

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
3N-67W-33 BABCOCK 6-4HZ Pad
BABCOCK 11N-33HZ**

Plan A

Plan: Permit Rev-2

Standard Planning Report

15 April, 2016



Azimuths to True North
Magnetic North: 8.27°

Magnetic Field
Strength: 52490.2snT
Dip Angle: 66.68°
Date: 4/4/2016
Model: IGRF2010

SITE: 3N-67W-33 BABCOCK 6-4HZ Pad

Well: BABCOCK 11N-33HZ
Wellbore: Plan A
Design: Permit Rev-2

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
975.00	979.43	Fox Hills
4576.00	4677.13	Sussex
7075.00	7219.27	Sharon Springs
7161.00	7349.84	Niobrara
7208.00	7440.30	Nio B
7265.00	7610.79	Nio C

WELL DETAILS: BABCOCK 11N-33HZ

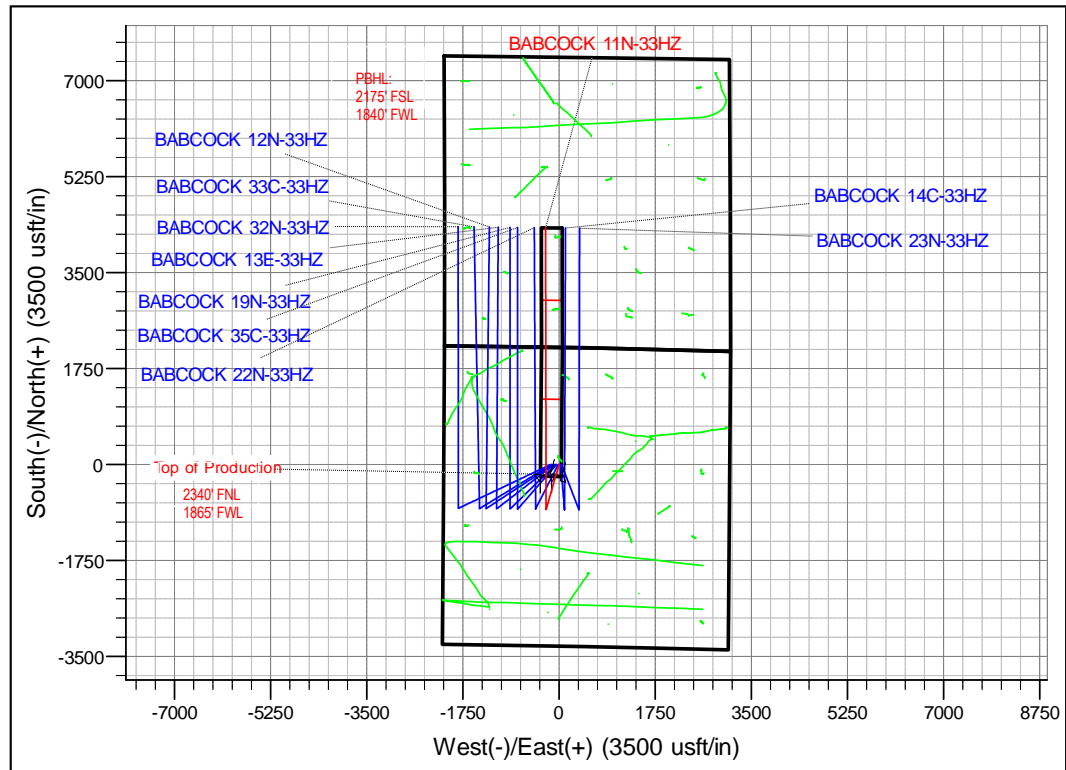
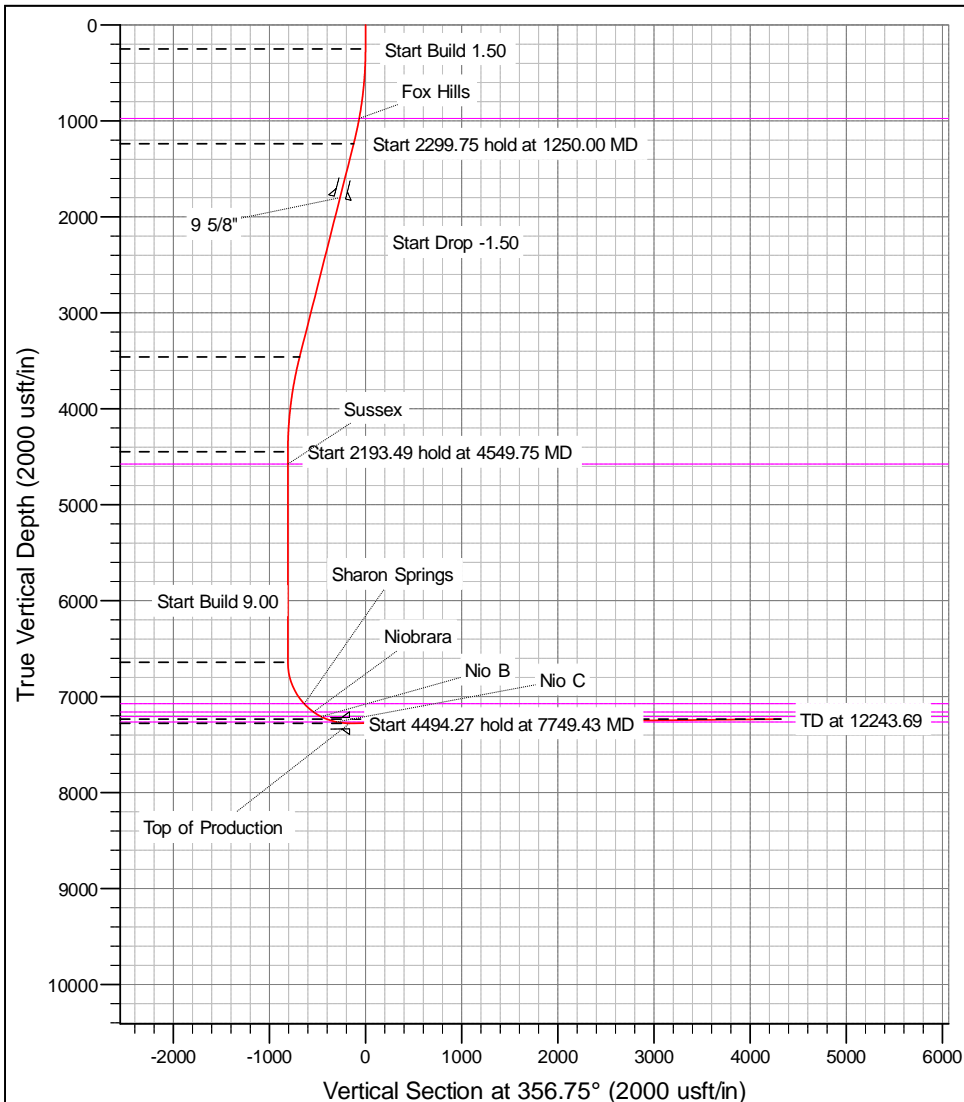
+N/-S	+E/-W	GL: 4887.00 Northing	RKB @ 4904.00usft (D Rig) Easting	Latitude	Longitude	Slot
0.00	0.00	14588357.10	1669221.05	40.169182	-104.896891	

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
1250.00	15.00	196.00	1238.62	-125.11	-35.88	1.50	-122.88
3549.75	15.00	196.00	3460.00	-697.27	-199.94	0.00	-684.83
4549.75	0.00	0.00	4448.62	-822.38	-235.81	1.50	-807.71
6743.24	0.00	0.00	6642.11	-822.38	-235.81	0.00	-807.71
7749.43	90.56	359.90	7278.70	-179.58	-236.93	9.00	-165.87
12243.69	90.56	359.90	7235.00	4314.47	-244.75	0.00	4321.41

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BABCOCK 11N-33HZ_PBHL	7235.00	4314.47	-244.75	14592671.28	1668971.29	40.181030	-104.897767	Point
BABCOCK 11N-33HZ_PHL	7278.70	-179.57	-236.93	14588177.25	1668984.33	40.168689	-104.897739	Point



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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well BABCOCK 11N-33HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4904.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4904.00usft (D Rig)
Site:	3N-67W-33 BABCOCK 6-4HZ Pad	North Reference:	True
Well:	BABCOCK 11N-33HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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						3N-67W-33 BABCOCK 6-4HZ Pad											
Site Position:						Northing:			14,588,357.65 usft			Latitude:			40.169184		
From:			Lat/Long			Easting:			1,669,071.31 usft			Longitude:			-104.897427		
Position Uncertainty:			0.00 usft			Slot Radius:			13-3/16 "			Grid Convergence:			0.07		

Well	BABCOCK 11N-33HZ					
Well Position	+N/-S	-0.73 usft	Northing:	14,588,357.09 usft	Latitude:	40.169182
	+E/-W	149.74 usft	Easting:	1,669,221.05 usft	Longitude:	-104.896891
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,887.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/4/2016	8.27	66.68	52,490

Design	Permit Rev-2			
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	356.75

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	
1,250.00	15.00	196.00	1,238.62	-125.11	-35.88	1.50	1.50	0.00	196.00	
3,549.75	15.00	196.00	3,460.00	-697.27	-199.94	0.00	0.00	0.00	0.00	
4,549.75	0.00	0.00	4,448.62	-822.38	-235.81	1.50	-1.50	0.00	180.00	
6,743.24	0.00	0.00	6,642.11	-822.38	-235.81	0.00	0.00	0.00	0.00	
7,749.43	90.56	359.90	7,278.70	-179.58	-236.93	9.00	9.00	0.00	359.90	
12,243.69	90.56	359.90	7,235.00	4,314.47	-244.75	0.00	0.00	0.00	0.00	BABCOCK 11N-33H

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well BABCOCK 11N-33HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4904.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4904.00usft (D Rig)
Site:	3N-67W-33 BABCOCK 6-4HZ Pad	North Reference:	True
Well:	BABCOCK 11N-33HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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	0.75	196.00	300.00	-0.31	-0.09	-0.31	1.50	1.50	0.00
400.00	2.25	196.00	399.96	-2.83	-0.81	-2.78	1.50	1.50	0.00
500.00	3.75	196.00	499.82	-7.86	-2.25	-7.72	1.50	1.50	0.00
600.00	5.25	196.00	599.51	-15.40	-4.42	-15.13	1.50	1.50	0.00
700.00	6.75	196.00	698.96	-25.45	-7.30	-25.00	1.50	1.50	0.00
800.00	8.25	196.00	798.10	-38.00	-10.90	-37.32	1.50	1.50	0.00
900.00	9.75	196.00	896.87	-53.03	-15.21	-52.09	1.50	1.50	0.00
979.43	10.94	196.00	975.00	-66.75	-19.14	-65.55	1.50	1.50	0.00
Fox Hills									
1,000.00	11.25	196.00	995.19	-70.55	-20.23	-69.29	1.50	1.50	0.00
1,100.00	12.75	196.00	1,093.00	-90.54	-25.96	-88.92	1.50	1.50	0.00
1,200.00	14.25	196.00	1,190.24	-112.98	-32.40	-110.96	1.50	1.50	0.00
1,250.00	15.00	196.00	1,238.62	-125.11	-35.88	-122.88	1.50	1.50	0.00
1,300.00	15.00	196.00	1,286.91	-137.55	-39.44	-135.10	0.00	0.00	0.00
1,400.00	15.00	196.00	1,383.50	-162.43	-46.58	-159.53	0.00	0.00	0.00
1,500.00	15.00	196.00	1,480.10	-187.31	-53.71	-183.97	0.00	0.00	0.00
1,600.00	15.00	196.00	1,576.69	-212.19	-60.84	-208.40	0.00	0.00	0.00
1,700.00	15.00	196.00	1,673.28	-237.07	-67.98	-232.84	0.00	0.00	0.00
1,800.00	15.00	196.00	1,769.88	-261.95	-75.11	-257.27	0.00	0.00	0.00
1,831.19	15.00	196.00	1,800.00	-269.71	-77.34	-264.89	0.00	0.00	0.00
9 5/8"									
1,900.00	15.00	196.00	1,866.47	-286.83	-82.25	-281.71	0.00	0.00	0.00
2,000.00	15.00	196.00	1,963.06	-311.71	-89.38	-306.14	0.00	0.00	0.00
2,100.00	15.00	196.00	2,059.65	-336.59	-96.51	-330.58	0.00	0.00	0.00
2,200.00	15.00	196.00	2,156.25	-361.47	-103.65	-355.01	0.00	0.00	0.00
2,300.00	15.00	196.00	2,252.84	-386.34	-110.78	-379.45	0.00	0.00	0.00
2,400.00	15.00	196.00	2,349.43	-411.22	-117.92	-403.89	0.00	0.00	0.00
2,500.00	15.00	196.00	2,446.02	-436.10	-125.05	-428.32	0.00	0.00	0.00
2,600.00	15.00	196.00	2,542.62	-460.98	-132.18	-452.76	0.00	0.00	0.00
2,700.00	15.00	196.00	2,639.21	-485.86	-139.32	-477.19	0.00	0.00	0.00
2,800.00	15.00	196.00	2,735.80	-510.74	-146.45	-501.63	0.00	0.00	0.00
2,900.00	15.00	196.00	2,832.39	-535.62	-153.59	-526.06	0.00	0.00	0.00
3,000.00	15.00	196.00	2,928.99	-560.50	-160.72	-550.50	0.00	0.00	0.00
3,100.00	15.00	196.00	3,025.58	-585.38	-167.85	-574.93	0.00	0.00	0.00
3,200.00	15.00	196.00	3,122.17	-610.26	-174.99	-599.37	0.00	0.00	0.00
3,300.00	15.00	196.00	3,218.76	-635.14	-182.12	-623.80	0.00	0.00	0.00
3,400.00	15.00	196.00	3,315.36	-660.02	-189.26	-648.24	0.00	0.00	0.00
3,500.00	15.00	196.00	3,411.95	-684.90	-196.39	-672.67	0.00	0.00	0.00
3,549.75	15.00	196.00	3,460.00	-697.27	-199.94	-684.83	0.00	0.00	0.00
3,600.00	14.25	196.00	3,508.63	-709.47	-203.44	-696.81	1.50	-1.50	0.00
3,700.00	12.75	196.00	3,605.86	-731.90	-209.87	-718.84	1.50	-1.50	0.00
3,800.00	11.25	196.00	3,703.67	-751.88	-215.60	-738.46	1.50	-1.50	0.00
3,900.00	9.75	196.00	3,802.00	-769.39	-220.62	-755.66	1.50	-1.50	0.00
4,000.00	8.25	196.00	3,900.77	-784.42	-224.93	-770.42	1.50	-1.50	0.00
4,100.00	6.75	196.00	3,999.91	-796.96	-228.53	-782.74	1.50	-1.50	0.00
4,200.00	5.25	196.00	4,099.36	-807.00	-231.40	-792.60	1.50	-1.50	0.00
4,300.00	3.75	196.00	4,199.05	-814.54	-233.57	-800.00	1.50	-1.50	0.00
4,400.00	2.25	196.00	4,298.91	-819.56	-235.01	-804.94	1.50	-1.50	0.00
4,500.00	0.75	196.00	4,398.87	-822.07	-235.73	-807.40	1.50	-1.50	0.00
4,549.75	0.00	0.00	4,448.62	-822.38	-235.81	-807.71	1.50	-1.50	0.00

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well BABCOCK 11N-33HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4904.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4904.00usft (D Rig)
Site:	3N-67W-33 BABCOCK 6-4HZ Pad	North Reference:	True
Well:	BABCOCK 11N-33HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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)
4,600.00	0.00	0.00	4,498.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
4,677.13	0.00	0.00	4,576.00	-822.38	-235.81	-807.71	0.00	0.00	0.00
Sussex									
4,700.00	0.00	0.00	4,598.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
4,800.00	0.00	0.00	4,698.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
4,900.00	0.00	0.00	4,798.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
5,000.00	0.00	0.00	4,898.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
5,100.00	0.00	0.00	4,998.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
5,200.00	0.00	0.00	5,098.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
5,300.00	0.00	0.00	5,198.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
5,400.00	0.00	0.00	5,298.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
5,500.00	0.00	0.00	5,398.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
5,600.00	0.00	0.00	5,498.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
5,700.00	0.00	0.00	5,598.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
5,800.00	0.00	0.00	5,698.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
5,900.00	0.00	0.00	5,798.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
6,000.00	0.00	0.00	5,898.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
6,100.00	0.00	0.00	5,998.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
6,200.00	0.00	0.00	6,098.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
6,300.00	0.00	0.00	6,198.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
6,400.00	0.00	0.00	6,298.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
6,500.00	0.00	0.00	6,398.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
6,600.00	0.00	0.00	6,498.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
6,700.00	0.00	0.00	6,598.87	-822.38	-235.81	-807.71	0.00	0.00	0.00
6,743.24	0.00	0.00	6,642.11	-822.38	-235.81	-807.71	0.00	0.00	0.00
6,800.00	5.11	359.90	6,698.79	-819.86	-235.82	-805.18	9.00	9.00	0.00
6,900.00	14.11	359.90	6,797.29	-803.18	-235.85	-788.53	9.00	9.00	0.00
7,000.00	23.11	359.90	6,891.97	-771.30	-235.90	-756.70	9.00	9.00	0.00
7,100.00	32.11	359.90	6,980.49	-725.01	-235.98	-710.48	9.00	9.00	0.00
7,200.00	41.11	359.90	7,060.68	-665.44	-236.09	-651.00	9.00	9.00	0.00
7,219.27	42.84	359.90	7,075.00	-652.55	-236.11	-638.13	9.00	9.00	0.00
Sharon Springs									
7,300.00	50.11	359.90	7,130.56	-594.05	-236.21	-579.72	9.00	9.00	0.00
7,349.85	54.59	359.90	7,161.00	-554.60	-236.28	-540.32	9.00	9.00	0.00
Niobrara									
7,400.00	59.11	359.90	7,188.42	-512.61	-236.35	-498.40	9.00	9.00	0.00
7,440.30	62.74	359.90	7,208.00	-477.40	-236.41	-463.24	9.00	9.00	0.00
Nio B									
7,500.00	68.11	359.90	7,232.82	-423.13	-236.51	-409.05	9.00	9.00	0.00
7,600.00	77.11	359.90	7,262.68	-327.80	-236.68	-313.87	9.00	9.00	0.00
7,610.79	78.08	359.90	7,265.00	-317.26	-236.69	-303.34	9.00	9.00	0.00
Nio C									
7,700.00	86.11	359.90	7,277.26	-228.97	-236.85	-215.19	9.00	9.00	0.00
7,749.43	90.56	359.90	7,278.70	-179.57	-236.93	-165.87	9.00	9.00	0.00
Top of Production - BABCOCK 11N-33HZ_PHL									
7,800.00	90.56	359.90	7,278.21	-129.01	-237.02	-115.38	0.00	0.00	0.00
7,900.00	90.56	359.90	7,277.23	-29.01	-237.19	-15.53	0.00	0.00	0.00
8,000.00	90.56	359.90	7,276.26	70.98	-237.37	84.31	0.00	0.00	0.00
8,100.00	90.56	359.90	7,275.29	170.98	-237.54	184.16	0.00	0.00	0.00
8,200.00	90.56	359.90	7,274.32	270.97	-237.72	284.00	0.00	0.00	0.00
8,300.00	90.56	359.90	7,273.35	370.97	-237.89	383.85	0.00	0.00	0.00
8,400.00	90.56	359.90	7,272.37	470.96	-238.06	483.69	0.00	0.00	0.00
8,500.00	90.56	359.90	7,271.40	570.96	-238.24	583.54	0.00	0.00	0.00

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well BABCOCK 11N-33HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4904.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4904.00usft (D Rig)
Site:	3N-67W-33 BABCOCK 6-4HZ Pad	North Reference:	True
Well:	BABCOCK 11N-33HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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	90.56	359.90	7,270.43	670.95	-238.41	683.38	0.00	0.00	0.00	
8,700.00	90.56	359.90	7,269.46	770.95	-238.59	783.23	0.00	0.00	0.00	
8,800.00	90.56	359.90	7,268.48	870.95	-238.76	883.07	0.00	0.00	0.00	
8,900.00	90.56	359.90	7,267.51	970.94	-238.93	982.91	0.00	0.00	0.00	
9,000.00	90.56	359.90	7,266.54	1,070.94	-239.11	1,082.76	0.00	0.00	0.00	
9,100.00	90.56	359.90	7,265.57	1,170.93	-239.28	1,182.60	0.00	0.00	0.00	
9,200.00	90.56	359.90	7,264.59	1,270.93	-239.46	1,282.45	0.00	0.00	0.00	
9,300.00	90.56	359.90	7,263.62	1,370.92	-239.63	1,382.29	0.00	0.00	0.00	
9,400.00	90.56	359.90	7,262.65	1,470.92	-239.80	1,482.14	0.00	0.00	0.00	
9,500.00	90.56	359.90	7,261.68	1,570.91	-239.98	1,581.98	0.00	0.00	0.00	
9,600.00	90.56	359.90	7,260.71	1,670.91	-240.15	1,681.83	0.00	0.00	0.00	
9,700.00	90.56	359.90	7,259.73	1,770.90	-240.33	1,781.67	0.00	0.00	0.00	
9,800.00	90.56	359.90	7,258.76	1,870.90	-240.50	1,881.51	0.00	0.00	0.00	
9,900.00	90.56	359.90	7,257.79	1,970.89	-240.67	1,981.36	0.00	0.00	0.00	
10,000.00	90.56	359.90	7,256.82	2,070.89	-240.85	2,081.20	0.00	0.00	0.00	
10,100.00	90.56	359.90	7,255.84	2,170.88	-241.02	2,181.05	0.00	0.00	0.00	
10,200.00	90.56	359.90	7,254.87	2,270.88	-241.20	2,280.89	0.00	0.00	0.00	
10,300.00	90.56	359.90	7,253.90	2,370.87	-241.37	2,380.74	0.00	0.00	0.00	
10,400.00	90.56	359.90	7,252.93	2,470.87	-241.54	2,480.58	0.00	0.00	0.00	
10,500.00	90.56	359.90	7,251.95	2,570.86	-241.72	2,580.43	0.00	0.00	0.00	
10,600.00	90.56	359.90	7,250.98	2,670.86	-241.89	2,680.27	0.00	0.00	0.00	
10,700.00	90.56	359.90	7,250.01	2,770.85	-242.06	2,780.11	0.00	0.00	0.00	
10,800.00	90.56	359.90	7,249.04	2,870.85	-242.24	2,879.96	0.00	0.00	0.00	
10,900.00	90.56	359.90	7,248.07	2,970.84	-242.41	2,979.80	0.00	0.00	0.00	
11,000.00	90.56	359.90	7,247.09	3,070.84	-242.59	3,079.65	0.00	0.00	0.00	
11,100.00	90.56	359.90	7,246.12	3,170.83	-242.76	3,179.49	0.00	0.00	0.00	
11,200.00	90.56	359.90	7,245.15	3,270.83	-242.93	3,279.34	0.00	0.00	0.00	
11,300.00	90.56	359.90	7,244.18	3,370.82	-243.11	3,379.18	0.00	0.00	0.00	
11,400.00	90.56	359.90	7,243.20	3,470.82	-243.28	3,479.03	0.00	0.00	0.00	
11,500.00	90.56	359.90	7,242.23	3,570.81	-243.46	3,578.87	0.00	0.00	0.00	
11,600.00	90.56	359.90	7,241.26	3,670.81	-243.63	3,678.71	0.00	0.00	0.00	
11,700.00	90.56	359.90	7,240.29	3,770.80	-243.80	3,778.56	0.00	0.00	0.00	
11,800.00	90.56	359.90	7,239.31	3,870.80	-243.98	3,878.40	0.00	0.00	0.00	
11,900.00	90.56	359.90	7,238.34	3,970.79	-244.15	3,978.25	0.00	0.00	0.00	
12,000.00	90.56	359.90	7,237.37	4,070.79	-244.33	4,078.09	0.00	0.00	0.00	
12,100.00	90.56	359.90	7,236.40	4,170.78	-244.50	4,177.94	0.00	0.00	0.00	
12,200.00	90.56	359.90	7,235.43	4,270.78	-244.67	4,277.78	0.00	0.00	0.00	
12,243.69	90.56	359.90	7,235.00	4,314.47	-244.75	4,321.41	0.00	0.00	0.00	
BABCOCK 11N-33HZ_PBHL										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
BABCOCK 11N-33HZ	0.00	0.00	7,235.00	4,314.47	-244.75	14,592,671.28	1,668,971.29	40.181030	-104.897768	
- plan hits target center										
- Point										
BABCOCK 11N-33HZ	0.00	0.00	7,278.70	-179.57	-236.93	14,588,177.25	1,668,984.33	40.168689	-104.897739	
- plan hits target center										
- Point										

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well BABCOCK 11N-33HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4904.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4904.00usft (D Rig)
Site:	3N-67W-33 BABCOCK 6-4HZ Pad	North Reference:	True
Well:	BABCOCK 11N-33HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,831.19	1,800.00	9 5/8"	9-5/8	13-1/2	
7,749.43	7,278.70	Top of Production	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
979.43	975.00	Fox Hills				
4,677.13	4,576.00	Sussex				
7,219.27	7,075.00	Sharon Springs				
7,349.85	7,161.00	Niobrara				
7,440.30	7,208.00	Nio B				
7,610.79	7,265.00	Nio C				