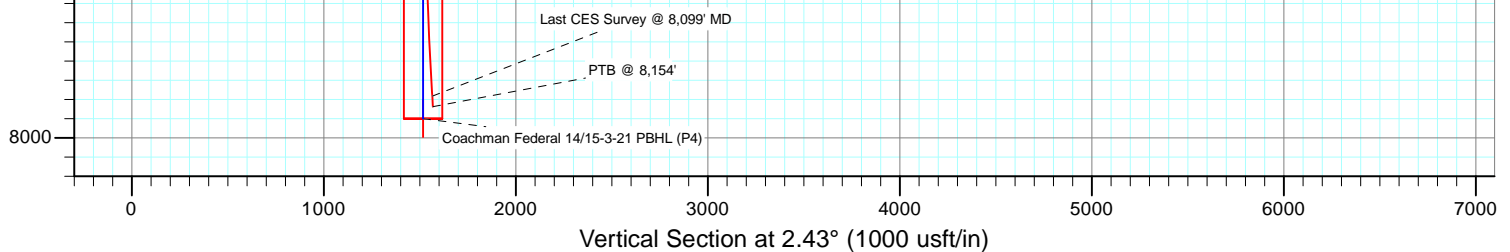
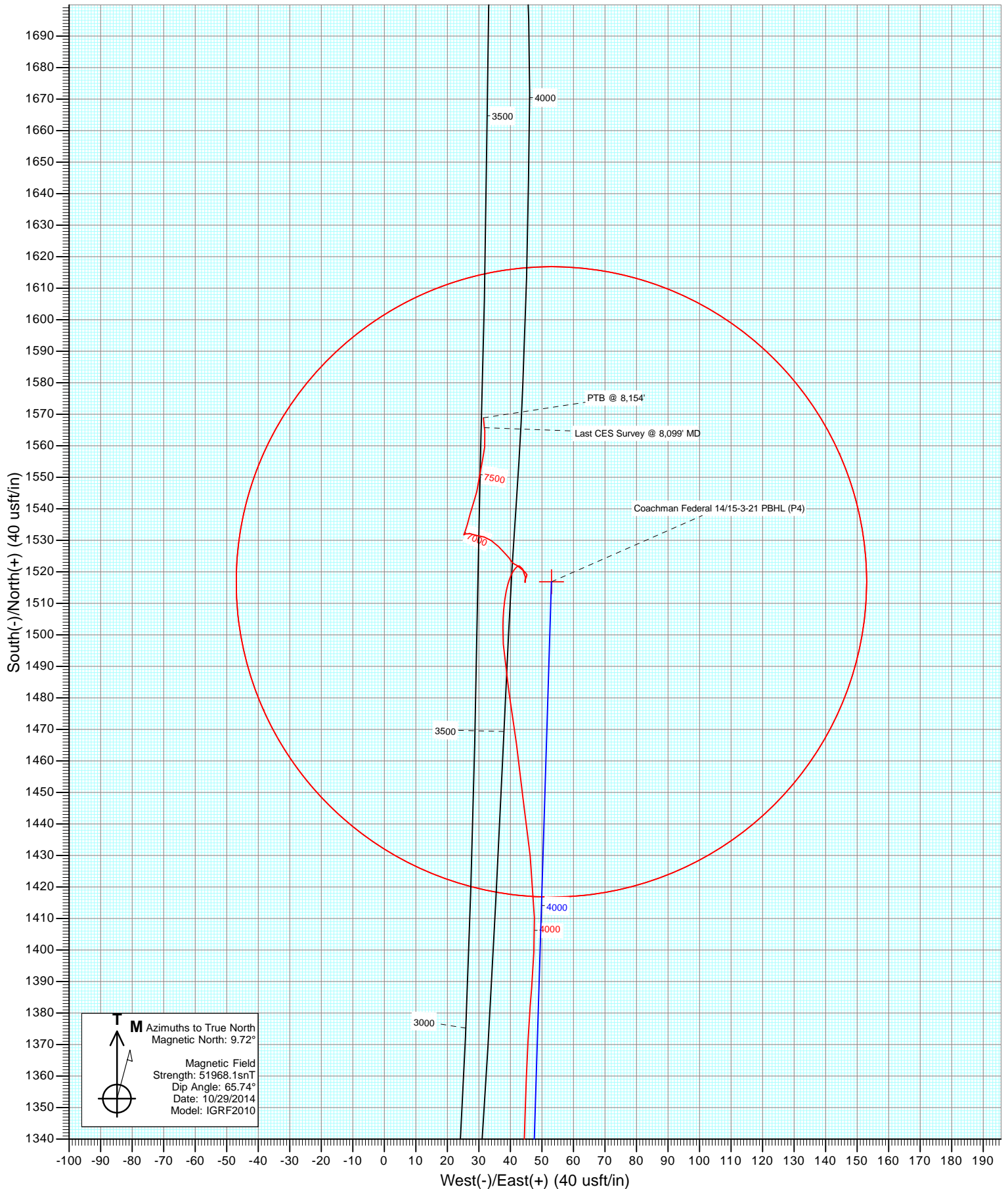


DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Coachman Federal 14/15-3-21 PBHL (P4)	1516.8	53.0	1074184.04	2421028.78	39.518590	-107.552318





Cathedral Energy Services

Survey Report

Company:	Coachman Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Coachman Energy Federal 14/15-3-21
Project:	Garfield County, CO	TVD Reference:	KB=23' @ 6955.0usft (Frontier # 28)
Site:	S21 T6S R91W (21B Pad)	MD Reference:	KB=23' @ 6955.0usft (Frontier # 28)
Well:	Coachman Energy Federal 14/15-3-21	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 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		S21 T6S R91W (21B Pad)			
Site Position:		Northing:	1,072,631.30 usft	Latitude:	39.514322
From:	Lat/Long	Easting:	2,420,925.95 usft	Longitude:	-107.552555
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.33 °

Well	Coachman Energy Federal 14/15-3-21					
Well Position	+N/-S	0.0 usft	Northing:	1,072,668.83 usft	Latitude:	39.514426
	+E/-W	0.0 usft	Easting:	2,420,940.65 usft	Longitude:	-107.552506
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	6,932.0 usft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/29/2014	9.72	65.74	51,968

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	2.43	

Survey Program	Date	11/12/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
75.3	1,498.0	Survey #2 (DD)	Gyro	Gyro	
1,576.0	8,154.0	Survey #3 (DD)	ISCWSA MWD	MWD - ISCWSA	

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	
75.3	0.42	9.91	75.3	0.3	0.0	0.3	0.56	0.56	
98.9	0.46	48.87	98.9	0.4	0.1	0.4	1.25	0.17	
125.0	0.50	47.23	125.0	0.6	0.3	0.6	0.16	0.15	
149.4	0.27	69.04	149.4	0.7	0.4	0.7	1.10	-0.94	
174.5	0.16	81.88	174.5	0.7	0.5	0.7	0.48	-0.44	
199.8	0.22	105.30	199.8	0.7	0.6	0.7	0.38	0.24	
224.4	0.22	90.20	224.4	0.7	0.7	0.7	0.23	0.00	
236.8	0.07	137.16	236.8	0.7	0.7	0.7	1.45	-1.21	
267.2	0.16	250.03	267.2	0.6	0.7	0.7	0.65	0.30	
302.5	0.32	176.30	302.5	0.5	0.7	0.5	0.89	0.45	
337.0	0.37	209.75	337.0	0.3	0.6	0.3	0.59	0.14	

Cathedral Energy Services

Survey Report

Company:	Coachman Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Coachman Energy Federal 14/15-3-21
Project:	Garfield County, CO	TVD Reference:	KB=23' @ 6955.0usft (Frontier # 28)
Site:	S21 T6S R91W (21B Pad)	MD Reference:	KB=23' @ 6955.0usft (Frontier # 28)
Well:	Coachman Energy Federal 14/15-3-21	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
368.0	0.29	134.49	368.0	0.2	0.6	0.2	1.32	-0.26	
400.0	0.55	72.23	400.0	0.2	0.8	0.2	1.52	0.81	
431.0	0.58	72.88	431.0	0.3	1.1	0.3	0.10	0.10	
462.0	0.67	54.25	462.0	0.4	1.4	0.5	0.71	0.29	
494.0	1.27	39.29	494.0	0.8	1.8	0.9	2.02	1.88	
525.0	2.11	29.95	525.0	1.6	2.3	1.7	2.84	2.71	
557.0	2.73	21.26	556.9	2.8	2.9	2.9	2.25	1.94	
588.0	2.96	21.01	587.9	4.2	3.4	4.4	0.74	0.74	
620.0	2.92	10.38	619.9	5.8	3.9	5.9	1.71	-0.13	
651.0	3.03	4.91	650.8	7.4	4.1	7.5	0.98	0.35	
686.0	3.30	355.50	685.8	9.3	4.1	9.5	1.67	0.77	
718.0	3.80	357.60	717.7	11.3	3.9	11.4	1.61	1.56	
749.0	4.40	358.70	748.6	13.5	3.9	13.7	1.95	1.94	
781.0	5.40	0.60	780.5	16.2	3.9	16.4	3.17	3.12	
812.0	6.50	0.80	811.3	19.4	3.9	19.6	3.55	3.55	
844.0	7.80	1.20	843.1	23.4	4.0	23.6	4.07	4.06	
907.0	10.60	1.46	905.3	33.5	4.2	33.6	4.44	4.44	
1,001.0	12.70	2.90	997.3	52.5	5.0	52.6	2.26	2.23	
1,096.0	14.80	1.80	1,089.6	75.0	5.9	75.2	2.23	2.21	
1,191.0	17.60	0.70	1,180.8	101.5	6.4	101.7	2.96	2.95	
1,285.0	20.60	1.70	1,269.6	132.3	7.1	132.4	3.21	3.19	
1,381.0	23.40	0.70	1,358.6	168.2	7.8	168.4	2.94	2.92	
1,474.0	26.40	0.70	1,443.0	207.4	8.3	207.5	3.23	3.23	
1,498.0	26.70	1.20	1,464.5	218.1	8.5	218.2	1.56	1.25	Last Gyro Survey @ 1,498' MD
1,576.0	28.30	1.80	1,533.6	254.1	9.4	254.3	2.08	2.05	
1,670.0	28.80	0.80	1,616.2	299.0	10.4	299.2	0.74	0.53	
1,765.0	29.00	0.30	1,699.4	344.9	10.9	345.1	0.33	0.21	
1,859.0	28.30	1.90	1,781.9	390.0	11.7	390.1	1.10	-0.74	
1,954.0	28.20	359.50	1,865.6	434.9	12.3	435.1	1.20	-0.11	
2,050.0	28.70	2.30	1,950.0	480.6	13.0	480.8	1.48	0.52	
2,144.0	28.90	1.20	2,032.3	525.9	14.4	526.0	0.60	0.21	
2,240.0	27.90	2.40	2,116.8	571.5	15.8	571.7	1.20	-1.04	
2,334.0	28.10	1.00	2,199.8	615.6	17.1	615.8	0.73	0.21	
2,429.0	27.10	2.70	2,284.0	659.6	18.5	659.8	1.34	-1.05	
2,524.0	27.20	2.70	2,368.5	702.9	20.6	703.2	0.11	0.11	
2,618.0	25.30	3.60	2,452.8	744.4	22.9	744.7	2.07	-2.02	
2,713.0	24.70	0.80	2,538.9	784.5	24.4	784.9	1.40	-0.63	
2,808.0	25.00	359.00	2,625.1	824.5	24.3	824.8	0.86	0.32	
2,903.0	24.60	1.40	2,711.4	864.3	24.5	864.6	1.14	-0.42	
2,997.0	24.60	3.40	2,796.8	903.4	26.1	903.7	0.89	0.00	
3,092.0	24.00	1.50	2,883.4	942.4	27.8	942.8	1.04	-0.63	
3,187.0	24.60	3.10	2,970.0	981.5	29.4	981.9	0.94	0.63	
3,281.0	24.20	0.80	3,055.6	1,020.3	30.7	1,020.7	1.10	-0.43	
3,375.0	25.40	2.90	3,140.9	1,059.7	32.0	1,060.1	1.58	1.28	
3,470.0	25.90	1.90	3,226.6	1,100.8	33.7	1,101.2	0.70	0.53	
3,566.0	25.70	4.00	3,313.0	1,142.5	35.8	1,143.0	0.97	-0.21	
3,662.0	25.40	3.10	3,399.6	1,183.8	38.4	1,184.4	0.51	-0.31	
3,755.0	25.30	1.60	3,483.7	1,223.6	40.0	1,224.2	0.70	-0.11	
3,849.0	24.80	1.50	3,568.8	1,263.4	41.1	1,264.0	0.53	-0.53	
3,944.0	22.70	3.70	3,655.8	1,301.6	42.8	1,302.3	2.40	-2.21	
4,038.0	19.50	1.30	3,743.5	1,335.4	44.4	1,336.1	3.53	-3.40	
4,133.0	15.30	2.50	3,834.1	1,363.8	45.3	1,364.5	4.44	-4.42	
4,228.0	14.30	4.80	3,925.9	1,388.0	46.8	1,388.8	1.22	-1.05	

Cathedral Energy Services

Survey Report

Company:	Coachman Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Coachman Energy Federal 14/15-3-21
Project:	Garfield County, CO	TVD Reference:	KB=23' @ 6955.0usft (Frontier # 28)
Site:	S21 T6S R91W (21B Pad)	MD Reference:	KB=23' @ 6955.0usft (Frontier # 28)
Well:	Coachman Energy Federal 14/15-3-21	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
4,322.0	13.20	359.20	4,017.3	1,410.3	47.6	1,411.1	1.84	-1.17	
4,417.0	10.70	352.60	4,110.2	1,429.9	46.3	1,430.6	3.00	-2.63	
4,511.0	11.10	353.10	4,202.5	1,447.6	44.1	1,448.1	0.44	0.43	
4,605.0	11.20	353.10	4,294.7	1,465.6	41.9	1,466.1	0.11	0.11	
4,698.0	9.50	350.10	4,386.2	1,482.1	39.5	1,482.5	1.92	-1.83	
4,793.0	8.90	357.00	4,480.0	1,497.2	37.8	1,497.4	1.32	-0.63	
4,887.0	7.30	7.30	4,573.0	1,510.4	38.2	1,510.6	2.29	-1.70	
4,982.0	3.90	27.30	4,667.6	1,519.2	40.4	1,519.6	4.07	-3.58	
5,076.0	1.20	99.70	4,761.5	1,521.9	42.9	1,522.4	3.95	-2.87	
5,169.0	1.10	168.70	4,854.5	1,520.9	44.0	1,521.4	1.40	-0.11	
5,262.0	0.70	159.10	4,947.5	1,519.5	44.4	1,520.0	0.46	-0.43	
5,356.0	0.60	156.40	5,041.5	1,518.5	44.8	1,519.0	0.11	-0.11	
5,450.0	0.60	200.00	5,135.5	1,517.6	44.8	1,518.1	0.47	0.00	
5,546.0	0.40	172.10	5,231.5	1,516.8	44.7	1,517.3	0.32	-0.21	
5,641.0	0.30	352.80	5,326.5	1,516.7	44.7	1,517.2	0.74	-0.11	
5,736.0	0.60	0.10	5,421.5	1,517.4	44.7	1,518.0	0.32	0.32	
5,829.0	0.70	42.80	5,514.5	1,518.3	45.0	1,518.9	0.52	0.11	
5,924.0	0.50	334.70	5,609.4	1,519.1	45.3	1,519.7	0.73	-0.21	
6,019.0	0.80	318.30	5,704.4	1,520.0	44.6	1,520.5	0.37	0.32	
6,113.0	1.10	303.00	5,798.4	1,521.0	43.4	1,521.5	0.42	0.32	
6,160.0	1.10	317.10	5,845.4	1,521.6	42.8	1,522.0	0.57	0.00	
6,208.0	0.90	298.00	5,893.4	1,522.1	42.1	1,522.5	0.80	-0.42	
6,303.0	0.60	295.70	5,988.4	1,522.6	41.0	1,523.0	0.32	-0.32	
6,397.0	0.60	339.60	6,082.4	1,523.3	40.4	1,523.7	0.48	0.00	
6,490.0	1.20	318.40	6,175.4	1,524.5	39.6	1,524.8	0.73	0.65	
6,583.0	1.50	316.60	6,268.4	1,526.1	38.1	1,526.3	0.33	0.32	
6,677.0	1.80	315.30	6,362.3	1,528.1	36.2	1,528.2	0.32	0.32	
6,770.0	1.80	305.10	6,455.3	1,529.9	34.0	1,530.0	0.34	0.00	
6,864.0	1.30	285.20	6,549.2	1,531.1	31.8	1,531.0	0.77	-0.53	
6,957.0	1.70	281.10	6,642.2	1,531.6	29.4	1,531.5	0.45	0.43	
7,051.0	1.05	288.20	6,736.2	1,532.1	27.2	1,531.9	0.71	-0.69	
7,143.0	0.90	238.90	6,828.2	1,532.0	25.8	1,531.7	0.90	-0.16	
7,237.0	0.20	22.50	6,922.2	1,531.8	25.2	1,531.5	1.14	-0.74	
7,331.0	1.10	23.40	7,016.2	1,532.8	25.6	1,532.5	0.96	0.96	
7,423.0	1.90	15.00	7,108.1	1,535.1	26.4	1,534.8	0.90	0.87	
7,518.0	2.20	13.90	7,203.1	1,538.4	27.2	1,538.1	0.32	0.32	
7,613.0	2.20	20.80	7,298.0	1,541.8	28.3	1,541.6	0.28	0.00	
7,706.0	2.50	12.20	7,390.9	1,545.5	29.4	1,545.3	0.50	0.32	
7,800.0	3.20	8.70	7,484.8	1,550.1	30.2	1,550.0	0.77	0.74	
7,895.0	2.80	12.40	7,579.7	1,555.0	31.1	1,554.9	0.47	-0.42	
7,988.0	3.10	6.60	7,672.6	1,559.7	31.9	1,559.6	0.45	0.32	
8,082.0	3.20	353.90	7,766.4	1,564.8	31.9	1,564.8	0.75	0.11	
8,099.0	3.30	354.00	7,783.4	1,565.8	31.8	1,565.7	0.59	0.59	Last CES Survey @ 8,099' MD
8,154.0	3.30	354.00	7,838.3	1,568.9	31.5	1,568.8	0.00	0.00	PTB @ 8,154'

Cathedral Energy Services

Survey Report

Company:	Coachman Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Coachman Energy Federal 14/15-3-21
Project:	Garfield County, CO	TVD Reference:	KB=23' @ 6955.0usft (Frontier # 28)
Site:	S21 T6S R91W (21B Pad)	MD Reference:	KB=23' @ 6955.0usft (Frontier # 28)
Well:	Coachman Energy Federal 14/15-3-21	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	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)		
Coachman Federal 14/1	0.00	0.00	7,522.0	1,516.8	53.0	1,074,184.04	2,421,028.78	39.518590	-107.552318
- actual wellpath misses target center by 41.8usft at 7835.7usft MD (7520.4 TVD, 1552.0 N, 30.5 E)									
- Circle (radius 100.0)									
Dejour Federal 14/15-3-	0.00	0.00	13,003.0	1,516.8	53.0	1,074,184.04	2,421,028.78	39.518590	-107.552318
- actual wellpath misses target center by 5165.0usft at 8154.0usft MD (7838.3 TVD, 1568.9 N, 31.5 E)									
- Circle (radius 100.0)									
Coachman Federal 14/1	0.00	0.00	7,900.0	1,516.8	53.0	1,074,184.04	2,421,028.78	39.518590	-107.552318
- actual wellpath misses target center by 83.6usft at 8154.0usft MD (7838.3 TVD, 1568.9 N, 31.5 E)									
- Circle (radius 100.0)									

Design Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	Comment	
1,498.0	1,464.5	218.1	8.5	Last Gyro Survey @ 1,498' MD	
8,099.0	7,783.4	1,565.8	31.8	Last CES Survey @ 8,099' MD	
8,154.0	7,838.3	1,568.9	31.5	PTB @ 8,154'	

Checked By: _____ Approved By: _____ Date: _____

Coachman Energy Operating Company, LLC

Garfield County, CO

S21 T6S R91W (21B Pad)

Coachman Energy Federal 14/15-3-21

DD

Design: FINAL

Survey Report - Geographic

12 November, 2014

Cathedral Energy Services

Survey Report - Geographic

Company:	Coachman Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Coachman Energy Federal 14/15-3-21
Project:	Garfield County, CO	TVD Reference:	KB=23' @ 6955.0usft (Frontier # 28)
Site:	S21 T6S R91W (21B Pad)	MD Reference:	KB=23' @ 6955.0usft (Frontier # 28)
Well:	Coachman Energy Federal 14/15-3-21	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 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	S21 T6S R91W (21B Pad)				
Site Position:		Northing:	1,072,631.30 usft	Latitude:	39.514322
From:	Lat/Long	Easting:	2,420,925.95 usft	Longitude:	-107.552555
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.33 °

Well	Coachman Energy Federal 14/15-3-21					
Well Position	+N/-S	0.0 usft	Northing:	1,072,668.83 usft	Latitude:	39.514426
	+E/-W	0.0 usft	Easting:	2,420,940.65 usft	Longitude:	-107.552506
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	6,932.0 usft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/29/2014	9.72	65.74	51,968

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	2.43	

Survey Program	Date	11/12/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
75.3	1,498.0	Survey #2 (DD)	Gyro	Gyro	
1,576.0	8,154.0	Survey #3 (DD)	ISCWSA MWD	MWD - ISCWSA	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.0	0.00	0.00	0.0	0.0	0.0	1,072,668.83	2,420,940.65	39.514426	-107.552506	
75.3	0.42	9.91	75.3	0.3	0.0	1,072,669.10	2,420,940.70	39.514427	-107.552506	
98.9	0.46	48.87	98.9	0.4	0.1	1,072,669.25	2,420,940.79	39.514427	-107.552506	
125.0	0.50	47.23	125.0	0.6	0.3	1,072,669.39	2,420,940.96	39.514428	-107.552505	
149.4	0.27	69.04	149.4	0.7	0.4	1,072,669.48	2,420,941.09	39.514428	-107.552505	
174.5	0.16	81.88	174.5	0.7	0.5	1,072,669.50	2,420,941.18	39.514428	-107.552504	
199.8	0.22	105.30	199.8	0.7	0.6	1,072,669.49	2,420,941.27	39.514428	-107.552504	
224.4	0.22	90.20	224.4	0.7	0.7	1,072,669.48	2,420,941.36	39.514428	-107.552504	
236.8	0.07	137.16	236.8	0.7	0.7	1,072,669.47	2,420,941.39	39.514428	-107.552504	
267.2	0.16	250.03	267.2	0.6	0.7	1,072,669.45	2,420,941.36	39.514428	-107.552504	
302.5	0.32	176.30	302.5	0.5	0.7	1,072,669.33	2,420,941.32	39.514427	-107.552504	

Cathedral Energy Services

Survey Report - Geographic

Company:	Coachman Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Coachman Energy Federal 14/15-3-21
Project:	Garfield County, CO	TVD Reference:	KB=23' @ 6955.0usft (Frontier # 28)
Site:	S21 T6S R91W (21B Pad)	MD Reference:	KB=23' @ 6955.0usft (Frontier # 28)
Well:	Coachman Energy Federal 14/15-3-21	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)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
337.0	0.37	209.75	337.0	0.3	0.6	1,072,669.14	2,420,941.26	39.514427	-107.552504
368.0	0.29	134.49	368.0	0.2	0.6	1,072,669.00	2,420,941.27	39.514427	-107.552504
400.0	0.55	72.23	400.0	0.2	0.8	1,072,668.98	2,420,941.47	39.514426	-107.552503
431.0	0.58	72.88	431.0	0.3	1.1	1,072,669.07	2,420,941.76	39.514427	-107.552502
462.0	0.67	54.25	462.0	0.4	1.4	1,072,669.21	2,420,942.06	39.514427	-107.552501
494.0	1.27	39.29	494.0	0.8	1.8	1,072,669.59	2,420,942.45	39.514428	-107.552500
525.0	2.11	29.95	525.0	1.6	2.3	1,072,670.34	2,420,942.97	39.514430	-107.552498
557.0	2.73	21.26	556.9	2.8	2.9	1,072,671.54	2,420,943.57	39.514434	-107.552496
588.0	2.96	21.01	587.9	4.2	3.4	1,072,672.97	2,420,944.16	39.514438	-107.552494
620.0	2.92	10.38	619.9	5.8	3.9	1,072,674.53	2,420,944.63	39.514442	-107.552493
651.0	3.03	4.91	650.8	7.4	4.1	1,072,676.12	2,420,944.88	39.514446	-107.552492
686.0	3.30	355.50	685.8	9.3	4.1	1,072,678.04	2,420,944.93	39.514452	-107.552492
718.0	3.80	357.60	717.7	11.3	3.9	1,072,680.02	2,420,944.86	39.514457	-107.552492
749.0	4.40	358.70	748.6	13.5	3.9	1,072,682.24	2,420,944.84	39.514463	-107.552493
781.0	5.40	0.60	780.5	16.2	3.9	1,072,684.97	2,420,944.89	39.514471	-107.552493
812.0	6.50	0.80	811.3	19.4	3.9	1,072,688.18	2,420,945.00	39.514479	-107.552492
844.0	7.80	1.20	843.1	23.4	4.0	1,072,692.16	2,420,945.17	39.514490	-107.552492
907.0	10.60	1.46	905.3	33.5	4.2	1,072,702.22	2,420,945.64	39.515418	-107.552491
1,001.0	12.70	2.90	997.3	52.5	5.0	1,072,721.16	2,420,946.82	39.514570	-107.552489
1,096.0	14.80	1.80	1,089.6	75.0	5.9	1,072,743.70	2,420,948.25	39.514632	-107.552485
1,191.0	17.60	0.70	1,180.8	101.5	6.4	1,072,770.17	2,420,949.42	39.514705	-107.552484
1,285.0	20.60	1.70	1,269.6	132.3	7.1	1,072,800.89	2,420,950.80	39.514789	-107.552481
1,381.0	23.40	0.70	1,358.6	168.2	7.8	1,072,836.82	2,420,952.36	39.514888	-107.552479
1,474.0	26.40	0.70	1,443.0	207.4	8.3	1,072,875.94	2,420,953.75	39.514995	-107.552477
1,498.0	26.70	1.20	1,464.5	218.1	8.5	1,072,886.66	2,420,954.17	39.515025	-107.552476
Last Gyro Survey @ 1,498' MD									
1,576.0	28.30	1.80	1,533.6	254.1	9.4	1,072,922.63	2,420,955.95	39.515124	-107.552473
1,670.0	28.80	0.80	1,616.2	299.0	10.4	1,072,967.51	2,420,958.01	39.515247	-107.552469
1,765.0	29.00	0.30	1,699.4	344.9	10.9	1,073,013.40	2,420,959.51	39.515373	-107.552468
1,859.0	28.30	1.90	1,781.9	390.0	11.7	1,073,058.42	2,420,961.41	39.515497	-107.552465
1,954.0	28.20	359.50	1,865.6	434.9	12.3	1,073,103.35	2,420,963.00	39.515620	-107.552463
2,050.0	28.70	2.30	1,950.0	480.6	13.0	1,073,149.04	2,420,964.79	39.515745	-107.552460
2,144.0	28.90	1.20	2,032.3	525.9	14.4	1,073,194.26	2,420,967.22	39.515870	-107.552455
2,240.0	27.90	2.40	2,116.8	571.5	15.8	1,073,239.85	2,420,969.70	39.515995	-107.552450
2,334.0	28.10	1.00	2,199.8	615.6	17.1	1,073,283.91	2,420,972.03	39.516116	-107.552446
2,429.0	27.10	2.70	2,284.0	659.6	18.5	1,073,327.85	2,420,974.45	39.516237	-107.552441
2,524.0	27.20	2.70	2,368.5	702.9	20.6	1,073,371.10	2,420,977.50	39.516356	-107.552433
2,618.0	25.30	3.60	2,452.8	744.4	22.9	1,073,412.54	2,420,980.73	39.516470	-107.552425
2,713.0	24.70	0.80	2,538.9	784.5	24.4	1,073,452.60	2,420,983.21	39.516580	-107.552420
2,808.0	25.00	359.00	2,625.1	824.5	24.3	1,073,492.51	2,420,984.06	39.516689	-107.552420
2,903.0	24.60	1.40	2,711.4	864.3	24.5	1,073,532.34	2,420,985.12	39.516799	-107.552420
2,997.0	24.60	3.40	2,796.8	903.4	26.1	1,073,571.38	2,420,987.66	39.516906	-107.552414
3,092.0	24.00	1.50	2,883.4	942.4	27.8	1,073,610.39	2,420,990.24	39.517013	-107.552408
3,187.0	24.60	3.10	2,970.0	981.5	29.4	1,073,649.40	2,420,992.72	39.517120	-107.552402
3,281.0	24.20	0.80	3,055.6	1,020.3	30.7	1,073,688.16	2,420,994.94	39.517227	-107.552398
3,375.0	25.40	2.90	3,140.9	1,059.7	32.0	1,073,727.52	2,420,997.15	39.517335	-107.552393
3,470.0	25.90	1.90	3,226.6	1,100.8	33.7	1,073,768.55	2,420,999.81	39.517448	-107.552387
3,566.0	25.70	4.00	3,313.0	1,142.5	35.8	1,073,810.21	2,421,002.93	39.517562	-107.552379
3,662.0	25.40	3.10	3,399.6	1,183.8	38.4	1,073,851.47	2,421,006.45	39.517676	-107.552370
3,755.0	25.30	1.60	3,483.7	1,223.6	40.0	1,073,891.20	2,421,009.00	39.517785	-107.552364
3,849.0	24.80	1.50	3,568.8	1,263.4	41.1	1,073,930.95	2,421,011.00	39.517894	-107.552361
3,944.0	22.70	3.70	3,655.8	1,301.6	42.8	1,073,969.11	2,421,013.59	39.517999	-107.552354
4,038.0	19.50	1.30	3,743.5	1,335.4	44.4	1,074,002.86	2,421,015.90	39.518092	-107.552349
4,133.0	15.30	2.50	3,834.1	1,363.8	45.3	1,074,031.22	2,421,017.46	39.518170	-107.552346
4,228.0	14.30	4.80	3,925.9	1,388.0	46.8	1,074,055.39	2,421,019.55	39.518236	-107.552340

Cathedral Energy Services

Survey Report - Geographic

Company:	Coachman Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Coachman Energy Federal 14/15-3-21
Project:	Garfield County, CO	TVD Reference:	KB=23' @ 6955.0usft (Frontier # 28)
Site:	S21 T6S R91W (21B Pad)	MD Reference:	KB=23' @ 6955.0usft (Frontier # 28)
Well:	Coachman Energy Federal 14/15-3-21	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)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,322.0	13.20	359.20	4,017.3	1,410.3	47.6	1,074,077.67	2,421,020.89	39.518298	-107.552338
4,417.0	10.70	352.60	4,110.2	1,429.9	46.3	1,074,097.29	2,421,020.05	39.518351	-107.552342
4,511.0	11.10	353.10	4,202.5	1,447.6	44.1	1,074,114.97	2,421,018.25	39.518400	-107.552350
4,605.0	11.20	353.10	4,294.7	1,465.6	41.9	1,074,133.07	2,421,016.48	39.518449	-107.552358
4,698.0	9.50	350.10	4,386.2	1,482.1	39.5	1,074,149.65	2,421,014.46	39.518495	-107.552366
4,793.0	8.90	357.00	4,480.0	1,497.2	37.8	1,074,164.74	2,421,013.08	39.518536	-107.552372
4,887.0	7.30	7.30	4,573.0	1,510.4	38.2	1,074,177.92	2,421,013.76	39.518572	-107.552371
4,982.0	3.90	27.30	4,667.6	1,519.2	40.4	1,074,186.72	2,421,016.22	39.518597	-107.552363
5,076.0	1.20	99.70	4,761.5	1,521.9	42.9	1,074,189.34	2,421,018.72	39.518604	-107.552354
5,169.0	1.10	168.70	4,854.5	1,520.9	44.0	1,074,188.28	2,421,019.83	39.518601	-107.552350
5,262.0	0.70	159.10	4,947.5	1,519.5	44.4	1,074,186.86	2,421,020.17	39.518597	-107.552349
5,356.0	0.60	156.40	5,041.5	1,518.5	44.8	1,074,185.87	2,421,020.55	39.518595	-107.552348
5,450.0	0.60	200.00	5,135.5	1,517.6	44.8	1,074,184.95	2,421,020.56	39.518592	-107.552347
5,546.0	0.40	172.10	5,231.5	1,516.8	44.7	1,074,184.15	2,421,020.41	39.518590	-107.552348
5,641.0	0.30	352.80	5,326.5	1,516.7	44.7	1,074,184.07	2,421,020.43	39.518590	-107.552348
5,736.0	0.60	0.10	5,421.5	1,517.4	44.7	1,074,184.81	2,421,020.41	39.518592	-107.552348
5,829.0	0.70	42.80	5,514.5	1,518.3	45.0	1,074,185.71	2,421,020.82	39.518594	-107.552347
5,924.0	0.50	334.70	5,609.4	1,519.1	45.3	1,074,186.50	2,421,021.06	39.518596	-107.552346
6,019.0	0.80	318.30	5,704.4	1,520.0	44.6	1,074,187.39	2,421,020.46	39.518599	-107.552348
6,113.0	1.10	303.00	5,798.4	1,521.0	43.4	1,074,188.40	2,421,019.29	39.518601	-107.552352
6,160.0	1.10	317.10	5,845.4	1,521.6	42.8	1,074,188.99	2,421,018.62	39.518603	-107.552355
6,208.0	0.90	298.00	5,893.4	1,522.1	42.1	1,074,189.52	2,421,017.98	39.518604	-107.552357
6,303.0	0.60	295.70	5,988.4	1,522.6	41.0	1,074,190.11	2,421,016.89	39.518606	-107.552361
6,397.0	0.60	339.60	6,082.4	1,523.3	40.4	1,074,190.80	2,421,016.29	39.518608	-107.552363
6,490.0	1.20	318.40	6,175.4	1,524.5	39.6	1,074,192.00	2,421,015.50	39.518611	-107.552366
6,583.0	1.50	316.60	6,268.4	1,526.1	38.1	1,074,193.65	2,421,014.05	39.518616	-107.552371
6,677.0	1.80	315.30	6,362.3	1,528.1	36.2	1,074,195.63	2,421,012.22	39.518621	-107.552378
6,770.0	1.80	305.10	6,455.3	1,529.9	34.0	1,074,197.56	2,421,010.04	39.518626	-107.552386
6,864.0	1.30	285.20	6,549.2	1,531.1	31.8	1,074,198.74	2,421,007.83	39.518629	-107.552394
6,957.0	1.70	281.10	6,642.2	1,531.6	29.4	1,074,199.34	2,421,005.47	39.518631	-107.552402
7,051.0	1.05	288.20	6,736.2	1,532.1	27.2	1,074,199.93	2,421,003.30	39.518632	-107.552410
7,143.0	0.90	238.90	6,828.2	1,532.0	25.8	1,074,199.85	2,421,001.87	39.518632	-107.552415
7,237.0	0.20	22.50	6,922.2	1,531.8	25.2	1,074,199.63	2,421,001.30	39.518631	-107.552417
7,331.0	1.10	23.40	7,016.2	1,532.8	25.6	1,074,200.60	2,421,001.74	39.518634	-107.552415
7,423.0	1.90	15.00	7,108.1	1,535.1	26.4	1,074,202.87	2,421,002.54	39.518640	-107.552413
7,518.0	2.20	13.90	7,203.1	1,538.4	27.2	1,074,206.14	2,421,003.46	39.518649	-107.552410
7,613.0	2.20	20.80	7,298.0	1,541.8	28.3	1,074,209.59	2,421,004.63	39.518659	-107.552406
7,706.0	2.50	12.20	7,390.9	1,545.5	29.4	1,074,213.22	2,421,005.78	39.518669	-107.552402
7,800.0	3.20	8.70	7,484.8	1,550.1	30.2	1,074,217.79	2,421,006.71	39.518681	-107.552399
7,895.0	2.80	12.40	7,579.7	1,555.0	31.1	1,074,222.66	2,421,007.72	39.518695	-107.552396
7,988.0	3.10	6.60	7,672.6	1,559.7	31.9	1,074,227.35	2,421,008.61	39.518708	-107.552393
8,082.0	3.20	353.90	7,766.4	1,564.8	31.9	1,074,232.49	2,421,008.74	39.518722	-107.552393
8,099.0	3.30	354.00	7,783.4	1,565.8	31.8	1,074,233.45	2,421,008.66	39.518724	-107.552394
Last CES Survey @ 8,099' MD									
8,154.0	3.30	354.00	7,838.3	1,568.9	31.5	1,074,236.60	2,421,008.40	39.518733	-107.552395
PTB @ 8,154'									

Cathedral Energy Services

Survey Report - Geographic

Company:	Coachman Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Coachman Energy Federal 14/15-3-21
Project:	Garfield County, CO	TVD Reference:	KB=23' @ 6955.0usft (Frontier # 28)
Site:	S21 T6S R91W (21B Pad)	MD Reference:	KB=23' @ 6955.0usft (Frontier # 28)
Well:	Coachman Energy Federal 14/15-3-21	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Design 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									
Coachman Federal 14/1	0.00	0.00	7,900.0	1,516.8	53.0	1,074,184.04	2,421,028.78	39.518590	-107.552318
- actual wellpath misses target center by 83.6usft at 8154.0usft MD (7838.3 TVD, 1568.9 N, 31.5 E)									
- Circle (radius 100.0)									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,498.0	1,464.5	218.1	8.5	Last Gyro Survey @ 1,498' MD
8,099.0	7,783.4	1,565.8	31.8	Last CES Survey @ 8,099' MD
8,154.0	7,838.3	1,568.9	31.5	PTB @ 8,154'

Checked By: _____ Approved By: _____ Date: _____