







# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Project:</b>	Garfield County, CO	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>North Reference:</b>	True
<b>Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

<b>Project</b>	Garfield County, CO		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Colorado Central 502		

Site		S2-T7S-R97W (Puckett Pad)			
Site Position:		Northing:	609,295.75 usft	Latitude:	39.475700
From:	Lat/Long	Easting:	1,243,680.53 usft	Longitude:	-108.179625
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.69 °

Well	PUCKETT 13A-1					
Well Position	+N/-S	0.0 usft	Northing:	609,299.47 usft	Latitude:	39.475711
	+E/-W	0.0 usft	Easting:	1,243,689.96 usft	Longitude:	-108.179592
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	8,477.0 usft

<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>
	IGRF2010	9/22/2014	10.01	65.60	51,866

<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) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	116.75	

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
250.0	0.00	0.00	250.0	0.0	0.0	0.00	0.00	0.00	0.00	
665.7	12.47	116.75	662.4	-20.3	40.2	3.00	3.00	0.00	116.75	
7,117.1	12.47	116.75	6,961.6	-647.3	1,284.3	0.00	0.00	0.00	0.00	
7,532.8	0.00	0.00	7,374.0	-667.6	1,324.5	3.00	-3.00	0.00	180.00	PUCKETT 13A-1 TG1
9,042.8	0.00	0.00	8,884.0	-667.6	1,324.5	0.00	0.00	0.00	0.00	PUCKETT 13A-1 BHL

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<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Project:</b>	Garfield County, CO	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>North Reference:</b>	True
<b>Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
250.0	0.00	0.00	250.0	0.0	0.0	0.0	0.00	0.00	KOP @ 250'
300.0	1.50	116.75	300.0	-0.3	0.6	0.7	3.00	3.00	
400.0	4.50	116.75	399.8	-2.6	5.3	5.9	3.00	3.00	
500.0	7.50	116.75	499.3	-7.4	14.6	16.3	3.00	3.00	
600.0	10.50	116.75	598.0	-14.4	28.6	32.0	3.00	3.00	
665.7	12.47	116.75	662.4	-20.3	40.2	45.1	3.00	3.00	EOB @ 12.47° INC
700.0	12.47	116.75	695.9	-23.6	46.9	52.5	0.00	0.00	
800.0	12.47	116.75	793.6	-33.3	66.1	74.1	0.00	0.00	
900.0	12.47	116.75	891.2	-43.1	85.4	95.7	0.00	0.00	
1,000.0	12.47	116.75	988.8	-52.8	104.7	117.3	0.00	0.00	
1,100.0	12.47	116.75	1,086.5	-62.5	124.0	138.8	0.00	0.00	
1,200.0	12.47	116.75	1,184.1	-72.2	143.3	160.4	0.00	0.00	
1,300.0	12.47	116.75	1,281.8	-81.9	162.6	182.0	0.00	0.00	
1,400.0	12.47	116.75	1,379.4	-91.7	181.8	203.6	0.00	0.00	
1,500.0	12.47	116.75	1,477.0	-101.4	201.1	225.2	0.00	0.00	
1,600.0	12.47	116.75	1,574.7	-111.1	220.4	246.8	0.00	0.00	
1,700.0	12.47	116.75	1,672.3	-120.8	239.7	268.4	0.00	0.00	
1,800.0	12.47	116.75	1,770.0	-130.5	259.0	290.0	0.00	0.00	
1,900.0	12.47	116.75	1,867.6	-140.2	278.3	311.6	0.00	0.00	
2,000.0	12.47	116.75	1,965.2	-150.0	297.5	333.2	0.00	0.00	
2,100.0	12.47	116.75	2,062.9	-159.7	316.8	354.8	0.00	0.00	
2,200.0	12.47	116.75	2,160.5	-169.4	336.1	376.4	0.00	0.00	
2,300.0	12.47	116.75	2,258.2	-179.1	355.4	398.0	0.00	0.00	
2,400.0	12.47	116.75	2,355.8	-188.8	374.7	419.6	0.00	0.00	
2,500.0	12.47	116.75	2,453.4	-198.6	394.0	441.2	0.00	0.00	
2,600.0	12.47	116.75	2,551.1	-208.3	413.2	462.8	0.00	0.00	
2,700.0	12.47	116.75	2,648.7	-218.0	432.5	484.4	0.00	0.00	
2,800.0	12.47	116.75	2,746.4	-227.7	451.8	506.0	0.00	0.00	
2,900.0	12.47	116.75	2,844.0	-237.4	471.1	527.5	0.00	0.00	
3,000.0	12.47	116.75	2,941.6	-247.2	490.4	549.1	0.00	0.00	
3,100.0	12.47	116.75	3,039.3	-256.9	509.7	570.7	0.00	0.00	
3,200.0	12.47	116.75	3,136.9	-266.6	528.9	592.3	0.00	0.00	
3,300.0	12.47	116.75	3,234.6	-276.3	548.2	613.9	0.00	0.00	
3,400.0	12.47	116.75	3,332.2	-286.0	567.5	635.5	0.00	0.00	
3,500.0	12.47	116.75	3,429.9	-295.8	586.8	657.1	0.00	0.00	
3,600.0	12.47	116.75	3,527.5	-305.5	606.1	678.7	0.00	0.00	
3,700.0	12.47	116.75	3,625.1	-315.2	625.4	700.3	0.00	0.00	
3,800.0	12.47	116.75	3,722.8	-324.9	644.6	721.9	0.00	0.00	
3,900.0	12.47	116.75	3,820.4	-334.6	663.9	743.5	0.00	0.00	
4,000.0	12.47	116.75	3,918.1	-344.4	683.2	765.1	0.00	0.00	
4,100.0	12.47	116.75	4,015.7	-354.1	702.5	786.7	0.00	0.00	
4,200.0	12.47	116.75	4,113.3	-363.8	721.8	808.3	0.00	0.00	
4,300.0	12.47	116.75	4,211.0	-373.5	741.1	829.9	0.00	0.00	
4,400.0	12.47	116.75	4,308.6	-383.2	760.3	851.5	0.00	0.00	
4,500.0	12.47	116.75	4,406.3	-392.9	779.6	873.1	0.00	0.00	
4,600.0	12.47	116.75	4,503.9	-402.7	798.9	894.7	0.00	0.00	
4,700.0	12.47	116.75	4,601.5	-412.4	818.2	916.2	0.00	0.00	
4,800.0	12.47	116.75	4,699.2	-422.1	837.5	937.8	0.00	0.00	
4,900.0	12.47	116.75	4,796.8	-431.8	856.8	959.4	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Project:</b>	Garfield County, CO	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>North Reference:</b>	True
<b>Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DD		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
5,000.0	12.47	116.75	4,894.5	-441.5	876.0	981.0	0.00	0.00	
5,100.0	12.47	116.75	4,992.1	-451.3	895.3	1,002.6	0.00	0.00	
5,200.0	12.47	116.75	5,089.7	-461.0	914.6	1,024.2	0.00	0.00	
5,300.0	12.47	116.75	5,187.4	-470.7	933.9	1,045.8	0.00	0.00	
5,400.0	12.47	116.75	5,285.0	-480.4	953.2	1,067.4	0.00	0.00	
5,500.0	12.47	116.75	5,382.7	-490.1	972.5	1,089.0	0.00	0.00	
5,600.0	12.47	116.75	5,480.3	-499.9	991.8	1,110.6	0.00	0.00	
5,700.0	12.47	116.75	5,577.9	-509.6	1,011.0	1,132.2	0.00	0.00	
5,800.0	12.47	116.75	5,675.6	-519.3	1,030.3	1,153.8	0.00	0.00	
5,900.0	12.47	116.75	5,773.2	-529.0	1,049.6	1,175.4	0.00	0.00	
6,000.0	12.47	116.75	5,870.9	-538.7	1,068.9	1,197.0	0.00	0.00	
6,074.9	12.47	116.75	5,944.0	-546.0	1,083.3	1,213.2	0.00	0.00	OHIOCREEK
6,100.0	12.47	116.75	5,968.5	-548.5	1,088.2	1,218.6	0.00	0.00	
6,200.0	12.47	116.75	6,066.1	-558.2	1,107.5	1,240.2	0.00	0.00	
6,300.0	12.47	116.75	6,163.8	-567.9	1,126.7	1,261.8	0.00	0.00	
6,400.0	12.47	116.75	6,261.4	-577.6	1,146.0	1,283.4	0.00	0.00	
6,500.0	12.47	116.75	6,359.1	-587.3	1,165.3	1,304.9	0.00	0.00	
6,571.6	12.47	116.75	6,429.0	-594.3	1,179.1	1,320.4	0.00	0.00	WILLIAMS FORK
6,600.0	12.47	116.75	6,456.7	-597.1	1,184.6	1,326.5	0.00	0.00	
6,700.0	12.47	116.75	6,554.3	-606.8	1,203.9	1,348.1	0.00	0.00	
6,800.0	12.47	116.75	6,652.0	-616.5	1,223.2	1,369.7	0.00	0.00	
6,900.0	12.47	116.75	6,749.6	-626.2	1,242.4	1,391.3	0.00	0.00	
7,000.0	12.47	116.75	6,847.3	-635.9	1,261.7	1,412.9	0.00	0.00	
7,100.0	12.47	116.75	6,944.9	-645.7	1,281.0	1,434.5	0.00	0.00	
7,117.1	12.47	116.75	6,961.6	-647.3	1,284.3	1,438.2	0.00	0.00	Start 3° Drop
7,200.0	9.98	116.75	7,042.9	-654.6	1,298.7	1,454.3	3.00	-3.00	
7,300.0	6.98	116.75	7,141.8	-661.2	1,311.9	1,469.1	3.00	-3.00	
7,400.0	3.98	116.75	7,241.3	-665.5	1,320.4	1,478.7	3.00	-3.00	
7,500.0	0.98	116.75	7,341.2	-667.5	1,324.3	1,483.0	3.00	-3.00	
7,532.8	0.00	0.00	7,374.0	-667.6	1,324.5	1,483.3	3.00	-3.00	EOD @ 0° INC - TOG
7,600.0	0.00	0.00	7,441.2	-667.6	1,324.5	1,483.3	0.00	0.00	
7,700.0	0.00	0.00	7,541.2	-667.6	1,324.5	1,483.3	0.00	0.00	
7,800.0	0.00	0.00	7,641.2	-667.6	1,324.5	1,483.3	0.00	0.00	
7,900.0	0.00	0.00	7,741.2	-667.6	1,324.5	1,483.3	0.00	0.00	
8,000.0	0.00	0.00	7,841.2	-667.6	1,324.5	1,483.3	0.00	0.00	
8,100.0	0.00	0.00	7,941.2	-667.6	1,324.5	1,483.3	0.00	0.00	
8,200.0	0.00	0.00	8,041.2	-667.6	1,324.5	1,483.3	0.00	0.00	
8,300.0	0.00	0.00	8,141.2	-667.6	1,324.5	1,483.3	0.00	0.00	
8,400.0	0.00	0.00	8,241.2	-667.6	1,324.5	1,483.3	0.00	0.00	
8,500.0	0.00	0.00	8,341.2	-667.6	1,324.5	1,483.3	0.00	0.00	
8,512.8	0.00	0.00	8,354.0	-667.6	1,324.5	1,483.3	0.00	0.00	CAMEO
8,600.0	0.00	0.00	8,441.2	-667.6	1,324.5	1,483.3	0.00	0.00	
8,700.0	0.00	0.00	8,541.2	-667.6	1,324.5	1,483.3	0.00	0.00	
8,800.0	0.00	0.00	8,641.2	-667.6	1,324.5	1,483.3	0.00	0.00	
8,892.8	0.00	0.00	8,734.0	-667.6	1,324.5	1,483.3	0.00	0.00	ROLLINS
8,900.0	0.00	0.00	8,741.2	-667.6	1,324.5	1,483.3	0.00	0.00	
9,000.0	0.00	0.00	8,841.2	-667.6	1,324.5	1,483.3	0.00	0.00	
9,042.8	0.00	0.00	8,884.0	-667.6	1,324.5	1,483.3	0.00	0.00	TD @ 9,042.8' MD

# Cathedral Energy Services

## Planning Report

**Database:** USA EDM 5000 Multi Users DB  
**Company:** Caerus Oil & Gas (NAD 27)  
**Project:** Garfield County, CO  
**Site:** S2-T7S-R97W (Puckett Pad)  
**Well:** PUCKETT 13A-1  
**Wellbore:** DD  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well PUCKETT 13A-1  
**TVD Reference:** KB=22' @ 8499.0usft  
**MD Reference:** KB=22' @ 8499.0usft  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

### Targets

#### Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PUCKETT 13A-1 TGT - plan hits target center - Point	0.00	0.00	7,374.0	-667.6	1,324.5	608,593.11	1,244,994.23	39.473878	-108.174900
PUCKETT 13A-1 BHL - plan hits target center - Circle (radius 50.0)	0.00	0.00	8,884.0	-667.6	1,324.5	608,593.11	1,244,994.23	39.473878	-108.174900

### Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,074.9	5,944.0	OHIOCREEK			
6,571.6	6,429.0	WILLIAMS FORK			
7,532.8	7,374.0	TOG			
8,512.8	8,354.0	CAMEO			
8,892.8	8,734.0	ROLLINS			

### Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
250.0	250.0	0.0	0.0	KOP @ 250'
665.7	662.4	-20.3	40.2	EOB @ 12.47° INC
7,117.1	6,961.6	-647.3	1,284.3	Start 3° Drop
7,532.8	7,374.0	-667.6	1,324.5	EOD @ 0° INC
9,042.8	8,884.0	-667.6	1,324.5	TD @ 9,042.8' MD

# **Caerus Oil & Gas (NAD 27)**

**Garfield County, CO**

**S2-T7S-R97W (Puckett Pad)**

**PUCKETT 13A-1**

**DD**

**Plan #1**

## **Anticollision Report**

**22 September, 2014**



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 200.0usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b>	9/22/2014		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	9,042.8	Plan #1 (DD)	ISCWSA MWD	MWD - Standard

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

### Summary

Site Name Offset Well - Wellbore - Design	Reference	Offset	Distance		Separation Factor	Warning
	Measured Depth (usft)	Measured Depth (usft)	Between Centres (usft)	Between Ellipses (usft)		
S2-T7S-R97W (Puckett Pad)						
PUCKETT 11D-1 - DD - Plan #1	200.0	200.0	39.9	39.3	63.909	CC, ES
PUCKETT 11D-1 - DD - Plan #1	500.0	496.0	60.8	58.6	27.837	SF
PUCKETT 12A-1 - DD - Plan #1	200.0	200.0	32.3	31.7	51.770	CC
PUCKETT 12A-1 - DD - Plan #1	227.9	227.9	32.4	31.7	43.266	ES
PUCKETT 12A-1 - DD - Plan #1	500.0	498.4	47.7	45.6	22.219	SF
PUCKETT 12B-1 - DD - Plan #1	200.0	200.0	24.4	23.8	39.100	CC
PUCKETT 12B-1 - DD - Plan #1	228.2	228.2	24.5	23.8	32.640	ES
PUCKETT 12B-1 - DD - Plan #1	500.0	500.3	35.4	33.3	16.611	SF
PUCKETT 12C-1 - DD - Plan #1	200.0	200.0	16.5	15.9	26.423	CC
PUCKETT 12C-1 - DD - Plan #1	228.5	228.5	16.6	15.8	22.058	ES
PUCKETT 12C-1 - DD - Plan #1	2,400.0	2,395.1	195.0	177.7	11.257	SF
PUCKETT 12D-1 - DD - Plan #1	200.0	200.0	8.6	8.0	13.753	CC
PUCKETT 12D-1 - DD - Plan #1	229.1	229.1	8.7	7.9	11.495	ES
PUCKETT 12D-1 - DD - Plan #1	5,500.0	5,498.7	197.1	156.4	4.845	SF
PUCKETT 13B-1 - DD - Plan #1	200.0	200.0	7.6	7.0	12.139	CC, ES
PUCKETT 13B-1 - DD - Plan #1	700.0	696.7	20.4	17.0	6.086	SF
PUCKETT 13C-1 - DD - Plan #1	155.9	155.9	12.2	11.7	28.520	CC
PUCKETT 13C-1 - DD - Plan #1	200.0	200.0	12.2	11.6	19.701	ES
PUCKETT 13C-1 - DD - Plan #1	3,100.0	3,091.0	193.6	170.1	8.244	SF
PUCKETT 41A-2 - DD - Plan #1	200.0	200.0	48.5	47.9	77.647	CC, ES
PUCKETT 41A-2 - DD - Plan #1	500.0	490.5	78.3	76.1	35.435	SF
PUCKETT 41B-2 - DD - Plan #1	144.4	144.4	56.8	56.4	151.367	CC, ES
PUCKETT 41B-2 - DD - Plan #1	500.0	484.6	98.3	96.0	43.219	SF
PUCKETT 41C-2 - DD - Plan #1	200.0	200.0	49.6	49.0	79.435	CC
PUCKETT 41C-2 - DD - Plan #1	200.9	200.9	49.6	49.0	78.843	ES
PUCKETT 41C-2 - DD - Plan #1	500.0	490.4	79.9	77.7	35.416	SF
PUCKETT 41D-2 - DD - Plan #1	155.6	155.6	57.6	57.1	135.398	CC
PUCKETT 41D-2 - DD - Plan #1	200.0	199.3	57.7	57.1	92.615	ES
PUCKETT 41D-2 - DD - Plan #1	500.0	485.3	98.1	95.8	42.518	SF
PUCKETT 42A-2 - DD - Plan #1	200.0	200.0	41.4	40.7	66.193	CC
PUCKETT 42A-2 - DD - Plan #1	237.7	237.7	41.5	40.7	52.216	ES
PUCKETT 42A-2 - DD - Plan #1	500.0	492.0	69.2	67.0	30.579	SF
PUCKETT 42B-2 - DD - Plan #1	200.0	200.0	34.1	33.4	54.508	CC
PUCKETT 42B-2 - DD - Plan #1	227.9	227.9	34.2	33.4	45.517	ES
PUCKETT 42B-2 - DD - Plan #1	400.0	398.3	41.0	39.4	25.117	SF
PUCKETT 42C-2 - DD - Plan #1	200.0	200.0	26.1	25.4	41.695	CC
PUCKETT 42C-2 - DD - Plan #1	227.9	227.9	26.2	25.4	34.846	ES
PUCKETT 42C-2 - DD - Plan #1	400.0	399.5	31.8	30.2	19.516	SF
PUCKETT 42D-2 - DD - Plan #1	200.0	200.0	19.2	18.6	30.723	CC
PUCKETT 42D-2 - DD - Plan #1	227.8	227.8	19.3	18.5	25.715	ES
PUCKETT 42D-2 - DD - Plan #1	400.0	399.4	25.7	24.1	15.762	SF
PUCKETT 43A-2 - DD - Plan #1	200.0	200.0	13.1	12.4	20.887	CC
PUCKETT 43A-2 - DD - Plan #1	232.8	232.8	13.2	12.4	17.051	ES
PUCKETT 43A-2 - DD - Plan #1	300.0	299.9	13.8	12.7	12.697	SF
PUCKETT 43B-2 - DD - Plan #1	200.0	200.0	10.1	9.5	16.226	CC
PUCKETT 43B-2 - DD - Plan #1	200.4	200.4	10.1	9.5	16.167	ES
PUCKETT 43B-2 - DD - Plan #1	300.0	299.6	11.7	10.7	11.039	SF

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> S2-T7S-R97W (Puckett Pad) - PUCKETT 11D-1 - DD - Plan #1													<b>Offset Site Error:</b>	0.0 usft
Survey Program: 0-ISCWSA MWD													<b>Offset Well Error:</b>	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-24.20	36.4	-16.4	39.9					
100.0	100.0	100.0	100.0	0.1	0.1	-24.20	36.4	-16.4	39.9	39.8	0.18	227.780		
200.0	200.0	200.0	200.0	0.3	0.3	-24.20	36.4	-16.4	39.9	39.3	0.62	63.909 CC, ES		
300.0	300.0	299.3	299.3	0.5	0.5	-138.08	38.1	-14.4	41.3	40.2	1.08	38.235		
400.0	399.8	398.1	397.8	0.7	0.8	-133.43	43.2	-8.7	48.0	46.4	1.60	30.044		
500.0	499.3	496.0	494.8	1.0	1.1	-129.30	51.6	0.7	60.8	58.6	2.18	27.837 SF		
600.0	598.0	592.4	589.6	1.3	1.4	-126.27	63.1	13.7	79.4	76.5	2.84	27.943		
700.0	695.9	687.1	681.9	1.7	1.8	-124.26	77.5	29.8	103.5	99.9	3.57	29.017		
800.0	793.6	783.7	775.4	2.1	2.3	-122.83	93.5	47.8	129.4	125.1	4.32	29.989		
900.0	891.2	880.2	868.8	2.6	2.7	-121.88	109.5	65.9	155.4	150.3	5.10	30.489		
1,000.0	988.8	976.7	962.3	3.0	3.2	-121.21	125.5	83.9	181.5	175.6	5.90	30.743		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 12A-1 - DD - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-ISWWSA MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-24.21	29.5	-13.3	32.3					
100.0	100.0	100.0	100.0	0.1	0.1	-24.21	29.5	-13.3	32.3	32.2	0.18	184.515		
200.0	200.0	200.0	200.0	0.3	0.3	-24.21	29.5	-13.3	32.3	31.7	0.62	51.770 CC		
227.9	227.9	227.9	227.9	0.4	0.4	-141.08	29.5	-13.3	32.4	31.7	0.75	43.266 ES		
300.0	300.0	299.9	299.9	0.5	0.5	-140.55	29.9	-12.7	33.0	31.9	1.08	30.579		
400.0	399.8	399.4	399.3	0.7	0.8	-137.69	32.6	-8.3	37.8	36.2	1.58	23.918		
500.0	499.3	498.4	497.7	1.0	1.0	-133.71	38.2	0.3	47.7	45.6	2.15	22.219 SF		
600.0	598.0	596.3	594.5	1.3	1.3	-130.04	46.3	13.2	62.7	59.9	2.79	22.511		
700.0	695.9	693.0	689.1	1.7	1.7	-127.14	57.0	29.9	82.6	79.1	3.50	23.629		
800.0	793.6	790.5	783.8	2.1	2.1	-124.61	69.1	49.0	104.3	100.1	4.24	24.585		
900.0	891.2	888.0	878.7	2.6	2.6	-122.94	81.3	68.2	126.2	121.2	5.03	25.064		
1,000.0	988.8	985.5	973.5	3.0	3.0	-121.77	93.5	87.4	148.1	142.3	5.85	25.314		
1,100.0	1,086.5	1,083.1	1,068.4	3.5	3.5	-120.90	105.7	106.6	170.1	163.4	6.68	25.448		
1,200.0	1,184.1	1,180.6	1,163.2	4.0	3.9	-120.23	117.9	125.7	192.1	184.5	7.53	25.524		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 12B-1 - DD - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-ISCSWA MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-24.58	22.2	-10.2	24.4					
100.0	100.0	100.0	100.0	0.1	0.1	-24.58	22.2	-10.2	24.4	24.3	0.18	139.358		
200.0	200.0	200.0	200.0	0.3	0.3	-24.58	22.2	-10.2	24.4	23.8	0.62	39.100 CC		
228.2	228.2	228.2	228.2	0.4	0.4	-141.48	22.2	-10.2	24.5	23.8	0.75	32.640 ES		
300.0	300.0	300.0	300.0	0.5	0.5	-142.26	22.2	-10.2	24.9	23.9	1.08	23.082		
400.0	399.8	400.2	400.2	0.7	0.8	-143.46	22.9	-7.6	28.6	27.0	1.58	18.055		
500.0	499.3	500.3	499.9	1.0	1.0	-140.96	24.9	0.0	35.4	33.3	2.13	16.611 SF		
600.0	598.0	600.0	598.8	1.3	1.3	-136.95	28.2	12.6	45.5	42.8	2.74	16.613		
700.0	695.9	699.2	696.3	1.7	1.6	-132.77	32.8	30.0	58.9	55.4	3.41	17.260		
800.0	793.6	798.1	793.2	2.1	2.0	-129.39	37.8	49.2	73.1	69.0	4.12	17.742		
900.0	891.2	897.0	890.1	2.6	2.4	-127.11	42.9	68.5	87.6	82.7	4.89	17.901		
1,000.0	988.8	995.9	987.0	3.0	2.8	-125.49	48.0	87.7	102.2	96.5	5.70	17.933		
1,100.0	1,086.5	1,094.8	1,083.8	3.5	3.2	-124.27	53.0	106.9	116.8	110.3	6.52	17.912		
1,200.0	1,184.1	1,193.7	1,180.7	4.0	3.6	-123.32	58.1	126.2	131.4	124.1	7.35	17.873		
1,300.0	1,281.8	1,292.6	1,277.6	4.4	4.1	-122.56	63.1	145.4	146.1	137.9	8.20	17.828		
1,400.0	1,379.4	1,391.5	1,374.5	4.9	4.5	-121.94	68.2	164.7	160.8	151.8	9.04	17.783		
1,500.0	1,477.0	1,490.4	1,471.3	5.4	4.9	-121.42	73.2	183.9	175.5	165.7	9.90	17.741		
1,600.0	1,574.7	1,589.3	1,568.2	5.8	5.3	-120.99	78.3	203.1	190.3	179.5	10.75	17.701		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 12C-1 - DD - Plan #1												Offset Site Error: 0.0 usft	
Survey Program: 0-ISCWSA MWD												Offset Well Error: 0.0 usft	
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	-22.10	15.3	-6.2	16.5				
100.0	100.0	100.0	100.0	0.1	0.1	-22.10	15.3	-6.2	16.5	16.3	0.18	94.173	
200.0	200.0	200.0	200.0	0.3	0.3	-22.10	15.3	-6.2	16.5	15.9	0.62	26.423 CC	
228.5	228.5	228.5	228.5	0.4	0.4	-139.08	15.3	-6.2	16.6	15.8	0.75	22.058 ES	
300.0	300.0	300.0	300.0	0.5	0.5	-140.29	15.3	-6.2	17.0	15.9	1.08	15.749	
400.0	399.8	400.1	400.1	0.7	0.8	-147.79	15.3	-5.6	20.9	19.3	1.59	13.142	
500.0	499.3	500.7	500.5	1.0	1.0	-150.17	15.1	-0.3	27.0	24.8	2.14	12.603	
600.0	598.0	601.3	600.6	1.3	1.2	-148.71	14.8	10.3	34.6	31.8	2.72	12.692	
700.0	695.9	702.0	700.0	1.7	1.5	-145.38	14.4	26.1	43.5	40.2	3.32	13.114	
800.0	793.6	801.8	797.9	2.1	1.9	-140.36	13.9	45.5	51.7	47.8	3.94	13.137	
900.0	891.2	901.4	895.6	2.6	2.3	-136.61	13.3	65.0	60.2	55.5	4.65	12.940	
1,000.0	988.8	1,001.0	993.2	3.0	2.7	-133.79	12.8	84.5	68.8	63.4	5.41	12.704	
1,100.0	1,086.5	1,100.6	1,090.9	3.5	3.1	-131.61	12.3	103.9	77.5	71.3	6.21	12.480	
1,200.0	1,184.1	1,200.1	1,188.5	4.0	3.5	-129.86	11.7	123.4	86.4	79.4	7.03	12.283	
1,300.0	1,281.8	1,299.7	1,286.2	4.4	3.9	-128.45	11.2	142.9	95.3	87.4	7.87	12.114	
1,400.0	1,379.4	1,399.3	1,383.8	4.9	4.3	-127.27	10.7	162.4	104.3	95.5	8.71	11.970	
1,500.0	1,477.0	1,498.9	1,481.5	5.4	4.8	-126.28	10.1	181.9	113.3	103.7	9.56	11.847	
1,600.0	1,574.7	1,598.4	1,579.1	5.8	5.2	-125.44	9.6	201.4	122.3	111.9	10.41	11.742	
1,700.0	1,672.3	1,698.0	1,676.8	6.3	5.6	-124.71	9.1	220.8	131.3	120.1	11.27	11.651	
1,800.0	1,770.0	1,797.6	1,774.4	6.8	6.0	-124.08	8.5	240.3	140.4	128.3	12.13	11.571	
1,900.0	1,867.6	1,897.2	1,872.1	7.2	6.5	-123.53	8.0	259.8	149.5	136.5	13.00	11.502	
2,000.0	1,965.2	1,996.7	1,969.7	7.7	6.9	-123.03	7.5	279.3	158.6	144.7	13.86	11.441	
2,100.0	2,062.9	2,096.3	2,067.4	8.2	7.3	-122.59	6.9	298.8	167.7	152.9	14.72	11.387	
2,200.0	2,160.5	2,195.9	2,165.0	8.6	7.7	-122.20	6.4	318.3	176.8	161.2	15.59	11.339	
2,300.0	2,258.2	2,295.5	2,262.7	9.1	8.2	-121.85	5.9	337.7	185.9	169.4	16.46	11.296	
2,400.0	2,355.8	2,395.1	2,360.3	9.6	8.6	-121.52	5.3	357.2	195.0	177.7	17.33	11.257 SF	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 12D-1 - DD - Plan #1													Offset Site Error: 0.0 usft	
Survey Program: 0-ISCSWA MWD													Offset Well Error: 0.0 usft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-21.18	8.0	-3.1	8.6					
100.0	100.0	100.0	100.0	0.1	0.1	-21.18	8.0	-3.1	8.6	8.4	0.18	49.018		
200.0	200.0	200.0	200.0	0.3	0.3	-21.18	8.0	-3.1	8.6	8.0	0.62	13.753 CC		
229.1	229.1	229.1	229.1	0.4	0.4	-138.42	8.0	-3.1	8.7	7.9	0.75	11.495 ES		
300.0	300.0	300.0	300.0	0.5	0.5	-140.69	8.0	-3.1	9.1	8.0	1.08	8.416		
400.0	399.8	400.3	400.3	0.7	0.8	-147.54	7.2	-0.6	11.5	9.9	1.58	7.248		
500.0	499.3	500.8	500.5	1.0	1.0	-149.32	4.7	6.9	14.3	12.2	2.12	6.754		
600.0	598.0	601.4	600.2	1.3	1.3	-148.33	0.6	19.4	17.7	15.0	2.71	6.516		
700.0	695.9	701.9	699.0	1.7	1.6	-145.80	-5.1	36.7	21.3	18.0	3.31	6.438		
800.0	793.6	801.8	797.0	2.1	2.0	-143.22	-11.3	55.3	24.8	20.9	3.90	6.365		
900.0	891.2	901.8	895.0	2.6	2.4	-141.30	-17.4	73.9	28.4	23.8	4.55	6.237		
1,000.0	988.8	1,001.7	993.0	3.0	2.8	-139.80	-23.5	92.5	32.0	26.7	5.25	6.100		
1,100.0	1,086.5	1,101.6	1,091.0	3.5	3.2	-138.61	-29.6	111.1	35.6	29.6	5.96	5.971		
1,200.0	1,184.1	1,201.6	1,189.0	4.0	3.6	-137.63	-35.8	129.6	39.2	32.5	6.70	5.855		
1,300.0	1,281.8	1,301.5	1,287.0	4.4	4.1	-136.82	-41.9	148.2	42.9	35.4	7.45	5.754		
1,400.0	1,379.4	1,401.4	1,385.0	4.9	4.5	-136.14	-48.0	166.8	46.5	38.3	8.21	5.666		
1,500.0	1,477.0	1,501.4	1,483.0	5.4	4.9	-135.56	-54.1	185.4	50.2	41.2	8.98	5.588		
1,600.0	1,574.7	1,601.3	1,581.0	5.8	5.4	-135.06	-60.2	203.9	53.8	44.1	9.75	5.520		
1,700.0	1,672.3	1,701.2	1,679.0	6.3	5.8	-134.62	-66.4	222.5	57.5	46.9	10.52	5.460		
1,800.0	1,770.0	1,801.2	1,777.0	6.8	6.2	-134.23	-72.5	241.1	61.1	49.8	11.30	5.408		
1,900.0	1,867.6	1,901.1	1,875.0	7.2	6.7	-133.89	-78.6	259.7	64.8	52.7	12.09	5.360		
2,000.0	1,965.2	2,001.0	1,973.0	7.7	7.1	-133.58	-84.7	278.2	68.5	55.6	12.87	5.318		
2,100.0	2,062.9	2,101.0	2,071.0	8.2	7.5	-133.31	-90.9	296.8	72.1	58.5	13.66	5.280		
2,200.0	2,160.5	2,200.9	2,169.0	8.6	8.0	-133.06	-97.0	315.4	75.8	61.3	14.45	5.246		
2,300.0	2,258.2	2,300.8	2,267.0	9.1	8.4	-132.83	-103.1	334.0	79.5	64.2	15.23	5.215		
2,400.0	2,355.8	2,400.8	2,365.0	9.6	8.8	-132.62	-109.2	352.5	83.1	67.1	16.03	5.187		
2,500.0	2,453.4	2,500.7	2,463.0	10.1	9.3	-132.44	-115.4	371.1	86.8	70.0	16.82	5.161		
2,600.0	2,551.1	2,600.6	2,561.0	10.5	9.7	-132.26	-121.5	389.7	90.5	72.9	17.61	5.138		
2,700.0	2,648.7	2,700.6	2,659.0	11.0	10.1	-132.10	-127.6	408.3	94.1	75.7	18.40	5.116		
2,800.0	2,746.4	2,800.5	2,757.0	11.5	10.6	-131.96	-133.7	426.9	97.8	78.6	19.19	5.096		
2,900.0	2,844.0	2,900.4	2,855.0	11.9	11.0	-131.82	-139.9	445.4	101.5	81.5	19.99	5.077		
3,000.0	2,941.6	3,000.4	2,953.0	12.4	11.4	-131.69	-146.0	464.0	105.2	84.4	20.78	5.060		
3,100.0	3,039.3	3,100.3	3,051.0	12.9	11.9	-131.57	-152.1	482.6	108.8	87.3	21.58	5.044		
3,200.0	3,136.9	3,200.2	3,149.0	13.4	12.3	-131.46	-158.2	501.2	112.5	90.1	22.37	5.029		
3,300.0	3,234.6	3,300.2	3,247.0	13.8	12.7	-131.36	-164.4	519.7	116.2	93.0	23.17	5.015		
3,400.0	3,332.2	3,400.1	3,345.0	14.3	13.2	-131.26	-170.5	538.3	119.9	95.9	23.96	5.002		
3,500.0	3,429.9	3,500.0	3,443.0	14.8	13.6	-131.17	-176.6	556.9	123.5	98.8	24.76	4.990		
3,600.0	3,527.5	3,599.9	3,541.0	15.3	14.0	-131.08	-182.7	575.5	127.2	101.7	25.55	4.978		
3,700.0	3,625.1	3,699.9	3,639.0	15.7	14.5	-131.00	-188.9	594.0	130.9	104.5	26.35	4.967		
3,800.0	3,722.8	3,799.8	3,737.0	16.2	14.9	-130.92	-195.0	612.6	134.6	107.4	27.14	4.957		
3,900.0	3,820.4	3,899.7	3,835.0	16.7	15.3	-130.85	-201.1	631.2	138.2	110.3	27.94	4.948		
4,000.0	3,918.1	3,999.7	3,933.0	17.1	15.8	-130.78	-207.2	649.8	141.9	113.2	28.74	4.939		
4,100.0	4,015.7	4,099.6	4,031.0	17.6	16.2	-130.72	-213.4	668.3	145.6	116.1	29.53	4.930		
4,200.0	4,113.3	4,199.5	4,129.0	18.1	16.7	-130.65	-219.5	686.9	149.3	118.9	30.33	4.922		
4,300.0	4,211.0	4,299.5	4,227.0	18.6	17.1	-130.59	-225.6	705.5	152.9	121.8	31.13	4.914		
4,400.0	4,308.6	4,399.4	4,325.0	19.0	17.5	-130.54	-231.7	724.1	156.6	124.7	31.92	4.907		
4,500.0	4,406.3	4,499.3	4,423.0	19.5	18.0	-130.48	-237.9	742.7	160.3	127.6	32.72	4.900		
4,600.0	4,503.9	4,599.3	4,521.0	20.0	18.4	-130.43	-244.0	761.2	164.0	130.5	33.51	4.893		
4,700.0	4,601.5	4,699.2	4,619.0	20.4	18.8	-130.38	-250.1	779.8	167.7	133.4	34.31	4.886		
4,800.0	4,699.2	4,799.1	4,717.0	20.9	19.3	-130.33	-256.2	798.4	171.3	136.2	35.11	4.880		
4,900.0	4,796.8	4,899.1	4,815.0	21.4	19.7	-130.29	-262.4	817.0	175.0	139.1	35.90	4.875		
5,000.0	4,894.5	4,999.0	4,913.0	21.9	20.1	-130.24	-268.5	835.5	178.7	142.0	36.70	4.869		

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>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> S2-T7S-R97W (Puckett Pad) - PUCKETT 12D-1 - DD - Plan #1													<b>Offset Site Error:</b> 0.0 usft
Survey Program: 0-ISCSWA MWD													<b>Offset Well Error:</b> 0.0 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,100.0	4,992.1	5,098.9	5,011.0	22.3	20.6	-130.20	-274.6	854.1	182.4	144.9	37.50	4.864	
5,200.0	5,089.7	5,198.9	5,109.0	22.8	21.0	-130.16	-280.7	872.7	186.1	147.8	38.29	4.859	
5,300.0	5,187.4	5,298.8	5,207.0	23.3	21.4	-130.12	-286.9	891.3	189.7	150.6	39.09	4.854	
5,400.0	5,285.0	5,398.7	5,305.0	23.8	21.9	-130.09	-293.0	909.8	193.4	153.5	39.89	4.849	
5,500.0	5,382.7	5,498.7	5,403.0	24.2	22.3	-130.05	-299.1	928.4	197.1	156.4	40.68	4.845 SF	



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 13B-1 - DD - Plan #1														Offset Site Error:	0.0 usft
Survey Program: 0-ISCSWA MWD														Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	155.83	-6.9	3.1	7.6						
100.0	100.0	100.0	100.0	0.1	0.1	155.83	-6.9	3.1	7.6	7.4	0.18	43.265			
200.0	200.0	200.0	200.0	0.3	0.3	155.83	-6.9	3.1	7.6	7.0	0.62	12.139 CC, ES			
300.0	300.0	299.6	299.6	0.5	0.5	32.37	-8.3	5.3	9.3	8.2	1.07	8.693			
400.0	399.8	399.1	398.7	0.7	0.8	27.94	-12.2	12.0	11.8	10.2	1.58	7.470			
500.0	499.3	498.4	497.2	1.0	1.0	26.44	-18.8	23.1	14.4	12.3	2.14	6.734			
600.0	598.0	597.6	594.8	1.3	1.4	26.56	-28.0	38.5	17.2	14.5	2.75	6.264			
700.0	695.9	696.7	691.1	1.7	1.8	27.23	-39.8	58.3	20.4	17.0	3.35	6.086 SF			
800.0	793.6	796.6	787.7	2.1	2.3	26.70	-52.9	80.2	24.8	20.9	3.89	6.363			
900.0	891.2	896.5	884.3	2.6	2.9	26.33	-65.9	102.1	29.2	24.7	4.46	6.538			
1,000.0	988.8	996.4	980.9	3.0	3.4	26.05	-79.0	124.1	33.6	28.5	5.05	6.651			
1,100.0	1,086.5	1,096.3	1,077.5	3.5	3.9	25.84	-92.1	146.0	37.9	32.3	5.64	6.728			
1,200.0	1,184.1	1,196.2	1,174.1	4.0	4.5	25.67	-105.2	167.9	42.3	36.1	6.25	6.780			
1,300.0	1,281.8	1,296.1	1,270.7	4.4	5.0	25.54	-118.2	189.8	46.7	39.9	6.86	6.817			
1,400.0	1,379.4	1,396.0	1,367.2	4.9	5.5	25.43	-131.3	211.8	51.1	43.7	7.47	6.844			
1,500.0	1,477.0	1,495.9	1,463.8	5.4	6.1	25.33	-144.4	233.7	55.5	47.4	8.09	6.864			
1,600.0	1,574.7	1,595.8	1,560.4	5.8	6.6	25.25	-157.4	255.6	59.9	51.2	8.71	6.879			
1,700.0	1,672.3	1,695.7	1,657.0	6.3	7.2	25.18	-170.5	277.5	64.3	55.0	9.33	6.890			
1,800.0	1,770.0	1,795.6	1,753.6	6.8	7.7	25.12	-183.6	299.5	68.7	58.8	9.96	6.899			
1,900.0	1,867.6	1,895.6	1,850.2	7.2	8.2	25.07	-196.6	321.4	73.1	62.5	10.59	6.906			
2,000.0	1,965.2	1,995.5	1,946.8	7.7	8.8	25.02	-209.7	343.3	77.5	66.3	11.21	6.911			
2,100.0	2,062.9	2,095.4	2,043.4	8.2	9.3	24.98	-222.8	365.2	81.9	70.1	11.84	6.915			
2,200.0	2,160.5	2,195.3	2,139.9	8.6	9.9	24.94	-235.8	387.2	86.3	73.8	12.47	6.918			
2,300.0	2,258.2	2,295.2	2,236.5	9.1	10.4	24.91	-248.9	409.1	90.7	77.6	13.10	6.921			
2,400.0	2,355.8	2,395.1	2,333.1	9.6	11.0	24.87	-262.0	431.0	95.1	81.3	13.73	6.923			
2,500.0	2,453.4	2,495.0	2,429.7	10.1	11.5	24.85	-275.1	453.0	99.5	85.1	14.37	6.925			
2,600.0	2,551.1	2,594.9	2,526.3	10.5	12.0	24.82	-288.1	474.9	103.9	88.9	15.00	6.926			
2,700.0	2,648.7	2,694.8	2,622.9	11.0	12.6	24.80	-301.2	496.8	108.3	92.6	15.63	6.927			
2,800.0	2,746.4	2,794.7	2,719.5	11.5	13.1	24.77	-314.3	518.7	112.7	96.4	16.26	6.928			
2,900.0	2,844.0	2,894.6	2,816.1	11.9	13.7	24.75	-327.3	540.7	117.1	100.2	16.89	6.929			
3,000.0	2,941.6	2,994.5	2,912.6	12.4	14.2	24.73	-340.4	562.6	121.5	103.9	17.53	6.930			
3,100.0	3,039.3	3,094.4	3,009.2	12.9	14.8	24.72	-353.5	584.5	125.8	107.7	18.16	6.930			
3,200.0	3,136.9	3,194.3	3,105.8	13.4	15.3	24.70	-366.5	606.4	130.2	111.5	18.79	6.931			
3,300.0	3,234.6	3,294.2	3,202.4	13.8	15.9	24.69	-379.6	628.4	134.6	115.2	19.43	6.931			
3,400.0	3,332.2	3,394.1	3,299.0	14.3	16.4	24.67	-392.7	650.3	139.0	119.0	20.06	6.931			
3,500.0	3,429.9	3,494.0	3,395.6	14.8	16.9	24.66	-405.8	672.2	143.4	122.7	20.69	6.932			
3,600.0	3,527.5	3,593.9	3,492.2	15.3	17.5	24.64	-418.8	694.1	147.8	126.5	21.33	6.932			
3,700.0	3,625.1	3,693.8	3,588.7	15.7	18.0	24.63	-431.9	716.1	152.2	130.3	21.96	6.932			
3,800.0	3,722.8	3,793.7	3,685.3	16.2	18.6	24.62	-445.0	738.0	156.6	134.0	22.59	6.932			
3,900.0	3,820.4	3,893.6	3,781.9	16.7	19.1	24.61	-458.0	759.9	161.0	137.8	23.23	6.933			
4,000.0	3,918.1	3,993.5	3,878.5	17.1	19.7	24.60	-471.1	781.9	165.4	141.5	23.86	6.933			
4,100.0	4,015.7	4,093.4	3,975.1	17.6	20.2	24.59	-484.2	803.8	169.8	145.3	24.49	6.933			
4,200.0	4,113.3	4,193.3	4,071.7	18.1	20.8	24.58	-497.2	825.7	174.2	149.1	25.13	6.933			
4,300.0	4,211.0	4,293.2	4,168.3	18.6	21.3	24.57	-510.3	847.6	178.6	152.8	25.76	6.933			
4,400.0	4,308.6	4,393.1	4,264.9	19.0	21.8	24.57	-523.4	869.6	183.0	156.6	26.39	6.933			
4,500.0	4,406.3	4,493.0	4,361.4	19.5	22.4	24.56	-536.5	891.5	187.4	160.4	27.03	6.934			
4,600.0	4,503.9	4,592.9	4,458.0	20.0	22.9	24.55	-549.5	913.4	191.8	164.1	27.66	6.934			
4,700.0	4,601.5	4,692.8	4,554.6	20.4	23.5	24.54	-562.6	935.3	196.2	167.9	28.29	6.934			

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>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 13C-1 - DD - Plan #1													Offset Site Error: 0.0 usft	
Survey Program: 0-ISCWSA MWD													Offset Well Error: 0.0 usft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-153.86	-10.9	-5.4	12.2					
100.0	100.0	100.0	100.0	0.1	0.1	-153.86	-10.9	-5.4	12.2	12.0	0.18	69.430		
155.9	155.9	155.9	155.9	0.2	0.2	-153.86	-10.9	-5.4	12.2	11.7	0.43	28.520	CC	
200.0	200.0	200.0	200.0	0.3	0.3	-154.60	-11.0	-5.2	12.2	11.6	0.62	19.701	ES	
300.0	300.0	299.7	299.6	0.5	0.5	75.17	-13.5	-2.2	13.5	12.5	1.04	12.926		
400.0	399.8	399.2	398.6	0.7	0.8	64.56	-19.2	4.8	16.6	15.1	1.52	10.940		
500.0	499.3	498.4	496.9	1.0	1.1	59.41	-28.2	15.8	21.0	18.9	2.08	10.090		
600.0	598.0	597.4	594.0	1.3	1.5	57.64	-40.4	30.7	26.4	23.6	2.73	9.638		
700.0	695.9	696.4	690.0	1.7	1.9	57.50	-55.6	49.3	32.6	29.1	3.48	9.379		
800.0	793.6	796.2	786.4	2.1	2.5	57.28	-71.9	69.3	39.3	35.1	4.24	9.268		
900.0	891.2	896.0	882.8	2.6	3.0	57.13	-88.1	89.2	46.0	41.0	5.03	9.141		
1,000.0	988.8	995.7	979.2	3.0	3.5	57.02	-104.4	109.1	52.7	46.9	5.84	9.024		
1,100.0	1,086.5	1,095.5	1,075.6	3.5	4.1	56.93	-120.7	129.1	59.4	52.8	6.66	8.921		
1,200.0	1,184.1	1,195.3	1,172.0	4.0	4.6	56.86	-137.0	149.0	66.1	58.6	7.49	8.833		
1,300.0	1,281.8	1,295.1	1,268.4	4.4	5.1	56.80	-153.2	168.9	72.8	64.5	8.32	8.757		
1,400.0	1,379.4	1,394.8	1,364.8	4.9	5.7	56.75	-169.5	188.9	79.5	70.4	9.15	8.692		
1,500.0	1,477.0	1,494.6	1,461.2	5.4	6.2	56.71	-185.8	208.8	86.3	76.3	9.99	8.635		
1,600.0	1,574.7	1,594.4	1,557.6	5.8	6.8	56.68	-202.1	228.7	93.0	82.1	10.83	8.586		
1,700.0	1,672.3	1,694.2	1,654.0	6.3	7.3	56.65	-218.4	248.7	99.7	88.0	11.67	8.543		
1,800.0	1,770.0	1,793.9	1,750.4	6.8	7.9	56.62	-234.6	268.6	106.4	93.9	12.51	8.504		
1,900.0	1,867.6	1,893.7	1,846.8	7.2	8.4	56.60	-250.9	288.6	113.1	99.7	13.35	8.471		
2,000.0	1,965.2	1,993.5	1,943.2	7.7	9.0	56.58	-267.2	308.5	119.8	105.6	14.19	8.440		
2,100.0	2,062.9	2,093.3	2,039.6	8.2	9.5	56.56	-283.5	328.4	126.5	111.5	15.04	8.413		
2,200.0	2,160.5	2,193.0	2,136.0	8.6	10.1	56.55	-299.7	348.4	133.2	117.3	15.88	8.388		
2,300.0	2,258.2	2,292.8	2,232.4	9.1	10.6	56.53	-316.0	368.3	139.9	123.2	16.72	8.366		
2,400.0	2,355.8	2,392.6	2,328.8	9.6	11.1	56.52	-332.3	388.2	146.6	129.0	17.57	8.346		
2,500.0	2,453.4	2,492.4	2,425.2	10.1	11.7	56.50	-348.6	408.2	153.3	134.9	18.41	8.327		
2,600.0	2,551.1	2,592.1	2,521.6	10.5	12.2	56.49	-364.9	428.1	160.0	140.8	19.26	8.311		
2,700.0	2,648.7	2,691.9	2,618.0	11.0	12.8	56.48	-381.1	448.0	166.7	146.6	20.10	8.295		
2,800.0	2,746.4	2,791.7	2,714.4	11.5	13.3	56.47	-397.4	468.0	173.4	152.5	20.94	8.281		
2,900.0	2,844.0	2,891.5	2,810.8	11.9	13.9	56.46	-413.7	487.9	180.1	158.4	21.79	8.268		
3,000.0	2,941.6	2,991.2	2,907.2	12.4	14.4	56.46	-430.0	507.8	186.9	164.2	22.63	8.255		
3,100.0	3,039.3	3,091.0	3,003.6	12.9	15.0	56.45	-446.2	527.8	193.6	170.1	23.48	8.244	SF	

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> S2-T7S-R97W (Puckett Pad) - PUCKETT 41A-2 - DD - Plan #1													<b>Offset Site Error:</b>	0.0 usft
Survey Program: 0-ISCSWA MWD													<b>Offset Well Error:</b>	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-23.67	44.4	-19.5	48.5					
100.0	100.0	100.0	100.0	0.1	0.1	-23.67	44.4	-19.5	48.5	48.3	0.18	276.741		
200.0	200.0	200.0	200.0	0.3	0.3	-23.67	44.4	-19.5	48.5	47.9	0.62	77.647	CC, ES	
300.0	300.0	298.1	298.1	0.5	0.5	-138.88	46.8	-18.6	50.9	49.8	1.08	46.948		
400.0	399.8	395.5	395.1	0.7	0.8	-137.10	53.8	-16.1	60.6	58.9	1.62	37.386		
500.0	499.3	490.5	489.5	1.0	1.0	-137.25	65.0	-13.7	78.3	76.1	2.21	35.435	SF	
600.0	598.0	582.5	580.3	1.3	1.3	-139.33	79.7	-13.8	104.7	101.8	2.85	36.771		
700.0	695.9	670.5	666.5	1.7	1.7	-141.88	97.2	-15.9	139.3	135.8	3.47	40.202		
800.0	793.6	755.0	748.5	2.1	2.0	-143.94	117.2	-19.9	179.2	175.2	4.00	44.784		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> S2-T7S-R97W (Puckett Pad) - PUCKETT 41B-2 - DD - Plan #1													<b>Offset Site Error:</b>	0.0 usft
Survey Program: 0-ISWWSA MWD													<b>Offset Well Error:</b>	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-24.37	51.7	-23.4	56.8					
100.0	100.0	100.0	100.0	0.1	0.1	-24.37	51.7	-23.4	56.8	56.6	0.18	323.871		
144.4	144.4	144.4	144.4	0.2	0.2	-24.37	51.7	-23.4	56.8	56.4	0.38	151.367	CC, ES	
200.0	200.0	198.9	198.8	0.3	0.3	-24.31	52.1	-23.5	57.2	56.6	0.62	91.831		
300.0	300.0	295.7	295.6	0.5	0.5	-140.75	56.4	-24.7	62.2	61.1	1.10	56.551		
400.0	399.8	391.4	390.8	0.7	0.8	-141.91	65.2	-27.2	75.8	74.1	1.66	45.637		
500.0	499.3	484.6	483.0	1.0	1.1	-143.76	78.2	-30.9	98.3	96.0	2.27	43.219	SF	
600.0	598.0	574.3	571.0	1.3	1.4	-145.45	94.8	-35.6	129.5	126.6	2.91	44.479		
700.0	695.9	659.7	654.0	1.7	1.8	-146.90	114.3	-41.1	168.8	165.3	3.52	47.978		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 41C-2 - DD - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-ISWWSA MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-35.46	40.4	-28.8	49.6					
100.0	100.0	100.0	100.0	0.1	0.1	-35.46	40.4	-28.8	49.6	49.5	0.18	283.114		
200.0	200.0	200.0	200.0	0.3	0.3	-35.46	40.4	-28.8	49.6	49.0	0.62	79.435 CC		
200.9	200.9	200.9	200.9	0.3	0.3	-152.21	40.4	-28.8	49.6	49.0	0.63	78.843 ES		
300.0	300.0	298.4	298.4	0.5	0.5	-151.60	41.8	-28.8	51.4	50.3	1.09	47.252		
400.0	399.8	395.5	395.3	0.7	0.8	-150.40	48.0	-28.8	61.2	59.6	1.64	37.293		
500.0	499.3	490.4	489.6	1.0	1.0	-149.85	58.6	-29.5	79.9	77.7	2.26	35.416 SF		
600.0	598.0	582.0	580.1	1.3	1.3	-150.84	72.2	-32.9	107.7	104.8	2.89	37.282		
700.0	695.9	671.0	667.4	1.7	1.6	-152.40	88.5	-38.8	144.0	140.5	3.49	41.224		
800.0	793.6	763.3	757.7	2.1	2.0	-153.79	106.3	-45.6	182.4	178.4	3.96	46.032		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 41D-2 - DD - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-ISCSWA MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-34.00	47.7	-32.2	57.6					
100.0	100.0	100.0	100.0	0.1	0.1	-34.00	47.7	-32.2	57.6	57.4	0.18	328.274		
155.6	155.6	155.6	155.6	0.2	0.2	-34.00	47.7	-32.2	57.6	57.1	0.43	135.398 CC		
200.0	200.0	199.3	199.3	0.3	0.3	-33.98	47.9	-32.2	57.7	57.1	0.62	92.615 ES		
300.0	300.0	296.2	296.1	0.5	0.5	-150.53	51.2	-33.9	62.1	61.0	1.10	56.541		
400.0	399.8	391.9	391.4	0.7	0.8	-151.41	58.7	-37.7	75.4	73.7	1.67	45.048		
500.0	499.3	485.3	483.9	1.0	1.1	-152.80	70.2	-43.4	98.1	95.8	2.31	42.518 SF		
600.0	598.0	580.8	578.2	1.3	1.4	-154.40	83.8	-50.2	127.5	124.5	2.93	43.562		
700.0	695.9	674.8	671.0	1.7	1.7	-156.12	97.2	-56.9	161.2	157.7	3.48	46.389		
800.0	793.6	768.4	763.4	2.1	2.0	-157.57	110.5	-63.6	196.1	192.1	3.92	49.964		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 42A-2 - DD - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-ISWWSA MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-38.39	32.4	-25.7	41.4					
100.0	100.0	100.0	100.0	0.1	0.1	-38.39	32.4	-25.7	41.4	41.2	0.18	235.919		
200.0	200.0	200.0	200.0	0.3	0.3	-38.39	32.4	-25.7	41.4	40.7	0.62	66.193 CC		
237.7	237.7	237.7	237.7	0.4	0.4	-155.25	32.4	-25.7	41.5	40.7	0.80	52.216 ES		
300.0	300.0	299.5	299.5	0.5	0.5	-155.50	32.5	-25.8	42.1	41.0	1.09	38.786		
400.0	399.8	396.7	396.6	0.7	0.8	-157.62	35.5	-28.0	50.7	49.1	1.64	30.963		
500.0	499.3	492.0	491.5	1.0	1.0	-160.06	42.3	-33.0	69.2	67.0	2.26	30.579 SF		
600.0	598.0	587.6	586.5	1.3	1.3	-162.07	51.7	-39.9	95.9	93.0	2.90	33.025		
700.0	695.9	682.5	680.6	1.7	1.5	-163.84	61.1	-46.8	127.2	123.7	3.45	36.908		
800.0	793.6	777.1	774.5	2.1	1.8	-165.14	70.4	-53.7	159.6	155.7	3.87	41.251		
900.0	891.2	871.6	868.3	2.6	2.1	-165.99	79.7	-60.5	192.1	187.8	4.31	44.554		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 42B-2 - DD - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-ISOWSA MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-41.53	25.5	-22.6	34.1					
100.0	100.0	100.0	100.0	0.1	0.1	-41.53	25.5	-22.6	34.1	33.9	0.18	194.273		
200.0	200.0	200.0	200.0	0.3	0.3	-41.53	25.5	-22.6	34.1	33.4	0.62	54.508 CC		
227.9	227.9	227.9	227.9	0.4	0.4	-158.34	25.5	-22.6	34.2	33.4	0.75	45.517 ES		
300.0	300.0	300.0	300.0	0.5	0.5	-158.68	25.5	-22.6	34.7	33.6	1.09	31.903		
400.0	399.8	398.3	398.3	0.7	0.8	-161.66	26.3	-23.7	41.0	39.4	1.63	25.117 SF		
500.0	499.3	494.4	494.2	1.0	1.0	-165.76	29.9	-28.7	57.3	55.1	2.26	25.407		
600.0	598.0	591.3	590.7	1.3	1.2	-168.88	35.0	-35.8	81.4	78.5	2.89	28.180		
700.0	695.9	687.0	686.0	1.7	1.5	-170.99	40.0	-42.8	110.4	106.9	3.43	32.209		
800.0	793.6	782.3	780.9	2.1	1.7	-172.36	45.0	-49.8	140.5	136.6	3.84	36.592		
900.0	891.2	877.6	875.8	2.6	2.0	-173.24	50.0	-56.7	170.6	166.3	4.27	39.961		



# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 42C-2 - DD - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-ISWWSA MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-45.65	18.2	-18.6	26.1					
100.0	100.0	100.0	100.0	0.1	0.1	-45.65	18.2	-18.6	26.1	25.9	0.18	148.606		
200.0	200.0	200.0	200.0	0.3	0.3	-45.65	18.2	-18.6	26.1	25.4	0.62	41.695 CC		
227.9	227.9	227.9	227.9	0.4	0.4	-162.47	18.2	-18.6	26.2	25.4	0.75	34.846 ES		
300.0	300.0	300.0	300.0	0.5	0.5	-162.82	18.2	-18.6	26.7	25.6	1.09	24.526		
400.0	399.8	399.5	399.5	0.7	0.8	-165.73	18.2	-18.8	31.8	30.2	1.63	19.516 SF		
500.0	499.3	496.9	496.8	1.0	1.0	-171.71	18.5	-22.5	45.3	43.1	2.23	20.285		
600.0	598.0	593.9	593.5	1.3	1.2	-176.70	19.1	-29.6	67.2	64.4	2.87	23.423		
700.0	695.9	690.1	689.5	1.7	1.4	-179.32	19.7	-36.7	94.3	90.9	3.41	27.657		
800.0	793.6	786.0	785.1	2.1	1.7	179.22	20.3	-43.8	122.6	118.7	3.82	32.051		
900.0	891.2	881.8	880.7	2.6	1.9	178.31	20.9	-50.8	150.9	146.6	4.26	35.416		
1,000.0	988.8	977.7	976.3	3.0	2.1	177.69	21.4	-57.9	179.2	174.5	4.71	38.034		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 42D-2 - DD - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-ISWWSA MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-53.97	11.3	-15.5	19.2					
100.0	100.0	100.0	100.0	0.1	0.1	-53.97	11.3	-15.5	19.2	19.0	0.18	109.501		
200.0	200.0	200.0	200.0	0.3	0.3	-53.97	11.3	-15.5	19.2	18.6	0.62	30.723 CC		
227.8	227.8	227.8	227.8	0.4	0.4	-170.77	11.3	-15.5	19.3	18.5	0.75	25.715 ES		
300.0	300.0	300.0	300.0	0.5	0.5	-171.02	11.3	-15.5	19.8	18.8	1.09	18.218		
400.0	399.8	399.4	399.3	0.7	0.7	-175.74	10.6	-16.8	25.7	24.1	1.63	15.762 SF		
500.0	499.3	497.4	497.2	1.0	1.0	175.21	7.6	-22.3	39.9	37.6	2.25	17.759		
600.0	598.0	595.1	594.5	1.3	1.2	170.24	3.6	-29.5	60.9	58.1	2.86	21.295		
700.0	695.9	691.6	690.7	1.7	1.4	168.47	-0.2	-36.6	86.9	83.4	3.42	25.434		
800.0	793.6	787.9	786.6	2.1	1.7	167.69	-4.1	-43.7	113.9	110.0	3.86	29.513		
900.0	891.2	884.1	882.5	2.6	1.9	167.21	-8.0	-50.8	141.0	136.6	4.33	32.554		
1,000.0	988.8	980.4	978.5	3.0	2.2	166.89	-11.9	-57.9	168.0	163.2	4.82	34.867		
1,100.0	1,086.5	1,076.7	1,074.4	3.5	2.4	166.65	-15.8	-65.0	195.1	189.8	5.32	36.663		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> S2-T7S-R97W (Puckett Pad) - PUCKETT 43A-2 - DD - Plan #1													<b>Offset Site Error:</b>	0.0 usft
Survey Program: 0-ISCWSA MWD													<b>Offset Well Error:</b>	0.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-72.12	4.0	-12.4	13.1					
100.0	100.0	100.0	100.0	0.1	0.1	-72.12	4.0	-12.4	13.1	12.9	0.18	74.442		
200.0	200.0	200.0	200.0	0.3	0.3	-72.12	4.0	-12.4	13.1	12.4	0.62	20.887 CC		
232.8	232.8	232.8	232.8	0.4	0.4	171.22	4.0	-12.4	13.2	12.4	0.77	17.051 ES		
300.0	300.0	299.9	299.9	0.5	0.5	170.92	3.9	-12.5	13.8	12.7	1.08	12.697 SF		
400.0	399.8	399.3	399.2	0.7	0.7	163.17	0.9	-15.0	20.6	19.0	1.61	12.819		
500.0	499.3	497.3	496.8	1.0	1.0	155.33	-5.8	-20.8	35.5	33.3	2.22	16.014		
600.0	598.0	595.0	593.8	1.3	1.2	152.63	-14.3	-28.0	56.7	53.9	2.85	19.935		
700.0	695.9	691.7	689.9	1.7	1.5	152.97	-22.6	-35.2	82.3	78.8	3.45	23.854		
800.0	793.6	788.1	785.7	2.1	1.8	153.55	-31.0	-42.3	108.8	104.8	3.97	27.403		
900.0	891.2	884.5	881.5	2.6	2.1	153.91	-39.3	-49.4	135.3	130.7	4.51	29.966		
1,000.0	988.8	980.9	977.3	3.0	2.4	154.14	-47.7	-56.6	161.8	156.7	5.08	31.868		
1,100.0	1,086.5	1,077.3	1,073.1	3.5	2.7	154.31	-56.0	-63.7	188.3	182.6	5.65	33.323		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 43B-2 - DD - Plan #1													Offset Site Error:	0.0 usft
Survey Program: 0-ISCWSA MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-113.25	-4.0	-9.3	10.1					
100.0	100.0	100.0	100.0	0.1	0.1	-113.25	-4.0	-9.3	10.1	10.0	0.18	57.831		
200.0	200.0	200.0	200.0	0.3	0.3	-113.25	-4.0	-9.3	10.1	9.5	0.62	16.226 CC		
200.4	200.4	200.4	200.4	0.3	0.3	130.00	-4.0	-9.3	10.1	9.5	0.63	16.167 ES		
300.0	300.0	299.6	299.6	0.5	0.5	128.06	-5.3	-10.0	11.7	10.7	1.06	11.039 SF		
400.0	399.8	398.6	398.4	0.7	0.7	128.83	-10.9	-13.2	20.2	18.7	1.56	13.008		
500.0	499.3	496.2	495.3	1.0	1.0	130.41	-20.8	-18.7	36.1	34.0	2.14	16.842		
600.0	598.0	593.4	591.4	1.3	1.3	132.46	-33.6	-25.9	58.1	55.3	2.81	20.702		
700.0	695.9	690.0	686.9	1.7	1.6	135.71	-46.4	-33.0	83.6	80.1	3.48	24.039		
800.0	793.6	786.4	782.1	2.1	2.0	138.05	-59.1	-40.2	110.0	105.9	4.10	26.826		
900.0	891.2	882.7	877.4	2.6	2.3	139.48	-71.9	-47.3	136.6	131.8	4.74	28.801		
1,000.0	988.8	979.1	972.6	3.0	2.6	140.45	-84.7	-54.5	163.2	157.8	5.39	30.246		
1,100.0	1,086.5	1,075.5	1,067.9	3.5	3.0	141.14	-97.5	-61.6	189.8	183.7	6.06	31.334		

# Cathedral Energy Services

## Anticollision Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 13A-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	KB=22' @ 8499.0usft
<b>Reference Site:</b>	S2-T7S-R97W (Puckett Pad)	<b>MD Reference:</b>	KB=22' @ 8499.0usft
<b>Site Error:</b>	0.0usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	PUCKETT 13A-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	DD	<b>Database:</b>	USA EDM 5000 Multi Users DB
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to KB=22' @ 8499.0usft  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: PUCKETT 13A-1  
Coordinate System is US State Plane 1927 (Exact solution), Colorado Central 502  
Grid Convergence at Surface is: -1.69°

