

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
1N-66W-08 King 1-8HZ Pad
KING 37N3-8HZ**

Plan A

Plan: Permit Rev-1

Standard Planning Report

15 September, 2016



Azimuths to True North
Magnetic North: 8.15°

Magnetic Field
Strength: 52402.7snT
Dip Angle: 66.60°
Date: 9/13/2016
Model: IGRF2010

SITE: 1N-66W-08 King 1-8HZ Pad

Well: KING 37N3-8HZ
Wellbore: Plan A
Design: Permit Rev-1

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1416.00	1425.01	Fox Hills
4219.00	4320.44	Parkman
4645.00	4751.47	Sussex
7081.00	7247.81	Sharon Springs
7126.00	7319.53	Niobrara
7234.00	7595.34	Nio B

WELL DETAILS: KING 37N3-8HZ

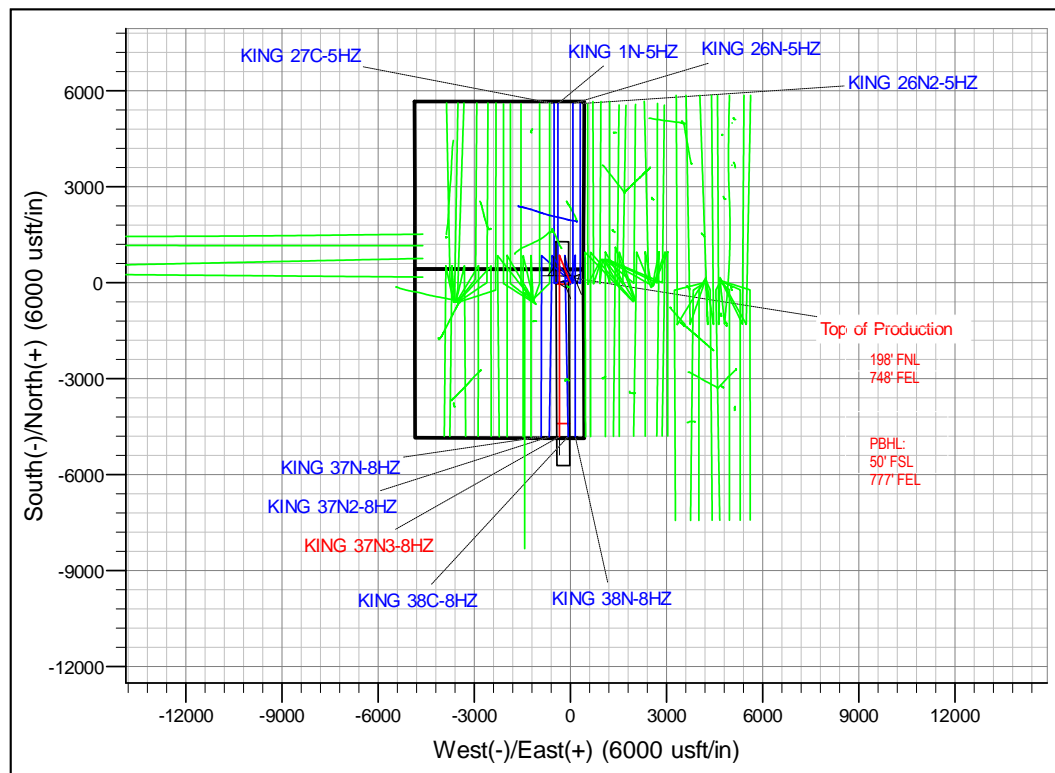
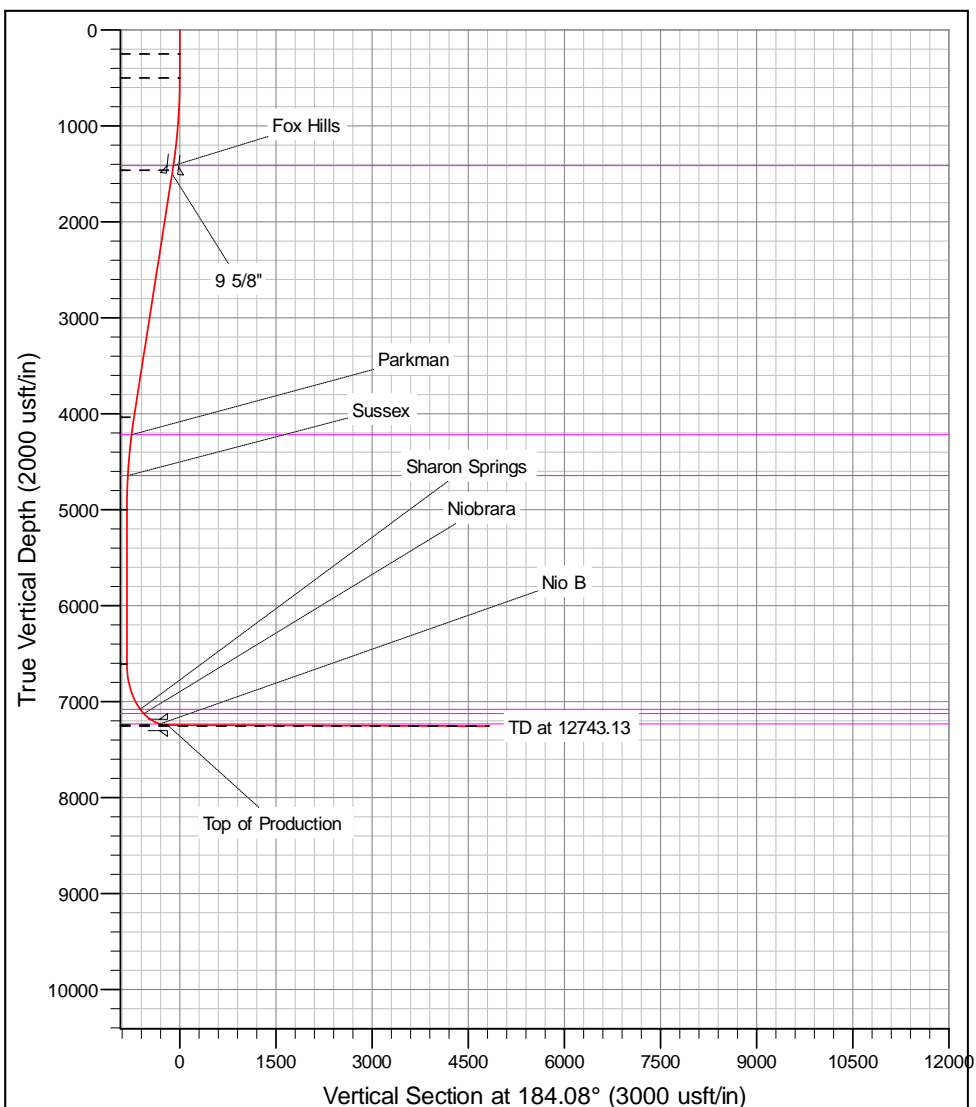
+N/-S	+E/-W	GL: 4957.00	RKB @ 4974.00usft (D Rig)	Longitude	Slot
0.00	0.00	Northing 14552945.81	Easting 1698288.99	Latitude 40.071799	

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	Vsect
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
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00
1473.81	14.61	338.04	1463.29	114.50	-46.17	1.50	-110.93
4133.18	14.61	338.04	4036.71	736.50	-297.00	0.00	-713.51
5106.99	0.00	0.00	5000.00	851.00	-343.17	1.50	-824.44
6715.71	0.00	0.00	6608.73	851.00	-343.17	0.00	-824.44
7714.49	89.89	180.00	7245.35	215.60	-343.17	9.00	-190.65
12743.13	89.89	180.00	7255.00	-4813.02	-343.17	0.00	4825.24

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
KING 37N3-8HZ PBHL	7255.00	-4813.02	-343.17	14548132.00	1697957.00	40.058582	-104.794360



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well KING 37N3-8HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4974.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4974.00usft (D Rig)
Site:	1N-66W-08 King 1-8HZ Pad	North Reference:	True
Well:	KING 37N3-8HZ	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-66W-08 King 1-8HZ Pad			
Site Position:		Northing:	14,553,080.90 usft	Latitude:	40.072170
From:	Lat/Long	Easting:	1,698,289.79 usft	Longitude:	-104.793130
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.13

Well	KING 37N3-8HZ					
Well Position	+N/-S	-135.09 usft	Northing:	14,552,945.80 usft	Latitude:	40.071799
	+E/-W	-1.12 usft	Easting:	1,698,288.98 usft	Longitude:	-104.793134
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,957.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/13/2016	8.15	66.60	52,403

Design	Permit Rev-1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	184.08

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	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,473.81	14.61	338.04	1,463.29	114.50	-46.17	1.50	1.50	0.00	338.04	
4,133.18	14.61	338.04	4,036.71	736.50	-297.00	0.00	0.00	0.00	0.00	
5,106.99	0.00	0.00	5,000.00	851.00	-343.17	1.50	-1.50	0.00	180.00	
6,715.71	0.00	0.00	6,608.73	851.00	-343.17	0.00	0.00	0.00	0.00	
7,714.49	89.89	180.00	7,245.35	215.60	-343.17	9.00	9.00	0.00	180.00	
12,743.13	89.89	180.00	7,255.00	-4,813.02	-343.17	0.00	0.00	0.00	0.00	KING 37N3-8HZ_PI

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well KING 37N3-8HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4974.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4974.00usft (D Rig)
Site:	1N-66W-08 King 1-8HZ Pad	North Reference:	True
Well:	KING 37N3-8HZ	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
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	1.50	338.04	599.99	1.21	-0.49	-1.18	1.50	1.50	0.00
700.00	3.00	338.04	699.91	4.85	-1.96	-4.70	1.50	1.50	0.00
800.00	4.50	338.04	799.69	10.92	-4.40	-10.58	1.50	1.50	0.00
900.00	6.00	338.04	899.27	19.41	-7.83	-18.80	1.50	1.50	0.00
1,000.00	7.50	338.04	998.57	30.31	-12.22	-29.36	1.50	1.50	0.00
1,100.00	9.00	338.04	1,097.54	43.61	-17.59	-42.25	1.50	1.50	0.00
1,200.00	10.50	338.04	1,196.09	59.32	-23.92	-57.47	1.50	1.50	0.00
1,300.00	12.00	338.04	1,294.16	77.41	-31.22	-75.00	1.50	1.50	0.00
1,400.00	13.50	338.04	1,391.70	97.88	-39.47	-94.83	1.50	1.50	0.00
1,425.01	13.88	338.04	1,416.00	103.37	-41.68	-100.14	1.50	1.50	0.00
Fox Hills									
1,473.81	14.61	338.04	1,463.29	114.50	-46.17	-110.93	1.50	1.50	0.00
1,500.00	14.61	338.04	1,488.64	120.63	-48.64	-116.86	0.00	0.00	0.00
1,511.74	14.61	338.04	1,500.00	123.37	-49.75	-119.52	0.00	0.00	0.00
9 5/8"									
1,600.00	14.61	338.04	1,585.41	144.02	-58.08	-139.52	0.00	0.00	0.00
1,700.00	14.61	338.04	1,682.17	167.41	-67.51	-162.18	0.00	0.00	0.00
1,800.00	14.61	338.04	1,778.94	190.79	-76.94	-184.84	0.00	0.00	0.00
1,900.00	14.61	338.04	1,875.71	214.18	-86.37	-207.50	0.00	0.00	0.00
2,000.00	14.61	338.04	1,972.48	237.57	-95.80	-230.16	0.00	0.00	0.00
2,100.00	14.61	338.04	2,069.25	260.96	-105.23	-252.82	0.00	0.00	0.00
2,200.00	14.61	338.04	2,166.01	284.35	-114.67	-275.47	0.00	0.00	0.00
2,300.00	14.61	338.04	2,262.78	307.74	-124.10	-298.13	0.00	0.00	0.00
2,400.00	14.61	338.04	2,359.55	331.13	-133.53	-320.79	0.00	0.00	0.00
2,500.00	14.61	338.04	2,456.32	354.52	-142.96	-343.45	0.00	0.00	0.00
2,600.00	14.61	338.04	2,553.08	377.91	-152.39	-366.11	0.00	0.00	0.00
2,700.00	14.61	338.04	2,649.85	401.29	-161.82	-388.77	0.00	0.00	0.00
2,800.00	14.61	338.04	2,746.62	424.68	-171.26	-411.43	0.00	0.00	0.00
2,900.00	14.61	338.04	2,843.39	448.07	-180.69	-434.09	0.00	0.00	0.00
3,000.00	14.61	338.04	2,940.16	471.46	-190.12	-456.75	0.00	0.00	0.00
3,100.00	14.61	338.04	3,036.92	494.85	-199.55	-479.40	0.00	0.00	0.00
3,200.00	14.61	338.04	3,133.69	518.24	-208.98	-502.06	0.00	0.00	0.00
3,300.00	14.61	338.04	3,230.46	541.63	-218.41	-524.72	0.00	0.00	0.00
3,400.00	14.61	338.04	3,327.23	565.02	-227.85	-547.38	0.00	0.00	0.00
3,500.00	14.61	338.04	3,423.99	588.40	-237.28	-570.04	0.00	0.00	0.00
3,600.00	14.61	338.04	3,520.76	611.79	-246.71	-592.70	0.00	0.00	0.00
3,700.00	14.61	338.04	3,617.53	635.18	-256.14	-615.36	0.00	0.00	0.00
3,800.00	14.61	338.04	3,714.30	658.57	-265.57	-638.02	0.00	0.00	0.00
3,900.00	14.61	338.04	3,811.07	681.96	-275.00	-660.67	0.00	0.00	0.00
4,000.00	14.61	338.04	3,907.83	705.35	-284.44	-683.33	0.00	0.00	0.00
4,100.00	14.61	338.04	4,004.60	728.74	-293.87	-705.99	0.00	0.00	0.00
4,133.18	14.61	338.04	4,036.71	736.50	-297.00	-713.51	0.00	0.00	0.00
4,200.00	13.60	338.04	4,101.51	751.60	-303.09	-728.14	1.50	-1.50	0.00
4,300.00	12.10	338.04	4,199.00	772.23	-311.41	-748.13	1.50	-1.50	0.00
4,320.44	11.80	338.04	4,219.00	776.16	-312.99	-751.93	1.50	-1.50	0.00
Parkman									

Corporate Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4974.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4974.00usft (D Rig)
Site:	1N-66W-08 King 1-8HZ Pad	North Reference:	True
Well:	KING 37N3-8HZ	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)
4,400.00	10.60	338.04	4,297.04	790.49	-318.77	-765.82	1.50	-1.50	0.00
4,500.00	9.10	338.04	4,395.57	806.37	-325.17	-781.20	1.50	-1.50	0.00
4,600.00	7.60	338.04	4,494.50	819.84	-330.61	-794.25	1.50	-1.50	0.00
4,700.00	6.10	338.04	4,593.78	830.91	-335.07	-804.98	1.50	-1.50	0.00
4,751.47	5.33	338.04	4,645.00	835.67	-336.99	-809.58	1.50	-1.50	0.00
Sussex									
4,800.00	4.60	338.04	4,693.34	839.57	-338.56	-813.36	1.50	-1.50	0.00
4,900.00	3.10	338.04	4,793.12	845.80	-341.07	-819.40	1.50	-1.50	0.00
5,000.00	1.60	338.04	4,893.03	849.61	-342.61	-823.09	1.50	-1.50	0.00
5,100.00	0.10	338.04	4,993.01	850.99	-343.17	-824.43	1.50	-1.50	0.00
5,106.99	0.00	0.00	5,000.00	851.00	-343.17	-824.44	1.50	-1.50	0.00
5,200.00	0.00	0.00	5,093.01	851.00	-343.17	-824.44	0.00	0.00	0.00
5,300.00	0.00	0.00	5,193.01	851.00	-343.17	-824.44	0.00	0.00	0.00
5,400.00	0.00	0.00	5,293.01	851.00	-343.17	-824.44	0.00	0.00	0.00
5,500.00	0.00	0.00	5,393.01	851.00	-343.17	-824.44	0.00	0.00	0.00
5,600.00	0.00	0.00	5,493.01	851.00	-343.17	-824.44	0.00	0.00	0.00
5,700.00	0.00	0.00	5,593.01	851.00	-343.17	-824.44	0.00	0.00	0.00
5,800.00	0.00	0.00	5,693.01	851.00	-343.17	-824.44	0.00	0.00	0.00
5,900.00	0.00	0.00	5,793.01	851.00	-343.17	-824.44	0.00	0.00	0.00
6,000.00	0.00	0.00	5,893.01	851.00	-343.17	-824.44	0.00	0.00	0.00
6,100.00	0.00	0.00	5,993.01	851.00	-343.17	-824.44	0.00	0.00	0.00
6,200.00	0.00	0.00	6,093.01	851.00	-343.17	-824.44	0.00	0.00	0.00
6,300.00	0.00	0.00	6,193.01	851.00	-343.17	-824.44	0.00	0.00	0.00
6,400.00	0.00	0.00	6,293.01	851.00	-343.17	-824.44	0.00	0.00	0.00
6,500.00	0.00	0.00	6,393.01	851.00	-343.17	-824.44	0.00	0.00	0.00
6,600.00	0.00	0.00	6,493.01	851.00	-343.17	-824.44	0.00	0.00	0.00
6,700.00	0.00	0.00	6,593.01	851.00	-343.17	-824.44	0.00	0.00	0.00
6,715.71	0.00	0.00	6,608.73	851.00	-343.17	-824.44	0.00	0.00	0.00
6,800.00	7.59	180.00	6,692.77	845.43	-343.17	-818.88	9.00	9.00	0.00
6,900.00	16.59	180.00	6,790.45	824.51	-343.17	-798.02	9.00	9.00	0.00
7,000.00	25.59	180.00	6,883.66	788.57	-343.17	-762.17	9.00	9.00	0.00
7,100.00	34.59	180.00	6,970.10	738.49	-343.17	-712.22	9.00	9.00	0.00
7,200.00	43.59	180.00	7,047.64	675.51	-343.17	-649.39	9.00	9.00	0.00
7,247.81	47.89	180.00	7,081.00	641.28	-343.17	-615.25	9.00	9.00	0.00
Sharon Springs									
7,300.00	52.59	180.00	7,114.37	601.17	-343.17	-575.24	9.00	9.00	0.00
7,319.53	54.34	180.00	7,126.00	585.48	-343.17	-559.59	9.00	9.00	0.00
Niobrara									
7,400.00	61.59	180.00	7,168.65	517.31	-343.17	-491.59	9.00	9.00	0.00
7,500.00	70.59	180.00	7,209.15	425.99	-343.17	-400.50	9.00	9.00	0.00
7,595.34	79.17	180.00	7,234.00	334.04	-343.17	-308.79	9.00	9.00	0.00
Nio B									
7,600.00	79.59	180.00	7,234.86	329.46	-343.17	-304.22	9.00	9.00	0.00
7,700.00	88.59	180.00	7,245.15	230.09	-343.17	-205.10	9.00	9.00	0.00
7,714.49	89.89	180.00	7,245.35	215.60	-343.17	-190.65	9.00	9.00	0.00
Top of Production - KING 37N3-8HZ_PHL									
7,800.00	89.89	180.00	7,245.51	130.09	-343.17	-105.36	0.00	0.00	0.00
7,900.00	89.89	180.00	7,245.70	30.09	-343.17	-5.61	0.00	0.00	0.00
8,000.00	89.89	180.00	7,245.89	-69.91	-343.17	94.14	0.00	0.00	0.00
8,100.00	89.89	180.00	7,246.09	-169.91	-343.17	193.88	0.00	0.00	0.00
8,200.00	89.89	180.00	7,246.28	-269.91	-343.17	293.63	0.00	0.00	0.00
8,300.00	89.89	180.00	7,246.47	-369.91	-343.17	393.38	0.00	0.00	0.00
8,400.00	89.89	180.00	7,246.66	-469.91	-343.17	493.12	0.00	0.00	0.00
8,500.00	89.89	180.00	7,246.85	-569.91	-343.17	592.87	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well KING 37N3-8HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4974.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4974.00usft (D Rig)
Site:	1N-66W-08 King 1-8HZ Pad	North Reference:	True
Well:	KING 37N3-8HZ	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)
8,600.00	89.89	180.00	7,247.05	-669.91	-343.17	692.62	0.00	0.00	0.00
8,700.00	89.89	180.00	7,247.24	-769.91	-343.17	792.36	0.00	0.00	0.00
8,800.00	89.89	180.00	7,247.43	-869.91	-343.17	892.11	0.00	0.00	0.00
8,900.00	89.89	180.00	7,247.62	-969.90	-343.17	991.86	0.00	0.00	0.00
9,000.00	89.89	180.00	7,247.81	-1,069.90	-343.17	1,091.60	0.00	0.00	0.00
9,100.00	89.89	180.00	7,248.01	-1,169.90	-343.17	1,191.35	0.00	0.00	0.00
9,200.00	89.89	180.00	7,248.20	-1,269.90	-343.17	1,291.10	0.00	0.00	0.00
9,300.00	89.89	180.00	7,248.39	-1,369.90	-343.17	1,390.84	0.00	0.00	0.00
9,400.00	89.89	180.00	7,248.58	-1,469.90	-343.17	1,490.59	0.00	0.00	0.00
9,500.00	89.89	180.00	7,248.77	-1,569.90	-343.17	1,590.33	0.00	0.00	0.00
9,600.00	89.89	180.00	7,248.97	-1,669.90	-343.17	1,690.08	0.00	0.00	0.00
9,700.00	89.89	180.00	7,249.16	-1,769.90	-343.17	1,789.83	0.00	0.00	0.00
9,800.00	89.89	180.00	7,249.35	-1,869.90	-343.17	1,889.57	0.00	0.00	0.00
9,900.00	89.89	180.00	7,249.54	-1,969.90	-343.17	1,989.32	0.00	0.00	0.00
10,000.00	89.89	180.00	7,249.73	-2,069.90	-343.17	2,089.07	0.00	0.00	0.00
10,100.00	89.89	180.00	7,249.93	-2,169.90	-343.17	2,188.81	0.00	0.00	0.00
10,200.00	89.89	180.00	7,250.12	-2,269.90	-343.17	2,288.56	0.00	0.00	0.00
10,300.00	89.89	180.00	7,250.31	-2,369.90	-343.17	2,388.31	0.00	0.00	0.00
10,400.00	89.89	180.00	7,250.50	-2,469.90	-343.17	2,488.05	0.00	0.00	0.00
10,500.00	89.89	180.00	7,250.69	-2,569.90	-343.17	2,587.80	0.00	0.00	0.00
10,600.00	89.89	180.00	7,250.89	-2,669.90	-343.17	2,687.55	0.00	0.00	0.00
10,700.00	89.89	180.00	7,251.08	-2,769.90	-343.17	2,787.29	0.00	0.00	0.00
10,800.00	89.89	180.00	7,251.27	-2,869.90	-343.17	2,887.04	0.00	0.00	0.00
10,900.00	89.89	180.00	7,251.46	-2,969.90	-343.17	2,986.79	0.00	0.00	0.00
11,000.00	89.89	180.00	7,251.65	-3,069.90	-343.17	3,086.53	0.00	0.00	0.00
11,100.00	89.89	180.00	7,251.85	-3,169.90	-343.17	3,186.28	0.00	0.00	0.00
11,200.00	89.89	180.00	7,252.04	-3,269.90	-343.17	3,286.03	0.00	0.00	0.00
11,300.00	89.89	180.00	7,252.23	-3,369.90	-343.17	3,385.77	0.00	0.00	0.00
11,400.00	89.89	180.00	7,252.42	-3,469.90	-343.17	3,485.52	0.00	0.00	0.00
11,500.00	89.89	180.00	7,252.61	-3,569.90	-343.17	3,585.27	0.00	0.00	0.00
11,600.00	89.89	180.00	7,252.81	-3,669.90	-343.17	3,685.01	0.00	0.00	0.00
11,700.00	89.89	180.00	7,253.00	-3,769.90	-343.17	3,784.76	0.00	0.00	0.00
11,800.00	89.89	180.00	7,253.19	-3,869.90	-343.17	3,884.51	0.00	0.00	0.00
11,900.00	89.89	180.00	7,253.38	-3,969.90	-343.17	3,984.25	0.00	0.00	0.00
12,000.00	89.89	180.00	7,253.57	-4,069.90	-343.17	4,084.00	0.00	0.00	0.00
12,100.00	89.89	180.00	7,253.77	-4,169.90	-343.17	4,183.75	0.00	0.00	0.00
12,200.00	89.89	180.00	7,253.96	-4,269.90	-343.17	4,283.49	0.00	0.00	0.00
12,300.00	89.89	180.00	7,254.15	-4,369.90	-343.17	4,383.24	0.00	0.00	0.00
12,400.00	89.89	180.00	7,254.34	-4,469.90	-343.17	4,482.99	0.00	0.00	0.00
12,500.00	89.89	180.00	7,254.53	-4,569.90	-343.17	4,582.73	0.00	0.00	0.00
12,600.00	89.89	180.00	7,254.73	-4,669.90	-343.17	4,682.48	0.00	0.00	0.00
12,700.00	89.89	180.00	7,254.92	-4,769.90	-343.17	4,782.23	0.00	0.00	0.00
12,743.13	89.89	180.00	7,255.00	-4,813.02	-343.17	4,825.24	0.00	0.00	0.00
KING 37N3-8HZ_PBHL									

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well KING 37N3-8HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4974.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4974.00usft (D Rig)
Site:	1N-66W-08 King 1-8HZ Pad	North Reference:	True
Well:	KING 37N3-8HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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)		
KING 37N3-8HZ_PHL	0.00	0.00	7,245.35	215.60	-343.17	14,553,160.61	1,697,945.31	40.072391	-104.794361
- plan hits target center									
- Point									
KING 37N3-8HZ_PBH	0.00	0.00	7,255.00	-4,813.02	-343.17	14,548,132.00	1,697,957.00	40.058582	-104.794361
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,511.74	1,500.00	9 5/8"	9-5/8	13-1/2	
7,714.49	7,245.35	Top of Production	5-1/2	8-1/2	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,425.01	1,416.00	Fox Hills				
4,320.44	4,219.00	Parkman				
4,751.47	4,645.00	Sussex				
7,247.81	7,081.00	Sharon Springs				
7,319.53	7,126.00	Niobrara				
7,595.34	7,234.00	Nio B				