

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_BERGER PAD

Berger 4-2

Berger 4-2

Plan: Berger 4-2 (wp01)

Standard Planning Report

06 October, 2011

Project: COLORADO NORTHERN ZONE - 83
Site: WELD_BERGER PAD
Well: Berger 4-2
Wellbore: Berger 4-2
Section:
SHL:
Design: Berger 4-2 (wp01)
Latitude: 40.083809
Longitude: -104.863752
GL: 4959.01
KB: rkb + gl @ 4974.00ft

FORMATION TOP DETAILS

TVDPath	MDPath	PK Depth	Formation
4062.00	4221.99	SX Depth	
4522.00	4681.99	NIO Depth	
7242.00	7401.99	CD Depth	
7552.00	7711.99	GH Depth	
7640.00	7799.99	J Depth	
7992.00	8151.99		

WELL DETAILS: Berger 4-2

+N/-S	+E/-W	Northing	Ground Level: Easting	4959.01 Latitude	Longitude	Slot
0.00	0.00	1274015.06	3178026.58	40.083809	-104.863752	

CASING DETAILS

No casing data is available



Azimuths to True North
Magnetic North: 8.85°

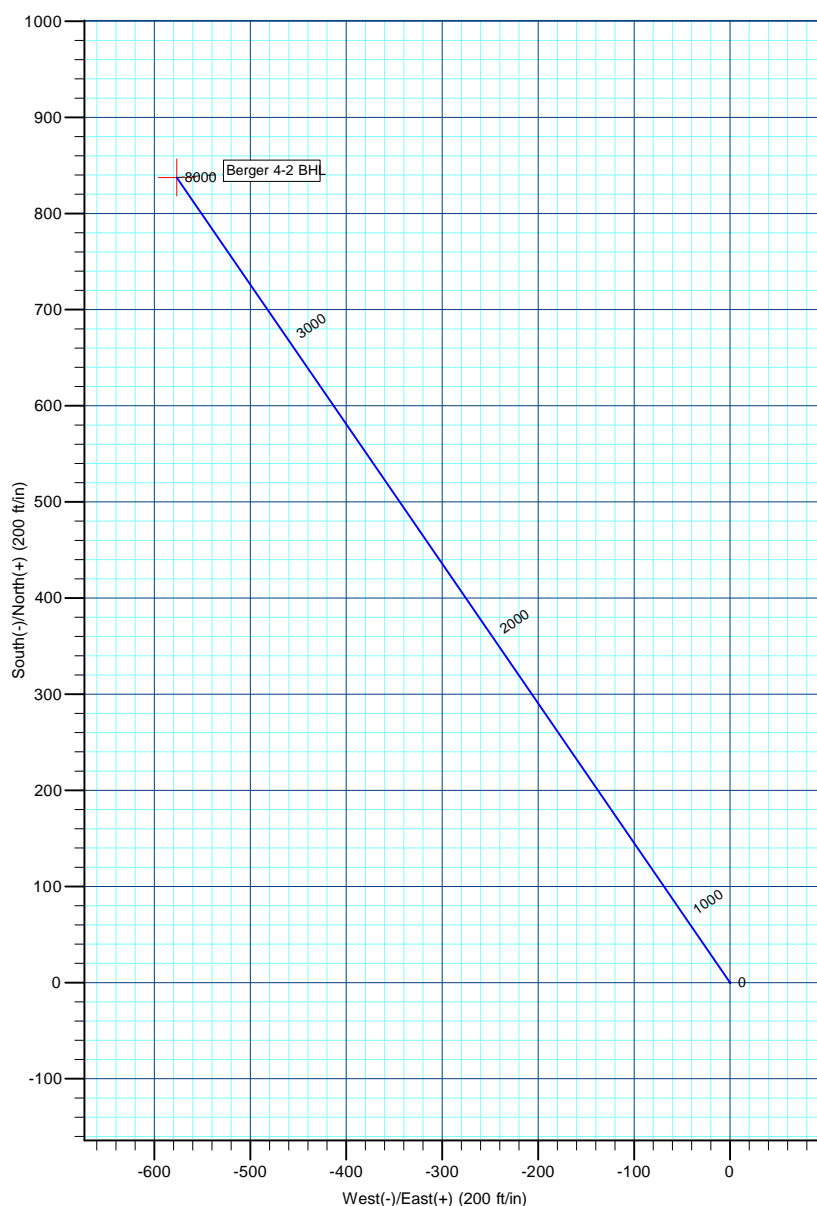
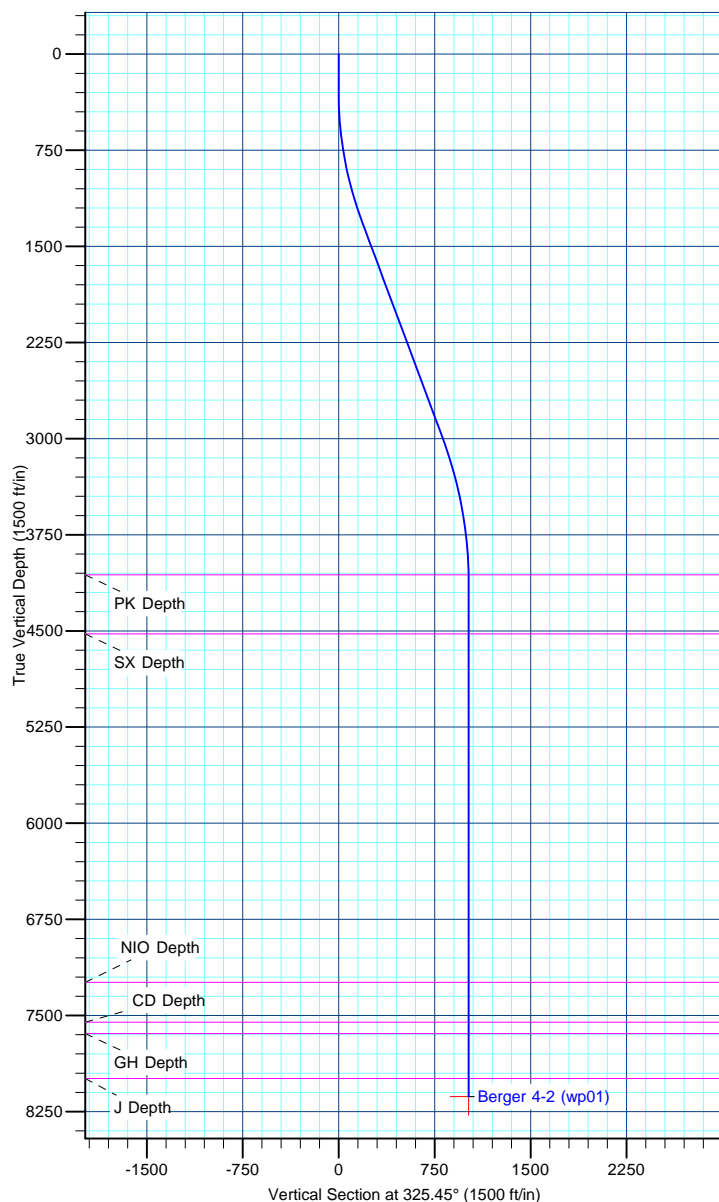
Magnetic Field
Strength: 52920.4nT
Dip Angle: 66.77°
Date: 10/6/2011
Model: IGRF2010

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape Point
Berger 4-2 BHL	8132.00	837.49	-576.67	1274848.40	3177443.92	40.086108	-104.865813	

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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
1323.73	20.47	325.45	1302.08	149.06	-102.64	2.00	325.45	180.98
3122.02	20.47	325.45	2986.77	667.14	-459.37	0.00	0.00	810.00
4291.99	0.00	0.00	4132.00	837.49	-576.67	1.75	180.00	1016.83
8291.99	0.00	0.00	8132.00	837.49	-576.67	0.00	0.00	1016.83



Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well Berger 4-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	rkb + gl @ 4974.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	rkb + gl @ 4974.00ft
Site:	WELD_BERGER PAD	North Reference:	True
Well:	Berger 4-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Berger 4-2		
Design:	Berger 4-2 (wp01)		

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_BERGER PAD			
Site Position:		Northing:	1,274,067.38 usft	Latitude:	40.083952
From:	Lat/Long	Easting:	3,178,056.15 usft	Longitude:	-104.863645
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.41 °

Well	Berger 4-2					
Well Position	+N/-S	-52.10 ft	Northing:	1,274,015.06 usft	Latitude:	40.083809
	+E/-W	-29.94 ft	Easting:	3,178,026.58 usft	Longitude:	-104.863752
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,959.01 ft

Wellbore	Berger 4-2				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/6/2011	8.85	66.77	52,920

Design	Berger 4-2 (wp01)			
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	325.45

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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,323.73	20.47	325.45	1,302.08	149.06	-102.64	2.00	2.00	0.00	325.45	
3,122.02	20.47	325.45	2,986.77	667.14	-459.37	0.00	0.00	0.00	0.00	
4,291.99	0.00	0.00	4,132.00	837.49	-576.67	1.75	-1.75	0.00	180.00	
8,291.99	0.00	0.00	8,132.00	837.49	-576.67	0.00	0.00	0.00	0.00	Berger 4-2 BHL

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well Berger 4-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	rkb + gl @ 4974.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	rkb + gl @ 4974.00ft
Site:	WELD_BERGER PAD	North Reference:	True
Well:	Berger 4-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Berger 4-2		
Design:	Berger 4-2 (wp01)		

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	2.00	325.45	399.98	1.44	-0.99	1.75	2.00	2.00	0.00
500.00	4.00	325.45	499.84	5.75	-3.96	6.98	2.00	2.00	0.00
600.00	6.00	325.45	599.45	12.93	-8.90	15.69	2.00	2.00	0.00
700.00	8.00	325.45	698.70	22.96	-15.81	27.88	2.00	2.00	0.00
800.00	10.00	325.45	797.47	35.85	-24.68	43.52	2.00	2.00	0.00
900.00	12.00	325.45	895.62	51.56	-35.50	62.60	2.00	2.00	0.00
1,000.00	14.00	325.45	993.06	70.09	-48.26	85.10	2.00	2.00	0.00
1,100.00	16.00	325.45	1,089.64	91.40	-62.94	110.98	2.00	2.00	0.00
1,200.00	18.00	325.45	1,185.27	115.48	-79.52	140.21	2.00	2.00	0.00
1,300.00	20.00	325.45	1,279.82	142.30	-97.98	172.77	2.00	2.00	0.00
1,323.73	20.47	325.45	1,302.08	149.06	-102.64	180.98	2.00	2.00	0.00
1,400.00	20.47	325.45	1,373.53	171.03	-117.77	207.65	0.00	0.00	0.00
1,500.00	20.47	325.45	1,467.22	199.84	-137.60	242.63	0.00	0.00	0.00
1,600.00	20.47	325.45	1,560.90	228.65	-157.44	277.61	0.00	0.00	0.00
1,700.00	20.47	325.45	1,654.58	257.46	-177.28	312.59	0.00	0.00	0.00
1,800.00	20.47	325.45	1,748.26	286.27	-197.12	347.57	0.00	0.00	0.00
1,900.00	20.47	325.45	1,841.95	315.08	-216.95	382.55	0.00	0.00	0.00
2,000.00	20.47	325.45	1,935.63	343.89	-236.79	417.53	0.00	0.00	0.00
2,100.00	20.47	325.45	2,029.31	372.70	-256.63	452.51	0.00	0.00	0.00
2,200.00	20.47	325.45	2,122.99	401.51	-276.47	487.49	0.00	0.00	0.00
2,300.00	20.47	325.45	2,216.68	430.32	-296.30	522.47	0.00	0.00	0.00
2,400.00	20.47	325.45	2,310.36	459.13	-316.14	557.45	0.00	0.00	0.00
2,500.00	20.47	325.45	2,404.04	487.94	-335.98	592.42	0.00	0.00	0.00
2,600.00	20.47	325.45	2,497.73	516.75	-355.82	627.40	0.00	0.00	0.00
2,700.00	20.47	325.45	2,591.41	545.56	-375.65	662.38	0.00	0.00	0.00
2,800.00	20.47	325.45	2,685.09	574.37	-395.49	697.36	0.00	0.00	0.00
2,900.00	20.47	325.45	2,778.77	603.18	-415.33	732.34	0.00	0.00	0.00
3,000.00	20.47	325.45	2,872.46	631.99	-435.17	767.32	0.00	0.00	0.00
3,100.00	20.47	325.45	2,966.14	660.80	-455.00	802.30	0.00	0.00	0.00
3,122.02	20.47	325.45	2,986.77	667.14	-459.37	810.00	0.00	0.00	0.00
3,200.00	19.11	325.45	3,060.14	688.89	-474.35	836.41	1.75	-1.75	0.00
3,300.00	17.36	325.45	3,155.11	714.66	-492.09	867.70	1.75	-1.75	0.00
3,400.00	15.61	325.45	3,251.00	738.03	-508.18	896.07	1.75	-1.75	0.00
3,500.00	13.86	325.45	3,347.71	758.98	-522.61	921.50	1.75	-1.75	0.00
3,600.00	12.11	325.45	3,445.15	777.49	-535.35	943.97	1.75	-1.75	0.00
3,700.00	10.36	325.45	3,543.23	793.53	-546.40	963.46	1.75	-1.75	0.00
3,800.00	8.61	325.45	3,641.86	807.11	-555.74	979.93	1.75	-1.75	0.00
3,900.00	6.86	325.45	3,740.94	818.19	-563.38	993.39	1.75	-1.75	0.00
4,000.00	5.11	325.45	3,840.39	826.78	-569.29	1,003.82	1.75	-1.75	0.00
4,100.00	3.36	325.45	3,940.12	832.86	-573.48	1,011.20	1.75	-1.75	0.00
4,200.00	1.61	325.45	4,040.02	836.43	-575.94	1,015.54	1.75	-1.75	0.00
4,221.99	1.23	325.45	4,062.00	836.88	-576.24	1,016.08	1.75	-1.75	0.00
PK Depth									
4,291.99	0.00	0.00	4,132.00	837.49	-576.67	1,016.83	1.75	-1.75	0.00
4,300.00	0.00	0.00	4,140.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
4,400.00	0.00	0.00	4,240.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
4,500.00	0.00	0.00	4,340.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
4,600.00	0.00	0.00	4,440.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
4,681.99	0.00	0.00	4,522.00	837.49	-576.67	1,016.83	0.00	0.00	0.00
SX Depth									

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Planning Report

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	rkb + gl @ 4974.00ft
Site:	WELD_BERGER PAD	North Reference:	True
Well:	Berger 4-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Berger 4-2		
Design:	Berger 4-2 (wp01)		

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)
4,700.00	0.00	0.00	4,540.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
4,800.00	0.00	0.00	4,640.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
4,900.00	0.00	0.00	4,740.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
5,000.00	0.00	0.00	4,840.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
5,100.00	0.00	0.00	4,940.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
5,200.00	0.00	0.00	5,040.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
5,300.00	0.00	0.00	5,140.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
5,400.00	0.00	0.00	5,240.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
5,500.00	0.00	0.00	5,340.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
5,600.00	0.00	0.00	5,440.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
5,700.00	0.00	0.00	5,540.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
5,800.00	0.00	0.00	5,640.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
5,900.00	0.00	0.00	5,740.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
6,000.00	0.00	0.00	5,840.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
6,100.00	0.00	0.00	5,940.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
6,200.00	0.00	0.00	6,040.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
6,300.00	0.00	0.00	6,140.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
6,400.00	0.00	0.00	6,240.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
6,500.00	0.00	0.00	6,340.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
6,600.00	0.00	0.00	6,440.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
6,700.00	0.00	0.00	6,540.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
6,800.00	0.00	0.00	6,640.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
6,900.00	0.00	0.00	6,740.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
7,000.00	0.00	0.00	6,840.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
7,100.00	0.00	0.00	6,940.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
7,200.00	0.00	0.00	7,040.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
7,300.00	0.00	0.00	7,140.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
7,400.00	0.00	0.00	7,240.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
7,401.99	0.00	0.00	7,242.00	837.49	-576.67	1,016.83	0.00	0.00	0.00
NIO Depth									
7,500.00	0.00	0.00	7,340.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
7,600.00	0.00	0.00	7,440.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
7,700.00	0.00	0.00	7,540.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
7,711.99	0.00	0.00	7,552.00	837.49	-576.67	1,016.83	0.00	0.00	0.00
CD Depth									
7,799.99	0.00	0.00	7,640.00	837.49	-576.67	1,016.83	0.00	0.00	0.00
GH Depth									
7,800.00	0.00	0.00	7,640.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
7,900.00	0.00	0.00	7,740.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
8,000.00	0.00	0.00	7,840.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
8,100.00	0.00	0.00	7,940.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
8,151.99	0.00	0.00	7,992.00	837.49	-576.67	1,016.83	0.00	0.00	0.00
J Depth									
8,200.00	0.00	0.00	8,040.01	837.49	-576.67	1,016.83	0.00	0.00	0.00
8,291.99	0.00	0.00	8,132.00	837.49	-576.67	1,016.83	0.00	0.00	0.00
Berger 4-2 BHL									

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Database:	edmp	Local Co-ordinate Reference:	Well Berger 4-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	rkb + gl @ 4974.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	rkb + gl @ 4974.00ft
Site:	WELD_BERGER PAD	North Reference:	True
Well:	Berger 4-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Berger 4-2		
Design:	Berger 4-2 (wp01)		

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									
Berger 4-2 BHL	0.00	0.00	8,132.00	837.49	-576.67	1,274,848.39	3,177,443.92	40.086108	-104.865813
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
4,221.99	4,062.00	PK Depth				
4,681.99	4,522.00	SX Depth				
7,401.99	7,242.00	NIO Depth				
7,711.99	7,552.00	CD Depth				
7,799.99	7,640.00	GH Depth				
8,151.99	7,992.00	J Depth				