



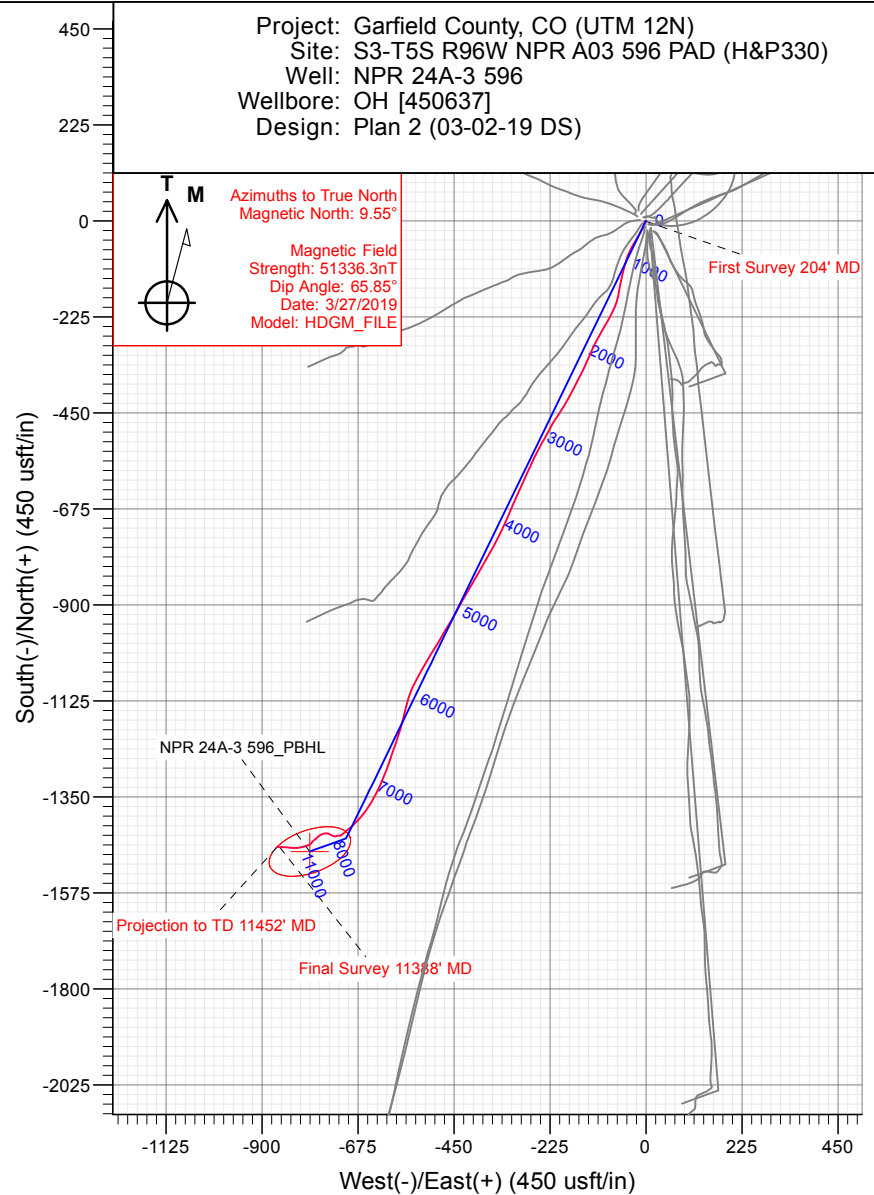
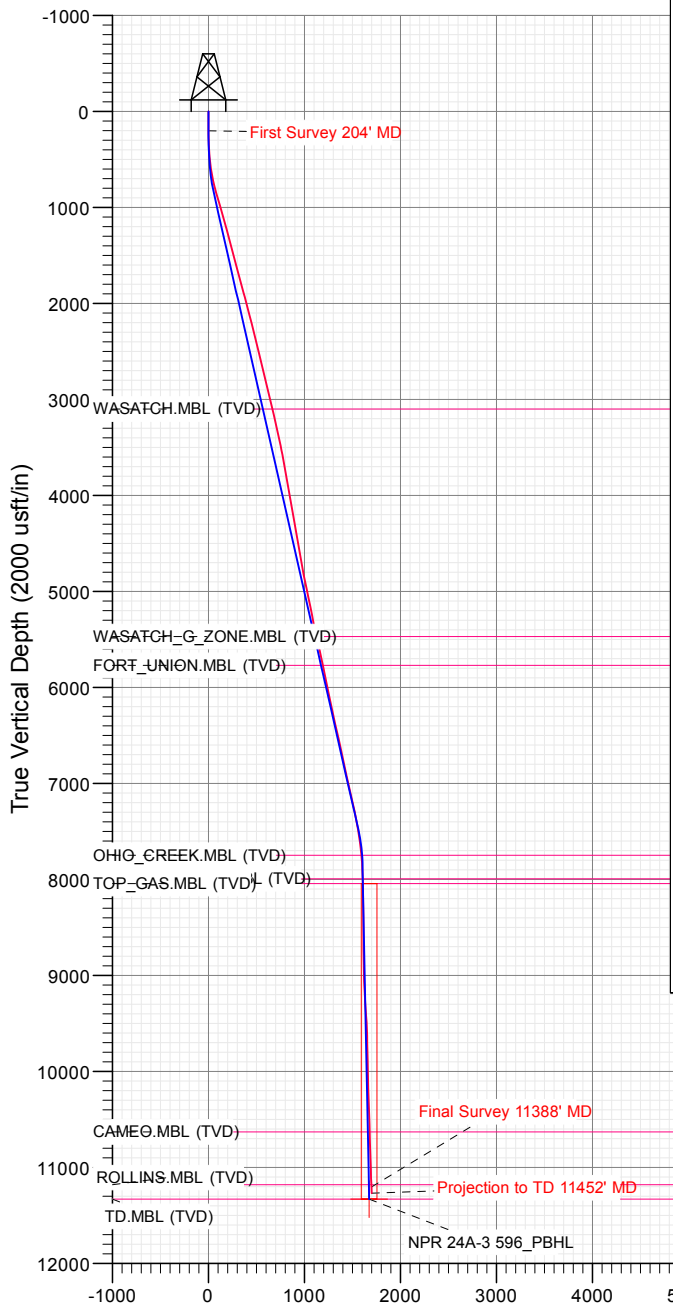
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	350.00	3.00	205.90	349.95	-2.35	-1.14	3.00	205.90	2.62	
4	530.00	3.00	205.90	529.71	-10.83	-5.26	0.00	0.00	12.03	
5	856.86	12.81	205.90	853.07	-51.21	-24.86	3.00	0.00	56.88	
6	7644.30	12.81	205.90	7471.69	-1404.54	-681.92	0.00	0.00	1560.23	
7	8071.16	0.00	0.00	7895.00	-1447.28	-702.67	3.00	180.00	1607.70	
8	8147.43	1.53	250.00	7971.26	-1447.62	-703.62	2.00	250.00	1608.45	
9	11507.36	1.53	250.00	11330.00	-1478.21	-787.67	0.00	0.00	1674.98	NPR 24A-3 596_PBHL

Plan 2 (03-02-19 DS)
NPR 24A-3 596
GL+KB @ 8331.00usft (Original Well Elev)
Ground Level @ 8331.00
NAD 1982 - Western US
Well NPR 24A-3 596, True North

Type	Target	Azimuth	Origin	Type	N/S	E/W	From
TD	No Target (Freehand)	208.05	Slot	Slot	0.00	0.00	TVD
Name	NPR 24A-3 596_PBHL	TVD	+N/-S	+E/-W	Latitude	Longitude	
		11330.00	-1478.21	-787.67	39.643576	-108.150247	

Project: Garfield County, CO (UTM 12N)
Site: S3-T5S R96W NPR A03 596 PAD (H&P330)
Well: NPR 24A-3 596
Wellbore: OH [450637]
Design: Plan 2 (03-02-19 DS)



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3100.00	3161.10	WASATCH.MBL (TVD)
5470.00	5591.56	WASATCH_G_ZONE.MBL (TVD)
5770.00	5899.21	FORT_UNION.MBL (TVD)
7749.00	7925.02	OHIO_CREEK.MBL (TVD)
7995.00	8171.18	WILLIAMS_FORK.MBL (TVD)
8045.00	8221.19	TOP_GAS.MBL (TVD)
10630.00	10807.11	CAMEO.MBL (TVD)
11180.00	11357.31	ROLLINS.MBL (TVD)
11330.00	11507.36	TD.MBL (TVD)

WELL DETAILS: NPR 24A-3 596

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14410500.30	2443449.90	39.647633	-108.147451

CATHEDRAL



Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well NPR 24A-3 596
Project:	Garfield County, CO (UTM 12N)	TVD Reference:	GL+KB @ 8361.00usft (Original Well Elev)
Site:	S3-T5S R96W NPR A03 596 PAD (H&P330)	MD Reference:	GL+KB @ 8361.00usft (Original Well Elev)
Well:	NPR 24A-3 596	North Reference:	True
Wellbore:	OH [450637]	Survey Calculation Method:	Minimum Curvature
Design:	Survey (H&P 330)	Database:	USA EDM 5000 Multi Users DB

Project	Garfield County, CO (UTM 12N)		
Map System:	Universal Transverse Mercator (US Survey Fee	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 - Western US		
Map Zone:	Zone 12N (114 W to 108 W)		

Site		S3-T5S R96W NPR A03 596 PAD (H&P330)				
Site Position:		Northing:	14,410,524.00 usft	Latitude:	39.647700	
From:	Map	Easting:	2,443,431.60 usft	Longitude:	-108.147513	
Position Uncertainty:		3.28 usft	Slot Radius:	13-3/16"	Grid Convergence:	1.82 °

Well	NPR 24A-3 596					
Well Position	+N/-S	0.00 usft	Northing:	14,410,500.30 usft	Latitude:	39.647633
	+E/-W	0.00 usft	Easting:	2,443,449.90 usft	Longitude:	-108.147451
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	8,331.00 usft

Wellbore	OH [450637]				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	3/27/2019	9.55	65.85	51,336.30000000

Design	Survey (H&P 330)				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	208.05	

Survey Program	Date 4/7/2019				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
204.00	11,452.00	CES MWD Survey (OH [450637])	MWD+HDGM	OWSG MWD + HDGM	

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	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
204.00	1.01	244.92	203.99	-0.76	-1.63	1.44	0.50	0.50	First Survey 204' MD	
235.00	1.23	233.06	234.98	-1.08	-2.14	1.96	1.03	0.71		
327.00	2.29	200.10	326.94	-3.40	-3.56	4.67	1.55	1.15		
389.00	2.94	191.84	388.88	-6.12	-4.31	7.43	1.21	1.05		
481.00	4.88	198.34	480.66	-12.14	-6.03	13.55	2.16	2.11		
572.00	7.78	205.72	571.10	-21.37	-9.92	23.52	3.30	3.19		
665.00	10.15	210.64	662.95	-34.09	-16.83	38.00	2.68	2.55		
760.00	12.96	211.79	756.02	-50.35	-26.71	57.00	2.97	2.96		
855.00	15.47	205.28	848.11	-70.87	-37.74	80.29	3.13	2.64		
948.00	17.05	196.76	937.40	-95.14	-46.97	106.05	3.07	1.70		
1,043.00	17.67	193.68	1,028.07	-122.49	-54.39	133.68	1.17	0.65		
1,137.00	16.88	190.34	1,117.83	-149.77	-60.22	160.50	1.35	-0.84		

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well NPR 24A-3 596
Project:	Garfield County, CO (UTM 12N)	TVD Reference:	GL+KB @ 8361.00usft (Original Well Elev)
Site:	S3-T5S R96W NPR A03 596 PAD (H&P330)	MD Reference:	GL+KB @ 8361.00usft (Original Well Elev)
Well:	NPR 24A-3 596	North Reference:	True
Wellbore:	OH [450637]	Survey Calculation Method:	Minimum Curvature
Design:	Survey (H&P 330)	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
1,231.00	15.25	191.57	1,208.16	-175.31	-65.15	185.35	1.77	-1.73	
1,325.00	14.85	201.06	1,298.95	-198.67	-71.95	209.17	2.65	-0.43	
1,419.00	14.68	207.39	1,389.85	-220.49	-81.76	233.04	1.72	-0.18	
1,512.00	14.50	210.73	1,479.86	-240.96	-93.13	256.45	0.93	-0.19	
1,607.00	14.55	210.03	1,571.82	-261.51	-105.18	280.26	0.19	0.05	
1,701.00	15.07	207.39	1,662.70	-282.59	-116.71	304.28	0.91	0.55	
1,795.00	15.65	203.61	1,753.34	-305.05	-127.41	329.14	1.23	0.62	
1,889.00	15.60	203.53	1,843.87	-328.26	-137.54	354.38	0.06	-0.05	
1,984.00	14.55	207.04	1,935.60	-350.60	-148.06	379.04	1.46	-1.11	
2,078.00	14.33	207.92	2,026.63	-371.40	-158.88	402.48	0.33	-0.23	
2,172.00	15.03	205.28	2,117.56	-392.70	-169.53	426.29	1.03	0.74	
2,266.00	15.07	208.80	2,208.34	-414.43	-180.62	450.68	0.97	0.04	
2,361.00	13.84	212.40	2,300.33	-434.84	-192.66	474.36	1.60	-1.29	
2,454.00	13.23	213.54	2,390.75	-453.11	-204.50	496.05	0.72	-0.66	
2,548.00	13.40	210.91	2,482.22	-471.42	-216.04	517.63	0.67	0.18	
2,642.00	13.89	209.33	2,573.57	-490.60	-227.16	539.79	0.65	0.52	
2,736.00	13.80	208.53	2,664.84	-510.29	-238.04	562.28	0.23	-0.10	
2,915.00	14.46	207.13	2,838.42	-548.93	-258.43	605.98	0.42	0.37	
3,010.00	13.05	204.76	2,930.70	-569.23	-268.33	628.55	1.60	-1.48	
3,104.00	12.61	204.14	3,022.35	-588.23	-276.97	649.38	0.49	-0.47	
3,198.00	12.70	204.23	3,114.07	-607.02	-285.41	669.93	0.10	0.10	
3,293.00	12.83	204.05	3,206.72	-626.17	-294.00	690.87	0.14	0.14	
3,387.00	12.52	204.32	3,298.43	-644.99	-302.44	711.45	0.34	-0.33	
3,481.00	12.61	204.58	3,390.18	-663.60	-310.91	731.85	0.11	0.10	
3,576.00	12.00	203.00	3,482.99	-682.12	-319.08	752.04	0.73	-0.64	
3,670.00	10.94	204.14	3,575.11	-699.26	-326.55	770.68	1.15	-1.13	
3,764.00	10.64	203.44	3,667.45	-715.36	-333.65	788.22	0.35	-0.32	
3,858.00	9.32	203.53	3,760.03	-730.30	-340.14	804.46	1.40	-1.40	
3,953.00	10.37	207.92	3,853.63	-744.91	-347.21	820.68	1.36	1.11	
4,048.00	10.28	210.12	3,947.09	-759.80	-355.47	837.70	0.43	-0.09	
4,142.00	9.93	209.94	4,039.63	-774.07	-363.72	854.19	0.37	-0.37	
4,236.00	10.11	207.83	4,132.20	-788.39	-371.62	870.54	0.43	0.19	
4,330.00	9.98	209.77	4,224.76	-802.76	-379.52	886.93	0.39	-0.14	
4,425.00	10.11	209.50	4,318.30	-817.16	-387.71	903.49	0.15	0.14	
4,519.00	9.58	209.59	4,410.92	-831.15	-395.64	919.56	0.56	-0.56	
4,614.00	8.79	212.31	4,504.70	-844.15	-403.42	934.70	0.95	-0.83	
4,708.00	10.68	209.85	4,597.34	-857.78	-411.59	950.57	2.06	2.01	
4,897.00	10.20	209.15	4,783.21	-887.59	-428.46	984.81	0.26	-0.25	
4,992.00	11.91	208.80	4,876.45	-903.52	-437.28	1,003.02	1.80	1.80	
5,086.00	11.91	208.89	4,968.42	-920.52	-446.64	1,022.42	0.02	0.00	
5,180.00	11.56	210.29	5,060.46	-937.14	-456.08	1,041.53	0.48	-0.37	
5,275.00	11.38	211.87	5,153.56	-953.32	-465.83	1,060.39	0.38	-0.19	
5,369.00	11.43	211.26	5,245.70	-969.16	-475.56	1,078.94	0.14	0.05	
5,463.00	11.21	209.94	5,337.88	-985.04	-484.95	1,097.38	0.36	-0.23	
5,557.00	12.70	211.79	5,429.84	-1,001.74	-494.96	1,116.82	1.64	1.59	
5,651.00	13.10	212.84	5,521.46	-1,019.47	-506.18	1,137.75	0.49	0.43	
5,745.00	12.92	210.82	5,613.05	-1,037.45	-517.34	1,158.86	0.52	-0.19	
5,840.00	12.57	206.69	5,705.71	-1,055.80	-527.42	1,179.80	1.03	-0.37	
5,934.00	11.78	206.95	5,797.60	-1,073.50	-536.36	1,199.62	0.84	-0.84	
6,028.00	11.47	207.30	5,889.67	-1,090.35	-545.00	1,218.56	0.34	-0.33	
6,122.00	11.07	201.50	5,981.86	-1,107.06	-552.59	1,236.87	1.28	-0.43	
6,216.00	11.51	195.00	6,074.04	-1,124.51	-558.33	1,254.97	1.43	0.47	
6,310.00	12.22	193.24	6,166.03	-1,143.26	-563.04	1,273.73	0.85	0.76	

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well NPR 24A-3 596
Project:	Garfield County, CO (UTM 12N)	TVD Reference:	GL+KB @ 8361.00usft (Original Well Elev)
Site:	S3-T5S R96W NPR A03 596 PAD (H&P330)	MD Reference:	GL+KB @ 8361.00usft (Original Well Elev)
Well:	NPR 24A-3 596	North Reference:	True
Wellbore:	OH [450637]	Survey Calculation Method:	Minimum Curvature
Design:	Survey (H&P 330)	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
6,404.00	13.45	193.95	6,257.68	-1,163.55	-567.95	1,293.95	1.32	1.31	
6,498.00	12.83	196.23	6,349.22	-1,184.18	-573.50	1,314.77	0.86	-0.66	
6,592.00	12.83	198.16	6,440.88	-1,204.12	-579.67	1,335.26	0.46	0.00	
6,687.00	12.88	198.78	6,533.50	-1,224.17	-586.37	1,356.11	0.15	0.05	
6,781.00	12.92	199.04	6,625.12	-1,244.02	-593.17	1,376.82	0.07	0.04	
6,875.00	11.87	198.78	6,716.93	-1,263.11	-599.71	1,396.75	1.12	-1.12	
6,970.00	12.00	199.04	6,809.88	-1,281.69	-606.08	1,416.14	0.15	0.14	
7,064.00	12.79	203.26	6,901.69	-1,300.49	-613.37	1,436.16	1.28	0.84	
7,159.00	12.57	205.37	6,994.37	-1,319.49	-621.96	1,456.97	0.54	-0.23	
7,253.00	12.52	204.84	7,086.13	-1,337.98	-630.62	1,477.36	0.13	-0.05	
7,347.00	12.79	208.45	7,177.84	-1,356.37	-639.86	1,497.94	0.89	0.29	
7,442.00	12.48	213.02	7,270.55	-1,374.23	-650.46	1,518.68	1.10	-0.33	
7,630.00	10.24	224.62	7,454.88	-1,403.16	-673.27	1,554.94	1.70	-1.19	
7,819.00	7.69	229.36	7,641.55	-1,423.36	-694.67	1,582.83	1.40	-1.35	
7,914.00	5.41	227.43	7,735.93	-1,430.53	-702.79	1,592.98	2.41	-2.40	
8,008.00	4.44	230.60	7,829.58	-1,435.83	-708.87	1,600.52	1.07	-1.03	
8,103.00	2.51	234.37	7,924.40	-1,439.38	-713.40	1,605.78	2.04	-2.03	
8,197.00	1.41	252.92	8,018.34	-1,440.92	-716.18	1,608.44	1.34	-1.17	
8,291.00	1.32	272.34	8,112.32	-1,441.21	-718.37	1,609.73	0.50	-0.10	
8,386.00	1.80	271.73	8,207.28	-1,441.12	-720.95	1,610.87	0.51	0.51	
8,480.00	1.54	257.67	8,301.24	-1,441.35	-723.66	1,612.34	0.51	-0.28	
8,575.00	1.49	254.77	8,396.21	-1,441.95	-726.10	1,614.01	0.10	-0.05	
8,669.00	2.07	253.62	8,490.16	-1,442.75	-728.91	1,616.04	0.62	0.62	
8,763.00	1.80	298.10	8,584.12	-1,442.53	-731.84	1,617.23	1.58	-0.29	
8,952.00	2.86	298.01	8,772.96	-1,438.92	-738.62	1,617.23	0.56	0.56	
9,046.00	3.03	292.65	8,866.83	-1,436.86	-742.98	1,617.46	0.34	0.18	
9,141.00	3.52	272.43	8,961.68	-1,435.77	-748.22	1,618.96	1.31	0.52	
9,235.00	3.82	262.59	9,055.49	-1,436.05	-754.20	1,622.03	0.74	0.32	
9,316.00	3.69	247.56	9,136.32	-1,437.39	-759.29	1,625.60	1.22	-0.16	
9,410.00	3.30	235.08	9,230.14	-1,440.10	-764.30	1,630.35	0.91	-0.41	
9,505.00	4.40	227.61	9,324.93	-1,444.12	-769.24	1,636.22	1.27	1.16	
9,599.00	4.44	228.49	9,418.65	-1,448.96	-774.62	1,643.02	0.08	0.04	
9,693.00	3.65	228.84	9,512.41	-1,453.34	-779.60	1,649.23	0.84	-0.84	
9,787.00	1.67	221.10	9,606.31	-1,456.34	-782.76	1,653.36	2.14	-2.11	
9,881.00	0.57	185.33	9,700.29	-1,457.84	-783.70	1,655.13	1.33	-1.17	
10,070.00	1.49	234.99	9,889.26	-1,460.19	-785.80	1,658.19	0.64	0.49	
10,164.00	1.80	234.11	9,983.22	-1,461.75	-788.00	1,660.60	0.33	0.33	
10,258.00	1.89	245.71	10,077.17	-1,463.26	-790.60	1,663.16	0.41	0.10	
10,447.00	2.99	257.58	10,266.00	-1,465.60	-798.26	1,668.82	0.64	0.58	
10,636.00	2.86	254.33	10,454.75	-1,467.93	-807.61	1,675.28	0.11	-0.07	
10,824.00	2.81	264.08	10,642.52	-1,469.68	-816.71	1,681.10	0.26	-0.03	
11,013.00	4.09	274.36	10,831.18	-1,469.64	-828.04	1,686.39	0.75	0.68	
11,201.00	4.53	273.13	11,018.65	-1,468.73	-842.14	1,692.22	0.24	0.23	
11,295.00	5.05	273.40	11,112.32	-1,468.28	-849.98	1,695.51	0.55	0.55	
11,388.00	5.19	272.43	11,204.95	-1,467.86	-858.27	1,699.03	0.18	0.15	Final Survey 11388' MD
11,452.00	5.19	272.43	11,268.69	-1,467.61	-864.05	1,701.54	0.00	0.00	Projection to TD 11452' MD

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well NPR 24A-3 596
Project:	Garfield County, CO (UTM 12N)	TVD Reference:	GL+KB @ 8361.00usft (Original Well Elev)
Site:	S3-T5S R96W NPR A03 596 PAD (H&P330)	MD Reference:	GL+KB @ 8361.00usft (Original Well Elev)
Well:	NPR 24A-3 596	North Reference:	True
Wellbore:	OH [450637]	Survey Calculation Method:	Minimum Curvature
Design:	Survey (H&P 330)	Database:	USA EDM 5000 Multi Users DB

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)		
NPR 24A-3 596_PBH	0.00	0.00	11,330.00	-1,478.21	-787.67	14,408,997.80	2,442,709.60	39.643576	-108.150247
- actual wellpath misses target center by 98.51usft at 11452.00usft MD (11268.69 TVD, -1467.61 N, -864.05 E)									
- Ellipse (radii L100.00 W50.00 on 250.00 azi)									

Design Annotations

Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
204.00	203.99	-0.76	-1.63	First Survey 204' MD
11,388.00	11,204.95	-1,467.86	-858.27	Final Survey 11388' MD
11,452.00	11,268.69	-1,467.61	-864.05	Projection to TD 11452' MD

Checked By: _____ Approved By: _____ Date: _____