

GREAT WESTERN OPERATING COMPANY

**ADAMS COUNTY
SEC 21-T1S-R67W
GUS LD 34-363HC**

OWB

Plan: PROPOSAL 1

Standard Planning Report

08 December, 2021

Project: ADAMS COUNTY
Site: SEC 21-T1S-R67W
Well: GUS LD 34-363HC
Wellbore: OWB
Design: PROPOSAL 1

PROJECT DETAILS: ADAMS COUNTY
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level



Azimuths to True North
Magnetic North: 7.84°
Magnetic Field
Strength: 51676.0nT
Dip Angle: 66.27°
Date: 9/21/2021
Model: IGRF2020

WELL DETAILS: GUS LD 34-363HC

				5124.00			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		Slot
0.00	0.00	1226375.52	3172296.23	39.953144°N	104.885411°W		

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	1362.08	34.86	94.59	1291.69	-27.41	341.67	3.00	94.59	140.40	
4	8747.89	34.86	94.59	7351.94	-365.07	4549.95	0.00	0.00	1869.61	
5	9841.01	90.00	180.12	7914.00	-1081.39	4938.79	8.00	86.33	2674.84	GUS 34-363HC-LP
6	22459.05	90.00	180.12	7914.00	-13699.40	4911.85	0.00	0.00	14553.31	GUS 34-363HC-BTM PERF
7	22460.40	90.00	180.15	7914.00	-13700.75	4911.84	2.00	90.00	14554.58	GUS 34-363HC-PBHL
8	22559.23	90.00	180.15	7914.00	-13799.58	4911.58	0.00	0.00	14647.60	GUS 34-363HC-PBHL

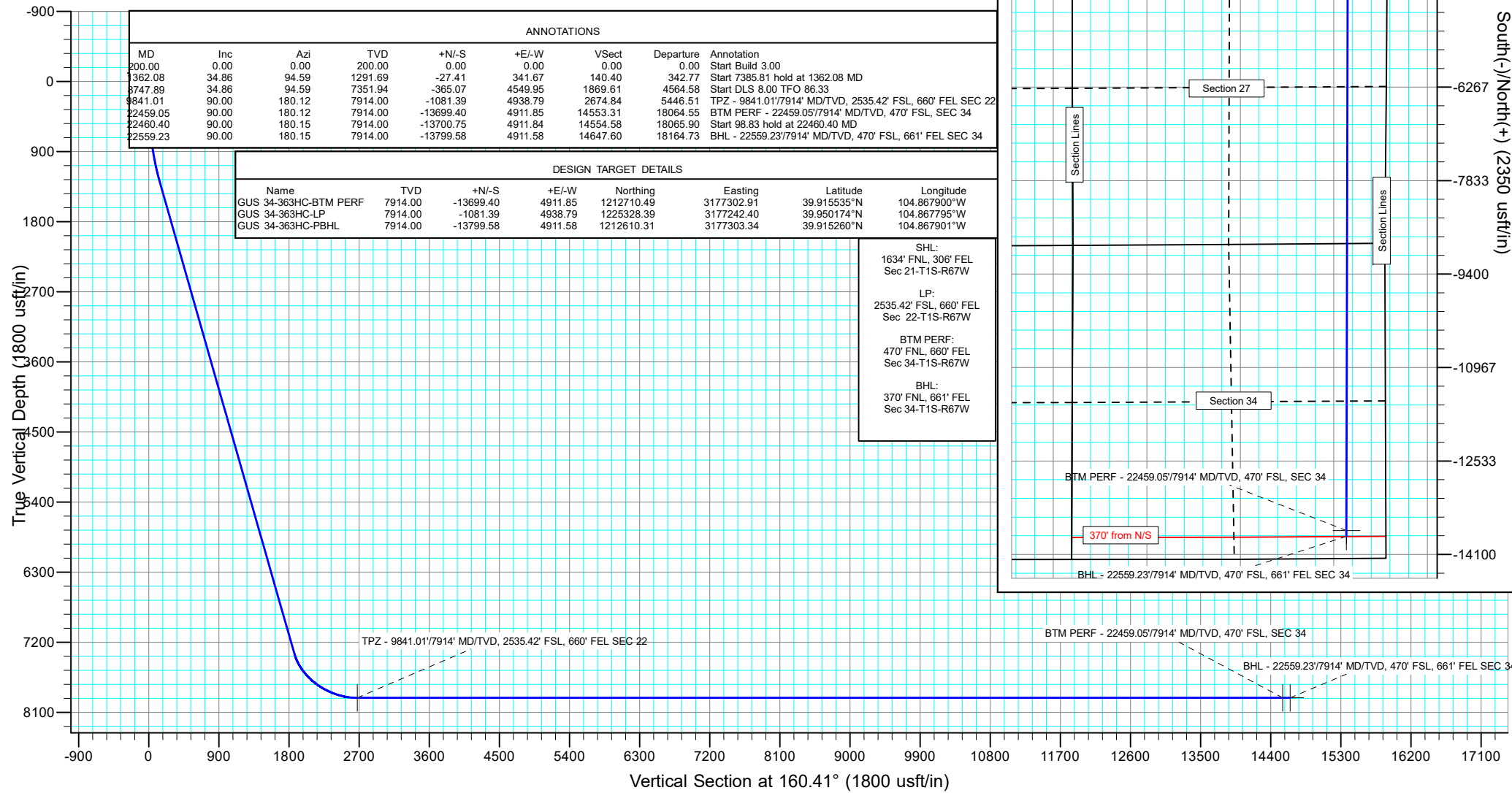
ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	Start Build 3.00
1362.08	34.86	94.59	1291.69	-27.41	341.67	140.40	342.77	Start 7385.81 hold at 1362.08 MD
8747.89	34.86	94.59	7351.94	-365.07	4549.95	1869.61	4564.58	Start DLS 8.00 TFO 86.33
9841.01	90.00	180.12	7914.00	-1081.39	4938.79	2674.84	5446.51	TPZ - 9841.01/7914' MD/TVD, 2535.42' FSL, 660' FEL SEC 22
22459.05	90.00	180.12	7914.00	-13699.40	4911.85	14553.31	18064.55	BTM PERF - 22459.05/7914' MD/TVD, 470' FSL, SEC 34
22460.40	90.00	180.15	7914.00	-13700.75	4911.84	14554.58	18065.90	Start 98.83 hold at 22460.40 MD
22559.23	90.00	180.15	7914.00	-13799.58	4911.58	14647.60	18164.73	BHL - 22559.23/7914' MD/TVD, 470' FSL, 661' FEL SEC 34

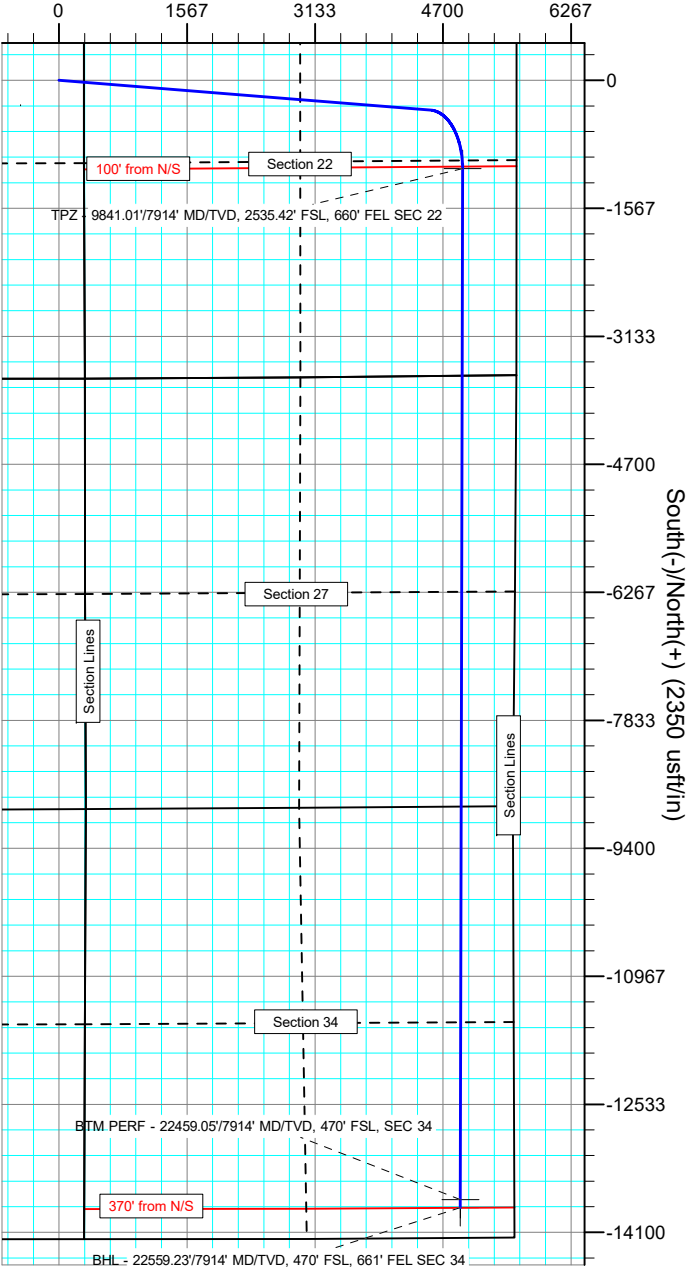
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
GUS 34-363HC-BTM PERF	7914.00	-13699.40	4911.85	1212710.49	3177302.91	39.915535°N	104.867900°W
GUS 34-363HC-LP	7914.00	-1081.39	4938.79	1225328.39	3177242.40	39.950174°N	104.867795°W
GUS 34-363HC-PBHL	7914.00	-13799.58	4911.58	1212610.31	3177303.34	39.915260°N	104.867901°W

SHL:
1634' FNL, 306' FEL
Sec 21-T1S-R67W
LP:
2535.42' FSL, 660' FEL
Sec 22-T1S-R67W
BTM PERF:
470' FNL, 660' FEL
Sec 34-T1S-R67W
BHL:
370' FNL, 661' FEL
Sec 34-T1S-R67W



West(-)/East(+) (2350 usft/in)



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well GUS LD 34-363HC
Company:	GREAT WESTERN OPERATING COMPANY	TVD Reference:	KB 20' @ 5144.00usft
Project:	ADAMS COUNTY	MD Reference:	KB 20' @ 5144.00usft
Site:	SEC 21-T1S-R67W	North Reference:	True
Well:	GUS LD 34-363HC	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Project	ADAMS COUNTY		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		SEC 21-T1S-R67W				
Site Position:		Northing:	1,228,012.10	usft	Latitude:	39.957631°N
From:	Lat/Long	Easting:	3,172,590.18	usft	Longitude:	104.884322°W
Position Uncertainty:		0.00	usft	Slot Radius:	13.200	in

Well	GUS LD 34-363HC					
Well Position	+N/-S	0.00 usft	Northing:	1,226,375.52 usft	Latitude:	39.953144°N
	+E/-W	0.00 usft	Easting:	3,172,296.24 usft	Longitude:	104.885411°W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,124.00 usft
Grid Convergence:		0.40 °				

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	9/21/2021	7.84	66.27	51,676.01155718

Design	PROPOSAL 1				
Audit Notes:					
Version:		Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	160.41	

Plan Survey Tool Program	Date	12/8/2021			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	22,559.23 PROPOSAL 1 (OWB)	MWD		
			OWSG MWD - Standard		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,362.08	34.86	94.59	1,291.69	-27.41	341.67	3.00	3.00	0.00	94.59	
8,747.89	34.86	94.59	7,351.94	-365.07	4,549.95	0.00	0.00	0.00	0.00	
9,841.01	90.00	180.12	7,914.00	-1,081.39	4,938.79	8.00	5.04	7.82	86.33	GUS 34-363HC-LP
22,459.05	90.00	180.12	7,914.00	-13,699.40	4,911.85	0.00	0.00	0.00	0.00	GUS 34-363HC-BTM
22,460.40	90.00	180.15	7,914.00	-13,700.75	4,911.84	2.00	0.00	2.00	90.00	GUS 34-363HC-PBHI
22,559.23	90.00	180.15	7,914.00	-13,799.58	4,911.58	0.00	0.00	0.00	0.00	GUS 34-363HC-PBHI

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Company:	GREAT WESTERN OPERATING COMPANY	TVD Reference:	KB 20' @ 5144.00usft
Project:	ADAMS COUNTY	MD Reference:	KB 20' @ 5144.00usft
Site:	SEC 21-T1S-R67W	North Reference:	True
Well:	GUS LD 34-363HC	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00									
300.00	3.00	94.59	299.95	-0.21	2.61	1.07	3.00	3.00	0.00
400.00	6.00	94.59	399.63	-0.84	10.43	4.29	3.00	3.00	0.00
500.00	9.00	94.59	498.77	-1.88	23.44	9.63	3.00	3.00	0.00
600.00	12.00	94.59	597.08	-3.34	41.60	17.09	3.00	3.00	0.00
700.00	15.00	94.59	694.31	-5.20	64.87	26.65	3.00	3.00	0.00
800.00	18.00	94.59	790.18	-7.48	93.18	38.29	3.00	3.00	0.00
900.00	21.00	94.59	884.43	-10.15	126.45	51.96	3.00	3.00	0.00
1,000.00	24.00	94.59	976.81	-13.21	164.59	67.63	3.00	3.00	0.00
1,100.00	27.00	94.59	1,067.06	-16.65	207.50	85.26	3.00	3.00	0.00
1,200.00	30.00	94.59	1,154.93	-20.46	255.05	104.80	3.00	3.00	0.00
1,300.00	33.00	94.59	1,240.18	-24.64	307.13	126.20	3.00	3.00	0.00
1,362.08	34.86	94.59	1,291.69	-27.41	341.67	140.40	3.00	3.00	0.00
Start 7385.81 hold at 1362.08 MD									
1,400.00	34.86	94.59	1,322.80	-29.15	363.28	149.27	0.00	0.00	0.00
1,500.00	34.86	94.59	1,404.86	-33.72	420.25	172.69	0.00	0.00	0.00
1,600.00	34.86	94.59	1,486.91	-38.29	477.23	196.10	0.00	0.00	0.00
1,700.00	34.86	94.59	1,568.96	-42.86	534.21	219.51	0.00	0.00	0.00
1,800.00	34.86	94.59	1,651.01	-47.43	591.19	242.92	0.00	0.00	0.00
1,900.00	34.86	94.59	1,733.07	-52.01	648.17	266.34	0.00	0.00	0.00
2,000.00	34.86	94.59	1,815.12	-56.58	705.14	289.75	0.00	0.00	0.00
2,100.00	34.86	94.59	1,897.17	-61.15	762.12	313.16	0.00	0.00	0.00
2,200.00	34.86	94.59	1,979.22	-65.72	819.10	336.57	0.00	0.00	0.00
2,300.00	34.86	94.59	2,061.28	-70.29	876.08	359.99	0.00	0.00	0.00
2,400.00	34.86	94.59	2,143.33	-74.86	933.06	383.40	0.00	0.00	0.00
2,500.00	34.86	94.59	2,225.38	-79.44	990.03	406.81	0.00	0.00	0.00
2,600.00	34.86	94.59	2,307.43	-84.01	1,047.01	430.23	0.00	0.00	0.00
2,700.00	34.86	94.59	2,389.49	-88.58	1,103.99	453.64	0.00	0.00	0.00
2,800.00	34.86	94.59	2,471.54	-93.15	1,160.97	477.05	0.00	0.00	0.00
2,900.00	34.86	94.59	2,553.59	-97.72	1,217.95	500.46	0.00	0.00	0.00
3,000.00	34.86	94.59	2,635.64	-102.30	1,274.92	523.88	0.00	0.00	0.00
3,100.00	34.86	94.59	2,717.70	-106.87	1,331.90	547.29	0.00	0.00	0.00
3,200.00	34.86	94.59	2,799.75	-111.44	1,388.88	570.70	0.00	0.00	0.00
3,300.00	34.86	94.59	2,881.80	-116.01	1,445.86	594.11	0.00	0.00	0.00
3,400.00	34.86	94.59	2,963.85	-120.58	1,502.83	617.53	0.00	0.00	0.00
3,500.00	34.86	94.59	3,045.91	-125.15	1,559.81	640.94	0.00	0.00	0.00
3,600.00	34.86	94.59	3,127.96	-129.73	1,616.79	664.35	0.00	0.00	0.00
3,700.00	34.86	94.59	3,210.01	-134.30	1,673.77	687.76	0.00	0.00	0.00
3,800.00	34.86	94.59	3,292.06	-138.87	1,730.75	711.18	0.00	0.00	0.00
3,900.00	34.86	94.59	3,374.12	-143.44	1,787.72	734.59	0.00	0.00	0.00
4,000.00	34.86	94.59	3,456.17	-148.01	1,844.70	758.00	0.00	0.00	0.00
4,100.00	34.86	94.59	3,538.22	-152.58	1,901.68	781.42	0.00	0.00	0.00
4,200.00	34.86	94.59	3,620.27	-157.16	1,958.66	804.83	0.00	0.00	0.00
4,300.00	34.86	94.59	3,702.33	-161.73	2,015.64	828.24	0.00	0.00	0.00
4,400.00	34.86	94.59	3,784.38	-166.30	2,072.61	851.65	0.00	0.00	0.00
4,500.00	34.86	94.59	3,866.43	-170.87	2,129.59	875.07	0.00	0.00	0.00
4,600.00	34.86	94.59	3,948.49	-175.44	2,186.57	898.48	0.00	0.00	0.00
4,700.00	34.86	94.59	4,030.54	-180.01	2,243.55	921.89	0.00	0.00	0.00
4,800.00	34.86	94.59	4,112.59	-184.59	2,300.53	945.30	0.00	0.00	0.00
4,900.00	34.86	94.59	4,194.64	-189.16	2,357.50	968.72	0.00	0.00	0.00
5,000.00	34.86	94.59	4,276.70	-193.73	2,414.48	992.13	0.00	0.00	0.00

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Site:	SEC 21-T1S-R67W	North Reference:	True
Well:	GUS LD 34-363HC	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,100.00	34.86	94.59	4,358.75	-198.30	2,471.46	1,015.54	0.00	0.00	0.00
5,200.00	34.86	94.59	4,440.80	-202.87	2,528.44	1,038.95	0.00	0.00	0.00
5,300.00	34.86	94.59	4,522.85	-207.44	2,585.41	1,062.37	0.00	0.00	0.00
5,400.00	34.86	94.59	4,604.91	-212.02	2,642.39	1,085.78	0.00	0.00	0.00
5,500.00	34.86	94.59	4,686.96	-216.59	2,699.37	1,109.19	0.00	0.00	0.00
5,600.00	34.86	94.59	4,769.01	-221.16	2,756.35	1,132.61	0.00	0.00	0.00
5,700.00	34.86	94.59	4,851.06	-225.73	2,813.33	1,156.02	0.00	0.00	0.00
5,800.00	34.86	94.59	4,933.12	-230.30	2,870.30	1,179.43	0.00	0.00	0.00
5,900.00	34.86	94.59	5,015.17	-234.87	2,927.28	1,202.84	0.00	0.00	0.00
6,000.00	34.86	94.59	5,097.22	-239.45	2,984.26	1,226.26	0.00	0.00	0.00
6,100.00	34.86	94.59	5,179.27	-244.02	3,041.24	1,249.67	0.00	0.00	0.00
6,200.00	34.86	94.59	5,261.33	-248.59	3,098.22	1,273.08	0.00	0.00	0.00
6,300.00	34.86	94.59	5,343.38	-253.16	3,155.19	1,296.49	0.00	0.00	0.00
6,400.00	34.86	94.59	5,425.43	-257.73	3,212.17	1,319.91	0.00	0.00	0.00
6,500.00	34.86	94.59	5,507.48	-262.30	3,269.15	1,343.32	0.00	0.00	0.00
6,600.00	34.86	94.59	5,589.54	-266.88	3,326.13	1,366.73	0.00	0.00	0.00
6,700.00	34.86	94.59	5,671.59	-271.45	3,383.11	1,390.14	0.00	0.00	0.00
6,800.00	34.86	94.59	5,753.64	-276.02	3,440.08	1,413.56	0.00	0.00	0.00
6,900.00	34.86	94.59	5,835.69	-280.59	3,497.06	1,436.97	0.00	0.00	0.00
7,000.00	34.86	94.59	5,917.75	-285.16	3,554.04	1,460.38	0.00	0.00	0.00
7,100.00	34.86	94.59	5,999.80	-289.73	3,611.02	1,483.80	0.00	0.00	0.00
7,200.00	34.86	94.59	6,081.85	-294.31	3,668.00	1,507.21	0.00	0.00	0.00
7,300.00	34.86	94.59	6,163.90	-298.88	3,724.97	1,530.62	0.00	0.00	0.00
7,400.00	34.86	94.59	6,245.96	-303.45	3,781.95	1,554.03	0.00	0.00	0.00
7,500.00	34.86	94.59	6,328.01	-308.02	3,838.93	1,577.45	0.00	0.00	0.00
7,600.00	34.86	94.59	6,410.06	-312.59	3,895.91	1,600.86	0.00	0.00	0.00
7,700.00	34.86	94.59	6,492.11	-317.16	3,952.88	1,624.27	0.00	0.00	0.00
7,800.00	34.86	94.59	6,574.17	-321.74	4,009.86	1,647.68	0.00	0.00	0.00
7,900.00	34.86	94.59	6,656.22	-326.31	4,066.84	1,671.10	0.00	0.00	0.00
8,000.00	34.86	94.59	6,738.27	-330.88	4,123.82	1,694.51	0.00	0.00	0.00
8,100.00	34.86	94.59	6,820.32	-335.45	4,180.80	1,717.92	0.00	0.00	0.00
8,200.00	34.86	94.59	6,902.38	-340.02	4,237.77	1,741.33	0.00	0.00	0.00
8,300.00	34.86	94.59	6,984.43	-344.60	4,294.75	1,764.75	0.00	0.00	0.00
8,400.00	34.86	94.59	7,066.48	-349.17	4,351.73	1,788.16	0.00	0.00	0.00
8,500.00	34.86	94.59	7,148.53	-353.74	4,408.71	1,811.57	0.00	0.00	0.00
8,600.00	34.86	94.59	7,230.59	-358.31	4,465.69	1,834.99	0.00	0.00	0.00
8,700.00	34.86	94.59	7,312.64	-362.88	4,522.66	1,858.40	0.00	0.00	0.00
8,747.89	34.86	94.59	7,351.94	-365.07	4,549.95	1,869.61	0.00	0.00	0.00
Start DLS 8.00 TFO 86.33									
8,750.00	34.87	94.88	7,353.66	-365.17	4,551.15	1,870.11	8.00	0.53	13.96
8,800.00	35.34	101.79	7,394.58	-369.34	4,579.56	1,883.57	8.00	0.94	13.82
8,850.00	36.20	108.48	7,435.17	-376.98	4,607.73	1,900.21	8.00	1.70	13.38
8,900.00	37.40	114.85	7,475.22	-388.05	4,635.53	1,919.95	8.00	2.41	12.74
8,950.00	38.93	120.83	7,514.54	-402.49	4,662.81	1,942.70	8.00	3.06	11.97
9,000.00	40.75	126.40	7,552.95	-420.23	4,689.44	1,968.35	8.00	3.63	11.13
9,050.00	42.81	131.55	7,590.24	-441.19	4,715.30	1,996.77	8.00	4.12	10.29
9,100.00	45.08	136.29	7,626.25	-465.26	4,740.26	2,027.81	8.00	4.55	9.49
9,150.00	47.54	140.66	7,660.79	-492.33	4,764.19	2,061.34	8.00	4.91	8.74
9,200.00	50.15	144.69	7,693.71	-522.27	4,786.98	2,097.19	8.00	5.22	8.06
9,250.00	52.88	148.42	7,724.82	-554.93	4,808.53	2,135.18	8.00	5.48	7.45
9,300.00	55.73	151.88	7,754.00	-590.15	4,828.72	2,175.13	8.00	5.69	6.92
9,350.00	58.67	155.11	7,781.09	-627.75	4,847.45	2,216.84	8.00	5.87	6.46
9,400.00	61.68	158.14	7,805.96	-667.57	4,864.64	2,260.11	8.00	6.03	6.07
9,450.00	64.76	161.01	7,828.49	-709.39	4,880.20	2,304.73	8.00	6.15	5.73

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well GUS LD 34-363HC
Company:	GREAT WESTERN OPERATING COMPANY	TVD Reference:	KB 20' @ 5144.00usft
Project:	ADAMS COUNTY	MD Reference:	KB 20' @ 5144.00usft
Site:	SEC 21-T1S-R67W	North Reference:	True
Well:	GUS LD 34-363HC	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,500.00	67.89	163.73	7,848.57	-753.02	4,894.05	2,350.48	8.00	6.26	5.44
9,550.00	71.06	166.33	7,866.10	-798.25	4,906.13	2,397.14	8.00	6.34	5.21
9,600.00	74.26	168.84	7,881.01	-844.85	4,916.38	2,444.49	8.00	6.41	5.01
9,650.00	77.50	171.26	7,893.20	-892.60	4,924.75	2,492.28	8.00	6.47	4.85
9,700.00	80.75	173.63	7,902.64	-941.27	4,931.20	2,540.29	8.00	6.51	4.73
9,750.00	84.03	175.95	7,909.26	-990.62	4,935.69	2,588.29	8.00	6.54	4.65
9,800.00	87.31	178.25	7,913.04	-1,040.40	4,938.21	2,636.03	8.00	6.56	4.59
9,841.01	90.00	180.12	7,914.00	-1,081.39	4,938.79	2,674.84	8.00	6.57	4.57
TPZ - 9841.01'/7914' MD/TVD, 2535.42' FSL, 660' FEL SEC 22									
9,900.00	90.00	180.12	7,914.00	-1,140.38	4,938.67	2,730.37	0.00	0.00	0.00
10,000.00	90.00	180.12	7,914.00	-1,240.38	4,938.45	2,824.51	0.00	0.00	0.00
10,100.00	90.00	180.12	7,914.00	-1,340.38	4,938.24	2,918.65	0.00	0.00	0.00
10,200.00	90.00	180.12	7,914.00	-1,440.38	4,938.03	3,012.79	0.00	0.00	0.00
10,300.00	90.00	180.12	7,914.00	-1,540.38	4,937.81	3,106.93	0.00	0.00	0.00
10,400.00	90.00	180.12	7,914.00	-1,640.38	4,937.60	3,201.07	0.00	0.00	0.00
10,500.00	90.00	180.12	7,914.00	-1,740.38	4,937.38	3,295.21	0.00	0.00	0.00
10,600.00	90.00	180.12	7,914.00	-1,840.38	4,937.17	3,389.35	0.00	0.00	0.00
10,700.00	90.00	180.12	7,914.00	-1,940.38	4,936.96	3,483.48	0.00	0.00	0.00
10,800.00	90.00	180.12	7,914.00	-2,040.38	4,936.74	3,577.62	0.00	0.00	0.00
10,900.00	90.00	180.12	7,914.00	-2,140.38	4,936.53	3,671.76	0.00	0.00	0.00
11,000.00	90.00	180.12	7,914.00	-2,240.38	4,936.32	3,765.90	0.00	0.00	0.00
11,100.00	90.00	180.12	7,914.00	-2,340.38	4,936.10	3,860.04	0.00	0.00	0.00
11,200.00	90.00	180.12	7,914.00	-2,440.38	4,935.89	3,954.18	0.00	0.00	0.00
11,300.00	90.00	180.12	7,914.00	-2,540.38	4,935.68	4,048.32	0.00	0.00	0.00
11,400.00	90.00	180.12	7,914.00	-2,640.38	4,935.46	4,142.46	0.00	0.00	0.00
11,500.00	90.00	180.12	7,914.00	-2,740.38	4,935.25	4,236.59	0.00	0.00	0.00
11,600.00	90.00	180.12	7,914.00	-2,840.37	4,935.04	4,330.73	0.00	0.00	0.00
11,700.00	90.00	180.12	7,914.00	-2,940.37	4,934.82	4,424.87	0.00	0.00	0.00
11,800.00	90.00	180.12	7,914.00	-3,040.37	4,934.61	4,519.01	0.00	0.00	0.00
11,900.00	90.00	180.12	7,914.00	-3,140.37	4,934.40	4,613.15	0.00	0.00	0.00
12,000.00	90.00	180.12	7,914.00	-3,240.37	4,934.18	4,707.29	0.00	0.00	0.00
12,100.00	90.00	180.12	7,914.00	-3,340.37	4,933.97	4,801.43	0.00	0.00	0.00
12,200.00	90.00	180.12	7,914.00	-3,440.37	4,933.76	4,895.57	0.00	0.00	0.00
12,300.00	90.00	180.12	7,914.00	-3,540.37	4,933.54	4,989.70	0.00	0.00	0.00
12,400.00	90.00	180.12	7,914.00	-3,640.37	4,933.33	5,083.84	0.00	0.00	0.00
12,500.00	90.00	180.12	7,914.00	-3,740.37	4,933.11	5,177.98	0.00	0.00	0.00
12,600.00	90.00	180.12	7,914.00	-3,840.37	4,932.90	5,272.12	0.00	0.00	0.00
12,700.00	90.00	180.12	7,914.00	-3,940.37	4,932.69	5,366.26	0.00	0.00	0.00
12,800.00	90.00	180.12	7,914.00	-4,040.37	4,932.47	5,460.40	0.00	0.00	0.00
12,900.00	90.00	180.12	7,914.00	-4,140.37	4,932.26	5,554.54	0.00	0.00	0.00
13,000.00	90.00	180.12	7,914.00	-4,240.37	4,932.05	5,648.68	0.00	0.00	0.00
13,100.00	90.00	180.12	7,914.00	-4,340.37	4,931.83	5,742.81	0.00	0.00	0.00
13,200.00	90.00	180.12	7,914.00	-4,440.37	4,931.62	5,836.95	0.00	0.00	0.00
13,300.00	90.00	180.12	7,914.00	-4,540.37	4,931.41	5,931.09	0.00	0.00	0.00
13,400.00	90.00	180.12	7,914.00	-4,640.37	4,931.19	6,025.23	0.00	0.00	0.00
13,500.00	90.00	180.12	7,914.00	-4,740.37	4,930.98	6,119.37	0.00	0.00	0.00
13,600.00	90.00	180.12	7,914.00	-4,840.37	4,930.77	6,213.51	0.00	0.00	0.00
13,700.00	90.00	180.12	7,914.00	-4,940.37	4,930.55	6,307.65	0.00	0.00	0.00
13,800.00	90.00	180.12	7,914.00	-5,040.37	4,930.34	6,401.79	0.00	0.00	0.00
13,900.00	90.00	180.12	7,914.00	-5,140.37	4,930.13	6,495.92	0.00	0.00	0.00
14,000.00	90.00	180.12	7,914.00	-5,240.37	4,929.91	6,590.06	0.00	0.00	0.00
14,100.00	90.00	180.12	7,914.00	-5,340.37	4,929.70	6,684.20	0.00	0.00	0.00
14,200.00	90.00	180.12	7,914.00	-5,440.37	4,929.49	6,778.34	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well GUS LD 34-363HC
Company:	GREAT WESTERN OPERATING COMPANY	TVD Reference:	KB 20' @ 5144.00usft
Project:	ADAMS COUNTY	MD Reference:	KB 20' @ 5144.00usft
Site:	SEC 21-T1S-R67W	North Reference:	True
Well:	GUS LD 34-363HC	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
14,300.00	90.00	180.12	7,914.00	-5,540.37	4,929.27	6,872.48	0.00	0.00	0.00	
14,400.00	90.00	180.12	7,914.00	-5,640.37	4,929.06	6,966.62	0.00	0.00	0.00	
14,500.00	90.00	180.12	7,914.00	-5,740.37	4,928.84	7,060.76	0.00	0.00	0.00	
14,600.00	90.00	180.12	7,914.00	-5,840.37	4,928.63	7,154.90	0.00	0.00	0.00	
14,700.00	90.00	180.12	7,914.00	-5,940.37	4,928.42	7,249.03	0.00	0.00	0.00	
14,800.00	90.00	180.12	7,914.00	-6,040.37	4,928.20	7,343.17	0.00	0.00	0.00	
14,900.00	90.00	180.12	7,914.00	-6,140.37	4,927.99	7,437.31	0.00	0.00	0.00	
15,000.00	90.00	180.12	7,914.00	-6,240.37	4,927.78	7,531.45	0.00	0.00	0.00	
15,100.00	90.00	180.12	7,914.00	-6,340.37	4,927.56	7,625.59	0.00	0.00	0.00	
15,200.00	90.00	180.12	7,914.00	-6,440.37	4,927.35	7,719.73	0.00	0.00	0.00	
15,300.00	90.00	180.12	7,914.00	-6,540.37	4,927.14	7,813.87	0.00	0.00	0.00	
15,400.00	90.00	180.12	7,914.00	-6,640.37	4,926.92	7,908.01	0.00	0.00	0.00	
15,500.00	90.00	180.12	7,914.00	-6,740.37	4,926.71	8,002.14	0.00	0.00	0.00	
15,600.00	90.00	180.12	7,914.00	-6,840.37	4,926.50	8,096.28	0.00	0.00	0.00	
15,700.00	90.00	180.12	7,914.00	-6,940.37	4,926.28	8,190.42	0.00	0.00	0.00	
15,800.00	90.00	180.12	7,914.00	-7,040.37	4,926.07	8,284.56	0.00	0.00	0.00	
15,900.00	90.00	180.12	7,914.00	-7,140.37	4,925.86	8,378.70	0.00	0.00	0.00	
16,000.00	90.00	180.12	7,914.00	-7,240.36	4,925.64	8,472.84	0.00	0.00	0.00	
16,100.00	90.00	180.12	7,914.00	-7,340.36	4,925.43	8,566.98	0.00	0.00	0.00	
16,200.00	90.00	180.12	7,914.00	-7,440.36	4,925.22	8,661.11	0.00	0.00	0.00	
16,300.00	90.00	180.12	7,914.00	-7,540.36	4,925.00	8,755.25	0.00	0.00	0.00	
16,400.00	90.00	180.12	7,914.00	-7,640.36	4,924.79	8,849.39	0.00	0.00	0.00	
16,500.00	90.00	180.12	7,914.00	-7,740.36	4,924.57	8,943.53	0.00	0.00	0.00	
16,600.00	90.00	180.12	7,914.00	-7,840.36	4,924.36	9,037.67	0.00	0.00	0.00	
16,700.00	90.00	180.12	7,914.00	-7,940.36	4,924.15	9,131.81	0.00	0.00	0.00	
16,800.00	90.00	180.12	7,914.00	-8,040.36	4,923.93	9,225.95	0.00	0.00	0.00	
16,900.00	90.00	180.12	7,914.00	-8,140.36	4,923.72	9,320.09	0.00	0.00	0.00	
17,000.00	90.00	180.12	7,914.00	-8,240.36	4,923.51	9,414.22	0.00	0.00	0.00	
17,100.00	90.00	180.12	7,914.00	-8,340.36	4,923.29	9,508.36	0.00	0.00	0.00	
17,200.00	90.00	180.12	7,914.00	-8,440.36	4,923.08	9,602.50	0.00	0.00	0.00	
17,300.00	90.00	180.12	7,914.00	-8,540.36	4,922.87	9,696.64	0.00	0.00	0.00	
17,400.00	90.00	180.12	7,914.00	-8,640.36	4,922.65	9,790.78	0.00	0.00	0.00	
17,500.00	90.00	180.12	7,914.00	-8,740.36	4,922.44	9,884.92	0.00	0.00	0.00	
17,600.00	90.00	180.12	7,914.00	-8,840.36	4,922.23	9,979.06	0.00	0.00	0.00	
17,700.00	90.00	180.12	7,914.00	-8,940.36	4,922.01	10,073.20	0.00	0.00	0.00	
17,800.00	90.00	180.12	7,914.00	-9,040.36	4,921.80	10,167.33	0.00	0.00	0.00	
17,900.00	90.00	180.12	7,914.00	-9,140.36	4,921.59	10,261.47	0.00	0.00	0.00	
18,000.00	90.00	180.12	7,914.00	-9,240.36	4,921.37	10,355.61	0.00	0.00	0.00	
18,100.00	90.00	180.12	7,914.00	-9,340.36	4,921.16	10,449.75	0.00	0.00	0.00	
18,200.00	90.00	180.12	7,914.00	-9,440.36	4,920.95	10,543.89	0.00	0.00	0.00	
18,300.00	90.00	180.12	7,914.00	-9,540.36	4,920.73	10,638.03	0.00	0.00	0.00	
18,400.00	90.00	180.12	7,914.00	-9,640.36	4,920.52	10,732.17	0.00	0.00	0.00	
18,500.00	90.00	180.12	7,914.00	-9,740.36	4,920.30	10,826.31	0.00	0.00	0.00	
18,600.00	90.00	180.12	7,914.00	-9,840.36	4,920.09	10,920.44	0.00	0.00	0.00	
18,700.00	90.00	180.12	7,914.00	-9,940.36	4,919.88	11,014.58	0.00	0.00	0.00	
18,800.00	90.00	180.12	7,914.00	-10,040.36	4,919.66	11,108.72	0.00	0.00	0.00	
18,900.00	90.00	180.12	7,914.00	-10,140.36	4,919.45	11,202.86	0.00	0.00	0.00	
19,000.00	90.00	180.12	7,914.00	-10,240.36	4,919.24	11,297.00	0.00	0.00	0.00	
19,100.00	90.00	180.12	7,914.00	-10,340.36	4,919.02	11,391.14	0.00	0.00	0.00	
19,200.00	90.00	180.12	7,914.00	-10,440.36	4,918.81	11,485.28	0.00	0.00	0.00	
19,300.00	90.00	180.12	7,914.00	-10,540.36	4,918.60	11,579.42	0.00	0.00	0.00	
19,400.00	90.00	180.12	7,914.00	-10,640.36	4,918.38	11,673.55	0.00	0.00	0.00	
19,500.00	90.00	180.12	7,914.00	-10,740.36	4,918.17	11,767.69	0.00	0.00	0.00	
19,600.00	90.00	180.12	7,914.00	-10,840.36	4,917.96	11,861.83	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well GUS LD 34-363HC
Company:	GREAT WESTERN OPERATING COMPANY	TVD Reference:	KB 20' @ 5144.00usft
Project:	ADAMS COUNTY	MD Reference:	KB 20' @ 5144.00usft
Site:	SEC 21-T1S-R67W	North Reference:	True
Well:	GUS LD 34-363HC	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
19,700.00	90.00	180.12	7,914.00	-10,940.36	4,917.74	11,955.97	0.00	0.00	0.00	
19,800.00	90.00	180.12	7,914.00	-11,040.36	4,917.53	12,050.11	0.00	0.00	0.00	
19,900.00	90.00	180.12	7,914.00	-11,140.36	4,917.32	12,144.25	0.00	0.00	0.00	
20,000.00	90.00	180.12	7,914.00	-11,240.36	4,917.10	12,238.39	0.00	0.00	0.00	
20,100.00	90.00	180.12	7,914.00	-11,340.36	4,916.89	12,332.53	0.00	0.00	0.00	
20,200.00	90.00	180.12	7,914.00	-11,440.36	4,916.68	12,426.66	0.00	0.00	0.00	
20,300.00	90.00	180.12	7,914.00	-11,540.36	4,916.46	12,520.80	0.00	0.00	0.00	
20,400.00	90.00	180.12	7,914.00	-11,640.35	4,916.25	12,614.94	0.00	0.00	0.00	
20,500.00	90.00	180.12	7,914.00	-11,740.35	4,916.03	12,709.08	0.00	0.00	0.00	
20,600.00	90.00	180.12	7,914.00	-11,840.35	4,915.82	12,803.22	0.00	0.00	0.00	
20,700.00	90.00	180.12	7,914.00	-11,940.35	4,915.61	12,897.36	0.00	0.00	0.00	
20,800.00	90.00	180.12	7,914.00	-12,040.35	4,915.39	12,991.50	0.00	0.00	0.00	
20,900.00	90.00	180.12	7,914.00	-12,140.35	4,915.18	13,085.64	0.00	0.00	0.00	
21,000.00	90.00	180.12	7,914.00	-12,240.35	4,914.97	13,179.77	0.00	0.00	0.00	
21,100.00	90.00	180.12	7,914.00	-12,340.35	4,914.75	13,273.91	0.00	0.00	0.00	
21,200.00	90.00	180.12	7,914.00	-12,440.35	4,914.54	13,368.05	0.00	0.00	0.00	
21,300.00	90.00	180.12	7,914.00	-12,540.35	4,914.33	13,462.19	0.00	0.00	0.00	
21,400.00	90.00	180.12	7,914.00	-12,640.35	4,914.11	13,556.33	0.00	0.00	0.00	
21,500.00	90.00	180.12	7,914.00	-12,740.35	4,913.90	13,650.47	0.00	0.00	0.00	
21,600.00	90.00	180.12	7,914.00	-12,840.35	4,913.69	13,744.61	0.00	0.00	0.00	
21,700.00	90.00	180.12	7,914.00	-12,940.35	4,913.47	13,838.75	0.00	0.00	0.00	
21,800.00	90.00	180.12	7,914.00	-13,040.35	4,913.26	13,932.88	0.00	0.00	0.00	
21,900.00	90.00	180.12	7,914.00	-13,140.35	4,913.05	14,027.02	0.00	0.00	0.00	
22,000.00	90.00	180.12	7,914.00	-13,240.35	4,912.83	14,121.16	0.00	0.00	0.00	
22,100.00	90.00	180.12	7,914.00	-13,340.35	4,912.62	14,215.30	0.00	0.00	0.00	
22,200.00	90.00	180.12	7,914.00	-13,440.35	4,912.41	14,309.44	0.00	0.00	0.00	
22,300.00	90.00	180.12	7,914.00	-13,540.35	4,912.19	14,403.58	0.00	0.00	0.00	
22,400.00	90.00	180.12	7,914.00	-13,640.35	4,911.98	14,497.72	0.00	0.00	0.00	
22,459.05	90.00	180.12	7,914.00	-13,699.40	4,911.85	14,553.31	0.00	0.00	0.00	
BTM PERF - 22459.05'/7914' MD/TVD, 470' FSL, SEC 34										
22,460.40	90.00	180.15	7,914.00	-13,700.75	4,911.84	14,554.58	2.00	0.00	2.00	
Start 98.83 hold at 22460.40 MD										
22,500.00	90.00	180.15	7,914.00	-13,740.35	4,911.74	14,591.85	0.00	0.00	0.00	
22,559.23	90.00	180.15	7,914.00	-13,799.58	4,911.58	14,647.60	0.00	0.00	0.00	
BHL - 22559.23'/7914' MD/TVD, 470' FSL, 661' FEL SEC 34										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
GUS 34-363HC-BTM PE - hit/miss target - Shape	0.00	0.00	7,914.00	-13,699.40	4,911.85	1,212,710.49	3,177,302.91	39.915535°N	104.867900°W
GUS 34-363HC-LP - plan hits target center - Point	0.00	0.00	7,914.00	-1,081.39	4,938.79	1,225,328.39	3,177,242.40	39.950174°N	104.867795°W
GUS 34-363HC-PBHL - plan hits target center - Point	0.00	0.00	7,914.00	-13,799.58	4,911.58	1,212,610.31	3,177,303.34	39.915260°N	104.867901°W

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well GUS LD 34-363HC
Company:	GREAT WESTERN OPERATING COMPANY	TVD Reference:	KB 20' @ 5144.00usft
Project:	ADAMS COUNTY	MD Reference:	KB 20' @ 5144.00usft
Site:	SEC 21-T1S-R67W	North Reference:	True
Well:	GUS LD 34-363HC	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
200.00	200.00	0.00	0.00	Start Build 3.00
1,362.08	1,291.69	-27.41	341.67	Start 7385.81 hold at 1362.08 MD
8,747.89	7,351.94	-365.07	4,549.95	Start DLS 8.00 TFO 86.33
9,841.01	7,914.00	-1,081.39	4,938.79	TPZ - 9841.01'/7914' MD/TVD, 2535.42' FSL, 660' FEL SEC 22
22,459.05	7,914.00	-13,699.40	4,911.85	BTM PERF - 22459.05'/7914' MD/TVD, 470' FSL, SEC 34
22,460.40	7,914.00	-13,700.75	4,911.84	Start 98.83 hold at 22460.40 MD
22,559.23	7,914.00	-13,799.58	4,911.58	BHL - 22559.23'/7914' MD/TVD, 470' FSL, 661' FEL SEC 34