



# Cathedral Energy Services Planning Report

<b>Database:</b>	EDM 5000.1 US Multi Users Db	<b>Local Co-ordinate Reference:</b>	Well Chevron 1-14D
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8361.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8361.0ft (Original Well Elev)
<b>Site:</b>	Chevron I01 697 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Chevron 1-14D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

<b>Project</b>	Garfield County		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Central Zone		

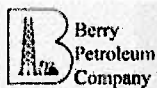
Site		Chevron I01 697 Pad			
Site Position:		Northing:	1,636,614.31 ft	Latitude:	39.551065
From:	Lat/Long	Easting:	2,249,127.68 ft	Longitude:	-108.163257
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.68 °

Well	Chevron 1-14D					
Well Position	+N/-S	0.0 ft	Northing:	1,636,614.29 ft	Latitude:	39.551065
	+E/-W	0.0 ft	Easting:	2,249,127.68 ft	Longitude:	-108.163257
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,341.0 ft

<b>Wellbore</b>	DD				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	2/24/2010	10.58	65.80	52,399

<b>Design</b>	Plan #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	237.85

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
787.2	9.74	237.77	784.9	-22.0	-35.0	2.00	2.00	0.00	237.77	
6,513.1	9.74	237.77	6,428.1	-538.9	-854.8	0.00	0.00	0.00	0.00	
7,000.3	0.00	0.00	6,913.0	-561.0	-889.7	2.00	-2.00	0.00	180.00	Chevron 1-14D (I01 6
7,342.1	0.85	239.99	7,254.8	-562.3	-892.0	0.25	0.25	-35.11	239.99	
9,850.6	0.85	239.99	9,763.0	-581.0	-924.4	0.00	0.00	0.00	0.00	Chevron 1-14D (I01 6



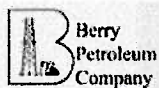
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<b>Database:</b>	EDM 5000.1 US Multi Users Db	<b>Local Co-ordinate Reference:</b>	Well Chevron 1-14D
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8361.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8361.0ft (Original Well Elev)
<b>Site:</b>	Chevron I01 697 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Chevron 1-14D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
2,500.0	9.74	237.77	2,472.9	-176.7	-280.2	331.2	0.00	0.00	
2,600.0	9.74	237.77	2,571.5	-185.7	-294.5	348.2	0.00	0.00	
2,700.0	9.74	237.77	2,670.1	-194.7	-308.8	365.1	0.00	0.00	
2,800.0	9.74	237.77	2,768.6	-203.7	-323.2	382.0	0.00	0.00	
2,900.0	9.74	237.77	2,867.2	-212.8	-337.5	398.9	0.00	0.00	
2,976.9	9.74	237.77	2,943.0	-219.7	-348.5	412.0	0.00	0.00	Wasatch
3,000.0	9.74	237.77	2,965.7	-221.8	-351.8	415.9	0.00	0.00	
3,100.0	9.74	237.77	3,064.3	-230.8	-366.1	432.8	0.00	0.00	
3,200.0	9.74	237.77	3,162.8	-239.9	-380.4	449.7	0.00	0.00	
3,300.0	9.74	237.77	3,261.4	-248.9	-394.7	466.6	0.00	0.00	
3,400.0	9.74	237.77	3,360.0	-257.9	-409.1	483.6	0.00	0.00	
3,500.0	9.74	237.77	3,458.5	-266.9	-423.4	500.5	0.00	0.00	
3,600.0	9.74	237.77	3,557.1	-276.0	-437.7	517.4	0.00	0.00	
3,700.0	9.74	237.77	3,655.6	-285.0	-452.0	534.4	0.00	0.00	
3,800.0	9.74	237.77	3,754.2	-294.0	-466.3	551.3	0.00	0.00	
3,900.0	9.74	237.77	3,852.7	-303.0	-480.6	568.2	0.00	0.00	
4,000.0	9.74	237.77	3,951.3	-312.1	-495.0	585.1	0.00	0.00	
4,100.0	9.74	237.77	4,049.9	-321.1	-509.3	602.1	0.00	0.00	
4,200.0	9.74	237.77	4,148.4	-330.1	-523.6	619.0	0.00	0.00	
4,300.0	9.74	237.77	4,247.0	-339.2	-537.9	635.9	0.00	0.00	
4,400.0	9.74	237.77	4,345.5	-348.2	-552.2	652.8	0.00	0.00	
4,500.0	9.74	237.77	4,444.1	-357.2	-566.6	669.8	0.00	0.00	
4,600.0	9.74	237.77	4,542.6	-366.2	-580.9	686.7	0.00	0.00	
4,700.0	9.74	237.77	4,641.2	-375.3	-595.2	703.6	0.00	0.00	
4,800.0	9.74	237.77	4,739.8	-384.3	-609.5	720.5	0.00	0.00	
4,900.0	9.74	237.77	4,838.3	-393.3	-623.8	737.5	0.00	0.00	
4,945.3	9.74	237.77	4,883.0	-397.4	-630.3	745.1	0.00	0.00	Fort Union
5,000.0	9.74	237.77	4,936.9	-402.3	-638.1	754.4	0.00	0.00	
5,100.0	9.74	237.77	5,035.4	-411.4	-652.5	771.3	0.00	0.00	
5,200.0	9.74	237.77	5,134.0	-420.4	-666.8	788.2	0.00	0.00	
5,300.0	9.74	237.77	5,232.5	-429.4	-681.1	805.2	0.00	0.00	
5,400.0	9.74	237.77	5,331.1	-438.5	-695.4	822.1	0.00	0.00	
5,452.7	9.74	237.77	5,383.0	-443.2	-703.0	831.0	0.00	0.00	Base Ft Union
5,500.0	9.74	237.77	5,429.7	-447.5	-709.7	839.0	0.00	0.00	
5,600.0	9.74	237.77	5,528.2	-456.5	-724.1	856.0	0.00	0.00	
5,700.0	9.74	237.77	5,626.8	-465.5	-738.4	872.9	0.00	0.00	
5,800.0	9.74	237.77	5,725.3	-474.6	-752.7	889.8	0.00	0.00	
5,900.0	9.74	237.77	5,823.9	-483.6	-767.0	906.7	0.00	0.00	
6,000.0	9.74	237.77	5,922.4	-492.6	-781.3	923.7	0.00	0.00	
6,100.0	9.74	237.77	6,021.0	-501.6	-795.6	940.6	0.00	0.00	
6,200.0	9.74	237.77	6,119.6	-510.7	-810.0	957.5	0.00	0.00	
6,300.0	9.74	237.77	6,218.1	-519.7	-824.3	974.4	0.00	0.00	
6,400.0	9.74	237.77	6,316.7	-528.7	-838.6	991.4	0.00	0.00	
6,497.7	9.74	237.77	6,413.0	-537.6	-852.6	1,007.9	0.00	0.00	Ohio Creek
6,500.0	9.74	237.77	6,415.2	-537.8	-852.9	1,008.3	0.00	0.00	
6,513.1	9.74	237.77	6,428.1	-538.9	-854.8	1,010.5	0.00	0.00	Start Drop -2.00
6,600.0	8.01	237.77	6,514.0	-546.1	-866.1	1,023.9	2.00	-2.00	
6,700.0	6.01	237.77	6,613.2	-552.6	-876.4	1,036.1	2.00	-2.00	
6,800.0	4.01	237.77	6,712.9	-557.2	-883.8	1,044.8	2.00	-2.00	
6,800.1	4.01	237.77	6,713.0	-557.3	-883.8	1,044.8	0.00	0.00	Williams Fork
6,900.0	2.01	237.77	6,812.7	-560.0	-888.3	1,050.1	2.00	-2.00	
7,000.0	0.01	237.77	6,912.7	-561.0	-889.7	1,051.8	2.00	-2.00	





## Cathedral Energy Services

### Planning Report

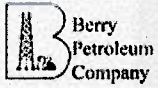
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<b>Well:</b>	Chevron 1-14D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

#### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
7,000.3	0.00	0.00	6,913.0	-561.0	-889.7	1,051.8	2.00	-2.00	EOD; Inc=0° - Approx TOG - Chevron 1-14D (IC
7,100.0	0.25	239.99	7,012.7	-561.1	-889.9	1,052.1	0.25	0.25	
7,200.0	0.50	239.99	7,112.7	-561.4	-890.5	1,052.7	0.25	0.25	
7,300.0	0.75	239.99	7,212.7	-562.0	-891.4	1,053.8	0.25	0.25	
7,342.1	0.85	239.99	7,254.8	-562.3	-892.0	1,054.4	0.25	0.25	
7,400.0	0.85	239.99	7,312.7	-562.7	-892.7	1,055.2	0.00	0.00	
7,500.0	0.85	239.99	7,412.7	-563.4	-894.0	1,056.7	0.00	0.00	
7,600.0	0.85	239.99	7,512.6	-564.2	-895.3	1,058.2	0.00	0.00	
7,700.0	0.85	239.99	7,612.6	-564.9	-896.6	1,059.7	0.00	0.00	
7,800.0	0.85	239.99	7,712.6	-565.7	-897.9	1,061.2	0.00	0.00	
7,900.0	0.85	239.99	7,812.6	-566.4	-899.2	1,062.7	0.00	0.00	
8,000.0	0.85	239.99	7,912.6	-567.2	-900.5	1,064.2	0.00	0.00	
8,100.0	0.85	239.99	8,012.6	-567.9	-901.7	1,065.7	0.00	0.00	
8,200.0	0.85	239.99	8,112.6	-568.7	-903.0	1,067.2	0.00	0.00	
8,300.0	0.85	239.99	8,212.6	-569.4	-904.3	1,068.7	0.00	0.00	
8,400.0	0.85	239.99	8,312.6	-570.1	-905.6	1,070.1	0.00	0.00	
8,500.0	0.85	239.99	8,412.5	-570.9	-906.9	1,071.6	0.00	0.00	
8,600.0	0.85	239.99	8,512.5	-571.6	-908.2	1,073.1	0.00	0.00	
8,700.0	0.85	239.99	8,612.5	-572.4	-909.5	1,074.6	0.00	0.00	
8,800.0	0.85	239.99	8,712.5	-573.1	-910.8	1,076.1	0.00	0.00	
8,900.0	0.85	239.99	8,812.5	-573.9	-912.1	1,077.6	0.00	0.00	
9,000.0	0.85	239.99	8,912.5	-574.6	-913.4	1,079.1	0.00	0.00	
9,100.0	0.85	239.99	9,012.5	-575.4	-914.7	1,080.6	0.00	0.00	
9,200.0	0.85	239.99	9,112.5	-576.1	-916.0	1,082.1	0.00	0.00	
9,300.0	0.85	239.99	9,212.5	-576.9	-917.2	1,083.6	0.00	0.00	
9,300.5	0.85	239.99	9,213.0	-576.9	-917.2	1,083.6	0.00	0.00	Cameo
9,400.0	0.85	239.99	9,312.4	-577.6	-918.5	1,085.1	0.00	0.00	
9,500.0	0.85	239.99	9,412.4	-578.4	-919.8	1,086.5	0.00	0.00	
9,600.0	0.85	239.99	9,512.4	-579.1	-921.1	1,088.0	0.00	0.00	
9,700.0	0.85	239.99	9,612.4	-579.8	-922.4	1,089.5	0.00	0.00	
9,700.6	0.85	239.99	9,613.0	-579.9	-922.4	1,089.5	0.00	0.00	Rollins SS
9,800.0	0.85	239.99	9,712.4	-580.6	-923.7	1,091.0	0.00	0.00	
9,850.6	0.85	239.99	9,763.0	-581.0	-924.4	1,091.8	0.00	0.00	TD at 9850.6 - Chevron 1-14D (I01 697 Pad) Bt

#### 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									
Chevron 1-14D (I01 697	0.00	0.00	6,913.0	-561.0	-889.7	1,636,079.63	2,248,221.87	39.549525	-108.166412
- plan hits target center									
- Point									
Chevron 1-14D (I01 697	0.00	0.00	9,763.0	-581.0	-924.4	1,636,060.66	2,248,186.69	39.549470	-108.166535
- plan hits target center									
- Rectangle (sides W50.0 H100.0 D0.0)									



# Cathedral Energy Services Planning Report

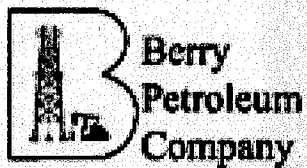
<b>Database:</b>	EDM 5000.1 US Multi Users Db	<b>Local Co-ordinate Reference:</b>	Well Chevron 1-14D
<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>TVD Reference:</b>	KBE @ 8361.0ft (Original Well Elev)
<b>Project:</b>	Garfield County	<b>MD Reference:</b>	KBE @ 8361.0ft (Original Well Elev)
<b>Site:</b>	Chevron I01 697 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Chevron 1-14D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

## Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,976.9	2,943.0	Wasatch		0.00	
4,945.3	4,883.0	Fort Union		0.00	
5,452.7	5,383.0	Base Ft Union		0.00	
6,497.7	6,413.0	Ohio Creek		0.00	
6,800.1	6,713.0	Williams Fork		0.00	
7,000.3	6,913.0	Approx TOG		0.00	
9,300.5	9,213.0	Cameo		0.00	
9,700.6	9,613.0	Rollins SS		0.00	

## Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.0	300.0	0.0	0.0	KOP @ 300'
787.2	784.9	-22.0	-35.0	EOB; Inc=9.74°
6,513.1	6,428.1	-538.9	-854.8	Start Drop -2.00
7,000.3	6,913.0	-561.0	-889.7	EOD; Inc=0°
9,850.6	9,763.0	-581.0	-924.4	TD at 9850.6



# **Berry Petroleum Company (NAD 83)**

**Garfield County  
Chevron I01 697 Pad  
Chevron 1-14D (I01 697 Pad)  
DD  
Plan #1**

## **Anticollision Report**

**25 February, 2010**



## Cathedral Energy Services

### Anticollision Report

<b>Company:</b> Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b> Well Chevron 1-14D (I01 697 Pad)
<b>Project:</b> Garfield County	<b>TVD Reference:</b> KBE @ 8361.0ft (Original Well Elev)
<b>Reference Site:</b> Chevron I01 697 Pad	<b>MD Reference:</b> KBE @ 8361.0ft (Original Well Elev)
<b>Site Error:</b> 0.0ft	<b>North Reference:</b> True
<b>Reference Well:</b> Chevron 1-14D (I01 697 Pad)	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Well Error:</b> 0.0ft	<b>Output errors are at</b> 2.00 sigma
<b>Reference Wellbore</b> DD	<b>Database:</b> EDM 5000.1 US Multi Users Db
<b>Reference Design:</b> Plan #1	<b>Offset TVD Reference:</b> Offset Datum

<b>Reference</b> Plan #1	
<b>Filter type:</b> NO GLOBAL FILTER: Using user defined selection & filtering criteria	
<b>Interpolation Method:</b> MD Interval 100.0ft	<b>Error Model:</b> Systematic Ellipse
<b>Depth Range:</b> Unlimited	<b>Scan Method:</b> Closest Approach 3D
<b>Results Limited by:</b> Maximum center-center distance of 500.0ft	<b>Error Surface:</b> Elliptical Conic
<b>Warning Levels Evaluated at:</b> 2.00 Sigma	

**Survey Tool Program**                      **Date** 2/25/2010

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	9,850.6	Plan #1 (DD)	MWD	Geolink MWD

#### Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
Chevron I01 697 Pad						
Chevron 1-15D (I01 697 Pad) - DD - Plan #1	343.5	338.3	14.9	13.8	13.209	CC
Chevron 1-15D (I01 697 Pad) - DD - Plan #1	400.0	394.5	15.0	13.7	11.302	ES
Chevron 1-15D (I01 697 Pad) - DD - Plan #1	9,850.6	9,832.4	315.2	266.0	6.402	SF
Chevron 1-16D (I01 697 Pad) - DD - Plan #1	335.8	330.5	29.9	28.8	27.096	CC
Chevron 1-16D (I01 697 Pad) - DD - Plan #1	400.0	394.0	30.0	28.7	22.619	ES
Chevron 1-16D (I01 697 Pad) - DD - Plan #1	1,100.0	1,088.4	62.9	58.0	12.923	SF





# Cathedral Energy Services

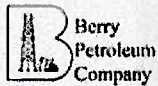
## Anticollision Report

**Company:** Berry Petroleum Company (NAD 83)  
**Project:** Garfield County  
**Reference Site:** Chevron I01 697 Pad  
**Site Error:** 0.0ft  
**Reference Well:** Chevron 1-14D (I01 697 Pad)  
**Well Error:** 0.0ft  
**Reference Wellbore:** DD  
**Reference Design:** Plan #1

**Local Co-ordinate Reference:** Well Chevron 1-14D (I01 697 Pad)  
**TVD Reference:** KBE @ 8361.0ft (Original Well Elev)  
**MD Reference:** KBE @ 8361.0ft (Original Well Elev)  
**North-Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Output errors are at** 2.00 sigma  
**Database:** EDM 5000.1 US Multi Users Db  
**Offset TVD Reference:** Offset Datum

Offset Design Chevron I01 697 Pad - Chevron 1-15D (I01 697 Pad) - DD - Plan #1													Offset Site Error:	0.0ft
Survey Program: 0-MWD													Offset Well Error:	0.0ft
Reference	Offset	Semi Major Axis		Distance		Total		Separation		Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (ft)	+E-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-89.93	0.0	-14.9	15.8					
100.0	100.0	95.0	95.0	0.1	0.1	-89.93	0.0	-14.9	14.9	14.7	0.28	53.268		
200.0	200.0	195.0	195.0	0.3	0.3	-89.93	0.0	-14.9	14.9	14.3	0.63	23.786		
300.0	300.0	295.0	295.0	0.5	0.5	-89.93	0.0	-14.9	14.9	14.0	0.98	15.291		
343.5	343.5	338.3	338.3	0.6	0.6	32.72	0.0	-15.2	14.9	13.8	1.13	13.209 CC		
400.0	400.0	394.5	394.5	0.7	0.7	34.29	-0.4	-16.5	15.0	13.7	1.33	11.302 ES		
500.0	499.8	494.0	493.9	0.9	0.9	39.66	-1.7	-21.3	15.5	13.9	1.68	9.234		
600.0	599.5	593.5	593.0	1.1	1.1	47.47	-3.9	-29.4	16.8	14.8	2.07	8.132		
700.0	698.7	692.9	691.7	1.3	1.3	56.23	-7.0	-40.9	19.1	16.6	2.53	7.568		
800.0	797.5	792.5	790.2	1.6	1.6	65.34	-10.9	-55.3	22.3	19.2	3.09	7.223		
900.0	896.0	892.4	888.9	2.0	1.9	74.17	-14.8	-70.1	25.8	22.1	3.73	6.921		
1,000.0	994.6	992.3	987.6	2.3	2.2	80.80	-18.8	-84.8	29.7	25.3	4.38	6.779		
1,100.0	1,093.1	1,092.2	1,086.3	2.6	2.5	85.83	-22.8	-99.6	33.9	28.9	5.05	6.726		
1,200.0	1,191.7	1,192.0	1,185.0	2.9	2.8	89.73	-26.8	-114.4	38.4	32.7	5.71	6.722		
1,300.0	1,290.3	1,291.9	1,283.7	3.3	3.1	92.81	-30.8	-129.2	42.9	36.6	6.37	6.744		
1,400.0	1,388.8	1,391.8	1,382.3	3.6	3.5	95.29	-34.8	-144.0	47.6	40.6	7.02	6.779		
1,500.0	1,487.4	1,491.7	1,481.0	4.0	3.8	97.32	-38.8	-158.8	52.4	44.7	7.68	6.820		
1,600.0	1,585.9	1,591.5	1,579.7	4.3	4.1	99.02	-42.8	-173.5	57.2	48.8	8.33	6.863		
1,700.0	1,684.5	1,691.4	1,678.4	4.6	4.4	100.45	-46.7	-188.3	62.0	53.0	8.98	6.906		
1,800.0	1,783.0	1,791.3	1,777.1	5.0	4.7	101.68	-50.7	-203.1	66.9	57.2	9.62	6.948		
1,900.0	1,881.6	1,891.1	1,875.8	5.3	5.0	102.73	-54.7	-217.9	71.8	61.5	10.27	6.988		
2,000.0	1,980.2	1,991.0	1,974.5	5.7	5.4	103.66	-58.7	-232.7	76.7	65.8	10.91	7.026		
2,100.0	2,078.7	2,090.9	2,073.2	6.0	5.7	104.47	-62.7	-247.5	81.6	70.1	11.56	7.062		
2,200.0	2,177.3	2,190.8	2,171.9	6.4	6.0	105.19	-66.7	-262.2	86.6	74.4	12.20	7.096		
2,300.0	2,275.8	2,290.6	2,270.6	6.7	6.3	105.83	-70.7	-277.0	91.5	78.7	12.84	7.127		
2,400.0	2,374.4	2,390.5	2,369.3	7.0	6.6	106.40	-74.7	-291.8	96.5	83.0	13.48	7.157		
2,500.0	2,472.9	2,490.4	2,467.9	7.4	7.0	106.92	-78.6	-306.6	101.5	87.4	14.13	7.185		
2,600.0	2,571.5	2,590.2	2,566.6	7.7	7.3	107.39	-82.6	-321.4	106.5	91.7	14.77	7.212		
2,700.0	2,670.1	2,690.1	2,665.3	8.1	7.6	107.82	-86.6	-336.2	111.5	96.1	15.41	7.236		
2,800.0	2,768.6	2,790.0	2,764.0	8.4	7.9	108.21	-90.6	-350.9	116.5	100.4	16.05	7.260		
2,900.0	2,867.2	2,889.9	2,862.7	8.8	8.2	108.57	-94.6	-365.7	121.5	104.8	16.68	7.281		
3,000.0	2,965.7	2,989.7	2,961.4	9.1	8.6	108.90	-98.6	-380.5	126.5	109.2	17.32	7.302		
3,100.0	3,064.3	3,089.6	3,060.1	9.4	8.9	109.20	-102.6	-395.3	131.5	113.6	17.96	7.322		
3,200.0	3,162.8	3,189.5	3,158.8	9.8	9.2	109.48	-106.6	-410.1	136.5	117.9	18.60	7.340		
3,300.0	3,261.4	3,289.3	3,257.5	10.1	9.5	109.75	-110.5	-424.9	141.6	122.3	19.24	7.357		
3,400.0	3,360.0	3,389.2	3,356.2	10.5	9.8	109.99	-114.5	-439.6	146.6	126.7	19.88	7.374		
3,500.0	3,458.5	3,489.1	3,454.9	10.8	10.2	110.22	-118.5	-454.4	151.6	131.1	20.52	7.390		
3,600.0	3,557.1	3,589.0	3,553.5	11.2	10.5	110.43	-122.5	-469.2	156.6	135.5	21.16	7.404		
3,700.0	3,655.6	3,688.8	3,652.2	11.5	10.8	110.63	-126.5	-484.0	161.7	139.9	21.79	7.418		
3,800.0	3,754.2	3,788.7	3,750.9	11.9	11.1	110.82	-130.5	-498.8	166.7	144.3	22.43	7.432		
3,900.0	3,852.7	3,888.6	3,849.6	12.2	11.4	111.00	-134.5	-513.6	171.7	148.7	23.07	7.445		
4,000.0	3,951.3	3,988.4	3,948.3	12.6	11.8	111.17	-138.5	-528.3	176.8	153.1	23.71	7.457		
4,100.0	4,049.9	4,088.3	4,047.0	12.9	12.1	111.32	-142.4	-543.1	181.8	157.5	24.34	7.469		
4,200.0	4,148.4	4,188.2	4,145.7	13.2	12.4	111.47	-146.4	-557.9	186.9	161.9	24.98	7.480		
4,300.0	4,247.0	4,288.1	4,244.4	13.6	12.7	111.61	-150.4	-572.7	191.9	166.3	25.62	7.490		
4,400.0	4,345.5	4,387.9	4,343.1	13.9	13.1	111.75	-154.4	-587.5	196.9	170.7	26.26	7.501		
4,500.0	4,444.1	4,487.8	4,441.8	14.3	13.4	111.88	-158.4	-602.3	202.0	175.1	26.89	7.510		
4,600.0	4,542.6	4,587.7	4,540.5	14.6	13.7	112.00	-162.4	-617.0	207.0	179.5	27.53	7.520		
4,700.0	4,641.2	4,687.5	4,639.2	15.0	14.0	112.11	-166.4	-631.8	212.1	183.9	28.17	7.529		
4,800.0	4,739.8	4,787.4	4,737.8	15.3	14.3	112.22	-170.4	-646.6	217.1	188.3	28.81	7.537		
4,900.0	4,838.3	4,887.3	4,836.5	15.7	14.7	112.33	-174.3	-661.4	222.2	192.7	29.44	7.546		
5,000.0	4,936.9	4,987.2	4,935.2	16.0	15.0	112.43	-178.3	-676.2	227.2	197.1	30.08	7.554		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 1-14D (I01 697 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8361.0ft (Original Well Elev)
<b>Reference Site:</b>	Chevron I01 697 Pad	<b>MD Reference:</b>	KBE @ 8361.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 1-14D (I01 697 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Chevron I01 697 Pad - Chevron 1-15D (I01 697 Pad) - DD - Plan #1													Offset Site Error:	0.0ft
Survey Program: 0-MWD													Offset Well Error:	0.0ft
Reference Measured Depth (ft)	Vertical Depth (ft)	Offset Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning	
5,100.0	5,035.4	5,087.0	5,033.9	16.4	15.3	112.53	-182.3	-691.0	232.3	201.5	30.72	7.561		
5,200.0	5,134.0	5,186.9	5,132.6	16.7	15.6	112.62	-186.3	-705.7	237.3	206.0	31.35	7.569		
5,300.0	5,232.5	5,286.8	5,231.3	17.0	15.9	112.71	-190.3	-720.5	242.4	210.4	31.99	7.576		
5,400.0	5,331.1	5,386.6	5,330.0	17.4	16.3	112.79	-194.3	-735.3	247.4	214.8	32.63	7.583		
5,500.0	5,429.7	5,486.5	5,428.7	17.7	16.6	112.87	-198.3	-750.1	252.5	219.2	33.26	7.589		
5,600.0	5,528.2	5,586.4	5,527.4	18.1	16.9	112.95	-202.3	-764.9	257.5	223.6	33.90	7.596		
5,700.0	5,626.8	5,686.3	5,626.1	18.4	17.2	113.03	-206.2	-779.7	262.6	228.0	34.54	7.602		
5,800.0	5,725.3	5,786.1	5,724.8	18.8	17.5	113.10	-210.2	-794.4	267.6	232.4	35.18	7.608		
5,900.0	5,823.9	5,886.0	5,823.4	19.1	17.9	113.17	-214.2	-809.2	272.7	236.8	35.81	7.614		
6,000.0	5,922.4	5,985.9	5,922.1	19.5	18.2	113.23	-218.2	-824.0	277.7	241.3	36.45	7.619		
6,100.0	6,021.0	6,085.8	6,020.8	19.8	18.5	113.30	-222.2	-838.8	282.8	245.7	37.09	7.625		
6,200.0	6,119.6	6,185.6	6,119.5	20.2	18.8	113.36	-226.2	-853.6	287.8	250.1	37.72	7.630		
6,300.0	6,218.1	6,285.5	6,218.2	20.5	19.2	113.42	-230.2	-868.4	292.9	254.5	38.36	7.635		
6,400.0	6,316.7	6,385.4	6,316.9	20.8	19.5	113.48	-234.2	-883.1	297.9	258.9	39.00	7.640		
6,500.0	6,415.2	6,485.2	6,415.6	21.2	19.8	113.54	-238.2	-897.9	303.0	263.3	39.63	7.645		
6,600.0	6,514.0	6,585.0	6,514.2	21.5	20.1	113.44	-242.1	-912.7	307.5	267.2	40.26	7.638		
6,700.0	6,613.2	6,683.8	6,612.1	21.7	20.4	113.14	-245.5	-925.3	310.9	270.1	40.81	7.619		
6,800.0	6,712.9	6,782.6	6,710.4	21.9	20.6	112.86	-248.1	-934.7	313.3	272.1	41.25	7.595		
6,900.0	6,812.7	6,881.5	6,809.1	22.1	20.8	112.61	-249.7	-940.8	314.7	273.1	41.59	7.566		
7,000.0	6,912.7	6,980.5	6,908.0	22.2	20.9	112.38	-250.5	-943.6	315.1	273.3	41.84	7.532		
7,023.2	6,935.9	7,003.5	6,931.1	22.2	20.9	110.30	-250.5	-943.8	315.1	273.2	41.89	7.522		
7,100.0	7,012.7	7,080.4	7,008.0	22.3	21.0	110.15	-250.6	-943.9	315.1	273.1	42.05	7.493		
7,200.0	7,112.7	7,180.9	7,108.5	22.4	21.1	110.17	-250.8	-944.4	315.2	272.9	42.28	7.455		
7,300.0	7,212.7	7,281.4	7,209.0	22.5	21.2	110.20	-251.3	-945.2	315.2	272.7	42.52	7.414		
7,400.0	7,312.7	7,381.8	7,309.3	22.6	21.3	110.21	-252.0	-946.4	315.3	272.5	42.76	7.372		
7,500.0	7,412.7	7,481.8	7,409.3	22.8	21.5	110.21	-252.7	-947.7	315.3	272.2	43.01	7.329		
7,600.0	7,512.7	7,581.8	7,509.3	22.9	21.6	110.21	-253.5	-949.0	315.3	272.0	43.26	7.287		
7,700.0	7,612.6	7,681.8	7,609.3	23.0	21.7	110.21	-254.2	-950.2	315.3	271.7	43.52	7.245		
7,800.0	7,712.6	7,781.8	7,709.3	23.1	21.8	110.21	-255.0	-951.5	315.3	271.5	43.77	7.203		
7,900.0	7,812.6	7,881.8	7,809.2	23.2	22.0	110.21	-255.7	-952.8	315.3	271.2	44.02	7.161		
8,000.0	7,912.6	7,981.8	7,909.2	23.4	22.1	110.21	-256.5	-954.1	315.3	271.0	44.28	7.119		
8,100.0	8,012.6	8,081.8	8,009.2	23.5	22.2	110.21	-257.2	-955.4	315.3	270.7	44.54	7.078		
8,200.0	8,112.6	8,181.8	8,109.2	23.6	22.4	110.21	-258.0	-956.7	315.3	270.5	44.80	7.037		
8,300.0	8,212.6	8,281.8	8,209.2	23.7	22.5	110.21	-258.7	-958.0	315.2	270.2	45.06	6.996		
8,400.0	8,312.6	8,381.8	8,309.2	23.9	22.6	110.21	-259.5	-959.3	315.2	269.9	45.32	6.956		
8,500.0	8,412.6	8,481.8	8,409.2	24.0	22.8	110.21	-260.2	-960.6	315.2	269.7	45.58	6.916		
8,600.0	8,512.5	8,581.8	8,509.2	24.1	22.9	110.21	-261.0	-961.9	315.2	269.4	45.85	6.876		
8,700.0	8,612.5	8,681.8	8,609.2	24.3	23.0	110.21	-261.7	-963.2	315.2	269.1	46.11	6.836		
8,800.0	8,712.5	8,781.8	8,709.1	24.4	23.2	110.21	-262.5	-964.5	315.2	268.9	46.38	6.797		
8,900.0	8,812.5	8,881.8	8,809.1	24.5	23.3	110.21	-263.2	-965.8	315.2	268.6	46.65	6.758		
9,000.0	8,912.5	8,981.8	8,909.1	24.6	23.4	110.21	-263.9	-967.1	315.2	268.3	46.92	6.719		
9,100.0	9,012.5	9,081.8	9,009.1	24.8	23.6	110.21	-264.7	-968.3	315.2	268.1	47.18	6.681		
9,200.0	9,112.5	9,181.8	9,109.1	24.9	23.7	110.21	-265.4	-969.6	315.2	267.8	47.46	6.643		
9,300.0	9,212.5	9,281.8	9,209.1	25.0	23.8	110.21	-266.2	-970.9	315.2	267.5	47.73	6.605		
9,400.0	9,312.5	9,381.8	9,309.1	25.2	24.0	110.21	-266.9	-972.2	315.2	267.2	48.00	6.567		
9,500.0	9,412.4	9,481.8	9,409.1	25.3	24.1	110.21	-267.7	-973.5	315.2	267.0	48.27	6.530		
9,600.0	9,512.4	9,581.8	9,509.1	25.4	24.2	110.21	-268.4	-974.8	315.2	266.7	48.55	6.493		
9,700.0	9,612.4	9,681.8	9,609.0	25.6	24.4	110.21	-269.2	-976.1	315.2	266.4	48.83	6.456		
9,800.0	9,712.4	9,781.8	9,709.0	25.7	24.5	110.21	-269.9	-977.4	315.2	266.1	49.10	6.420		
9,850.6	9,763.0	9,832.4	9,759.6	25.8	24.6	110.21	-270.3	-978.1	315.2	266.0	49.24	6.402 SF		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation





# Cathedral Energy Services

## Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Chevron 1-14D (I01 697 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8361.0ft (Original Well Elev)
Reference Site:	Chevron I01 697 Pad	MD Reference:	KBE @ 8361.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Chevron 1-14D (I01 697 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Chevron I01 697 Pad - Chevron 1-16D (I01 697 Pad) - DD - Plan #1														Offset Site Error:	0.0ft
Survey Program: 0-MWD														Offset Well Error:	0.0ft
Reference	Offset	Semi Major Axis		Distance		Total		Separation		Warning					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor			
0.0	0.0	0.0	0.0	0.0	0.0	-90.60	-0.3	-29.9	30.3						
100.0	100.0	95.0	95.0	0.1	0.1	-90.60	-0.3	-29.9	29.9	29.6	0.28	106.542			
200.0	200.0	195.0	195.0	0.3	0.3	-90.60	-0.3	-29.9	29.9	29.3	0.63	47.574			
300.0	300.0	295.0	295.0	0.5	0.5	-90.60	-0.3	-29.9	29.9	28.9	0.98	30.583			
335.8	335.8	330.5	330.5	0.6	0.6	31.88	-0.3	-30.1	29.9	28.8	1.10	27.096 CC			
400.0	400.0	394.0	394.0	0.7	0.7	33.60	-0.2	-31.4	30.0	28.7	1.33	22.619 ES			
500.0	499.8	492.9	492.8	0.9	0.9	39.37	0.1	-36.4	30.8	29.1	1.68	18.332			
600.0	599.5	591.7	591.2	1.1	1.1	48.11	0.7	-44.7	32.9	30.8	2.06	15.988			
700.0	698.7	690.4	689.2	1.3	1.3	58.26	1.6	-56.4	36.9	34.5	2.49	14.821			
800.0	797.5	790.0	787.9	1.6	1.6	69.63	2.5	-69.5	41.8	38.8	3.03	13.811			
900.0	896.0	889.4	886.5	2.0	1.8	79.96	3.4	-82.6	47.8	44.2	3.63	13.170			
1,000.0	994.6	988.9	985.1	2.3	2.1	87.82	4.4	-95.8	55.0	50.7	4.25	12.937			
1,100.0	1,093.1	1,088.4	1,083.7	2.6	2.4	93.79	5.3	-108.9	62.9	58.0	4.87	12.923 SF			
1,200.0	1,191.7	1,187.9	1,182.4	2.9	2.7	98.39	6.2	-122.0	71.4	65.9	5.48	13.019			
1,300.0	1,290.3	1,287.4	1,281.0	3.3	3.0	102.00	7.1	-135.2	80.2	74.1	6.09	13.167			
1,400.0	1,388.8	1,386.9	1,379.6	3.6	3.3	104.89	8.1	-148.3	89.3	82.6	6.69	13.337			
1,500.0	1,487.4	1,486.4	1,478.2	4.0	3.5	107.24	9.0	-161.4	98.5	91.3	7.29	13.511			
1,600.0	1,585.9	1,585.9	1,576.8	4.3	3.8	109.18	9.9	-174.6	107.9	100.1	7.89	13.682			
1,700.0	1,684.5	1,685.4	1,675.5	4.6	4.1	110.81	10.9	-187.7	117.5	109.0	8.48	13.845			
1,800.0	1,783.0	1,784.9	1,774.1	5.0	4.4	112.20	11.8	-200.8	127.0	118.0	9.07	14.000			
1,900.0	1,881.6	1,884.4	1,872.7	5.3	4.7	113.39	12.7	-214.0	136.7	127.0	9.66	14.144			
2,000.0	1,980.2	1,983.9	1,971.3	5.7	5.0	114.42	13.6	-227.1	146.4	136.1	10.25	14.279			
2,100.0	2,078.7	2,083.4	2,069.9	6.0	5.3	115.32	14.6	-240.2	156.1	145.3	10.84	14.405			
2,200.0	2,177.3	2,182.9	2,168.6	6.4	5.5	116.12	15.5	-253.4	165.9	154.5	11.42	14.521			
2,300.0	2,275.8	2,282.4	2,267.2	6.7	5.8	116.83	16.4	-266.5	175.7	163.7	12.01	14.630			
2,400.0	2,374.4	2,381.9	2,365.8	7.0	6.1	117.47	17.4	-279.6	185.5	172.9	12.59	14.731			
2,500.0	2,472.9	2,481.4	2,464.4	7.4	6.4	118.04	18.3	-292.8	195.4	182.2	13.18	14.826			
2,600.0	2,571.5	2,580.9	2,563.1	7.7	6.7	118.55	19.2	-305.9	205.2	191.5	13.76	14.914			
2,700.0	2,670.1	2,680.4	2,661.7	8.1	7.0	119.02	20.2	-319.0	215.1	200.8	14.34	14.997			
2,800.0	2,768.6	2,779.9	2,760.3	8.4	7.3	119.45	21.1	-332.2	225.0	210.1	14.93	15.074			
2,900.0	2,867.2	2,879.4	2,858.9	8.8	7.6	119.84	22.0	-345.3	234.9	219.4	15.51	15.147			
3,000.0	2,965.7	2,978.9	2,957.5	9.1	7.9	120.20	22.9	-358.4	244.8	228.7	16.09	15.215			
3,100.0	3,064.3	3,078.4	3,056.2	9.4	8.1	120.53	23.9	-371.6	254.8	238.1	16.67	15.279			
3,200.0	3,162.8	3,177.9	3,154.8	9.8	8.4	120.84	24.8	-384.7	264.7	247.4	17.26	15.339			
3,300.0	3,261.4	3,277.4	3,253.4	10.1	8.7	121.12	25.7	-397.8	274.6	256.8	17.84	15.396			
3,400.0	3,360.0	3,376.8	3,352.0	10.5	9.0	121.39	26.7	-411.0	284.6	266.2	18.42	15.450			
3,500.0	3,458.5	3,476.3	3,450.6	10.8	9.3	121.63	27.6	-424.1	294.5	275.5	19.00	15.501			
3,600.0	3,557.1	3,575.8	3,549.3	11.2	9.6	121.86	28.5	-437.2	304.5	284.9	19.58	15.550			
3,700.0	3,655.6	3,675.3	3,647.9	11.5	9.9	122.08	29.5	-450.4	314.4	294.3	20.16	15.596			
3,800.0	3,754.2	3,774.8	3,746.5	11.9	10.2	122.28	30.4	-463.5	324.4	303.7	20.74	15.639			
3,900.0	3,852.7	3,874.3	3,845.1	12.2	10.5	122.47	31.3	-476.6	334.4	313.0	21.32	15.681			
4,000.0	3,951.3	3,973.8	3,943.7	12.6	10.7	122.65	32.2	-489.8	344.3	322.4	21.90	15.720			
4,100.0	4,049.9	4,073.3	4,042.4	12.9	11.0	122.82	33.2	-502.9	354.3	331.8	22.48	15.758			
4,200.0	4,148.4	4,172.8	4,141.0	13.2	11.3	122.98	34.1	-516.0	364.3	341.2	23.07	15.794			
4,300.0	4,247.0	4,272.3	4,239.6	13.6	11.6	123.14	35.0	-529.2	374.3	350.6	23.65	15.828			
4,400.0	4,345.5	4,371.8	4,338.2	13.9	11.9	123.28	36.0	-542.3	384.2	360.0	24.23	15.861			
4,500.0	4,444.1	4,471.3	4,436.9	14.3	12.2	123.42	36.9	-555.4	394.2	369.4	24.81	15.892			
4,600.0	4,542.6	4,570.8	4,535.5	14.6	12.5	123.55	37.8	-568.6	404.2	378.8	25.39	15.922			
4,700.0	4,641.2	4,670.3	4,634.1	15.0	12.8	123.67	38.7	-581.7	414.2	388.2	25.97	15.951			
4,800.0	4,739.8	4,769.8	4,732.7	15.3	13.1	123.79	39.7	-594.8	424.2	397.7	26.55	15.979			
4,900.0	4,838.3	4,869.3	4,831.3	15.7	13.3	123.90	40.6	-608.0	434.2	407.1	27.13	16.005			
5,000.0	4,936.9	4,968.8	4,930.0	16.0	13.6	124.01	41.5	-621.1	444.2	416.5	27.71	16.031			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



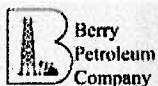
# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Berry Petroleum Company (NAD 83)	<b>Local Co-ordinate Reference:</b>	Well Chevron 1-14D (I01 697 Pad)
<b>Project:</b>	Garfield County	<b>TVD Reference:</b>	KBE @ 8361.0ft (Original Well Elev)
<b>Reference Site:</b>	Chevron I01 697 Pad	<b>MD Reference:</b>	KBE @ 8361.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Chevron 1-14D (I01 697 Pad)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users Db
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Chevron I01 697 Pad - Chevron 1-16D (I01 697 Pad) - DD - Plan #1														Offset Site Error:	0.0ft
Survey Program: 0-MWD														Offset Well Error:	0.0ft
Reference		Offset		Semi Major Axis		Distance									
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Total Uncertainty	Separation				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	Axis	Factor			Warning
5,100.0	5,035.4	5,068.3	5,028.6	16.4	13.9	124.11	42.5	-634.2	454.2	425.9	28.29	16.055			
5,200.0	5,134.0	5,167.8	5,127.2	16.7	14.2	124.21	43.4	-647.4	464.2	435.3	28.87	16.079			
5,300.0	5,232.5	5,267.3	5,225.8	17.0	14.5	124.30	44.3	-660.5	474.2	444.7	29.45	16.102			
5,400.0	5,331.1	5,366.8	5,324.4	17.4	14.8	124.39	45.3	-673.6	484.2	454.1	30.03	16.124			
5,500.0	5,429.7	5,466.3	5,423.1	17.7	15.1	124.48	46.2	-686.8	494.2	463.6	30.61	16.145			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

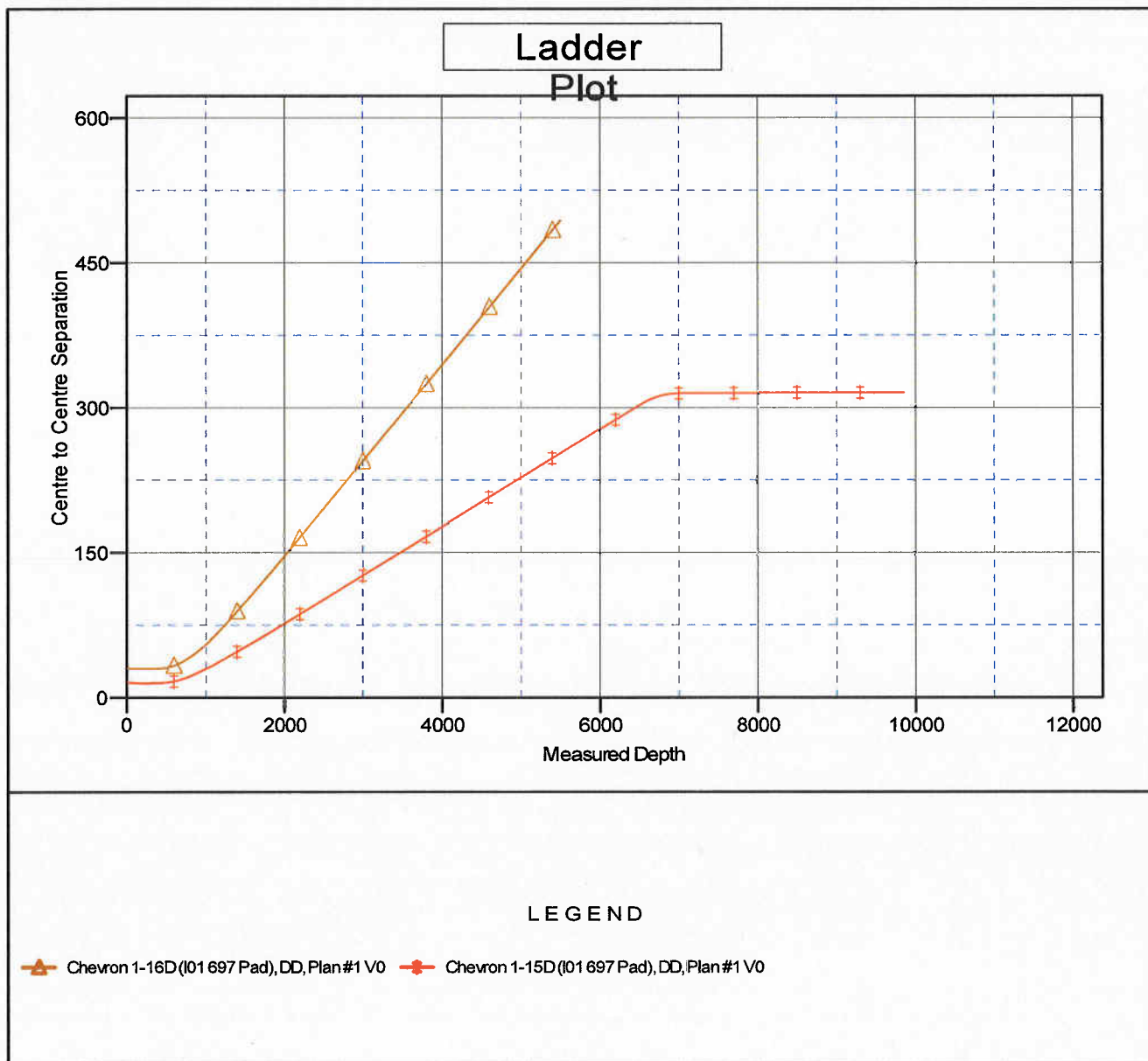


# Cathedral Energy Services

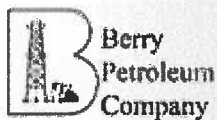
## Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Chevron 1-14D (I01 697 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8361.0ft (Original Well Elev)
Reference Site:	Chevron I01 697 Pad	MD Reference:	KBE @ 8361.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Chevron 1-14D (I01 697 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 5000.1 US Multi Users Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

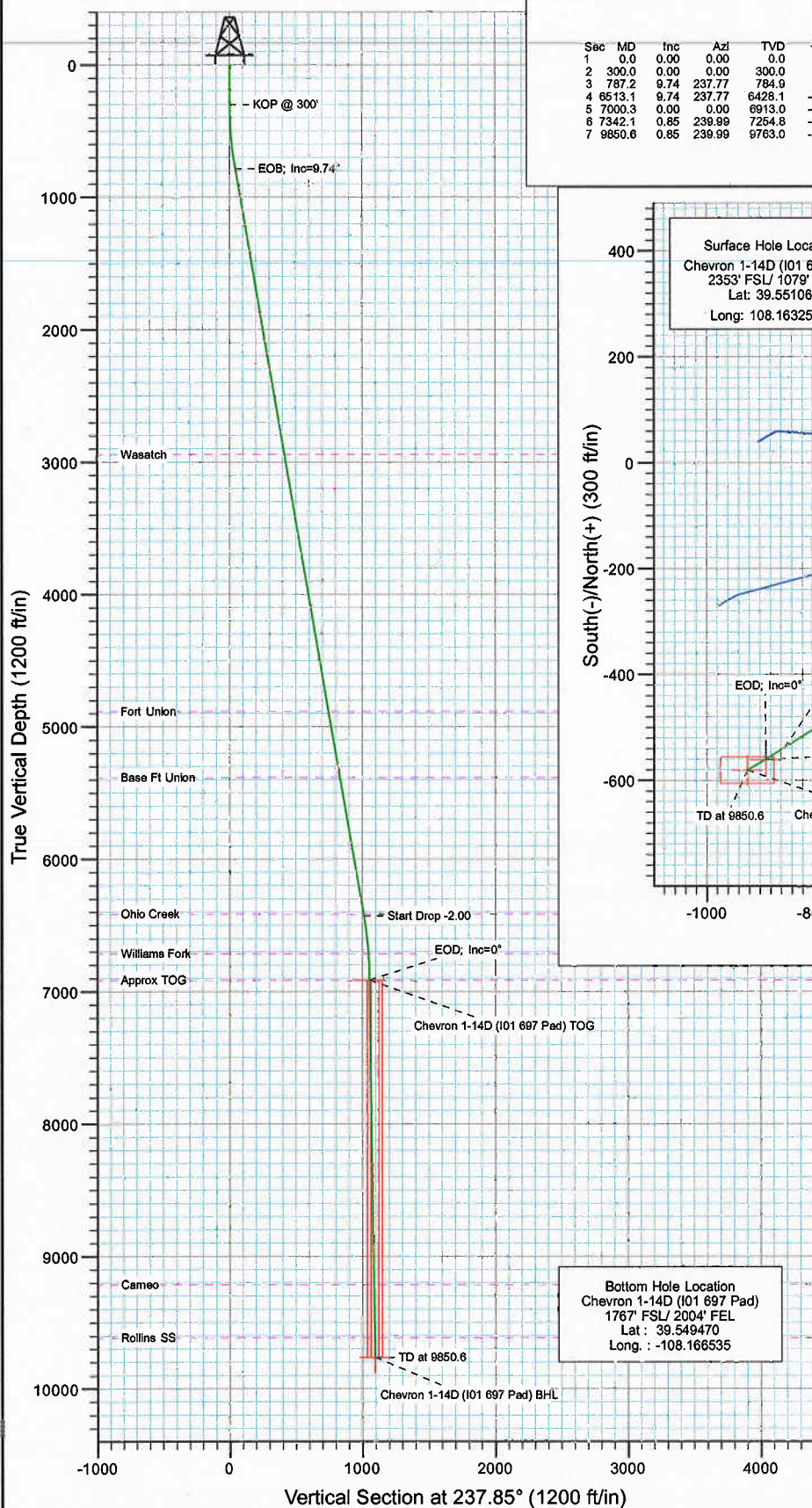
Reference Depths are relative to KBE @ 8361.0ft (Original Well Elev) Coordinates are relative to: Chevron 1-14D (I01 697 Pad)  
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Central Zone  
Central Meridian is -105.500000 ° Grid Convergence at Surface is: -1.68°





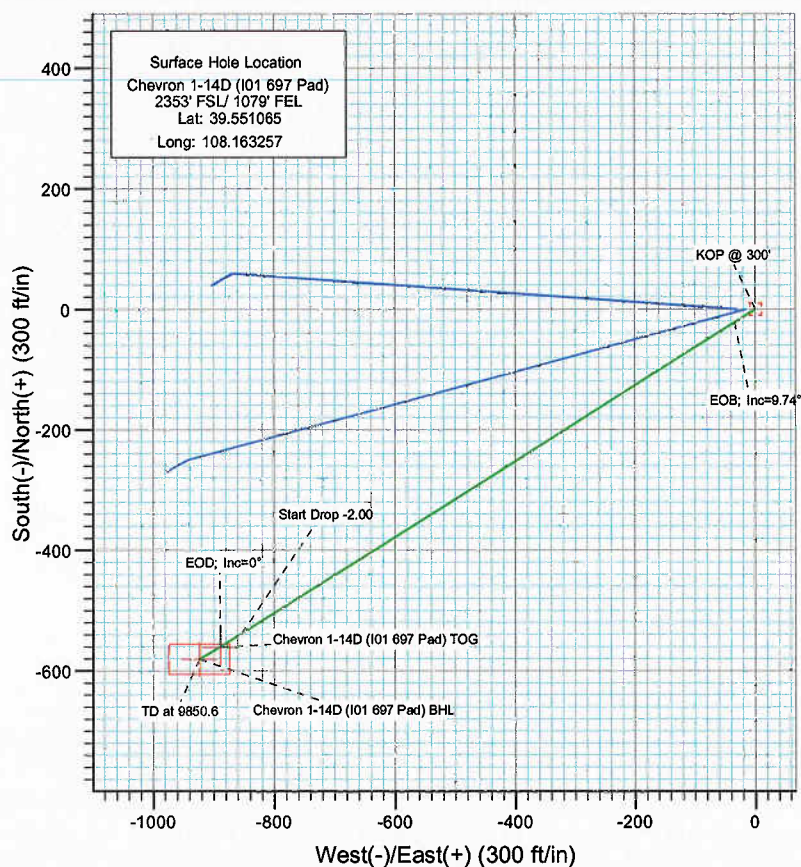


Project: Garfield County  
 Site: Chevron I01 697 Pad  
 Well: Chevron 1-14D (I01 697 Pad)  
 Wellbore: DD  
 Design: Plan #1



#### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	787.2	9.74	237.77	784.9	-22.0	-35.0	2.00	237.77	41.3	
4	6513.1	9.74	237.77	6428.1	-538.9	-854.8	0.00	0.00	1010.5	
5	7000.3	0.00	0.00	6913.0	-560.9	-889.7	2.00	180.00	1051.8	Chevron 1-14D (I01 697 Pad) TOG
6	7342.1	0.85	239.99	7254.8	-562.2	-892.0	0.25	239.99	1054.4	
7	9850.6	0.85	239.99	9763.0	-580.9	-924.4	0.00	0.00	1091.7	Chevron 1-14D (I01 697 Pad) BHL



Azimuths to True North  
 Magnetic North: 10.58°

Magnetic Field  
 Strength: 52399.4snT  
 Dip Angle: 65.80°  
 Date: 2/24/2010  
 Model: IGRF200510

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
2943.0	2976.9	Wasatch	0.00	
4883.0	4945.3	Fort Union	0.00	
5383.0	5452.7	Base Ft Union	0.00	
6413.0	6497.7	Ohio Creek	0.00	
6713.0	6800.1	Williams Fork	0.00	
6913.0	7000.3	Approx TOG	0.00	
9213.0	9300.5	Cameo	0.00	
9613.0	9700.6	Rollins SS	0.00	

#### DESIGN DETAILS: Plan #1

105XXX; BH  
 KBE @ 8361.0ft (Original Well Elev)

Target	Azimuth	Origin	N/S	E/W	From TVD
Chevron 1-14D (I01 697 Pad) BHL	237.85	Slot	0.0	0.0	0.0