

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N**

**2N-66W-19 CASTLE PINES 16-19HZ PAD**

**CASTLE PINES 19-2HZ**

**Plan A**

**Plan: Permit Rev-1**

SHL Lat/Long: 40.117681/-104.814613

Survey Program: MWD+IFR+MSA

## **Standard Planning Report**

**17 January, 2018**

Project: WELD-NAD83-UTMFT13N  
Site: 2N-66W-19 CASTLE PINES 16-19HZ PAD  
Well: CASTLE PINES 19-2HZ  
Wellbore: Plan A  
Design: Permit Rev-1

## US ROCKIES WATTENBERG PLANNING

### CASING DETAILS

TVD	MD	Size
1500.00	1523.46	9-5/8
7271.00	7980.77	5-1/2

WELL DETAILS: CASTLE PINES 19-2HZ

GL = 4876'

RKB = 17' @ 4893.00usft (Drilling Rig)

### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	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	1816.67	23.50	299.20	1773.11	154.56	-276.55	1.50	299.20	-154.65	
4	4565.00	23.50	299.20	4293.50	689.20	-1233.18	0.00	0.00	-689.63	
5	5740.00	0.00	0.00	5435.83	805.12	-1440.59	2.00	180.00	-805.62	
6	6858.98	0.00	0.00	6554.81	805.12	-1440.59	0.00	0.00	-805.62	
7	7980.77	89.74	179.98	7271.00	92.13	-1440.30	8.00	179.98	-92.63	
8	18913.40	89.74	179.98	7320.00	-10840.39	-1435.86	0.00	0.00	10839.89	CASTLE PINES 19-2HZ_BHL

### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
CASTLE PINES 19-2HZ_SHL	0.00	0.00	0.00	40.117681	-104.814613
CASTLE PINES 19-2HZ_BHL	7320.00	-10840.39	-1435.86	40.087912	-104.819747

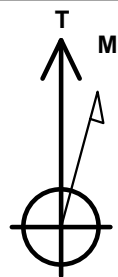
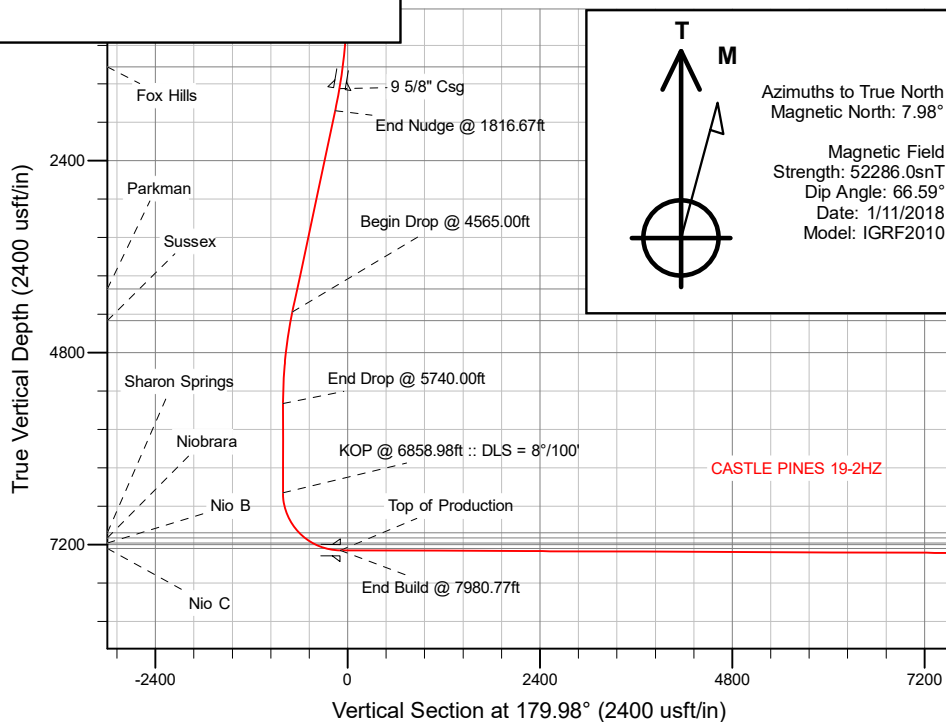
### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1226.00	1236.94	Fox Hills
4002.00	4247.14	Parkman
4398.00	4678.02	Sussex
7050.00	7405.76	Sharon Springs
7115.00	7502.23	Niobrara
7182.00	7623.12	Nio B
7249.00	7805.98	Nio C

**SHL**  
**484' FSL**  
**1123' FEL**

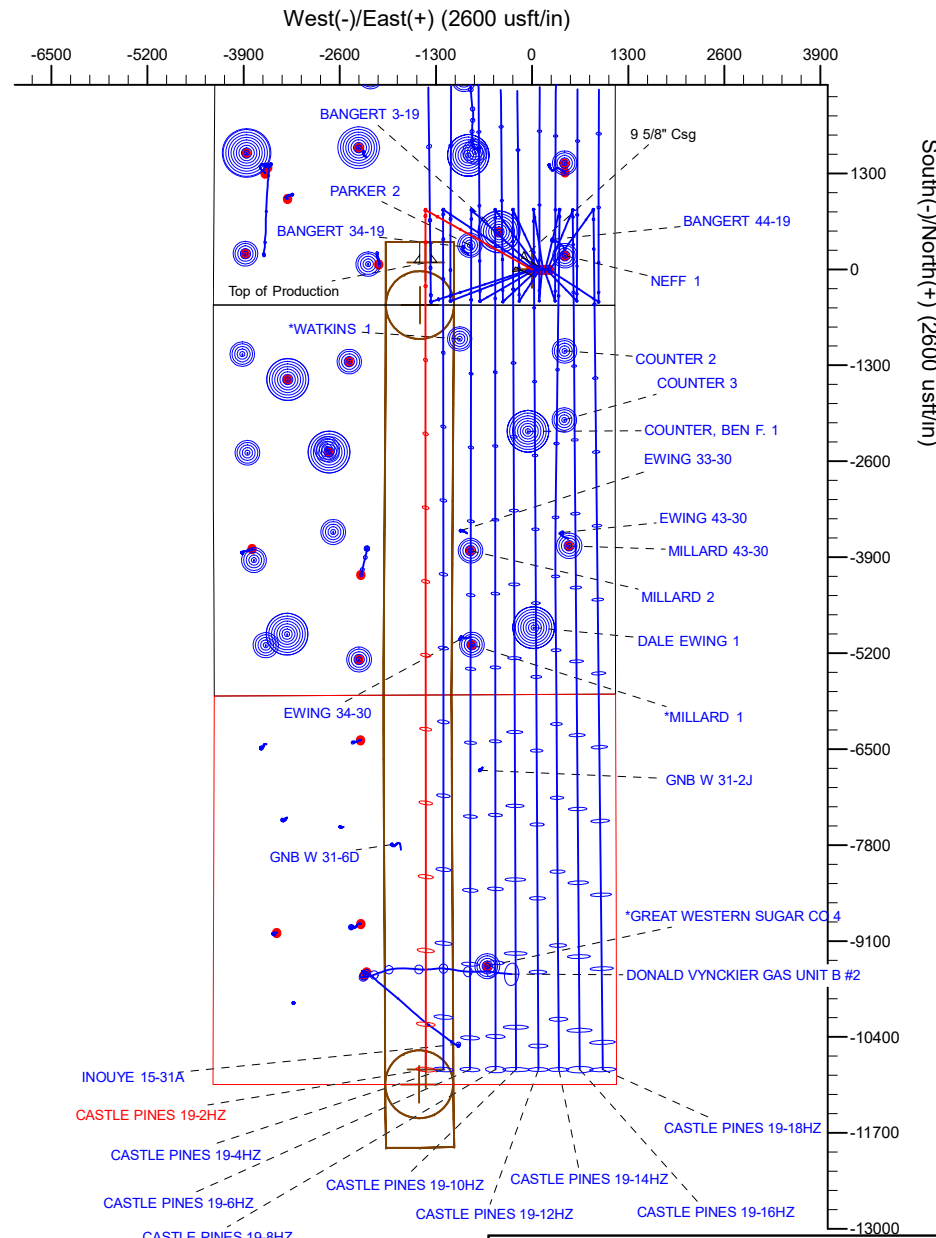
**HEEL**  
**578' FSL**  
**2562' FEL**

**TOE**  
**200' FSL**  
**2579' FEL**



Azimuths to True North  
Magnetic North: 7.98°

Magnetic Field  
Strength: 52286.0snT  
Dip Angle: 66.59°  
Date: 1/11/2018  
Model: IGRF2010



Plan: Permit Rev-1 (CASTLE PINES 19-2HZ/Plan A)

Created By: \_\_\_\_\_ Date: 1/17/2018  
Reviewed: \_\_\_\_\_ Date: \_\_\_\_\_

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CASTLE PINES 19-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Site:</b>	2N-66W-19 CASTLE PINES 16-19HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	CASTLE PINES 19-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

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

<b>Site</b>	2N-66W-19 CASTLE PINES 16-19HZ PAD			
<b>Site Position:</b>		<b>Northing:</b>	14,569,640.68 usft	<b>Latitude:</b> 40.117682
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,692,230.43 usft	<b>Longitude:</b> -104.814666
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b> 0.12 °

<b>Well</b>	CASTLE PINES 19-2HZ			
<b>Well Position</b>	<b>+N/-S</b>	-0.36 usft	<b>Northing:</b>	14,569,640.34 usft
	<b>+E/-W</b>	14.82 usft	<b>Easting:</b>	1,692,245.25 usft
<b>Position Uncertainty</b>	3.28 usft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b> 4,876.00 usft

<b>Wellbore</b>	Plan A				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	1/11/2018	7.98	66.59	52,285.96245685

<b>Design</b>	Permit Rev-1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	179.98

<b>Plan Survey Tool Program</b>	<b>Date</b>	1/17/2018		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	1,500.00	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:crustal field declination
2	1,500.00	18,913.40	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:Rockies, crustal dec +

# Corporate Planning Report

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<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Site:</b>	2N-66W-19 CASTLE PINES 16-19HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	CASTLE PINES 19-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	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	
1,816.67	23.50	299.20	1,773.11	154.56	-276.55	1.50	1.50	0.00	299.20	
4,565.00	23.50	299.20	4,293.50	689.20	-1,233.18	0.00	0.00	0.00	0.00	
5,740.00	0.00	0.00	5,435.83	805.12	-1,440.59	2.00	-2.00	5.17	180.00	
6,858.98	0.00	0.00	6,554.81	805.12	-1,440.59	0.00	0.00	0.00	0.00	
7,980.77	89.74	179.98	7,271.00	92.13	-1,440.30	8.00	8.00	16.04	179.98	
18,913.40	89.74	179.98	7,320.00	-10,840.39	-1,435.86	0.00	0.00	0.00	0.00	CASTLE PINES 19-2I

**Corporate**  
**Planning Report**

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<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Site:</b>	2N-66W-19 CASTLE PINES 16-19HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	CASTLE PINES 19-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	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
<b>Begin Nudge @ 250.00ft</b>									
300.00	0.75	299.20	300.00	0.16	-0.29	-0.16	1.50	1.50	0.00
400.00	2.25	299.20	399.96	1.44	-2.57	-1.44	1.50	1.50	0.00
500.00	3.75	299.20	499.82	3.99	-7.14	-3.99	1.50	1.50	0.00
600.00	5.25	299.20	599.51	7.82	-13.99	-7.82	1.50	1.50	0.00
700.00	6.75	299.20	698.96	12.92	-23.11	-12.92	1.50	1.50	0.00
800.00	8.25	299.20	798.10	19.28	-34.51	-19.30	1.50	1.50	0.00
900.00	9.75	299.20	896.87	26.92	-48.16	-26.93	1.50	1.50	0.00
1,000.00	11.25	299.20	995.19	35.81	-64.07	-35.83	1.50	1.50	0.00
1,100.00	12.75	299.20	1,093.00	45.95	-82.22	-45.98	1.50	1.50	0.00
1,200.00	14.25	299.20	1,190.24	57.34	-102.59	-57.37	1.50	1.50	0.00
1,236.95	14.80	299.20	1,226.00	61.86	-110.68	-61.90	1.50	1.50	0.00
<b>Fox Hills</b>									
1,300.00	15.75	299.20	1,286.83	69.96	-125.19	-70.01	1.50	1.50	0.00
1,400.00	17.25	299.20	1,382.71	83.82	-149.98	-83.87	1.50	1.50	0.00
1,500.00	18.75	299.20	1,477.81	98.89	-176.95	-98.96	1.50	1.50	0.00
1,523.46	19.10	299.20	1,500.00	102.61	-183.59	-102.67	1.50	1.50	0.00
<b>9 5/8" Csg</b>									
1,600.00	20.25	299.20	1,572.07	115.18	-206.09	-115.25	1.50	1.50	0.00
1,700.00	21.75	299.20	1,665.43	132.66	-237.37	-132.75	1.50	1.50	0.00
1,800.00	23.25	299.20	1,757.81	151.33	-270.78	-151.43	1.50	1.50	0.00
1,816.67	23.50	299.20	1,773.11	154.56	-276.55	-154.65	1.50	1.50	0.00
<b>End Nudge @ 1816.67ft</b>									
1,900.00	23.50	299.20	1,849.53	170.77	-305.55	-170.88	0.00	0.00	0.00
2,000.00	23.50	299.20	1,941.24	190.22	-340.36	-190.34	0.00	0.00	0.00
2,100.00	23.50	299.20	2,032.94	209.68	-375.17	-209.81	0.00	0.00	0.00
2,200.00	23.50	299.20	2,124.65	229.13	-409.98	-229.27	0.00	0.00	0.00
2,300.00	23.50	299.20	2,216.36	248.58	-444.79	-248.74	0.00	0.00	0.00
2,400.00	23.50	299.20	2,308.06	268.04	-479.59	-268.20	0.00	0.00	0.00
2,500.00	23.50	299.20	2,399.77	287.49	-514.40	-287.67	0.00	0.00	0.00
2,600.00	23.50	299.20	2,491.47	306.94	-549.21	-307.13	0.00	0.00	0.00
2,700.00	23.50	299.20	2,583.18	326.40	-584.02	-326.60	0.00	0.00	0.00
2,800.00	23.50	299.20	2,674.89	345.85	-618.82	-346.06	0.00	0.00	0.00
2,900.00	23.50	299.20	2,766.59	365.30	-653.63	-365.53	0.00	0.00	0.00
3,000.00	23.50	299.20	2,858.30	384.76	-688.44	-385.00	0.00	0.00	0.00
3,100.00	23.50	299.20	2,950.00	404.21	-723.25	-404.46	0.00	0.00	0.00
3,200.00	23.50	299.20	3,041.71	423.66	-758.05	-423.93	0.00	0.00	0.00
3,300.00	23.50	299.20	3,133.42	443.12	-792.86	-443.39	0.00	0.00	0.00
3,400.00	23.50	299.20	3,225.12	462.57	-827.67	-462.86	0.00	0.00	0.00
3,500.00	23.50	299.20	3,316.83	482.02	-862.48	-482.32	0.00	0.00	0.00
3,600.00	23.50	299.20	3,408.53	501.48	-897.29	-501.79	0.00	0.00	0.00
3,700.00	23.50	299.20	3,500.24	520.93	-932.09	-521.25	0.00	0.00	0.00
3,800.00	23.50	299.20	3,591.95	540.38	-966.90	-540.72	0.00	0.00	0.00
3,900.00	23.50	299.20	3,683.65	559.84	-1,001.71	-560.19	0.00	0.00	0.00
4,000.00	23.50	299.20	3,775.36	579.29	-1,036.52	-579.65	0.00	0.00	0.00
4,100.00	23.50	299.20	3,867.06	598.74	-1,071.32	-599.12	0.00	0.00	0.00
4,200.00	23.50	299.20	3,958.77	618.20	-1,106.13	-618.58	0.00	0.00	0.00
4,247.14	23.50	299.20	4,002.00	627.37	-1,122.54	-627.76	0.00	0.00	0.00
<b>Parkman</b>									
4,300.00	23.50	299.20	4,050.48	637.65	-1,140.94	-638.05	0.00	0.00	0.00

**Corporate**  
**Planning Report**

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CASTLE PINES 19-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Site:</b>	2N-66W-19 CASTLE PINES 16-19HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	CASTLE PINES 19-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	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)
4,400.00	23.50	299.20	4,142.18	657.10	-1,175.75	-657.51	0.00	0.00	0.00
4,500.00	23.50	299.20	4,233.89	676.56	-1,210.55	-676.98	0.00	0.00	0.00
4,565.00	23.50	299.20	4,293.50	689.20	-1,233.18	-689.63	0.00	0.00	0.00
<b>Begin Drop @ 4565.00ft</b>									
4,600.00	22.80	299.20	4,325.68	695.91	-1,245.19	-696.35	2.00	-2.00	0.00
4,678.02	21.24	299.20	4,398.00	710.18	-1,270.72	-710.63	2.00	-2.00	0.00
<b>Sussex</b>									
4,700.00	20.80	299.20	4,418.52	714.03	-1,277.61	-714.48	2.00	-2.00	0.00
4,800.00	18.80	299.20	4,512.60	730.55	-1,307.17	-731.01	2.00	-2.00	0.00
4,900.00	16.80	299.20	4,607.81	745.47	-1,333.86	-745.93	2.00	-2.00	0.00
5,000.00	14.80	299.20	4,704.03	758.75	-1,357.62	-759.22	2.00	-2.00	0.00
5,100.00	12.80	299.20	4,801.14	770.39	-1,378.45	-770.87	2.00	-2.00	0.00
5,200.00	10.80	299.20	4,899.02	780.36	-1,396.30	-780.85	2.00	-2.00	0.00
5,300.00	8.80	299.20	4,997.56	788.67	-1,411.15	-789.16	2.00	-2.00	0.00
5,400.00	6.80	299.20	5,096.63	795.29	-1,423.00	-795.78	2.00	-2.00	0.00
5,500.00	4.80	299.20	5,196.11	800.22	-1,431.82	-800.72	2.00	-2.00	0.00
5,600.00	2.80	299.20	5,295.88	803.45	-1,437.60	-803.95	2.00	-2.00	0.00
5,700.00	0.80	299.20	5,395.83	804.98	-1,440.35	-805.49	2.00	-2.00	0.00
5,740.00	0.00	0.00	5,435.83	805.12	-1,440.59	-805.62	2.00	-2.00	152.00
<b>End Drop @ 5740.00ft</b>									
5,800.00	0.00	0.00	5,495.83	805.12	-1,440.59	-805.62	0.00	0.00	0.00
5,900.00	0.00	0.00	5,595.83	805.12	-1,440.59	-805.62	0.00	0.00	0.00
6,000.00	0.00	0.00	5,695.83	805.12	-1,440.59	-805.62	0.00	0.00	0.00
6,100.00	0.00	0.00	5,795.83	805.12	-1,440.59	-805.62	0.00	0.00	0.00
6,200.00	0.00	0.00	5,895.83	805.12	-1,440.59	-805.62	0.00	0.00	0.00
6,300.00	0.00	0.00	5,995.83	805.12	-1,440.59	-805.62	0.00	0.00	0.00
6,400.00	0.00	0.00	6,095.83	805.12	-1,440.59	-805.62	0.00	0.00	0.00
6,500.00	0.00	0.00	6,195.83	805.12	-1,440.59	-805.62	0.00	0.00	0.00
6,600.00	0.00	0.00	6,295.83	805.12	-1,440.59	-805.62	0.00	0.00	0.00
6,700.00	0.00	0.00	6,395.83	805.12	-1,440.59	-805.62	0.00	0.00	0.00
6,800.00	0.00	0.00	6,495.83	805.12	-1,440.59	-805.62	0.00	0.00	0.00
6,858.98	0.00	0.00	6,554.81	805.12	-1,440.59	-805.62	0.00	0.00	0.00
<b>KOP @ 6858.98ft :: DLS = 8°/100'</b>									
6,900.00	3.28	179.98	6,595.81	803.94	-1,440.59	-804.45	8.00	8.00	438.75
7,000.00	11.28	179.98	6,694.92	791.28	-1,440.58	-791.78	8.00	8.00	0.00
7,100.00	19.28	179.98	6,791.30	764.95	-1,440.57	-765.45	8.00	8.00	0.00
7,200.00	27.28	179.98	6,883.09	725.45	-1,440.56	-725.95	8.00	8.00	0.00
7,300.00	35.28	179.98	6,968.48	673.57	-1,440.54	-674.07	8.00	8.00	0.00
7,400.00	43.28	179.98	7,045.82	610.31	-1,440.51	-610.81	8.00	8.00	0.00
7,405.76	43.74	179.98	7,050.00	606.34	-1,440.51	-606.84	8.00	8.00	0.00
<b>Sharon Springs</b>									
7,500.00	51.28	179.98	7,113.61	536.90	-1,440.48	-537.40	8.00	8.00	0.00
7,502.23	51.46	179.98	7,115.00	535.15	-1,440.48	-535.66	8.00	8.00	0.00
<b>Niobrara</b>									
7,600.00	59.28	179.98	7,170.51	454.77	-1,440.45	-455.27	8.00	8.00	0.00
7,623.12	61.13	179.98	7,182.00	434.71	-1,440.44	-435.21	8.00	8.00	0.00
<b>Nio B</b>									
7,700.00	67.28	179.98	7,215.44	365.52	-1,440.41	-366.02	8.00	8.00	0.00
7,800.00	75.28	179.98	7,247.50	270.88	-1,440.37	-271.39	8.00	8.00	0.00
7,805.98	75.76	179.98	7,249.00	265.09	-1,440.37	-265.59	8.00	8.00	0.00
<b>Nio C</b>									
7,900.00	83.28	179.98	7,266.09	172.71	-1,440.33	-173.21	8.00	8.00	0.00
7,980.77	89.74	179.98	7,271.00	92.13	-1,440.30	-92.63	8.00	8.00	0.00

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CASTLE PINES 19-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Site:</b>	2N-66W-19 CASTLE PINES 16-19HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	CASTLE PINES 19-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	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)
End Build @ 7980.77ft - Top of Production									
8,000.00	89.74	179.98	7,271.08	72.90	-1,440.29	-73.40	0.00	0.00	0.00
8,100.00	89.74	179.98	7,271.53	-27.10	-1,440.25	26.59	0.00	0.00	0.00
8,200.00	89.74	179.98	7,271.98	-127.10	-1,440.21	126.59	0.00	0.00	0.00
8,300.00	89.74	179.98	7,272.43	-227.10	-1,440.17	226.59	0.00	0.00	0.00
8,400.00	89.74	179.98	7,272.88	-327.09	-1,440.13	326.59	0.00	0.00	0.00
8,500.00	89.74	179.98	7,273.33	-427.09	-1,440.09	426.59	0.00	0.00	0.00
8,600.00	89.74	179.98	7,273.77	-527.09	-1,440.05	526.59	0.00	0.00	0.00
8,700.00	89.74	179.98	7,274.22	-627.09	-1,440.01	626.59	0.00	0.00	0.00
8,800.00	89.74	179.98	7,274.67	-727.09	-1,439.97	726.59	0.00	0.00	0.00
8,900.00	89.74	179.98	7,275.12	-827.09	-1,439.93	826.59	0.00	0.00	0.00
9,000.00	89.74	179.98	7,275.57	-927.09	-1,439.89	926.59	0.00	0.00	0.00
9,100.00	89.74	179.98	7,276.01	-1,027.09	-1,439.85	1,026.58	0.00	0.00	0.00
9,200.00	89.74	179.98	7,276.46	-1,127.09	-1,439.81	1,126.58	0.00	0.00	0.00
9,300.00	89.74	179.98	7,276.91	-1,227.09	-1,439.76	1,226.58	0.00	0.00	0.00
9,400.00	89.74	179.98	7,277.36	-1,327.08	-1,439.72	1,326.58	0.00	0.00	0.00
9,500.00	89.74	179.98	7,277.81	-1,427.08	-1,439.68	1,426.58	0.00	0.00	0.00
9,600.00	89.74	179.98	7,278.26	-1,527.08	-1,439.64	1,526.58	0.00	0.00	0.00
9,700.00	89.74	179.98	7,278.70	-1,627.08	-1,439.60	1,626.58	0.00	0.00	0.00
9,800.00	89.74	179.98	7,279.15	-1,727.08	-1,439.56	1,726.58	0.00	0.00	0.00
9,900.00	89.74	179.98	7,279.60	-1,827.08	-1,439.52	1,826.58	0.00	0.00	0.00
10,000.00	89.74	179.98	7,280.05	-1,927.08	-1,439.48	1,926.58	0.00	0.00	0.00
10,100.00	89.74	179.98	7,280.50	-2,027.08	-1,439.44	2,026.57	0.00	0.00	0.00
10,200.00	89.74	179.98	7,280.95	-2,127.08	-1,439.40	2,126.57	0.00	0.00	0.00
10,300.00	89.74	179.98	7,281.39	-2,227.08	-1,439.36	2,226.57	0.00	0.00	0.00
10,400.00	89.74	179.98	7,281.84	-2,327.07	-1,439.32	2,326.57	0.00	0.00	0.00
10,500.00	89.74	179.98	7,282.29	-2,427.07	-1,439.28	2,426.57	0.00	0.00	0.00
10,600.00	89.74	179.98	7,282.74	-2,527.07	-1,439.24	2,526.57	0.00	0.00	0.00
10,700.00	89.74	179.98	7,283.19	-2,627.07	-1,439.20	2,626.57	0.00	0.00	0.00
10,800.00	89.74	179.98	7,283.63	-2,727.07	-1,439.16	2,726.57	0.00	0.00	0.00
10,900.00	89.74	179.98	7,284.08	-2,827.07	-1,439.11	2,826.57	0.00	0.00	0.00
11,000.00	89.74	179.98	7,284.53	-2,927.07	-1,439.07	2,926.57	0.00	0.00	0.00
11,100.00	89.74	179.98	7,284.98	-3,027.07	-1,439.03	3,026.56	0.00	0.00	0.00
11,200.00	89.74	179.98	7,285.43	-3,127.07	-1,438.99	3,126.56	0.00	0.00	0.00
11,300.00	89.74	179.98	7,285.88	-3,227.06	-1,438.95	3,226.56	0.00	0.00	0.00
11,400.00	89.74	179.98	7,286.32	-3,327.06	-1,438.91	3,326.56	0.00	0.00	0.00
11,500.00	89.74	179.98	7,286.77	-3,427.06	-1,438.87	3,426.56	0.00	0.00	0.00
11,600.00	89.74	179.98	7,287.22	-3,527.06	-1,438.83	3,526.56	0.00	0.00	0.00
11,700.00	89.74	179.98	7,287.67	-3,627.06	-1,438.79	3,626.56	0.00	0.00	0.00
11,800.00	89.74	179.98	7,288.12	-3,727.06	-1,438.75	3,726.56	0.00	0.00	0.00
11,900.00	89.74	179.98	7,288.56	-3,827.06	-1,438.71	3,826.56	0.00	0.00	0.00
12,000.00	89.74	179.98	7,289.01	-3,927.06	-1,438.67	3,926.56	0.00	0.00	0.00
12,100.00	89.74	179.98	7,289.46	-4,027.06	-1,438.63	4,026.55	0.00	0.00	0.00
12,200.00	89.74	179.98	7,289.91	-4,127.06	-1,438.59	4,126.55	0.00	0.00	0.00
12,300.00	89.74	179.98	7,290.36	-4,227.05	-1,438.55	4,226.55	0.00	0.00	0.00
12,400.00	89.74	179.98	7,290.81	-4,327.05	-1,438.51	4,326.55	0.00	0.00	0.00
12,500.00	89.74	179.98	7,291.25	-4,427.05	-1,438.47	4,426.55	0.00	0.00	0.00
12,600.00	89.74	179.98	7,291.70	-4,527.05	-1,438.42	4,526.55	0.00	0.00	0.00
12,700.00	89.74	179.98	7,292.15	-4,627.05	-1,438.38	4,626.55	0.00	0.00	0.00
12,800.00	89.74	179.98	7,292.60	-4,727.05	-1,438.34	4,726.55	0.00	0.00	0.00
12,900.00	89.74	179.98	7,293.05	-4,827.05	-1,438.30	4,826.55	0.00	0.00	0.00
13,000.00	89.74	179.98	7,293.50	-4,927.05	-1,438.26	4,926.55	0.00	0.00	0.00
13,100.00	89.74	179.98	7,293.94	-5,027.05	-1,438.22	5,026.54	0.00	0.00	0.00

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CASTLE PINES 19-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Site:</b>	2N-66W-19 CASTLE PINES 16-19HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	CASTLE PINES 19-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	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	89.74	179.98	7,294.39	-5,127.05	-1,438.18	5,126.54	0.00	0.00	0.00	
13,300.00	89.74	179.98	7,294.84	-5,227.04	-1,438.14	5,226.54	0.00	0.00	0.00	
13,400.00	89.74	179.98	7,295.29	-5,327.04	-1,438.10	5,326.54	0.00	0.00	0.00	
13,500.00	89.74	179.98	7,295.74	-5,427.04	-1,438.06	5,426.54	0.00	0.00	0.00	
13,600.00	89.74	179.98	7,296.18	-5,527.04	-1,438.02	5,526.54	0.00	0.00	0.00	
13,700.00	89.74	179.98	7,296.63	-5,627.04	-1,437.98	5,626.54	0.00	0.00	0.00	
13,800.00	89.74	179.98	7,297.08	-5,727.04	-1,437.94	5,726.54	0.00	0.00	0.00	
13,900.00	89.74	179.98	7,297.53	-5,827.04	-1,437.90	5,826.54	0.00	0.00	0.00	
14,000.00	89.74	179.98	7,297.98	-5,927.04	-1,437.86	5,926.54	0.00	0.00	0.00	
14,100.00	89.74	179.98	7,298.43	-6,027.04	-1,437.82	6,026.53	0.00	0.00	0.00	
14,200.00	89.74	179.98	7,298.87	-6,127.04	-1,437.77	6,126.53	0.00	0.00	0.00	
14,300.00	89.74	179.98	7,299.32	-6,227.03	-1,437.73	6,226.53	0.00	0.00	0.00	
14,400.00	89.74	179.98	7,299.77	-6,327.03	-1,437.69	6,326.53	0.00	0.00	0.00	
14,500.00	89.74	179.98	7,300.22	-6,427.03	-1,437.65	6,426.53	0.00	0.00	0.00	
14,600.00	89.74	179.98	7,300.67	-6,527.03	-1,437.61	6,526.53	0.00	0.00	0.00	
14,700.00	89.74	179.98	7,301.11	-6,627.03	-1,437.57	6,626.53	0.00	0.00	0.00	
14,800.00	89.74	179.98	7,301.56	-6,727.03	-1,437.53	6,726.53	0.00	0.00	0.00	
14,900.00	89.74	179.98	7,302.01	-6,827.03	-1,437.49	6,826.53	0.00	0.00	0.00	
15,000.00	89.74	179.98	7,302.46	-6,927.03	-1,437.45	6,926.53	0.00	0.00	0.00	
15,100.00	89.74	179.98	7,302.91	-7,027.03	-1,437.41	7,026.52	0.00	0.00	0.00	
15,200.00	89.74	179.98	7,303.36	-7,127.03	-1,437.37	7,126.52	0.00	0.00	0.00	
15,300.00	89.74	179.98	7,303.80	-7,227.02	-1,437.33	7,226.52	0.00	0.00	0.00	
15,400.00	89.74	179.98	7,304.25	-7,327.02	-1,437.29	7,326.52	0.00	0.00	0.00	
15,500.00	89.74	179.98	7,304.70	-7,427.02	-1,437.25	7,426.52	0.00	0.00	0.00	
15,600.00	89.74	179.98	7,305.15	-7,527.02	-1,437.21	7,526.52	0.00	0.00	0.00	
15,700.00	89.74	179.98	7,305.60	-7,627.02	-1,437.17	7,626.52	0.00	0.00	0.00	
15,800.00	89.74	179.98	7,306.05	-7,727.02	-1,437.12	7,726.52	0.00	0.00	0.00	
15,900.00	89.74	179.98	7,306.49	-7,827.02	-1,437.08	7,826.52	0.00	0.00	0.00	
16,000.00	89.74	179.98	7,306.94	-7,927.02	-1,437.04	7,926.52	0.00	0.00	0.00	
16,100.00	89.74	179.98	7,307.39	-8,027.02	-1,437.00	8,026.51	0.00	0.00	0.00	
16,200.00	89.74	179.98	7,307.84	-8,127.02	-1,436.96	8,126.51	0.00	0.00	0.00	
16,300.00	89.74	179.98	7,308.29	-8,227.01	-1,436.92	8,226.51	0.00	0.00	0.00	
16,400.00	89.74	179.98	7,308.73	-8,327.01	-1,436.88	8,326.51	0.00	0.00	0.00	
16,500.00	89.74	179.98	7,309.18	-8,427.01	-1,436.84	8,426.51	0.00	0.00	0.00	
16,600.00	89.74	179.98	7,309.63	-8,527.01	-1,436.80	8,526.51	0.00	0.00	0.00	
16,700.00	89.74	179.98	7,310.08	-8,627.01	-1,436.76	8,626.51	0.00	0.00	0.00	
16,800.00	89.74	179.98	7,310.53	-8,727.01	-1,436.72	8,726.51	0.00	0.00	0.00	
16,900.00	89.74	179.98	7,310.98	-8,827.01	-1,436.68	8,826.51	0.00	0.00	0.00	
17,000.00	89.74	179.98	7,311.42	-8,927.01	-1,436.64	8,926.51	0.00	0.00	0.00	
17,100.00	89.74	179.98	7,311.87	-9,027.01	-1,436.60	9,026.50	0.00	0.00	0.00	
17,200.00	89.74	179.98	7,312.32	-9,127.01	-1,436.56	9,126.50	0.00	0.00	0.00	
17,300.00	89.74	179.98	7,312.77	-9,227.00	-1,436.52	9,226.50	0.00	0.00	0.00	
17,400.00	89.74	179.98	7,313.22	-9,327.00	-1,436.47	9,326.50	0.00	0.00	0.00	
17,500.00	89.74	179.98	7,313.67	-9,427.00	-1,436.43	9,426.50	0.00	0.00	0.00	
17,600.00	89.74	179.98	7,314.11	-9,527.00	-1,436.39	9,526.50	0.00	0.00	0.00	
17,700.00	89.74	179.98	7,314.56	-9,627.00	-1,436.35	9,626.50	0.00	0.00	0.00	
17,800.00	89.74	179.98	7,315.01	-9,727.00	-1,436.31	9,726.50	0.00	0.00	0.00	
17,900.00	89.74	179.98	7,315.46	-9,827.00	-1,436.27	9,826.50	0.00	0.00	0.00	
18,000.00	89.74	179.98	7,315.91	-9,927.00	-1,436.23	9,926.50	0.00	0.00	0.00	
18,100.00	89.74	179.98	7,316.35	-10,027.00	-1,436.19	10,026.49	0.00	0.00	0.00	
18,200.00	89.74	179.98	7,316.80	-10,127.00	-1,436.15	10,126.49	0.00	0.00	0.00	
18,300.00	89.74	179.98	7,317.25	-10,226.99	-1,436.11	10,226.49	0.00	0.00	0.00	
18,400.00	89.74	179.98	7,317.70	-10,326.99	-1,436.07	10,326.49	0.00	0.00	0.00	
18,500.00	89.74	179.98	7,318.15	-10,426.99	-1,436.03	10,426.49	0.00	0.00	0.00	



# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CASTLE PINES 19-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Site:</b>	2N-66W-19 CASTLE PINES 16-19HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	CASTLE PINES 19-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	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)
18,600.00	89.74	179.98	7,318.60	-10,526.99	-1,435.99	10,526.49	0.00	0.00	0.00
18,700.00	89.74	179.98	7,319.04	-10,626.99	-1,435.95	10,626.49	0.00	0.00	0.00
18,800.00	89.74	179.98	7,319.49	-10,726.99	-1,435.91	10,726.49	0.00	0.00	0.00
18,900.00	89.74	179.98	7,319.94	-10,826.99	-1,435.87	10,826.49	0.00	0.00	0.00
18,913.40	89.74	179.98	7,320.00	-10,840.39	-1,435.86	10,839.89	0.00	0.00	0.00
TD Well @ 18913.40ft									

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CASTLE PINES 19-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Site:</b>	2N-66W-19 CASTLE PINES 16-19HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	CASTLE PINES 19-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
CASTLE PINES 19-2HZ	0.00	0.00	0.00	-11,040.19	-1,526.57	14,558,597.00	1,690,741.70	40.087363	-104.820071
- plan misses target center by 7323.29usft at 18913.40usft MD (7320.00 TVD, -10840.39 N, -1435.86 E)									
- Circle (radius 460.00)									
CASTLE PINES 19-2HZ	0.00	0.00	0.00	94.65	-1,439.06	14,569,732.00	1,690,806.00	40.117941	-104.819761
- plan misses target center by 1442.17usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
CASTLE PINES 19-2HZ	0.00	0.00	0.00	-482.79	-1,516.16	14,569,154.40	1,690,730.10	40.116355	-104.820036
- plan misses target center by 1591.17usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Circle (radius 460.00)									
CASTLE PINES 19-2HZ	0.00	0.00	0.00	0.00	0.00	14,569,640.34	1,692,245.25	40.117681	-104.814613
- plan hits target center									
- Point									
CASTLE PINES 19-2HZ	0.00	0.00	0.00	0.00	0.00	14,569,640.34	1,692,245.25	40.117681	-104.814613
- plan hits target center									
- Polygon									
Point 1			0.00	-11,898.52	-1,512.96	14,557,738.69	1,690,757.10		
Point 2			0.00	-11,901.36	-1,973.17	14,557,734.89	1,690,296.90		
Point 3			0.00	-11,500.25	-1,979.43	14,558,135.99	1,690,289.80		
Point 4			0.00	-11,041.23	-1,986.58	14,558,594.99	1,690,281.70		
Point 5			0.00	-10,580.23	-1,986.92	14,559,055.99	1,690,280.39		
Point 6			0.00	-10,186.03	-1,987.29	14,559,450.19	1,690,279.20		
Point 7			0.00	-9,726.52	-1,987.64	14,559,909.70	1,690,277.89		
Point 8			0.00	-9,266.02	-1,991.28	14,560,370.19	1,690,273.29		
Point 9			0.00	-8,868.71	-1,994.45	14,560,767.49	1,690,269.30		
Point 10			0.00	-8,409.10	-1,998.19	14,561,227.10	1,690,264.60		
Point 11			0.00	-7,948.69	-2,000.13	14,561,687.50	1,690,261.70		
Point 12			0.00	-7,548.89	-2,001.80	14,562,087.30	1,690,259.19		
Point 13			0.00	-7,088.88	-2,003.84	14,562,547.30	1,690,256.19		
Point 14			0.00	-6,628.88	-2,005.78	14,563,007.30	1,690,253.30		
Point 15			0.00	-6,229.28	-2,007.44	14,563,406.89	1,690,250.80		
Point 16			0.00	-5,768.77	-2,009.48	14,563,867.40	1,690,247.80		
Point 17			0.00	-5,309.18	-2,006.53	14,564,326.99	1,690,249.79		
Point 18			0.00	-4,911.58	-2,003.90	14,564,724.60	1,690,251.60		
Point 19			0.00	-4,451.49	-2,000.84	14,565,184.69	1,690,253.70		
Point 20			0.00	-3,991.49	-1,997.88	14,565,644.70	1,690,255.70		
Point 21			0.00	-3,593.80	-1,995.25	14,566,042.39	1,690,257.50		
Point 22			0.00	-3,133.70	-1,992.29	14,566,502.50	1,690,259.50		
Point 23			0.00	-3,128.70	-1,992.28	14,566,507.50	1,690,259.50		
Point 24			0.00	-2,673.71	-1,989.43	14,566,962.49	1,690,261.40		
Point 25			0.00	-2,267.61	-1,986.88	14,567,368.60	1,690,263.10		
Point 26			0.00	-1,806.71	-1,984.02	14,567,829.50	1,690,265.00		
Point 27			0.00	-1,347.62	-1,981.27	14,568,288.60	1,690,266.79		
Point 28			0.00	-942.12	-1,978.92	14,568,694.10	1,690,268.30		
Point 29			0.00	-481.93	-1,976.16	14,569,154.29	1,690,270.10		
Point 30			0.00	-22.13	-1,975.20	14,569,614.09	1,690,270.10		
Point 31			0.00	369.57	-1,974.49	14,570,005.80	1,690,269.99		
Point 32			0.00	370.31	-1,513.88	14,570,007.50	1,690,730.60		
Point 33			0.00	371.25	-1,054.48	14,570,009.39	1,691,190.00		
Point 34			0.00	-23.25	-1,055.20	14,569,614.89	1,691,190.10		
Point 35			0.00	-483.45	-1,056.16	14,569,154.69	1,691,190.10		
Point 36			0.00	-943.24	-1,058.92	14,568,694.90	1,691,188.30		
Point 37			0.00	-1,346.34	-1,061.26	14,568,291.79	1,691,186.80		
Point 38			0.00	-1,807.23	-1,064.02	14,567,830.90	1,691,185.00		
Point 39			0.00	-2,266.33	-1,066.88	14,567,371.79	1,691,183.10		
Point 40			0.00	-2,669.62	-1,069.42	14,566,968.50	1,691,181.40		
Point 41			0.00	-3,129.62	-1,072.18	14,566,508.49	1,691,179.60		

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CASTLE PINES 19-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Site:</b>	2N-66W-19 CASTLE PINES 16-19HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	CASTLE PINES 19-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

Point 42	0.00	-3,134.52	-1,072.29	14,566,503.59	1,691,179.50				
Point 43	0.00	-3,589.61	-1,075.24	14,566,048.50	1,691,177.50				
Point 44	0.00	-3,987.21	-1,077.87	14,565,650.89	1,691,175.70				
Point 45	0.00	-4,447.20	-1,080.83	14,565,190.90	1,691,173.69				
Point 46	0.00	-4,907.30	-1,083.79	14,564,730.79	1,691,171.69				
Point 47	0.00	-5,304.79	-1,086.42	14,564,333.30	1,691,169.89				
Point 48	0.00	-5,765.59	-1,089.48	14,563,872.49	1,691,167.79				
Point 49	0.00	-6,224.89	-1,087.53	14,563,413.20	1,691,170.70				
Point 50	0.00	-6,625.10	-1,085.77	14,563,012.99	1,691,173.30				
Point 51	0.00	-7,085.10	-1,083.83	14,562,553.00	1,691,176.19				
Point 52	0.00	-7,545.11	-1,081.89	14,562,092.99	1,691,179.09				
Point 53	0.00	-7,945.31	-1,080.12	14,561,692.80	1,691,181.70				
Point 54	0.00	-8,405.12	-1,078.18	14,561,232.99	1,691,184.60				
Point 55	0.00	-8,865.33	-1,074.54	14,560,772.79	1,691,189.20				
Point 56	0.00	-9,264.83	-1,071.27	14,560,373.30	1,691,193.30				
Point 57	0.00	-9,724.74	-1,067.63	14,559,913.40	1,691,197.90				
Point 58	0.00	-10,184.84	-1,067.29	14,559,453.30	1,691,199.20				
Point 59	0.00	-10,581.55	-1,066.92	14,559,056.59	1,691,200.40				
Point 60	0.00	-11,036.45	-1,066.57	14,558,601.69	1,691,201.69				
Point 61	0.00	-11,041.55	-1,066.48	14,558,596.59	1,691,201.79				
Point 62	0.00	-11,501.56	-1,059.34	14,558,136.60	1,691,209.89				
Point 63	0.00	-11,888.38	-1,053.34	14,557,749.79	1,691,216.70				
Point 64	0.00	-11,898.52	-1,512.96	14,557,738.69	1,690,757.10				
CASTLE PINES 19-2HZ	0.00	0.00	7,320.00	-10,840.39	-1,435.86	14,558,796.98	1,690,832.00	40.087912	-104.819747
- plan hits target center									
- Point									

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	
7,980.77	7,271.00	Top of Production	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,236.95	1,226.00	Fox Hills				
4,247.14	4,002.00	Parkman				
4,678.02	4,398.00	Sussex				
7,405.76	7,050.00	Sharon Springs				
7,502.23	7,115.00	Niobrara				
7,623.12	7,182.00	Nio B				
7,805.98	7,249.00	Nio C				

# Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well CASTLE PINES 19-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4893.00usft (Drilling Rig)
<b>Site:</b>	2N-66W-19 CASTLE PINES 16-19HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	CASTLE PINES 19-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

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
1,816.67	1,773.11	154.56	-276.55	End Nudge @ 1816.67ft
4,565.00	4,293.50	689.20	-1,233.18	Begin Drop @ 4565.00ft
5,740.00	5,435.83	805.12	-1,440.59	End Drop @ 5740.00ft
6,858.98	6,554.81	805.12	-1,440.59	KOP @ 6858.98ft :: DLS = 8°/100'
7,980.77	7,271.00	92.13	-1,440.30	End Build @ 7980.77ft
18,913.40	7,320.00	-10,840.39	-1,435.86	TD Well @ 18913.40ft