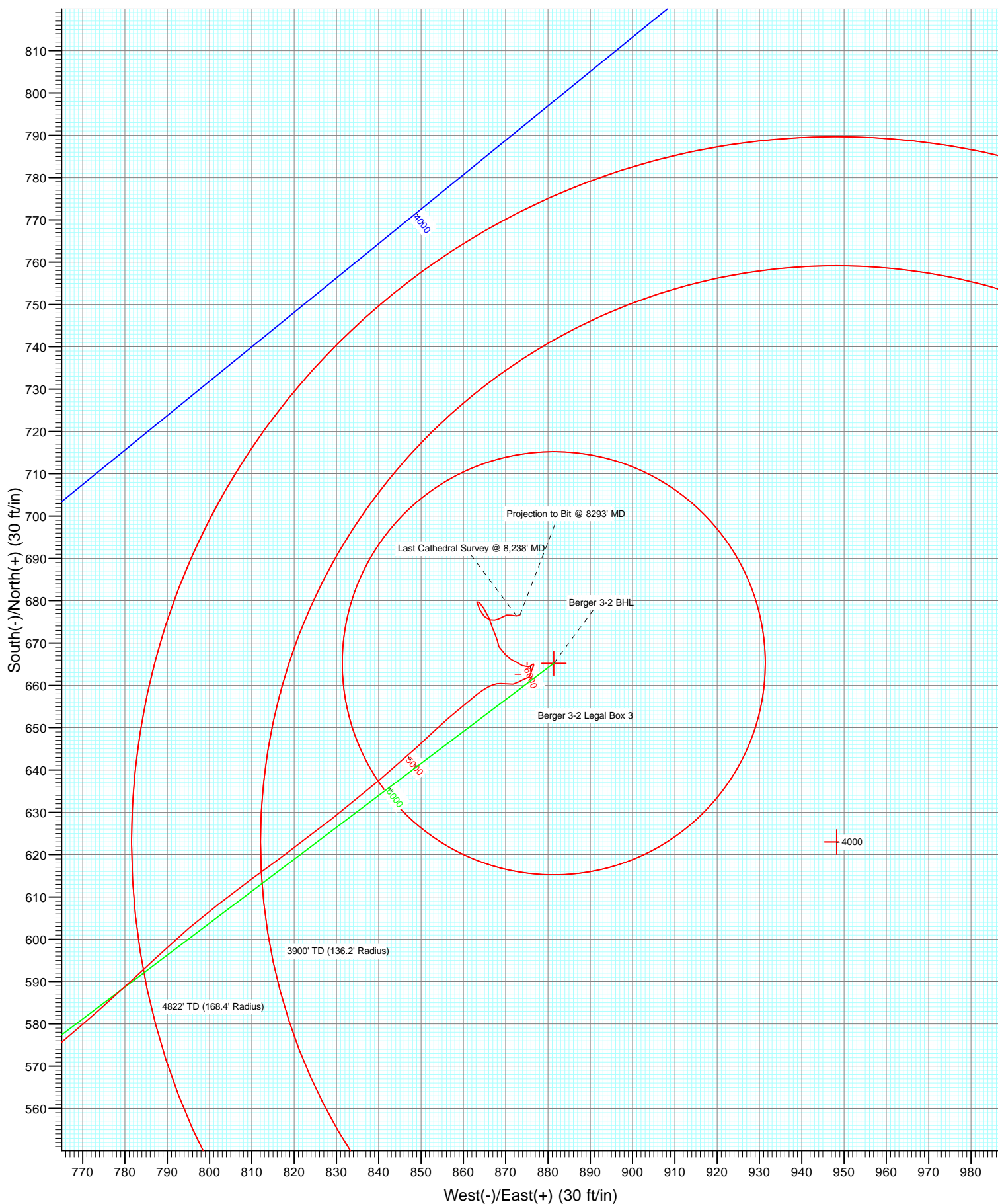


Azimuths to True North
Magnetic North: 8.76°

Magnetic Field
Strength: 52847.7snT
Dip Angle: 66.74°
Date: 6/15/2012
Model: IGRF2010

FINAL Berger 3-2 125379; 172955; DN 15' KB @ 4976.0ft (Xtreme 11) North American Datum 1983 Well Berger 3-2, True North						
Type	Target	Azimuth	Origin	Type	N/S	E/W
User	No Target (Freehand)	58.65	Slot		0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	
Berger 3-2 Legal Box 3	-8376.0	662.6	875.1	40.085699	-104.860571	
Berger 3-2 BHL	8146.0	665.2	881.4	40.085706	-104.860549	

Vertical Section at 58.65° (1000 ft/in)



Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Berger 3-2
Project:	DJ Wattenberg	TVD Reference:	15' KB @ 4976.0ft (Xtreme 11)
Site:	S2 T1N R67W (Berger 8 Pad)	MD Reference:	15' KB @ 4976.0ft (Xtreme 11)
Well:	Berger 3-2	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Project	DJ Wattenberg		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		S2 T1N R67W (Berger 8 Pad)			
Site Position:		Northing:	1,274,043.57 ft	Latitude:	40.083880
From:	Lat/Long	Easting:	3,178,047.58 ft	Longitude:	-104.863699
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.41 °

Well	Berger 3-2					
Well Position	+N/-S	0.0 ft	Northing:	1,274,043.55 ft	Latitude:	40.083880
	+E/-W	0.0 ft	Easting:	3,178,047.58 ft	Longitude:	-104.863699
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,961.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/15/2012	8.75	66.74	52,848

Design	FINAL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	58.65	

Survey Program	Date	6/19/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
56.0	8,293.0	Survey #1 (DD)	MWD	Geolink MWD	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
56.0	1.00	201.40	56.0	-0.5	-0.2	-0.4	1.79	1.79		
144.0	1.20	82.00	144.0	-1.0	0.5	-0.2	2.16	0.23		
232.0	1.30	51.70	232.0	-0.3	2.1	1.7	0.75	0.11		
319.0	2.20	69.70	318.9	0.9	4.5	4.3	1.20	1.03		
441.0	3.40	52.70	440.8	3.9	9.6	10.2	1.19	0.98		
532.0	5.30	60.60	531.5	7.6	15.4	17.1	2.18	2.09		
623.0	6.20	59.60	622.1	12.1	23.3	26.2	1.00	0.99		
714.0	7.30	61.40	712.4	17.4	32.6	36.9	1.23	1.21		
805.0	8.60	51.20	802.6	24.4	43.0	49.4	2.10	1.43		
895.0	9.50	53.90	891.4	33.0	54.2	63.5	1.11	1.00		
974.0	10.10	51.20	969.3	41.2	64.9	76.8	0.96	0.76		
1,065.0	10.10	53.40	1,058.9	51.0	77.5	92.7	0.42	0.00		

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Berger 3-2
Project:	DJ Wattenberg	TVD Reference:	15' KB @ 4976.0ft (Xtreme 11)
Site:	S2 T1N R67W (Berger 8 Pad)	MD Reference:	15' KB @ 4976.0ft (Xtreme 11)
Well:	Berger 3-2	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
1,156.0	13.80	51.70	1,147.9	62.5	92.4	111.4	4.08	4.07	
1,247.0	13.30	53.00	1,236.4	75.5	109.3	132.6	0.64	-0.55	
1,337.0	15.20	47.10	1,323.6	89.7	126.2	154.5	2.65	2.11	
1,428.0	15.90	44.50	1,411.3	106.8	143.7	178.3	1.09	0.77	
1,519.0	15.20	42.10	1,498.9	124.5	160.4	201.8	1.04	-0.77	
1,610.0	14.90	48.40	1,586.8	141.1	177.2	224.7	1.83	-0.33	
1,701.0	13.30	43.70	1,675.1	156.5	193.2	246.4	2.16	-1.76	
1,791.0	12.90	52.10	1,762.7	170.1	208.2	266.3	2.16	-0.44	
1,882.0	13.10	54.50	1,851.4	182.3	224.7	286.7	0.63	0.22	
1,973.0	14.40	61.00	1,939.8	193.8	243.0	308.3	2.22	1.43	
2,064.0	14.80	59.40	2,027.9	205.2	262.9	331.2	0.62	0.44	
2,154.0	12.20	54.60	2,115.4	216.6	280.5	352.2	3.14	-2.89	
2,245.0	13.60	56.70	2,204.1	228.0	297.3	372.5	1.62	1.54	
2,336.0	14.50	51.20	2,292.4	241.0	315.1	394.5	1.77	0.99	
2,427.0	13.40	52.50	2,380.7	254.6	332.3	416.3	1.26	-1.21	
2,518.0	14.80	56.00	2,468.9	267.5	350.4	438.4	1.80	1.54	
2,608.0	16.00	53.80	2,555.7	281.3	369.9	462.2	1.48	1.33	
2,699.0	12.40	49.90	2,643.9	295.0	387.5	484.4	4.09	-3.96	
2,790.0	12.70	58.20	2,732.7	306.5	403.5	504.0	2.01	0.33	
2,881.0	12.80	54.70	2,821.5	317.6	420.2	524.1	0.86	0.11	
2,972.0	15.40	56.30	2,909.7	330.2	438.5	546.2	2.89	2.86	
3,062.0	16.10	53.70	2,996.4	344.2	458.5	570.6	1.10	0.78	
3,153.0	15.50	54.00	3,083.9	358.8	478.5	595.3	0.67	-0.66	
3,244.0	14.20	50.30	3,171.9	373.1	496.9	618.5	1.77	-1.43	
3,335.0	13.90	53.80	3,260.2	386.7	514.3	640.4	0.99	-0.33	
3,426.0	15.20	53.30	3,348.2	400.3	532.7	663.2	1.44	1.43	
3,517.0	14.20	52.70	3,436.3	414.1	551.2	686.2	1.11	-1.10	
3,607.0	13.60	51.70	3,523.6	427.4	568.2	707.6	0.72	-0.67	
3,698.0	13.90	55.90	3,612.0	440.2	585.7	729.2	1.15	0.33	
3,789.0	15.60	54.10	3,700.0	453.5	604.6	752.3	1.93	1.87	
3,880.0	15.40	54.00	3,787.7	467.7	624.3	776.5	0.22	-0.22	
3,971.0	14.80	55.60	3,875.6	481.4	643.7	800.2	0.80	-0.66	
4,061.0	14.80	51.30	3,962.6	495.1	662.2	823.1	1.22	0.00	
4,152.0	14.80	46.70	4,050.6	510.3	679.7	846.0	1.29	0.00	
4,243.0	13.90	55.20	4,138.7	524.5	697.1	868.2	2.51	-0.99	
4,334.0	15.60	52.20	4,226.7	538.3	715.8	891.3	2.05	1.87	
4,425.0	16.80	54.20	4,314.1	553.5	736.1	916.6	1.45	1.32	
4,515.0	15.70	51.90	4,400.5	568.6	756.2	941.6	1.42	-1.22	
4,606.0	13.30	48.20	4,488.6	583.2	773.7	964.2	2.83	-2.64	
4,697.0	11.70	46.80	4,577.5	596.5	788.3	983.5	1.79	-1.76	
4,787.0	11.90	52.20	4,665.6	608.4	802.2	1,001.7	1.25	0.22	
4,878.0	10.30	54.60	4,754.9	618.9	816.3	1,019.1	1.83	-1.76	
4,969.0	10.00	50.80	4,844.4	628.6	829.0	1,035.0	0.81	-0.33	
5,060.0	8.00	50.90	4,934.3	637.6	840.1	1,049.1	2.20	-2.20	
5,151.0	7.20	46.50	5,024.5	645.5	849.1	1,061.0	1.09	-0.88	
5,241.0	5.50	48.20	5,114.0	652.2	856.4	1,070.7	1.90	-1.89	
5,332.0	5.60	52.30	5,204.5	657.9	863.2	1,079.4	0.45	0.11	
5,423.0	2.60	93.10	5,295.3	660.5	868.8	1,085.6	4.40	-3.30	
5,514.0	1.10	93.00	5,386.3	660.3	871.7	1,088.0	1.65	-1.65	
5,604.0	1.10	46.20	5,476.2	660.9	873.2	1,089.5	0.97	0.00	
5,695.0	1.10	80.40	5,567.2	661.6	874.7	1,091.2	0.71	0.00	
5,786.0	0.50	11.80	5,658.2	662.1	875.6	1,092.3	1.13	-0.66	
5,877.0	1.00	26.90	5,749.2	663.2	876.1	1,093.2	0.59	0.55	

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Berger 3-2
Project:	DJ Wattenberg	TVD Reference:	15' KB @ 4976.0ft (Xtreme 11)
Site:	S2 T1N R67W (Berger 8 Pad)	MD Reference:	15' KB @ 4976.0ft (Xtreme 11)
Well:	Berger 3-2	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
5,968.0	1.10	10.80	5,840.2	664.8	876.6	1,094.5	0.34	0.11	
6,058.0	0.80	203.00	5,930.2	665.1	876.5	1,094.6	2.10	-0.33	
6,149.0	1.00	259.10	6,021.2	664.3	875.5	1,093.3	0.95	0.22	
6,240.0	1.20	301.20	6,112.2	664.7	873.9	1,092.1	0.89	0.22	
6,331.0	0.50	297.00	6,203.1	665.4	872.7	1,091.5	0.77	-0.77	
6,422.0	1.60	299.00	6,294.1	666.2	871.3	1,090.6	1.21	1.21	
6,512.0	0.70	337.90	6,384.1	667.3	870.0	1,090.1	1.27	-1.00	
6,603.0	0.70	301.50	6,475.1	668.1	869.3	1,089.9	0.48	0.00	
6,694.0	1.10	331.70	6,566.1	669.1	868.4	1,089.7	0.67	0.44	
6,785.0	1.10	359.40	6,657.1	670.8	868.0	1,090.2	0.58	0.00	
6,875.0	1.10	319.80	6,747.1	672.3	867.4	1,090.5	0.83	0.00	
6,966.0	1.00	358.70	6,838.1	673.8	866.8	1,090.8	0.78	-0.11	
7,057.0	1.70	331.30	6,929.0	675.7	866.1	1,091.3	1.03	0.77	
7,148.0	1.80	332.20	7,020.0	678.2	864.8	1,091.4	0.11	0.11	
7,238.0	0.60	292.70	7,110.0	679.6	863.7	1,091.2	1.54	-1.33	
7,329.0	0.20	230.20	7,201.0	679.7	863.2	1,090.8	0.59	-0.44	
7,511.0	1.20	149.60	7,382.9	677.9	863.9	1,090.4	0.65	0.55	
7,602.0	1.20	142.80	7,473.9	676.3	865.0	1,090.5	0.16	0.00	
7,692.0	0.90	90.70	7,563.9	675.5	866.2	1,091.2	1.07	-0.33	
7,783.0	0.50	98.80	7,654.9	675.4	867.3	1,092.1	0.45	-0.44	
7,874.0	0.70	62.40	7,745.9	675.6	868.2	1,093.0	0.46	0.22	
8,056.0	0.70	65.50	7,927.9	676.6	870.2	1,095.2	0.02	0.00	
8,147.0	0.80	115.50	8,018.9	676.6	871.3	1,096.1	0.70	0.11	
8,238.0	0.90	82.10	8,109.9	676.4	872.6	1,097.1	0.55	0.11	Last Cathedral Survey @ 8,238' MD
8,274.2	0.93	68.49	8,146.1	676.5	873.1	1,097.6	0.60	0.07	Berger 3-2 BHL
8,293.0	0.96	61.91	8,164.9	676.7	873.4	1,098.0	0.60	0.18	Projection to Bit @ 8293' MD

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Berger 3-2 BHL	0.00	0.41	8,146.0	665.2	881.4	1,274,715.09	3,178,924.16	40.085706	-104.860549
- hit/miss target									
- Shape									
- actual wellpath misses target center by 14.0ft at 8274.2ft MD (8146.1 TVD, 676.5 N, 873.1 E)									
- Circle (radius 50.0)									
Berger 3-2 Legal Box 3	0.00	0.00	-8,376.0	662.6	875.1	1,274,712.42	3,178,917.89	40.085699	-104.860571
- actual wellpath misses target center by 8447.6ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E)									
- Rectangle (sides W400.0 H400.0 D0.0)									

Design Annotations

	Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
			+N/-S (ft)	+E/-W (ft)	
	8,238.0	8,109.9	676.4	872.6	Last Cathedral Survey @ 8,238' MD
	8,293.0	8,164.9	676.7	873.4	Projection to Bit @ 8293' MD

Checked By: _____ Approved By: _____ Date: _____