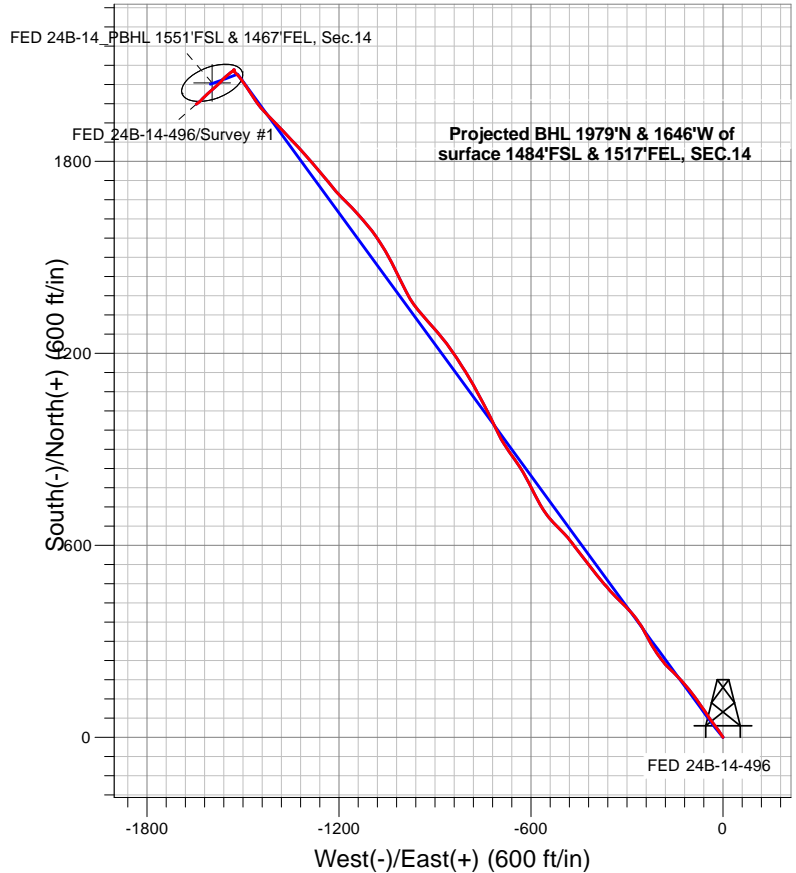


Caerus Oil and Gas LLC



LEGEND

- + FED 24B-14-496, FED 24B-14-496 Wellbore #1, Plan #3 (8-15-19) R V0
- + FED 24B-14-496 Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
12,870'MD & 12,450' TVD @ 2572.90'VS
6.20 deg Inc 233.5 deg AZ

Project: SEC.24-T4S-R96W
 Site: FED A24 Pad Sec.24-T4S-R96W
 Well: FED 24B-14-496
 Plan: FED 24B-14-496 Wellbore #1



Caerus Oil and Gas LLC

SEC.24-T4S-R96W

FED A24 Pad Sec.24-T4S-R96W

FED 24B-14-496

FED 24B-14-496 Wellbore #1

Survey: Survey #1

Standard Survey Report

27 August, 2019

Company:	Caerus Oil and Gas LLC	Local Co-ordinate Reference:	Well FED 24B-14-496
Project:	SEC.24-T4S-R96W	TVD Reference:	WELL @ 8155.0ft (RKB - 30")
Site:	FED A24 Pad Sec.24-T4S-R96W	MD Reference:	WELL @ 8155.0ft (RKB - 30")
Well:	FED 24B-14-496	North Reference:	True
Wellbore:	FED 24B-14-496 Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	FED 24B-14-496 Wellbore #1	Database:	US_EDM

Project	SEC.24-T4S-R96W, Garfield County, CO		
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		FED A24 Pad Sec.24-T4S-R96W						
Site Position:		Northing:	14,427,694.64	usft	Latitude:	39.694298		
From:	Lat/Long	Easting:	2,449,140.83	usft	Longitude:	-108.125304		
Position Uncertainty:	0.0	ft	Slot Radius:	13-3/16	"	Grid Convergence:	1.84	°

Well	FED 24B-14-496				
Well Position	+N/-S	0.0 ft	Northing:	14,427,587.52 usft	Latitude: 39.694005
	+E/-W	0.0 ft	Easting:	2,449,131.31 usft	Longitude: -108.125350
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level: 8,125.0 ft

Wellbore						FED 24B-14-496 Wellbore #1					
Magnetics		Model Name		Sample Date		Declination (°)		Dip Angle (°)		Field Strength (nT)	
		HDGM		8/15/2019		9.48		65.80		51,318	

Design	FED 24B-14-496 Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	12,443.0	0.0	0.0	322.03	

Survey Program		Date	8/27/2019		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
120.0	12,870.0	Survey #1 (FED 24B-14-496 Wellbore #1)	MWD	MWD - Standard	

Survey										
	Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Main Survey	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
	213.0	0.70	324.20	213.0	0.5	-0.3	0.6	0.75	0.75	0.00
	305.0	1.80	326.50	305.0	2.1	-1.5	2.6	1.20	1.20	2.50
	396.0	3.30	329.90	395.9	5.6	-3.6	6.6	1.66	1.65	3.74
	488.0	4.40	327.00	487.7	10.8	-6.8	12.7	1.21	1.20	-3.15
	580.0	4.60	333.10	579.4	17.1	-10.4	19.9	0.56	0.22	6.63
	674.0	4.40	309.90	673.1	22.8	-14.9	27.1	1.93	-0.21	-24.68
	769.0	6.40	326.00	767.7	29.5	-20.6	35.9	2.62	2.11	16.95
	863.0	9.60	324.40	860.8	40.2	-28.1	49.0	3.41	3.40	-1.70

Company:	Caerus Oil and Gas LLC	Local Co-ordinate Reference:	Well FED 24B-14-496
Project:	SEC.24-T4S-R96W	TVD Reference:	WELL @ 8155.0ft (RKB - 30')
Site:	FED A24 Pad Sec.24-T4S-R96W	MD Reference:	WELL @ 8155.0ft (RKB - 30')
Well:	FED 24B-14-496	North Reference:	True
Wellbore:	FED 24B-14-496 Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	FED 24B-14-496 Wellbore #1	Database:	US_EDM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
958.0	14.30	324.20	953.7	56.2	-39.6	68.6	4.95	4.95	-0.21
1,053.0	19.20	325.70	1,044.6	78.6	-55.3	96.0	5.18	5.16	1.58
1,147.0	20.20	324.60	1,133.1	104.6	-73.4	127.6	1.13	1.06	-1.17
1,242.0	20.20	324.00	1,222.3	131.2	-92.5	160.4	0.22	0.00	-0.63
1,337.0	20.80	320.30	1,311.3	157.5	-113.0	193.6	1.50	0.63	-3.89
1,431.0	20.30	316.00	1,399.3	182.1	-134.9	226.5	1.69	-0.53	-4.57
1,525.0	19.50	314.60	1,487.7	204.8	-157.4	258.3	0.99	-0.85	-1.49
1,620.0	20.00	317.60	1,577.1	227.9	-179.7	290.2	1.19	0.53	3.16
1,715.0	19.90	324.40	1,666.4	253.1	-200.1	322.6	2.44	-0.11	7.16
1,809.0	20.30	328.60	1,754.7	280.0	-217.9	354.8	1.59	0.43	4.47
1,904.0	21.80	332.80	1,843.3	309.8	-234.5	388.5	2.24	1.58	4.42
1,998.0	21.80	329.80	1,930.6	340.4	-251.3	422.9	1.19	0.00	-3.19
2,093.0	22.00	323.90	2,018.8	370.0	-270.6	458.2	2.33	0.21	-6.21
2,187.0	21.00	315.60	2,106.3	396.3	-292.8	492.5	3.40	-1.06	-8.83
2,281.0	18.50	315.30	2,194.7	418.9	-315.1	524.1	2.66	-2.66	-0.32
2,375.0	17.30	316.50	2,284.2	439.7	-335.2	552.8	1.34	-1.28	1.28
2,470.0	16.00	317.10	2,375.2	459.5	-353.8	579.9	1.38	-1.37	0.63
2,564.0	15.00	318.90	2,465.8	478.1	-370.6	605.0	1.18	-1.06	1.91
2,658.0	14.60	321.30	2,556.6	496.6	-386.0	629.0	0.78	-0.43	2.55
2,753.0	16.40	322.30	2,648.2	516.5	-401.7	654.4	1.92	1.89	1.05
2,847.0	18.80	321.70	2,737.8	538.9	-419.2	682.8	2.56	2.55	-0.64
2,942.0	19.90	321.20	2,827.4	563.5	-438.9	714.2	1.17	1.16	-0.53
3,065.0	21.00	324.20	2,942.7	597.7	-464.9	757.2	1.24	0.89	2.44
3,160.0	19.20	320.20	3,031.9	623.5	-484.8	789.8	2.38	-1.89	-4.21
3,254.0	18.90	314.90	3,120.7	646.1	-505.5	820.4	1.87	-0.32	-5.64
3,348.0	15.40	315.10	3,210.5	665.7	-525.1	847.9	3.72	-3.72	0.21
3,443.0	18.70	320.70	3,301.4	686.5	-543.7	875.7	3.88	3.47	5.89
3,538.0	18.90	327.00	3,391.3	711.2	-561.7	906.2	2.15	0.21	6.63
3,632.0	19.50	331.90	3,480.1	737.8	-577.4	936.8	1.83	0.64	5.21
3,726.0	19.10	333.50	3,568.8	765.4	-591.6	967.4	0.71	-0.43	1.70
3,821.0	18.50	332.30	3,658.7	792.6	-605.6	997.4	0.75	-0.63	-1.26
3,916.0	17.80	330.00	3,749.0	818.5	-619.8	1,026.6	1.05	-0.74	-2.42
4,011.0	18.30	327.90	3,839.3	843.8	-635.0	1,055.9	0.86	0.53	-2.21
4,105.0	18.90	325.40	3,928.4	868.8	-651.5	1,085.7	1.06	0.64	-2.66
4,200.0	18.50	324.70	4,018.4	893.8	-669.0	1,116.1	0.48	-0.42	-0.74
4,294.0	18.90	328.20	4,107.4	918.9	-685.6	1,146.2	1.27	0.43	3.72
4,389.0	19.00	333.40	4,197.3	945.8	-700.6	1,176.6	1.78	0.11	5.47
4,483.0	18.80	335.20	4,286.2	973.2	-713.8	1,206.4	0.66	-0.21	1.91
4,578.0	18.60	333.40	4,376.2	1,000.6	-727.0	1,236.2	0.64	-0.21	-1.89
4,672.0	19.00	332.50	4,465.2	1,027.6	-740.8	1,265.9	0.53	0.43	-0.96
4,767.0	18.90	331.90	4,555.1	1,054.9	-755.2	1,296.3	0.23	-0.11	-0.63
4,861.0	18.90	331.30	4,644.0	1,081.7	-769.7	1,326.3	0.21	0.00	-0.64
4,956.0	18.90	330.10	4,733.9	1,108.5	-784.7	1,356.7	0.41	0.00	-1.26
5,050.0	18.90	328.40	4,822.8	1,134.7	-800.3	1,386.9	0.59	0.00	-1.81

Company:	Caerus Oil and Gas LLC	Local Co-ordinate Reference:	Well FED 24B-14-496
Project:	SEC.24-T4S-R96W	TVD Reference:	WELL @ 8155.0ft (RKB - 30')
Site:	FED A24 Pad Sec.24-T4S-R96W	MD Reference:	WELL @ 8155.0ft (RKB - 30')
Well:	FED 24B-14-496	North Reference:	True
Wellbore:	FED 24B-14-496 Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	FED 24B-14-496 Wellbore #1	Database:	US_EDM

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,145.0	18.50	327.70	4,912.8	1,160.5	-816.4	1,417.2	0.48	-0.42	-0.74	
5,239.0	18.90	326.10	5,001.8	1,185.8	-832.9	1,447.2	0.69	0.43	-1.70	
5,334.0	18.70	324.70	5,091.7	1,211.0	-850.3	1,477.8	0.52	-0.21	-1.47	
5,428.0	18.90	322.50	5,180.7	1,235.4	-868.2	1,508.1	0.78	0.21	-2.34	
5,523.0	19.10	320.50	5,270.6	1,259.6	-887.5	1,539.0	0.72	0.21	-2.11	
5,617.0	18.90	318.80	5,359.4	1,282.9	-907.3	1,569.6	0.63	-0.21	-1.81	
5,712.0	18.90	318.00	5,449.3	1,305.9	-927.7	1,600.3	0.27	0.00	-0.84	
5,806.0	19.00	320.00	5,538.2	1,328.9	-947.8	1,630.7	0.70	0.11	2.13	
5,901.0	19.20	324.70	5,628.0	1,353.5	-966.7	1,661.8	1.63	0.21	4.95	
5,996.0	19.10	330.90	5,717.8	1,379.9	-983.3	1,692.8	2.14	-0.11	6.53	
6,090.0	19.20	334.10	5,806.6	1,407.2	-997.5	1,723.1	1.12	0.11	3.40	
6,185.0	19.60	333.90	5,896.2	1,435.6	-1,011.4	1,754.0	0.43	0.42	-0.21	
6,279.0	16.80	333.00	5,985.4	1,461.8	-1,024.5	1,782.7	2.99	-2.98	-0.96	
6,374.0	15.40	332.90	6,076.7	1,485.3	-1,036.5	1,808.6	1.47	-1.47	-0.11	
6,469.0	14.80	329.90	6,168.4	1,507.0	-1,048.3	1,833.0	1.04	-0.63	-3.16	
6,563.0	14.20	329.50	6,259.4	1,527.3	-1,060.2	1,856.3	0.65	-0.64	-0.43	
6,658.0	13.30	327.40	6,351.7	1,546.6	-1,072.0	1,878.8	1.08	-0.95	-2.21	
6,751.0	12.90	325.20	6,442.3	1,564.1	-1,083.7	1,899.8	0.69	-0.43	-2.37	
6,852.0	15.20	322.30	6,540.3	1,583.9	-1,098.2	1,924.3	2.38	2.28	-2.87	
6,946.0	15.80	319.30	6,630.9	1,603.3	-1,114.1	1,949.4	1.07	0.64	-3.19	
7,041.0	16.40	320.10	6,722.1	1,623.4	-1,131.1	1,975.7	0.67	0.63	0.84	
7,136.0	17.70	317.00	6,813.0	1,644.3	-1,149.6	2,003.5	1.67	1.37	-3.26	
7,230.0	19.20	314.80	6,902.1	1,665.6	-1,170.3	2,033.1	1.76	1.60	-2.34	
7,325.0	21.00	315.60	6,991.3	1,688.8	-1,193.3	2,065.5	1.92	1.89	0.84	
7,423.0	22.50	320.10	7,082.4	1,715.7	-1,217.6	2,101.7	2.29	1.53	4.59	
7,518.0	21.60	321.80	7,170.4	1,743.4	-1,240.1	2,137.3	1.16	-0.95	1.79	
7,612.0	20.70	318.60	7,258.1	1,769.5	-1,261.8	2,171.2	1.56	-0.96	-3.40	
7,707.0	20.80	319.50	7,346.9	1,794.9	-1,283.8	2,204.8	0.35	0.11	0.95	
7,801.0	21.10	318.50	7,434.7	1,820.2	-1,305.9	2,238.4	0.50	0.32	-1.06	
7,896.0	20.50	316.90	7,523.5	1,845.2	-1,328.6	2,272.0	0.87	-0.63	-1.68	
7,991.0	20.50	316.80	7,612.5	1,869.5	-1,351.3	2,305.2	0.04	0.00	-0.11	
8,086.0	19.20	315.70	7,701.9	1,892.8	-1,373.6	2,337.2	1.42	-1.37	-1.16	
8,180.0	18.40	317.50	7,790.8	1,914.8	-1,394.4	2,367.4	1.05	-0.85	1.91	
8,275.0	18.30	314.90	7,881.0	1,936.4	-1,415.1	2,397.1	0.87	-0.11	-2.74	
8,369.0	17.00	317.20	7,970.6	1,956.9	-1,434.9	2,425.5	1.57	-1.38	2.45	
8,464.0	16.90	323.70	8,061.5	1,978.2	-1,452.5	2,453.1	2.00	-0.11	6.84	
8,558.0	14.70	326.30	8,151.9	1,999.1	-1,467.2	2,478.7	2.46	-2.34	2.77	
8,653.0	13.60	326.90	8,244.0	2,018.5	-1,480.0	2,501.8	1.17	-1.16	0.63	
8,748.0	11.10	325.60	8,336.8	2,035.4	-1,491.3	2,522.1	2.65	-2.63	-1.37	
8,842.0	9.30	326.20	8,429.3	2,049.2	-1,500.6	2,538.7	1.92	-1.91	0.64	
8,938.0	8.10	321.10	8,524.2	2,060.9	-1,509.2	2,553.2	1.48	-1.25	-5.31	
9,031.0	5.80	314.30	8,616.5	2,069.3	-1,516.7	2,564.4	2.62	-2.47	-7.31	
9,126.0	4.40	317.80	8,711.2	2,075.3	-1,522.6	2,572.8	1.51	-1.47	3.68	

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Site:	FED A24 Pad Sec.24-T4S-R96W	MD Reference:	WELL @ 8155.0ft (RKB - 30')
Well:	FED 24B-14-496	North Reference:	True
Wellbore:	FED 24B-14-496 Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	FED 24B-14-496 Wellbore #1	Database:	US_EDM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,221.0	3.40	321.90	8,805.9	2,080.2	-1,526.7	2,579.3	1.09	-1.05	4.32
9,315.0	1.50	351.50	8,899.9	2,083.7	-1,528.6	2,583.1	2.36	-2.02	31.49
9,410.0	0.30	345.90	8,994.8	2,085.1	-1,528.9	2,584.4	1.27	-1.26	-5.89
9,504.0	0.30	355.20	9,088.8	2,085.6	-1,529.0	2,584.9	0.05	0.00	9.89
9,599.0	0.70	49.20	9,183.8	2,086.2	-1,528.5	2,585.1	0.61	0.42	56.84
9,693.0	0.20	7.10	9,277.8	2,086.8	-1,528.1	2,585.2	0.60	-0.53	-44.79
9,788.0	0.50	143.10	9,372.8	2,086.6	-1,527.8	2,584.9	0.69	0.32	143.16
9,883.0	0.20	164.00	9,467.8	2,086.1	-1,527.5	2,584.4	0.34	-0.32	22.00
9,977.0	0.70	195.40	9,561.8	2,085.4	-1,527.6	2,583.9	0.57	0.53	33.40
10,072.0	1.00	237.70	9,656.8	2,084.4	-1,528.5	2,583.6	0.71	0.32	44.53
10,166.0	1.30	239.60	9,750.8	2,083.4	-1,530.1	2,583.8	0.32	0.32	2.02
10,261.0	1.90	239.40	9,845.8	2,082.1	-1,532.4	2,584.2	0.63	0.63	-0.21
10,355.0	1.90	242.30	9,939.7	2,080.6	-1,535.1	2,584.7	0.10	0.00	3.09
10,450.0	1.90	225.80	10,034.7	2,078.7	-1,537.6	2,584.8	0.57	0.00	-17.37
10,544.0	2.40	222.20	10,128.6	2,076.2	-1,540.1	2,584.3	0.55	0.53	-3.83
10,639.0	2.40	234.50	10,223.5	2,073.6	-1,543.0	2,584.0	0.54	0.00	12.95
10,733.0	2.50	235.10	10,317.4	2,071.2	-1,546.3	2,584.2	0.11	0.11	0.64
10,828.0	2.60	227.90	10,412.3	2,068.6	-1,549.6	2,584.2	0.35	0.11	-7.58
10,923.0	1.90	233.50	10,507.3	2,066.2	-1,552.5	2,584.0	0.77	-0.74	5.89
11,017.0	2.20	232.50	10,601.2	2,064.2	-1,555.2	2,584.1	0.32	0.32	-1.06
11,111.0	3.00	227.60	10,695.1	2,061.5	-1,558.4	2,583.9	0.88	0.85	-5.21
11,206.0	2.20	222.40	10,790.0	2,058.4	-1,561.5	2,583.4	0.88	-0.84	-5.47
11,300.0	2.40	217.90	10,883.9	2,055.5	-1,563.9	2,582.6	0.29	0.21	-4.79
11,395.0	2.90	213.40	10,978.8	2,052.0	-1,566.4	2,581.4	0.57	0.53	-4.74
11,489.0	3.30	221.40	11,072.7	2,048.0	-1,569.5	2,580.1	0.63	0.43	8.51
11,584.0	3.60	224.20	11,167.5	2,043.8	-1,573.4	2,579.2	0.36	0.32	2.95
11,683.0	4.40	231.90	11,266.3	2,039.2	-1,578.6	2,578.8	0.97	0.81	7.78
11,778.0	4.30	229.10	11,361.0	2,034.6	-1,584.1	2,578.6	0.25	-0.11	-2.95
11,872.0	3.80	228.30	11,454.8	2,030.2	-1,589.1	2,578.2	0.54	-0.53	-0.85
11,967.0	4.00	231.40	11,549.5	2,026.1	-1,594.1	2,578.0	0.31	0.21	3.26
12,061.0	3.40	227.80	11,643.3	2,022.2	-1,598.7	2,577.7	0.68	-0.64	-3.83
12,156.0	4.00	225.60	11,738.1	2,017.9	-1,603.2	2,577.1	0.65	0.63	-2.32
12,251.0	4.20	228.00	11,832.9	2,013.3	-1,608.1	2,576.5	0.28	0.21	2.53
12,345.0	4.40	229.20	11,926.6	2,008.6	-1,613.4	2,576.1	0.23	0.21	1.28
12,440.0	4.10	223.80	12,021.4	2,003.8	-1,618.5	2,575.4	0.53	-0.32	-5.68
12,534.0	4.30	225.80	12,115.1	1,998.9	-1,623.4	2,574.6	0.26	0.21	2.13
12,629.0	4.90	222.50	12,209.8	1,993.4	-1,628.7	2,573.5	0.69	0.63	-3.47
12,723.0	5.10	228.90	12,303.5	1,987.7	-1,634.5	2,572.6	0.63	0.21	6.81
12,813.0	6.20	233.50	12,393.0	1,982.2	-1,641.4	2,572.5	1.32	1.22	5.11
12,854.7	6.20	233.50	12,434.5	1,979.5	-1,645.1	2,572.7	0.00	0.00	0.00
FED 24B-14_PBHL 1551'FSL & 1467'FEL, Sec.14									
12,870.0	6.20	233.50	12,449.7	1,978.6	-1,646.4	2,572.7	0.00	0.00	0.00

Company:	Caerus Oil and Gas LLC	Local Co-ordinate Reference:	Well FED 24B-14-496
Project:	SEC.24-T4S-R96W	TVD Reference:	WELL @ 8155.0ft (RKB - 30')
Site:	FED A24 Pad Sec.24-T4S-R96W	MD Reference:	WELL @ 8155.0ft (RKB - 30')
Well:	FED 24B-14-496	North Reference:	True
Wellbore:	FED 24B-14-496 Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	FED 24B-14-496 Wellbore #1	Database:	US_EDM

Checked By: _____	Approved By: _____	Date: _____
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