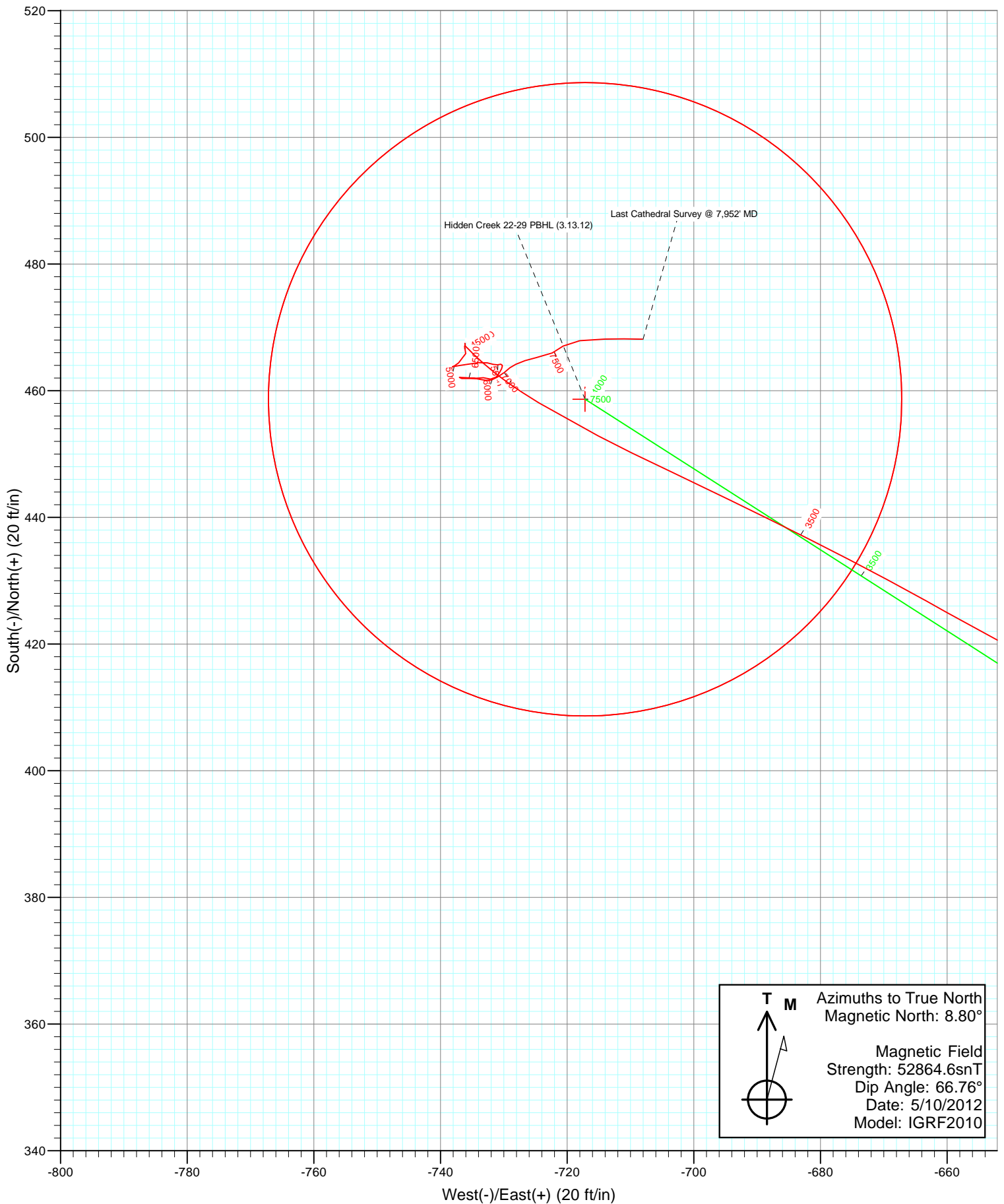


Azimuths to True North
Magnetic North: 8.80°

Magnetic Field
Strength: 52864.6snT
Dip Angle: 66.76°
Date: 5/10/2012
Model: IGRF2010

DD Hidden Creek 22-29 125269; 155255; DN KB=15' @ 5044.0ft (Xtreme 14) North American Datum 1983 Well Hidden Creek 22-29, True North							
Type Target	Target Hidden Creek 22-29 PBHL (3.13.12)	Azimuth 1252.60	Origin Type Slot	N/S 0.0	E/W 0.0	From TVD 0.0	
Name Hidden Creek 22-29 PBHL (3.13.12)	TVD 7804.0	+N/-S 458.7	+E/-W -717.2	Latitude 40.109567	Longitude -104.919108		



Cathedral Energy Services

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Hidden Creek 22-29
Project:	DJ Wattenberg	TVD Reference:	KB=15' @ 5044.0ft (Xtreme 14)
Site:	NESW Sec29-T2N-R67W (Hidden Creek)	MD Reference:	KB=15' @ 5044.0ft (Xtreme 14)
Well:	Hidden Creek 22-29	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	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		NESW Sec29-T2N-R67W (Hidden Creek)			
Site Position:		Northing:	1,282,820.26 ft	Latitude:	40.108253
From:	Lat/Long	Easting:	3,163,202.98 ft	Longitude:	-104.916544
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.38 °

Well	Hidden Creek 22-29					
Well Position	+N/-S	0.0 ft	Northing:	1,282,840.29 ft	Latitude:	40.108308
	+E/-W	0.0 ft	Easting:	3,163,202.85 ft	Longitude:	-104.916544
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,029.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/10/2012	8.80	66.76	52,865

Design	DD				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	302.60	

Survey Program	Date	5/22/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
143.0	7,952.0	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		
100.0	0.56	248.10	100.0	-0.2	-0.5	0.3	0.56	0.56		
200.0	1.68	275.00	200.0	-0.4	-2.1	1.6	1.21	1.12		
300.0	3.87	289.59	299.9	0.7	-6.7	6.0	2.29	2.19		
400.0	6.08	290.19	399.5	3.8	-14.8	14.5	2.20	2.20		
500.0	8.26	291.44	498.7	8.2	-26.5	26.7	2.19	2.19		
600.0	10.86	296.21	597.3	14.9	-41.7	43.2	2.71	2.60		
700.0	13.22	301.46	695.1	25.0	-59.8	63.9	2.60	2.37		
800.0	15.63	304.16	791.9	38.8	-80.9	89.1	2.50	2.41		
900.0	16.54	304.84	887.9	54.7	-103.9	117.0	0.92	0.90		
1,000.0	16.79	304.90	983.7	71.1	-127.4	145.7	0.25	0.25		
1,100.0	15.54	304.55	1,079.7	87.0	-150.3	173.5	1.25	-1.24		
1,200.0	14.83	303.86	1,176.2	101.7	-172.0	199.7	0.73	-0.71		

Cathedral Energy Services

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Hidden Creek 22-29
Project:	DJ Wattenberg	TVD Reference:	KB=15' @ 5044.0ft (Xtreme 14)
Site:	NESW Sec29-T2N-R67W (Hidden Creek)	MD Reference:	KB=15' @ 5044.0ft (Xtreme 14)
Well:	Hidden Creek 22-29	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	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
1,300.0	14.82	303.84	1,273.0	115.6	-193.0	224.8	0.01	-0.01	
1,400.0	15.65	304.50	1,369.4	130.6	-214.9	251.5	0.84	0.82	
1,500.0	15.47	304.03	1,465.7	145.8	-237.1	278.3	0.22	-0.18	
1,600.0	14.85	304.27	1,562.2	160.5	-258.9	304.5	0.62	-0.62	
1,700.0	13.62	303.15	1,659.1	174.2	-279.3	329.2	1.26	-1.23	
1,800.0	14.23	303.48	1,756.2	187.3	-299.3	353.1	0.61	0.61	
1,900.0	14.78	305.53	1,853.0	201.7	-320.1	378.4	0.75	0.55	
2,000.0	14.16	305.06	1,949.9	215.8	-340.1	402.8	0.63	-0.62	
2,100.0	14.80	305.57	2,046.6	230.7	-360.9	428.3	0.65	0.64	
2,200.0	14.94	302.57	2,143.4	244.9	-381.7	453.5	0.78	0.15	
2,300.0	14.03	298.58	2,240.0	258.0	-403.8	479.1	1.35	-0.91	
2,400.0	14.33	299.52	2,337.1	269.4	-424.9	503.1	0.38	0.30	
2,500.0	14.98	297.39	2,433.9	281.6	-447.1	528.4	0.85	0.65	
2,600.0	15.70	301.86	2,530.3	294.7	-470.1	554.8	1.38	0.72	
2,700.0	15.36	304.52	2,626.6	309.4	-492.8	581.8	0.79	-0.34	
2,800.0	14.65	309.38	2,723.3	324.8	-512.9	607.1	1.44	-0.71	
2,900.0	15.78	309.50	2,819.8	341.6	-533.1	633.2	1.13	1.13	
3,000.0	16.48	308.18	2,915.8	359.1	-554.9	660.9	0.79	0.70	
3,100.0	16.23	305.96	3,011.7	376.2	-577.4	689.2	0.68	-0.26	
3,200.0	15.22	302.78	3,107.9	391.6	-599.8	716.3	1.32	-1.00	
3,300.0	14.41	298.35	3,204.6	404.6	-621.8	741.8	1.40	-0.82	
3,400.0	14.35	297.58	3,301.4	416.3	-643.9	766.7	0.20	-0.06	
3,500.0	12.73	298.71	3,398.6	427.5	-664.5	790.2	1.64	-1.62	
3,600.0	10.86	296.83	3,496.6	436.9	-682.5	810.4	1.91	-1.87	
3,700.0	9.19	295.63	3,595.0	444.7	-698.3	827.8	1.69	-1.67	
3,800.0	7.67	296.63	3,693.9	450.9	-711.3	842.2	1.53	-1.52	
3,900.0	6.84	300.18	3,793.2	456.9	-722.4	854.7	0.94	-0.82	
4,000.0	4.27	307.74	3,892.6	462.3	-730.8	864.7	2.67	-2.57	
4,100.0	2.15	314.92	3,992.5	465.9	-734.9	870.2	2.15	-2.12	
4,200.0	0.11	342.94	4,092.5	467.1	-736.1	871.8	2.06	-2.04	
4,300.0	0.13	4.60	4,192.5	467.4	-736.1	872.0	0.05	0.03	
4,400.0	0.11	180.08	4,292.5	467.4	-736.2	872.0	0.25	-0.02	
4,500.0	0.23	194.63	4,392.5	467.1	-736.1	871.8	0.12	0.12	
4,600.0	0.33	155.03	4,492.5	466.7	-736.2	871.7	0.21	0.10	
4,700.0	0.44	191.83	4,592.5	466.0	-735.9	871.1	0.26	0.11	
4,800.0	0.67	223.77	4,692.4	465.2	-736.5	871.1	0.38	0.24	
4,900.0	0.50	209.16	4,792.4	464.4	-737.1	871.2	0.23	-0.17	
5,000.0	0.56	252.27	4,892.4	463.9	-738.0	871.6	0.39	0.06	
5,100.0	0.56	80.87	4,992.4	463.8	-737.9	871.6	1.12	0.00	
5,200.0	1.12	81.24	5,092.4	464.1	-736.2	870.3	0.55	0.55	
5,300.0	0.89	81.39	5,192.4	464.3	-734.5	868.9	0.23	-0.23	
5,400.0	0.86	94.82	5,292.4	464.5	-733.1	867.8	0.21	-0.03	
5,500.0	0.56	108.98	5,392.4	464.2	-731.7	866.6	0.34	-0.29	
5,600.0	0.40	74.80	5,492.4	464.1	-731.0	865.9	0.32	-0.16	
5,700.0	0.26	91.40	5,592.4	464.2	-730.4	865.4	0.17	-0.14	
5,800.0	0.31	186.13	5,692.4	463.9	-730.2	865.1	0.42	0.05	
5,900.0	0.44	208.63	5,792.4	463.3	-730.5	865.0	0.19	0.13	
6,000.0	0.60	215.85	5,892.4	462.5	-730.9	864.9	0.17	0.16	
6,100.0	0.63	259.57	5,992.4	461.8	-731.8	865.3	0.46	0.03	
6,200.0	0.78	282.34	6,092.4	462.0	-733.0	866.4	0.31	0.15	
6,300.0	1.24	257.16	6,192.3	462.0	-734.6	867.8	0.63	0.46	
6,400.0	1.08	286.86	6,292.3	461.9	-736.7	869.5	0.61	-0.16	
6,500.0	0.63	95.76	6,392.3	462.1	-736.9	869.8	1.70	-0.45	

Cathedral Energy Services

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Hidden Creek 22-29
Project:	DJ Wattenberg	TVD Reference:	KB=15' @ 5044.0ft (Xtreme 14)
Site:	NESW Sec29-T2N-R67W (Hidden Creek)	MD Reference:	KB=15' @ 5044.0ft (Xtreme 14)
Well:	Hidden Creek 22-29	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	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
6,600.0	0.80	91.92	6,492.3	462.1	-735.6	868.7	0.18	0.17	
6,700.0	0.68	99.76	6,592.3	461.9	-734.3	867.4	0.16	-0.12	
6,800.0	0.60	100.59	6,692.3	461.7	-733.3	866.5	0.08	-0.08	
6,900.0	0.49	80.86	6,792.3	461.6	-732.2	865.6	0.22	-0.11	
7,000.0	0.78	63.63	6,892.3	462.0	-731.3	865.0	0.34	0.29	
7,100.0	0.90	52.22	6,992.3	462.8	-730.0	864.3	0.20	0.12	
7,200.0	0.60	48.37	7,092.3	463.6	-729.0	864.0	0.30	-0.29	
7,300.0	0.86	67.75	7,192.3	464.3	-727.9	863.4	0.35	0.26	
7,400.0	1.20	72.71	7,292.2	464.9	-726.2	862.2	0.35	0.33	
7,500.0	1.19	76.32	7,392.2	465.4	-724.1	860.8	0.08	0.00	
7,600.0	1.23	64.68	7,492.2	466.1	-722.2	859.5	0.25	0.03	
7,700.0	1.63	62.30	7,592.2	467.4	-720.1	858.5	0.41	0.40	
7,800.0	2.58	86.54	7,692.1	468.0	-716.5	855.8	1.28	0.95	
7,900.0	3.55	90.67	7,792.0	468.2	-711.3	851.5	1.00	0.98	Hidden Creek 22-29 PBHL (3.13.12)

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Hidden Creek 22-29 PBI	0.00	0.00	7,804.0	458.7	-717.2	1,283,294.21	3,162,482.68	40.109567	-104.919108
- actual wellpath misses target center by 16.5ft at 7900.0ft MD (7792.0 TVD, 468.2 N, -711.3 E)									
- Circle (radius 50.0)									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates	Comment
+N/-S (ft)	+E/-W (ft)		
7,952.0	7,843.9	468.1	-708.0
Last Cathedral Survey @ 7,952' MD			

Checked By: _____ Approved By: _____ Date: _____