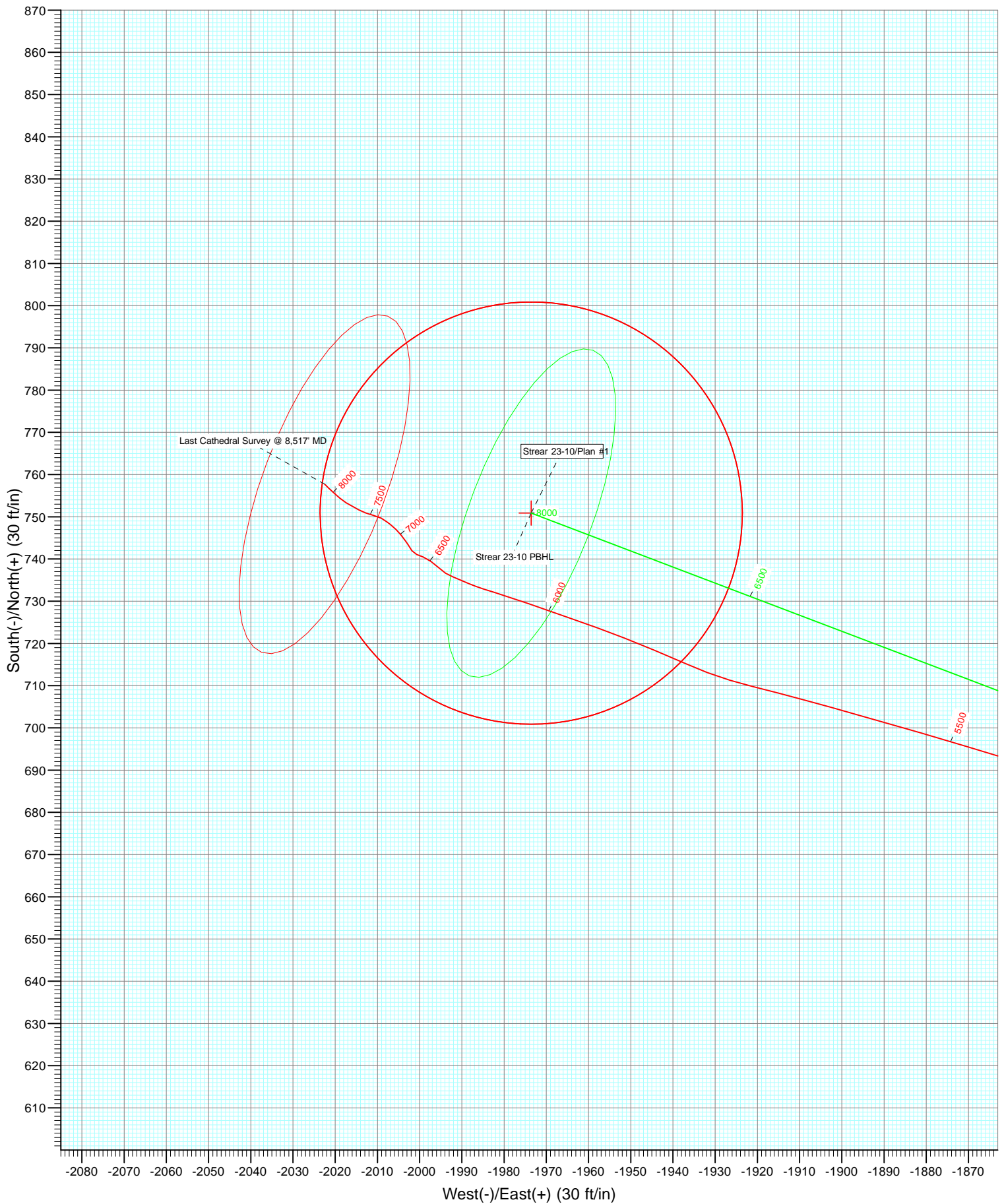


Azimuths to True North
Magnetic North: 8.83°

Magnetic Field
Strength: 52933.8snT
Dip Angle: 66.81°
Date: 12/12/2011
Model: IGRF2010

Type	DD	Azimuth	Origin Type	N/S	E/W	From TVD
User	Strear 23-10	287.65	Slot	0.0	0.0	0.0
	125150; LR					
	KBE @ 4976.0ft (Xtreme 14)					
	North American Datum 1983					
	Well Strear 23-10, True North					
Name	Strear 23-10 PBHL	TVD	+N/-S	+E/-W	Latitude	Longitude
		8111.0	750.9	-1973.6	40.149034	-104.876700



Cathedral Energy Services

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Strear 23-10
Project:	DJ Wattenberg	TVD Reference:	KBE @ 4976.0ft (Xtreme 14)
Site:	SESE Sec10-T2N-R67W (Strear 16-10-9F)	MD Reference:	KBE @ 4976.0ft (Xtreme 14)
Well:	Strear 23-10	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		SESE Sec10-T2N-R67W (Strear 16-10-9F)			
Site Position:		Northing:	1,297,030.56 ft	Latitude:	40.147017
From:	Lat/Long	Easting:	3,176,209.76 ft	Longitude:	-104.869683
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.41 °

Well		Strear 23-10				
Well Position	+N/-S	0.0 ft	Northing:	1,297,014.61 ft	Latitude:	40.146973
	+E/-W	0.0 ft	Easting:	3,176,221.90 ft	Longitude:	-104.869640
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	12/12/2011	8.83	66.81	52,934

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	287.65	

Survey Program	Date	2/15/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
214.0	8,517.0	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		
214.0	0.80	336.80	214.0	1.4	-0.6	1.0	0.37	0.37		
308.0	1.70	307.00	308.0	2.8	-2.0	2.7	1.15	0.96		
416.0	3.60	291.00	415.9	5.0	-6.4	7.6	1.87	1.76		
504.0	5.70	281.30	503.6	6.8	-13.3	14.7	2.54	2.39		
594.0	7.90	281.70	592.9	9.0	-23.7	25.3	2.44	2.44		
660.0	8.70	283.00	658.2	11.0	-33.0	34.8	1.24	1.21		
767.0	8.50	287.90	764.0	15.3	-48.4	50.8	0.71	-0.19		
873.0	10.20	284.60	868.6	20.0	-65.0	68.0	1.68	1.60		
962.0	13.40	285.60	955.7	24.8	-82.5	86.2	3.60	3.60		
1,051.0	15.10	285.40	1,042.0	30.7	-103.6	108.1	1.91	1.91		
1,140.0	16.90	288.10	1,127.5	37.8	-127.1	132.6	2.19	2.02		
1,228.0	18.60	289.80	1,211.3	46.5	-152.5	159.4	2.02	1.93		

Cathedral Energy Services

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Strear 23-10
Project:	DJ Wattenberg	TVD Reference:	KBE @ 4976.0ft (Xtreme 14)
Site:	SESE Sec10-T2N-R67W (Strear 16-10-9F)	MD Reference:	KBE @ 4976.0ft (Xtreme 14)
Well:	Strear 23-10	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
1,318.0	20.90	291.10	1,296.0	57.1	-181.0	189.8	2.60	2.56	
1,406.0	22.70	289.90	1,377.7	68.6	-211.6	222.4	2.11	2.05	
1,494.0	24.50	290.30	1,458.4	80.7	-244.7	257.6	2.05	2.05	
1,581.0	23.50	289.40	1,537.9	92.7	-277.9	293.0	1.22	-1.15	
1,669.0	22.40	289.00	1,618.9	104.0	-310.3	327.3	1.26	-1.25	
1,758.0	23.60	290.10	1,700.8	115.6	-343.1	362.0	1.43	1.35	
1,846.0	24.20	294.10	1,781.3	129.0	-376.1	397.5	1.96	0.68	
1,934.0	24.00	293.90	1,861.6	143.7	-408.9	433.2	0.25	-0.23	
2,023.0	23.70	293.50	1,943.0	158.1	-441.9	469.0	0.38	-0.34	
2,113.0	23.50	292.50	2,025.5	172.2	-475.1	504.9	0.50	-0.22	
2,200.0	24.10	292.60	2,105.1	185.7	-507.5	539.9	0.69	0.69	
2,290.0	23.80	291.30	2,187.3	199.3	-541.4	576.3	0.67	-0.33	
2,378.0	24.40	291.70	2,267.7	212.5	-574.8	612.2	0.71	0.68	
2,464.0	24.90	291.60	2,345.8	225.7	-608.1	648.0	0.58	0.58	
2,552.0	23.90	290.00	2,426.0	238.6	-642.1	684.2	1.36	-1.14	
2,638.0	23.30	290.40	2,504.8	250.5	-674.4	718.6	0.72	-0.70	
2,726.0	21.60	288.80	2,586.1	261.8	-706.1	752.2	2.05	-1.93	
2,815.0	21.20	284.90	2,669.0	271.2	-737.1	784.7	1.66	-0.45	
2,905.0	22.30	286.60	2,752.6	280.3	-769.2	818.0	1.41	1.22	
2,995.0	24.10	290.70	2,835.3	291.7	-802.8	853.4	2.69	2.00	
3,084.0	24.60	291.20	2,916.4	304.8	-837.1	890.1	0.61	0.56	
3,174.0	24.70	291.20	2,998.2	318.4	-872.1	927.5	0.11	0.11	
3,263.0	22.90	292.20	3,079.6	331.6	-905.4	963.4	2.07	-2.02	
3,353.0	23.20	292.10	3,162.4	344.9	-938.1	998.5	0.34	0.33	
3,440.0	23.10	292.90	3,242.4	358.0	-969.7	1,032.6	0.38	-0.11	
3,530.0	24.20	293.20	3,324.8	372.1	-1,002.9	1,068.5	1.23	1.22	
3,618.0	23.70	293.90	3,405.3	386.4	-1,035.6	1,104.0	0.65	-0.57	
3,706.0	23.70	290.30	3,485.9	399.7	-1,068.4	1,139.3	1.64	0.00	
3,795.0	23.80	289.30	3,567.3	411.9	-1,102.1	1,175.1	0.47	0.11	
3,884.0	24.30	291.10	3,648.6	424.4	-1,136.1	1,211.3	1.00	0.56	
3,974.0	24.30	292.30	3,730.6	438.1	-1,170.6	1,248.3	0.55	0.00	
4,062.0	24.80	293.20	3,810.7	452.2	-1,204.3	1,284.7	0.71	0.57	
4,150.0	24.20	291.10	3,890.7	466.0	-1,238.1	1,321.1	1.20	-0.68	
4,238.0	23.60	292.90	3,971.2	479.3	-1,271.1	1,356.6	1.07	-0.68	
4,327.0	22.00	293.90	4,053.2	493.0	-1,302.8	1,390.9	1.85	-1.80	
4,415.0	24.40	294.90	4,134.1	507.4	-1,334.3	1,425.3	2.76	2.73	
4,505.0	25.00	295.70	4,215.9	523.4	-1,368.3	1,462.6	0.76	0.67	
4,594.0	24.20	290.20	4,296.8	537.9	-1,402.4	1,499.5	2.72	-0.90	
4,682.0	25.40	290.70	4,376.7	550.8	-1,437.0	1,536.3	1.38	1.36	
4,772.0	26.50	289.20	4,457.6	564.2	-1,474.0	1,575.7	1.42	1.22	
4,862.0	24.20	289.00	4,538.9	576.8	-1,510.4	1,614.2	2.56	-2.56	
4,950.0	25.00	288.00	4,619.0	588.4	-1,545.2	1,650.8	1.02	0.91	
5,038.0	25.40	288.80	4,698.6	600.3	-1,580.7	1,688.3	0.60	0.45	
5,127.0	24.10	289.70	4,779.4	612.5	-1,615.9	1,725.5	1.52	-1.46	
5,214.0	21.90	291.60	4,859.5	624.5	-1,647.7	1,759.5	2.67	-2.53	
5,303.0	21.50	290.30	4,942.2	636.3	-1,678.4	1,792.3	0.70	-0.45	
5,393.0	22.30	288.00	5,025.7	647.3	-1,710.1	1,825.9	1.30	0.89	
5,480.0	20.80	286.90	5,106.6	656.9	-1,740.6	1,857.8	1.79	-1.72	
5,570.0	20.60	286.10	5,190.8	665.9	-1,771.1	1,889.6	0.38	-0.22	
5,659.0	21.40	286.30	5,273.9	674.8	-1,801.7	1,921.5	0.90	0.90	
5,748.0	19.10	286.90	5,357.4	683.6	-1,831.3	1,952.3	2.59	-2.58	
5,838.0	17.10	287.30	5,442.9	691.8	-1,858.0	1,980.3	2.23	-2.22	
5,924.0	15.60	286.10	5,525.4	698.8	-1,881.2	2,004.5	1.79	-1.74	

Cathedral Energy Services

Survey Report

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Strear 23-10
Project:	DJ Wattenberg	TVD Reference:	KBE @ 4976.0ft (Xtreme 14)
Site:	SESE Sec10-T2N-R67W (Strear 16-10-9F)	MD Reference:	KBE @ 4976.0ft (Xtreme 14)
Well:	Strear 23-10	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
6,013.0	13.50	285.70	5,611.6	704.9	-1,902.7	2,026.8	2.36	-2.36	
6,101.0	11.30	283.80	5,697.5	709.7	-1,920.9	2,045.7	2.54	-2.50	
6,190.0	10.90	294.00	5,784.9	715.2	-1,937.1	2,062.8	2.25	-0.45	
6,278.0	9.50	291.10	5,871.5	721.2	-1,951.5	2,078.3	1.69	-1.59	
6,364.0	8.20	289.10	5,956.4	725.8	-1,963.9	2,091.5	1.55	-1.51	
6,454.0	5.80	289.80	6,045.8	729.4	-1,974.2	2,102.5	2.67	-2.67	
6,543.0	5.20	286.40	6,134.4	732.1	-1,982.3	2,111.0	0.77	-0.67	
6,631.0	2.90	293.40	6,222.1	734.1	-1,988.2	2,117.2	2.67	-2.61	
6,721.0	2.60	292.10	6,312.0	735.8	-1,992.2	2,121.5	0.34	-0.33	
6,810.0	2.00	315.00	6,401.0	737.6	-1,995.1	2,124.9	1.22	-0.67	
6,899.0	1.60	302.20	6,489.9	739.4	-1,997.3	2,127.5	0.63	-0.45	
6,988.0	1.20	295.40	6,578.9	740.5	-1,999.2	2,129.6	0.49	-0.45	
7,076.0	0.90	286.00	6,666.9	741.1	-2,000.7	2,131.2	0.39	-0.34	
7,164.0	1.10	326.60	6,754.9	742.0	-2,001.8	2,132.5	0.82	0.23	
7,253.0	1.20	326.80	6,843.8	743.4	-2,002.8	2,133.9	0.11	0.11	
7,342.0	1.10	323.10	6,932.8	744.9	-2,003.8	2,135.4	0.14	-0.11	
7,431.0	1.00	319.80	7,021.8	746.2	-2,004.8	2,136.7	0.13	-0.11	
7,521.0	0.80	311.30	7,111.8	747.2	-2,005.8	2,137.9	0.27	-0.22	
7,610.0	0.80	310.10	7,200.8	748.0	-2,006.8	2,139.1	0.02	0.00	
7,698.0	0.90	307.20	7,288.8	748.8	-2,007.8	2,140.3	0.12	0.11	
7,787.0	1.10	297.70	7,377.8	749.6	-2,009.1	2,141.8	0.29	0.22	
7,875.0	1.40	285.70	7,465.7	750.3	-2,010.9	2,143.7	0.45	0.34	
7,963.0	1.20	288.30	7,553.7	750.9	-2,012.8	2,145.7	0.24	-0.23	
8,051.0	1.10	301.20	7,641.7	751.6	-2,014.4	2,147.5	0.31	-0.11	
8,139.0	1.10	296.00	7,729.7	752.4	-2,015.9	2,149.1	0.11	0.00	
8,227.0	1.20	302.20	7,817.7	753.3	-2,017.4	2,150.8	0.18	0.11	
8,317.0	1.20	310.40	7,907.7	754.4	-2,018.9	2,152.6	0.19	0.00	
8,405.0	1.40	312.10	7,995.6	755.7	-2,020.4	2,154.4	0.23	0.23	
8,467.0	1.50	314.10	8,057.6	756.8	-2,021.6	2,155.9	0.18	0.16	
8,517.0	1.50	314.10	8,107.6	757.7	-2,022.5	2,157.0	0.00	0.00	Last Cathedral Survey @ 8,517' MD - Strear 23-1

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Strear 23-10 PBHL	0.00	0.00	8,111.0	750.9	-1,973.6	1,297,751.43	3,174,243.04	40.149034	-104.876700
- hit/miss target									
- Shape									
- actual wellpath misses target center by 49.5ft at 8517.0ft MD (8107.6 TVD, 757.7 N, -2022.5 E)									
- Circle (radius 50.0)									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
8,517.0	8,107.6	757.7	-2,022.5	Last Cathedral Survey @ 8,517' MD	

Checked By: _____ Approved By: _____ Date: _____