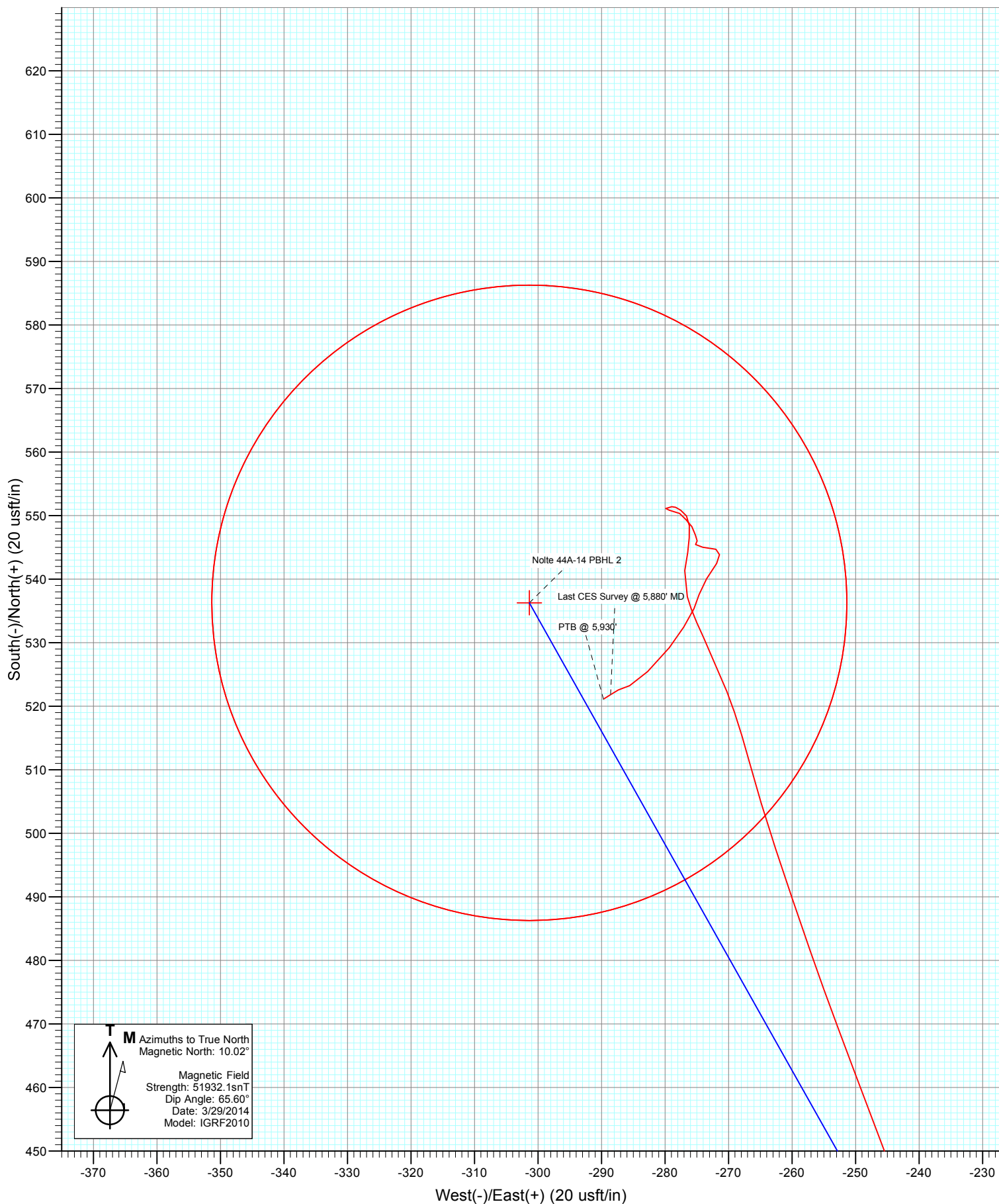




Project: Garfield County, CO
Site: S14-T7S-R96W
Well: Nolte 44A-14
Wellbore: DD
Design: FINAL



Survey Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well Nolte 44A-14
Project:	Garfield County, CO	TVD Reference:	WELL @ 5108.2usft
Site:	S14-T7S-R96W	MD Reference:	WELL @ 5108.2usft
Well:	Nolte 44A-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 44A-14					
Well Position	+N/-S	0.0 usft	Northing:	592,620.10 usft	Latitude:	39.432384
	+E/-W	0.0 usft	Easting:	1,274,554.94 usft	Longitude:	-108.068627
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	5,091.2 usft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/29/2014	10.02	65.60	51,932

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	329.81	

Survey Program	Date	4/4/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
145.0	5,930.0	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	0.70	110.70	145.0	-0.3	0.8	-0.7	0.48	0.48		
206.0	0.70	333.90	206.0	-0.1	1.0	-0.6	2.13	0.00		
268.0	1.50	320.20	268.0	0.9	0.3	0.6	1.35	1.29		
329.0	1.50	327.00	329.0	2.1	-0.6	2.2	0.29	0.00		
421.0	2.80	335.00	420.9	5.2	-2.2	5.6	1.45	1.41		
513.0	4.00	334.90	512.7	10.1	-4.5	11.0	1.30	1.30		
604.0	5.70	332.80	603.4	17.0	-7.9	18.7	1.88	1.87		
695.0	6.60	329.40	693.9	25.5	-12.7	28.5	1.07	0.99		
787.0	8.10	329.30	785.1	35.7	-18.7	40.2	1.63	1.63		
877.0	8.10	327.90	874.2	46.5	-25.3	52.9	0.22	0.00		
970.0	10.00	334.10	966.1	59.3	-32.3	67.5	2.29	2.04		
1,071.0	9.80	334.60	1,065.6	75.0	-39.8	84.8	0.22	-0.20		

Survey Report

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Project:	Garfield County, CO	TVD Reference:	WELL @ 5108.2usft
Site:	S14-T7S-R96W	MD Reference:	WELL @ 5108.2usft
Well:	Nolte 44A-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
1,166.0	11.80	329.90	1,158.9	90.7	-48.1	102.6	2.30	2.11	
1,261.0	13.10	332.40	1,251.6	108.6	-58.0	123.1	1.48	1.37	
1,356.0	15.60	326.90	1,343.7	128.9	-70.0	146.6	2.99	2.63	
1,451.0	16.80	326.30	1,434.9	151.0	-84.6	173.0	1.28	1.26	
1,546.0	18.00	328.40	1,525.5	174.9	-99.9	201.4	1.43	1.26	
1,641.0	20.90	329.70	1,615.1	202.0	-116.1	233.0	3.09	3.05	
1,736.0	20.00	328.20	1,704.1	230.5	-133.2	266.2	1.10	-0.95	
1,831.0	20.30	330.40	1,793.3	258.6	-149.9	298.9	0.86	0.32	
1,926.0	20.00	330.30	1,882.5	287.1	-166.1	331.7	0.32	-0.32	
2,021.0	19.50	329.60	1,971.9	314.8	-182.2	363.8	0.58	-0.53	
2,116.0	18.70	329.60	2,061.7	341.7	-197.9	394.8	0.84	-0.84	
2,211.0	18.50	333.90	2,151.7	368.3	-212.3	425.1	1.46	-0.21	
2,306.0	16.80	337.10	2,242.2	394.5	-224.2	453.8	2.06	-1.79	
2,401.0	15.80	339.80	2,333.4	419.3	-234.0	480.1	1.32	-1.05	
2,496.0	13.90	339.60	2,425.3	442.1	-242.5	504.1	2.00	-2.00	
2,591.0	13.10	339.10	2,517.6	462.9	-250.3	526.0	0.85	-0.84	
2,686.0	11.00	340.80	2,610.5	481.5	-257.1	545.5	2.24	-2.21	
2,781.0	9.60	341.80	2,704.0	497.6	-262.6	562.1	1.49	-1.47	
2,876.0	7.90	344.90	2,797.9	511.4	-266.8	576.2	1.86	-1.79	
2,972.0	5.80	338.60	2,893.2	522.3	-270.3	587.4	2.32	-2.19	
3,067.0	5.30	334.50	2,987.8	530.7	-273.9	596.5	0.67	-0.53	
3,162.0	3.20	344.40	3,082.5	537.3	-276.5	603.4	2.33	-2.21	
3,257.0	1.90	11.50	3,177.4	541.4	-276.9	607.2	1.83	-1.37	
3,352.0	1.60	7.00	3,272.4	544.2	-276.4	609.4	0.35	-0.32	
3,447.0	1.20	4.00	3,367.3	546.5	-276.2	611.3	0.43	-0.42	
3,542.0	1.10	356.40	3,462.3	548.4	-276.2	612.9	0.19	-0.11	
3,637.0	0.90	328.80	3,557.3	550.0	-276.6	614.5	0.54	-0.21	
3,732.0	0.70	296.80	3,652.3	550.9	-277.5	615.7	0.51	-0.21	
3,826.0	0.40	303.20	3,746.3	551.3	-278.3	616.5	0.33	-0.32	
3,921.0	0.40	256.60	3,841.3	551.4	-278.9	616.9	0.33	0.00	
4,016.0	0.80	252.50	3,936.3	551.1	-279.9	617.1	0.42	0.42	
4,111.0	1.40	93.60	4,031.3	550.9	-279.3	616.6	2.28	0.63	
4,206.0	0.80	131.30	4,126.2	550.4	-277.7	615.3	0.96	-0.63	
4,301.0	0.90	138.00	4,221.2	549.4	-276.7	614.0	0.15	0.11	
4,396.0	0.80	141.00	4,316.2	548.3	-275.8	612.6	0.12	-0.11	
4,491.0	1.00	169.60	4,411.2	547.0	-275.2	611.2	0.51	0.21	
4,586.0	0.20	133.50	4,506.2	546.0	-274.9	610.2	0.89	-0.84	
4,681.0	0.70	219.70	4,601.2	545.5	-275.2	609.9	0.75	0.53	
4,776.0	1.80	89.70	4,696.2	545.0	-274.1	608.9	2.43	1.16	
4,871.0	0.80	120.50	4,791.2	544.7	-272.0	607.6	1.25	-1.05	
4,967.0	0.60	178.30	4,887.2	543.9	-271.4	606.6	0.73	-0.21	
5,062.0	1.20	208.40	4,982.2	542.5	-271.9	605.6	0.78	0.63	
5,157.0	2.30	216.00	5,077.1	540.1	-273.5	604.3	1.18	1.16	
5,252.0	1.10	182.30	5,172.1	537.6	-274.6	602.8	1.59	-1.26	
5,346.0	1.90	210.10	5,266.0	535.4	-275.4	601.3	1.13	0.85	
5,441.0	2.10	208.50	5,361.0	532.5	-277.1	599.6	0.22	0.21	
5,536.0	2.70	219.90	5,455.9	529.2	-279.3	597.9	0.80	0.63	
5,630.0	3.50	224.00	5,549.8	525.5	-282.7	596.4	0.88	0.85	
5,725.0	1.00	260.60	5,644.7	523.2	-285.6	595.9	2.91	-2.63	
5,820.0	1.30	240.90	5,739.7	522.6	-287.3	596.2	0.52	0.32	
5,880.0	1.50	237.40	5,799.6	521.8	-288.6	596.2	0.36	0.33	Last CES Survey @ 5,880' MD
5,930.0	1.50	237.40	5,849.6	521.1	-289.7	596.1	0.00	0.00	PTB @ 5,930'

Survey Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well Nolte 44A-14
Project:	Garfield County, CO	TVD Reference:	WELL @ 5108.2usft
Site:	S14-T7S-R96W	MD Reference:	WELL @ 5108.2usft
Well:	Nolte 44A-14	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
Nolte 44A-14 PBHL	0.00	0.00	5,830.4	502.0	-292.1	593,130.11	1,274,277.18	39.433762	-108.069661
- actual wellpath misses target center by 19.6usft at 5911.1usft MD (5830.7 TVD, 521.4 N, -289.3 E)									
- Circle (radius 50.0)									
Nolte 44A-14 PBHL 2	0.00	0.00	5,830.4	536.3	-301.4	593,164.70	1,274,268.87	39.433856	-108.069694
- actual wellpath misses target center by 19.2usft at 5910.8usft MD (5830.4 TVD, 521.4 N, -289.3 E)									
- Circle (radius 50.0)									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
5,880.0	5,799.6	521.8	-288.6	Last CES Survey @ 5,880' MD	
5,930.0	5,849.6	521.1	-289.7	PTB @ 5,930'	

Checked By: _____	Approved By: _____	Date: _____
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