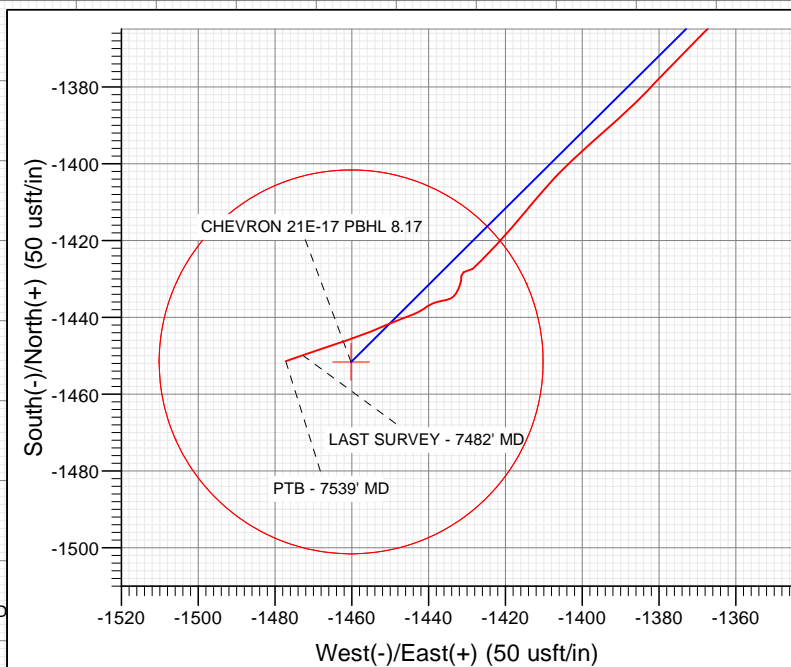
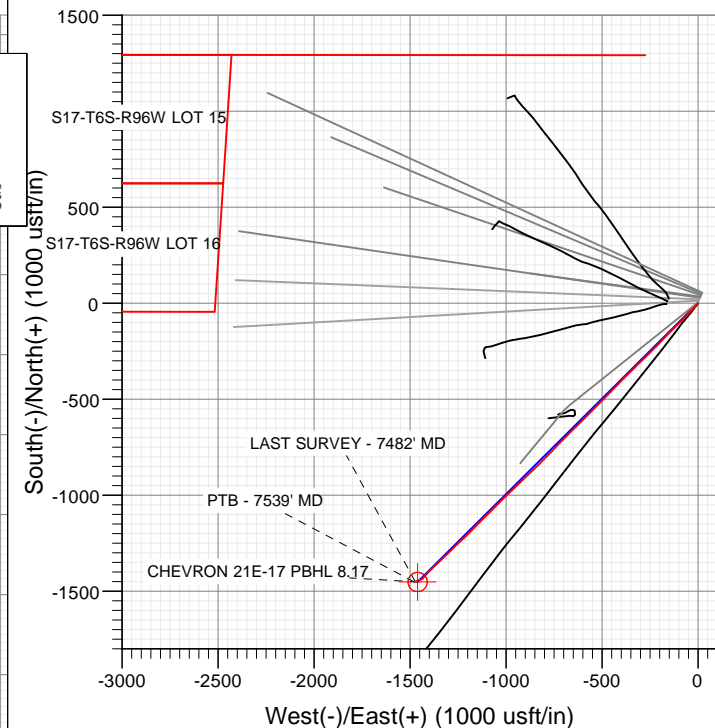
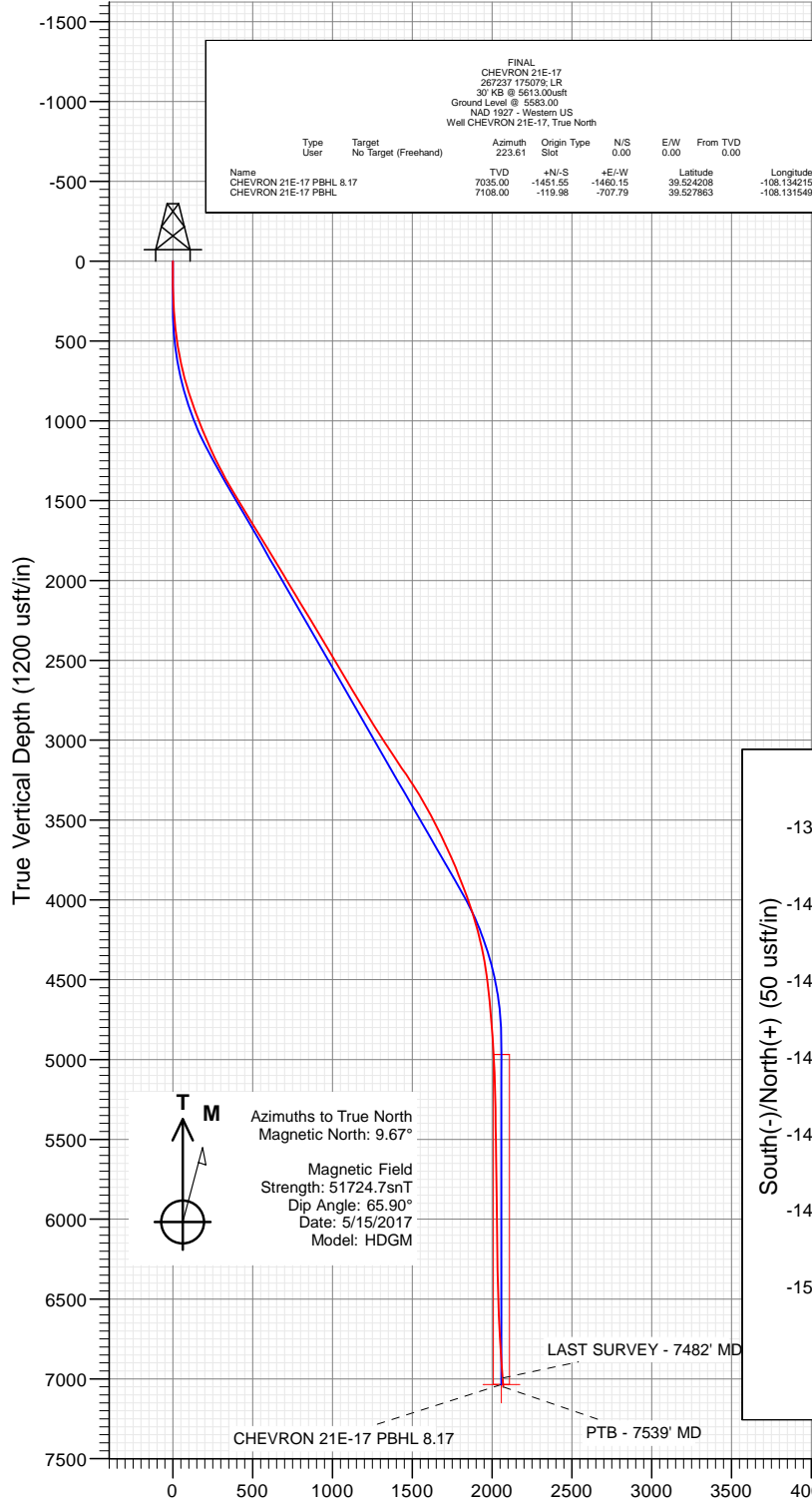




Project: Garfield County, CO (UTM 12N)
Site: S17-T6S-R96W (PC5A)
Well: CHEVRON 21E-17
Wellbore: OH
Design: FINAL



Vertical Section at 223.61° (1200 usft/in)



WELL DETAILS: CHEVRON 21E-17

+N/-S	+E/-W	Northing	Ground Level:	5583.00	Latitude	Longitude
0.00	0.00	14367165.90	Easting	2450023.60	39.528192	-108.129041



Cathedral Energy Services

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well CHEVRON 21E-17
Project:	Garfield County, CO (UTM 12N)	TVD Reference:	30' KB @ 5613.00usft
Site:	S17-T6S-R96W (PC5A)	MD Reference:	30' KB @ 5613.00usft
Well:	CHEVRON 21E-17	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

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

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

Well	CHEVRON 21E-17		
Well Position	+N/-S	0.00 usft	Northing: 14,367,165.90 usft
	+E/-W	0.00 usft	Easting: 2,450,023.60 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	39.528192
		Longitude:	-108.129041
		Ground Level:	5,583.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	HDGM	5/15/2017	9.67
			Dip Angle (°)
			65.90
			Field Strength (nT)
			51,725

Design	FINAL		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction (°)
			223.61

Survey Program	Date	5/22/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
118.00	7,539.00	Survey #1 (OH)	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	
118.00	0.35	267.72	118.00	-0.01	-0.36	0.26	0.30	0.30	
153.00	0.66	233.70	153.00	-0.14	-0.63	0.53	1.20	0.89	
209.00	1.58	221.66	208.99	-0.91	-1.40	1.62	1.69	1.64	
301.00	3.52	221.49	300.89	-3.97	-4.12	5.71	2.11	2.11	
394.00	5.41	221.93	393.60	-9.37	-8.94	12.95	2.03	2.03	
486.00	7.78	218.85	484.99	-17.45	-15.74	23.49	2.60	2.58	
577.00	10.42	222.45	574.84	-28.32	-25.16	37.86	2.97	2.90	
672.00	13.32	224.56	667.80	-42.46	-38.64	57.40	3.09	3.05	
766.00	15.65	224.91	758.80	-59.15	-55.19	80.90	2.48	2.48	
861.00	17.97	224.12	849.74	-78.75	-74.45	108.37	2.45	2.44	
949.00	20.39	224.74	932.85	-99.39	-94.69	137.27	2.76	2.75	
1,088.00	22.19	224.39	1,062.35	-135.35	-130.10	187.73	1.30	1.29	

Cathedral Energy Services

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well CHEVRON 21E-17
Project:	Garfield County, CO (UTM 12N)	TVD Reference:	30' KB @ 5613.00usft
Site:	S17-T6S-R96W (PC5A)	MD Reference:	30' KB @ 5613.00usft
Well:	CHEVRON 21E-17	North Reference:	True
Wellbore:	OH	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
1,183.00	23.64	225.44	1,149.86	-161.53	-156.22	224.71	1.59	1.53	
1,277.00	25.88	223.42	1,235.21	-189.66	-183.75	264.07	2.55	2.38	
1,372.00	28.04	224.83	1,319.88	-220.56	-213.75	307.13	2.37	2.27	
1,466.00	29.40	225.62	1,402.32	-252.37	-245.82	352.28	1.50	1.45	
1,561.00	31.86	225.71	1,484.05	-286.19	-280.44	400.65	2.59	2.59	
1,654.00	31.33	225.79	1,563.27	-320.19	-315.34	449.34	0.57	-0.57	
1,749.00	31.77	224.65	1,644.23	-355.21	-350.62	499.03	0.78	0.46	
1,843.00	30.98	224.74	1,724.48	-390.00	-385.04	547.96	0.84	-0.84	
1,937.00	31.51	224.48	1,804.85	-424.71	-419.28	596.71	0.58	0.56	
2,032.00	30.23	224.30	1,886.39	-459.54	-453.38	645.44	1.35	-1.35	
2,127.00	30.81	224.12	1,968.23	-494.12	-487.02	693.69	0.62	0.61	
2,221.00	31.90	224.56	2,048.50	-529.10	-521.20	742.59	1.18	1.16	
2,315.00	30.67	224.74	2,128.83	-563.82	-555.51	791.40	1.31	-1.31	
2,410.00	31.16	226.23	2,210.33	-598.04	-590.31	840.18	0.96	0.52	
2,504.00	31.07	224.56	2,290.81	-632.14	-624.89	888.72	0.92	-0.10	
2,599.00	30.81	225.44	2,372.29	-666.68	-659.43	937.55	0.55	-0.27	
2,693.00	31.42	224.39	2,452.77	-701.08	-693.72	986.11	0.87	0.65	
2,788.00	30.15	224.21	2,534.38	-735.88	-727.68	1,034.73	1.34	-1.34	
2,882.00	30.54	223.77	2,615.50	-770.05	-760.66	1,082.22	0.48	0.41	
2,977.00	30.32	224.30	2,697.42	-804.64	-794.11	1,130.33	0.37	-0.23	
3,071.00	31.55	225.00	2,778.04	-839.01	-828.07	1,178.64	1.36	1.31	
3,166.00	31.99	226.94	2,858.81	-873.77	-864.03	1,228.61	1.17	0.46	
3,260.00	32.78	226.85	2,938.19	-908.17	-900.79	1,278.88	0.84	0.84	
3,355.00	32.61	226.32	3,018.14	-943.44	-938.06	1,330.12	0.35	-0.18	
3,449.00	33.57	225.44	3,096.89	-979.17	-974.90	1,381.40	1.14	1.02	
3,544.00	34.81	225.44	3,175.47	-1,016.62	-1,012.94	1,434.76	1.31	1.31	
3,638.00	33.31	225.09	3,253.35	-1,053.67	-1,050.34	1,487.38	1.61	-1.60	
3,732.00	31.25	225.44	3,332.81	-1,089.01	-1,085.99	1,537.56	2.20	-2.19	
3,827.00	29.49	224.21	3,414.77	-1,123.06	-1,119.86	1,585.57	1.96	-1.85	
3,921.00	27.33	224.30	3,497.45	-1,155.09	-1,151.06	1,630.29	2.30	-2.30	
4,016.00	26.41	224.74	3,582.19	-1,185.71	-1,181.17	1,673.22	0.99	-0.97	
4,110.00	24.92	226.67	3,666.92	-1,214.15	-1,210.29	1,713.90	1.82	-1.59	
4,205.00	23.25	226.23	3,753.64	-1,240.86	-1,238.39	1,752.62	1.77	-1.76	
4,299.00	21.40	225.71	3,840.59	-1,265.67	-1,264.07	1,788.30	1.98	-1.97	
4,394.00	21.05	225.88	3,929.15	-1,289.65	-1,288.72	1,822.66	0.37	-0.37	
4,488.00	19.38	225.79	4,017.36	-1,312.28	-1,312.02	1,855.12	1.78	-1.78	
4,582.00	17.40	226.85	4,106.55	-1,332.77	-1,333.46	1,884.74	2.14	-2.11	
4,677.00	14.37	227.20	4,197.91	-1,350.49	-1,352.47	1,910.69	3.19	-3.19	
4,771.00	12.66	224.48	4,289.31	-1,365.77	-1,368.25	1,932.64	1.94	-1.82	
4,866.00	9.76	223.95	4,382.49	-1,379.00	-1,381.14	1,951.10	3.05	-3.05	
4,960.00	7.87	227.90	4,475.37	-1,389.05	-1,391.44	1,965.49	2.11	-2.01	
5,054.00	6.46	228.78	4,568.64	-1,396.85	-1,400.19	1,977.17	1.50	-1.50	
5,149.00	5.71	221.93	4,663.10	-1,403.89	-1,407.37	1,987.22	1.10	-0.79	
5,243.00	4.18	220.78	4,756.75	-1,409.96	-1,412.74	1,995.32	1.63	-1.63	
5,337.00	3.25	218.50	4,850.55	-1,414.64	-1,416.63	2,001.39	1.00	-0.99	
5,432.00	3.52	223.33	4,945.38	-1,418.87	-1,420.31	2,006.99	0.41	0.28	
5,526.00	3.30	222.81	5,039.22	-1,422.95	-1,424.13	2,012.58	0.24	-0.23	
5,621.00	2.29	225.09	5,134.10	-1,426.30	-1,427.33	2,017.21	1.07	-1.06	
5,715.00	0.92	265.70	5,228.07	-1,427.68	-1,429.41	2,019.65	1.81	-1.46	
5,810.00	1.01	235.20	5,323.05	-1,428.22	-1,430.86	2,021.04	0.54	0.09	
5,905.00	0.62	169.81	5,418.05	-1,429.20	-1,431.46	2,022.16	0.99	-0.41	
5,999.00	0.92	193.54	5,512.04	-1,430.43	-1,431.54	2,023.11	0.46	0.32	
6,094.00	0.66	196.53	5,607.03	-1,431.70	-1,431.88	2,024.26	0.28	-0.27	

Cathedral Energy Services

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well CHEVRON 21E-17
Project:	Garfield County, CO (UTM 12N)	TVD Reference:	30' KB @ 5613.00usft
Site:	S17-T6S-R96W (PC5A)	MD Reference:	30' KB @ 5613.00usft
Well:	CHEVRON 21E-17	North Reference:	True
Wellbore:	OH	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
6,188.00	1.10	205.14	5,701.02	-1,433.04	-1,432.42	2,025.60	0.49	0.47	
6,283.00	0.57	229.31	5,796.01	-1,434.17	-1,433.16	2,026.93	0.66	-0.56	
6,377.00	0.75	229.75	5,890.00	-1,434.87	-1,433.99	2,028.01	0.19	0.19	
6,472.00	1.01	260.69	5,984.99	-1,435.41	-1,435.29	2,029.30	0.56	0.27	
6,567.00	1.14	254.89	6,079.97	-1,435.79	-1,437.03	2,030.77	0.18	0.14	
6,661.00	1.23	252.16	6,173.95	-1,436.34	-1,438.89	2,032.46	0.11	0.10	
6,756.00	0.84	229.40	6,268.94	-1,437.11	-1,440.39	2,034.05	0.59	-0.41	
6,850.00	0.48	233.44	6,362.93	-1,437.79	-1,441.23	2,035.12	0.39	-0.38	
6,944.00	1.32	242.32	6,456.92	-1,438.53	-1,442.50	2,036.53	0.90	0.89	
7,039.00	2.59	250.32	6,551.86	-1,439.76	-1,445.49	2,039.49	1.36	1.34	
7,133.00	3.08	246.89	6,645.75	-1,441.47	-1,449.82	2,043.70	0.55	0.52	
7,228.00	3.87	247.24	6,740.57	-1,443.71	-1,455.12	2,048.99	0.83	0.83	
7,323.00	3.91	252.07	6,835.35	-1,445.95	-1,461.16	2,054.77	0.35	0.04	
7,417.00	4.61	251.46	6,929.09	-1,448.14	-1,467.79	2,060.93	0.75	0.74	
7,482.00	4.70	251.02	6,993.88	-1,449.83	-1,472.78	2,065.60	0.15	0.14	LAST SURVEY - 7482' MD
7,539.00	4.70	251.02	7,050.69	-1,451.35	-1,477.20	2,069.75	0.00	0.00	PTB - 7539' MD

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									
CHEVRON 21E-17 PBH	0.00	0.00	7,108.00	-119.98	-707.79	14,367,023.40	2,449,320.00	39.527863	-108.131549
- actual wellpath misses target center by 1538.42usft at 7482.00usft MD (6993.88 TVD, -1449.83 N, -1472.78 E)									
- Point									
CHEVRON 21E-17 PBH	0.00	0.00	7,035.00	-1,451.55	-1,460.15	14,365,668.50	2,448,610.50	39.524208	-108.134215
- actual wellpath misses target center by 15.79usft at 7522.05usft MD (7033.79 TVD, -1450.90 N, -1475.89 E)									
- Circle (radius 50.00)									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates	Comment
		+N/-S (usft)	+E/-W (usft)
7,482.00	6,993.88	-1,449.83	-1,472.78
7,539.00	7,050.69	-1,451.35	-1,477.20
LAST SURVEY - 7482' MD			
PTB - 7539' MD			

Checked By: _____ Approved By: _____ Date: _____