



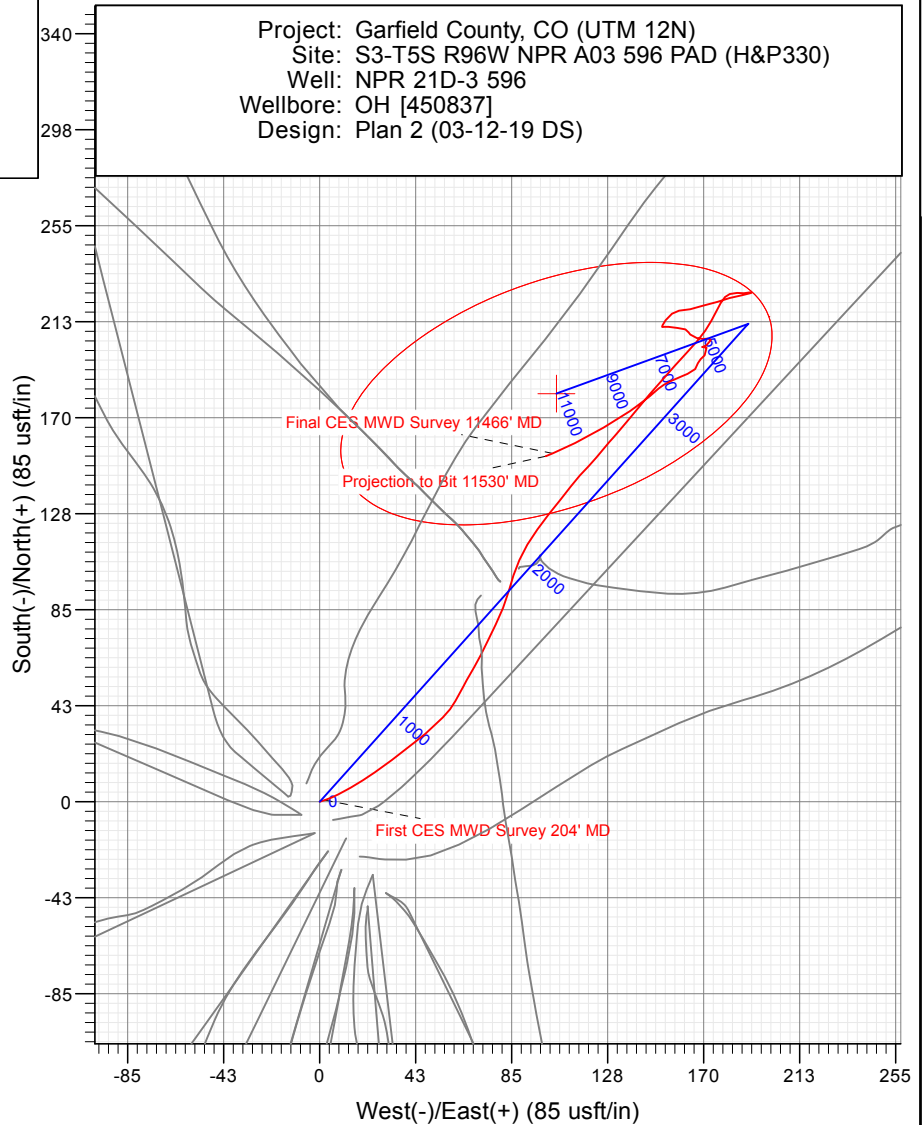
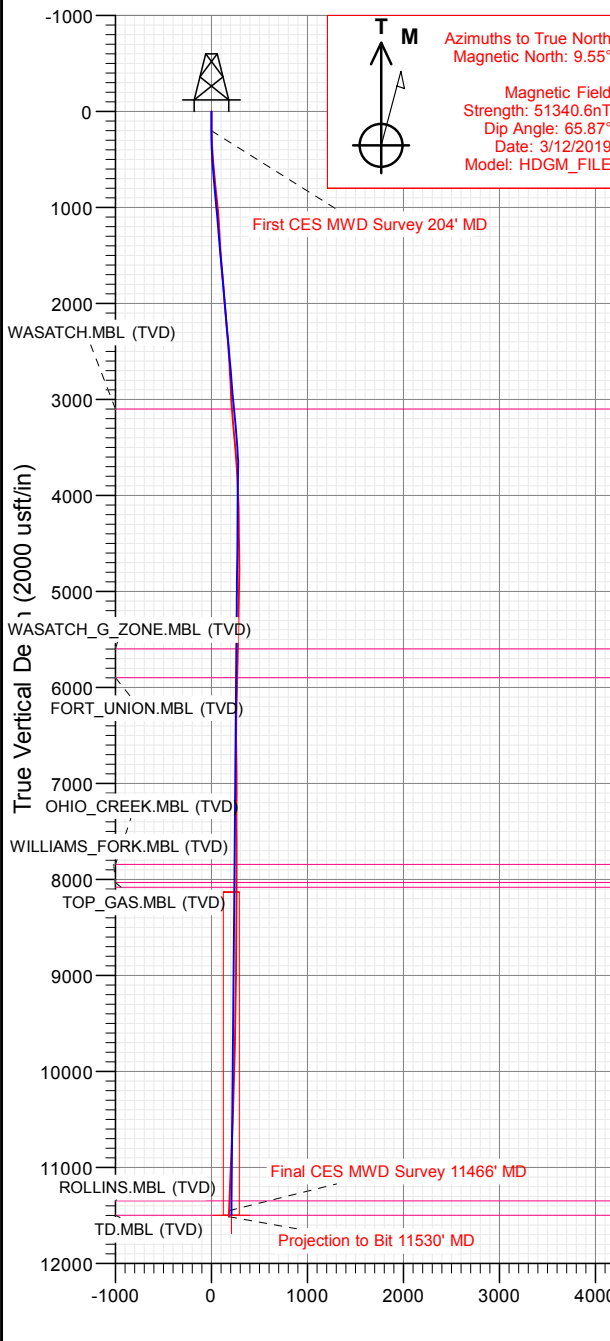
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	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	41.89	349.95	1.95	1.75	3.00	41.89	2.56	
4	530.00	3.00	41.89	529.71	8.96	8.04	0.00	0.00	11.78	
5	600.94	5.13	41.89	600.47	12.70	11.39	3.00	0.00	16.71	
6	3504.38	5.13	41.89	3492.28	205.90	184.69	0.00	0.00	270.78	
7	3675.33	0.00	0.00	3663.00	211.59	189.79	3.00	180.00	278.26	
8	3708.46	0.66	250.00	3696.14	211.53	189.61	2.00	250.00	278.11	
9	11511.85	0.66	250.00	11499.00	180.66	104.79	0.00	0.00	208.85	NPR 21D-3 596_PBHL

Plan 2 (03-12-19 DS)
 NPR 21D-3 596
 GL+KB @ 831.000ft (Original Well Elev)
 Ground Level @ 8331.00
 NAD 1982 - Western US
 Well NPR 21D-3 596, True North

Type	Target	Origin	N/S	E/W	From	
TD	No Target (Freehand)	Slot	0.00	0.00	TVD	
Name		TVD	+N/-S	+E/-W	Latitude	Longitude
NPR 21D-3 596_PBHL		11499.00	180.66	104.79	39.648173	-108.147121

Project: Garfield County, CO (UTM 12N)
 Site: S3-T5S R96W NPR A03 596 PAD (H&P330)
 Well: NPR 21D-3 596
 Wellbore: OH [450837]
 Design: Plan 2 (03-12-19 DS)



FORMATION TOP DETAILS

TVDPPath	MDPath	Formation
3100.00	3110.52	WASATCH.MBL (TVD)
5599.00	5611.45	WASATCH_G_ZONE.MBL (TVD)
5899.00	5911.47	FORT_UNION.MBL (TVD)
7845.00	7857.60	OHIO_CREEK.MBL (TVD)
8033.00	8045.62	TOP_GAS.MBL (TVD)
8083.00	8095.62	WILLIAMS_FORK.MBL (TVD)
11349.00	11361.84	ROLLINS.MBL (TVD)
11499.00	11511.85	TD.MBL (TVD)

WELL DETAILS: NPR 21D-3 596

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14410516.10	2443437.70	39.647677	-108.147493



Survey Report

Company: Caerus Oil & Gas	Local Co-ordinate Reference: Well NPR 21D-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 21D-3 596	North Reference: True
Wellbore: OH [450837]	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 21D-3 596			
Well Position	+N/-S 0.00 usft	Northing: 14,410,516.10 usf	Latitude: 39.647677
	+E/-W 0.00 usft	Easting: 2,443,437.70 usf	Longitude: -108.147493
Position Uncertainty	3.28 usft	Wellhead Elevation: usf	Ground Level: 8,331.00 usft

Wellbore OH [450837]					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	3/12/2019	9.55	65.87	51,340.60000000

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	30.12	

Survey Program		Date 3/21/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
204.00	11,530.00	CES MWD Survey (OH [450837])	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	1.32	71.96	203.98	0.73	2.23	1.75	0.65	0.65	First CES MWD Survey 204' MD	
235.00	1.89	72.23	234.97	0.99	3.06	2.40	1.84	1.84		
296.00	2.77	67.30	295.92	1.87	5.38	4.32	1.48	1.44		
388.00	4.26	60.62	387.74	4.40	10.41	9.03	1.68	1.62		
480.00	4.75	58.60	479.46	8.07	16.64	15.32	0.56	0.53		
571.00	5.45	57.55	570.10	12.35	23.50	22.47	0.78	0.77		
666.00	5.58	50.69	664.66	17.69	30.88	30.80	0.71	0.14		
760.00	6.15	53.07	758.17	23.61	38.44	39.71	0.66	0.61		
854.00	6.64	51.13	851.58	30.05	46.70	49.42	0.57	0.52		
948.00	6.33	43.22	944.98	37.24	54.48	59.54	1.01	-0.33		
1,042.00	4.97	30.30	1,038.53	44.53	60.08	68.66	1.97	-1.45		
1,137.00	4.09	26.35	1,133.23	51.12	63.66	76.16	0.98	-0.93		

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well NPR 21D-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 21D-3 596	North Reference:	True
Wellbore:	OH [450837]	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	2.73	32.50	1,227.06	56.01	66.35	81.74	1.50	-1.45	
1,324.00	2.77	28.19	1,319.95	59.86	68.60	86.20	0.23	0.04	
1,418.00	4.00	27.40	1,413.79	64.77	71.18	91.75	1.31	1.31	
1,512.00	4.88	26.17	1,507.51	71.27	74.46	99.01	0.94	0.94	
1,606.00	4.79	25.56	1,601.17	78.40	77.91	106.91	0.11	-0.10	
1,700.00	5.05	21.34	1,694.83	85.80	81.11	114.91	0.47	0.28	
1,795.00	4.48	16.33	1,789.50	93.25	83.68	122.65	0.74	-0.60	
1,889.00	4.35	17.56	1,883.22	100.17	85.78	129.69	0.17	-0.14	
1,983.00	4.57	23.89	1,976.93	106.99	88.38	136.90	0.57	0.23	
2,077.00	4.92	31.18	2,070.61	113.87	91.98	144.65	0.74	0.37	
2,172.00	4.79	35.31	2,165.27	120.59	96.38	152.67	0.39	-0.14	
2,266.00	5.41	38.74	2,258.90	127.25	101.42	160.96	0.73	0.66	
2,360.00	4.88	38.21	2,352.52	133.85	106.67	169.30	0.57	-0.56	
2,454.00	4.00	37.60	2,446.24	139.59	111.14	176.51	0.94	-0.94	
2,547.00	3.78	41.46	2,539.02	144.45	115.15	182.73	0.37	-0.24	
2,642.00	3.03	45.68	2,633.85	148.55	119.02	188.22	0.83	-0.79	
2,736.00	3.38	40.23	2,727.71	152.41	122.59	193.34	0.49	0.37	
2,824.00	3.03	36.81	2,815.57	156.25	125.66	198.21	0.45	-0.40	
2,907.00	2.46	43.57	2,898.47	159.30	128.20	202.12	0.79	-0.69	
3,002.00	3.60	40.50	2,993.34	163.04	131.54	207.03	1.21	1.20	
3,096.00	4.57	40.50	3,087.10	168.13	135.89	213.62	1.03	1.03	
3,284.00	5.10	39.27	3,274.43	180.30	146.04	229.24	0.29	0.28	
3,473.00	5.05	43.13	3,462.69	192.87	157.05	245.64	0.18	-0.03	
3,662.00	3.91	41.11	3,651.11	203.80	166.97	260.07	0.61	-0.60	
3,850.00	2.94	26.79	3,838.78	212.93	173.36	271.17	0.68	-0.52	
4,039.00	2.37	29.42	4,027.57	220.66	177.47	279.92	0.31	-0.30	
4,228.00	1.36	71.26	4,216.48	224.79	181.51	285.52	0.86	-0.53	
4,417.00	0.70	101.05	4,405.45	225.29	184.77	287.58	0.44	-0.35	
4,606.00	1.10	89.63	4,594.42	225.08	187.71	288.88	0.23	0.21	
4,795.00	0.84	71.26	4,783.40	225.53	190.84	290.84	0.21	-0.14	
4,889.00	0.75	225.07	4,877.39	225.32	191.06	290.77	1.65	-0.10	
5,078.00	1.85	266.99	5,066.35	224.29	187.13	287.91	0.73	0.58	
5,267.00	1.76	246.25	5,255.25	222.96	181.43	283.89	0.35	-0.05	
5,455.00	1.67	259.52	5,443.17	221.30	176.09	279.78	0.22	-0.05	
5,643.00	2.42	251.79	5,631.05	219.56	169.63	275.03	0.42	0.40	
5,831.00	1.14	262.60	5,818.95	218.08	164.01	270.93	0.70	-0.68	
6,020.00	1.85	261.89	6,007.89	217.40	159.12	267.90	0.38	0.38	
6,114.00	2.55	234.38	6,101.82	215.97	155.92	265.05	1.33	0.74	
6,208.00	2.33	213.47	6,195.74	213.16	153.16	261.24	0.97	-0.23	
6,302.00	0.84	206.61	6,289.70	210.95	151.80	258.64	1.60	-1.59	
6,396.00	0.13	181.04	6,383.70	210.23	151.49	257.86	0.77	-0.76	
6,490.00	1.27	81.46	6,477.69	210.27	152.52	258.42	1.38	1.21	
6,584.00	1.10	105.36	6,571.67	210.19	154.42	259.30	0.55	-0.18	
6,773.00	1.32	90.07	6,760.63	209.71	158.35	260.85	0.21	0.12	
6,962.00	0.92	111.16	6,949.59	209.16	161.94	262.18	0.30	-0.21	
7,151.00	0.53	180.60	7,138.58	207.73	163.34	261.65	0.47	-0.21	
7,245.00	1.01	122.15	7,232.57	206.86	164.04	261.24	0.92	0.51	
7,433.00	1.01	114.77	7,420.54	205.28	166.95	261.34	0.07	0.00	
7,622.00	0.79	76.18	7,609.52	204.90	169.73	262.40	0.33	-0.12	
7,811.00	0.40	115.21	7,798.51	204.93	171.59	263.36	0.29	-0.21	
8,000.00	0.35	70.64	7,987.51	204.84	172.73	263.85	0.15	-0.03	
8,189.00	0.44	192.02	8,176.50	204.32	173.12	263.60	0.37	0.05	
8,378.00	1.36	231.04	8,365.48	202.20	171.23	260.82	0.56	0.49	

Survey Report

Company: Caerus Oil & Gas	Local Co-ordinate Reference: Well NPR 21D-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 21D-3 596	North Reference: True
Wellbore: OH [450837]	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 (°/100usft)	Build Rate (°/100u)	Formations / Comments
8,472.00	0.92	260.40	8,459.46	201.37	169.62	259.29	0.76	-0.47	
8,567.00	0.53	79.61	8,554.46	201.32	169.30	259.09	1.53	-0.41	
8,755.00	0.70	109.76	8,742.45	201.09	171.23	259.86	0.19	0.09	
9,132.00	1.23	228.32	9,119.42	197.62	170.38	256.43	0.45	0.14	
9,227.00	1.71	224.72	9,214.39	195.94	168.62	254.09	0.51	0.51	
9,321.00	0.97	195.71	9,308.36	194.17	167.42	251.97	1.04	-0.79	
9,509.00	0.84	214.52	9,496.34	191.51	166.21	249.05	0.17	-0.07	
9,698.00	1.67	249.06	9,685.29	189.38	162.85	245.53	0.58	0.44	
9,791.00	1.32	248.01	9,778.26	188.50	160.59	243.63	0.38	-0.38	
9,980.00	2.02	244.23	9,967.18	186.23	155.57	239.15	0.37	0.37	
10,075.00	2.15	241.06	10,062.12	184.64	152.50	236.24	0.18	0.14	
10,169.00	1.45	224.28	10,156.07	182.94	150.13	233.57	0.92	-0.74	
10,357.00	1.76	233.77	10,344.00	179.53	146.14	228.62	0.22	0.16	
10,452.00	2.51	229.73	10,438.93	177.32	143.38	225.33	0.80	0.79	
10,546.00	2.37	236.93	10,532.85	174.93	140.18	221.65	0.36	-0.15	
10,640.00	1.85	232.98	10,626.78	172.96	137.34	218.52	0.57	-0.55	
10,923.00	3.78	240.36	10,909.43	165.59	125.58	206.25	0.69	0.68	
11,205.00	1.98	243.35	11,191.06	158.81	113.15	194.14	0.64	-0.64	
11,466.00	2.90	246.95	11,451.82	154.20	103.04	185.09	0.36	0.35	Final CES MWD Survey 11466' MD
11,530.00	2.90	246.95	11,515.74	152.93	100.06	182.50	0.00	0.00	Projection to Bit 11530' MD

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
NPR 21D-3 596_PBH	0.00	0.00	11,499.00	180.66	104.79	14,410,700.00	2,443,536.70	39.648173	-108.147121
- hit/miss target									
- survey misses target center by 27.67usft at 11512.51usft MD (11498.27 TVD, 153.28 N, 100.88 E)									
- Ellipse (radii L100.00 W50.00 on 250.00 azi)									

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
204.00	203.98	0.73	2.23	First CES MWD Survey 204' MD	
11,466.00	11,451.82	154.20	103.04	Final CES MWD Survey 11466' MD	
11,530.00	11,515.74	152.93	100.06	Projection to Bit 11530' MD	

Checked By: _____	Approved By: _____	Date: _____
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