

# **GREAT WESTERN OPERATING COMPANY**

**ADAMS COUNTY  
SEC 21-T1S-R67W  
GUS LD 15-032HN**

**OWB**

**Plan: PROPOSAL 1**

## **Standard Planning Report**

**22 September, 2021**

Project: ADAMS COUNTY  
Site: SEC 21-T1S-R67W  
Well: GUS LD 15-032HN  
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: 51675.9nT  
Dip Angle: 66.27°  
Date: 9/21/2021  
Model: IGRF2020

WELL DETAILS: GUS LD 15-032HN

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1226345.14	3172221.31	39.953062°N	104.885679°W	

FORMATION TOP DETAILS

No formation data is available

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	
2 463.00	0.00	0.00	463.00	0.00	0.00	0.00	0.00	0.00	
3 1463.03	30.00	117.70	1417.95	-118.93	226.57	3.00	117.70	-0.74	
4 7767.85	30.00	117.70	6878.04	-1584.14	3017.87	0.00	0.00	-9.81	
5 9060.88	90.00	359.99	7664.00	-887.49	3419.51	8.00	-114.46	793.59	GUS 15-032HN-LP
6 16405.70	90.00	359.99	7664.00	6457.34	3418.22	0.00	0.00	7306.11	GUS 15-032HN-BTM PERF
7 16413.98	90.00	359.82	7664.00	6465.61	3418.20	2.00	-90.00	7313.44	GUS 15-032HN-PBHL
8 16505.52	90.00	359.82	7664.00	6557.15	3417.92	0.00	0.00	7394.48	GUS 15-032HN-PBHL

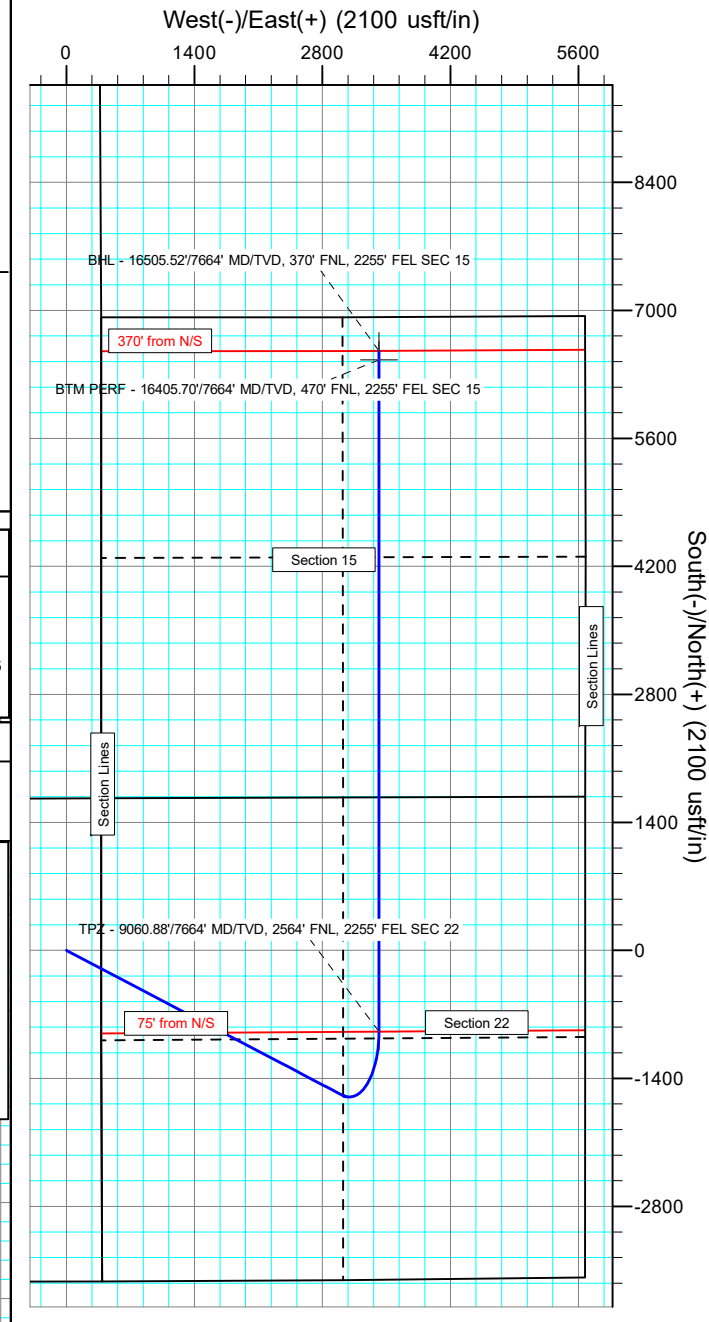
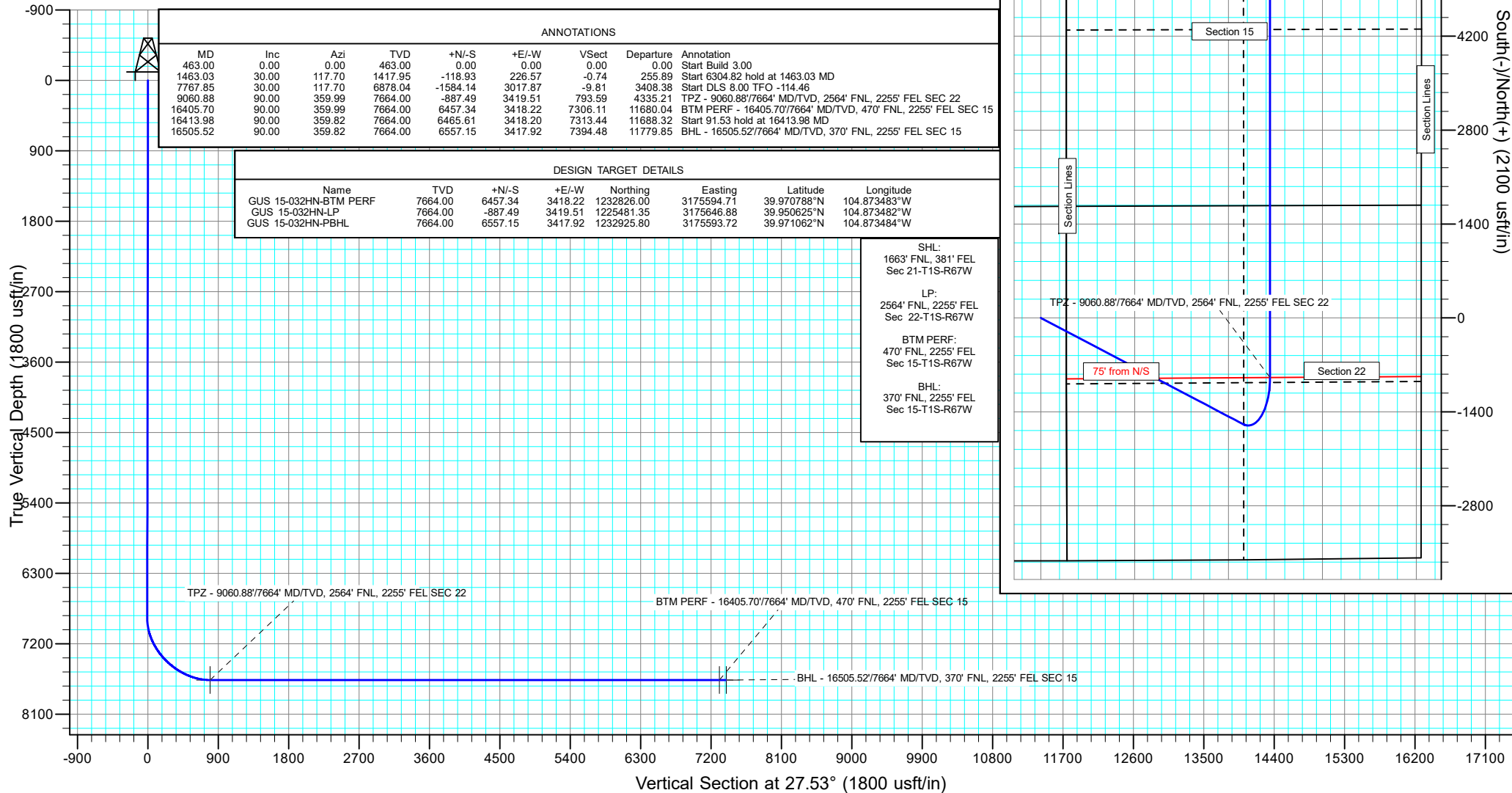
ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
463.00	0.00	0.00	463.00	0.00	0.00	0.00	0.00	Start Build 3.00
1463.03	30.00	117.70	1417.95	-118.93	226.57	-0.74	255.89	Start 6304.82 hold at 1463.03 MD
7767.85	30.00	117.70	6878.04	-1584.14	3017.87	-9.81	3408.38	Start DLS 8.00 TFO -114.46
9060.88	90.00	359.99	7664.00	-887.49	3419.51	793.59	4335.21	TPZ - 9060.88/7664' MD/TVD, 2564' FNL, 2255' FEL SEC 22
16405.70	90.00	359.99	7664.00	6457.34	3418.22	7306.11	11680.04	BTM PERF - 16405.70/7664' MD/TVD, 470' FNL, 2255' FEL SEC 15
16413.98	90.00	359.82	7664.00	6465.61	3418.20	7313.44	11688.32	Start 91.53 hold at 16413.98 MD
16505.52	90.00	359.82	7664.00	6557.15	3417.92	7394.48	11779.85	BHL - 16505.52/7664' MD/TVD, 370' FNL, 2255' FEL SEC 15

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
GUS 15-032HN-BTM PERF	7664.00	6457.34	3418.22	1232826.00	3175594.71	39.970788°N	104.873483°W
GUS 15-032HN-LP	7664.00	-887.49	3419.51	1225481.35	3175646.88	39.950625°N	104.873482°W
GUS 15-032HN-PBHL	7664.00	6557.15	3417.92	1232925.80	3175593.72	39.971062°N	104.873484°W

SHL:  
1663' FNL, 381' FEL  
Sec 21-T1S-R67W  
LP:  
2564' FNL, 2255' FEL  
Sec 22-T1S-R67W  
BTM PERF:  
470' FNL, 2255' FEL  
Sec 15-T1S-R67W  
BHL:  
370' FNL, 2255' FEL  
Sec 15-T1S-R67W



## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well GUS LD 15-032HN
<b>Company:</b>	GREAT WESTERN OPERATING COMPANY	<b>TVD Reference:</b>	KB 20' @ 5144.00usft
<b>Project:</b>	ADAMS COUNTY	<b>MD Reference:</b>	KB 20' @ 5144.00usft
<b>Site:</b>	SEC 21-T1S-R67W	<b>North Reference:</b>	True
<b>Well:</b>	GUS LD 15-032HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 1		

<b>Project</b>	ADAMS COUNTY		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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 15-032HN				
Well Position	+N/-S	0.00 usft	Northing:	1,226,345.13 usft	Latitude:	39.953062°N
	+E/-W	0.00 usft	Easting:	3,172,221.31 usft	Longitude:	104.885679°W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,124.00 usft
Grid Convergence:		0.40 °				

<b>Wellbore</b>	OWB				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	9/21/2021	7.84	66.27	51,675.94002321

<b>Design</b>	PROPOSAL 1				
<b>Audit Notes:</b>					
<b>Version:</b>		<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	27.53	

<b>Plan Survey Tool Program</b>	<b>Date</b>	9/22/2021			
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	16,505.11 PROPOSAL 1 (OWB)	MWD		
			OWSG MWD - Standard		

<b>Plan Sections</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
463.00	0.00	0.00	463.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,463.03	30.00	117.70	1,417.95	-118.93	226.57	3.00	3.00	0.00	117.70	
7,767.85	30.00	117.70	6,878.04	-1,584.14	3,017.87	0.00	0.00	0.00	0.00	
9,060.88	90.00	359.99	7,664.00	-887.49	3,419.51	8.00	4.64	-9.10	-114.46	GUS 15-032HN-LP
16,405.70	90.00	359.99	7,664.00	6,457.34	3,418.22	0.00	0.00	0.00	0.00	GUS 15-032HN-BTM
16,413.98	90.00	359.82	7,664.00	6,465.61	3,418.20	2.00	0.00	-2.00	-90.00	GUS 15-032HN-PBHI
16,505.52	90.00	359.82	7,664.00	6,557.15	3,417.92	0.00	0.00	0.00	0.00	GUS 15-032HN-PBHI

# Planning Report

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<b>Company:</b>	GREAT WESTERN OPERATING COMPANY	<b>TVD Reference:</b>	KB 20' @ 5144.00usft
<b>Project:</b>	ADAMS COUNTY	<b>MD Reference:</b>	KB 20' @ 5144.00usft
<b>Site:</b>	SEC 21-T1S-R67W	<b>North Reference:</b>	True
<b>Well:</b>	GUS LD 15-032HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	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
463.00	0.00	0.00	463.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00									
500.00	1.11	117.70	500.00	-0.17	0.32	0.00	3.00	3.00	0.00
600.00	4.11	117.70	599.88	-2.28	4.35	-0.01	3.00	3.00	0.00
700.00	7.11	117.70	699.39	-6.83	13.00	-0.04	3.00	3.00	0.00
800.00	10.11	117.70	798.25	-13.78	26.26	-0.09	3.00	3.00	0.00
900.00	13.11	117.70	896.20	-23.14	44.07	-0.14	3.00	3.00	0.00
1,000.00	16.11	117.70	992.95	-34.86	66.41	-0.22	3.00	3.00	0.00
1,100.00	19.11	117.70	1,088.26	-48.92	93.19	-0.30	3.00	3.00	0.00
1,200.00	22.11	117.70	1,181.84	-65.28	124.35	-0.40	3.00	3.00	0.00
1,300.00	25.11	117.70	1,273.46	-83.89	159.81	-0.52	3.00	3.00	0.00
1,400.00	28.11	117.70	1,362.86	-104.70	199.47	-0.65	3.00	3.00	0.00
1,463.03	30.00	117.70	1,417.95	-118.93	226.57	-0.74	3.00	3.00	0.00
Start 6304.82 hold at 1463.03 MD									
1,500.00	30.00	117.70	1,449.97	-127.52	242.94	-0.79	0.00	0.00	0.00
1,600.00	30.00	117.70	1,536.57	-150.76	287.21	-0.93	0.00	0.00	0.00
1,700.00	30.00	117.70	1,623.18	-174.00	331.48	-1.08	0.00	0.00	0.00
1,800.00	30.00	117.70	1,709.78	-197.24	375.76	-1.22	0.00	0.00	0.00
1,900.00	30.00	117.70	1,796.38	-220.48	420.03	-1.37	0.00	0.00	0.00
2,000.00	30.00	117.70	1,882.98	-243.72	464.30	-1.51	0.00	0.00	0.00
2,100.00	30.00	117.70	1,969.58	-266.96	508.57	-1.65	0.00	0.00	0.00
2,200.00	30.00	117.70	2,056.18	-290.20	552.85	-1.80	0.00	0.00	0.00
2,300.00	30.00	117.70	2,142.79	-313.44	597.12	-1.94	0.00	0.00	0.00
2,400.00	30.00	117.70	2,229.39	-336.68	641.39	-2.09	0.00	0.00	0.00
2,500.00	30.00	117.70	2,315.99	-359.92	685.66	-2.23	0.00	0.00	0.00
2,600.00	30.00	117.70	2,402.59	-383.16	729.94	-2.37	0.00	0.00	0.00
2,700.00	30.00	117.70	2,489.19	-406.40	774.21	-2.52	0.00	0.00	0.00
2,800.00	30.00	117.70	2,575.80	-429.64	818.48	-2.66	0.00	0.00	0.00
2,900.00	30.00	117.70	2,662.40	-452.88	862.75	-2.81	0.00	0.00	0.00
3,000.00	30.00	117.70	2,749.00	-476.11	907.03	-2.95	0.00	0.00	0.00
3,100.00	30.00	117.70	2,835.60	-499.35	951.30	-3.09	0.00	0.00	0.00
3,200.00	30.00	117.70	2,922.20	-522.59	995.57	-3.24	0.00	0.00	0.00
3,300.00	30.00	117.70	3,008.80	-545.83	1,039.84	-3.38	0.00	0.00	0.00
3,400.00	30.00	117.70	3,095.41	-569.07	1,084.12	-3.53	0.00	0.00	0.00
3,500.00	30.00	117.70	3,182.01	-592.31	1,128.39	-3.67	0.00	0.00	0.00
3,600.00	30.00	117.70	3,268.61	-615.55	1,172.66	-3.81	0.00	0.00	0.00
3,700.00	30.00	117.70	3,355.21	-638.79	1,216.93	-3.96	0.00	0.00	0.00
3,800.00	30.00	117.70	3,441.81	-662.03	1,261.21	-4.10	0.00	0.00	0.00
3,900.00	30.00	117.70	3,528.42	-685.27	1,305.48	-4.25	0.00	0.00	0.00
4,000.00	30.00	117.70	3,615.02	-708.51	1,349.75	-4.39	0.00	0.00	0.00
4,100.00	30.00	117.70	3,701.62	-731.75	1,394.02	-4.53	0.00	0.00	0.00
4,200.00	30.00	117.70	3,788.22	-754.99	1,438.30	-4.68	0.00	0.00	0.00
4,300.00	30.00	117.70	3,874.82	-778.23	1,482.57	-4.82	0.00	0.00	0.00
4,400.00	30.00	117.70	3,961.42	-801.47	1,526.84	-4.97	0.00	0.00	0.00
4,500.00	30.00	117.70	4,048.03	-824.71	1,571.11	-5.11	0.00	0.00	0.00
4,600.00	30.00	117.70	4,134.63	-847.95	1,615.39	-5.25	0.00	0.00	0.00
4,700.00	30.00	117.70	4,221.23	-871.19	1,659.66	-5.40	0.00	0.00	0.00
4,800.00	30.00	117.70	4,307.83	-894.43	1,703.93	-5.54	0.00	0.00	0.00
4,900.00	30.00	117.70	4,394.43	-917.66	1,748.20	-5.69	0.00	0.00	0.00
5,000.00	30.00	117.70	4,481.04	-940.90	1,792.48	-5.83	0.00	0.00	0.00
5,100.00	30.00	117.70	4,567.64	-964.14	1,836.75	-5.97	0.00	0.00	0.00
5,200.00	30.00	117.70	4,654.24	-987.38	1,881.02	-6.12	0.00	0.00	0.00

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<b>Project:</b>	ADAMS COUNTY	<b>MD Reference:</b>	KB 20' @ 5144.00usft
<b>Site:</b>	SEC 21-T1S-R67W	<b>North Reference:</b>	True
<b>Well:</b>	GUS LD 15-032HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	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)	
5,300.00	30.00	117.70	4,740.84	-1,010.62	1,925.29	-6.26	0.00	0.00	0.00	
5,400.00	30.00	117.70	4,827.44	-1,033.86	1,969.56	-6.41	0.00	0.00	0.00	
5,500.00	30.00	117.70	4,914.04	-1,057.10	2,013.84	-6.55	0.00	0.00	0.00	
5,600.00	30.00	117.70	5,000.65	-1,080.34	2,058.11	-6.69	0.00	0.00	0.00	
5,700.00	30.00	117.70	5,087.25	-1,103.58	2,102.38	-6.84	0.00	0.00	0.00	
5,800.00	30.00	117.70	5,173.85	-1,126.82	2,146.65	-6.98	0.00	0.00	0.00	
5,900.00	30.00	117.70	5,260.45	-1,150.06	2,190.93	-7.13	0.00	0.00	0.00	
6,000.00	30.00	117.70	5,347.05	-1,173.30	2,235.20	-7.27	0.00	0.00	0.00	
6,100.00	30.00	117.70	5,433.66	-1,196.54	2,279.47	-7.41	0.00	0.00	0.00	
6,200.00	30.00	117.70	5,520.26	-1,219.78	2,323.74	-7.56	0.00	0.00	0.00	
6,300.00	30.00	117.70	5,606.86	-1,243.02	2,368.02	-7.70	0.00	0.00	0.00	
6,400.00	30.00	117.70	5,693.46	-1,266.26	2,412.29	-7.85	0.00	0.00	0.00	
6,500.00	30.00	117.70	5,780.06	-1,289.50	2,456.56	-7.99	0.00	0.00	0.00	
6,600.00	30.00	117.70	5,866.66	-1,312.74	2,500.83	-8.13	0.00	0.00	0.00	
6,700.00	30.00	117.70	5,953.27	-1,335.98	2,545.11	-8.28	0.00	0.00	0.00	
6,800.00	30.00	117.70	6,039.87	-1,359.21	2,589.38	-8.42	0.00	0.00	0.00	
6,900.00	30.00	117.70	6,126.47	-1,382.45	2,633.65	-8.57	0.00	0.00	0.00	
7,000.00	30.00	117.70	6,213.07	-1,405.69	2,677.92	-8.71	0.00	0.00	0.00	
7,100.00	30.00	117.70	6,299.67	-1,428.93	2,722.20	-8.85	0.00	0.00	0.00	
7,200.00	30.00	117.70	6,386.28	-1,452.17	2,766.47	-9.00	0.00	0.00	0.00	
7,300.00	30.00	117.70	6,472.88	-1,475.41	2,810.74	-9.14	0.00	0.00	0.00	
7,400.00	30.00	117.70	6,559.48	-1,498.65	2,855.01	-9.28	0.00	0.00	0.00	
7,500.00	30.00	117.70	6,646.08	-1,521.89	2,899.29	-9.43	0.00	0.00	0.00	
7,600.00	30.00	117.70	6,732.68	-1,545.13	2,943.56	-9.57	0.00	0.00	0.00	
7,700.00	30.00	117.70	6,819.28	-1,568.37	2,987.83	-9.72	0.00	0.00	0.00	
7,767.85	30.00	117.70	6,878.04	-1,584.14	3,017.87	-9.81	0.00	0.00	0.00	
Start DLS 8.00 TFO -114.46										
7,800.00	29.02	112.87	6,906.03	-1,590.91	3,032.18	-9.20	8.00	-3.04	-15.02	
7,850.00	27.87	104.82	6,950.01	-1,598.61	3,054.66	-5.64	8.00	-2.31	-16.10	
7,900.00	27.22	96.28	6,994.36	-1,602.85	3,077.33	1.08	8.00	-1.31	-17.08	
7,950.00	27.10	87.51	7,038.86	-1,603.60	3,100.08	10.92	8.00	-0.24	-17.53	
8,000.00	27.52	78.83	7,083.31	-1,600.87	3,122.80	23.85	8.00	0.85	-17.35	
8,050.00	28.46	70.54	7,127.48	-1,594.66	3,145.38	39.79	8.00	1.88	-16.58	
8,100.00	29.87	62.86	7,171.15	-1,585.01	3,167.70	58.67	8.00	2.82	-15.37	
8,150.00	31.69	55.89	7,214.12	-1,571.96	3,189.66	80.39	8.00	3.63	-13.94	
8,200.00	33.84	49.66	7,256.17	-1,555.57	3,211.15	104.86	8.00	4.31	-12.46	
8,250.00	36.28	44.13	7,297.11	-1,535.93	3,232.08	131.94	8.00	4.87	-11.06	
8,300.00	38.94	39.23	7,336.72	-1,513.13	3,252.32	161.52	8.00	5.32	-9.79	
8,350.00	41.78	34.88	7,374.82	-1,487.29	3,271.79	193.44	8.00	5.69	-8.70	
8,400.00	44.77	31.00	7,411.23	-1,458.52	3,290.40	227.55	8.00	5.98	-7.76	
8,450.00	47.88	27.52	7,445.75	-1,426.97	3,308.04	263.68	8.00	6.21	-6.97	
8,500.00	51.08	24.37	7,478.24	-1,392.79	3,324.64	301.66	8.00	6.41	-6.31	
8,550.00	54.36	21.49	7,508.52	-1,356.15	3,340.11	341.31	8.00	6.56	-5.76	
8,600.00	57.71	18.84	7,536.46	-1,317.22	3,354.39	382.42	8.00	6.69	-5.30	
8,650.00	61.10	16.38	7,561.90	-1,276.21	3,367.39	424.80	8.00	6.79	-4.92	
8,700.00	64.54	14.08	7,584.74	-1,233.30	3,379.05	468.25	8.00	6.87	-4.60	
8,750.00	68.01	11.90	7,604.86	-1,188.70	3,389.33	512.54	8.00	6.94	-4.35	
8,800.00	71.51	9.83	7,622.16	-1,142.64	3,398.16	557.47	8.00	7.00	-4.14	
8,850.00	75.02	7.85	7,636.56	-1,095.34	3,405.52	602.81	8.00	7.04	-3.97	
8,900.00	78.56	5.93	7,647.98	-1,047.02	3,411.35	648.35	8.00	7.07	-3.84	
8,950.00	82.11	4.05	7,656.37	-997.93	3,415.63	693.87	8.00	7.10	-3.75	
9,000.00	85.66	2.21	7,661.70	-948.30	3,418.34	739.13	8.00	7.11	-3.68	
9,050.00	89.23	0.39	7,663.93	-898.37	3,419.47	783.93	8.00	7.12	-3.65	
9,060.88	90.00	359.99	7,664.00	-887.49	3,419.51	793.59	8.00	7.12	-3.64	

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well GUS LD 15-032HN
<b>Company:</b>	GREAT WESTERN OPERATING COMPANY	<b>TVD Reference:</b>	KB 20' @ 5144.00usft
<b>Project:</b>	ADAMS COUNTY	<b>MD Reference:</b>	KB 20' @ 5144.00usft
<b>Site:</b>	SEC 21-T1S-R67W	<b>North Reference:</b>	True
<b>Well:</b>	GUS LD 15-032HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	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)
TPZ - 9060.88'/7664' MD/TVD, 2564' FNL, 2255' FEL SEC 22									
9,100.00	90.00	359.99	7,664.00	-848.37	3,419.50	828.28	0.00	0.00	0.00
9,200.00	90.00	359.99	7,664.00	-748.37	3,419.48	916.95	0.00	0.00	0.00
9,300.00	90.00	359.99	7,664.00	-648.37	3,419.47	1,005.62	0.00	0.00	0.00
9,400.00	90.00	359.99	7,664.00	-548.37	3,419.45	1,094.29	0.00	0.00	0.00
9,500.00	90.00	359.99	7,664.00	-448.37	3,419.43	1,182.95	0.00	0.00	0.00
9,600.00	90.00	359.99	7,664.00	-348.37	3,419.41	1,271.62	0.00	0.00	0.00
9,700.00	90.00	359.99	7,664.00	-248.37	3,419.40	1,360.29	0.00	0.00	0.00
9,800.00	90.00	359.99	7,664.00	-148.37	3,419.38	1,448.96	0.00	0.00	0.00
9,900.00	90.00	359.99	7,664.00	-48.37	3,419.36	1,537.63	0.00	0.00	0.00
10,000.00	90.00	359.99	7,664.00	51.63	3,419.34	1,626.29	0.00	0.00	0.00
10,100.00	90.00	359.99	7,664.00	151.63	3,419.32	1,714.96	0.00	0.00	0.00
10,200.00	90.00	359.99	7,664.00	251.63	3,419.31	1,803.63	0.00	0.00	0.00
10,300.00	90.00	359.99	7,664.00	351.63	3,419.29	1,892.30	0.00	0.00	0.00
10,400.00	90.00	359.99	7,664.00	451.63	3,419.27	1,980.97	0.00	0.00	0.00
10,500.00	90.00	359.99	7,664.00	551.63	3,419.25	2,069.63	0.00	0.00	0.00
10,600.00	90.00	359.99	7,664.00	651.63	3,419.24	2,158.30	0.00	0.00	0.00
10,700.00	90.00	359.99	7,664.00	751.63	3,419.22	2,246.97	0.00	0.00	0.00
10,800.00	90.00	359.99	7,664.00	851.63	3,419.20	2,335.64	0.00	0.00	0.00
10,900.00	90.00	359.99	7,664.00	951.63	3,419.18	2,424.31	0.00	0.00	0.00
11,000.00	90.00	359.99	7,664.00	1,051.63	3,419.17	2,512.97	0.00	0.00	0.00
11,100.00	90.00	359.99	7,664.00	1,151.63	3,419.15	2,601.64	0.00	0.00	0.00
11,200.00	90.00	359.99	7,664.00	1,251.63	3,419.13	2,690.31	0.00	0.00	0.00
11,300.00	90.00	359.99	7,664.00	1,351.63	3,419.11	2,778.98	0.00	0.00	0.00
11,400.00	90.00	359.99	7,664.00	1,451.63	3,419.10	2,867.65	0.00	0.00	0.00
11,500.00	90.00	359.99	7,664.00	1,551.63	3,419.08	2,956.32	0.00	0.00	0.00
11,600.00	90.00	359.99	7,664.00	1,651.63	3,419.06	3,044.98	0.00	0.00	0.00
11,700.00	90.00	359.99	7,664.00	1,751.63	3,419.04	3,133.65	0.00	0.00	0.00
11,800.00	90.00	359.99	7,664.00	1,851.63	3,419.03	3,222.32	0.00	0.00	0.00
11,900.00	90.00	359.99	7,664.00	1,951.63	3,419.01	3,310.99	0.00	0.00	0.00
12,000.00	90.00	359.99	7,664.00	2,051.63	3,418.99	3,399.66	0.00	0.00	0.00
12,100.00	90.00	359.99	7,664.00	2,151.63	3,418.97	3,488.32	0.00	0.00	0.00
12,200.00	90.00	359.99	7,664.00	2,251.63	3,418.96	3,576.99	0.00	0.00	0.00
12,300.00	90.00	359.99	7,664.00	2,351.63	3,418.94	3,665.66	0.00	0.00	0.00
12,400.00	90.00	359.99	7,664.00	2,451.63	3,418.92	3,754.33	0.00	0.00	0.00
12,500.00	90.00	359.99	7,664.00	2,551.63	3,418.90	3,843.00	0.00	0.00	0.00
12,600.00	90.00	359.99	7,664.00	2,651.63	3,418.89	3,931.66	0.00	0.00	0.00
12,700.00	90.00	359.99	7,664.00	2,751.63	3,418.87	4,020.33	0.00	0.00	0.00
12,800.00	90.00	359.99	7,664.00	2,851.63	3,418.85	4,109.00	0.00	0.00	0.00
12,900.00	90.00	359.99	7,664.00	2,951.63	3,418.83	4,197.67	0.00	0.00	0.00
13,000.00	90.00	359.99	7,664.00	3,051.63	3,418.82	4,286.34	0.00	0.00	0.00
13,100.00	90.00	359.99	7,664.00	3,151.63	3,418.80	4,375.00	0.00	0.00	0.00
13,200.00	90.00	359.99	7,664.00	3,251.63	3,418.78	4,463.67	0.00	0.00	0.00
13,300.00	90.00	359.99	7,664.00	3,351.63	3,418.76	4,552.34	0.00	0.00	0.00
13,400.00	90.00	359.99	7,664.00	3,451.63	3,418.74	4,641.01	0.00	0.00	0.00
13,500.00	90.00	359.99	7,664.00	3,551.63	3,418.73	4,729.68	0.00	0.00	0.00
13,600.00	90.00	359.99	7,664.00	3,651.63	3,418.71	4,818.35	0.00	0.00	0.00
13,700.00	90.00	359.99	7,664.00	3,751.63	3,418.69	4,907.01	0.00	0.00	0.00
13,800.00	90.00	359.99	7,664.00	3,851.63	3,418.67	4,995.68	0.00	0.00	0.00
13,900.00	90.00	359.99	7,664.00	3,951.63	3,418.66	5,084.35	0.00	0.00	0.00
14,000.00	90.00	359.99	7,664.00	4,051.63	3,418.64	5,173.02	0.00	0.00	0.00
14,100.00	90.00	359.99	7,664.00	4,151.63	3,418.62	5,261.69	0.00	0.00	0.00
14,200.00	90.00	359.99	7,664.00	4,251.63	3,418.60	5,350.35	0.00	0.00	0.00

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well GUS LD 15-032HN
<b>Company:</b>	GREAT WESTERN OPERATING COMPANY	<b>TVD Reference:</b>	KB 20' @ 5144.00usft
<b>Project:</b>	ADAMS COUNTY	<b>MD Reference:</b>	KB 20' @ 5144.00usft
<b>Site:</b>	SEC 21-T1S-R67W	<b>North Reference:</b>	True
<b>Well:</b>	GUS LD 15-032HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	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	359.99	7,664.00	4,351.63	3,418.59	5,439.02	0.00	0.00	0.00	
14,400.00	90.00	359.99	7,664.00	4,451.63	3,418.57	5,527.69	0.00	0.00	0.00	
14,500.00	90.00	359.99	7,664.00	4,551.63	3,418.55	5,616.36	0.00	0.00	0.00	
14,600.00	90.00	359.99	7,664.00	4,651.63	3,418.53	5,705.03	0.00	0.00	0.00	
14,700.00	90.00	359.99	7,664.00	4,751.63	3,418.52	5,793.69	0.00	0.00	0.00	
14,800.00	90.00	359.99	7,664.00	4,851.63	3,418.50	5,882.36	0.00	0.00	0.00	
14,900.00	90.00	359.99	7,664.00	4,951.63	3,418.48	5,971.03	0.00	0.00	0.00	
15,000.00	90.00	359.99	7,664.00	5,051.63	3,418.46	6,059.70	0.00	0.00	0.00	
15,100.00	90.00	359.99	7,664.00	5,151.63	3,418.45	6,148.37	0.00	0.00	0.00	
15,200.00	90.00	359.99	7,664.00	5,251.63	3,418.43	6,237.03	0.00	0.00	0.00	
15,300.00	90.00	359.99	7,664.00	5,351.63	3,418.41	6,325.70	0.00	0.00	0.00	
15,400.00	90.00	359.99	7,664.00	5,451.63	3,418.39	6,414.37	0.00	0.00	0.00	
15,500.00	90.00	359.99	7,664.00	5,551.63	3,418.38	6,503.04	0.00	0.00	0.00	
15,600.00	90.00	359.99	7,664.00	5,651.63	3,418.36	6,591.71	0.00	0.00	0.00	
15,700.00	90.00	359.99	7,664.00	5,751.63	3,418.34	6,680.37	0.00	0.00	0.00	
15,800.00	90.00	359.99	7,664.00	5,851.63	3,418.32	6,769.04	0.00	0.00	0.00	
15,900.00	90.00	359.99	7,664.00	5,951.63	3,418.31	6,857.71	0.00	0.00	0.00	
16,000.00	90.00	359.99	7,664.00	6,051.63	3,418.29	6,946.38	0.00	0.00	0.00	
16,100.00	90.00	359.99	7,664.00	6,151.63	3,418.27	7,035.05	0.00	0.00	0.00	
16,200.00	90.00	359.99	7,664.00	6,251.63	3,418.25	7,123.72	0.00	0.00	0.00	
16,300.00	90.00	359.99	7,664.00	6,351.63	3,418.24	7,212.38	0.00	0.00	0.00	
16,405.70	90.00	359.99	7,664.00	6,457.34	3,418.22	7,306.11	0.00	0.00	0.00	
<b>BTM PERF - 16405.70'/7664' MD/TVD, 470' FNL, 2255' FEL SEC 15</b>										
16,413.98	90.00	359.82	7,664.00	6,465.61	3,418.20	7,313.44	2.00	0.00	-2.00	
<b>Start 91.53 hold at 16413.98 MD</b>										
16,505.52	90.00	359.82	7,664.00	6,557.15	3,417.92	7,394.48	0.00	0.00	0.00	
<b>BHL - 16505.52'/7664' MD/TVD, 370' FNL, 2255' FEL SEC 15</b>										

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 15-032HN-PBHL - plan hits target center - Point	0.00	0.00	7,664.00	6,557.15	3,417.92	1,232,925.80	3,175,593.73	39.971062°N	104.873484°W
GUS 15-032HN-BTM PE - plan hits target center - Point	0.00	0.00	7,664.00	6,457.34	3,418.22	1,232,825.99	3,175,594.71	39.970788°N	104.873483°W
GUS 15-032HN-LP - plan hits target center - Point	0.00	0.00	7,664.00	-887.49	3,419.51	1,225,481.35	3,175,646.88	39.950625°N	104.873482°W

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well GUS LD 15-032HN
<b>Company:</b>	GREAT WESTERN OPERATING COMPANY	<b>TVD Reference:</b>	KB 20' @ 5144.00usft
<b>Project:</b>	ADAMS COUNTY	<b>MD Reference:</b>	KB 20' @ 5144.00usft
<b>Site:</b>	SEC 21-T1S-R67W	<b>North Reference:</b>	True
<b>Well:</b>	GUS LD 15-032HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
463.00	463.00	0.00	0.00	Start Build 3.00
1,463.03	1,417.95	-118.93	226.57	Start 6304.82 hold at 1463.03 MD
7,767.85	6,878.04	-1,584.14	3,017.87	Start DLS 8.00 TFO -114.46
9,060.88	7,664.00	-887.49	3,419.51	TPZ - 9060.88'/7664' MD/TVD, 2564' FNL, 2255' FEL SEC 22
16,405.70	7,664.00	6,457.34	3,418.22	BTM PERF - 16405.70'/7664' MD/TVD, 470' FNL, 2255' FEL SEC 15
16,413.98	7,664.00	6,465.61	3,418.20	Start 91.53 hold at 16413.98 MD
16,505.52	7,664.00	6,557.15	3,417.92	BHL - 16505.52'/7664' MD/TVD, 370' FNL, 2255' FEL SEC 15