

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
1N-68W-03 MC 13-3HZ PAD
MC 3-6HZ**

Plan A

Plan: Permit Rev-1

SHL Lat/Long: 40.076947/-104.997664
Survey Program: MWD+IFR

Standard Planning Report

29 July, 2018

Project: WELD-NAD83-UTMFT13N
Site: 1N-68W-03 MC 13-3HZ PAD
Well: MC 3-6HZ
Wellbore: Plan A
Design: Permit Rev-1

US ROCKIES WATTENBERG PLANNING

CASING DETAILS

TVD	MD	Size
1500.00	1505.97	9-5/8
7698.00	8180.25	5-1/2

WELL DETAILS: MC 3-6HZ

GL = 5044.00

RKB = 17' @ 5061.00usft (Drilling Rig)

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	700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	
3	1508.67	12.13	264.00	1502.64	-8.91	-84.81	1.50	264.00	8.90	
4	4308.67	12.13	264.00	4240.12	-70.42	-669.96	0.00	0.00	70.30	
5	4915.17	0.00	0.00	4842.10	-77.10	-733.57	2.00	180.00	76.97	
6	7054.87	0.00	0.00	6981.81	-77.10	-733.57	0.00	0.00	76.97	
7	8180.25	90.03	179.99	7698.00	-793.68	-733.50	8.00	179.99	793.55	
8	19365.74	90.03	179.99	7692.00	-11979.16	-732.45	0.00	0.00	11979.03	MC 3-6HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
MC 3-6HZ_SHL	0.00	0.00	0.00	40.076947	-104.997664
MC 3-6HZ_BHL	7692.00	-11979.16	-732.45	40.044050	-105.000281

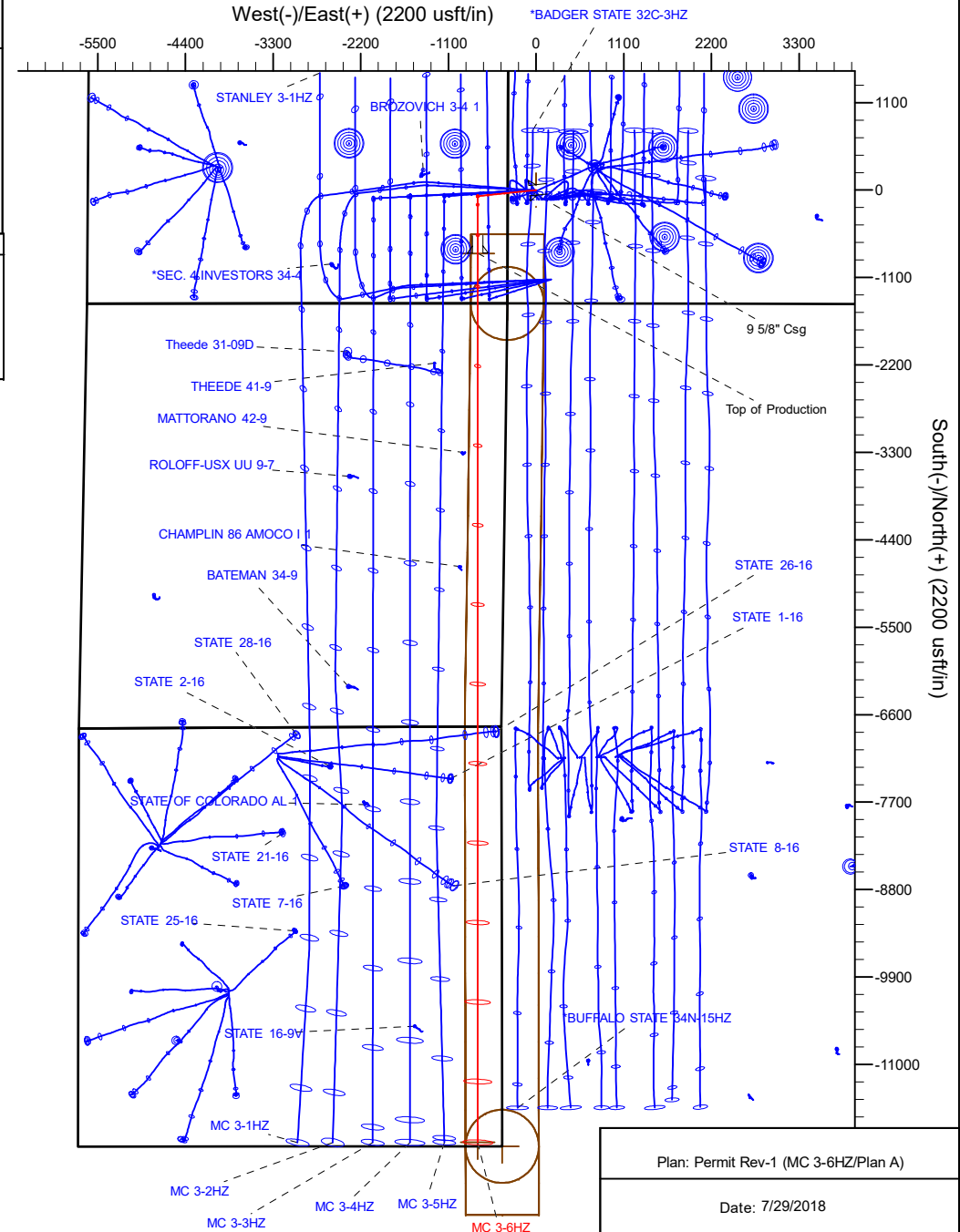
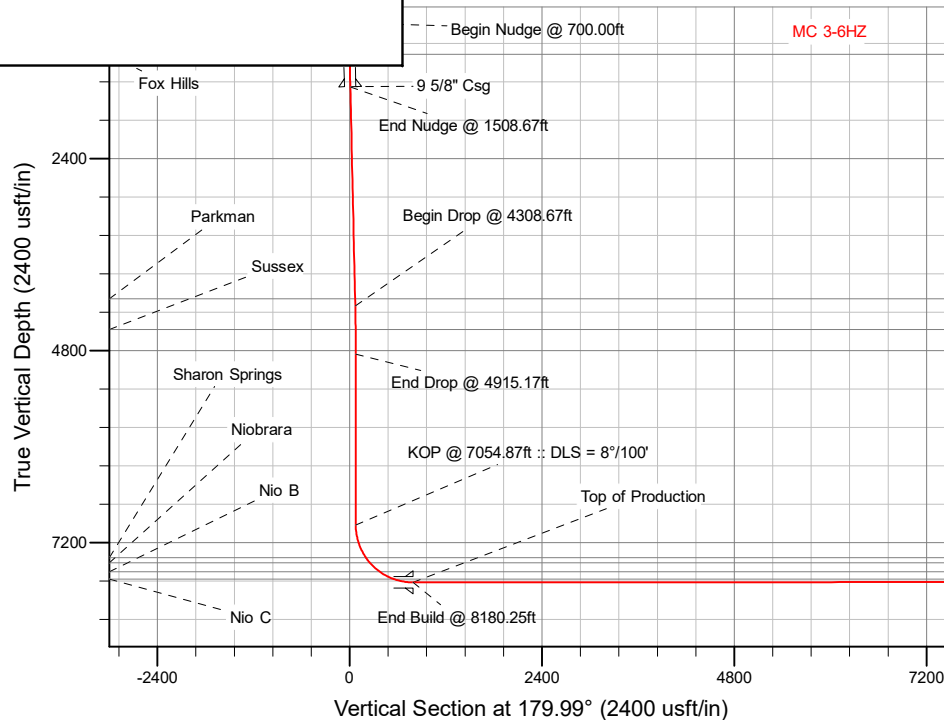
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1093.00	1093.70	Fox Hills
4152.00	4218.53	Parkman
4536.00	4608.48	Sussex
7390.00	7489.20	Sharon Springs
7451.00	7566.48	Niobrara
7566.00	7738.06	Nio B
7658.00	7939.36	Nio C

SHL
1427' FSL
357' FWL

HEEL
630' FSL
374' FEL

TOE
50' FSL
306' FEL



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well MC 3-6HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5061.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5061.00usft (Drilling Rig)
Site:	1N-68W-03 MC 13-3HZ PAD	North Reference:	True
Well:	MC 3-6HZ	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		1N-68W-03 MC 13-3HZ PAD			
Site Position:		Northing:	14,554,753.54 usft	Latitude:	40.076948
From:	Lat/Long	Easting:	1,640,995.16 usft	Longitude:	-104.997932
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.00 °

Well	MC 3-6HZ					
Well Position	+N/-S	-0.36 usft	Northing:	14,554,753.18 usft	Latitude:	40.076947
	+E/-W	74.97 usft	Easting:	1,641,070.13 usft	Longitude:	-104.997664
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	5,044.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/25/2018	8.19	66.53	52,071.88775248

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	179.99	

Plan Survey Tool Program	Date	7/29/2018			
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	19,365.74	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:crustal field declinatio	

Corporate
Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well MC 3-6HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5061.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5061.00usft (Drilling Rig)
Site:	1N-68W-03 MC 13-3HZ PAD	North Reference:	True
Well:	MC 3-6HZ	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	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,508.67	12.13	264.00	1,502.64	-8.91	-84.81	1.50	1.50	0.00	264.00	
4,308.67	12.13	264.00	4,240.12	-70.42	-669.96	0.00	0.00	0.00	0.00	
4,915.17	0.00	0.00	4,842.10	-77.10	-733.57	2.00	-2.00	0.00	180.00	
7,054.87	0.00	0.00	6,981.81	-77.10	-733.57	0.00	0.00	0.00	0.00	
8,180.25	90.03	179.99	7,698.00	-793.68	-733.50	8.00	8.00	15.99	179.99	
19,365.74	90.03	179.99	7,692.00	-11,979.16	-732.45	0.00	0.00	0.00	0.00	MC 3-6HZ_BHL

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well MC 3-6HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5061.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5061.00usft (Drilling Rig)
Site:	1N-68W-03 MC 13-3HZ PAD	North Reference:	True
Well:	MC 3-6HZ	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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 700.00ft									
800.00	1.50	264.00	799.99	-0.14	-1.30	0.14	1.50	1.50	0.00
900.00	3.00	264.00	899.91	-0.55	-5.21	0.55	1.50	1.50	0.00
1,000.00	4.50	264.00	999.69	-1.23	-11.71	1.23	1.50	1.50	0.00
1,093.70	5.91	264.00	1,093.00	-2.12	-20.16	2.12	1.50	1.50	0.00
Fox Hills									
1,100.00	6.00	264.00	1,099.27	-2.19	-20.81	2.18	1.50	1.50	0.00
1,200.00	7.50	264.00	1,198.57	-3.42	-32.50	3.41	1.50	1.50	0.00
1,300.00	9.00	264.00	1,297.54	-4.92	-46.77	4.91	1.50	1.50	0.00
1,400.00	10.50	264.00	1,396.09	-6.69	-63.61	6.67	1.50	1.50	0.00
1,500.00	12.00	264.00	1,494.16	-8.72	-83.01	8.71	1.50	1.50	0.00
1,505.97	12.09	264.00	1,500.00	-8.86	-84.25	8.84	1.50	1.50	0.00
9 5/8" Csg									
1,508.67	12.13	264.00	1,502.64	-8.91	-84.81	8.90	1.50	1.50	0.00
End Nudge @ 1508.67ft									
1,600.00	12.13	264.00	1,591.93	-10.92	-103.90	10.90	0.00	0.00	0.00
1,700.00	12.13	264.00	1,689.70	-13.12	-124.80	13.10	0.00	0.00	0.00
1,800.00	12.13	264.00	1,787.47	-15.31	-145.70	15.29	0.00	0.00	0.00
1,900.00	12.13	264.00	1,885.24	-17.51	-166.59	17.48	0.00	0.00	0.00
2,000.00	12.13	264.00	1,983.00	-19.71	-187.49	19.67	0.00	0.00	0.00
2,100.00	12.13	264.00	2,080.77	-21.90	-208.39	21.87	0.00	0.00	0.00
2,200.00	12.13	264.00	2,178.54	-24.10	-229.29	24.06	0.00	0.00	0.00
2,300.00	12.13	264.00	2,276.30	-26.30	-250.19	26.25	0.00	0.00	0.00
2,400.00	12.13	264.00	2,374.07	-28.49	-271.08	28.44	0.00	0.00	0.00
2,500.00	12.13	264.00	2,471.84	-30.69	-291.98	30.64	0.00	0.00	0.00
2,600.00	12.13	264.00	2,569.61	-32.89	-312.88	32.83	0.00	0.00	0.00
2,700.00	12.13	264.00	2,667.37	-35.08	-333.78	35.02	0.00	0.00	0.00
2,800.00	12.13	264.00	2,765.14	-37.28	-354.68	37.22	0.00	0.00	0.00
2,900.00	12.13	264.00	2,862.91	-39.47	-375.57	39.41	0.00	0.00	0.00
3,000.00	12.13	264.00	2,960.68	-41.67	-396.47	41.60	0.00	0.00	0.00
3,100.00	12.13	264.00	3,058.44	-43.87	-417.37	43.79	0.00	0.00	0.00
3,200.00	12.13	264.00	3,156.21	-46.06	-438.27	45.99	0.00	0.00	0.00
3,300.00	12.13	264.00	3,253.98	-48.26	-459.17	48.18	0.00	0.00	0.00
3,400.00	12.13	264.00	3,351.75	-50.46	-480.06	50.37	0.00	0.00	0.00
3,500.00	12.13	264.00	3,449.51	-52.65	-500.96	52.57	0.00	0.00	0.00
3,600.00	12.13	264.00	3,547.28	-54.85	-521.86	54.76	0.00	0.00	0.00
3,700.00	12.13	264.00	3,645.05	-57.05	-542.76	56.95	0.00	0.00	0.00
3,800.00	12.13	264.00	3,742.81	-59.24	-563.66	59.14	0.00	0.00	0.00
3,900.00	12.13	264.00	3,840.58	-61.44	-584.55	61.34	0.00	0.00	0.00
4,000.00	12.13	264.00	3,938.35	-63.64	-605.45	63.53	0.00	0.00	0.00
4,100.00	12.13	264.00	4,036.12	-65.83	-626.35	65.72	0.00	0.00	0.00
4,200.00	12.13	264.00	4,133.88	-68.03	-647.25	67.92	0.00	0.00	0.00
4,218.53	12.13	264.00	4,152.00	-68.44	-651.12	68.32	0.00	0.00	0.00
Parkman									
4,300.00	12.13	264.00	4,231.65	-70.22	-668.15	70.11	0.00	0.00	0.00
4,308.67	12.13	264.00	4,240.12	-70.42	-669.96	70.30	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well MC 3-6HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5061.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5061.00usft (Drilling Rig)
Site:	1N-68W-03 MC 13-3HZ PAD	North Reference:	True
Well:	MC 3-6HZ	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)
Begin Drop @ 4308.67ft									
4,400.00	10.30	264.00	4,329.71	-72.27	-687.62	72.15	2.00	-2.00	0.00
4,500.00	8.30	264.00	4,428.39	-73.96	-703.70	73.84	2.00	-2.00	0.00
4,600.00	6.30	264.00	4,527.57	-75.29	-716.34	75.17	2.00	-2.00	0.00
4,608.48	6.13	264.00	4,536.00	-75.39	-717.26	75.26	2.00	-2.00	0.00
Sussex									
4,700.00	4.30	264.00	4,627.14	-76.26	-725.54	76.13	2.00	-2.00	0.00
4,800.00	2.30	264.00	4,726.97	-76.86	-731.27	76.73	2.00	-2.00	0.00
4,900.00	0.30	264.00	4,826.94	-77.10	-733.53	76.97	2.00	-2.00	0.00
4,915.17	0.00	0.00	4,842.10	-77.10	-733.57	76.97	2.00	-2.00	0.00
End Drop @ 4915.17ft									
5,000.00	0.00	0.00	4,926.94	-77.10	-733.57	76.97	0.00	0.00	0.00
5,100.00	0.00	0.00	5,026.94	-77.10	-733.57	76.97	0.00	0.00	0.00
5,200.00	0.00	0.00	5,126.94	-77.10	-733.57	76.97	0.00	0.00	0.00
5,300.00	0.00	0.00	5,226.94	-77.10	-733.57	76.97	0.00	0.00	0.00
5,400.00	0.00	0.00	5,326.94	-77.10	-733.57	76.97	0.00	0.00	0.00
5,500.00	0.00	0.00	5,426.94	-77.10	-733.57	76.97	0.00	0.00	0.00
5,600.00	0.00	0.00	5,526.94	-77.10	-733.57	76.97	0.00	0.00	0.00
5,700.00	0.00	0.00	5,626.94	-77.10	-733.57	76.97	0.00	0.00	0.00
5,800.00	0.00	0.00	5,726.94	-77.10	-733.57	76.97	0.00	0.00	0.00
5,900.00	0.00	0.00	5,826.94	-77.10	-733.57	76.97	0.00	0.00	0.00
6,000.00	0.00	0.00	5,926.94	-77.10	-733.57	76.97	0.00	0.00	0.00
6,100.00	0.00	0.00	6,026.94	-77.10	-733.57	76.97	0.00	0.00	0.00
6,200.00	0.00	0.00	6,126.94	-77.10	-733.57	76.97	0.00	0.00	0.00
6,300.00	0.00	0.00	6,226.94	-77.10	-733.57	76.97	0.00	0.00	0.00
6,400.00	0.00	0.00	6,326.94	-77.10	-733.57	76.97	0.00	0.00	0.00
6,500.00	0.00	0.00	6,426.94	-77.10	-733.57	76.97	0.00	0.00	0.00
6,600.00	0.00	0.00	6,526.94	-77.10	-733.57	76.97	0.00	0.00	0.00
6,700.00	0.00	0.00	6,626.94	-77.10	-733.57	76.97	0.00	0.00	0.00
6,800.00	0.00	0.00	6,726.94	-77.10	-733.57	76.97	0.00	0.00	0.00
6,900.00	0.00	0.00	6,826.94	-77.10	-733.57	76.97	0.00	0.00	0.00
7,000.00	0.00	0.00	6,926.94	-77.10	-733.57	76.97	0.00	0.00	0.00
7,054.87	0.00	0.00	6,981.81	-77.10	-733.57	76.97	0.00	0.00	0.00
KOP @ 7054.87ft :: DLS = 8°/100'									
7,100.00	3.61	179.99	7,026.91	-78.52	-733.57	78.39	8.00	8.00	0.00
7,200.00	11.61	179.99	7,125.95	-91.76	-733.57	91.63	8.00	8.00	0.00
7,300.00	19.61	179.99	7,222.18	-118.64	-733.56	118.51	8.00	8.00	0.00
7,400.00	27.61	179.99	7,313.73	-158.66	-733.56	158.53	8.00	8.00	0.00
7,489.20	34.75	179.99	7,390.00	-204.81	-733.56	204.68	8.00	8.00	0.00
Sharon Springs									
7,500.00	35.61	179.99	7,398.83	-211.03	-733.55	210.91	8.00	8.00	0.00
7,566.48	40.93	179.99	7,451.00	-252.19	-733.55	252.06	8.00	8.00	0.00
Niobrara									
7,600.00	43.61	179.99	7,475.81	-274.74	-733.55	274.61	8.00	8.00	0.00
7,700.00	51.61	179.99	7,543.17	-348.54	-733.54	348.41	8.00	8.00	0.00
7,738.06	54.66	179.99	7,566.00	-378.98	-733.54	378.85	8.00	8.00	0.00
Nio B									
7,800.00	59.61	179.99	7,599.60	-430.99	-733.53	430.86	8.00	8.00	0.00
7,900.00	67.61	179.99	7,644.01	-520.50	-733.53	520.37	8.00	8.00	0.00
7,939.36	70.76	179.99	7,658.00	-557.28	-733.52	557.16	8.00	8.00	0.00
Nio C									
8,000.00	75.61	179.99	7,675.54	-615.31	-733.52	615.19	8.00	8.00	0.00
8,100.00	83.61	179.99	7,693.56	-713.59	-733.51	713.47	8.00	8.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well MC 3-6HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5061.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5061.00usft (Drilling Rig)
Site:	1N-68W-03 MC 13-3HZ PAD	North Reference:	True
Well:	MC 3-6HZ	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)
8,180.25	90.03	179.99	7,698.00	-793.68	-733.50	793.55	8.00	8.00	0.00
End Build @ 8180.25ft - Top of Production									
8,200.00	90.03	179.99	7,697.99	-813.43	-733.50	813.30	0.00	0.00	0.00
8,300.00	90.03	179.99	7,697.94	-913.43	-733.49	913.30	0.00	0.00	0.00
8,400.00	90.03	179.99	7,697.89	-1,013.43	-733.48	1,013.30	0.00	0.00	0.00
8,500.00	90.03	179.99	7,697.83	-1,113.43	-733.47	1,113.30	0.00	0.00	0.00
8,600.00	90.03	179.99	7,697.78	-1,213.43	-733.46	1,213.30	0.00	0.00	0.00
8,700.00	90.03	179.99	7,697.73	-1,313.43	-733.45	1,313.30	0.00	0.00	0.00
8,800.00	90.03	179.99	7,697.67	-1,413.43	-733.44	1,413.30	0.00	0.00	0.00
8,900.00	90.03	179.99	7,697.62	-1,513.43	-733.43	1,513.30	0.00	0.00	0.00
9,000.00	90.03	179.99	7,697.56	-1,613.43	-733.42	1,613.30	0.00	0.00	0.00
9,100.00	90.03	179.99	7,697.51	-1,713.43	-733.41	1,713.30	0.00	0.00	0.00
9,200.00	90.03	179.99	7,697.46	-1,813.43	-733.40	1,813.30	0.00	0.00	0.00
9,300.00	90.03	179.99	7,697.40	-1,913.43	-733.39	1,913.30	0.00	0.00	0.00
9,400.00	90.03	179.99	7,697.35	-2,013.43	-733.38	2,013.30	0.00	0.00	0.00
9,500.00	90.03	179.99	7,697.30	-2,113.43	-733.38	2,113.30	0.00	0.00	0.00
9,600.00	90.03	179.99	7,697.24	-2,213.43	-733.37	2,213.30	0.00	0.00	0.00
9,700.00	90.03	179.99	7,697.19	-2,313.43	-733.36	2,313.30	0.00	0.00	0.00
9,800.00	90.03	179.99	7,697.14	-2,413.43	-733.35	2,413.30	0.00	0.00	0.00
9,900.00	90.03	179.99	7,697.08	-2,513.43	-733.34	2,513.30	0.00	0.00	0.00
10,000.00	90.03	179.99	7,697.03	-2,613.43	-733.33	2,613.30	0.00	0.00	0.00
10,100.00	90.03	179.99	7,696.97	-2,713.43	-733.32	2,713.30	0.00	0.00	0.00
10,200.00	90.03	179.99	7,696.92	-2,813.43	-733.31	2,813.30	0.00	0.00	0.00
10,300.00	90.03	179.99	7,696.87	-2,913.43	-733.30	2,913.30	0.00	0.00	0.00
10,400.00	90.03	179.99	7,696.81	-3,013.43	-733.29	3,013.30	0.00	0.00	0.00
10,500.00	90.03	179.99	7,696.76	-3,113.43	-733.28	3,113.30	0.00	0.00	0.00
10,600.00	90.03	179.99	7,696.71	-3,213.43	-733.27	3,213.30	0.00	0.00	0.00
10,700.00	90.03	179.99	7,696.65	-3,313.43	-733.26	3,313.30	0.00	0.00	0.00
10,800.00	90.03	179.99	7,696.60	-3,413.43	-733.25	3,413.30	0.00	0.00	0.00
10,900.00	90.03	179.99	7,696.54	-3,513.43	-733.24	3,513.30	0.00	0.00	0.00
11,000.00	90.03	179.99	7,696.49	-3,613.43	-733.23	3,613.30	0.00	0.00	0.00
11,100.00	90.03	179.99	7,696.44	-3,713.43	-733.22	3,713.30	0.00	0.00	0.00
11,200.00	90.03	179.99	7,696.38	-3,813.43	-733.22	3,813.30	0.00	0.00	0.00
11,300.00	90.03	179.99	7,696.33	-3,913.43	-733.21	3,913.30	0.00	0.00	0.00
11,400.00	90.03	179.99	7,696.28	-4,013.43	-733.20	4,013.30	0.00	0.00	0.00
11,500.00	90.03	179.99	7,696.22	-4,113.43	-733.19	4,113.30	0.00	0.00	0.00
11,600.00	90.03	179.99	7,696.17	-4,213.43	-733.18	4,213.30	0.00	0.00	0.00
11,700.00	90.03	179.99	7,696.12	-4,313.43	-733.17	4,313.30	0.00	0.00	0.00
11,800.00	90.03	179.99	7,696.06	-4,413.43	-733.16	4,413.30	0.00	0.00	0.00
11,900.00	90.03	179.99	7,696.01	-4,513.43	-733.15	4,513.30	0.00	0.00	0.00
12,000.00	90.03	179.99	7,695.95	-4,613.43	-733.14	4,613.30	0.00	0.00	0.00
12,100.00	90.03	179.99	7,695.90	-4,713.43	-733.13	4,713.30	0.00	0.00	0.00
12,200.00	90.03	179.99	7,695.85	-4,813.43	-733.12	4,813.30	0.00	0.00	0.00
12,300.00	90.03	179.99	7,695.79	-4,913.43	-733.11	4,913.30	0.00	0.00	0.00
12,400.00	90.03	179.99	7,695.74	-5,013.43	-733.10	5,013.30	0.00	0.00	0.00
12,500.00	90.03	179.99	7,695.69	-5,113.43	-733.09	5,113.30	0.00	0.00	0.00
12,600.00	90.03	179.99	7,695.63	-5,213.43	-733.08	5,213.30	0.00	0.00	0.00
12,700.00	90.03	179.99	7,695.58	-5,313.43	-733.07	5,313.30	0.00	0.00	0.00
12,800.00	90.03	179.99	7,695.52	-5,413.43	-733.06	5,413.30	0.00	0.00	0.00
12,900.00	90.03	179.99	7,695.47	-5,513.43	-733.05	5,513.30	0.00	0.00	0.00
13,000.00	90.03	179.99	7,695.42	-5,613.43	-733.05	5,613.30	0.00	0.00	0.00
13,100.00	90.03	179.99	7,695.36	-5,713.43	-733.04	5,713.30	0.00	0.00	0.00
13,200.00	90.03	179.99	7,695.31	-5,813.43	-733.03	5,813.30	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well MC 3-6HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5061.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5061.00usft (Drilling Rig)
Site:	1N-68W-03 MC 13-3HZ PAD	North Reference:	True
Well:	MC 3-6HZ	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)	
13,300.00	90.03	179.99	7,695.26	-5,913.43	-733.02	5,913.30	0.00	0.00	0.00	
13,400.00	90.03	179.99	7,695.20	-6,013.43	-733.01	6,013.30	0.00	0.00	0.00	
13,500.00	90.03	179.99	7,695.15	-6,113.43	-733.00	6,113.30	0.00	0.00	0.00	
13,600.00	90.03	179.99	7,695.10	-6,213.43	-732.99	6,213.30	0.00	0.00	0.00	
13,700.00	90.03	179.99	7,695.04	-6,313.43	-732.98	6,313.30	0.00	0.00	0.00	
13,800.00	90.03	179.99	7,694.99	-6,413.43	-732.97	6,413.30	0.00	0.00	0.00	
13,900.00	90.03	179.99	7,694.93	-6,513.43	-732.96	6,513.30	0.00	0.00	0.00	
14,000.00	90.03	179.99	7,694.88	-6,613.43	-732.95	6,613.30	0.00	0.00	0.00	
14,100.00	90.03	179.99	7,694.83	-6,713.43	-732.94	6,713.30	0.00	0.00	0.00	
14,200.00	90.03	179.99	7,694.77	-6,813.43	-732.93	6,813.30	0.00	0.00	0.00	
14,300.00	90.03	179.99	7,694.72	-6,913.43	-732.92	6,913.30	0.00	0.00	0.00	
14,400.00	90.03	179.99	7,694.67	-7,013.43	-732.91	7,013.30	0.00	0.00	0.00	
14,500.00	90.03	179.99	7,694.61	-7,113.43	-732.90	7,113.30	0.00	0.00	0.00	
14,600.00	90.03	179.99	7,694.56	-7,213.43	-732.89	7,213.30	0.00	0.00	0.00	
14,700.00	90.03	179.99	7,694.50	-7,313.43	-732.89	7,313.30	0.00	0.00	0.00	
14,800.00	90.03	179.99	7,694.45	-7,413.43	-732.88	7,413.30	0.00	0.00	0.00	
14,900.00	90.03	179.99	7,694.40	-7,513.43	-732.87	7,513.30	0.00	0.00	0.00	
15,000.00	90.03	179.99	7,694.34	-7,613.43	-732.86	7,613.30	0.00	0.00	0.00	
15,100.00	90.03	179.99	7,694.29	-7,713.43	-732.85	7,713.30	0.00	0.00	0.00	
15,200.00	90.03	179.99	7,694.24	-7,813.43	-732.84	7,813.30	0.00	0.00	0.00	
15,300.00	90.03	179.99	7,694.18	-7,913.43	-732.83	7,913.30	0.00	0.00	0.00	
15,400.00	90.03	179.99	7,694.13	-8,013.43	-732.82	8,013.30	0.00	0.00	0.00	
15,500.00	90.03	179.99	7,694.08	-8,113.43	-732.81	8,113.30	0.00	0.00	0.00	
15,600.00	90.03	179.99	7,694.02	-8,213.43	-732.80	8,213.30	0.00	0.00	0.00	
15,700.00	90.03	179.99	7,693.97	-8,313.43	-732.79	8,313.30	0.00	0.00	0.00	
15,800.00	90.03	179.99	7,693.91	-8,413.43	-732.78	8,413.30	0.00	0.00	0.00	
15,900.00	90.03	179.99	7,693.86	-8,513.43	-732.77	8,513.30	0.00	0.00	0.00	
16,000.00	90.03	179.99	7,693.81	-8,613.43	-732.76	8,613.30	0.00	0.00	0.00	
16,100.00	90.03	179.99	7,693.75	-8,713.43	-732.75	8,713.30	0.00	0.00	0.00	
16,200.00	90.03	179.99	7,693.70	-8,813.43	-732.74	8,813.30	0.00	0.00	0.00	
16,300.00	90.03	179.99	7,693.65	-8,913.43	-732.73	8,913.30	0.00	0.00	0.00	
16,400.00	90.03	179.99	7,693.59	-9,013.43	-732.72	9,013.30	0.00	0.00	0.00	
16,500.00	90.03	179.99	7,693.54	-9,113.43	-732.72	9,113.30	0.00	0.00	0.00	
16,600.00	90.03	179.99	7,693.48	-9,213.43	-732.71	9,213.30	0.00	0.00	0.00	
16,700.00	90.03	179.99	7,693.43	-9,313.43	-732.70	9,313.30	0.00	0.00	0.00	
16,800.00	90.03	179.99	7,693.38	-9,413.43	-732.69	9,413.30	0.00	0.00	0.00	
16,900.00	90.03	179.99	7,693.32	-9,513.43	-732.68	9,513.30	0.00	0.00	0.00	
17,000.00	90.03	179.99	7,693.27	-9,613.43	-732.67	9,613.30	0.00	0.00	0.00	
17,100.00	90.03	179.99	7,693.22	-9,713.43	-732.66	9,713.30	0.00	0.00	0.00	
17,200.00	90.03	179.99	7,693.16	-9,813.43	-732.65	9,813.30	0.00	0.00	0.00	
17,300.00	90.03	179.99	7,693.11	-9,913.43	-732.64	9,913.30	0.00	0.00	0.00	
17,400.00	90.03	179.99	7,693.06	-10,013.43	-732.63	10,013.30	0.00	0.00	0.00	
17,500.00	90.03	179.99	7,693.00	-10,113.43	-732.62	10,113.30	0.00	0.00	0.00	
17,600.00	90.03	179.99	7,692.95	-10,213.43	-732.61	10,213.30	0.00	0.00	0.00	
17,700.00	90.03	179.99	7,692.89	-10,313.43	-732.60	10,313.30	0.00	0.00	0.00	
17,800.00	90.03	179.99	7,692.84	-10,413.43	-732.59	10,413.30	0.00	0.00	0.00	
17,900.00	90.03	179.99	7,692.79	-10,513.43	-732.58	10,513.30	0.00	0.00	0.00	
18,000.00	90.03	179.99	7,692.73	-10,613.43	-732.57	10,613.30	0.00	0.00	0.00	
18,100.00	90.03	179.99	7,692.68	-10,713.43	-732.56	10,713.30	0.00	0.00	0.00	
18,200.00	90.03	179.99	7,692.63	-10,813.43	-732.56	10,813.30	0.00	0.00	0.00	
18,300.00	90.03	179.99	7,692.57	-10,913.43	-732.55	10,913.30	0.00	0.00	0.00	
18,400.00	90.03	179.99	7,692.52	-11,013.43	-732.54	11,013.30	0.00	0.00	0.00	
18,500.00	90.03	179.99	7,692.46	-11,113.43	-732.53	11,113.30	0.00	0.00	0.00	
18,600.00	90.03	179.99	7,692.41	-11,213.43	-732.52	11,213.30	0.00	0.00	0.00	

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well MC 3-6HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5061.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5061.00usft (Drilling Rig)
Site:	1N-68W-03 MC 13-3HZ PAD	North Reference:	True
Well:	MC 3-6HZ	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)	
18,700.00	90.03	179.99	7,692.36	-11,313.43	-732.51	11,313.30	0.00	0.00	0.00	
18,800.00	90.03	179.99	7,692.30	-11,413.43	-732.50	11,413.30	0.00	0.00	0.00	
18,900.00	90.03	179.99	7,692.25	-11,513.43	-732.49	11,513.30	0.00	0.00	0.00	
19,000.00	90.03	179.99	7,692.20	-11,613.43	-732.48	11,613.30	0.00	0.00	0.00	
19,100.00	90.03	179.99	7,692.14	-11,713.43	-732.47	11,713.30	0.00	0.00	0.00	
19,200.00	90.03	179.99	7,692.09	-11,813.43	-732.46	11,813.30	0.00	0.00	0.00	
19,300.00	90.03	179.99	7,692.04	-11,913.43	-732.45	11,913.30	0.00	0.00	0.00	
19,365.74	90.03	179.99	7,692.00	-11,979.16	-732.45	11,979.04	0.00	0.00	0.00	
TD Well @ 19365.74ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,505.97	1,500.00	9 5/8" Csg	9-5/8	13-1/2	
8,180.25	7,698.00	Top of Production	5-1/2	7-7/8	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,093.70	1,093.00	Fox Hills			
4,218.53	4,152.00	Parkman			
4,608.48	4,536.00	Sussex			
7,489.20	7,390.00	Sharon Springs			
7,566.48	7,451.00	Niobrara			
7,738.06	7,566.00	Nio B			
7,939.36	7,658.00	Nio C			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
700.00	700.00	0.00	0.00	Begin Nudge @ 700.00ft	
1,508.67	1,502.64	-8.91	-84.81	End Nudge @ 1508.67ft	
4,308.67	4,240.12	-70.42	-669.96	Begin Drop @ 4308.67ft	
4,915.17	4,842.10	-77.10	-733.57	End Drop @ 4915.17ft	
7,054.87	6,981.81	-77.10	-733.57	KOP @ 7054.87ft :: DLS = 8°/100'	
8,180.25	7,698.00	-793.68	-733.50	End Build @ 8180.25ft	
19,365.74	7,692.00	-11,979.16	-732.45	TD Well @ 19365.74ft	