

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_BYDALEK 35-20HZ PAD

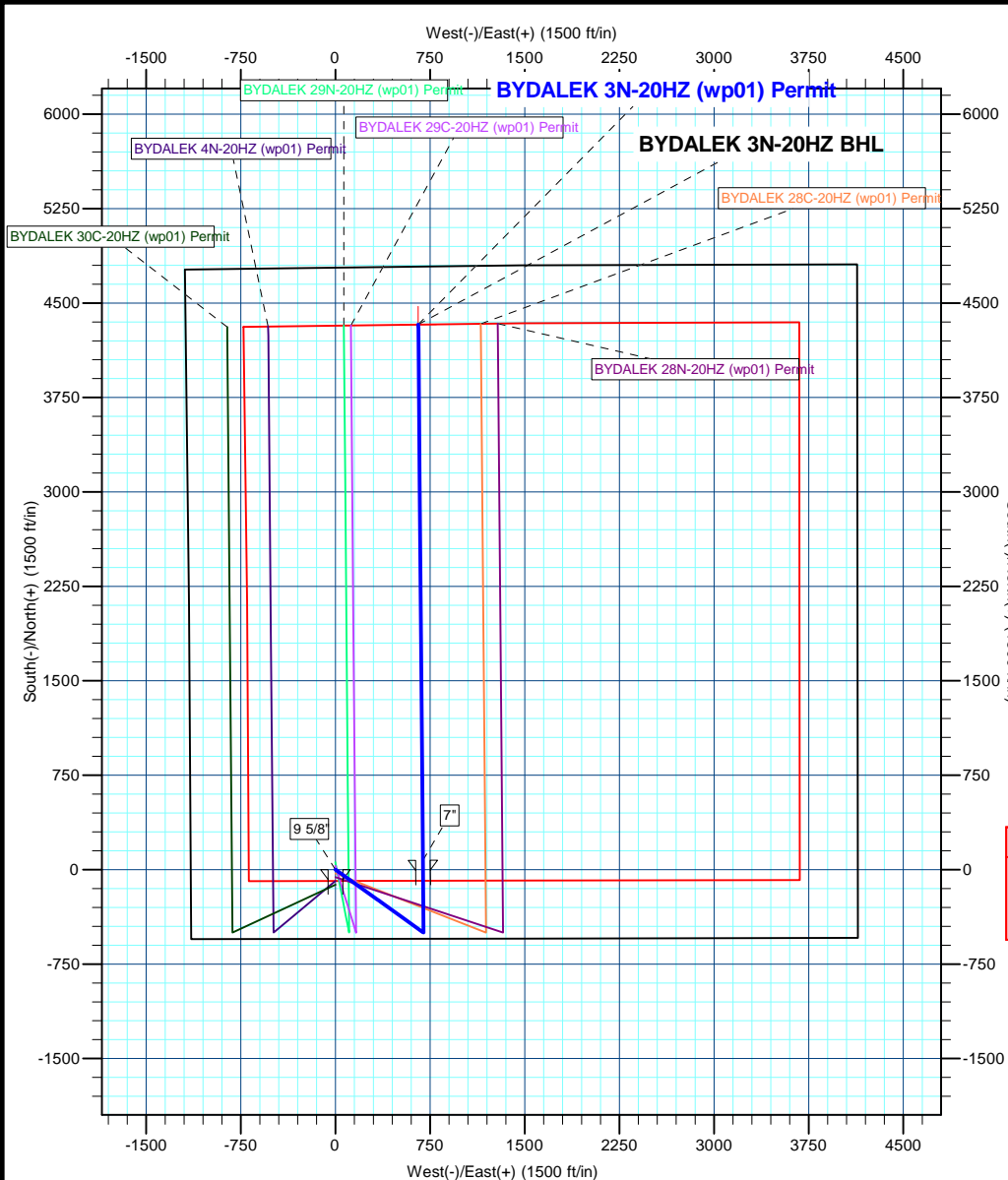
BYDALEK 3N-20HZ

BYDALEK 3N-20HZ

Plan: BYDALEK 3N-20HZ (wp01) Permit

Standard Planning Report

18 September, 2012



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Azimuths to True North

Magnetic North: 8.63°

Magnetic Field

Strength: 52857.4snT

Dip Angle: 66.79°

Date: 9/17/2012

Model: IGRF2010



Project: COLORADO NORTHERN ZONE - 83

Site: WELD_BYDALEK 35-20HZ PAD

Well: BYDALEK 3N-20HZ

Wellbore: BYDALEK 3N-20HZ

Section:

SHL:

Design: BYDALEK 3N-20HZ (wp01) Permit

Latitude: 40.118262

Longitude: -104.693211

GL: 4931.00

KB: 17' RKB + 4931' GL @ 4948.00ft

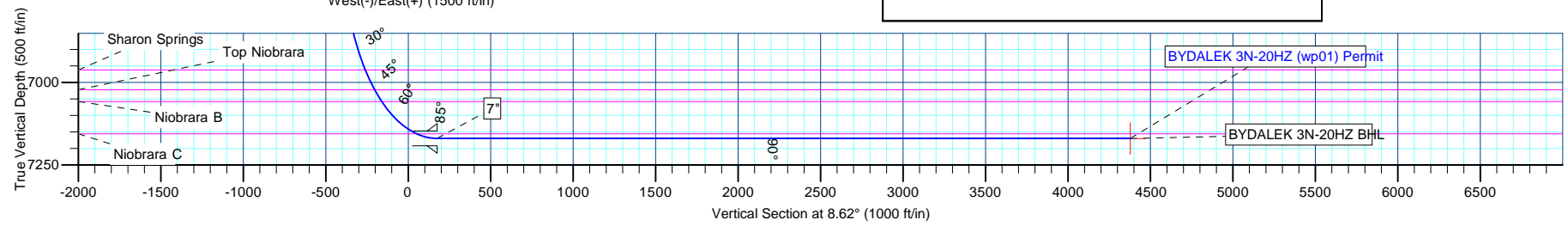
WELL DETAILS: BYDALEK 3N-20HZ						
+N/-S	+E/-W	Northing	Ground Level: Easting	4931.00 Latitude	Longitude	Slot
0.00	0.00	1286953.28	3225629.77	40.118262	-104.693211	

SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1125.00	0.00	0.00	1125.00	0.00	0.00	0.00	0.00	0.00
1681.35	11.13	125.60	1677.86	-31.35	43.79	2.00	125.60	-24.43
5576.72	11.13	125.60	5500.00	-469.00	655.00	0.00	0.00	-365.48
6133.07	0.00	0.00	6052.86	-500.35	698.79	2.00	-180.00	-389.91
6677.25	0.00	0.00	6597.04	-500.35	698.79	0.00	0.00	-389.91
7577.25	90.00	359.50	7170.00	72.59	693.77	10.00	359.50	175.80
11833.59	90.00	359.50	7170.00	4328.76	656.55	0.00	0.00	4378.27

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape Point
BYDALEK 3N-20HZ BHL	7170.00	4328.76	656.55	40.130145	-104.690863	

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4112.00	4162.12	Parkman
4466.00	4522.91	Sussex
6962.00	7072.91	Sharon Springs
7022.00	7156.01	Top Niobrara
7058.00	7212.89	Niobrara B
7156.00	7450.33	Niobrara C

CASING DETAILS			
TVD	MD	Name	Size
975.00	975.00	9 5/8"	9-5/8
7170.00	7577.25	7"	7



Andarko Petroleum Corporation

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well BYDALEK 3N-20HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 4931' GL @ 4948.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 4931' GL @ 4948.00ft
Site:	WELD_BYDALEK 35-20HZ PAD	North Reference:	True
Well:	BYDALEK 3N-20HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	BYDALEK 3N-20HZ		
Design:	BYDALEK 3N-20HZ (wp01) Permit		

Project	COLORADO NORTHERN ZONE - 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		WELD_BYDALEK 35-20HZ PAD			
Site Position:		Northing:	1,286,833.46 usft	Latitude:	40.117933
From:	Lat/Long	Easting:	3,225,631.42 usft	Longitude:	-104.693209
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.52 °

Well	BYDALEK 3N-20HZ					
Well Position	+N/-S	119.84 ft	Northing:	1,286,953.28 usft	Latitude:	40.118262
	+E/-W	-0.56 ft	Easting:	3,225,629.77 usft	Longitude:	-104.693211
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,931.00 ft

Wellbore	BYDALEK 3N-20HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/17/2012	8.63	66.79	52,857

Design	BYDALEK 3N-20HZ (wp01) Permit			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	8.62

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	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	
1,125.00	0.00	0.00	1,125.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,681.35	11.13	125.60	1,677.86	-31.35	43.79	2.00	2.00	22.58	125.60	
5,576.72	11.13	125.60	5,500.00	-469.00	655.00	0.00	0.00	0.00	0.00	
6,133.07	0.00	0.00	6,052.86	-500.35	698.79	2.00	-2.00	-22.58	-180.00	
6,677.25	0.00	0.00	6,597.04	-500.35	698.79	0.00	0.00	0.00	0.00	
7,577.25	90.00	359.50	7,170.00	72.59	693.77	10.00	10.00	0.00	359.50	
11,833.59	90.00	359.50	7,170.00	4,328.76	656.55	0.00	0.00	0.00	0.00	BYDALEK 3N-20HZ E

Andarko Petroleum Corporation

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Site:	WELD_BYDALEK 35-20HZ PAD	North Reference:	True
Well:	BYDALEK 3N-20HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	BYDALEK 3N-20HZ		
Design:	BYDALEK 3N-20HZ (wp01) Permit		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	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
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	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
975.00	0.00	0.00	975.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,125.00	0.00	0.00	1,125.00	0.00	0.00	0.00	0.00	0.00	0.00
Start DLS 2.00 TFO 125.60									
1,200.00	1.50	125.60	1,199.99	-0.57	0.80	-0.45	2.00	2.00	0.00
1,300.00	3.50	125.60	1,299.89	-3.11	4.34	-2.42	2.00	2.00	0.00
1,400.00	5.50	125.60	1,399.58	-7.68	10.72	-5.98	2.00	2.00	0.00
1,500.00	7.50	125.60	1,498.93	-14.27	19.93	-11.12	2.00	2.00	0.00
1,600.00	9.50	125.60	1,597.83	-22.87	31.94	-17.82	2.00	2.00	0.00
1,681.35	11.13	125.60	1,677.86	-31.35	43.79	-24.43	2.00	2.00	0.00
Start 3895.37 hold at 1681.35 MD									
1,700.00	11.13	125.60	1,696.16	-33.45	46.71	-26.06	0.00	0.00	0.00
1,800.00	11.13	125.60	1,794.28	-44.68	62.40	-34.82	0.00	0.00	0.00
1,900.00	11.13	125.60	1,892.40	-55.92	78.09	-43.57	0.00	0.00	0.00
2,000.00	11.13	125.60	1,990.52	-67.15	93.78	-52.33	0.00	0.00	0.00
2,100.00	11.13	125.60	2,088.64	-78.39	109.48	-61.08	0.00	0.00	0.00
2,200.00	11.13	125.60	2,186.76	-89.62	125.17	-69.84	0.00	0.00	0.00
2,300.00	11.13	125.60	2,284.88	-100.86	140.86	-78.60	0.00	0.00	0.00
2,400.00	11.13	125.60	2,383.00	-112.09	156.55	-87.35	0.00	0.00	0.00
2,500.00	11.13	125.60	2,481.12	-123.33	172.24	-96.11	0.00	0.00	0.00
2,600.00	11.13	125.60	2,579.24	-134.56	187.93	-104.86	0.00	0.00	0.00
2,700.00	11.13	125.60	2,677.36	-145.80	203.62	-113.62	0.00	0.00	0.00
2,800.00	11.13	125.60	2,775.48	-157.03	219.31	-122.37	0.00	0.00	0.00
2,900.00	11.13	125.60	2,873.60	-168.27	235.00	-131.13	0.00	0.00	0.00
3,000.00	11.13	125.60	2,971.72	-179.50	250.69	-139.88	0.00	0.00	0.00
3,100.00	11.13	125.60	3,069.84	-190.74	266.38	-148.64	0.00	0.00	0.00
3,200.00	11.13	125.60	3,167.96	-201.97	282.07	-157.39	0.00	0.00	0.00
3,300.00	11.13	125.60	3,266.08	-213.21	297.76	-166.15	0.00	0.00	0.00
3,400.00	11.13	125.60	3,364.20	-224.44	313.46	-174.90	0.00	0.00	0.00
3,500.00	11.13	125.60	3,462.32	-235.68	329.15	-183.66	0.00	0.00	0.00
3,600.00	11.13	125.60	3,560.44	-246.91	344.84	-192.41	0.00	0.00	0.00
3,700.00	11.13	125.60	3,658.56	-258.15	360.53	-201.17	0.00	0.00	0.00
3,800.00	11.13	125.60	3,756.68	-269.38	376.22	-209.92	0.00	0.00	0.00
3,900.00	11.13	125.60	3,854.80	-280.62	391.91	-218.68	0.00	0.00	0.00
4,000.00	11.13	125.60	3,952.92	-291.85	407.60	-227.43	0.00	0.00	0.00
4,100.00	11.13	125.60	4,051.04	-303.09	423.29	-236.19	0.00	0.00	0.00
4,162.12	11.13	125.60	4,112.00	-310.07	433.04	-241.63	0.00	0.00	0.00
Parkman									
4,200.00	11.13	125.60	4,149.16	-314.32	438.98	-244.94	0.00	0.00	0.00
4,300.00	11.13	125.60	4,247.28	-325.56	454.67	-253.70	0.00	0.00	0.00
4,400.00	11.13	125.60	4,345.40	-336.79	470.36	-262.45	0.00	0.00	0.00
4,500.00	11.13	125.60	4,443.52	-348.03	486.05	-271.21	0.00	0.00	0.00

Andarko Petroleum Corporation

Planning Report

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 4931' GL @ 4948.00ft
Site:	WELD_BYDALEK 35-20HZ PAD	North Reference:	True
Well:	BYDALEK 3N-20HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	BYDALEK 3N-20HZ		
Design:	BYDALEK 3N-20HZ (wp01) Permit		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,522.91	11.13	125.60	4,466.00	-350.60	489.65	-273.21	0.00	0.00	0.00
Sussex									
4,600.00	11.13	125.60	4,541.64	-359.26	501.75	-279.96	0.00	0.00	0.00
4,700.00	11.13	125.60	4,639.76	-370.50	517.44	-288.72	0.00	0.00	0.00
4,800.00	11.13	125.60	4,737.88	-381.74	533.13	-297.47	0.00	0.00	0.00
4,900.00	11.13	125.60	4,836.01	-392.97	548.82	-306.23	0.00	0.00	0.00
5,000.00	11.13	125.60	4,934.13	-404.21	564.51	-314.98	0.00	0.00	0.00
5,100.00	11.13	125.60	5,032.25	-415.44	580.20	-323.74	0.00	0.00	0.00
5,200.00	11.13	125.60	5,130.37	-426.68	595.89	-332.49	0.00	0.00	0.00
5,300.00	11.13	125.60	5,228.49	-437.91	611.58	-341.25	0.00	0.00	0.00
5,400.00	11.13	125.60	5,326.61	-449.15	627.27	-350.00	0.00	0.00	0.00
5,500.00	11.13	125.60	5,424.73	-460.38	642.96	-358.76	0.00	0.00	0.00
5,576.72	11.13	125.60	5,500.00	-469.00	655.00	-365.48	0.00	0.00	0.00
Start Drop -2.00									
5,600.00	10.66	125.60	5,522.86	-471.56	658.58	-367.47	2.00	-2.00	0.00
5,700.00	8.66	125.60	5,621.44	-481.33	672.22	-375.09	2.00	-2.00	0.00
5,800.00	6.66	125.60	5,720.54	-489.09	683.06	-381.13	2.00	-2.00	0.00
5,900.00	4.66	125.60	5,820.05	-494.84	691.08	-385.61	2.00	-2.00	0.00
6,000.00	2.66	125.60	5,919.84	-498.55	696.27	-388.51	2.00	-2.00	0.00
6,100.00	0.66	125.60	6,019.79	-500.24	698.63	-389.82	2.00	-2.00	0.00
6,133.07	0.00	0.00	6,052.86	-500.35	698.79	-389.91	2.00	-2.00	0.00
Start 544.18 hold at 6133.07 MD									
6,200.00	0.00	0.00	6,119.79	-500.35	698.79	-389.91	0.00	0.00	0.00
6,300.00	0.00	0.00	6,219.79	-500.35	698.79	-389.91	0.00	0.00	0.00
6,400.00	0.00	0.00	6,319.79	-500.35	698.79	-389.91	0.00	0.00	0.00
6,500.00	0.00	0.00	6,419.79	-500.35	698.79	-389.91	0.00	0.00	0.00
6,600.00	0.00	0.00	6,519.79	-500.35	698.79	-389.91	0.00	0.00	0.00
6,677.25	0.00	0.00	6,597.04	-500.35	698.79	-389.91	0.00	0.00	0.00
Start Build 10.00									
6,700.00	2.28	359.50	6,619.79	-499.90	698.78	-389.46	10.00	10.00	-2.20
6,750.00	7.28	359.50	6,669.60	-495.74	698.75	-385.35	10.00	10.00	0.00
6,800.00	12.28	359.50	6,718.86	-487.25	698.67	-376.97	10.00	10.00	0.00
6,850.00	17.28	359.50	6,767.19	-474.51	698.56	-364.39	10.00	10.00	0.00
6,900.00	22.28	359.50	6,814.22	-457.60	698.41	-347.69	10.00	10.00	0.00
6,950.00	27.28	359.50	6,859.61	-436.65	698.23	-327.01	10.00	10.00	0.00
7,000.00	32.28	359.50	6,902.99	-411.83	698.01	-302.50	10.00	10.00	0.00
7,050.00	37.28	359.50	6,944.05	-383.32	697.76	-274.35	10.00	10.00	0.00
7,072.91	39.57	359.50	6,962.00	-369.08	697.64	-260.30	10.00	10.00	0.00
Sharon Springs									
7,100.00	42.28	359.50	6,982.47	-351.34	697.48	-242.78	10.00	10.00	0.00
7,150.00	47.28	359.50	7,017.95	-316.14	697.17	-208.02	10.00	10.00	0.00
7,156.01	47.88	359.50	7,022.00	-311.71	697.14	-203.64	10.00	10.00	0.00
Top Niobrara									
7,200.00	52.28	359.50	7,050.23	-277.98	696.84	-170.34	10.00	10.00	0.00
7,212.89	53.56	359.50	7,058.00	-267.69	696.75	-160.19	10.00	10.00	0.00
Niobrara B									
7,250.00	57.28	359.50	7,079.06	-237.15	696.48	-130.02	10.00	10.00	0.00
7,300.00	62.28	359.50	7,104.22	-193.96	696.11	-87.38	10.00	10.00	0.00
7,350.00	67.28	359.50	7,125.52	-148.74	695.71	-42.74	10.00	10.00	0.00
7,400.00	72.28	359.50	7,142.80	-101.84	695.30	3.57	10.00	10.00	0.00
7,450.00	77.28	359.50	7,155.93	-53.62	694.88	51.19	10.00	10.00	0.00
7,450.33	77.31	359.50	7,156.00	-53.29	694.88	51.51	10.00	10.00	0.00
Niobrara C									

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7,500.00	82.28	359.50	7,164.80	-4.43	694.45	99.76	10.00	10.00	0.00
7,550.00	87.28	359.50	7,169.35	45.35	694.01	148.91	10.00	10.00	0.00
7,577.25	90.00	359.50	7,170.00	72.59	693.77	175.80	10.00	10.00	0.00
Start 4256.34 hold at 7577.25 MD - 7"									
7,600.00	90.00	359.50	7,170.00	95.33	693.58	198.26	0.00	0.00	0.00
7,700.00	90.00	359.50	7,170.00	195.33	692.70	297.00	0.00	0.00	0.00
7,800.00	90.00	359.50	7,170.00	295.33	691.83	395.73	0.00	0.00	0.00
7,900.00	90.00	359.50	7,170.00	395.32	690.95	494.47	0.00	0.00	0.00
8,000.00	90.00	359.50	7,170.00	495.32	690.08	593.20	0.00	0.00	0.00
8,100.00	90.00	359.50	7,170.00	595.32	689.20	691.93	0.00	0.00	0.00
8,200.00	90.00	359.50	7,170.00	695.31	688.33	790.67	0.00	0.00	0.00
8,300.00	90.00	359.50	7,170.00	795.31	687.45	889.40	0.00	0.00	0.00
8,400.00	90.00	359.50	7,170.00	895.30	686.58	988.14	0.00	0.00	0.00
8,500.00	90.00	359.50	7,170.00	995.30	685.70	1,086.87	0.00	0.00	0.00
8,600.00	90.00	359.50	7,170.00	1,095.30	684.83	1,185.61	0.00	0.00	0.00
8,700.00	90.00	359.50	7,170.00	1,195.29	683.95	1,284.34	0.00	0.00	0.00
8,800.00	90.00	359.50	7,170.00	1,295.29	683.08	1,383.07	0.00	0.00	0.00
8,900.00	90.00	359.50	7,170.00	1,395.29	682.20	1,481.81	0.00	0.00	0.00
9,000.00	90.00	359.50	7,170.00	1,495.28	681.33	1,580.54	0.00	0.00	0.00
9,100.00	90.00	359.50	7,170.00	1,595.28	680.46	1,679.28	0.00	0.00	0.00
9,200.00	90.00	359.50	7,170.00	1,695.27	679.58	1,778.01	0.00	0.00	0.00
9,300.00	90.00	359.50	7,170.00	1,795.27	678.71	1,876.75	0.00	0.00	0.00
9,400.00	90.00	359.50	7,170.00	1,895.27	677.83	1,975.48	0.00	0.00	0.00
9,500.00	90.00	359.50	7,170.00	1,995.26	676.96	2,074.21	0.00	0.00	0.00
9,600.00	90.00	359.50	7,170.00	2,095.26	676.08	2,172.95	0.00	0.00	0.00
9,700.00	90.00	359.50	7,170.00	2,195.25	675.21	2,271.68	0.00	0.00	0.00
9,800.00	90.00	359.50	7,170.00	2,295.25	674.33	2,370.42	0.00	0.00	0.00
9,900.00	90.00	359.50	7,170.00	2,395.25	673.46	2,469.15	0.00	0.00	0.00
10,000.00	90.00	359.50	7,170.00	2,495.24	672.58	2,567.89	0.00	0.00	0.00
10,100.00	90.00	359.50	7,170.00	2,595.24	671.71	2,666.62	0.00	0.00	0.00
10,200.00	90.00	359.50	7,170.00	2,695.24	670.83	2,765.36	0.00	0.00	0.00
10,300.00	90.00	359.50	7,170.00	2,795.23	669.96	2,864.09	0.00	0.00	0.00
10,400.00	90.00	359.50	7,170.00	2,895.23	669.09	2,962.82	0.00	0.00	0.00
10,500.00	90.00	359.50	7,170.00	2,995.22	668.21	3,061.56	0.00	0.00	0.00
10,600.00	90.00	359.50	7,170.00	3,095.22	667.34	3,160.29	0.00	0.00	0.00
10,700.00	90.00	359.50	7,170.00	3,195.22	666.46	3,259.03	0.00	0.00	0.00
10,800.00	90.00	359.50	7,170.00	3,295.21	665.59	3,357.76	0.00	0.00	0.00
10,900.00	90.00	359.50	7,170.00	3,395.21	664.71	3,456.50	0.00	0.00	0.00
11,000.00	90.00	359.50	7,170.00	3,495.20	663.84	3,555.23	0.00	0.00	0.00
11,100.00	90.00	359.50	7,170.00	3,595.20	662.96	3,653.96	0.00	0.00	0.00
11,200.00	90.00	359.50	7,170.00	3,695.20	662.09	3,752.70	0.00	0.00	0.00
11,300.00	90.00	359.50	7,170.00	3,795.19	661.21	3,851.43	0.00	0.00	0.00
11,400.00	90.00	359.50	7,170.00	3,895.19	660.34	3,950.17	0.00	0.00	0.00
11,500.00	90.00	359.50	7,170.00	3,995.19	659.46	4,048.90	0.00	0.00	0.00
11,600.00	90.00	359.50	7,170.00	4,095.18	658.59	4,147.64	0.00	0.00	0.00
11,700.00	90.00	359.50	7,170.00	4,195.18	657.72	4,246.37	0.00	0.00	0.00
11,800.00	90.00	359.50	7,170.00	4,295.17	656.84	4,345.10	0.00	0.00	0.00
11,833.59	90.00	359.50	7,170.00	4,328.76	656.55	4,378.27	0.00	0.00	0.00
TD at 11833.59 - BYDALEK 3N-20HZ BHL									

Andarko Petroleum Corporation

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well BYDALEK 3N-20HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 4931' GL @ 4948.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 4931' GL @ 4948.00ft
Site:	WELD_BYDALEK 35-20HZ PAD	North Reference:	True
Well:	BYDALEK 3N-20HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	BYDALEK 3N-20HZ		
Design:	BYDALEK 3N-20HZ (wp01) Permit		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
BYDALEK 3N-20HZ BHI	0.00	0.00	7,170.00	4,328.76	656.55	1,291,287.83	3,226,246.91	40.130145	-104.690863
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
975.00	975.00	9 5/8"		9-5/8	12-1/4
7,577.25	7,170.00	7"		7	8-3/4

Formations						
Measured Depth	Vertical Depth	Name		Lithology	Dip	Dip Direction
(ft)	(ft)				(°)	(°)
4,162.12	4,112.00	Parkman				
4,522.91	4,466.00	Sussex				
7,072.91	6,962.00	Sharon Springs				
7,156.01	7,022.00	Top Niobrara				
7,212.89	7,058.00	Niobrara B				
7,450.33	7,156.00	Niobrara C				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
(ft)	(ft)	(ft)	(ft)		
1,125.00	1,125.00	0.00	0.00	Start DLS 2.00 TFO 125.60	
1,681.35	1,677.86	-31.35	43.79	Start 3895.37 hold at 1681.35 MD	
5,576.72	5,500.00	-469.00	655.00	Start Drop -2.00	
6,133.07	6,052.86	-500.35	698.79	Start 544.18 hold at 6133.07 MD	
6,677.25	6,597.04	-500.35	698.79	Start Build 10.00	
7,577.25	7,170.00	72.59	693.77	Start 4256.34 hold at 7577.25 MD	
11,833.59	7,170.00	4,328.76	656.55	TD at 11833.59	