

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
4N-67W-21 WALTERS 14-21HZ PAD
WALTERS 21-5HZ**

Plan A

Plan: Permit Rev-1

SHL Lat/Long: 40.293978/-104.897551
Survey Program: MWD+IFR+MSA

Standard Planning Report

07 March, 2018

Project: WELD-NAD83-UTMFT13N
Site: 4N-67W-21 WALTERS 14-21HZ PAD
Well: WALTERS 21-5HZ
Wellbore: Plan A
Design: Permit Rev-1

US ROCKIES WATTENBERG PLANNING

CASING DETAILS		
TVD	MD	Size
1500.00	1523.46	9-5/8
7090.00	7696.47	5-1/2

WELL DETAILS: WALTERS 21-5HZ
GL = 4938'
RKB = 17" @ 4955.00usft (Drilling Rig)

SECTION DETAILS

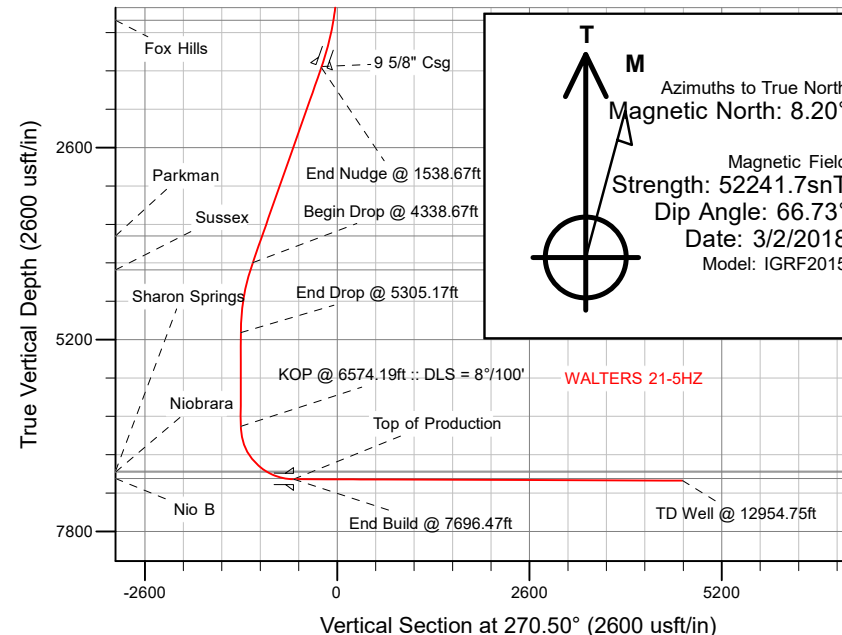
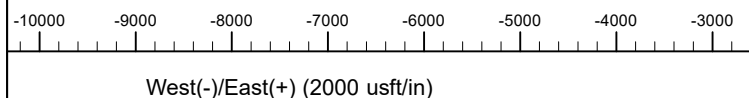
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	1538.67	19.33	91.10	1514.36	-4.13	215.29	1.50	91.10	-215.31	
4	4338.67	19.33	91.10	4156.52	-21.93	1141.94	0.00	0.00	-1142.09	
5	5305.17	0.00	0.00	5104.79	-25.03	1303.40	2.00	-180.00	-1303.57	
6	6574.19	0.00	0.00	6373.81	-25.03	1303.40	0.00	0.00	-1303.57	
7	7696.47	89.78	270.50	7090.00	-18.76	589.96	8.00	270.50	-590.10	
8	12954.75	89.78	270.50	7110.00	27.41	-4668.09	0.00	0.00	4668.15	WALTERS 21-5HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
WALTERS 21-5HZ_SHL	0.00	0.00	0.00	40.293978	-104.897551
WALTERS 21-5HZ_BHL	7110.00	27.41	-4668.09	40.294052	-104.914292

FORMATION TOP DETAILS

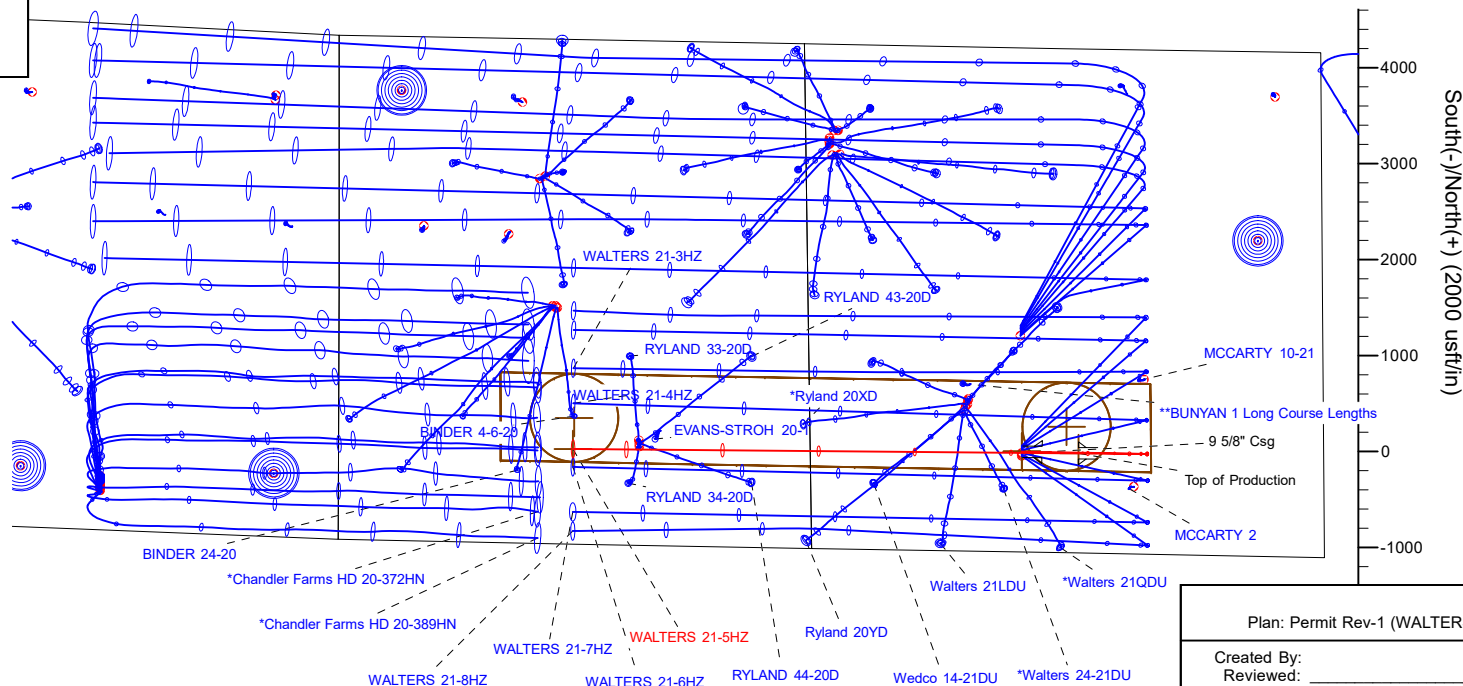
TVDPath	MDPath	Formation
874.00	876.81	Fox Hills
3795.00	3955.55	Parkman
4255.00	4442.40	Sussex
6982.00	7300.74	Sharon Springs
6997.00	7330.12	Niobrara
7081.00	7585.48	Nio B



SHL
1046' FSL
2201' FWL

HEEL
1038' FSL
2550' FEL

TOE
992' FSL
2441' FWL



Plan: Permit Rev-1 (WALTERS 21-5HZ/Plan A)

Created By: _____ Date: 3/7/2018
Reviewed: _____ Date: _____

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well WALTERS 21-5HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4955.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4955.00usft (Drilling Rig)
Site:	4N-67W-21 WALTERS 14-21HZ PAD	North Reference:	True
Well:	WALTERS 21-5HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Project	WELD-NAD83-UTMFT13N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site	4N-67W-21 WALTERS 14-21HZ PAD			
Site Position:		Northing:	14,633,862.07 usft	Latitude: 40.294143
From:	Lat/Long	Easting:	1,668,984.40 usft	Longitude: -104.897550
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.07 °

Well	WALTERS 21-5HZ			
Well Position	+N/-S	-60.09 usft	Northing:	14,633,801.98 usft
	+E/-W	-0.28 usft	Easting:	1,668,984.19 usft
Position Uncertainty	3.28 usft	Wellhead Elevation:		Latitude: 40.293978
				Longitude: -104.897551
				Ground Level: 4,938.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/2/2018	8.20	66.73	52,241.71353117

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	270.50

Plan Survey Tool Program	Date	3/6/2018		
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	12,954.75	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:Rockies, crustal dec +

Corporate
Planning Report

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4955.00usft (Drilling Rig)
Site:	4N-67W-21 WALTERS 14-21HZ PAD	North Reference:	True
Well:	WALTERS 21-5HZ	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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,538.67	19.33	91.10	1,514.36	-4.13	215.29	1.50	1.50	0.00	91.10	
4,338.67	19.33	91.10	4,156.52	-21.93	1,141.94	0.00	0.00	0.00	0.00	
5,305.17	0.00	0.00	5,104.79	-25.03	1,303.40	2.00	-2.00	-9.43	-180.00	
6,574.19	0.00	0.00	6,373.81	-25.03	1,303.40	0.00	0.00	0.00	0.00	
7,696.47	89.78	270.50	7,090.00	-18.76	589.96	8.00	8.00	-7.97	270.50	
12,954.75	89.78	270.50	7,110.00	27.41	-4,668.09	0.00	0.00	0.00	0.00	WALTERS 21-5HZ_B

Corporate Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4955.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4955.00usft (Drilling Rig)
Site:	4N-67W-21 WALTERS 14-21HZ PAD	North Reference:	True
Well:	WALTERS 21-5HZ	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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 250.00ft									
300.00	0.75	91.10	300.00	-0.01	0.33	-0.33	1.50	1.50	0.00
400.00	2.25	91.10	399.96	-0.06	2.94	-2.94	1.50	1.50	0.00
500.00	3.75	91.10	499.82	-0.16	8.18	-8.18	1.50	1.50	0.00
600.00	5.25	91.10	599.51	-0.31	16.02	-16.02	1.50	1.50	0.00
700.00	6.75	91.10	698.96	-0.51	26.47	-26.48	1.50	1.50	0.00
800.00	8.25	91.10	798.10	-0.76	39.52	-39.53	1.50	1.50	0.00
876.81	9.40	91.10	874.00	-0.99	51.30	-51.31	1.50	1.50	0.00
Fox Hills									
900.00	9.75	91.10	896.87	-1.06	55.16	-55.17	1.50	1.50	0.00
1,000.00	11.25	91.10	995.19	-1.41	73.38	-73.39	1.50	1.50	0.00
1,100.00	12.75	91.10	1,093.00	-1.81	94.17	-94.18	1.50	1.50	0.00
1,200.00	14.25	91.10	1,190.24	-2.26	117.51	-117.52	1.50	1.50	0.00
1,300.00	15.75	91.10	1,286.83	-2.75	143.38	-143.40	1.50	1.50	0.00
1,400.00	17.25	91.10	1,382.71	-3.30	171.78	-171.80	1.50	1.50	0.00
1,500.00	18.75	91.10	1,477.81	-3.89	202.67	-202.70	1.50	1.50	0.00
1,523.46	19.10	91.10	1,500.00	-4.04	210.28	-210.31	1.50	1.50	0.00
9 5/8" Csg									
1,538.67	19.33	91.10	1,514.36	-4.13	215.29	-215.31	1.50	1.50	0.00
End Nudge @ 1538.67ft									
1,600.00	19.33	91.10	1,572.24	-4.52	235.58	-235.62	0.00	0.00	0.00
1,700.00	19.33	91.10	1,666.60	-5.16	268.68	-268.71	0.00	0.00	0.00
1,800.00	19.33	91.10	1,760.96	-5.79	301.77	-301.81	0.00	0.00	0.00
1,900.00	19.33	91.10	1,855.32	-6.43	334.87	-334.91	0.00	0.00	0.00
2,000.00	19.33	91.10	1,949.69	-7.07	367.96	-368.01	0.00	0.00	0.00
2,100.00	19.33	91.10	2,044.05	-7.70	401.06	-401.11	0.00	0.00	0.00
2,200.00	19.33	91.10	2,138.41	-8.34	434.15	-434.21	0.00	0.00	0.00
2,300.00	19.33	91.10	2,232.77	-8.97	467.25	-467.31	0.00	0.00	0.00
2,400.00	19.33	91.10	2,327.14	-9.61	500.34	-500.41	0.00	0.00	0.00
2,500.00	19.33	91.10	2,421.50	-10.24	533.44	-533.51	0.00	0.00	0.00
2,600.00	19.33	91.10	2,515.86	-10.88	566.53	-566.61	0.00	0.00	0.00
2,700.00	19.33	91.10	2,610.23	-11.51	599.63	-599.70	0.00	0.00	0.00
2,800.00	19.33	91.10	2,704.59	-12.15	632.72	-632.80	0.00	0.00	0.00
2,900.00	19.33	91.10	2,798.95	-12.78	665.82	-665.90	0.00	0.00	0.00
3,000.00	19.33	91.10	2,893.31	-13.42	698.91	-699.00	0.00	0.00	0.00
3,100.00	19.33	91.10	2,987.68	-14.06	732.01	-732.10	0.00	0.00	0.00
3,200.00	19.33	91.10	3,082.04	-14.69	765.10	-765.20	0.00	0.00	0.00
3,300.00	19.33	91.10	3,176.40	-15.33	798.20	-798.30	0.00	0.00	0.00
3,400.00	19.33	91.10	3,270.77	-15.96	831.29	-831.40	0.00	0.00	0.00
3,500.00	19.33	91.10	3,365.13	-16.60	864.38	-864.50	0.00	0.00	0.00
3,600.00	19.33	91.10	3,459.49	-17.23	897.48	-897.60	0.00	0.00	0.00
3,700.00	19.33	91.10	3,553.85	-17.87	930.57	-930.69	0.00	0.00	0.00
3,800.00	19.33	91.10	3,648.22	-18.50	963.67	-963.79	0.00	0.00	0.00
3,900.00	19.33	91.10	3,742.58	-19.14	996.76	-996.89	0.00	0.00	0.00
3,955.55	19.33	91.10	3,795.00	-19.49	1,015.15	-1,015.28	0.00	0.00	0.00
Parkman									
4,000.00	19.33	91.10	3,836.94	-19.77	1,029.86	-1,029.99	0.00	0.00	0.00
4,100.00	19.33	91.10	3,931.30	-20.41	1,062.95	-1,063.09	0.00	0.00	0.00
4,200.00	19.33	91.10	4,025.67	-21.05	1,096.05	-1,096.19	0.00	0.00	0.00
4,300.00	19.33	91.10	4,120.03	-21.68	1,129.14	-1,129.29	0.00	0.00	0.00

Corporate
Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well WALTERS 21-5HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4955.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4955.00usft (Drilling Rig)
Site:	4N-67W-21 WALTERS 14-21HZ PAD	North Reference:	True
Well:	WALTERS 21-5HZ	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)
4,338.67	19.33	91.10	4,156.52	-21.93	1,141.94	-1,142.09	0.00	0.00	0.00
Begin Drop @ 4338.67ft									
4,400.00	18.10	91.10	4,214.61	-22.30	1,161.62	-1,161.77	2.00	-2.00	0.00
4,442.40	17.26	91.10	4,255.00	-22.55	1,174.49	-1,174.64	2.00	-2.00	0.00
Sussex									
4,500.00	16.10	91.10	4,310.18	-22.87	1,191.02	-1,191.17	2.00	-2.00	0.00
4,600.00	14.10	91.10	4,406.72	-23.37	1,217.07	-1,217.23	2.00	-2.00	0.00
4,700.00	12.10	91.10	4,504.11	-23.80	1,239.73	-1,239.90	2.00	-2.00	0.00
4,800.00	10.10	91.10	4,602.23	-24.17	1,258.99	-1,259.15	2.00	-2.00	0.00
4,900.00	8.10	91.10	4,700.97	-24.48	1,274.81	-1,274.97	2.00	-2.00	0.00
5,000.00	6.10	91.10	4,800.20	-24.71	1,287.17	-1,287.34	2.00	-2.00	0.00
5,100.00	4.10	91.10	4,899.80	-24.89	1,296.06	-1,296.23	2.00	-2.00	0.00
5,200.00	2.10	91.10	4,999.64	-24.99	1,301.47	-1,301.64	2.00	-2.00	0.00
5,300.00	0.10	91.10	5,099.62	-25.03	1,303.40	-1,303.57	2.00	-2.00	0.00
5,305.17	0.00	0.00	5,104.79	-25.03	1,303.40	-1,303.57	2.00	-2.00	-1,763.22
End Drop @ 5305.17ft									
5,400.00	0.00	0.00	5,199.62	-25.03	1,303.40	-1,303.57	0.00	0.00	0.00
5,500.00	0.00	0.00	5,299.62	-25.03	1,303.40	-1,303.57	0.00	0.00	0.00
5,600.00	0.00	0.00	5,399.62	-25.03	1,303.40	-1,303.57	0.00	0.00	0.00
5,700.00	0.00	0.00	5,499.62	-25.03	1,303.40	-1,303.57	0.00	0.00	0.00
5,800.00	0.00	0.00	5,599.62	-25.03	1,303.40	-1,303.57	0.00	0.00	0.00
5,900.00	0.00	0.00	5,699.62	-25.03	1,303.40	-1,303.57	0.00	0.00	0.00
6,000.00	0.00	0.00	5,799.62	-25.03	1,303.40	-1,303.57	0.00	0.00	0.00
6,100.00	0.00	0.00	5,899.62	-25.03	1,303.40	-1,303.57	0.00	0.00	0.00
6,200.00	0.00	0.00	5,999.62	-25.03	1,303.40	-1,303.57	0.00	0.00	0.00
6,300.00	0.00	0.00	6,099.62	-25.03	1,303.40	-1,303.57	0.00	0.00	0.00
6,400.00	0.00	0.00	6,199.62	-25.03	1,303.40	-1,303.57	0.00	0.00	0.00
6,500.00	0.00	0.00	6,299.62	-25.03	1,303.40	-1,303.57	0.00	0.00	0.00
6,574.19	0.00	0.00	6,373.81	-25.03	1,303.40	-1,303.57	0.00	0.00	0.00
KOP @ 6574.19ft :: DLS = 8°/100'									
6,600.00	2.06	270.50	6,399.61	-25.02	1,302.94	-1,303.11	8.00	8.00	-346.75
6,700.00	10.06	270.50	6,498.97	-24.93	1,292.38	-1,292.55	8.00	8.00	0.00
6,800.00	18.06	270.50	6,595.90	-24.72	1,268.10	-1,268.27	8.00	8.00	0.00
6,900.00	26.06	270.50	6,688.50	-24.39	1,230.57	-1,230.73	8.00	8.00	0.00
7,000.00	34.06	270.50	6,774.97	-23.95	1,180.51	-1,180.68	8.00	8.00	0.00
7,100.00	42.06	270.50	6,853.64	-23.41	1,118.91	-1,119.07	8.00	8.00	0.00
7,200.00	50.06	270.50	6,922.97	-22.77	1,046.96	-1,047.12	8.00	8.00	0.00
7,300.00	58.06	270.50	6,981.61	-22.06	966.06	-966.22	8.00	8.00	0.00
7,300.74	58.12	270.50	6,982.00	-22.06	965.43	-965.59	8.00	8.00	0.00
Sharon Springs									
7,330.12	60.47	270.50	6,997.00	-21.84	940.17	-940.32	8.00	8.00	0.00
Niobrara									
7,400.00	66.06	270.50	7,028.42	-21.29	877.79	-877.94	8.00	8.00	0.00
7,500.00	74.06	270.50	7,062.49	-20.46	783.86	-784.01	8.00	8.00	0.00
7,585.48	80.90	270.50	7,081.00	-19.73	700.46	-700.60	8.00	8.00	0.00
Nio B									
7,600.00	82.06	270.50	7,083.15	-19.61	686.10	-686.25	8.00	8.00	0.00
7,696.47	89.78	270.50	7,090.00	-18.76	589.95	-590.10	8.00	8.00	0.00
End Build @ 7696.47ft - Top of Production									
7,700.00	89.78	270.50	7,090.02	-18.73	586.42	-586.57	0.00	0.00	0.00
7,800.00	89.78	270.50	7,090.40	-17.85	486.43	-486.57	0.00	0.00	0.00
7,900.00	89.78	270.50	7,090.78	-16.97	386.43	-386.57	0.00	0.00	0.00
8,000.00	89.78	270.50	7,091.16	-16.10	286.44	-286.57	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well WALTERS 21-5HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4955.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4955.00usft (Drilling Rig)
Site:	4N-67W-21 WALTERS 14-21HZ PAD	North Reference:	True
Well:	WALTERS 21-5HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Planned Survey

Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Rate
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
8,100.00	89.78	270.50	7,091.54	-15.22	186.44	-186.57	0.00	0.00	0.00
8,200.00	89.78	270.50	7,091.92	-14.34	86.45	-86.57	0.00	0.00	0.00
8,300.00	89.78	270.50	7,092.30	-13.46	-13.55	13.43	0.00	0.00	0.00
8,400.00	89.78	270.50	7,092.68	-12.58	-113.54	113.43	0.00	0.00	0.00
8,500.00	89.78	270.50	7,093.06	-11.71	-213.54	213.43	0.00	0.00	0.00
8,600.00	89.78	270.50	7,093.44	-10.83	-313.53	313.43	0.00	0.00	0.00
8,700.00	89.78	270.50	7,093.82	-9.95	-413.53	413.43	0.00	0.00	0.00
8,800.00	89.78	270.50	7,094.20	-9.07	-513.52	513.43	0.00	0.00	0.00
8,900.00	89.78	270.50	7,094.58	-8.19	-613.52	613.43	0.00	0.00	0.00
9,000.00	89.78	270.50	7,094.96	-7.32	-713.52	713.42	0.00	0.00	0.00
9,100.00	89.78	270.50	7,095.34	-6.44	-813.51	813.42	0.00	0.00	0.00
9,200.00	89.78	270.50	7,095.72	-5.56	-913.51	913.42	0.00	0.00	0.00
9,300.00	89.78	270.50	7,096.10	-4.68	-1,013.50	1,013.42	0.00	0.00	0.00
9,400.00	89.78	270.50	7,096.48	-3.80	-1,113.50	1,113.42	0.00	0.00	0.00
9,500.00	89.78	270.50	7,096.86	-2.93	-1,213.49	1,213.42	0.00	0.00	0.00
9,600.00	89.78	270.50	7,097.24	-2.05	-1,313.49	1,313.42	0.00	0.00	0.00
9,700.00	89.78	270.50	7,097.62	-1.17	-1,413.48	1,413.42	0.00	0.00	0.00
9,800.00	89.78	270.50	7,098.00	-0.29	-1,513.48	1,513.42	0.00	0.00	0.00
9,900.00	89.78	270.50	7,098.38	0.59	-1,613.47	1,613.42	0.00	0.00	0.00
10,000.00	89.78	270.50	7,098.76	1.47	-1,713.47	1,713.42	0.00	0.00	0.00
10,100.00	89.78	270.50	7,099.14	2.34	-1,813.47	1,813.42	0.00	0.00	0.00
10,200.00	89.78	270.50	7,099.52	3.22	-1,913.46	1,913.42	0.00	0.00	0.00
10,300.00	89.78	270.50	7,099.90	4.10	-2,013.46	2,013.42	0.00	0.00	0.00
10,400.00	89.78	270.50	7,100.28	4.98	-2,113.45	2,113.41	0.00	0.00	0.00
10,500.00	89.78	270.50	7,100.66	5.86	-2,213.45	2,213.41	0.00	0.00	0.00
10,600.00	89.78	270.50	7,101.04	6.73	-2,313.44	2,313.41	0.00	0.00	0.00
10,700.00	89.78	270.50	7,101.43	7.61	-2,413.44	2,413.41	0.00	0.00	0.00
10,800.00	89.78	270.50	7,101.81	8.49	-2,513.43	2,513.41	0.00	0.00	0.00
10,900.00	89.78	270.50	7,102.19	9.37	-2,613.43	2,613.41	0.00	0.00	0.00
11,000.00	89.78	270.50	7,102.57	10.25	-2,713.42	2,713.41	0.00	0.00	0.00
11,100.00	89.78	270.50	7,102.95	11.12	-2,813.42	2,813.41	0.00	0.00	0.00
11,200.00	89.78	270.50	7,103.33	12.00	-2,913.42	2,913.41	0.00	0.00	0.00
11,300.00	89.78	270.50	7,103.71	12.88	-3,013.41	3,013.41	0.00	0.00	0.00
11,400.00	89.78	270.50	7,104.09	13.76	-3,113.41	3,113.41	0.00	0.00	0.00
11,500.00	89.78	270.50	7,104.47	14.64	-3,213.40	3,213.41	0.00	0.00	0.00
11,600.00	89.78	270.50	7,104.85	15.51	-3,313.40	3,313.41	0.00	0.00	0.00
11,700.00	89.78	270.50	7,105.23	16.39	-3,413.39	3,413.41	0.00	0.00	0.00
11,800.00	89.78	270.50	7,105.61	17.27	-3,513.39	3,513.40	0.00	0.00	0.00
11,900.00	89.78	270.50	7,105.99	18.15	-3,613.38	3,613.40	0.00	0.00	0.00
12,000.00	89.78	270.50	7,106.37	19.03	-3,713.38	3,713.40	0.00	0.00	0.00
12,100.00	89.78	270.50	7,106.75	19.90	-3,813.37	3,813.40	0.00	0.00	0.00
12,200.00	89.78	270.50	7,107.13	20.78	-3,913.37	3,913.40	0.00	0.00	0.00
12,300.00	89.78	270.50	7,107.51	21.66	-4,013.36	4,013.40	0.00	0.00	0.00
12,400.00	89.78	270.50	7,107.89	22.54	-4,113.36	4,113.40	0.00	0.00	0.00
12,500.00	89.78	270.50	7,108.27	23.42	-4,213.36	4,213.40	0.00	0.00	0.00
12,600.00	89.78	270.50	7,108.65	24.29	-4,313.35	4,313.40	0.00	0.00	0.00
12,700.00	89.78	270.50	7,109.03	25.17	-4,413.35	4,413.40	0.00	0.00	0.00
12,800.00	89.78	270.50	7,109.41	26.05	-4,513.34	4,513.40	0.00	0.00	0.00
12,900.00	89.78	270.50	7,109.79	26.93	-4,613.34	4,613.40	0.00	0.00	0.00
12,954.75	89.78	270.50	7,110.00	27.41	-4,668.09	4,668.15	0.00	0.00	0.00

TD Well @ 12954.75ft

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well WALTERS 21-5HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4955.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4955.00usft (Drilling Rig)
Site:	4N-67W-21 WALTERS 14-21HZ PAD	North Reference:	True
Well:	WALTERS 21-5HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,523.46	1,500.00	9 5/8" Csg	9-5/8	13-1/2	
7,696.47	7,090.00	Top of Production	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
876.81	874.00	Fox Hills				
3,955.55	3,795.00	Parkman				
4,442.40	4,255.00	Sussex				
7,300.74	6,982.00	Sharon Springs				
7,330.12	6,997.00	Niobrara				
7,585.48	7,081.00	Nio B				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
250.00	250.00	0.00	0.00	Begin Nudge @ 250.00ft	
1,538.67	1,514.36	-4.13	215.29	End Nudge @ 1538.67ft	
4,338.67	4,156.52	-21.93	1,141.94	Begin Drop @ 4338.67ft	
5,305.17	5,104.79	-25.03	1,303.40	End Drop @ 5305.17ft	
6,574.19	6,373.81	-25.03	1,303.40	KOP @ 6574.19ft :: DLS = 8"/100'	
7,696.47	7,090.00	-18.76	589.96	End Build @ 7696.47ft	
12,954.75	7,110.00	27.41	-4,668.09	TD Well @ 12954.75ft	