







Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Company:	Caerus Oil & Gas (NAD 27)	TVD Reference:	KB=22' @ 8499.0usft
Project:	Garfield County, CO	MD Reference:	KB=22' @ 8499.0usft
Site:	S2-T7S-R97W (Puckett Pad)	North Reference:	True
Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Project	Garfield County, CO		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	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 12D-1					
Well Position	+N/-S	0.0 usft	Northing:	609,307.57 usft	Latitude:	39.475733
	+E/-W	0.0 usft	Easting:	1,243,687.09 usft	Longitude:	-108.179603
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	8,477.0 usft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/22/2014	10.01	65.60	51,866

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	108.25

Plan Sections										
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	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
676.3	11.29	108.25	673.8	-11.6	35.1	3.00	3.00	0.00	108.25	
7,132.5	11.29	108.25	7,005.2	-407.3	1,235.2	0.00	0.00	0.00	0.00	
7,508.7	0.00	0.00	7,379.0	-418.8	1,270.3	3.00	-3.00	0.00	180.00	PUCKETT 12D-1 TG1
9,023.7	0.00	0.00	8,894.0	-418.8	1,270.3	0.00	0.00	0.00	0.00	PUCKETT 12D-1 BHL

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Project:	Garfield County, CO	MD Reference:	KB=22' @ 8499.0usft
Site:	S2-T7S-R97W (Puckett Pad)	North Reference:	True
Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	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	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	KOP @ 300'
400.0	3.00	108.25	400.0	-0.8	2.5	2.6	3.00	3.00	
500.0	6.00	108.25	499.6	-3.3	9.9	10.5	3.00	3.00	
600.0	9.00	108.25	598.8	-7.4	22.3	23.5	3.00	3.00	
676.3	11.29	108.25	673.8	-11.6	35.1	36.9	3.00	3.00	EOB @ 11.29° INC
700.0	11.29	108.25	697.1	-13.0	39.5	41.6	0.00	0.00	
800.0	11.29	108.25	795.2	-19.2	58.1	61.2	0.00	0.00	
900.0	11.29	108.25	893.2	-25.3	76.7	80.7	0.00	0.00	
1,000.0	11.29	108.25	991.3	-31.4	95.3	100.3	0.00	0.00	
1,100.0	11.29	108.25	1,089.4	-37.5	113.9	119.9	0.00	0.00	
1,200.0	11.29	108.25	1,187.4	-43.7	132.4	139.5	0.00	0.00	
1,300.0	11.29	108.25	1,285.5	-49.8	151.0	159.0	0.00	0.00	
1,400.0	11.29	108.25	1,383.6	-55.9	169.6	178.6	0.00	0.00	
1,500.0	11.29	108.25	1,481.6	-62.1	188.2	198.2	0.00	0.00	
1,600.0	11.29	108.25	1,579.7	-68.2	206.8	217.8	0.00	0.00	
1,700.0	11.29	108.25	1,677.8	-74.3	225.4	237.3	0.00	0.00	
1,800.0	11.29	108.25	1,775.8	-80.4	244.0	256.9	0.00	0.00	
1,900.0	11.29	108.25	1,873.9	-86.6	262.6	276.5	0.00	0.00	
2,000.0	11.29	108.25	1,972.0	-92.7	281.2	296.0	0.00	0.00	
2,100.0	11.29	108.25	2,070.0	-98.8	299.7	315.6	0.00	0.00	
2,200.0	11.29	108.25	2,168.1	-105.0	318.3	335.2	0.00	0.00	
2,300.0	11.29	108.25	2,266.2	-111.1	336.9	354.8	0.00	0.00	
2,400.0	11.29	108.25	2,364.2	-117.2	355.5	374.3	0.00	0.00	
2,500.0	11.29	108.25	2,462.3	-123.3	374.1	393.9	0.00	0.00	
2,600.0	11.29	108.25	2,560.4	-129.5	392.7	413.5	0.00	0.00	
2,700.0	11.29	108.25	2,658.4	-135.6	411.3	433.1	0.00	0.00	
2,800.0	11.29	108.25	2,756.5	-141.7	429.9	452.6	0.00	0.00	
2,900.0	11.29	108.25	2,854.6	-147.9	448.5	472.2	0.00	0.00	
3,000.0	11.29	108.25	2,952.6	-154.0	467.0	491.8	0.00	0.00	
3,100.0	11.29	108.25	3,050.7	-160.1	485.6	511.4	0.00	0.00	
3,200.0	11.29	108.25	3,148.8	-166.2	504.2	530.9	0.00	0.00	
3,300.0	11.29	108.25	3,246.8	-172.4	522.8	550.5	0.00	0.00	
3,400.0	11.29	108.25	3,344.9	-178.5	541.4	570.1	0.00	0.00	
3,500.0	11.29	108.25	3,443.0	-184.6	560.0	589.6	0.00	0.00	
3,600.0	11.29	108.25	3,541.0	-190.8	578.6	609.2	0.00	0.00	
3,700.0	11.29	108.25	3,639.1	-196.9	597.2	628.8	0.00	0.00	
3,800.0	11.29	108.25	3,737.1	-203.0	615.8	648.4	0.00	0.00	
3,900.0	11.29	108.25	3,835.2	-209.1	634.3	667.9	0.00	0.00	
4,000.0	11.29	108.25	3,933.3	-215.3	652.9	687.5	0.00	0.00	
4,100.0	11.29	108.25	4,031.3	-221.4	671.5	707.1	0.00	0.00	
4,200.0	11.29	108.25	4,129.4	-227.5	690.1	726.7	0.00	0.00	
4,300.0	11.29	108.25	4,227.5	-233.7	708.7	746.2	0.00	0.00	
4,400.0	11.29	108.25	4,325.5	-239.8	727.3	765.8	0.00	0.00	
4,500.0	11.29	108.25	4,423.6	-245.9	745.9	785.4	0.00	0.00	
4,600.0	11.29	108.25	4,521.7	-252.0	764.5	804.9	0.00	0.00	
4,700.0	11.29	108.25	4,619.7	-258.2	783.1	824.5	0.00	0.00	
4,800.0	11.29	108.25	4,717.8	-264.3	801.6	844.1	0.00	0.00	
4,900.0	11.29	108.25	4,815.9	-270.4	820.2	863.7	0.00	0.00	
5,000.0	11.29	108.25	4,913.9	-276.6	838.8	883.2	0.00	0.00	

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Project:	Garfield County, CO	MD Reference:	KB=22' @ 8499.0usft
Site:	S2-T7S-R97W (Puckett Pad)	North Reference:	True
Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	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
5,100.0	11.29	108.25	5,012.0	-282.7	857.4	902.8	0.00	0.00	
5,200.0	11.29	108.25	5,110.1	-288.8	876.0	922.4	0.00	0.00	
5,300.0	11.29	108.25	5,208.1	-294.9	894.6	942.0	0.00	0.00	
5,400.0	11.29	108.25	5,306.2	-301.1	913.2	961.5	0.00	0.00	
5,500.0	11.29	108.25	5,404.3	-307.2	931.8	981.1	0.00	0.00	
5,600.0	11.29	108.25	5,502.3	-313.3	950.4	1,000.7	0.00	0.00	
5,700.0	11.29	108.25	5,600.4	-319.5	969.0	1,020.3	0.00	0.00	
5,800.0	11.29	108.25	5,698.5	-325.6	987.5	1,039.8	0.00	0.00	
5,900.0	11.29	108.25	5,796.5	-331.7	1,006.1	1,059.4	0.00	0.00	
6,000.0	11.29	108.25	5,894.6	-337.8	1,024.7	1,079.0	0.00	0.00	
6,055.5	11.29	108.25	5,949.0	-341.2	1,035.0	1,089.8	0.00	0.00	OHIOCREEK
6,100.0	11.29	108.25	5,992.7	-344.0	1,043.3	1,098.5	0.00	0.00	
6,200.0	11.29	108.25	6,090.7	-350.1	1,061.9	1,118.1	0.00	0.00	
6,300.0	11.29	108.25	6,188.8	-356.2	1,080.5	1,137.7	0.00	0.00	
6,400.0	11.29	108.25	6,286.9	-362.4	1,099.1	1,157.3	0.00	0.00	
6,500.0	11.29	108.25	6,384.9	-368.5	1,117.7	1,176.8	0.00	0.00	
6,590.8	11.29	108.25	6,474.0	-374.1	1,134.5	1,194.6	0.00	0.00	WILLIAMS FORK
6,600.0	11.29	108.25	6,483.0	-374.6	1,136.3	1,196.4	0.00	0.00	
6,700.0	11.29	108.25	6,581.1	-380.8	1,154.8	1,216.0	0.00	0.00	
6,800.0	11.29	108.25	6,679.1	-386.9	1,173.4	1,235.6	0.00	0.00	
6,900.0	11.29	108.25	6,777.2	-393.0	1,192.0	1,255.1	0.00	0.00	
7,000.0	11.29	108.25	6,875.3	-399.1	1,210.6	1,274.7	0.00	0.00	
7,100.0	11.29	108.25	6,973.3	-405.3	1,229.2	1,294.3	0.00	0.00	
7,132.5	11.29	108.25	7,005.2	-407.3	1,235.2	1,300.6	0.00	0.00	Start 3° Drop
7,200.0	9.26	108.25	7,071.6	-411.0	1,246.7	1,312.7	3.00	-3.00	
7,300.0	6.26	108.25	7,170.7	-415.3	1,259.5	1,326.2	3.00	-3.00	
7,400.0	3.26	108.25	7,270.3	-417.9	1,267.4	1,334.5	3.00	-3.00	
7,508.7	0.00	0.00	7,379.0	-418.8	1,270.3	1,337.6	3.00	-3.00	EOD @ 0° INC - TOG
7,600.0	0.00	0.00	7,470.3	-418.8	1,270.3	1,337.6	0.00	0.00	
7,700.0	0.00	0.00	7,570.3	-418.8	1,270.3	1,337.6	0.00	0.00	
7,800.0	0.00	0.00	7,670.3	-418.8	1,270.3	1,337.6	0.00	0.00	
7,900.0	0.00	0.00	7,770.3	-418.8	1,270.3	1,337.6	0.00	0.00	
8,000.0	0.00	0.00	7,870.3	-418.8	1,270.3	1,337.6	0.00	0.00	
8,100.0	0.00	0.00	7,970.3	-418.8	1,270.3	1,337.6	0.00	0.00	
8,200.0	0.00	0.00	8,070.3	-418.8	1,270.3	1,337.6	0.00	0.00	
8,300.0	0.00	0.00	8,170.3	-418.8	1,270.3	1,337.6	0.00	0.00	
8,400.0	0.00	0.00	8,270.3	-418.8	1,270.3	1,337.6	0.00	0.00	
8,488.7	0.00	0.00	8,359.0	-418.8	1,270.3	1,337.6	0.00	0.00	CAMEO
8,500.0	0.00	0.00	8,370.3	-418.8	1,270.3	1,337.6	0.00	0.00	
8,600.0	0.00	0.00	8,470.3	-418.8	1,270.3	1,337.6	0.00	0.00	
8,700.0	0.00	0.00	8,570.3	-418.8	1,270.3	1,337.6	0.00	0.00	
8,800.0	0.00	0.00	8,670.3	-418.8	1,270.3	1,337.6	0.00	0.00	
8,873.7	0.00	0.00	8,744.0	-418.8	1,270.3	1,337.6	0.00	0.00	ROLLINS
8,900.0	0.00	0.00	8,770.3	-418.8	1,270.3	1,337.6	0.00	0.00	
9,000.0	0.00	0.00	8,870.3	-418.8	1,270.3	1,337.6	0.00	0.00	
9,023.7	0.00	0.00	8,894.0	-418.8	1,270.3	1,337.6	0.00	0.00	TD @ 9,023.7' MD

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Company:	Caerus Oil & Gas (NAD 27)	TVD Reference:	KB=22' @ 8499.0usft
Project:	Garfield County, CO	MD Reference:	KB=22' @ 8499.0usft
Site:	S2-T7S-R97W (Puckett Pad)	North Reference:	True
Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
PUCKETT 12D-1 TGT	0.00	0.00	7,379.0	-418.8	1,270.3	608,851.46	1,244,944.51	39.474583	-108.175103
- plan hits target center									
- Point									
PUCKETT 12D-1 BHL	0.00	0.00	8,894.0	-418.8	1,270.3	608,851.46	1,244,944.51	39.474583	-108.175103
- plan hits target center									
- Circle (radius 50.0)									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
6,055.5	5,949.0	OHIOCREEK				
6,590.8	6,474.0	WILLIAMS FORK				
7,508.7	7,379.0	TOG				
8,488.7	8,359.0	CAMEO				
8,873.7	8,744.0	ROLLINS				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
300.0	300.0	0.0	0.0	KOP @ 300'	
676.3	673.8	-11.6	35.1	EOB @ 11.29° INC	
7,132.5	7,005.2	-407.3	1,235.2	Start 3° Drop	
7,508.7	7,379.0	-418.8	1,270.3	EOD @ 0° INC	
9,023.7	8,894.0	-418.8	1,270.3	TD @ 9,023.7' MD	

Caerus Oil & Gas (NAD 27)

Garfield County, CO

S2-T7S-R97W (Puckett Pad)

PUCKETT 12D-1

DD

Plan #1

Anticollision Report

22 September, 2014

Cathedral Energy Services

Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	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		

Survey Tool Program	Date	9/22/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	9,023.7	Plan #1 (DD)	ISCWSA MWD	MWD - Standard

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Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference	Offset	Distance		Separation	Warning
	Measured Depth (usft)	Measured Depth (usft)	Between Centres (usft)	Between Ellipses (usft)		
Offset Well - Wellbore - Design						
Factor						
S2-T7S-R97W (Puckett Pad)						
PUCKETT 11D-1 - DD - Plan #1	200.0	200.0	31.4	30.7	50.181	CC, ES
PUCKETT 11D-1 - DD - Plan #1	500.0	496.6	47.5	45.4	22.757	SF
PUCKETT 12A-1 - DD - Plan #1	238.8	238.8	23.8	23.0	29.748	CC
PUCKETT 12A-1 - DD - Plan #1	300.0	299.9	23.9	22.8	22.242	ES
PUCKETT 12A-1 - DD - Plan #1	500.0	498.7	34.1	32.1	16.652	SF
PUCKETT 12B-1 - DD - Plan #1	300.0	300.0	15.9	14.8	14.763	CC, ES
PUCKETT 12B-1 - DD - Plan #1	500.0	500.2	21.3	19.3	10.510	SF
PUCKETT 12C-1 - DD - Plan #1	300.0	300.0	7.9	6.8	7.371	CC, ES
PUCKETT 12C-1 - DD - Plan #1	400.0	400.1	9.5	7.9	6.149	SF
PUCKETT 13A-1 - DD - Plan #1	234.6	234.6	8.6	7.8	11.011	CC, ES
PUCKETT 13A-1 - DD - Plan #1	5,500.0	5,494.1	197.0	156.3	4.844	SF
PUCKETT 13B-1 - DD - Plan #1	200.0	200.0	16.2	15.5	25.884	CC, ES
PUCKETT 13B-1 - DD - Plan #1	2,700.0	2,687.0	198.0	180.7	11.465	SF
PUCKETT 13C-1 - DD - Plan #1	155.6	155.6	19.1	18.6	44.836	CC
PUCKETT 13C-1 - DD - Plan #1	200.0	199.9	19.2	18.5	30.935	ES
PUCKETT 13C-1 - DD - Plan #1	2,100.0	2,084.9	197.4	183.0	13.715	SF
PUCKETT 41A-2 - DD - Plan #1	200.0	200.0	39.9	39.3	63.909	CC, ES
PUCKETT 41A-2 - DD - Plan #1	500.0	492.4	64.5	62.3	30.560	SF
PUCKETT 41B-2 - DD - Plan #1	144.4	144.4	48.2	47.8	128.498	CC, ES
PUCKETT 41B-2 - DD - Plan #1	500.0	487.2	84.2	82.0	38.823	SF
PUCKETT 41C-2 - DD - Plan #1	200.0	200.0	41.4	40.7	66.193	CC, ES
PUCKETT 41C-2 - DD - Plan #1	500.0	492.5	65.7	63.6	30.564	SF
PUCKETT 41D-2 - DD - Plan #1	155.6	155.6	49.2	48.8	115.771	CC
PUCKETT 41D-2 - DD - Plan #1	200.0	199.4	49.4	48.7	79.206	ES
PUCKETT 41D-2 - DD - Plan #1	500.0	487.9	84.0	81.8	38.164	SF
PUCKETT 42A-2 - DD - Plan #1	255.6	255.6	33.2	32.4	38.017	CC
PUCKETT 42A-2 - DD - Plan #1	300.0	299.6	33.4	32.3	31.140	ES
PUCKETT 42A-2 - DD - Plan #1	400.0	397.5	39.5	38.0	25.090	SF
PUCKETT 42B-2 - DD - Plan #1	300.0	300.0	26.2	25.1	24.361	CC, ES
PUCKETT 42B-2 - DD - Plan #1	400.0	398.8	30.0	28.5	19.119	SF
PUCKETT 42C-2 - DD - Plan #1	300.0	300.0	18.6	17.5	17.290	CC, ES
PUCKETT 42C-2 - DD - Plan #1	400.0	399.7	21.3	19.7	13.528	SF
PUCKETT 42D-2 - DD - Plan #1	300.0	300.0	12.8	11.8	11.957	CC, ES
PUCKETT 42D-2 - DD - Plan #1	400.0	399.5	16.5	15.0	10.549	SF
PUCKETT 43A-2 - DD - Plan #1	255.6	255.6	10.1	9.3	11.593	CC
PUCKETT 43A-2 - DD - Plan #1	300.0	299.9	10.3	9.2	9.632	ES, SF
PUCKETT 43B-2 - DD - Plan #1	200.0	200.0	13.5	12.9	21.645	CC, ES
PUCKETT 43B-2 - DD - Plan #1	300.0	299.4	15.0	13.9	14.192	SF

Cathedral Energy Services

Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 11D-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	-25.03	28.4	-13.3	31.4					
100.0	100.0	100.0	100.0	0.1	0.1	-25.03	28.4	-13.3	31.4	31.2	0.18	178.849		
200.0	200.0	200.0	200.0	0.3	0.3	-25.03	28.4	-13.3	31.4	30.7	0.62	50.181 CC, ES		
300.0	300.0	299.4	299.4	0.5	0.5	-20.61	30.1	-11.3	32.2	31.1	1.08	29.926		
400.0	400.0	398.4	398.1	0.7	0.8	-120.67	35.3	-5.6	37.0	35.5	1.56	23.775		
500.0	499.6	496.6	495.5	1.0	1.1	-114.95	43.7	3.9	47.5	45.4	2.09	22.757 SF		
600.0	598.8	593.7	590.9	1.2	1.4	-111.86	55.3	17.0	63.4	60.7	2.70	23.483		
700.0	697.1	689.4	684.1	1.6	1.8	-110.45	69.8	33.3	84.1	80.7	3.40	24.710		
800.0	795.2	786.8	778.4	2.0	2.3	-109.75	86.0	51.5	106.7	102.5	4.15	25.683		
900.0	893.2	884.3	872.7	2.4	2.7	-109.29	102.2	69.7	129.3	124.3	4.93	26.210		
1,000.0	991.3	981.7	967.1	2.8	3.2	-108.97	118.3	87.9	151.9	146.1	5.73	26.503		
1,100.0	1,089.4	1,079.1	1,061.4	3.2	3.7	-108.73	134.5	106.1	174.5	167.9	6.54	26.670		
1,200.0	1,187.4	1,176.5	1,155.7	3.6	4.2	-108.54	150.7	124.3	197.1	189.7	7.36	26.777		

Cathedral Energy Services

Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 12A-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	-25.31	21.5	-10.2	23.8					
100.0	100.0	100.0	100.0	0.1	0.1	-25.31	21.5	-10.2	23.8	23.6	0.18	135.590		
200.0	200.0	200.0	200.0	0.3	0.3	-25.31	21.5	-10.2	23.8	23.1	0.62	38.043		
238.8	238.8	238.8	238.8	0.4	0.4	-25.31	21.5	-10.2	23.8	23.0	0.80	29.748 CC		
300.0	300.0	299.9	299.9	0.5	0.5	-23.76	21.8	-9.6	23.9	22.8	1.07	22.242 ES		
400.0	400.0	399.5	399.4	0.7	0.8	-125.01	24.6	-5.2	26.6	25.1	1.54	17.326		
500.0	499.6	498.7	498.0	1.0	1.0	-118.79	30.2	3.5	34.1	32.1	2.05	16.652 SF		
600.0	598.8	597.1	595.2	1.2	1.3	-114.76	38.4	16.4	46.3	43.6	2.64	17.516		
700.0	697.1	694.5	690.5	1.6	1.7	-112.44	49.1	33.3	62.8	59.5	3.34	18.830		
800.0	795.2	792.6	785.9	2.0	2.1	-110.57	61.4	52.6	81.3	77.2	4.09	19.871		
900.0	893.2	890.9	881.5	2.4	2.6	-109.39	73.7	71.9	99.8	94.9	4.88	20.459		
1,000.0	991.3	989.1	977.0	2.8	3.0	-108.57	86.0	91.2	118.3	112.6	5.68	20.811		
1,100.0	1,089.4	1,087.4	1,072.6	3.2	3.5	-107.98	98.2	110.5	136.9	130.4	6.51	21.036		
1,200.0	1,187.4	1,185.7	1,168.1	3.6	4.0	-107.53	110.5	129.8	155.4	148.1	7.34	21.188		
1,300.0	1,285.5	1,283.9	1,263.7	4.1	4.4	-107.18	122.8	149.1	174.0	165.8	8.17	21.296		
1,400.0	1,383.6	1,382.2	1,359.2	4.5	4.9	-106.89	135.1	168.5	192.6	183.6	9.01	21.375		

Cathedral Energy Services

Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 12B-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		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
0.0	0.0	0.0	0.0	0.0	0.0	-26.42	14.2	-7.1	15.9					
100.0	100.0	100.0	100.0	0.1	0.1	-26.42	14.2	-7.1	15.9	15.7	0.18	90.473		
200.0	200.0	200.0	200.0	0.3	0.3	-26.42	14.2	-7.1	15.9	15.2	0.62	25.384		
300.0	300.0	300.0	300.0	0.5	0.5	-26.42	14.2	-7.1	15.9	14.8	1.07	14.763 CC, ES		
400.0	400.0	400.1	400.1	0.7	0.8	-132.28	14.9	-4.5	17.2	15.7	1.53	11.208		
500.0	499.6	500.2	499.8	1.0	1.0	-126.93	16.9	3.1	21.3	19.3	2.02	10.510 SF		
600.0	598.8	599.9	598.7	1.2	1.3	-121.50	20.2	15.7	28.3	25.7	2.59	10.944		
700.0	697.1	699.3	696.4	1.6	1.6	-117.17	24.8	33.1	38.3	35.1	3.26	11.765		
800.0	795.2	798.7	793.7	2.0	2.0	-114.08	29.9	52.5	49.3	45.4	3.99	12.363		
900.0	893.2	898.0	891.1	2.4	2.4	-112.12	34.9	71.8	60.4	55.7	4.77	12.670		
1,000.0	991.3	997.4	988.4	2.8	2.8	-110.77	40.0	91.1	71.6	66.0	5.58	12.842		
1,100.0	1,089.4	1,096.8	1,085.7	3.2	3.2	-109.79	45.1	110.4	82.8	76.4	6.39	12.946		
1,200.0	1,187.4	1,196.1	1,183.1	3.6	3.7	-109.04	50.2	129.8	94.0	86.8	7.22	13.012		
1,300.0	1,285.5	1,295.5	1,280.4	4.1	4.1	-108.45	55.3	149.1	105.2	97.1	8.06	13.056		
1,400.0	1,383.6	1,394.8	1,377.7	4.5	4.5	-107.97	60.3	168.4	116.4	107.5	8.90	13.087		
1,500.0	1,481.6	1,494.2	1,475.1	4.9	4.9	-107.57	65.4	187.7	127.6	117.9	9.74	13.110		
1,600.0	1,579.7	1,593.6	1,572.4	5.4	5.4	-107.24	70.5	207.1	138.9	128.3	10.58	13.126		
1,700.0	1,677.8	1,692.9	1,669.7	5.8	5.8	-106.96	75.6	226.4	150.1	138.7	11.42	13.139		
1,800.0	1,775.8	1,792.3	1,767.1	6.2	6.2	-106.72	80.7	245.7	161.3	149.1	12.27	13.149		
1,900.0	1,873.9	1,891.7	1,864.4	6.7	6.7	-106.51	85.7	265.0	172.6	159.5	13.12	13.157		
2,000.0	1,972.0	1,991.0	1,961.7	7.1	7.1	-106.33	90.8	284.4	183.8	169.9	13.97	13.164		
2,100.0	2,070.0	2,090.4	2,059.1	7.5	7.5	-106.17	95.9	303.7	195.1	180.3	14.81	13.169		

Cathedral Energy Services

Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 12C-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	-23.09	7.3	-3.1	7.9					
100.0	100.0	100.0	100.0	0.1	0.1	-23.09	7.3	-3.1	7.9	7.7	0.18	45.168		
200.0	200.0	200.0	200.0	0.3	0.3	-23.09	7.3	-3.1	7.9	7.3	0.62	12.673		
300.0	300.0	300.0	300.0	0.5	0.5	-23.09	7.3	-3.1	7.9	6.8	1.07	7.371 CC, ES		
400.0	400.0	400.1	400.1	0.7	0.8	-139.63	7.3	-2.4	9.5	7.9	1.54	6.149 SF		
500.0	499.6	500.4	500.2	1.0	1.0	-142.69	7.1	2.8	12.6	10.6	2.04	6.180		
600.0	598.8	600.7	600.0	1.2	1.2	-140.72	6.8	13.3	16.9	14.3	2.59	6.511		
700.0	697.1	701.1	699.1	1.6	1.5	-136.64	6.4	29.1	22.1	19.0	3.18	6.964		
800.0	795.2	801.1	797.2	2.0	1.9	-129.40	5.9	48.5	26.9	23.1	3.82	7.044		
900.0	893.2	900.9	895.1	2.4	2.3	-124.11	5.3	68.0	31.9	27.3	4.56	6.999		
1,000.0	991.3	1,000.8	993.0	2.8	2.7	-120.27	4.8	87.5	37.1	31.7	5.35	6.935		
1,100.0	1,089.4	1,100.6	1,091.0	3.2	3.1	-117.39	4.3	107.1	42.4	36.2	6.16	6.876		
1,200.0	1,187.4	1,200.5	1,188.9	3.6	3.5	-115.15	3.7	126.6	47.8	40.8	7.00	6.827		
1,300.0	1,285.5	1,300.3	1,286.8	4.1	3.9	-113.37	3.2	146.1	53.2	45.4	7.84	6.787		
1,400.0	1,383.6	1,400.1	1,384.7	4.5	4.3	-111.92	2.7	165.7	58.7	50.0	8.69	6.755		
1,500.0	1,481.6	1,500.0	1,482.6	4.9	4.8	-110.72	2.1	185.2	64.3	54.7	9.55	6.729		
1,600.0	1,579.7	1,599.8	1,580.5	5.4	5.2	-109.71	1.6	204.7	69.8	59.4	10.41	6.708		
1,700.0	1,677.8	1,699.7	1,678.4	5.8	5.6	-108.85	1.1	224.3	75.4	64.1	11.27	6.691		
1,800.0	1,775.8	1,799.5	1,776.3	6.2	6.0	-108.10	0.5	243.8	81.0	68.8	12.13	6.677		
1,900.0	1,873.9	1,899.3	1,874.2	6.7	6.5	-107.46	0.0	263.3	86.6	73.6	12.99	6.665		
2,000.0	1,972.0	1,999.2	1,972.1	7.1	6.9	-106.89	-0.5	282.9	92.2	78.3	13.85	6.654		
2,100.0	2,070.0	2,099.0	2,070.0	7.5	7.3	-106.39	-1.1	302.4	97.8	83.1	14.71	6.646		
2,200.0	2,168.1	2,198.9	2,167.9	8.0	7.8	-105.94	-1.6	321.9	103.4	87.8	15.58	6.638		
2,300.0	2,266.2	2,298.7	2,265.9	8.4	8.2	-105.54	-2.1	341.5	109.0	92.6	16.44	6.632		
2,400.0	2,364.2	2,398.5	2,363.8	8.8	8.6	-105.17	-2.7	361.0	114.7	97.4	17.30	6.627		
2,500.0	2,462.3	2,498.4	2,461.7	9.3	9.1	-104.85	-3.2	380.5	120.3	102.1	18.17	6.622		
2,600.0	2,560.4	2,598.2	2,559.6	9.7	9.5	-104.55	-3.8	400.1	125.9	106.9	19.03	6.618		
2,700.0	2,658.4	2,698.0	2,657.5	10.1	9.9	-104.27	-4.3	419.6	131.6	111.7	19.89	6.614		
2,800.0	2,756.5	2,797.9	2,755.4	10.6	10.3	-104.02	-4.8	439.1	137.2	116.5	20.76	6.611		
2,900.0	2,854.6	2,897.7	2,853.3	11.0	10.8	-103.79	-5.4	458.7	142.9	121.3	21.62	6.608		
3,000.0	2,952.6	2,997.6	2,951.2	11.4	11.2	-103.58	-5.9	478.2	148.5	126.0	22.48	6.605		
3,100.0	3,050.7	3,097.4	3,049.1	11.9	11.6	-103.38	-6.4	497.7	154.2	130.8	23.35	6.603		
3,200.0	3,148.8	3,197.2	3,147.0	12.3	12.1	-103.20	-7.0	517.3	159.8	135.6	24.21	6.601		
3,300.0	3,246.8	3,297.1	3,244.9	12.7	12.5	-103.02	-7.5	536.8	165.5	140.4	25.07	6.599		
3,400.0	3,344.9	3,396.9	3,342.8	13.2	12.9	-102.86	-8.0	556.3	171.1	145.2	25.94	6.598		
3,500.0	3,443.0	3,496.8	3,440.7	13.6	13.4	-102.71	-8.6	575.9	176.8	150.0	26.80	6.597		
3,600.0	3,541.0	3,596.6	3,538.7	14.0	13.8	-102.57	-9.1	595.4	182.5	154.8	27.66	6.595		
3,700.0	3,639.1	3,696.4	3,636.6	14.5	14.2	-102.44	-9.6	614.9	188.1	159.6	28.53	6.594		
3,800.0	3,737.1	3,796.3	3,734.5	14.9	14.7	-102.32	-10.2	634.5	193.8	164.4	29.39	6.593		
3,900.0	3,835.2	3,896.1	3,832.4	15.3	15.1	-102.20	-10.7	654.0	199.4	169.2	30.25	6.592		

Cathedral Energy Services

Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 13A-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	158.82	-8.0	3.1	8.6					
100.0	100.0	100.0	100.0	0.1	0.1	158.82	-8.0	3.1	8.6	8.4	0.18	49.018		
200.0	200.0	200.0	200.0	0.3	0.3	158.82	-8.0	3.1	8.6	8.0	0.62	13.753		
234.6	234.6	234.6	234.6	0.4	0.4	158.82	-8.0	3.1	8.6	7.8	0.78	11.011	CC, ES	
300.0	300.0	299.8	299.8	0.5	0.5	156.07	-8.3	3.7	9.1	8.0	1.07	8.532		
400.0	400.0	399.4	399.2	0.7	0.7	40.96	-10.6	8.3	11.4	9.9	1.52	7.543		
500.0	499.6	498.7	498.0	1.0	1.0	39.13	-15.3	17.5	14.3	12.3	2.03	7.051		
600.0	598.8	598.0	596.1	1.2	1.3	40.02	-22.2	31.3	17.6	15.0	2.60	6.781		
700.0	697.1	697.3	693.3	1.6	1.7	42.46	-31.4	49.4	21.2	18.0	3.20	6.619		
800.0	795.2	797.3	790.9	2.0	2.1	45.05	-41.1	68.7	24.7	20.9	3.81	6.487		
900.0	893.2	897.2	888.5	2.4	2.6	46.99	-50.8	88.0	28.3	23.8	4.48	6.321		
1,000.0	991.3	997.1	986.0	2.8	3.0	48.49	-60.5	107.3	31.9	26.7	5.18	6.159		
1,100.0	1,089.4	1,097.1	1,083.6	3.2	3.5	49.69	-70.2	126.5	35.5	29.6	5.91	6.014		
1,200.0	1,187.4	1,197.0	1,181.2	3.6	3.9	50.67	-79.9	145.8	39.1	32.5	6.65	5.887		
1,300.0	1,285.5	1,296.9	1,278.8	4.1	4.4	51.48	-89.6	165.1	42.8	35.4	7.40	5.778		
1,400.0	1,383.6	1,396.9	1,376.3	4.5	4.9	52.16	-99.4	184.3	46.4	38.3	8.17	5.684		
1,500.0	1,481.6	1,496.8	1,473.9	4.9	5.3	52.75	-109.1	203.6	50.1	41.1	8.94	5.603		
1,600.0	1,579.7	1,596.7	1,571.5	5.4	5.8	53.25	-118.8	222.9	53.7	44.0	9.71	5.532		
1,700.0	1,677.8	1,696.7	1,669.1	5.8	6.3	53.69	-128.5	242.2	57.4	46.9	10.49	5.470		
1,800.0	1,775.8	1,796.6	1,766.6	6.2	6.7	54.08	-138.2	261.4	61.0	49.8	11.27	5.416		
1,900.0	1,873.9	1,896.5	1,864.2	6.7	7.2	54.43	-147.9	280.7	64.7	52.6	12.06	5.367		
2,000.0	1,972.0	1,996.5	1,961.8	7.1	7.7	54.73	-157.6	300.0	68.4	55.5	12.84	5.324		
2,100.0	2,070.0	2,096.4	2,059.4	7.5	8.2	55.01	-167.3	319.2	72.0	58.4	13.63	5.285		
2,200.0	2,168.1	2,196.3	2,156.9	8.0	8.6	55.26	-177.1	338.5	75.7	61.3	14.42	5.250		
2,300.0	2,266.2	2,296.3	2,254.5	8.4	9.1	55.48	-186.8	357.8	79.4	64.2	15.21	5.219		
2,400.0	2,364.2	2,396.2	2,352.1	8.8	9.6	55.69	-196.5	377.0	83.0	67.0	16.00	5.190		
2,500.0	2,462.3	2,496.1	2,449.7	9.3	10.0	55.88	-206.2	396.3	86.7	69.9	16.79	5.164		
2,600.0	2,560.4	2,596.1	2,547.2	9.7	10.5	56.05	-215.9	415.6	90.4	72.8	17.59	5.140		
2,700.0	2,658.4	2,696.0	2,644.8	10.1	11.0	56.21	-225.6	434.9	94.1	75.7	18.38	5.118		
2,800.0	2,756.5	2,795.9	2,742.4	10.6	11.5	56.36	-235.3	454.1	97.7	78.6	19.17	5.097		
2,900.0	2,854.6	2,895.9	2,840.0	11.0	11.9	56.50	-245.0	473.4	101.4	81.4	19.97	5.078		
3,000.0	2,952.6	2,995.8	2,937.5	11.4	12.4	56.63	-254.8	492.7	105.1	84.3	20.76	5.061		
3,100.0	3,050.7	3,095.7	3,035.1	11.9	12.9	56.74	-264.5	511.9	108.7	87.2	21.56	5.045		
3,200.0	3,148.8	3,195.6	3,132.7	12.3	13.3	56.86	-274.2	531.2	112.4	90.1	22.35	5.030		
3,300.0	3,246.8	3,295.6	3,230.3	12.7	13.8	56.96	-283.9	550.5	116.1	93.0	23.15	5.016		
3,400.0	3,344.9	3,395.5	3,327.8	13.2	14.3	57.06	-293.6	569.8	119.8	95.8	23.94	5.002		
3,500.0	3,443.0	3,495.4	3,425.4	13.6	14.8	57.15	-303.3	589.0	123.4	98.7	24.74	4.990		
3,600.0	3,541.0	3,595.4	3,523.0	14.0	15.2	57.24	-313.0	608.3	127.1	101.6	25.53	4.979		
3,700.0	3,639.1	3,695.3	3,620.6	14.5	15.7	57.32	-322.8	627.6	130.8	104.5	26.33	4.968		
3,800.0	3,737.1	3,795.2	3,718.1	14.9	16.2	57.40	-332.5	646.8	134.5	107.4	27.13	4.957		
3,900.0	3,835.2	3,895.2	3,815.7	15.3	16.6	57.47	-342.2	666.1	138.2	110.2	27.92	4.948		
4,000.0	3,933.3	3,995.1	3,913.3	15.8	17.1	57.54	-351.9	685.4	141.8	113.1	28.72	4.938		
4,100.0	4,031.3	4,095.0	4,010.8	16.2	17.6	57.60	-361.6	704.6	145.5	116.0	29.52	4.930		
4,200.0	4,129.4	4,195.0	4,108.4	16.7	18.1	57.67	-371.3	723.9	149.2	118.9	30.31	4.922		
4,300.0	4,227.5	4,294.9	4,206.0	17.1	18.5	57.73	-381.0	743.2	152.9	121.8	31.11	4.914		
4,400.0	4,325.5	4,394.8	4,303.6	17.5	19.0	57.78	-390.7	762.5	156.5	124.6	31.91	4.906		
4,500.0	4,423.6	4,494.8	4,401.1	18.0	19.5	57.84	-400.5	781.7	160.2	127.5	32.70	4.899		
4,600.0	4,521.7	4,594.7	4,498.7	18.4	19.9	57.89	-410.2	801.0	163.9	130.4	33.50	4.893		
4,700.0	4,619.7	4,694.6	4,596.3	18.8	20.4	57.94	-419.9	820.3	167.6	133.3	34.30	4.886		
4,800.0	4,717.8	4,794.6	4,693.9	19.3	20.9	57.99	-429.6	839.5	171.3	136.2	35.09	4.880		
4,900.0	4,815.9	4,894.5	4,791.4	19.7	21.4	58.03	-439.3	858.8	174.9	139.0	35.89	4.874		
5,000.0	4,913.9	4,994.4	4,889.0	20.1	21.8	58.07	-449.0	878.1	178.6	141.9	36.69	4.869		

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

Cathedral Energy Services

Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 13A-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
5,100.0	5,012.0	5,094.4	4,986.6	20.6	22.3	58.12	-458.7	897.3	182.3	144.8	37.48	4.863	
5,200.0	5,110.1	5,194.3	5,084.2	21.0	22.8	58.16	-468.4	916.6	186.0	147.7	38.28	4.858	
5,300.0	5,208.1	5,294.2	5,181.7	21.4	23.3	58.20	-478.2	935.9	189.6	150.6	39.08	4.853	
5,400.0	5,306.2	5,394.2	5,279.3	21.9	23.7	58.23	-487.9	955.2	193.3	153.5	39.87	4.849	
5,500.0	5,404.3	5,494.1	5,376.9	22.3	24.2	58.27	-497.6	974.4	197.0	156.3	40.67	4.844 SF	

Cathedral Energy Services

Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	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							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	157.42	-14.9	6.2	16.2					
100.0	100.0	100.0	100.0	0.1	0.1	157.42	-14.9	6.2	16.2	16.0	0.18	92.252		
200.0	200.0	200.0	200.0	0.3	0.3	157.42	-14.9	6.2	16.2	15.5	0.62	25.884	CC, ES	
300.0	300.0	299.2	299.2	0.5	0.5	152.60	-16.3	8.4	18.3	17.3	1.06	17.297		
400.0	400.0	398.2	397.8	0.7	0.8	38.69	-20.2	15.0	23.2	21.7	1.53	15.148		
500.0	499.6	496.8	495.6	1.0	1.0	37.00	-26.7	26.0	28.7	26.6	2.05	13.962		
600.0	598.8	595.1	592.3	1.2	1.4	37.49	-35.8	41.2	34.7	32.1	2.63	13.194		
700.0	697.1	693.5	688.0	1.6	1.8	39.06	-47.4	60.7	41.4	38.1	3.24	12.753		
800.0	795.2	792.8	784.1	2.0	2.3	40.02	-60.4	82.5	49.2	45.3	3.84	12.794		
900.0	893.2	892.5	880.4	2.4	2.8	40.72	-73.4	104.4	57.0	52.5	4.48	12.729		
1,000.0	991.3	992.2	976.8	2.8	3.4	41.24	-86.5	126.2	64.8	59.7	5.14	12.616		
1,100.0	1,089.4	1,091.9	1,073.2	3.2	3.9	41.66	-99.5	148.1	72.6	66.8	5.81	12.493		
1,200.0	1,187.4	1,191.6	1,169.6	3.6	4.4	41.99	-112.6	170.0	80.5	74.0	6.50	12.373		
1,300.0	1,285.5	1,291.3	1,266.0	4.1	5.0	42.27	-125.6	191.9	88.3	81.1	7.20	12.261		
1,400.0	1,383.6	1,391.0	1,362.4	4.5	5.5	42.50	-138.6	213.8	96.1	88.2	7.91	12.159		
1,500.0	1,481.6	1,490.7	1,458.7	4.9	6.1	42.69	-151.7	235.6	104.0	95.3	8.61	12.068		
1,600.0	1,579.7	1,590.4	1,555.1	5.4	6.6	42.86	-164.7	257.5	111.8	102.5	9.33	11.986		
1,700.0	1,677.8	1,690.1	1,651.5	5.8	7.1	43.01	-177.8	279.4	119.6	109.6	10.04	11.912		
1,800.0	1,775.8	1,789.8	1,747.9	6.2	7.7	43.14	-190.8	301.3	127.5	116.7	10.76	11.846		
1,900.0	1,873.9	1,889.4	1,844.3	6.7	8.2	43.25	-203.9	323.2	135.3	123.8	11.48	11.786		
2,000.0	1,972.0	1,989.1	1,940.7	7.1	8.8	43.35	-216.9	345.0	143.1	130.9	12.20	11.732		
2,100.0	2,070.0	2,088.8	2,037.0	7.5	9.3	43.44	-229.9	366.9	151.0	138.0	12.92	11.683		
2,200.0	2,168.1	2,188.5	2,133.4	8.0	9.8	43.52	-243.0	388.8	158.8	145.2	13.65	11.638		
2,300.0	2,266.2	2,288.2	2,229.8	8.4	10.4	43.60	-256.0	410.7	166.6	152.3	14.37	11.597		
2,400.0	2,364.2	2,387.9	2,326.2	8.8	10.9	43.66	-269.1	432.6	174.5	159.4	15.09	11.560		
2,500.0	2,462.3	2,487.6	2,422.6	9.3	11.5	43.72	-282.1	454.4	182.3	166.5	15.82	11.526		
2,600.0	2,560.4	2,587.3	2,519.0	9.7	12.0	43.78	-295.1	476.3	190.2	173.6	16.54	11.494		
2,700.0	2,658.4	2,687.0	2,615.3	10.1	12.5	43.83	-308.2	498.2	198.0	180.7	17.27	11.465	SF	

Cathedral Energy Services

Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 13C-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	-173.20	-18.9	-2.3	19.1					
100.0	100.0	100.0	100.0	0.1	0.1	-173.20	-18.9	-2.3	19.1	18.9	0.18	108.798		
155.6	155.6	155.6	155.6	0.2	0.2	-173.20	-18.9	-2.3	19.1	18.6	0.43	44.836 CC		
200.0	200.0	199.9	199.9	0.3	0.3	-173.61	-19.0	-2.1	19.2	18.5	0.62	30.935 ES		
300.0	300.0	299.2	299.1	0.5	0.5	177.69	-21.5	0.9	21.5	20.5	1.05	20.412		
400.0	400.0	398.0	397.5	0.7	0.8	60.11	-27.2	7.8	27.0	25.5	1.52	17.728		
500.0	499.6	496.5	495.0	1.0	1.1	56.30	-36.0	18.7	34.2	32.2	2.04	16.748		
600.0	598.8	594.5	591.1	1.2	1.5	55.63	-48.0	33.3	42.7	40.1	2.63	16.231		
700.0	697.1	692.5	686.2	1.6	1.9	56.58	-62.9	51.6	52.5	49.2	3.31	15.881		
800.0	795.2	791.9	782.3	2.0	2.4	57.64	-79.2	71.5	62.8	58.8	4.01	15.663		
900.0	893.2	891.4	878.4	2.4	3.0	58.40	-95.4	91.4	73.2	68.4	4.75	15.391		
1,000.0	991.3	990.8	974.5	2.8	3.5	58.97	-111.6	111.3	83.5	78.0	5.52	15.128		
1,100.0	1,089.4	1,090.3	1,070.6	3.2	4.0	59.41	-127.9	131.1	93.9	87.6	6.30	14.894		
1,200.0	1,187.4	1,189.8	1,166.6	3.6	4.6	59.77	-144.1	151.0	104.2	97.1	7.09	14.690		
1,300.0	1,285.5	1,289.2	1,262.7	4.1	5.1	60.06	-160.3	170.9	114.6	106.7	7.89	14.514		
1,400.0	1,383.6	1,388.7	1,358.8	4.5	5.6	60.30	-176.5	190.7	124.9	116.2	8.70	14.362		
1,500.0	1,481.6	1,488.1	1,454.9	4.9	6.2	60.51	-192.8	210.6	135.3	125.8	9.51	14.231		
1,600.0	1,579.7	1,587.6	1,551.0	5.4	6.7	60.69	-209.0	230.5	145.6	135.3	10.32	14.116		
1,700.0	1,677.8	1,687.1	1,647.1	5.8	7.3	60.84	-225.2	250.4	156.0	144.9	11.13	14.015		
1,800.0	1,775.8	1,786.5	1,743.2	6.2	7.8	60.98	-241.4	270.2	166.4	154.4	11.95	13.927		
1,900.0	1,873.9	1,886.0	1,839.3	6.7	8.4	61.09	-257.7	290.1	176.7	164.0	12.76	13.848		
2,000.0	1,972.0	1,985.4	1,935.4	7.1	8.9	61.20	-273.9	310.0	187.1	173.5	13.58	13.778		
2,100.0	2,070.0	2,084.9	2,031.5	7.5	9.5	61.29	-290.1	329.9	197.4	183.0	14.40	13.715 SF		

Cathedral Energy Services

Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 41A-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	-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	298.4	298.4	0.5	0.5	-21.78	38.8	-15.5	41.8	40.7	1.07	38.904		
400.0	400.0	396.3	396.0	0.7	0.8	-126.27	45.9	-12.9	49.4	47.8	1.57	31.395		
500.0	499.6	492.4	491.3	1.0	1.0	-126.23	57.2	-10.6	64.5	62.3	2.11	30.560	SF	
600.0	598.8	585.9	583.6	1.2	1.3	-129.22	72.3	-10.7	87.5	84.8	2.70	32.367		
700.0	697.1	675.8	671.7	1.6	1.7	-132.79	90.4	-13.0	118.7	115.4	3.33	35.697		
800.0	795.2	762.3	755.5	2.0	2.1	-135.64	111.1	-17.2	155.6	151.7	3.89	40.031		
900.0	893.2	847.5	837.1	2.4	2.5	-137.42	134.6	-23.3	196.7	192.3	4.47	44.009		

Cathedral Energy Services

Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 41B-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	-24.94	43.7	-20.3	48.2					
100.0	100.0	100.0	100.0	0.1	0.1	-24.94	43.7	-20.3	48.2	48.0	0.18	274.942		
144.4	144.4	144.4	144.4	0.2	0.2	-24.94	43.7	-20.3	48.2	47.8	0.38	128.498	CC, ES	
200.0	200.0	199.0	199.0	0.3	0.3	-24.86	44.1	-20.4	48.6	48.0	0.62	78.040		
300.0	300.0	296.4	296.2	0.5	0.5	-24.10	48.4	-21.6	53.1	52.1	1.07	49.476		
400.0	400.0	392.8	392.2	0.7	0.8	-132.56	57.3	-24.2	64.4	62.8	1.61	40.154		
500.0	499.6	487.2	485.6	1.0	1.1	-134.48	70.6	-27.9	84.2	82.0	2.17	38.823	SF	
600.0	598.8	578.4	575.1	1.2	1.4	-136.64	87.6	-32.7	112.3	109.6	2.77	40.507		
700.0	697.1	665.9	660.0	1.6	1.8	-138.56	107.8	-38.4	148.5	145.1	3.39	43.824		
800.0	795.2	757.7	748.6	2.0	2.3	-140.32	130.9	-44.9	187.8	183.9	3.91	47.993		

Cathedral Energy Services

Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 41C-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	-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, ES		
300.0	300.0	298.7	298.7	0.5	0.5	-37.20	33.8	-25.7	42.5	41.4	1.07	39.577		
400.0	400.0	396.5	396.3	0.7	0.8	-142.62	40.1	-25.7	49.8	48.2	1.58	31.501		
500.0	499.6	492.5	491.6	1.0	1.0	-141.55	50.8	-26.4	65.7	63.6	2.15	30.564 SF		
600.0	598.8	585.5	583.6	1.2	1.3	-142.93	64.8	-30.0	90.4	87.7	2.75	32.854		
700.0	697.1	676.6	672.8	1.6	1.6	-145.06	81.6	-36.1	123.5	120.2	3.36	36.707		
800.0	795.2	770.0	764.2	2.0	2.0	-146.94	99.5	-43.0	159.0	155.1	3.85	41.244		
900.0	893.2	863.4	855.6	2.4	2.4	-148.13	117.5	-49.9	194.5	190.2	4.36	44.650		

Cathedral Energy Services

Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	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	-36.22	39.7	-29.1	49.2					
100.0	100.0	100.0	100.0	0.1	0.1	-36.22	39.7	-29.1	49.2	49.0	0.18	280.688		
155.6	155.6	155.6	155.6	0.2	0.2	-36.22	39.7	-29.1	49.2	48.8	0.43	115.771 CC		
200.0	200.0	199.4	199.4	0.3	0.3	-36.19	39.8	-29.1	49.4	48.7	0.62	79.206 ES		
300.0	300.0	296.7	296.7	0.5	0.5	-35.52	43.2	-30.8	53.1	52.1	1.07	49.596		
400.0	400.0	393.2	392.7	0.7	0.8	-143.72	50.8	-34.6	64.0	62.4	1.61	39.769		
500.0	499.6	487.9	486.5	1.0	1.1	-145.01	62.6	-40.5	84.0	81.8	2.20	38.164 SF		
600.0	598.8	584.3	581.7	1.2	1.4	-146.95	76.3	-47.4	110.2	107.4	2.79	39.528		
700.0	697.1	679.4	675.5	1.6	1.7	-149.17	89.8	-54.1	140.8	137.4	3.35	42.024		
800.0	795.2	774.0	768.9	2.0	2.1	-151.11	103.3	-60.9	172.7	168.9	3.82	45.265		

Cathedral Energy Services

Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 42A-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	-42.78	24.4	-22.6	33.2					
100.0	100.0	100.0	100.0	0.1	0.1	-42.78	24.4	-22.6	33.2	33.1	0.18	189.653		
200.0	200.0	200.0	200.0	0.3	0.3	-42.78	24.4	-22.6	33.2	32.6	0.62	53.212		
255.6	255.6	255.6	255.6	0.4	0.4	-42.78	24.4	-22.6	33.2	32.4	0.87	38.017 CC		
300.0	300.0	299.6	299.6	0.5	0.5	-42.75	24.5	-22.7	33.4	32.3	1.07	31.140 ES		
400.0	400.0	397.5	397.4	0.7	0.8	-152.11	27.6	-24.9	39.5	38.0	1.58	25.090 SF		
500.0	499.6	493.9	493.4	1.0	1.0	-154.44	34.5	-30.0	55.3	53.2	2.16	25.626		
600.0	598.8	590.5	589.3	1.2	1.3	-156.69	44.0	-37.0	79.0	76.3	2.77	28.512		
700.0	697.1	686.3	684.4	1.6	1.5	-158.86	53.4	-44.0	107.4	104.1	3.33	32.288		
800.0	795.2	781.7	779.0	2.0	1.8	-160.49	62.9	-50.9	137.3	133.6	3.76	36.511		
900.0	893.2	877.1	873.7	2.4	2.1	-161.54	72.3	-57.8	167.3	163.1	4.21	39.716		
1,000.0	991.3	972.4	968.3	2.8	2.4	-162.27	81.7	-64.7	197.3	192.6	4.68	42.194		

Cathedral Energy Services

Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 42B-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	-48.09	17.5	-19.5	26.2					
100.0	100.0	100.0	100.0	0.1	0.1	-48.09	17.5	-19.5	26.2	26.0	0.18	149.291		
200.0	200.0	200.0	200.0	0.3	0.3	-48.09	17.5	-19.5	26.2	25.5	0.62	41.888		
300.0	300.0	300.0	300.0	0.5	0.5	-48.09	17.5	-19.5	26.2	25.1	1.07	24.361 CC, ES		
400.0	400.0	398.8	398.8	0.7	0.8	-158.57	18.3	-20.6	30.0	28.5	1.57	19.119 SF		
500.0	499.6	495.9	495.7	1.0	1.0	-162.70	21.9	-25.7	43.8	41.7	2.15	20.340		
600.0	598.8	593.5	592.9	1.2	1.2	-165.90	27.1	-32.8	65.3	62.5	2.76	23.622		
700.0	697.1	689.9	688.9	1.6	1.5	-168.17	32.2	-39.9	91.7	88.4	3.31	27.672		
800.0	795.2	785.9	784.5	2.0	1.7	-169.65	37.2	-46.9	119.6	115.9	3.73	32.084		
900.0	893.2	881.9	880.1	2.4	2.0	-170.56	42.3	-53.9	147.6	143.5	4.16	35.475		
1,000.0	991.3	977.9	975.7	2.8	2.2	-171.18	47.3	-61.0	175.6	171.0	4.61	38.126		

Cathedral Energy Services

Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	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	-56.70	10.2	-15.5	18.6					
100.0	100.0	100.0	100.0	0.1	0.1	-56.70	10.2	-15.5	18.6	18.4	0.18	105.955		
200.0	200.0	200.0	200.0	0.3	0.3	-56.70	10.2	-15.5	18.6	18.0	0.62	29.728		
300.0	300.0	300.0	300.0	0.5	0.5	-56.70	10.2	-15.5	18.6	17.5	1.07	17.290 CC, ES		
400.0	400.0	399.7	399.7	0.7	0.8	-166.96	10.2	-15.7	21.3	19.7	1.57	13.528 SF		
500.0	499.6	497.8	497.7	1.0	1.0	-173.02	10.5	-19.5	32.5	30.4	2.14	15.222		
600.0	598.8	595.4	595.0	1.2	1.2	-177.50	11.1	-26.6	52.4	49.7	2.75	19.046		
700.0	697.1	692.1	691.5	1.6	1.4	-179.58	11.7	-33.7	77.5	74.2	3.30	23.471		
800.0	795.2	788.5	787.7	2.0	1.7	179.35	12.3	-40.8	104.1	100.4	3.71	28.034		
900.0	893.2	884.9	883.8	2.4	1.9	178.72	12.9	-48.0	130.7	126.6	4.14	31.537		
1,000.0	991.3	981.3	979.9	2.8	2.2	178.31	13.4	-55.1	157.3	152.7	4.59	34.273		
1,100.0	1,089.4	1,077.7	1,076.0	3.2	2.4	178.01	14.0	-62.2	184.0	178.9	5.05	36.448		

Cathedral Energy Services

Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	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	-75.22	3.3	-12.4	12.8					
100.0	100.0	100.0	100.0	0.1	0.1	-75.22	3.3	-12.4	12.8	12.7	0.18	73.273		
200.0	200.0	200.0	200.0	0.3	0.3	-75.22	3.3	-12.4	12.8	12.2	0.62	20.559		
300.0	300.0	300.0	300.0	0.5	0.5	-75.22	3.3	-12.4	12.8	11.8	1.07	11.957 CC, ES		
400.0	400.0	399.5	399.5	0.7	0.7	173.61	2.6	-13.7	16.5	15.0	1.57	10.549 SF		
500.0	499.6	497.8	497.6	1.0	1.0	167.12	-0.5	-19.2	29.4	27.2	2.15	13.695		
600.0	598.8	595.9	595.3	1.2	1.2	164.88	-4.4	-26.5	49.0	46.3	2.73	17.936		
700.0	697.1	692.8	691.9	1.6	1.4	164.96	-8.3	-33.6	73.5	70.2	3.30	22.291		
800.0	795.2	789.4	788.1	2.0	1.7	165.30	-12.2	-40.8	99.3	95.6	3.74	26.588		
900.0	893.2	886.0	884.4	2.4	1.9	165.50	-16.1	-47.9	125.2	121.0	4.20	29.821		
1,000.0	991.3	982.6	980.6	2.8	2.2	165.64	-20.0	-55.0	151.1	146.4	4.68	32.304		
1,100.0	1,089.4	1,079.2	1,076.9	3.2	2.5	165.73	-23.9	-62.1	176.9	171.8	5.17	34.252		

Cathedral Energy Services

Anticollision Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 12D-1
Project:	Garfield County, CO	TVD Reference:	KB=22' @ 8499.0usft
Reference Site:	S2-T7S-R97W (Puckett Pad)	MD Reference:	KB=22' @ 8499.0usft
Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 43A-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	-113.27	-4.0	-9.3	10.1					
100.0	100.0	100.0	100.0	0.1	0.1	-113.27	-4.0	-9.3	10.1	10.0	0.18	57.841		
200.0	200.0	200.0	200.0	0.3	0.3	-113.27	-4.0	-9.3	10.1	9.5	0.62	16.229		
255.6	255.6	255.6	255.6	0.4	0.4	-113.27	-4.0	-9.3	10.1	9.3	0.87	11.593 CC		
300.0	300.0	299.9	299.9	0.5	0.5	-113.67	-4.1	-9.4	10.3	9.2	1.07	9.632 ES, SF		
400.0	400.0	399.1	399.0	0.7	0.7	138.15	-7.1	-11.9	15.7	14.2	1.53	10.304		
500.0	499.6	497.2	496.7	1.0	1.0	140.33	-13.8	-17.7	29.7	27.6	2.10	14.186		
600.0	598.8	595.1	594.0	1.2	1.2	143.36	-22.3	-24.9	49.8	47.1	2.69	18.495		
700.0	697.1	692.0	690.2	1.6	1.5	146.81	-30.7	-32.1	74.1	70.8	3.30	22.465		
800.0	795.2	788.6	786.2	2.0	1.8	149.19	-39.0	-39.2	99.7	95.9	3.81	26.157		
900.0	893.2	885.2	882.2	2.4	2.1	150.60	-47.4	-46.4	125.5	121.2	4.34	28.889		
1,000.0	991.3	981.8	978.1	2.8	2.4	151.52	-55.8	-53.5	151.3	146.4	4.89	30.956		
1,100.0	1,089.4	1,078.4	1,074.1	3.2	2.7	152.18	-64.1	-60.7	177.2	171.7	5.44	32.560		

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Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design S2-T7S-R97W (Puckett Pad) - PUCKETT 43B-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	-152.67	-12.0	-6.2	13.5					
100.0	100.0	100.0	100.0	0.1	0.1	-152.67	-12.0	-6.2	13.5	13.3	0.18	77.146		
200.0	200.0	200.0	200.0	0.3	0.3	-152.67	-12.0	-6.2	13.5	12.9	0.62	21.645 CC, ES		
300.0	300.0	299.4	299.4	0.5	0.5	-152.48	-13.3	-6.9	15.0	13.9	1.06	14.192 SF		
400.0	400.0	398.2	398.0	0.7	0.7	106.25	-18.9	-10.0	22.1	20.6	1.51	14.647		
500.0	499.6	495.6	494.7	1.0	1.0	115.95	-28.7	-15.6	36.4	34.3	2.03	17.899		
600.0	598.8	592.8	590.8	1.2	1.3	123.20	-41.5	-22.7	57.1	54.4	2.64	21.597		
700.0	697.1	689.5	686.4	1.6	1.6	129.27	-54.3	-29.9	81.5	78.2	3.29	24.778		
800.0	795.2	785.9	781.6	2.0	2.0	133.40	-67.1	-37.0	107.4	103.5	3.89	27.581		
900.0	893.2	882.2	876.9	2.4	2.3	135.92	-79.9	-44.2	133.6	129.1	4.51	29.649		
1,000.0	991.3	978.6	972.1	2.8	2.6	137.61	-92.6	-51.3	160.0	154.9	5.13	31.205		
1,100.0	1,089.4	1,074.9	1,067.3	3.2	3.0	138.82	-105.4	-58.5	186.5	180.8	5.76	32.400		

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Site Error:	0.0usft	North Reference:	True
Reference Well:	PUCKETT 12D-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	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 12D-1
Coordinate System is US State Plane 1927 (Exact solution), Colorado Central 502
Grid Convergence at Surface is: -1.69°

