

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

3N-66W-23 FARLEY 34-23HZ PAD

FARLEY 23-2HZ

Plan A

Plan: Permit Rev-2

SHL Lat/Long: 40.205260/-104.752142

Survey Program: MWD+IFR

Standard Planning Report

01 August, 2019

Project: WELD-NAD83-UTMFT13N
Site: 3N-66W-23 FARLEY 34-23HZ PAD
Well: FARLEY 23-2HZ
Wellbore: Plan A
Design: Permit Rev-2

US ROCKIES WATTENBERG PLANNING

CASING DETAILS

TVD	MD	Name	Size
1500.00	1513.20	9 5/8" Csg	9-5/8
7184.00	7624.21	Top of Production	5-1/2

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	866.67	10.00	338.15	863.29	53.86	-21.60	1.50	338.15	-54.08	
4	2510.00	10.00	338.15	2481.65	318.72	-127.80	0.00	0.00	-320.02	
5	3010.00	0.00	0.00	2979.12	359.12	-144.00	2.00	180.00	-360.58	
6	6498.68	0.00	0.00	6467.80	359.12	-144.00	0.00	0.00	-360.58	
7	7624.21	90.04	179.41	7184.00	-357.57	-136.61	8.00	179.41	356.14	
8	11695.50	90.04	179.41	7181.00	-4428.64	-94.66	0.00	0.00	4427.43	FARLEY 23-2HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
FARLEY 23-2HZ_SHL	0.00	0.00	0.00	40.205260	-104.752142
FARLEY 23-2HZ_BHL	7181.00	-4428.64	-94.66	40.193099	-104.752481

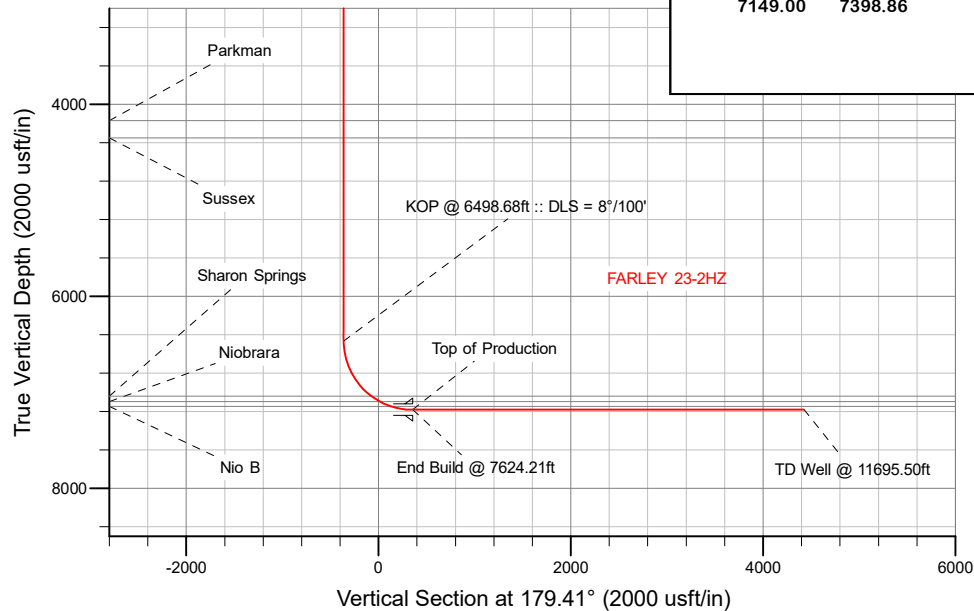
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1171.00	1179.13	Fox Hills
4171.00	4201.88	Parkman
4349.00	4379.88	Sussex
7040.00	7161.54	Sharon Springs
7097.00	7267.00	Niobrara
7149.00	7398.86	Nio B

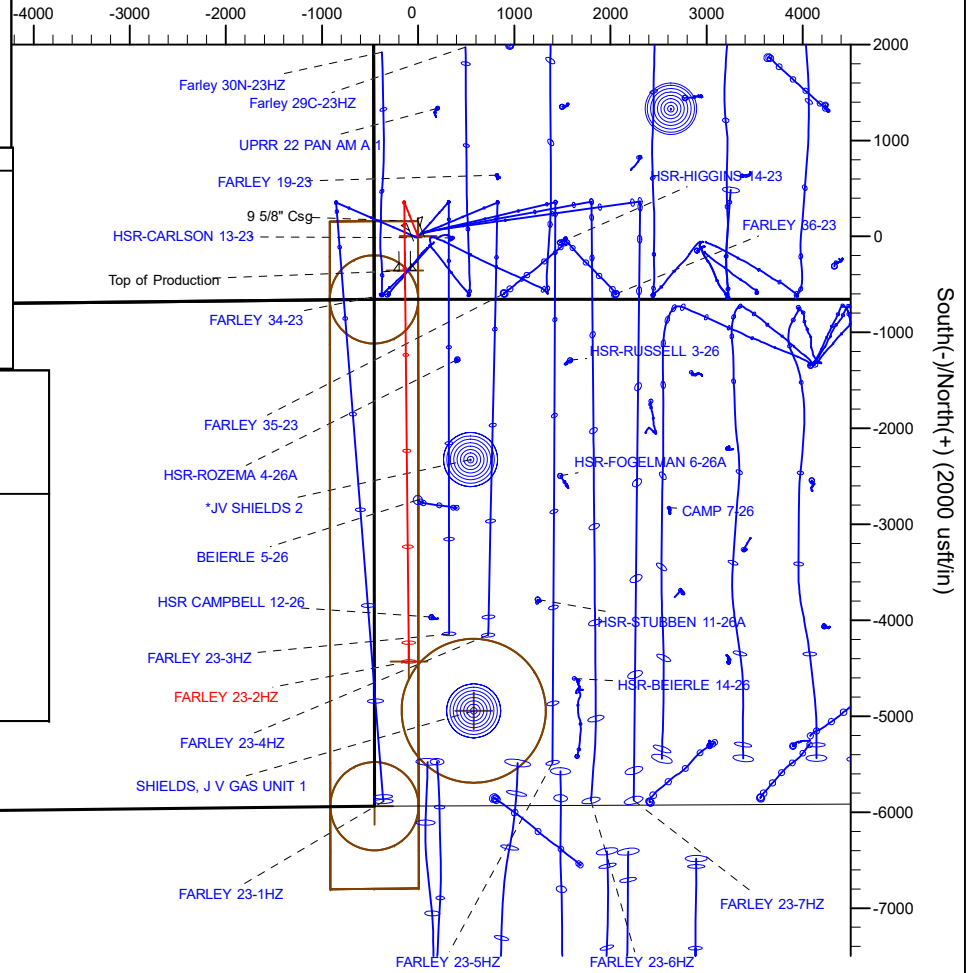
SHL
656' FSL
459' FWL

HEEL
300' FSL
322' FWL

BHL
1507' FSL
361' FWL



West(-)/East(+) (2000 usft/in)



WELL DETAILS: FARLEY 23-2HZ

GL = 4939'

RKB = 17" @ 4956.00usft (Drilling Rig)

Plan: Permit Rev-2 (FARLEY 23-2HZ/Plan A)

Date: 8/1/2019

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well FARLEY 23-2HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4956.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4956.00usft (Drilling Rig)
Site:	3N-66W-23 FARLEY 34-23HZ PAD	North Reference:	True
Well:	FARLEY 23-2HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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-66W-23 FARLEY 34-23HZ PAD			
Site Position:		Northing:	14,601,565.02 usft	Latitude:	40.205233
From:	Lat/Long	Easting:	1,709,610.42 usft	Longitude:	-104.752181
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.16 °

Well	FARLEY 23-2HZ					
Well Position	+N/-S	9.83 usft	Northing:	14,601,574.89 usft	Latitude:	40.205260
	+E/-W	10.89 usft	Easting:	1,709,621.29 usft	Longitude:	-104.752142
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	4,939.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/25/2018	8.05	66.67	52,146.31023153

Design	Permit Rev-2			
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	179.41

Plan Survey Tool Program	Date	8/1/2019		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	1,500.00	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD+II Fixed:v2:crustal field declinatio
2	1,500.00	11,695.50	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD+II Fixed:v2:crustal field declinatio

Corporate
Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well FARLEY 23-2HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4956.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4956.00usft (Drilling Rig)
Site:	3N-66W-23 FARLEY 34-23HZ PAD	North Reference:	True
Well:	FARLEY 23-2HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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	
866.67	10.00	338.15	863.29	53.86	-21.60	1.50	1.50	0.00	338.15	
2,510.00	10.00	338.15	2,481.65	318.72	-127.80	0.00	0.00	0.00	0.00	
3,010.00	0.00	0.00	2,979.12	359.12	-144.00	2.00	-2.00	0.00	180.00	
6,498.68	0.00	0.00	6,467.80	359.12	-144.00	0.00	0.00	0.00	0.00	
7,624.21	90.04	179.41	7,184.00	-357.57	-136.61	8.00	8.00	15.94	179.41	
11,695.50	90.04	179.41	7,181.00	-4,428.64	-94.66	0.00	0.00	0.00	0.00	FARLEY 23-2HZ_BHI

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well FARLEY 23-2HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4956.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4956.00usft (Drilling Rig)
Site:	3N-66W-23 FARLEY 34-23HZ PAD	North Reference:	True
Well:	FARLEY 23-2HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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	338.15	299.99	1.21	-0.49	-1.22	1.50	1.50	0.00
400.00	3.00	338.15	399.91	4.86	-1.95	-4.88	1.50	1.50	0.00
500.00	4.50	338.15	499.69	10.93	-4.38	-10.97	1.50	1.50	0.00
600.00	6.00	338.15	599.27	19.42	-7.79	-19.50	1.50	1.50	0.00
700.00	7.50	338.15	698.57	30.33	-12.16	-30.45	1.50	1.50	0.00
800.00	9.00	338.15	797.54	43.65	-17.50	-43.83	1.50	1.50	0.00
866.67	10.00	338.15	863.29	53.86	-21.60	-54.08	1.50	1.50	0.00
Hold Tangent @ 866.67ft									
900.00	10.00	338.15	896.11	59.23	-23.75	-59.48	0.00	0.00	0.00
1,000.00	10.00	338.15	994.59	75.35	-30.21	-75.66	0.00	0.00	0.00
1,100.00	10.00	338.15	1,093.08	91.47	-36.68	-91.84	0.00	0.00	0.00
1,179.13	10.00	338.15	1,171.00	104.22	-41.79	-104.65	0.00	0.00	0.00
Fox Hills									
1,200.00	10.00	338.15	1,191.56	107.59	-43.14	-108.02	0.00	0.00	0.00
1,300.00	10.00	338.15	1,290.04	123.70	-49.60	-124.21	0.00	0.00	0.00
1,400.00	10.00	338.15	1,388.52	139.82	-56.07	-140.39	0.00	0.00	0.00
1,500.00	10.00	338.15	1,487.00	155.94	-62.53	-156.57	0.00	0.00	0.00
1,513.20	10.00	338.15	1,500.00	158.07	-63.38	-158.71	0.00	0.00	0.00
9 5/8" Csg									
1,600.00	10.00	338.15	1,585.48	172.06	-68.99	-172.76	0.00	0.00	0.00
1,700.00	10.00	338.15	1,683.96	188.17	-75.45	-188.94	0.00	0.00	0.00
1,800.00	10.00	338.15	1,782.44	204.29	-81.92	-205.12	0.00	0.00	0.00
1,900.00	10.00	338.15	1,880.92	220.41	-88.38	-221.31	0.00	0.00	0.00
2,000.00	10.00	338.15	1,979.40	236.52	-94.84	-237.49	0.00	0.00	0.00
2,100.00	10.00	338.15	2,077.88	252.64	-101.31	-253.67	0.00	0.00	0.00
2,200.00	10.00	338.15	2,176.36	268.76	-107.77	-269.85	0.00	0.00	0.00
2,300.00	10.00	338.15	2,274.85	284.88	-114.23	-286.04	0.00	0.00	0.00
2,400.00	10.00	338.15	2,373.33	300.99	-120.69	-302.22	0.00	0.00	0.00
2,500.00	10.00	338.15	2,471.81	317.11	-127.16	-318.40	0.00	0.00	0.00
2,510.00	10.00	338.15	2,481.65	318.72	-127.80	-320.02	0.00	0.00	0.00
Begin Drop @ 2510.00ft									
2,600.00	8.20	338.15	2,570.52	331.93	-133.10	-333.29	2.00	-2.00	0.00
2,700.00	6.20	338.15	2,669.72	343.57	-137.76	-344.97	2.00	-2.00	0.00
2,800.00	4.20	338.15	2,769.31	351.98	-141.14	-353.41	2.00	-2.00	0.00
2,900.00	2.20	338.15	2,869.15	357.16	-143.22	-358.62	2.00	-2.00	0.00
3,000.00	0.20	338.15	2,969.12	359.10	-143.99	-360.57	2.00	-2.00	0.00
3,010.00	0.00	0.00	2,979.12	359.12	-144.00	-360.58	2.00	-2.00	0.00
Hold Vertical @ 3010.00ft									
3,100.00	0.00	0.00	3,069.12	359.12	-144.00	-360.58	0.00	0.00	0.00
3,200.00	0.00	0.00	3,169.12	359.12	-144.00	-360.58	0.00	0.00	0.00
3,300.00	0.00	0.00	3,269.12	359.12	-144.00	-360.58	0.00	0.00	0.00
3,400.00	0.00	0.00	3,369.12	359.12	-144.00	-360.58	0.00	0.00	0.00
3,500.00	0.00	0.00	3,469.12	359.12	-144.00	-360.58	0.00	0.00	0.00
3,600.00	0.00	0.00	3,569.12	359.12	-144.00	-360.58	0.00	0.00	0.00
3,700.00	0.00	0.00	3,669.12	359.12	-144.00	-360.58	0.00	0.00	0.00
3,800.00	0.00	0.00	3,769.12	359.12	-144.00	-360.58	0.00	0.00	0.00
3,900.00	0.00	0.00	3,869.12	359.12	-144.00	-360.58	0.00	0.00	0.00
4,000.00	0.00	0.00	3,969.12	359.12	-144.00	-360.58	0.00	0.00	0.00
4,100.00	0.00	0.00	4,069.12	359.12	-144.00	-360.58	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well FARLEY 23-2HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4956.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4956.00usft (Drilling Rig)
Site:	3N-66W-23 FARLEY 34-23HZ PAD	North Reference:	True
Well:	FARLEY 23-2HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,200.00	0.00	0.00	4,169.12	359.12	-144.00	-360.58	0.00	0.00	0.00
4,201.88	0.00	0.00	4,171.00	359.12	-144.00	-360.58	0.00	0.00	0.00
Parkman									
4,300.00	0.00	0.00	4,269.12	359.12	-144.00	-360.58	0.00	0.00	0.00
4,379.88	0.00	0.00	4,349.00	359.12	-144.00	-360.58	0.00	0.00	0.00
Sussex									
4,400.00	0.00	0.00	4,369.12	359.12	-144.00	-360.58	0.00	0.00	0.00
4,500.00	0.00	0.00	4,469.12	359.12	-144.00	-360.58	0.00	0.00	0.00
4,600.00	0.00	0.00	4,569.12	359.12	-144.00	-360.58	0.00	0.00	0.00
4,700.00	0.00	0.00	4,669.12	359.12	-144.00	-360.58	0.00	0.00	0.00
4,800.00	0.00	0.00	4,769.12	359.12	-144.00	-360.58	0.00	0.00	0.00
4,900.00	0.00	0.00	4,869.12	359.12	-144.00	-360.58	0.00	0.00	0.00
5,000.00	0.00	0.00	4,969.12	359.12	-144.00	-360.58	0.00	0.00	0.00
5,100.00	0.00	0.00	5,069.12	359.12	-144.00	-360.58	0.00	0.00	0.00
5,200.00	0.00	0.00	5,169.12	359.12	-144.00	-360.58	0.00	0.00	0.00
5,300.00	0.00	0.00	5,269.12	359.12	-144.00	-360.58	0.00	0.00	0.00
5,400.00	0.00	0.00	5,369.12	359.12	-144.00	-360.58	0.00	0.00	0.00
5,500.00	0.00	0.00	5,469.12	359.12	-144.00	-360.58	0.00	0.00	0.00
5,600.00	0.00	0.00	5,569.12	359.12	-144.00	-360.58	0.00	0.00	0.00
5,700.00	0.00	0.00	5,669.12	359.12	-144.00	-360.58	0.00	0.00	0.00
5,800.00	0.00	0.00	5,769.12	359.12	-144.00	-360.58	0.00	0.00	0.00
5,900.00	0.00	0.00	5,869.12	359.12	-144.00	-360.58	0.00	0.00	0.00
6,000.00	0.00	0.00	5,969.12	359.12	-144.00	-360.58	0.00	0.00	0.00
6,100.00	0.00	0.00	6,069.12	359.12	-144.00	-360.58	0.00	0.00	0.00
6,200.00	0.00	0.00	6,169.12	359.12	-144.00	-360.58	0.00	0.00	0.00
6,300.00	0.00	0.00	6,269.12	359.12	-144.00	-360.58	0.00	0.00	0.00
6,400.00	0.00	0.00	6,369.12	359.12	-144.00	-360.58	0.00	0.00	0.00
6,498.68	0.00	0.00	6,467.80	359.12	-144.00	-360.58	0.00	0.00	0.00
KOP @ 6498.68ft :: DLS = 8°/100'									
6,500.00	0.11	179.41	6,469.12	359.12	-144.00	-360.58	8.00	8.00	0.00
6,600.00	8.11	179.41	6,568.78	351.96	-143.93	-353.43	8.00	8.00	0.00
6,700.00	16.11	179.41	6,666.48	331.01	-143.71	-332.47	8.00	8.00	0.00
6,800.00	24.11	179.41	6,760.31	296.67	-143.36	-298.13	8.00	8.00	0.00
6,900.00	32.11	179.41	6,848.45	249.60	-142.87	-251.05	8.00	8.00	0.00
7,000.00	40.11	179.41	6,929.17	190.72	-142.27	-192.18	8.00	8.00	0.00
7,100.00	48.11	179.41	7,000.92	121.18	-141.55	-122.63	8.00	8.00	0.00
7,161.54	53.03	179.41	7,040.00	73.66	-141.06	-75.11	8.00	8.00	0.00
Sharon Springs									
7,200.00	56.11	179.41	7,062.29	42.34	-140.74	-43.78	8.00	8.00	0.00
7,267.00	61.47	179.41	7,097.00	-14.94	-140.15	13.49	8.00	8.00	0.00
Niobrara									
7,300.00	64.11	179.41	7,112.09	-44.28	-139.84	42.84	8.00	8.00	0.00
7,398.86	72.01	179.41	7,149.00	-135.91	-138.90	134.47	8.00	8.00	0.00
Nio B									
7,400.00	72.11	179.41	7,149.35	-136.99	-138.89	135.55	8.00	8.00	0.00
7,500.00	80.11	179.41	7,173.34	-233.98	-137.89	232.55	8.00	8.00	0.00
7,600.00	88.11	179.41	7,183.61	-333.37	-136.86	331.94	8.00	8.00	0.00
7,624.21	90.04	179.41	7,184.00	-357.57	-136.61	356.14	8.00	8.00	0.00
End Build @ 7624.21ft - Top of Production									
7,700.00	90.04	179.41	7,183.94	-433.36	-135.83	431.93	0.00	0.00	0.00
7,800.00	90.04	179.41	7,183.87	-533.35	-134.80	531.93	0.00	0.00	0.00
7,900.00	90.04	179.41	7,183.79	-633.35	-133.77	631.93	0.00	0.00	0.00
8,000.00	90.04	179.41	7,183.72	-733.34	-132.74	731.93	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well FARLEY 23-2HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4956.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4956.00usft (Drilling Rig)
Site:	3N-66W-23 FARLEY 34-23HZ PAD	North Reference:	True
Well:	FARLEY 23-2HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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)	
8,100.00	90.04	179.41	7,183.65	-833.33	-131.71	831.93	0.00	0.00	0.00	
8,200.00	90.04	179.41	7,183.57	-933.33	-130.68	931.93	0.00	0.00	0.00	
8,300.00	90.04	179.41	7,183.50	-1,033.32	-129.65	1,031.93	0.00	0.00	0.00	
8,400.00	90.04	179.41	7,183.43	-1,133.32	-128.62	1,131.93	0.00	0.00	0.00	
8,500.00	90.04	179.41	7,183.35	-1,233.31	-127.59	1,231.93	0.00	0.00	0.00	
8,600.00	90.04	179.41	7,183.28	-1,333.31	-126.56	1,331.93	0.00	0.00	0.00	
8,700.00	90.04	179.41	7,183.21	-1,433.30	-125.53	1,431.93	0.00	0.00	0.00	
8,800.00	90.04	179.41	7,183.13	-1,533.30	-124.50	1,531.93	0.00	0.00	0.00	
8,900.00	90.04	179.41	7,183.06	-1,633.29	-123.47	1,631.93	0.00	0.00	0.00	
9,000.00	90.04	179.41	7,182.98	-1,733.29	-122.44	1,731.93	0.00	0.00	0.00	
9,100.00	90.04	179.41	7,182.91	-1,833.28	-121.41	1,831.93	0.00	0.00	0.00	
9,200.00	90.04	179.41	7,182.84	-1,933.28	-120.37	1,931.93	0.00	0.00	0.00	
9,300.00	90.04	179.41	7,182.76	-2,033.27	-119.34	2,031.93	0.00	0.00	0.00	
9,400.00	90.04	179.41	7,182.69	-2,133.27	-118.31	2,131.93	0.00	0.00	0.00	
9,500.00	90.04	179.41	7,182.62	-2,233.26	-117.28	2,231.93	0.00	0.00	0.00	
9,600.00	90.04	179.41	7,182.54	-2,333.25	-116.25	2,331.93	0.00	0.00	0.00	
9,700.00	90.04	179.41	7,182.47	-2,433.25	-115.22	2,431.93	0.00	0.00	0.00	
9,800.00	90.04	179.41	7,182.40	-2,533.24	-114.19	2,531.93	0.00	0.00	0.00	
9,900.00	90.04	179.41	7,182.32	-2,633.24	-113.16	2,631.93	0.00	0.00	0.00	
10,000.00	90.04	179.41	7,182.25	-2,733.23	-112.13	2,731.93	0.00	0.00	0.00	
10,100.00	90.04	179.41	7,182.17	-2,833.23	-111.10	2,831.93	0.00	0.00	0.00	
10,200.00	90.04	179.41	7,182.10	-2,933.22	-110.07	2,931.93	0.00	0.00	0.00	
10,300.00	90.04	179.41	7,182.03	-3,033.22	-109.04	3,031.93	0.00	0.00	0.00	
10,400.00	90.04	179.41	7,181.95	-3,133.21	-108.01	3,131.93	0.00	0.00	0.00	
10,500.00	90.04	179.41	7,181.88	-3,233.21	-106.98	3,231.93	0.00	0.00	0.00	
10,600.00	90.04	179.41	7,181.81	-3,333.20	-105.95	3,331.93	0.00	0.00	0.00	
10,700.00	90.04	179.41	7,181.73	-3,433.20	-104.92	3,431.93	0.00	0.00	0.00	
10,800.00	90.04	179.41	7,181.66	-3,533.19	-103.88	3,531.93	0.00	0.00	0.00	
10,900.00	90.04	179.41	7,181.59	-3,633.19	-102.85	3,631.93	0.00	0.00	0.00	
11,000.00	90.04	179.41	7,181.51	-3,733.18	-101.82	3,731.93	0.00	0.00	0.00	
11,100.00	90.04	179.41	7,181.44	-3,833.17	-100.79	3,831.93	0.00	0.00	0.00	
11,200.00	90.04	179.41	7,181.36	-3,933.17	-99.76	3,931.93	0.00	0.00	0.00	
11,300.00	90.04	179.41	7,181.29	-4,033.16	-98.73	4,031.93	0.00	0.00	0.00	
11,400.00	90.04	179.41	7,181.22	-4,133.16	-97.70	4,131.93	0.00	0.00	0.00	
11,500.00	90.04	179.41	7,181.14	-4,233.15	-96.67	4,231.93	0.00	0.00	0.00	
11,600.00	90.04	179.41	7,181.07	-4,333.15	-95.64	4,331.93	0.00	0.00	0.00	
11,695.50	90.04	179.41	7,181.00	-4,428.64	-94.66	4,427.43	0.00	0.00	0.00	
TD Well @ 11695.50ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,513.20	1,500.00	9 5/8" Csg	9-5/8	13-1/2	
7,624.21	7,184.00	Top of Production	5-1/2	7-7/8	

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well FARLEY 23-2HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4956.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4956.00usft (Drilling Rig)
Site:	3N-66W-23 FARLEY 34-23HZ PAD	North Reference:	True
Well:	FARLEY 23-2HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,179.13	1,171.00	Fox Hills				
4,201.88	4,171.00	Parkman				
4,379.88	4,349.00	Sussex				
7,161.54	7,040.00	Sharon Springs				
7,267.00	7,097.00	Niobrara				
7,398.86	7,149.00	Nio B				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
200.00	200.00	0.00	0.00	Begin Nudge @ 200.00ft	
866.67	863.29	53.86	-21.60	Hold Tangent @ 866.67ft	
2,510.00	2,481.65	318.72	-127.80	Begin Drop @ 2510.00ft	
3,010.00	2,979.12	359.12	-144.00	Hold Vertical @ 3010.00ft	
6,498.68	6,467.80	359.12	-144.00	KOP @ 6498.68ft :: DLS = 8°/100'	
7,624.21	7,184.00	-357.57	-136.61	End Build @ 7624.21ft	
11,695.50	7,181.00	-4,428.64	-94.66	TD Well @ 11695.50ft	