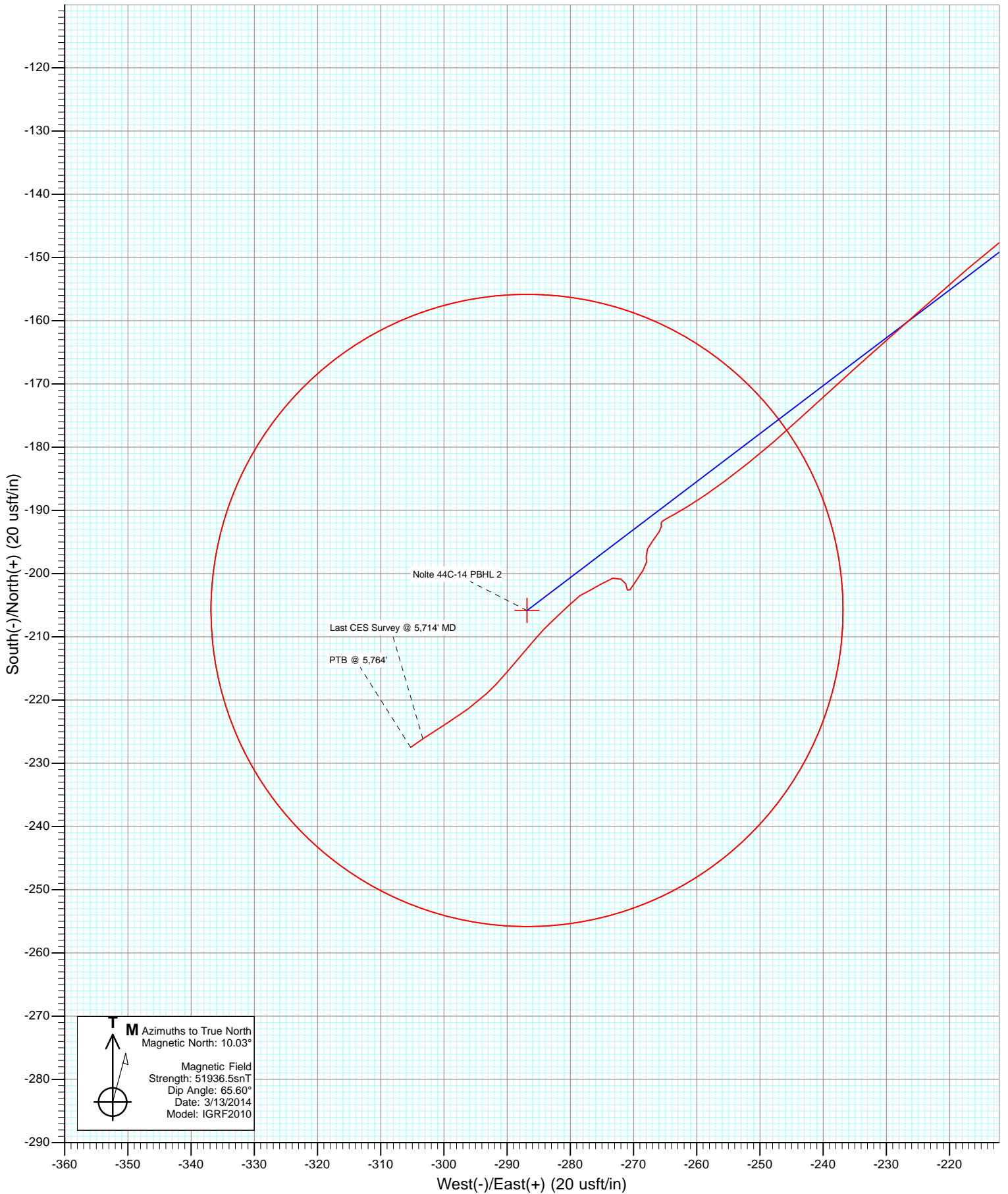


DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Nolte 44C-14 PBHL 2	-205.8	-286.8	592408.50	1274254.59	39.431780	-108.069669



Cathedral Energy Services

Survey Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well Nolte 44C-14
Project:	Garfield County, CO	TVD Reference:	WELL @ 5108.4usft
Site:	S14-T7S-R96W	MD Reference:	WELL @ 5108.4usft
Well:	Nolte 44C-14	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

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		S14-T7S-R96W			
Site Position:		Northing:	592,602.09 usft	Latitude:	39.432320
From:	Lat/Long	Easting:	1,274,369.93 usft	Longitude:	-108.069280
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.62 °

Well	Nolte 44C-14					
Well Position	+N/-S	0.0 usft	Northing:	592,606.13 usft	Latitude:	39.432345
	+E/-W	0.0 usft	Easting:	1,274,547.14 usft	Longitude:	-108.068653
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	5,091.4 usft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/13/2014	10.02	65.60	51,936

Design	FINAL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	229.27	

Survey Program	Date	3/18/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
145.0	5,764.0	Survey #1 (DD)	MWD	Geolink MWD	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100u)	Formations / Comments	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
145.0	0.60	343.30	145.0	0.7	-0.2	-0.3	0.41	0.41		
176.0	0.70	322.70	176.0	1.0	-0.4	-0.4	0.81	0.32		
206.0	0.60	314.30	206.0	1.3	-0.6	-0.4	0.46	-0.33		
236.0	0.70	312.00	236.0	1.5	-0.9	-0.3	0.34	0.33		
267.0	0.40	333.20	267.0	1.7	-1.0	-0.3	1.15	-0.97		
298.0	0.20	280.00	298.0	1.9	-1.1	-0.3	1.04	-0.65		
329.0	0.20	302.90	329.0	1.9	-1.2	-0.3	0.26	0.00		
360.0	0.60	289.40	360.0	2.0	-1.4	-0.2	1.32	1.29		
391.0	1.10	268.80	391.0	2.0	-1.9	0.1	1.87	1.61		
421.0	1.70	263.90	421.0	2.0	-2.6	0.7	2.04	2.00		
451.0	2.50	260.80	451.0	1.8	-3.7	1.6	2.69	2.67		
482.0	3.30	265.80	481.9	1.6	-5.3	2.9	2.70	2.58		

Cathedral Energy Services

Survey Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well Nolte 44C-14
Project:	Garfield County, CO	TVD Reference:	WELL @ 5108.4usft
Site:	S14-T7S-R96W	MD Reference:	WELL @ 5108.4usft
Well:	Nolte 44C-14	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100u)	Formations / Comments
512.0	4.00	261.60	511.9	1.4	-7.2	4.5	2.50	2.33	
543.0	4.80	255.50	542.8	0.9	-9.5	6.6	2.99	2.58	
604.0	5.60	250.90	603.5	-0.7	-14.8	11.6	1.48	1.31	
696.0	6.70	239.20	695.0	-4.9	-23.6	21.1	1.81	1.20	
787.0	7.70	233.20	785.3	-11.3	-33.1	32.4	1.37	1.10	
878.0	8.20	234.10	875.4	-18.7	-43.2	45.0	0.57	0.55	
971.0	8.30	235.50	967.4	-26.4	-54.1	58.2	0.24	0.11	
995.0	8.30	236.20	991.2	-28.4	-57.0	61.7	0.42	0.00	
1,165.0	7.90	237.50	1,159.5	-41.5	-77.0	85.4	0.26	-0.24	
1,260.0	9.60	233.70	1,253.4	-49.7	-88.9	99.8	1.89	1.79	
1,355.0	9.20	231.30	1,347.1	-59.1	-101.2	115.3	0.59	-0.42	
1,450.0	7.20	231.70	1,441.1	-67.5	-111.8	128.8	2.11	-2.11	
1,545.0	6.60	226.90	1,535.4	-74.9	-120.5	140.2	0.88	-0.63	
1,640.0	6.20	223.20	1,629.8	-82.4	-128.0	150.8	0.60	-0.42	
1,735.0	6.50	232.10	1,724.3	-89.5	-135.7	161.2	1.08	0.32	
1,830.0	6.20	228.10	1,818.7	-96.2	-143.8	171.7	0.56	-0.32	
1,925.0	6.10	225.80	1,913.1	-103.1	-151.2	181.9	0.28	-0.11	
2,020.0	6.70	238.20	2,007.5	-109.6	-159.6	192.4	1.58	0.63	
2,115.0	6.60	234.40	2,101.9	-115.7	-168.7	203.3	0.47	-0.11	
2,210.0	6.30	233.90	2,196.3	-121.9	-177.4	214.0	0.32	-0.32	
2,305.0	5.60	234.00	2,290.8	-127.7	-185.3	223.8	0.74	-0.74	
2,400.0	6.40	234.20	2,385.3	-133.5	-193.4	233.7	0.84	0.84	
2,495.0	6.10	233.20	2,479.7	-139.7	-201.7	244.0	0.34	-0.32	
2,590.0	6.00	232.90	2,574.2	-145.7	-209.7	254.0	0.11	-0.11	
2,685.0	5.70	228.40	2,668.7	-151.8	-217.2	263.6	0.58	-0.32	
2,780.0	7.60	228.60	2,763.0	-159.1	-225.4	274.6	2.00	2.00	
2,875.0	7.20	228.40	2,857.2	-167.2	-234.6	286.9	0.42	-0.42	
2,971.0	7.10	227.20	2,952.5	-175.2	-243.5	298.8	0.19	-0.10	
3,066.0	6.20	231.30	3,046.9	-182.4	-251.8	309.8	1.07	-0.95	
3,161.0	4.30	235.90	3,141.5	-187.6	-258.7	318.5	2.05	-2.00	
3,256.0	2.60	242.20	3,236.3	-190.6	-263.6	324.1	1.83	-1.79	
3,351.0	0.30	203.10	3,331.2	-191.9	-265.6	326.4	2.50	-2.42	
3,446.0	0.10	123.80	3,426.2	-192.1	-265.6	326.6	0.31	-0.21	
3,541.0	0.40	190.00	3,521.2	-192.5	-265.6	326.9	0.39	0.32	
3,636.0	0.80	209.20	3,616.2	-193.4	-266.0	327.8	0.47	0.42	
3,731.0	1.00	219.90	3,711.2	-194.6	-266.8	329.2	0.27	0.21	
3,825.0	1.10	206.90	3,805.2	-196.1	-267.8	330.8	0.27	0.11	
3,920.0	0.50	152.10	3,900.2	-197.2	-268.0	331.8	0.96	-0.63	
4,015.0	0.70	192.80	3,995.2	-198.2	-267.9	332.3	0.48	0.21	
4,110.0	1.00	212.10	4,090.2	-199.4	-268.5	333.6	0.43	0.32	
4,205.0	1.30	213.60	4,185.2	-201.0	-269.5	335.4	0.32	0.32	
4,300.0	0.90	215.20	4,280.2	-202.6	-270.6	337.2	0.42	-0.42	
4,395.0	0.70	1.80	4,375.2	-202.6	-271.0	337.5	1.61	-0.21	
4,490.0	0.60	326.00	4,470.1	-201.6	-271.2	337.1	0.43	-0.11	
4,585.0	0.70	303.00	4,565.1	-200.9	-272.0	337.2	0.29	0.11	
4,680.0	1.00	258.40	4,660.1	-200.7	-273.3	338.1	0.74	0.32	
4,775.0	1.60	233.50	4,755.1	-201.7	-275.2	340.1	0.85	0.63	
4,870.0	0.90	253.30	4,850.1	-202.7	-276.9	342.1	0.86	-0.74	
4,965.0	1.20	233.40	4,945.1	-203.5	-278.5	343.8	0.49	0.32	
5,060.0	1.80	225.60	5,040.0	-205.1	-280.3	346.3	0.67	0.63	
5,156.0	2.20	227.80	5,136.0	-207.4	-282.8	349.6	0.42	0.42	
5,251.0	3.30	220.30	5,230.9	-210.7	-285.9	354.1	1.22	1.16	
5,346.0	4.00	220.30	5,325.7	-215.3	-289.8	360.1	0.74	0.74	

Cathedral Energy Services

Survey Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well Nolte 44C-14
Project:	Garfield County, CO	TVD Reference:	WELL @ 5108.4usft
Site:	S14-T7S-R96W	MD Reference:	WELL @ 5108.4usft
Well:	Nolte 44C-14	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100u)	Formations / Comments
5,440.0	2.10	229.10	5,419.5	-219.0	-293.2	365.1	2.08	-2.02	
5,535.0	2.60	232.10	5,514.5	-221.4	-296.2	369.0	0.54	0.53	
5,631.0	2.80	239.40	5,610.3	-224.0	-300.0	373.5	0.41	0.21	
5,714.0	2.70	234.80	5,693.3	-226.1	-303.3	377.4	0.29	-0.12	Last CES Survey @ 5,714' MD
5,764.0	2.70	234.80	5,743.2	-227.5	-305.2	379.7	0.00	0.00	PTB @ 5,764'

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Nolte 44C-14 PBHL 2	0.00	0.00	5,795.6	-205.8	-286.8	592,408.50	1,274,254.59	39.431780	-108.069669
- actual wellpath misses target center by 59.6usft at 5764.0usft MD (5743.2 TVD, -227.5 N, -305.2 E)									
- Circle (radius 50.0)									
Nolte 44C-14 PBHL	0.00	0.00	5,795.6	-238.6	-277.2	592,375.45	1,274,263.35	39.431690	-108.069635
- actual wellpath misses target center by 60.5usft at 5764.0usft MD (5743.2 TVD, -227.5 N, -305.2 E)									
- Circle (radius 50.0)									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
5,714.0	5,693.3	-226.1	-303.3	Last CES Survey @ 5,714' MD
5,764.0	5,743.2	-227.5	-305.2	PTB @ 5,764'

Checked By: _____ Approved By: _____ Date: _____

Caerus Oil & Gas (NAD 27)

Garfield County, CO

S14-T7S-R96W

Nolte 44C-14

DD

Design: FINAL

Survey Report - Geographic

18 March, 2014

Cathedral Energy Services

Survey Report - Geographic

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well Nolte 44C-14
Project:	Garfield County, CO	TVD Reference:	WELL @ 5108.4usft
Site:	S14-T7S-R96W	MD Reference:	WELL @ 5108.4usft
Well:	Nolte 44C-14	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

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	S14-T7S-R96W				
Site Position:		Northing:	592,602.10 usft	Latitude:	39.432320
From:	Lat/Long	Easting:	1,274,369.93 usft	Longitude:	-108.069280
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.62 °

Well	Nolte 44C-14					
Well Position	+N/-S	0.0 usft	Northing:	592,606.13 usft	Latitude:	39.432345
	+E/-W	0.0 usft	Easting:	1,274,547.14 usft	Longitude:	-108.068654
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	5,091.4 usft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/13/2014	10.02	65.60	51,936

Design	FINAL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	229.27	

Survey Program	Date	3/18/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
145.0	5,764.0	Survey #1 (DD)	MWD	Geolink MWD	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.0	0.00	0.00	0.0	0.0	0.0	592,606.13	1,274,547.14	39.432345	-108.068654	
145.0	0.60	343.30	145.0	0.7	-0.2	592,606.86	1,274,546.94	39.432347	-108.068654	
176.0	0.70	322.70	176.0	1.0	-0.4	592,607.17	1,274,546.79	39.432348	-108.068655	
206.0	0.60	314.30	206.0	1.3	-0.6	592,607.43	1,274,546.57	39.432348	-108.068656	
236.0	0.70	312.00	236.0	1.5	-0.9	592,607.67	1,274,546.33	39.432349	-108.068657	
267.0	0.40	333.20	267.0	1.7	-1.0	592,607.90	1,274,546.14	39.432350	-108.068657	
298.0	0.20	280.00	298.0	1.9	-1.1	592,608.01	1,274,546.05	39.432350	-108.068658	
329.0	0.20	302.90	329.0	1.9	-1.2	592,608.05	1,274,545.95	39.432350	-108.068658	
360.0	0.60	289.40	360.0	2.0	-1.4	592,608.14	1,274,545.75	39.432350	-108.068659	
391.0	1.10	268.80	391.0	2.0	-1.9	592,608.20	1,274,545.30	39.432350	-108.068660	
421.0	1.70	263.90	421.0	2.0	-2.6	592,608.17	1,274,544.57	39.432350	-108.068663	
451.0	2.50	260.80	451.0	1.8	-3.7	592,608.05	1,274,543.48	39.432350	-108.068667	

Cathedral Energy Services

Survey Report - Geographic

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well Nolte 44C-14
Project:	Garfield County, CO	TVD Reference:	WELL @ 5108.4usft
Site:	S14-T7S-R96W	MD Reference:	WELL @ 5108.4usft
Well:	Nolte 44C-14	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
482.0	3.30	265.80	481.9	1.6	-5.3	592,607.92	1,274,541.92	39.432349	-108.068672
512.0	4.00	261.60	511.9	1.4	-7.2	592,607.76	1,274,540.02	39.432349	-108.068679
543.0	4.80	255.50	542.8	0.9	-9.5	592,607.34	1,274,537.68	39.432347	-108.068687
604.0	5.60	250.90	603.5	-0.7	-14.8	592,605.88	1,274,532.35	39.432343	-108.068706
696.0	6.70	239.20	695.0	-4.9	-23.6	592,601.91	1,274,523.38	39.432331	-108.068737
787.0	7.70	233.20	785.3	-11.3	-33.1	592,595.81	1,274,513.77	39.432314	-108.068771
878.0	8.20	234.10	875.4	-18.7	-43.2	592,588.64	1,274,503.42	39.432294	-108.068807
971.0	8.30	235.50	967.4	-26.4	-54.1	592,581.26	1,274,492.30	39.432272	-108.068845
995.0	8.30	236.20	991.2	-28.4	-57.0	592,579.40	1,274,489.38	39.432267	-108.068855
1,165.0	7.90	237.50	1,159.5	-41.5	-77.0	592,566.87	1,274,468.97	39.432231	-108.068926
1,260.0	9.60	233.70	1,253.4	-49.7	-88.9	592,559.01	1,274,456.85	39.432209	-108.068968
1,355.0	9.20	231.30	1,347.1	-59.1	-101.2	592,549.92	1,274,444.28	39.432183	-108.069012
1,450.0	7.20	231.70	1,441.1	-67.5	-111.8	592,541.79	1,274,433.44	39.432160	-108.069049
1,545.0	6.60	226.90	1,535.4	-74.9	-120.5	592,534.62	1,274,424.58	39.432139	-108.069080
1,640.0	6.20	223.20	1,629.8	-82.4	-128.0	592,527.36	1,274,416.87	39.432119	-108.069107
1,735.0	6.50	232.10	1,724.3	-89.5	-135.7	592,520.54	1,274,408.92	39.432099	-108.069134
1,830.0	6.20	228.10	1,818.7	-96.2	-143.8	592,514.04	1,274,400.67	39.432081	-108.069163
1,925.0	6.10	225.80	1,913.1	-103.1	-151.2	592,507.31	1,274,393.04	39.432062	-108.069189
2,020.0	6.70	238.20	2,007.5	-109.6	-159.6	592,501.11	1,274,384.54	39.432044	-108.069218
2,115.0	6.60	234.40	2,101.9	-115.7	-168.7	592,495.27	1,274,375.22	39.432027	-108.069251
2,210.0	6.30	233.90	2,196.3	-121.9	-177.4	592,489.27	1,274,366.39	39.432010	-108.069282
2,305.0	5.60	234.00	2,290.8	-127.7	-185.3	592,483.70	1,274,358.27	39.431994	-108.069310
2,400.0	6.40	234.20	2,385.3	-133.5	-193.4	592,478.11	1,274,350.07	39.431978	-108.069338
2,495.0	6.10	233.20	2,479.7	-139.7	-201.7	592,472.23	1,274,341.56	39.431961	-108.069368
2,590.0	6.00	232.90	2,574.2	-145.7	-209.7	592,466.44	1,274,333.39	39.431945	-108.069396
2,685.0	5.70	228.40	2,668.7	-151.8	-217.2	592,460.52	1,274,325.73	39.431928	-108.069423
2,780.0	7.60	228.60	2,763.0	-159.1	-225.4	592,453.47	1,274,317.29	39.431908	-108.069452
2,875.0	7.20	228.40	2,857.2	-167.2	-234.6	592,445.63	1,274,307.90	39.431886	-108.069484
2,971.0	7.10	227.20	2,952.5	-175.2	-243.5	592,437.85	1,274,298.82	39.431864	-108.069515
3,066.0	6.20	231.30	3,046.9	-182.4	-251.8	592,430.90	1,274,290.31	39.431844	-108.069545
3,161.0	4.30	235.90	3,141.5	-187.6	-258.7	592,425.89	1,274,283.21	39.431830	-108.069570
3,256.0	2.60	242.20	3,236.3	-190.6	-263.6	592,423.03	1,274,278.28	39.431822	-108.069587
3,351.0	0.30	203.10	3,331.2	-191.9	-265.6	592,421.85	1,274,276.24	39.431818	-108.069594
3,446.0	0.10	123.80	3,426.2	-192.1	-265.6	592,421.58	1,274,276.20	39.431817	-108.069594
3,541.0	0.40	190.00	3,521.2	-192.5	-265.6	592,421.20	1,274,276.20	39.431816	-108.069594
3,636.0	0.80	209.20	3,616.2	-193.4	-266.0	592,420.31	1,274,275.80	39.431814	-108.069595
3,731.0	1.00	219.90	3,711.2	-194.6	-266.8	592,419.12	1,274,274.91	39.431811	-108.069598
3,825.0	1.10	206.90	3,805.2	-196.1	-267.8	592,417.71	1,274,273.93	39.431807	-108.069602
3,920.0	0.50	152.10	3,900.2	-197.2	-268.0	592,416.54	1,274,273.68	39.431803	-108.069602
4,015.0	0.70	192.80	3,995.2	-198.2	-267.9	592,415.60	1,274,273.72	39.431801	-108.069602
4,110.0	1.00	212.10	4,090.2	-199.4	-268.5	592,414.35	1,274,273.11	39.431797	-108.069604
4,205.0	1.30	213.60	4,185.2	-201.0	-269.5	592,412.78	1,274,272.03	39.431793	-108.069608
4,300.0	0.90	215.20	4,280.2	-202.6	-270.6	592,411.31	1,274,270.96	39.431789	-108.069611
4,395.0	0.70	1.80	4,375.2	-202.6	-271.0	592,411.29	1,274,270.55	39.431789	-108.069613
4,490.0	0.60	326.00	4,470.1	-201.6	-271.2	592,412.29	1,274,270.32	39.431791	-108.069614
4,585.0	0.70	303.00	4,565.1	-200.9	-272.0	592,413.04	1,274,269.58	39.431793	-108.069616
4,680.0	1.00	258.40	4,660.1	-200.7	-273.3	592,413.22	1,274,268.28	39.431794	-108.069621
4,775.0	1.60	233.50	4,755.1	-201.7	-275.2	592,412.32	1,274,266.38	39.431791	-108.069628
4,870.0	0.90	253.30	4,850.1	-202.7	-276.9	592,411.37	1,274,264.57	39.431788	-108.069634
4,965.0	1.20	233.40	4,945.1	-203.5	-278.5	592,410.60	1,274,263.03	39.431786	-108.069639
5,060.0	1.80	225.60	5,040.0	-205.1	-280.3	592,409.02	1,274,261.12	39.431782	-108.069646
5,156.0	2.20	227.80	5,136.0	-207.4	-282.8	592,406.80	1,274,258.62	39.431775	-108.069655
5,251.0	3.30	220.30	5,230.9	-210.7	-285.9	592,403.58	1,274,255.40	39.431766	-108.069666
5,346.0	4.00	220.30	5,325.7	-215.3	-289.8	592,399.08	1,274,251.36	39.431754	-108.069680
5,440.0	2.10	229.10	5,419.5	-219.0	-293.2	592,395.55	1,274,247.84	39.431744	-108.069692

Cathedral Energy Services

Survey Report - Geographic

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well Nolte 44C-14
Project:	Garfield County, CO	TVD Reference:	WELL @ 5108.4usft
Site:	S14-T7S-R96W	MD Reference:	WELL @ 5108.4usft
Well:	Nolte 44C-14	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,535.0	2.60	232.10	5,514.5	-221.4	-296.2	592,393.17	1,274,244.76	39.431737	-108.069702
5,631.0	2.80	239.40	5,610.3	-224.0	-300.0	592,390.74	1,274,240.95	39.431730	-108.069716
5,714.0	2.70	234.80	5,693.3	-226.1	-303.3	592,388.68	1,274,237.55	39.431724	-108.069727
Last CES Survey @ 5,714' MD									
5,764.0	2.70	234.80	5,743.2	-227.5	-305.2	592,387.38	1,274,235.59	39.431720	-108.069734
PTB @ 5,764'									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Nolte 44C-14 PBHL 2	0.00	0.00	5,795.6	-205.8	-286.8	592,408.51	1,274,254.59	39.431780	-108.069669
- actual wellpath misses target center by 59.6usft at 5764.0usft MD (5743.2 TVD, -227.5 N, -305.2 E)									
- Circle (radius 50.0)									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
5,714.0	5,693.3	-226.1	-303.3	Last CES Survey @ 5,714' MD	
5,764.0	5,743.2	-227.5	-305.2	PTB @ 5,764'	

Checked By: _____ Approved By: _____ Date: _____