

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
1N-67W-07 BUDDY 17-7HZ PAD
BUDDY 7-2HZ**

Plan A

Plan: Permit Rev-1

SHL Lat/Long: 40.071038/-104.927712
Survey Program: MWD+IFR

Standard Planning Report

15 May, 2018

Project: WELD-NAD83-UTMFT13N
Site: 1N-67W-07 BUDDY 17-7HZ PAD
Well: BUDDY 7-2HZ
Wellbore: Plan A
Design: Permit Rev-1

US ROCKIES WATTENBERG PLANNING

CASING DETAILS

TVD	MD	Size
1500.00	1523.46	9-5/8
7656.00	8328.23	5-1/2

WELL DETAILS: BUDDY 7-2HZ

GL = 5072.00

RKB = 17' @ 5089.00usft (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	1708.67	21.88	323.60	1673.47	221.47	-163.28	1.50	323.60	-221.35	
4	4508.67	21.88	323.60	4271.78	1061.34	-782.49	0.00	0.00	-1060.79	
5	5602.67	0.00	0.00	5339.38	1227.44	-904.94	2.00	180.00	-1226.81	
6	7203.09	0.00	0.00	6939.80	1227.44	-904.94	0.00	0.00	-1226.81	
7	8328.23	90.01	180.04	7656.00	511.10	-905.41	8.00	180.04	-510.47	
8	13366.25	90.01	180.04	7655.00	-4526.92	-908.67	0.00	0.00	4527.55	BUDDY 7-2HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
BUDDY 7-2HZ_SHL	0.00	0.00	0.00	40.071038	-104.927712
BUDDY 7-2HZ_BHL	7655.00	-4526.92	-908.67	40.058606	-104.930959

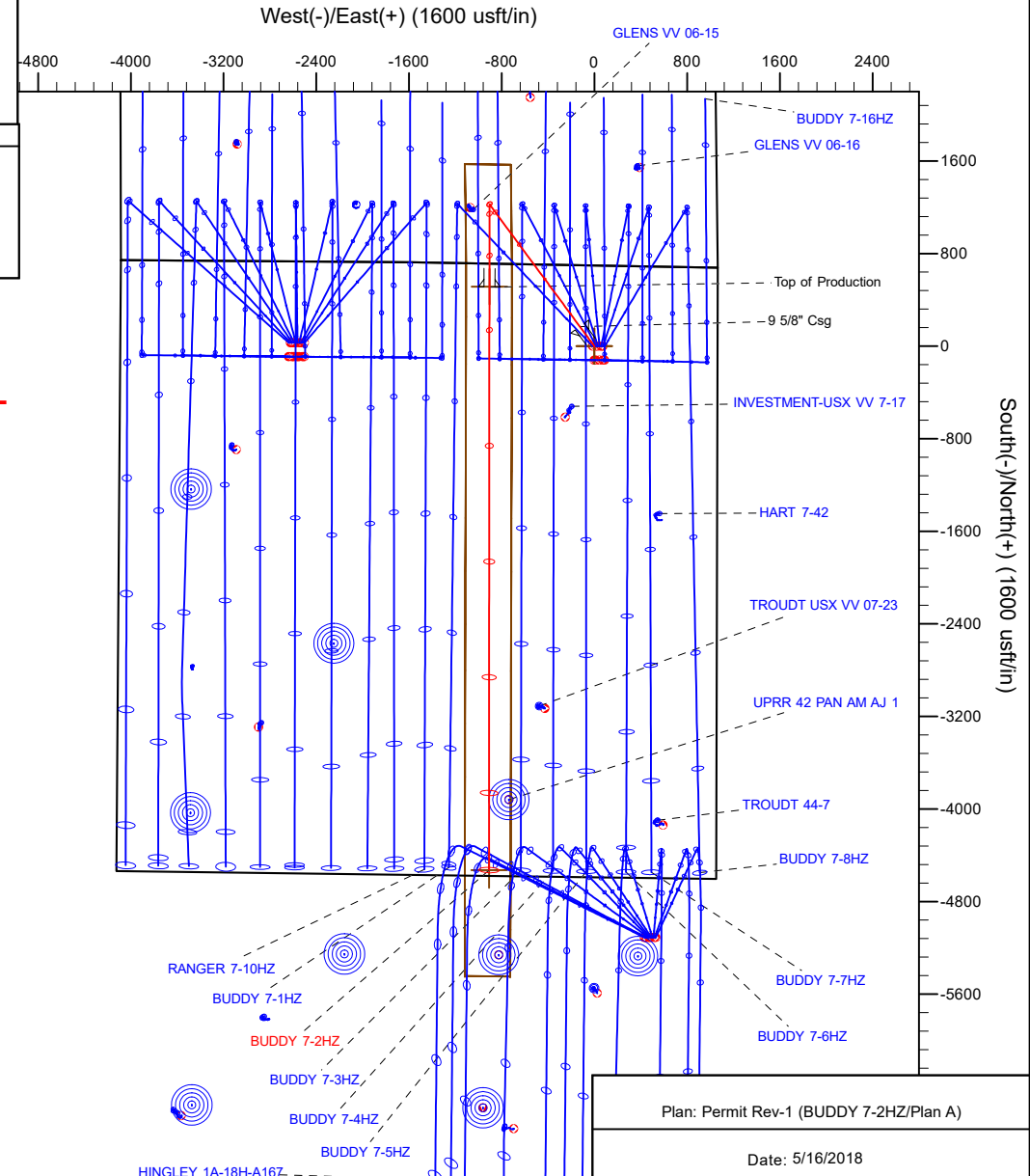
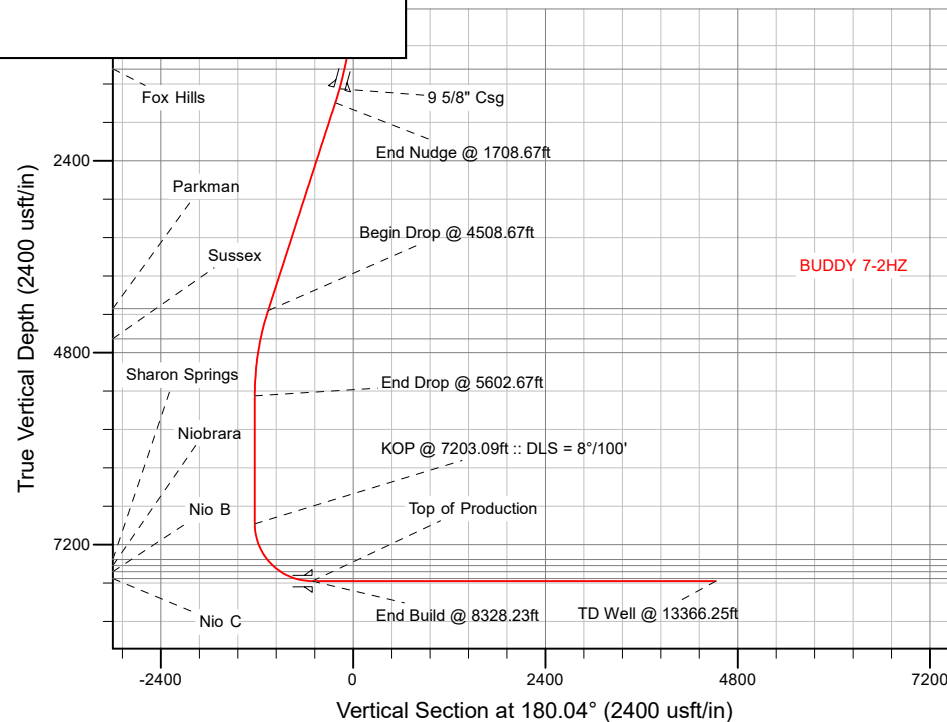
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1252.00	1263.86	Fox Hills
4248.00	4483.04	Parkman
4627.00	4882.73	Sussex
7387.00	7686.07	Sharon Springs
7462.00	7788.25	Niobrara
7538.00	7911.10	Nio B
7624.00	8113.19	Nio C

SHL
699' FNL
1064' FEL

HEEL
200' FNL
1970' FEL

TOE
50' FSL
1962' FEL



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well BUDDY 7-2HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5089.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5089.00usft (Drilling Rig)
Site:	1N-67W-07 BUDDY 17-7HZ PAD	North Reference:	True
Well:	BUDDY 7-2HZ	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-67W-07 BUDDY 17-7HZ PAD			
Site Position:		Northing:	14,552,609.64 usft	Latitude: 40.071038
From:	Lat/Long	Easting:	1,660,624.89 usft	Longitude: -104.927766
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.05 °

Well	BUDDY 7-2HZ			
Well Position	+N/-S	0.00 usft	Northing:	14,552,609.65 usft
	+E/-W	15.11 usft	Easting:	1,660,639.99 usft
Position Uncertainty	3.28 usft	Wellhead Elevation:		Ground Level: 5,072.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/2/2018	8.18	66.54	52,102.18815559

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	180.04

Plan Survey Tool Program	Date	5/15/2018		
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+II Fixed:v2:crustal field declinatio
2	1,500.00	13,366.25	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+II Fixed:v2:crustal field declinatio

Corporate
Planning Report

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Site:	1N-67W-07 BUDDY 17-7HZ PAD	North Reference:	True
Well:	BUDDY 7-2HZ	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	
1,708.67	21.88	323.60	1,673.47	221.47	-163.28	1.50	1.50	0.00	323.60	
4,508.67	21.88	323.60	4,271.78	1,061.34	-782.49	0.00	0.00	0.00	0.00	
5,602.67	0.00	0.00	5,339.38	1,227.44	-904.94	2.00	-2.00	0.00	180.00	
7,203.09	0.00	0.00	6,939.80	1,227.44	-904.94	0.00	0.00	0.00	0.00	
8,328.23	90.01	180.04	7,656.00	511.10	-905.41	8.00	8.00	-15.99	180.04	
13,366.25	90.01	180.04	7,655.00	-4,526.92	-908.67	0.00	0.00	0.00	0.00	BUDDY 7-2HZ_BHL

Corporate Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5089.00usft (Drilling Rig)
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Site:	1N-67W-07 BUDDY 17-7HZ PAD	North Reference:	True
Well:	BUDDY 7-2HZ	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	323.60	300.00	0.26	-0.19	-0.26	1.50	1.50	0.00
400.00	2.25	323.60	399.96	2.37	-1.75	-2.37	1.50	1.50	0.00
500.00	3.75	323.60	499.82	6.58	-4.85	-6.58	1.50	1.50	0.00
600.00	5.25	323.60	599.51	12.90	-9.51	-12.89	1.50	1.50	0.00
700.00	6.75	323.60	698.96	21.31	-15.71	-21.30	1.50	1.50	0.00
800.00	8.25	323.60	798.10	31.82	-23.46	-31.80	1.50	1.50	0.00
900.00	9.75	323.60	896.87	44.41	-32.74	-44.38	1.50	1.50	0.00
1,000.00	11.25	323.60	995.19	59.08	-43.55	-59.04	1.50	1.50	0.00
1,100.00	12.75	323.60	1,093.00	75.81	-55.89	-75.77	1.50	1.50	0.00
1,200.00	14.25	323.60	1,190.24	94.60	-69.74	-94.55	1.50	1.50	0.00
1,263.86	15.21	323.60	1,252.00	107.67	-79.38	-107.61	1.50	1.50	0.00
Fox Hills									
1,300.00	15.75	323.60	1,286.83	115.43	-85.10	-115.37	1.50	1.50	0.00
1,400.00	17.25	323.60	1,382.71	138.29	-101.96	-138.22	1.50	1.50	0.00
1,500.00	18.75	323.60	1,477.81	163.16	-120.29	-163.08	1.50	1.50	0.00
1,523.46	19.10	323.60	1,500.00	169.29	-124.81	-169.20	1.50	1.50	0.00
9 5/8" Csg									
1,600.00	20.25	323.60	1,572.07	190.03	-140.10	-189.93	1.50	1.50	0.00
1,700.00	21.75	323.60	1,665.43	218.87	-161.37	-218.76	1.50	1.50	0.00
1,708.67	21.88	323.60	1,673.47	221.47	-163.28	-221.35	1.50	1.50	0.00
End Nudge @ 1708.67ft									
1,800.00	21.88	323.60	1,758.23	248.86	-183.48	-248.73	0.00	0.00	0.00
1,900.00	21.88	323.60	1,851.02	278.86	-205.59	-278.71	0.00	0.00	0.00
2,000.00	21.88	323.60	1,943.82	308.85	-227.71	-308.69	0.00	0.00	0.00
2,100.00	21.88	323.60	2,036.62	338.85	-249.82	-338.67	0.00	0.00	0.00
2,200.00	21.88	323.60	2,129.41	368.84	-271.93	-368.65	0.00	0.00	0.00
2,300.00	21.88	323.60	2,222.21	398.84	-294.05	-398.63	0.00	0.00	0.00
2,400.00	21.88	323.60	2,315.01	428.83	-316.16	-428.61	0.00	0.00	0.00
2,500.00	21.88	323.60	2,407.80	458.83	-338.28	-458.59	0.00	0.00	0.00
2,600.00	21.88	323.60	2,500.60	488.82	-360.39	-488.57	0.00	0.00	0.00
2,700.00	21.88	323.60	2,593.40	518.82	-382.51	-518.55	0.00	0.00	0.00
2,800.00	21.88	323.60	2,686.19	548.82	-404.62	-548.53	0.00	0.00	0.00
2,900.00	21.88	323.60	2,778.99	578.81	-426.74	-578.51	0.00	0.00	0.00
3,000.00	21.88	323.60	2,871.79	608.81	-448.85	-608.49	0.00	0.00	0.00
3,100.00	21.88	323.60	2,964.58	638.80	-470.97	-638.47	0.00	0.00	0.00
3,200.00	21.88	323.60	3,057.38	668.80	-493.08	-668.45	0.00	0.00	0.00
3,300.00	21.88	323.60	3,150.18	698.79	-515.19	-698.43	0.00	0.00	0.00
3,400.00	21.88	323.60	3,242.97	728.79	-537.31	-728.41	0.00	0.00	0.00
3,500.00	21.88	323.60	3,335.77	758.78	-559.42	-758.39	0.00	0.00	0.00
3,600.00	21.88	323.60	3,428.57	788.78	-581.54	-788.37	0.00	0.00	0.00
3,700.00	21.88	323.60	3,521.36	818.78	-603.65	-818.35	0.00	0.00	0.00
3,800.00	21.88	323.60	3,614.16	848.77	-625.77	-848.33	0.00	0.00	0.00
3,900.00	21.88	323.60	3,706.95	878.77	-647.88	-878.31	0.00	0.00	0.00
4,000.00	21.88	323.60	3,799.75	908.76	-670.00	-908.29	0.00	0.00	0.00
4,100.00	21.88	323.60	3,892.55	938.76	-692.11	-938.27	0.00	0.00	0.00
4,200.00	21.88	323.60	3,985.34	968.75	-714.23	-968.25	0.00	0.00	0.00
4,300.00	21.88	323.60	4,078.14	998.75	-736.34	-998.23	0.00	0.00	0.00
4,400.00	21.88	323.60	4,170.94	1,028.74	-758.46	-1,028.21	0.00	0.00	0.00
4,483.04	21.88	323.60	4,248.00	1,053.65	-776.82	-1,053.11	0.00	0.00	0.00

Corporate Planning Report

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5089.00usft (Drilling Rig)
Site:	1N-67W-07 BUDDY 17-7HZ PAD	North Reference:	True
Well:	BUDDY 7-2HZ	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)
Parkman									
4,500.00	21.88	323.60	4,263.73	1,058.74	-780.57	-1,058.19	0.00	0.00	0.00
4,508.67	21.88	323.60	4,271.78	1,061.34	-782.49	-1,060.79	0.00	0.00	0.00
Begin Drop @ 4508.67ft									
4,600.00	20.05	323.60	4,357.06	1,087.64	-801.88	-1,087.08	2.00	-2.00	0.00
4,700.00	18.05	323.60	4,451.58	1,113.92	-821.25	-1,113.34	2.00	-2.00	0.00
4,800.00	16.05	323.60	4,547.17	1,137.52	-838.65	-1,136.93	2.00	-2.00	0.00
4,882.73	14.40	323.60	4,627.00	1,155.01	-851.55	-1,154.41	2.00	-2.00	0.00
Sussex									
4,900.00	14.05	323.60	4,643.74	1,158.42	-854.06	-1,157.83	2.00	-2.00	0.00
5,000.00	12.05	323.60	4,741.15	1,176.60	-867.47	-1,176.00	2.00	-2.00	0.00
5,100.00	10.05	323.60	4,839.29	1,192.03	-878.84	-1,191.42	2.00	-2.00	0.00
5,200.00	8.05	323.60	4,938.04	1,204.70	-888.18	-1,204.08	2.00	-2.00	0.00
5,300.00	6.05	323.60	5,037.28	1,214.58	-895.47	-1,213.95	2.00	-2.00	0.00
5,400.00	4.05	323.60	5,136.88	1,221.67	-900.69	-1,221.04	2.00	-2.00	0.00
5,500.00	2.05	323.60	5,236.74	1,225.96	-903.85	-1,225.33	2.00	-2.00	0.00
5,600.00	0.05	323.60	5,336.71	1,227.44	-904.94	-1,226.80	2.00	-2.00	0.00
5,602.67	0.00	0.00	5,339.38	1,227.44	-904.94	-1,226.81	2.00	-2.00	0.00
End Drop @ 5602.67ft									
5,700.00	0.00	0.00	5,436.71	1,227.44	-904.94	-1,226.81	0.00	0.00	0.00
5,800.00	0.00	0.00	5,536.71	1,227.44	-904.94	-1,226.81	0.00	0.00	0.00
5,900.00	0.00	0.00	5,636.71	1,227.44	-904.94	-1,226.81	0.00	0.00	0.00
6,000.00	0.00	0.00	5,736.71	1,227.44	-904.94	-1,226.81	0.00	0.00	0.00
6,100.00	0.00	0.00	5,836.71	1,227.44	-904.94	-1,226.81	0.00	0.00	0.00
6,200.00	0.00	0.00	5,936.71	1,227.44	-904.94	-1,226.81	0.00	0.00	0.00
6,300.00	0.00	0.00	6,036.71	1,227.44	-904.94	-1,226.81	0.00	0.00	0.00
6,400.00	0.00	0.00	6,136.71	1,227.44	-904.94	-1,226.81	0.00	0.00	0.00
6,500.00	0.00	0.00	6,236.71	1,227.44	-904.94	-1,226.81	0.00	0.00	0.00
6,600.00	0.00	0.00	6,336.71	1,227.44	-904.94	-1,226.81	0.00	0.00	0.00
6,700.00	0.00	0.00	6,436.71	1,227.44	-904.94	-1,226.81	0.00	0.00	0.00
6,800.00	0.00	0.00	6,536.71	1,227.44	-904.94	-1,226.81	0.00	0.00	0.00
6,900.00	0.00	0.00	6,636.71	1,227.44	-904.94	-1,226.81	0.00	0.00	0.00
7,000.00	0.00	0.00	6,736.71	1,227.44	-904.94	-1,226.81	0.00	0.00	0.00
7,100.00	0.00	0.00	6,836.71	1,227.44	-904.94	-1,226.81	0.00	0.00	0.00
7,200.00	0.00	0.00	6,936.71	1,227.44	-904.94	-1,226.81	0.00	0.00	0.00
7,203.09	0.00	0.00	6,939.80	1,227.44	-904.94	-1,226.81	0.00	0.00	0.00
KOP @ 7203.09ft :: DLS = 8°/100'									
7,300.00	7.75	180.04	7,036.42	1,220.89	-904.95	-1,220.26	8.00	8.00	0.00
7,400.00	15.75	180.04	7,134.24	1,200.54	-904.96	-1,199.91	8.00	8.00	0.00
7,500.00	23.75	180.04	7,228.28	1,166.77	-904.98	-1,166.14	8.00	8.00	0.00
7,600.00	31.75	180.04	7,316.71	1,120.24	-905.01	-1,119.61	8.00	8.00	0.00
7,686.07	38.64	180.04	7,387.00	1,070.66	-905.05	-1,070.03	8.00	8.00	0.00
Sharon Springs									
7,700.00	39.75	180.04	7,397.80	1,061.86	-905.05	-1,061.23	8.00	8.00	0.00
7,788.25	46.81	180.04	7,462.00	1,001.39	-905.09	-1,000.76	8.00	8.00	0.00
Niobrara									
7,800.00	47.75	180.04	7,469.97	992.76	-905.10	-992.13	8.00	8.00	0.00
7,900.00	55.75	180.04	7,531.82	914.29	-905.15	-913.66	8.00	8.00	0.00
7,911.10	56.64	180.04	7,538.00	905.07	-905.15	-904.44	8.00	8.00	0.00
Nio B									
8,000.00	63.75	180.04	7,582.16	827.97	-905.20	-827.34	8.00	8.00	0.00
8,100.00	71.75	180.04	7,619.99	735.49	-905.26	-734.86	8.00	8.00	0.00
8,113.19	72.81	180.04	7,624.00	722.93	-905.27	-722.30	8.00	8.00	0.00

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Database:	PLANNING	Local Co-ordinate Reference:	Well BUDDY 7-2HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5089.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5089.00usft (Drilling Rig)
Site:	1N-67W-07 BUDDY 17-7HZ PAD	North Reference:	True
Well:	BUDDY 7-2HZ	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)
Nio C									
8,200.00	79.75	180.04	7,644.58	638.65	-905.33	-638.02	8.00	8.00	0.00
8,300.00	87.75	180.04	7,655.45	539.32	-905.39	-538.69	8.00	8.00	0.00
8,328.23	90.01	180.04	7,656.00	511.10	-905.41	-510.47	8.00	8.00	0.00
End Build @ 8328.23ft - Top of Production									
8,400.00	90.01	180.04	7,655.99	439.33	-905.46	-438.70	0.00	0.00	0.00
8,500.00	90.01	180.04	7,655.97	339.33	-905.52	-338.70	0.00	0.00	0.00
8,600.00	90.01	180.04	7,655.95	239.33	-905.59	-238.70	0.00	0.00	0.00
8,700.00	90.01	180.04	7,655.93	139.33	-905.65	-138.70	0.00	0.00	0.00
8,800.00	90.01	180.04	7,655.91	39.33	-905.71	-38.70	0.00	0.00	0.00
8,900.00	90.01	180.04	7,655.89	-60.67	-905.78	61.30	0.00	0.00	0.00
9,000.00	90.01	180.04	7,655.87	-160.67	-905.84	161.30	0.00	0.00	0.00
9,100.00	90.01	180.04	7,655.85	-260.67	-905.91	261.30	0.00	0.00	0.00
9,200.00	90.01	180.04	7,655.83	-360.67	-905.97	361.30	0.00	0.00	0.00
9,300.00	90.01	180.04	7,655.81	-460.67	-906.04	461.30	0.00	0.00	0.00
9,400.00	90.01	180.04	7,655.79	-560.67	-906.10	561.30	0.00	0.00	0.00
9,500.00	90.01	180.04	7,655.77	-660.67	-906.17	661.30	0.00	0.00	0.00
9,600.00	90.01	180.04	7,655.75	-760.67	-906.23	761.30	0.00	0.00	0.00
9,700.00	90.01	180.04	7,655.73	-860.67	-906.30	861.30	0.00	0.00	0.00
9,800.00	90.01	180.04	7,655.71	-960.67	-906.36	961.30	0.00	0.00	0.00
9,900.00	90.01	180.04	7,655.69	-1,060.67	-906.43	1,061.30	0.00	0.00	0.00
10,000.00	90.01	180.04	7,655.67	-1,160.67	-906.49	1,161.30	0.00	0.00	0.00
10,100.00	90.01	180.04	7,655.65	-1,260.67	-906.56	1,261.30	0.00	0.00	0.00
10,200.00	90.01	180.04	7,655.63	-1,360.67	-906.62	1,361.30	0.00	0.00	0.00
10,300.00	90.01	180.04	7,655.61	-1,460.67	-906.69	1,461.30	0.00	0.00	0.00
10,400.00	90.01	180.04	7,655.59	-1,560.67	-906.75	1,561.30	0.00	0.00	0.00
10,500.00	90.01	180.04	7,655.57	-1,660.67	-906.82	1,661.30	0.00	0.00	0.00
10,600.00	90.01	180.04	7,655.55	-1,760.67	-906.88	1,761.30	0.00	0.00	0.00
10,700.00	90.01	180.04	7,655.53	-1,860.67	-906.95	1,861.30	0.00	0.00	0.00
10,800.00	90.01	180.04	7,655.51	-1,960.67	-907.01	1,961.30	0.00	0.00	0.00
10,900.00	90.01	180.04	7,655.49	-2,060.67	-907.08	2,061.30	0.00	0.00	0.00
11,000.00	90.01	180.04	7,655.47	-2,160.67	-907.14	2,161.30	0.00	0.00	0.00
11,100.00	90.01	180.04	7,655.45	-2,260.67	-907.21	2,261.30	0.00	0.00	0.00
11,200.00	90.01	180.04	7,655.43	-2,360.67	-907.27	2,361.30	0.00	0.00	0.00
11,300.00	90.01	180.04	7,655.41	-2,460.67	-907.33	2,461.30	0.00	0.00	0.00
11,400.00	90.01	180.04	7,655.39	-2,560.67	-907.40	2,561.30	0.00	0.00	0.00
11,500.00	90.01	180.04	7,655.37	-2,660.67	-907.46	2,661.30	0.00	0.00	0.00
11,600.00	90.01	180.04	7,655.35	-2,760.67	-907.53	2,761.30	0.00	0.00	0.00
11,700.00	90.01	180.04	7,655.33	-2,860.67	-907.59	2,861.30	0.00	0.00	0.00
11,800.00	90.01	180.04	7,655.31	-2,960.67	-907.66	2,961.30	0.00	0.00	0.00
11,900.00	90.01	180.04	7,655.29	-3,060.67	-907.72	3,061.30	0.00	0.00	0.00
12,000.00	90.01	180.04	7,655.27	-3,160.67	-907.79	3,161.30	0.00	0.00	0.00
12,100.00	90.01	180.04	7,655.25	-3,260.67	-907.85	3,261.30	0.00	0.00	0.00
12,200.00	90.01	180.04	7,655.23	-3,360.67	-907.92	3,361.30	0.00	0.00	0.00
12,300.00	90.01	180.04	7,655.21	-3,460.67	-907.98	3,461.30	0.00	0.00	0.00
12,400.00	90.01	180.04	7,655.19	-3,560.67	-908.05	3,561.30	0.00	0.00	0.00
12,500.00	90.01	180.04	7,655.17	-3,660.67	-908.11	3,661.30	0.00	0.00	0.00
12,600.00	90.01	180.04	7,655.15	-3,760.67	-908.18	3,761.30	0.00	0.00	0.00
12,700.00	90.01	180.04	7,655.13	-3,860.67	-908.24	3,861.30	0.00	0.00	0.00
12,800.00	90.01	180.04	7,655.11	-3,960.67	-908.31	3,961.30	0.00	0.00	0.00
12,900.00	90.01	180.04	7,655.09	-4,060.67	-908.37	4,061.30	0.00	0.00	0.00
13,000.00	90.01	180.04	7,655.07	-4,160.67	-908.44	4,161.30	0.00	0.00	0.00
13,100.00	90.01	180.04	7,655.05	-4,260.67	-908.50	4,261.30	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well BUDDY 7-2HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5089.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5089.00usft (Drilling Rig)
Site:	1N-67W-07 BUDDY 17-7HZ PAD	North Reference:	True
Well:	BUDDY 7-2HZ	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)
13,200.00	90.01	180.04	7,655.03	-4,360.67	-908.57	4,361.30	0.00	0.00	0.00
13,300.00	90.01	180.04	7,655.01	-4,460.67	-908.63	4,461.30	0.00	0.00	0.00
13,366.25	90.01	180.04	7,655.00	-4,526.92	-908.67	4,527.55	0.00	0.00	0.00
TD Well @ 13366.25ft									

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
8,328.23	7,656.00	Top of Production	5-1/2	7-7/8

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,263.86	1,252.00	Fox Hills			
4,483.04	4,248.00	Parkman			
4,882.73	4,627.00	Sussex			
7,686.07	7,387.00	Sharon Springs			
7,788.25	7,462.00	Niobrara			
7,911.10	7,538.00	Nio B			
8,113.19	7,624.00	Nio C			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
250.00	250.00	0.00	0.00	Begin Nudge @ 250.00ft
1,708.67	1,673.47	221.47	-163.28	End Nudge @ 1708.67ft
4,508.67	4,271.78	1,061.34	-782.49	Begin Drop @ 4508.67ft
5,602.67	5,339.38	1,227.44	-904.94	End Drop @ 5602.67ft
7,203.09	6,939.80	1,227.44	-904.94	KOP @ 7203.09ft :: DLS = 8°/100'
8,328.23	7,656.00	511.10	-905.41	End Build @ 8328.23ft
13,366.25	7,655.00	-4,526.92	-908.67	TD Well @ 13366.25ft