.50ft
6,658.30	6,301.82	-1,563.26	-1,031.96	KOP @ 6658.30ft :: DLS = 8°/100'
7,778.45	7,018.00	-1,577.07	-320.74	End Build @ 7778.45ft
14,538.72	7,063.75	-1,708.30	6,438.10	Begin Turn to BHL @ 14538.72ft
14,590.66	7,064.47	-1,709.60	6,490.01	End Turn @ 14590.66ft
22,552.94	7,232.00	-1,953.06	14,446.81	TD Well @ 22552.94ft