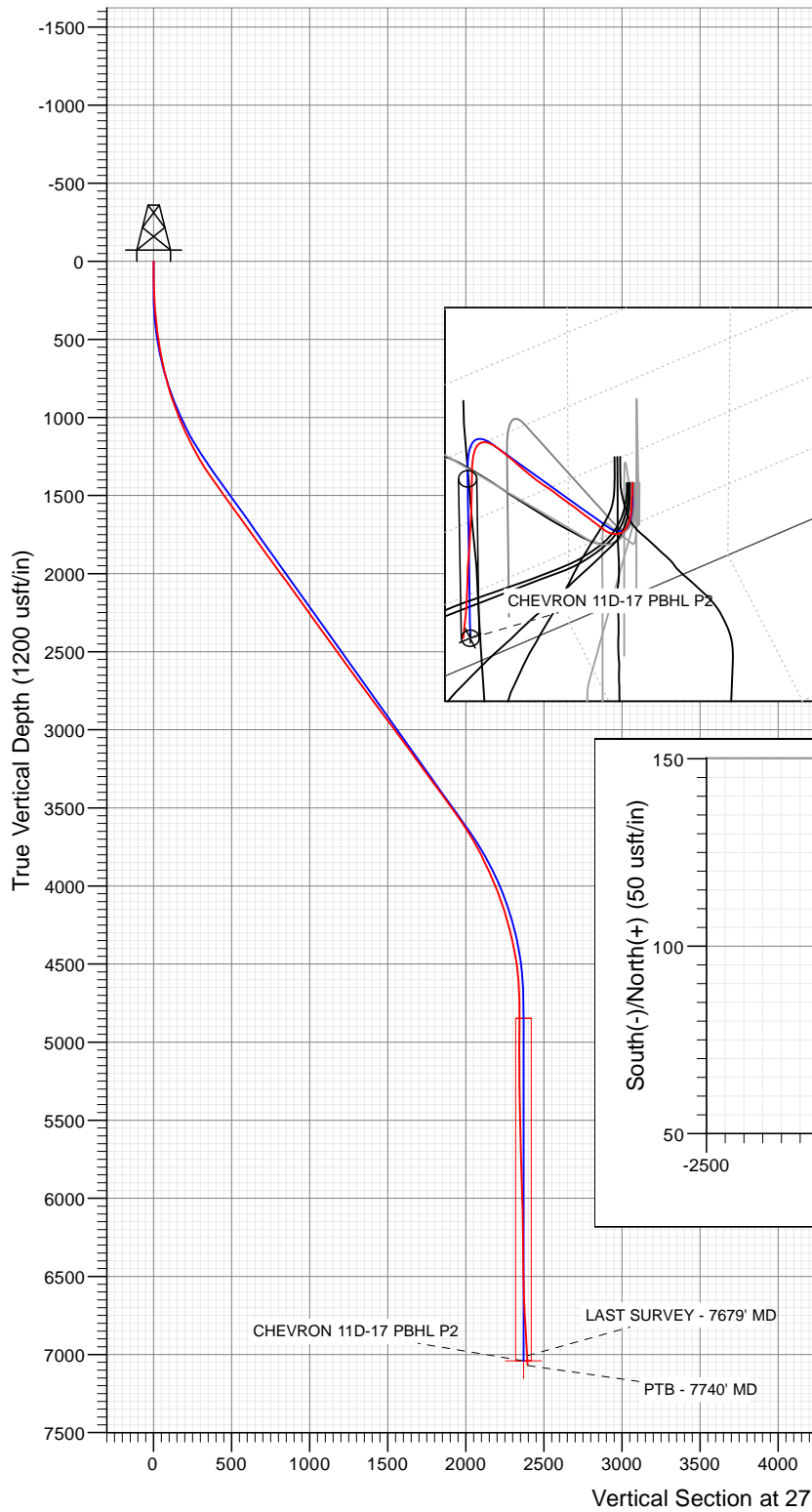


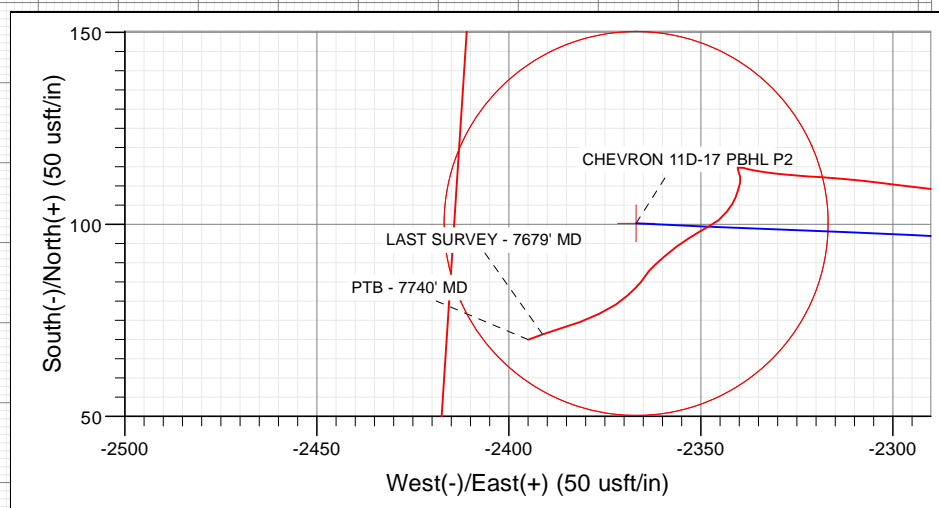
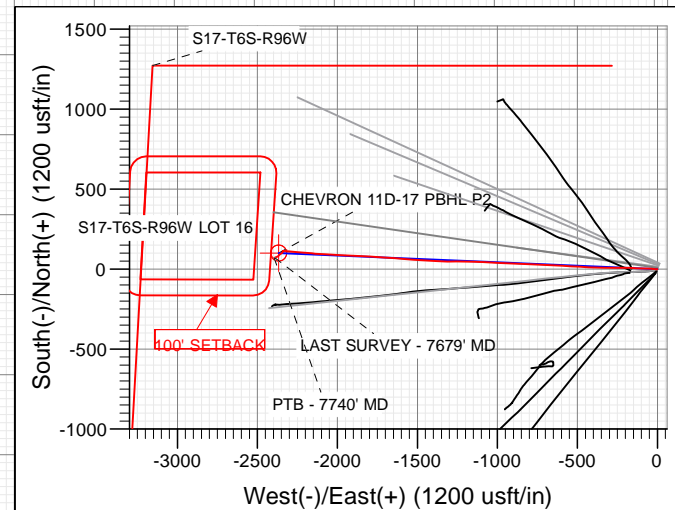


Project: Garfield County, CO (UTM 12N)  
 Site: S17-T6S-R96W (PC5A)  
 Well: CHEVRON 11D-17  
 Wellbore: OH  
 Design: FINAL



FINAL  
 CHEVRON 11D-17  
 273437 175091; LR  
 30' KB @ 5613.00usft  
 Ground Level @ 5583.00  
 NAD 1927 - Western US  
 Well CHEVRON 11D-17, True North

Type	Target	No. Target	Freehand	Azimuth	Origin	Type	N/S	E/W	From	TVD
Name	CHEVRON 11D-17 PBHL									
	CHEVRON 11D-17 PBHL P2									
TVD	7040.00	100.26	-2416.83	39.528524	-108.137397					
	7040.00	100.26	-2366.83	39.528524	-108.137397					



Azimuths to True North  
 Magnetic North: 9.67°  
 Magnetic Field  
 Strength: 51718.5nT  
 Dip Angle: 65.90°  
 Date: 6/3/2017  
 Model: HDGM



WELL DETAILS: CHEVRON 11D-17

+N/-S	+E/-W	Northing	Ground Level: Easting	5583.00	Latitude	Longitude
0.00	0.00	14367186.90	2450031.80		39.528249	-108.129010



# Cathedral Energy Services

## Survey Report

<b>Company:</b>	Caerus Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well CHEVRON 11D-17
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>TVD Reference:</b>	30' KB @ 5613.00usft
<b>Site:</b>	S17-T6S-R96W (PC5A)	<b>MD Reference:</b>	30' KB @ 5613.00usft
<b>Well:</b>	CHEVRON 11D-17	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	USA EDM 5000 Multi Users DB

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

<b>Site</b>	S17-T6S-R96W (PC5A)		
<b>Site Position:</b>		<b>Northing:</b>	14,367,212.50 usft
<b>From:</b>	Map	<b>Easting:</b>	2,450,041.70 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16"
		<b>Latitude:</b>	39.528318
		<b>Longitude:</b>	-108.128972
		<b>Grid Convergence:</b>	1.83 °

Well	CHEVRON 11D-17					
Well Position	+N/-S	0.00 usft	Northing:	14,367,186.90 usft	Latitude:	39.528249
	+E/-W	0.00 usft	Easting:	2,450,031.80 usft	Longitude:	-108.129010
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,583.00 usft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	6/3/2017	9.67	65.90	51,718.50000000

<b>Design</b>	FINAL				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	273.01	

<b>Survey Program</b>	<b>Date</b>	6/8/2017			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
118.00	7,740.00	Survey #1 (OH)	MWD+HDGM	OWSG MWD + HDGM	

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usf)</b>	<b>Build Rate (°/100u)</b>	<b>Formations / Comments</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
118.00	0.92	252.07	117.99	-0.29	-0.90	0.88	0.78	0.78		
148.00	1.58	257.17	147.99	-0.46	-1.53	1.51	2.23	2.20		
209.00	2.55	263.23	208.95	-0.80	-3.70	3.65	1.63	1.59		
301.00	4.18	280.73	300.79	-0.42	-9.03	8.99	2.07	1.77		
394.00	6.06	279.67	393.41	1.03	-17.20	17.23	2.02	2.02		
486.00	7.82	271.15	484.74	1.98	-28.24	28.31	2.21	1.91		
577.00	9.93	270.88	574.64	2.22	-42.28	42.34	2.32	2.32		
672.00	12.48	270.35	667.82	2.41	-60.74	60.78	2.69	2.68		
766.00	15.07	272.02	759.11	2.90	-83.11	83.15	2.79	2.76		
861.00	17.53	274.66	850.29	4.50	-109.72	109.80	2.70	2.59		
955.00	20.26	272.64	939.22	6.40	-140.09	140.23	2.99	2.90		
994.00	22.02	271.94	975.59	6.96	-154.15	154.30	4.56	4.51		

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	Caerus Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well CHEVRON 11D-17
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>TVD Reference:</b>	30' KB @ 5613.00usft
<b>Site:</b>	S17-T6S-R96W (PC5A)	<b>MD Reference:</b>	30' KB @ 5613.00usft
<b>Well:</b>	CHEVRON 11D-17	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	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
1,083.00	23.42	270.27	1,057.68	7.61	-188.51	188.65	1.73	1.57	
1,178.00	26.28	269.04	1,143.88	7.34	-228.43	228.50	3.06	3.01	
1,272.00	28.70	270.35	1,227.26	7.13	-271.81	271.81	2.65	2.57	
1,367.00	31.77	270.62	1,309.33	7.54	-319.64	319.59	3.23	3.23	
1,461.00	34.67	272.29	1,387.96	8.88	-371.11	371.06	3.23	3.09	
1,556.00	36.74	273.08	1,465.10	11.49	-426.49	426.50	2.23	2.18	
1,649.00	35.99	273.17	1,539.99	14.49	-481.55	481.64	0.81	-0.81	
1,744.00	34.89	272.90	1,617.38	17.41	-536.55	536.73	1.17	-1.16	
1,838.00	35.51	273.69	1,694.20	20.53	-590.65	590.91	0.82	0.66	
1,932.00	35.82	272.29	1,770.57	23.38	-645.38	645.72	0.93	0.33	
2,027.00	36.69	272.82	1,847.17	25.89	-701.50	701.89	0.97	0.92	
2,121.00	36.83	272.73	1,922.48	28.61	-757.69	758.15	0.16	0.15	
2,216.00	35.38	272.20	1,999.23	31.03	-813.62	814.12	1.56	-1.53	
2,310.00	36.48	272.29	2,075.35	33.19	-868.73	869.28	1.17	1.17	
2,405.00	34.76	271.67	2,152.57	35.10	-924.03	924.59	1.85	-1.81	
2,499.00	36.08	273.17	2,229.17	37.42	-978.45	979.07	1.68	1.40	
2,594.00	36.69	273.08	2,305.65	40.49	-1,034.72	1,035.42	0.64	0.64	
2,688.00	35.24	272.90	2,381.73	43.37	-1,089.85	1,090.62	1.55	-1.54	
2,783.00	35.51	271.94	2,459.19	45.69	-1,144.80	1,145.62	0.65	0.28	
2,877.00	35.64	271.23	2,535.65	47.20	-1,199.46	1,200.29	0.46	0.14	
2,972.00	35.90	269.74	2,612.73	47.67	-1,254.99	1,255.76	0.96	0.27	
3,066.00	36.48	270.09	2,688.59	47.59	-1,310.49	1,311.18	0.66	0.62	
3,161.00	37.40	272.90	2,764.53	49.09	-1,367.55	1,368.24	2.02	0.97	
3,255.00	36.21	273.69	2,839.79	52.32	-1,423.77	1,424.55	1.36	-1.27	
3,350.00	36.78	272.90	2,916.16	55.57	-1,480.18	1,481.05	0.78	0.60	
3,444.00	37.18	274.75	2,991.26	59.34	-1,536.59	1,537.59	1.26	0.43	
3,538.00	35.64	274.40	3,066.90	63.80	-1,592.20	1,593.36	1.65	-1.64	
3,633.00	36.43	274.40	3,143.73	68.09	-1,647.93	1,649.23	0.83	0.83	
3,727.00	35.24	273.96	3,219.93	72.10	-1,702.81	1,704.25	1.30	-1.27	
3,822.00	36.43	273.96	3,296.95	75.94	-1,758.29	1,759.86	1.25	1.25	
3,916.00	37.09	272.82	3,372.26	79.26	-1,814.45	1,816.11	1.01	0.70	
4,011.00	35.95	272.64	3,448.60	81.96	-1,870.92	1,872.64	1.21	-1.20	
4,105.00	35.29	273.25	3,525.01	84.77	-1,925.59	1,927.39	0.80	-0.70	
4,200.00	33.97	272.99	3,603.18	87.71	-1,979.50	1,981.37	1.40	-1.39	
4,294.00	31.03	272.90	3,682.45	90.30	-2,029.93	2,031.87	3.13	-3.13	
4,389.00	27.99	273.69	3,765.12	92.98	-2,076.64	2,078.66	3.23	-3.20	
4,483.00	25.36	273.08	3,849.11	95.48	-2,118.76	2,120.85	2.81	-2.80	
4,577.00	24.30	274.92	3,934.42	98.22	-2,158.14	2,160.32	1.40	-1.13	
4,672.00	21.58	275.89	4,021.89	101.69	-2,195.00	2,197.31	2.89	-2.86	
4,766.00	19.20	273.96	4,110.00	104.53	-2,227.62	2,230.03	2.63	-2.53	
4,860.00	15.95	273.52	4,199.60	106.39	-2,255.93	2,258.41	3.46	-3.46	
4,955.00	14.02	275.45	4,291.37	108.29	-2,280.42	2,282.96	2.10	-2.03	
5,049.00	11.73	277.30	4,383.00	110.58	-2,301.24	2,303.87	2.48	-2.44	
5,144.00	9.05	273.43	4,476.43	112.26	-2,318.28	2,320.97	2.91	-2.82	
5,238.00	5.93	276.33	4,569.62	113.24	-2,330.49	2,333.22	3.34	-3.32	
5,332.00	3.12	285.38	4,663.32	114.45	-2,337.78	2,340.56	3.08	-2.99	
5,427.00	0.44	199.25	4,758.27	114.79	-2,340.39	2,343.19	3.29	-2.82	
5,521.00	0.92	153.99	4,852.26	113.77	-2,340.18	2,342.93	0.73	0.51	
5,616.00	0.92	172.36	4,947.25	112.33	-2,339.75	2,342.42	0.31	0.00	
5,710.00	0.97	190.73	5,041.24	110.80	-2,339.79	2,342.38	0.33	0.05	
5,805.00	1.32	196.44	5,136.22	108.96	-2,340.25	2,342.75	0.39	0.37	
5,900.00	1.10	202.24	5,231.20	107.07	-2,340.91	2,343.30	0.26	-0.23	
5,994.00	1.23	212.52	5,325.18	105.38	-2,341.79	2,344.10	0.26	0.14	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	Caerus Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well CHEVRON 11D-17
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>TVD Reference:</b>	30' KB @ 5613.00usft
<b>Site:</b>	S17-T6S-R96W (PC5A)	<b>MD Reference:</b>	30' KB @ 5613.00usft
<b>Well:</b>	CHEVRON 11D-17	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	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
6,089.00	1.71	215.69	5,420.15	103.37	-2,343.17	2,345.36	0.51	0.51	
6,183.00	2.11	230.19	5,514.09	101.12	-2,345.31	2,347.39	0.66	0.43	
6,278.00	1.54	248.38	5,609.05	99.53	-2,347.84	2,349.83	0.85	-0.60	
6,372.00	1.89	235.55	5,703.01	98.19	-2,350.30	2,352.21	0.55	0.37	
6,467.00	2.20	238.63	5,797.94	96.36	-2,353.15	2,354.96	0.35	0.33	
6,561.00	2.33	234.06	5,891.87	94.30	-2,356.23	2,357.94	0.24	0.14	
6,656.00	2.73	228.78	5,986.78	91.67	-2,359.50	2,361.06	0.49	0.42	
6,750.00	1.23	223.77	6,080.72	89.47	-2,361.88	2,363.32	1.60	-1.60	
6,845.00	1.32	225.18	6,175.70	87.96	-2,363.36	2,364.72	0.10	0.09	
6,939.00	1.14	209.89	6,269.67	86.39	-2,364.60	2,365.87	0.40	-0.19	
7,034.00	0.92	219.64	6,364.66	84.98	-2,365.55	2,366.75	0.30	-0.23	
7,128.00	1.36	224.74	6,458.64	83.61	-2,366.82	2,367.95	0.48	0.47	
7,223.00	2.20	227.38	6,553.59	81.57	-2,368.95	2,369.97	0.89	0.88	
7,318.00	2.68	236.34	6,648.51	79.10	-2,372.15	2,373.03	0.64	0.51	
7,412.00	3.30	244.34	6,742.38	76.71	-2,376.41	2,377.17	0.79	0.66	
7,506.00	3.38	249.79	6,836.22	74.59	-2,381.45	2,382.09	0.35	0.09	
7,601.00	3.25	253.48	6,931.06	72.85	-2,386.66	2,387.20	0.26	-0.14	
7,679.00	3.74	250.05	7,008.92	71.36	-2,391.17	2,391.62	0.68	0.63	LAST SURVEY - 7679' MD
7,740.00	3.74	250.05	7,069.79	70.00	-2,394.91	2,395.29	0.00	0.00	PTB - 7740' MD

### Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
CHEVRON 11D-17 PBH	0.00	0.00	7,040.00	100.26	-2,366.83	14,367,211.60	2,447,662.98	39.528524	-108.137397
- hit/miss target									
- Shape									
- actual wellpath misses target center by 48.93usft at 7679.00usft MD (7008.92 TVD, 71.36 N, -2391.17 E)									
- Circle (radius 50.00)									
CHEVRON 11D-17 PBH	0.00	0.00	7,040.00	100.26	-2,416.83	14,367,210.00	2,447,613.00	39.528524	-108.137574
- actual wellpath misses target center by 37.94usft at 7710.95usft MD (7040.80 TVD, 70.64 N, -2393.13 E)									
- Circle (radius 50.00)									

### Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
7,679.00	7,008.92	71.36	-2,391.17	LAST SURVEY - 7679' MD
7,740.00	7,069.79	70.00	-2,394.91	PTB - 7740' MD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_