

GREAT WESTERN OPERATING COMPANY

**ADAMS COUNTY
SEC 21-T1S-R67W
GUS LD 34-369HNB**

OWB

Plan: PROPOSAL 1

Standard Planning Report

08 December, 2021

Project: ADAMS COUNTY
Site: SEC 21-T1S-R67W
Well: GUS LD 34-369HNB
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: 51676.6nT
Dip Angle: 66.27°
Date: 9/19/2021
Model: IGRF2020

WELL DETAILS: GUS LD 34-369HNB

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1226389.94	3172221.00	39.953185°N	104.885679°W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1068.00	0.00	0.00	1068.00	0.00	0.00	0.00	0.00	0.00	
3	2067.93	30.00	97.08	2022.87	-31.52	253.89	3.00	97.08	92.17	
4	7907.54	30.00	97.08	7080.22	-391.18	3151.28	0.00	0.00	1144.00	
5	8989.15	90.00	180.12	7664.00	-1106.77	3484.29	8.00	83.97	1919.01	GUS 34-369HNB-LP
6	21606.83	90.00	180.12	7664.00	-13724.42	3457.45	0.00	0.00	14153.20	GUS 34-369HNB-BTM PERF
7	21608.37	90.00	180.15	7664.00	-13725.96	3457.45	2.00	90.00	14154.69	GUS 34-369HNB-PBHL
8	21707.01	90.00	180.15	7664.00	-13824.60	3457.18	0.00	0.00	14250.32	GUS 34-369HNB-PBHL

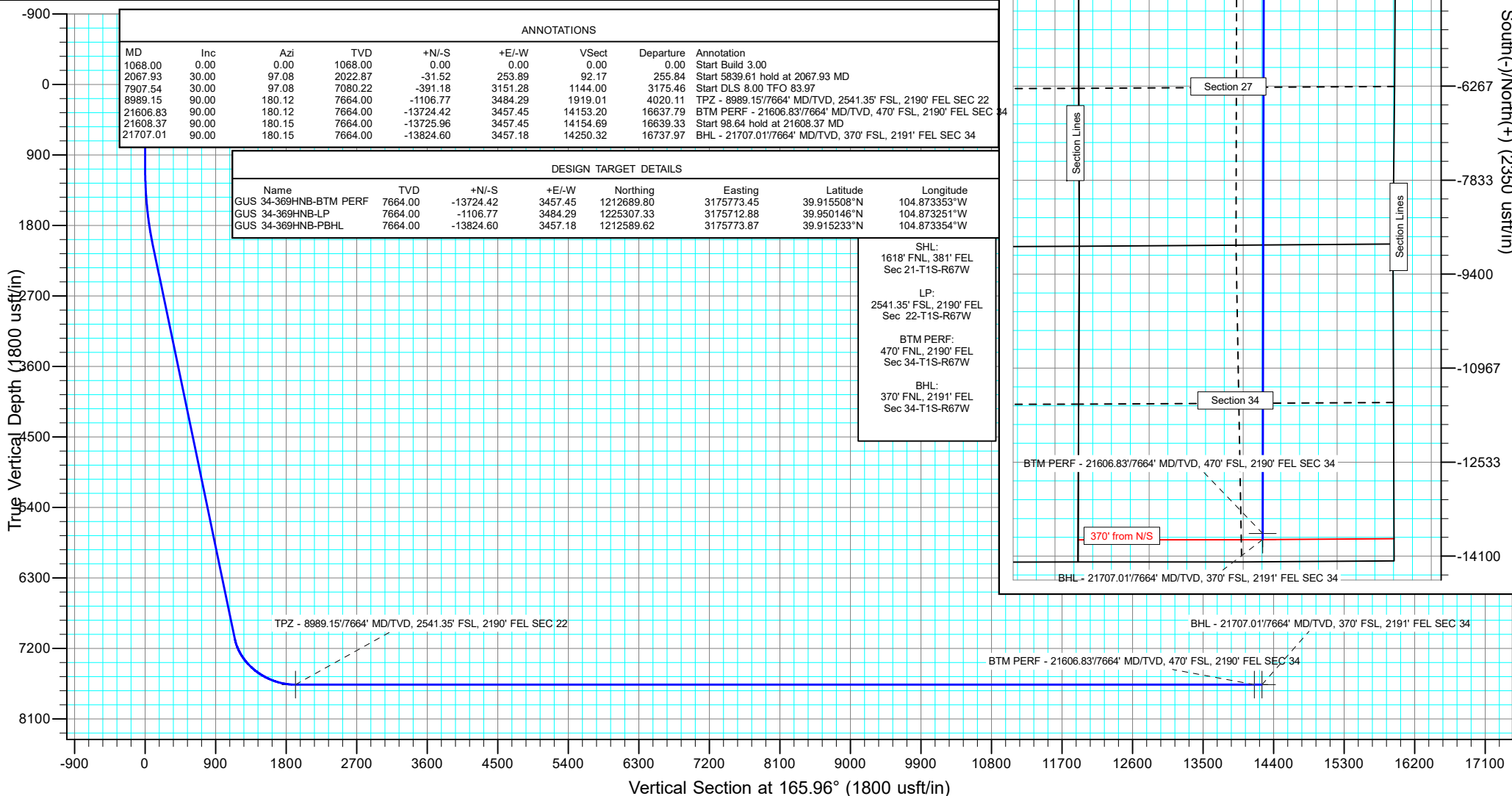
ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
1068.00	0.00	0.00	1068.00	0.00	0.00	0.00	0.00	Start Build 3.00
2067.93	30.00	97.08	2022.87	-31.52	253.89	92.17	255.84	Start 5839.61 hold at 2067.93 MD
7907.54	30.00	97.08	7080.22	-391.18	3151.28	1144.00	3175.46	Start DLS 8.00 TFO 83.97
8989.15	90.00	180.12	7664.00	-1106.77	3484.29	1919.01	4020.11	TPZ - 8989.15/7664' MD/TVD, 2541.35' FSL, 2190' FEL SEC 22
21606.83	90.00	180.12	7664.00	-13724.42	3457.45	14153.20	16637.79	BTM PERF - 21606.83/7664' MD/TVD, 470' FSL, 2190' FEL SEC 34
21608.37	90.00	180.15	7664.00	-13725.96	3457.45	14154.69	16639.33	Start 98.64 hold at 21608.37 MD
21707.01	90.00	180.15	7664.00	-13824.60	3457.18	14250.32	16737.97	BHL - 21707.01/7664' MD/TVD, 370' FSL, 2191' FEL SEC 34

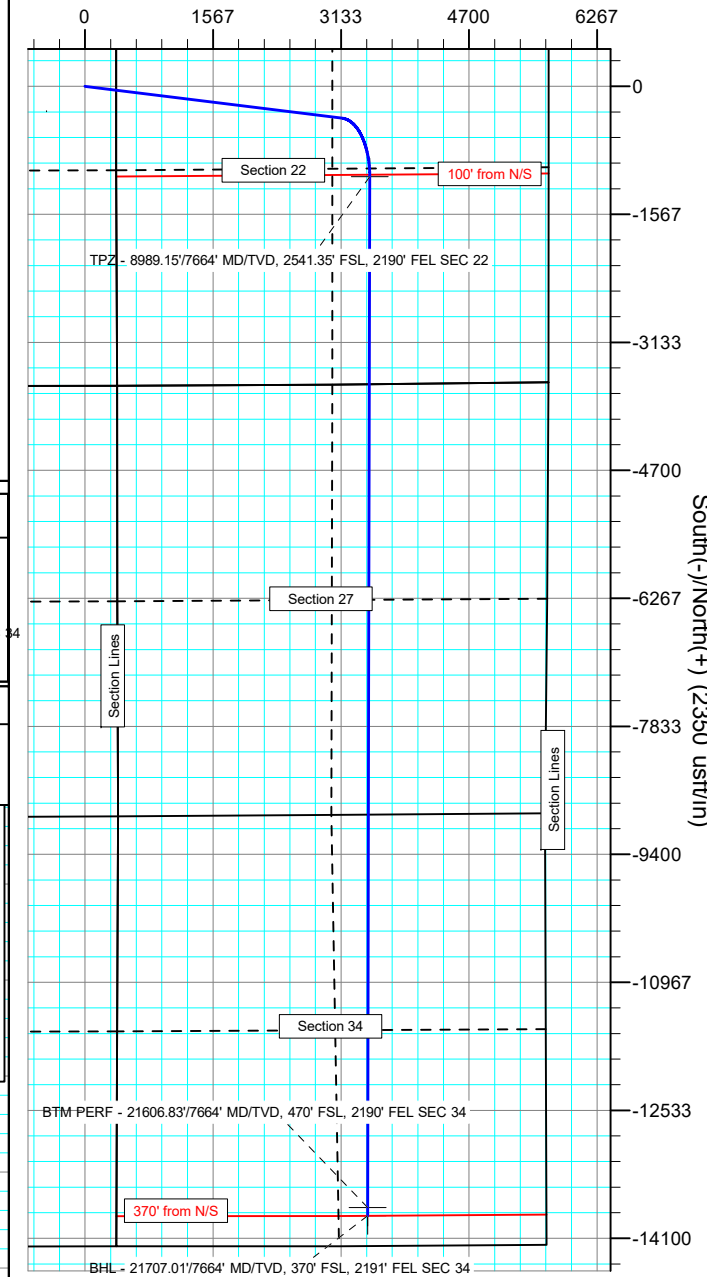
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
GUS 34-369HNB-BTM PERF	7664.00	-13724.42	3457.45	1212689.80	3175773.45	39.915508°N	104.873353°W
GUS 34-369HNB-LP	7664.00	-1106.77	3484.29	1225307.33	3175712.88	39.950146°N	104.873251°W
GUS 34-369HNB-PBHL	7664.00	-13824.60	3457.18	1212589.62	3175773.87	39.915233°N	104.873354°W

SHL:
1618' FNL, 381' FEL
Sec 21-T1S-R67W
LP:
2541.35' FSL, 2190' FEL
Sec 22-T1S-R67W
BTM PERF:
470' FNL, 2190' FEL
Sec 34-T1S-R67W
BHL:
370' FNL, 2191' 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 34-369HNB
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 34-369HNB	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 34-369HNB				
Well Position	+N/-S	0.00 usft	Northing:	1,226,389.93 usft	Latitude:	39.953185°N
	+E/-W	0.00 usft	Easting:	3,172,221.00 usft	Longitude:	104.885679°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	9/19/2021	7.84	66.27	51,676.58318052

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	165.96	

Plan Survey Tool Program	Date	12/8/2021			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	21,707.01	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	
1,068.00	0.00	0.00	1,068.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,067.93	30.00	97.08	2,022.87	-31.52	253.89	3.00	3.00	0.00	97.08	
7,907.54	30.00	97.08	7,080.22	-391.18	3,151.28	0.00	0.00	0.00	0.00	
8,989.15	90.00	180.12	7,664.00	-1,106.77	3,484.29	8.00	5.55	7.68	83.97	GUS 34-369HNB-LP
21,606.83	90.00	180.12	7,664.00	-13,724.42	3,457.45	0.00	0.00	0.00	0.00	GUS 34-369HNB-BT
21,608.37	90.00	180.15	7,664.00	-13,725.96	3,457.45	2.00	0.00	2.00	90.00	GUS 34-369HNB-PB
21,707.01	90.00	180.15	7,664.00	-13,824.60	3,457.18	0.00	0.00	0.00	0.00	GUS 34-369HNB-PB

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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 34-369HNB	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
1,068.00	0.00	0.00	1,068.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00									
1,100.00	0.96	97.08	1,100.00	-0.03	0.27	0.10	3.00	3.00	0.00
1,200.00	3.96	97.08	1,199.89	-0.56	4.53	1.64	3.00	3.00	0.00
1,300.00	6.96	97.08	1,299.43	-1.73	13.97	5.07	3.00	3.00	0.00
1,400.00	9.96	97.08	1,398.33	-3.55	28.56	10.37	3.00	3.00	0.00
1,500.00	12.96	97.08	1,496.33	-5.99	48.28	17.53	3.00	3.00	0.00
1,600.00	15.96	97.08	1,593.15	-9.07	73.06	26.52	3.00	3.00	0.00
1,700.00	18.96	97.08	1,688.53	-12.76	102.83	37.33	3.00	3.00	0.00
1,800.00	21.96	97.08	1,782.21	-17.07	137.51	49.92	3.00	3.00	0.00
1,900.00	24.96	97.08	1,873.93	-21.97	177.02	64.26	3.00	3.00	0.00
2,000.00	27.96	97.08	1,963.45	-27.46	221.23	80.31	3.00	3.00	0.00
2,067.93	30.00	97.08	2,022.87	-31.52	253.89	92.17	3.00	3.00	0.00
Start 5839.61 hold at 2067.93 MD									
2,100.00	30.00	97.08	2,050.64	-33.49	269.80	97.95	0.00	0.00	0.00
2,200.00	30.00	97.08	2,137.25	-39.65	319.42	115.96	0.00	0.00	0.00
2,300.00	30.00	97.08	2,223.85	-45.81	369.03	133.97	0.00	0.00	0.00
2,400.00	30.00	97.08	2,310.46	-51.97	418.65	151.98	0.00	0.00	0.00
2,500.00	30.00	97.08	2,397.06	-58.13	468.27	169.99	0.00	0.00	0.00
2,600.00	30.00	97.08	2,483.66	-64.29	517.88	188.01	0.00	0.00	0.00
2,700.00	30.00	97.08	2,570.27	-70.45	567.50	206.02	0.00	0.00	0.00
2,800.00	30.00	97.08	2,656.87	-76.60	617.11	224.03	0.00	0.00	0.00
2,900.00	30.00	97.08	2,743.48	-82.76	666.73	242.04	0.00	0.00	0.00
3,000.00	30.00	97.08	2,830.08	-88.92	716.35	260.05	0.00	0.00	0.00
3,100.00	30.00	97.08	2,916.69	-95.08	765.96	278.07	0.00	0.00	0.00
3,200.00	30.00	97.08	3,003.29	-101.24	815.58	296.08	0.00	0.00	0.00
3,300.00	30.00	97.08	3,089.89	-107.40	865.20	314.09	0.00	0.00	0.00
3,400.00	30.00	97.08	3,176.50	-113.56	914.81	332.10	0.00	0.00	0.00
3,500.00	30.00	97.08	3,263.10	-119.72	964.43	350.11	0.00	0.00	0.00
3,600.00	30.00	97.08	3,349.71	-125.88	1,014.04	368.13	0.00	0.00	0.00
3,700.00	30.00	97.08	3,436.31	-132.04	1,063.66	386.14	0.00	0.00	0.00
3,800.00	30.00	97.08	3,522.92	-138.19	1,113.28	404.15	0.00	0.00	0.00
3,900.00	30.00	97.08	3,609.52	-144.35	1,162.89	422.16	0.00	0.00	0.00
4,000.00	30.00	97.08	3,696.12	-150.51	1,212.51	440.18	0.00	0.00	0.00
4,100.00	30.00	97.08	3,782.73	-156.67	1,262.12	458.19	0.00	0.00	0.00
4,200.00	30.00	97.08	3,869.33	-162.83	1,311.74	476.20	0.00	0.00	0.00
4,300.00	30.00	97.08	3,955.94	-168.99	1,361.36	494.21	0.00	0.00	0.00
4,400.00	30.00	97.08	4,042.54	-175.15	1,410.97	512.22	0.00	0.00	0.00
4,500.00	30.00	97.08	4,129.15	-181.31	1,460.59	530.24	0.00	0.00	0.00
4,600.00	30.00	97.08	4,215.75	-187.47	1,510.20	548.25	0.00	0.00	0.00
4,700.00	30.00	97.08	4,302.35	-193.63	1,559.82	566.26	0.00	0.00	0.00
4,800.00	30.00	97.08	4,388.96	-199.78	1,609.44	584.27	0.00	0.00	0.00
4,900.00	30.00	97.08	4,475.56	-205.94	1,659.05	602.28	0.00	0.00	0.00
5,000.00	30.00	97.08	4,562.17	-212.10	1,708.67	620.30	0.00	0.00	0.00
5,100.00	30.00	97.08	4,648.77	-218.26	1,758.29	638.31	0.00	0.00	0.00
5,200.00	30.00	97.08	4,735.38	-224.42	1,807.90	656.32	0.00	0.00	0.00
5,300.00	30.00	97.08	4,821.98	-230.58	1,857.52	674.33	0.00	0.00	0.00
5,400.00	30.00	97.08	4,908.59	-236.74	1,907.13	692.34	0.00	0.00	0.00
5,500.00	30.00	97.08	4,995.19	-242.90	1,956.75	710.36	0.00	0.00	0.00
5,600.00	30.00	97.08	5,081.79	-249.06	2,006.37	728.37	0.00	0.00	0.00
5,700.00	30.00	97.08	5,168.40	-255.22	2,055.98	746.38	0.00	0.00	0.00
5,800.00	30.00	97.08	5,255.00	-261.37	2,105.60	764.39	0.00	0.00	0.00

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Well:	GUS LD 34-369HNB	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)
5,900.00	30.00	97.08	5,341.61	-267.53	2,155.21	782.41	0.00	0.00	0.00
6,000.00	30.00	97.08	5,428.21	-273.69	2,204.83	800.42	0.00	0.00	0.00
6,100.00	30.00	97.08	5,514.82	-279.85	2,254.45	818.43	0.00	0.00	0.00
6,200.00	30.00	97.08	5,601.42	-286.01	2,304.06	836.44	0.00	0.00	0.00
6,300.00	30.00	97.08	5,688.02	-292.17	2,353.68	854.45	0.00	0.00	0.00
6,400.00	30.00	97.08	5,774.63	-298.33	2,403.30	872.47	0.00	0.00	0.00
6,500.00	30.00	97.08	5,861.23	-304.49	2,452.91	890.48	0.00	0.00	0.00
6,600.00	30.00	97.08	5,947.84	-310.65	2,502.53	908.49	0.00	0.00	0.00
6,700.00	30.00	97.08	6,034.44	-316.81	2,552.14	926.50	0.00	0.00	0.00
6,800.00	30.00	97.08	6,121.05	-322.97	2,601.76	944.51	0.00	0.00	0.00
6,900.00	30.00	97.08	6,207.65	-329.12	2,651.38	962.53	0.00	0.00	0.00
7,000.00	30.00	97.08	6,294.25	-335.28	2,700.99	980.54	0.00	0.00	0.00
7,100.00	30.00	97.08	6,380.86	-341.44	2,750.61	998.55	0.00	0.00	0.00
7,200.00	30.00	97.08	6,467.46	-347.60	2,800.22	1,016.56	0.00	0.00	0.00
7,300.00	30.00	97.08	6,554.07	-353.76	2,849.84	1,034.57	0.00	0.00	0.00
7,400.00	30.00	97.08	6,640.67	-359.92	2,899.46	1,052.59	0.00	0.00	0.00
7,500.00	30.00	97.08	6,727.28	-366.08	2,949.07	1,070.60	0.00	0.00	0.00
7,600.00	30.00	97.08	6,813.88	-372.24	2,998.69	1,088.61	0.00	0.00	0.00
7,700.00	30.00	97.08	6,900.48	-378.40	3,048.31	1,106.62	0.00	0.00	0.00
7,800.00	30.00	97.08	6,987.09	-384.56	3,097.92	1,124.63	0.00	0.00	0.00
7,907.54	30.00	97.08	7,080.22	-391.18	3,151.28	1,144.00	0.00	0.00	0.00
Start DLS 8.00 TFO 83.97									
7,950.00	30.52	103.74	7,116.91	-395.05	3,172.29	1,152.86	8.00	1.24	15.69
8,000.00	31.56	111.23	7,159.76	-402.81	3,196.83	1,166.34	8.00	2.07	14.99
8,050.00	33.01	118.22	7,202.05	-413.99	3,221.04	1,183.06	8.00	2.89	13.97
8,100.00	34.81	124.62	7,243.55	-428.55	3,244.80	1,202.94	8.00	3.61	12.81
8,150.00	36.92	130.43	7,284.08	-446.40	3,267.98	1,225.89	8.00	4.22	11.61
8,200.00	39.29	135.66	7,323.43	-467.47	3,290.49	1,251.79	8.00	4.73	10.46
8,250.00	41.86	140.37	7,361.41	-491.65	3,312.20	1,280.52	8.00	5.15	9.42
8,300.00	44.61	144.61	7,397.85	-518.83	3,333.02	1,311.93	8.00	5.50	8.49
8,350.00	47.50	148.45	7,432.54	-548.86	3,352.84	1,345.88	8.00	5.78	7.68
8,400.00	50.51	151.95	7,465.34	-581.61	3,371.57	1,382.19	8.00	6.02	6.99
8,450.00	53.62	155.15	7,496.08	-616.91	3,389.11	1,420.70	8.00	6.21	6.40
8,500.00	56.80	158.10	7,524.61	-654.60	3,405.38	1,461.20	8.00	6.37	5.90
8,550.00	60.05	160.84	7,550.80	-694.49	3,420.30	1,503.52	8.00	6.50	5.48
8,600.00	63.35	163.41	7,574.50	-736.38	3,433.80	1,547.43	8.00	6.60	5.13
8,650.00	66.69	165.83	7,595.62	-780.07	3,445.80	1,592.73	8.00	6.69	4.84
8,700.00	70.07	168.13	7,614.04	-825.35	3,456.26	1,639.19	8.00	6.76	4.60
8,750.00	73.48	170.34	7,629.68	-872.00	3,465.12	1,686.60	8.00	6.82	4.41
8,800.00	76.91	172.46	7,642.45	-919.78	3,472.34	1,734.71	8.00	6.86	4.26
8,850.00	80.36	174.53	7,652.31	-968.48	3,477.89	1,783.29	8.00	6.89	4.14
8,900.00	83.82	176.56	7,659.19	-1,017.84	3,481.73	1,832.12	8.00	6.92	4.06
8,950.00	87.28	178.56	7,663.07	-1,067.64	3,483.85	1,880.94	8.00	6.93	4.00
8,989.15	90.00	180.12	7,664.00	-1,106.77	3,484.29	1,919.01	8.00	6.94	3.98
TPZ - 8989.15'/7664' MD/TVD, 2541.35' FSL, 2190' FEL SEC 22									
9,000.00	90.00	180.12	7,664.00	-1,117.62	3,484.27	1,929.53	0.00	0.00	0.00
9,100.00	90.00	180.12	7,664.00	-1,217.62	3,484.06	2,026.49	0.00	0.00	0.00
9,200.00	90.00	180.12	7,664.00	-1,317.62	3,483.85	2,123.45	0.00	0.00	0.00
9,300.00	90.00	180.12	7,664.00	-1,417.62	3,483.63	2,220.41	0.00	0.00	0.00
9,400.00	90.00	180.12	7,664.00	-1,517.62	3,483.42	2,317.37	0.00	0.00	0.00
9,500.00	90.00	180.12	7,664.00	-1,617.62	3,483.21	2,414.33	0.00	0.00	0.00
9,600.00	90.00	180.12	7,664.00	-1,717.62	3,482.99	2,511.29	0.00	0.00	0.00
9,700.00	90.00	180.12	7,664.00	-1,817.62	3,482.78	2,608.25	0.00	0.00	0.00
9,800.00	90.00	180.12	7,664.00	-1,917.62	3,482.57	2,705.21	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well GUS LD 34-369HNB
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 34-369HNB	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)
9,900.00	90.00	180.12	7,664.00	-2,017.62	3,482.36	2,802.17	0.00	0.00	0.00
10,000.00	90.00	180.12	7,664.00	-2,117.61	3,482.14	2,899.13	0.00	0.00	0.00
10,100.00	90.00	180.12	7,664.00	-2,217.61	3,481.93	2,996.09	0.00	0.00	0.00
10,200.00	90.00	180.12	7,664.00	-2,317.61	3,481.72	3,093.06	0.00	0.00	0.00
10,300.00	90.00	180.12	7,664.00	-2,417.61	3,481.51	3,190.02	0.00	0.00	0.00
10,400.00	90.00	180.12	7,664.00	-2,517.61	3,481.29	3,286.98	0.00	0.00	0.00
10,500.00	90.00	180.12	7,664.00	-2,617.61	3,481.08	3,383.94	0.00	0.00	0.00
10,600.00	90.00	180.12	7,664.00	-2,717.61	3,480.87	3,480.90	0.00	0.00	0.00
10,700.00	90.00	180.12	7,664.00	-2,817.61	3,480.65	3,577.86	0.00	0.00	0.00
10,800.00	90.00	180.12	7,664.00	-2,917.61	3,480.44	3,674.82	0.00	0.00	0.00
10,900.00	90.00	180.12	7,664.00	-3,017.61	3,480.23	3,771.78	0.00	0.00	0.00
11,000.00	90.00	180.12	7,664.00	-3,117.61	3,480.02	3,868.74	0.00	0.00	0.00
11,100.00	90.00	180.12	7,664.00	-3,217.61	3,479.80	3,965.70	0.00	0.00	0.00
11,200.00	90.00	180.12	7,664.00	-3,317.61	3,479.59	4,062.66	0.00	0.00	0.00
11,300.00	90.00	180.12	7,664.00	-3,417.61	3,479.38	4,159.62	0.00	0.00	0.00
11,400.00	90.00	180.12	7,664.00	-3,517.61	3,479.17	4,256.58	0.00	0.00	0.00
11,500.00	90.00	180.12	7,664.00	-3,617.61	3,478.95	4,353.54	0.00	0.00	0.00
11,600.00	90.00	180.12	7,664.00	-3,717.61	3,478.74	4,450.51	0.00	0.00	0.00
11,700.00	90.00	180.12	7,664.00	-3,817.61	3,478.53	4,547.47	0.00	0.00	0.00
11,800.00	90.00	180.12	7,664.00	-3,917.61	3,478.31	4,644.43	0.00	0.00	0.00
11,900.00	90.00	180.12	7,664.00	-4,017.61	3,478.10	4,741.39	0.00	0.00	0.00
12,000.00	90.00	180.12	7,664.00	-4,117.61	3,477.89	4,838.35	0.00	0.00	0.00
12,100.00	90.00	180.12	7,664.00	-4,217.61	3,477.68	4,935.31	0.00	0.00	0.00
12,200.00	90.00	180.12	7,664.00	-4,317.61	3,477.46	5,032.27	0.00	0.00	0.00
12,300.00	90.00	180.12	7,664.00	-4,417.61	3,477.25	5,129.23	0.00	0.00	0.00
12,400.00	90.00	180.12	7,664.00	-4,517.61	3,477.04	5,226.19	0.00	0.00	0.00
12,500.00	90.00	180.12	7,664.00	-4,617.61	3,476.83	5,323.15	0.00	0.00	0.00
12,600.00	90.00	180.12	7,664.00	-4,717.61	3,476.61	5,420.11	0.00	0.00	0.00
12,700.00	90.00	180.12	7,664.00	-4,817.61	3,476.40	5,517.07	0.00	0.00	0.00
12,800.00	90.00	180.12	7,664.00	-4,917.61	3,476.19	5,614.03	0.00	0.00	0.00
12,900.00	90.00	180.12	7,664.00	-5,017.61	3,475.97	5,710.99	0.00	0.00	0.00
13,000.00	90.00	180.12	7,664.00	-5,117.61	3,475.76	5,807.96	0.00	0.00	0.00
13,100.00	90.00	180.12	7,664.00	-5,217.61	3,475.55	5,904.92	0.00	0.00	0.00
13,200.00	90.00	180.12	7,664.00	-5,317.61	3,475.34	6,001.88	0.00	0.00	0.00
13,300.00	90.00	180.12	7,664.00	-5,417.61	3,475.12	6,098.84	0.00	0.00	0.00
13,400.00	90.00	180.12	7,664.00	-5,517.61	3,474.91	6,195.80	0.00	0.00	0.00
13,500.00	90.00	180.12	7,664.00	-5,617.61	3,474.70	6,292.76	0.00	0.00	0.00
13,600.00	90.00	180.12	7,664.00	-5,717.61	3,474.49	6,389.72	0.00	0.00	0.00
13,700.00	90.00	180.12	7,664.00	-5,817.61	3,474.27	6,486.68	0.00	0.00	0.00
13,800.00	90.00	180.12	7,664.00	-5,917.61	3,474.06	6,583.64	0.00	0.00	0.00
13,900.00	90.00	180.12	7,664.00	-6,017.61	3,473.85	6,680.60	0.00	0.00	0.00
14,000.00	90.00	180.12	7,664.00	-6,117.61	3,473.63	6,777.56	0.00	0.00	0.00
14,100.00	90.00	180.12	7,664.00	-6,217.61	3,473.42	6,874.52	0.00	0.00	0.00
14,200.00	90.00	180.12	7,664.00	-6,317.61	3,473.21	6,971.48	0.00	0.00	0.00
14,300.00	90.00	180.12	7,664.00	-6,417.61	3,473.00	7,068.44	0.00	0.00	0.00
14,400.00	90.00	180.12	7,664.00	-6,517.61	3,472.78	7,165.41	0.00	0.00	0.00
14,500.00	90.00	180.12	7,664.00	-6,617.60	3,472.57	7,262.37	0.00	0.00	0.00
14,600.00	90.00	180.12	7,664.00	-6,717.60	3,472.36	7,359.33	0.00	0.00	0.00
14,700.00	90.00	180.12	7,664.00	-6,817.60	3,472.14	7,456.29	0.00	0.00	0.00
14,800.00	90.00	180.12	7,664.00	-6,917.60	3,471.93	7,553.25	0.00	0.00	0.00
14,900.00	90.00	180.12	7,664.00	-7,017.60	3,471.72	7,650.21	0.00	0.00	0.00
15,000.00	90.00	180.12	7,664.00	-7,117.60	3,471.51	7,747.17	0.00	0.00	0.00
15,100.00	90.00	180.12	7,664.00	-7,217.60	3,471.29	7,844.13	0.00	0.00	0.00
15,200.00	90.00	180.12	7,664.00	-7,317.60	3,471.08	7,941.09	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well GUS LD 34-369HNB
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 34-369HNB	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)	
15,300.00	90.00	180.12	7,664.00	-7,417.60	3,470.87	8,038.05	0.00	0.00	0.00	
15,400.00	90.00	180.12	7,664.00	-7,517.60	3,470.66	8,135.01	0.00	0.00	0.00	
15,500.00	90.00	180.12	7,664.00	-7,617.60	3,470.44	8,231.97	0.00	0.00	0.00	
15,600.00	90.00	180.12	7,664.00	-7,717.60	3,470.23	8,328.93	0.00	0.00	0.00	
15,700.00	90.00	180.12	7,664.00	-7,817.60	3,470.02	8,425.89	0.00	0.00	0.00	
15,800.00	90.00	180.12	7,664.00	-7,917.60	3,469.80	8,522.86	0.00	0.00	0.00	
15,900.00	90.00	180.12	7,664.00	-8,017.60	3,469.59	8,619.82	0.00	0.00	0.00	
16,000.00	90.00	180.12	7,664.00	-8,117.60	3,469.38	8,716.78	0.00	0.00	0.00	
16,100.00	90.00	180.12	7,664.00	-8,217.60	3,469.17	8,813.74	0.00	0.00	0.00	
16,200.00	90.00	180.12	7,664.00	-8,317.60	3,468.95	8,910.70	0.00	0.00	0.00	
16,300.00	90.00	180.12	7,664.00	-8,417.60	3,468.74	9,007.66	0.00	0.00	0.00	
16,400.00	90.00	180.12	7,664.00	-8,517.60	3,468.53	9,104.62	0.00	0.00	0.00	
16,500.00	90.00	180.12	7,664.00	-8,617.60	3,468.32	9,201.58	0.00	0.00	0.00	
16,600.00	90.00	180.12	7,664.00	-8,717.60	3,468.10	9,298.54	0.00	0.00	0.00	
16,700.00	90.00	180.12	7,664.00	-8,817.60	3,467.89	9,395.50	0.00	0.00	0.00	
16,800.00	90.00	180.12	7,664.00	-8,917.60	3,467.68	9,492.46	0.00	0.00	0.00	
16,900.00	90.00	180.12	7,664.00	-9,017.60	3,467.46	9,589.42	0.00	0.00	0.00	
17,000.00	90.00	180.12	7,664.00	-9,117.60	3,467.25	9,686.38	0.00	0.00	0.00	
17,100.00	90.00	180.12	7,664.00	-9,217.60	3,467.04	9,783.34	0.00	0.00	0.00	
17,200.00	90.00	180.12	7,664.00	-9,317.60	3,466.83	9,880.31	0.00	0.00	0.00	
17,300.00	90.00	180.12	7,664.00	-9,417.60	3,466.61	9,977.27	0.00	0.00	0.00	
17,400.00	90.00	180.12	7,664.00	-9,517.60	3,466.40	10,074.23	0.00	0.00	0.00	
17,500.00	90.00	180.12	7,664.00	-9,617.60	3,466.19	10,171.19	0.00	0.00	0.00	
17,600.00	90.00	180.12	7,664.00	-9,717.60	3,465.98	10,268.15	0.00	0.00	0.00	
17,700.00	90.00	180.12	7,664.00	-9,817.60	3,465.76	10,365.11	0.00	0.00	0.00	
17,800.00	90.00	180.12	7,664.00	-9,917.60	3,465.55	10,462.07	0.00	0.00	0.00	
17,900.00	90.00	180.12	7,664.00	-10,017.60	3,465.34	10,559.03	0.00	0.00	0.00	
18,000.00	90.00	180.12	7,664.00	-10,117.60	3,465.12	10,655.99	0.00	0.00	0.00	
18,100.00	90.00	180.12	7,664.00	-10,217.60	3,464.91	10,752.95	0.00	0.00	0.00	
18,200.00	90.00	180.12	7,664.00	-10,317.60	3,464.70	10,849.91	0.00	0.00	0.00	
18,300.00	90.00	180.12	7,664.00	-10,417.60	3,464.49	10,946.87	0.00	0.00	0.00	
18,400.00	90.00	180.12	7,664.00	-10,517.60	3,464.27	11,043.83	0.00	0.00	0.00	
18,500.00	90.00	180.12	7,664.00	-10,617.60	3,464.06	11,140.79	0.00	0.00	0.00	
18,600.00	90.00	180.12	7,664.00	-10,717.60	3,463.85	11,237.76	0.00	0.00	0.00	
18,700.00	90.00	180.12	7,664.00	-10,817.60	3,463.64	11,334.72	0.00	0.00	0.00	
18,800.00	90.00	180.12	7,664.00	-10,917.60	3,463.42	11,431.68	0.00	0.00	0.00	
18,900.00	90.00	180.12	7,664.00	-11,017.59	3,463.21	11,528.64	0.00	0.00	0.00	
19,000.00	90.00	180.12	7,664.00	-11,117.59	3,463.00	11,625.60	0.00	0.00	0.00	
19,100.00	90.00	180.12	7,664.00	-11,217.59	3,462.78	11,722.56	0.00	0.00	0.00	
19,200.00	90.00	180.12	7,664.00	-11,317.59	3,462.57	11,819.52	0.00	0.00	0.00	
19,300.00	90.00	180.12	7,664.00	-11,417.59	3,462.36	11,916.48	0.00	0.00	0.00	
19,400.00	90.00	180.12	7,664.00	-11,517.59	3,462.15	12,013.44	0.00	0.00	0.00	
19,500.00	90.00	180.12	7,664.00	-11,617.59	3,461.93	12,110.40	0.00	0.00	0.00	
19,600.00	90.00	180.12	7,664.00	-11,717.59	3,461.72	12,207.36	0.00	0.00	0.00	
19,700.00	90.00	180.12	7,664.00	-11,817.59	3,461.51	12,304.32	0.00	0.00	0.00	
19,800.00	90.00	180.12	7,664.00	-11,917.59	3,461.30	12,401.28	0.00	0.00	0.00	
19,900.00	90.00	180.12	7,664.00	-12,017.59	3,461.08	12,498.24	0.00	0.00	0.00	
20,000.00	90.00	180.12	7,664.00	-12,117.59	3,460.87	12,595.21	0.00	0.00	0.00	
20,100.00	90.00	180.12	7,664.00	-12,217.59	3,460.66	12,692.17	0.00	0.00	0.00	
20,200.00	90.00	180.12	7,664.00	-12,317.59	3,460.44	12,789.13	0.00	0.00	0.00	
20,300.00	90.00	180.12	7,664.00	-12,417.59	3,460.23	12,886.09	0.00	0.00	0.00	
20,400.00	90.00	180.12	7,664.00	-12,517.59	3,460.02	12,983.05	0.00	0.00	0.00	
20,500.00	90.00	180.12	7,664.00	-12,617.59	3,459.81	13,080.01	0.00	0.00	0.00	
20,600.00	90.00	180.12	7,664.00	-12,717.59	3,459.59	13,176.97	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well GUS LD 34-369HNB
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 34-369HNB	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)	
20,700.00	90.00	180.12	7,664.00	-12,817.59	3,459.38	13,273.93	0.00	0.00	0.00	
20,800.00	90.00	180.12	7,664.00	-12,917.59	3,459.17	13,370.89	0.00	0.00	0.00	
20,900.00	90.00	180.12	7,664.00	-13,017.59	3,458.96	13,467.85	0.00	0.00	0.00	
21,000.00	90.00	180.12	7,664.00	-13,117.59	3,458.74	13,564.81	0.00	0.00	0.00	
21,100.00	90.00	180.12	7,664.00	-13,217.59	3,458.53	13,661.77	0.00	0.00	0.00	
21,200.00	90.00	180.12	7,664.00	-13,317.59	3,458.32	13,758.73	0.00	0.00	0.00	
21,300.00	90.00	180.12	7,664.00	-13,417.59	3,458.10	13,855.69	0.00	0.00	0.00	
21,400.00	90.00	180.12	7,664.00	-13,517.59	3,457.89	13,952.66	0.00	0.00	0.00	
21,500.00	90.00	180.12	7,664.00	-13,617.59	3,457.68	14,049.62	0.00	0.00	0.00	
21,606.83	90.00	180.12	7,664.00	-13,724.42	3,457.45	14,153.20	0.00	0.00	0.00	
BTM PERF - 21606.83'/7664' MD/TVD, 470' FSL, 2190' FEL SEC 34										
21,608.37	90.00	180.15	7,664.00	-13,725.96	3,457.45	14,154.69	2.00	0.00	2.00	
Start 98.64 hold at 21608.37 MD										
21,707.01	90.00	180.15	7,664.00	-13,824.60	3,457.18	14,250.32	0.00	0.00	0.00	
BHL - 21707.01'/7664' MD/TVD, 370' FSL, 2191' FEL SEC 34										

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
GUS 34-369HNB-PBHL - plan hits target center - Point	0.00	0.00	7,664.00	-13,824.60	3,457.18	1,212,589.62	3,175,773.88	39.915233°N	104.873354°W
GUS 34-369HNB-LP - plan hits target center - Point	0.00	0.00	7,664.00	-1,106.77	3,484.29	1,225,307.33	3,175,712.88	39.950146°N	104.873251°W
GUS 34-369HNB-BTM F - plan hits target center - Point	0.00	0.00	7,664.00	-13,724.42	3,457.45	1,212,689.80	3,175,773.45	39.915508°N	104.873353°W

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,068.00	1,068.00	0.00	0.00	Start Build 3.00	
2,067.93	2,022.87	-31.52	253.89	Start 5839.61 hold at 2067.93 MD	
7,907.54	7,080.22	-391.18	3,151.28	Start DLS 8.00 TFO 83.97	
8,989.15	7,664.00	-1,106.77	3,484.29	TPZ - 8989.15'/7664' MD/TVD, 2541.35' FSL, 2190' FEL SEC 22	
21,606.83	7,664.00	-13,724.42	3,457.45	BTM PERF - 21606.83'/7664' MD/TVD, 470' FSL, 2190' FEL SEC 34	
21,608.37	7,664.00	-13,725.96	3,457.45	Start 98.64 hold at 21608.37 MD	
21,707.01	7,664.00	-13,824.60	3,457.18	BHL - 21707.01'/7664' MD/TVD, 370' FSL, 2191' FEL SEC 34	