

# **GREAT WESTERN OPERATING COMPANY**

**ADAMS COUNTY  
SEC 21-T1S-R67W  
GUS LD 15-031HNX**

**OWB**

**Plan: PROPOSAL 1**

## **Standard Planning Report**

**22 September, 2021**

Project: ADAMS COUNTY  
Site: SEC 21-T1S-R67W  
Well: GUS LD 15-031HNX  
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: 7.85°  
Magnetic Field  
Strength: 51677.3nT  
Dip Angle: 66.27°  
Date: 9/16/2021  
Model: IGRF2020

WELL DETAILS: GUS LD 15-031HNX

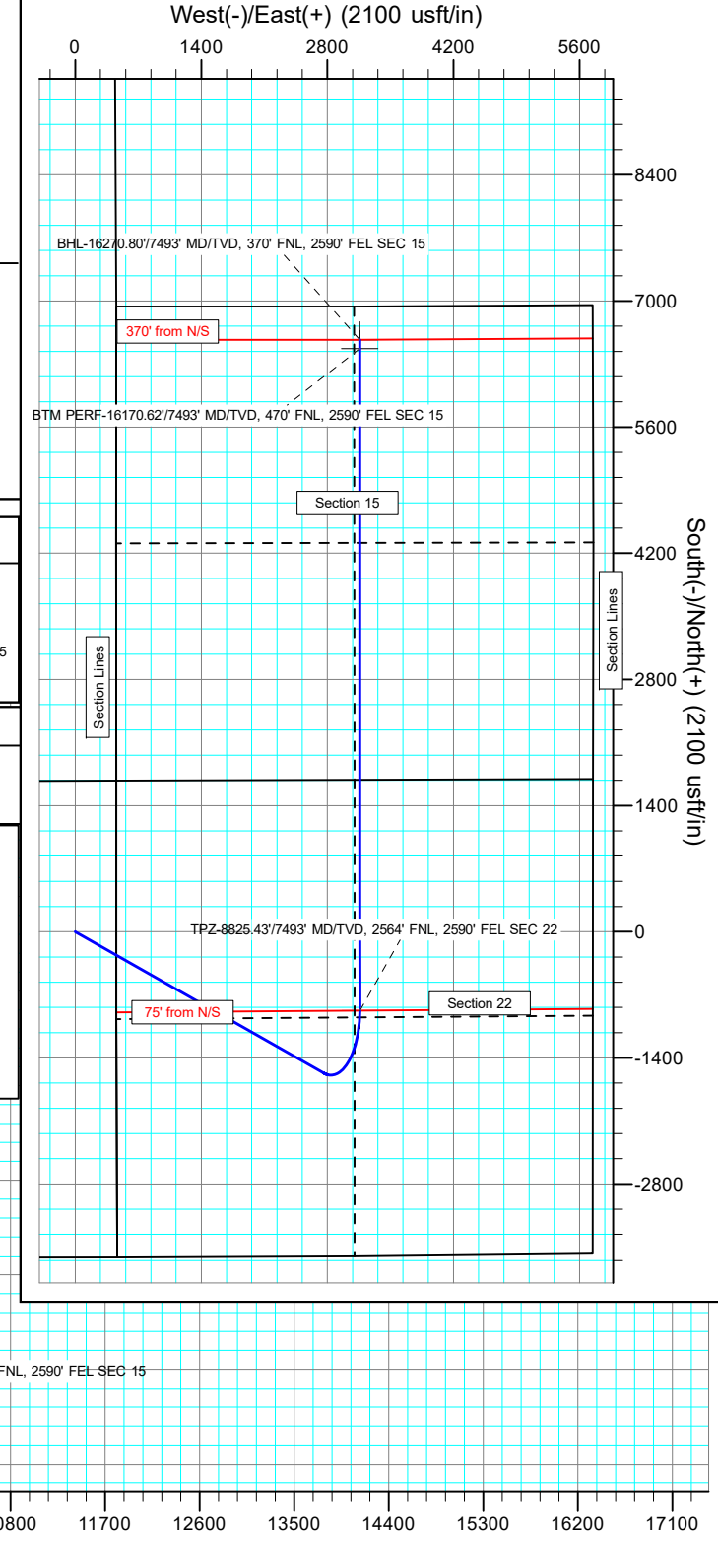
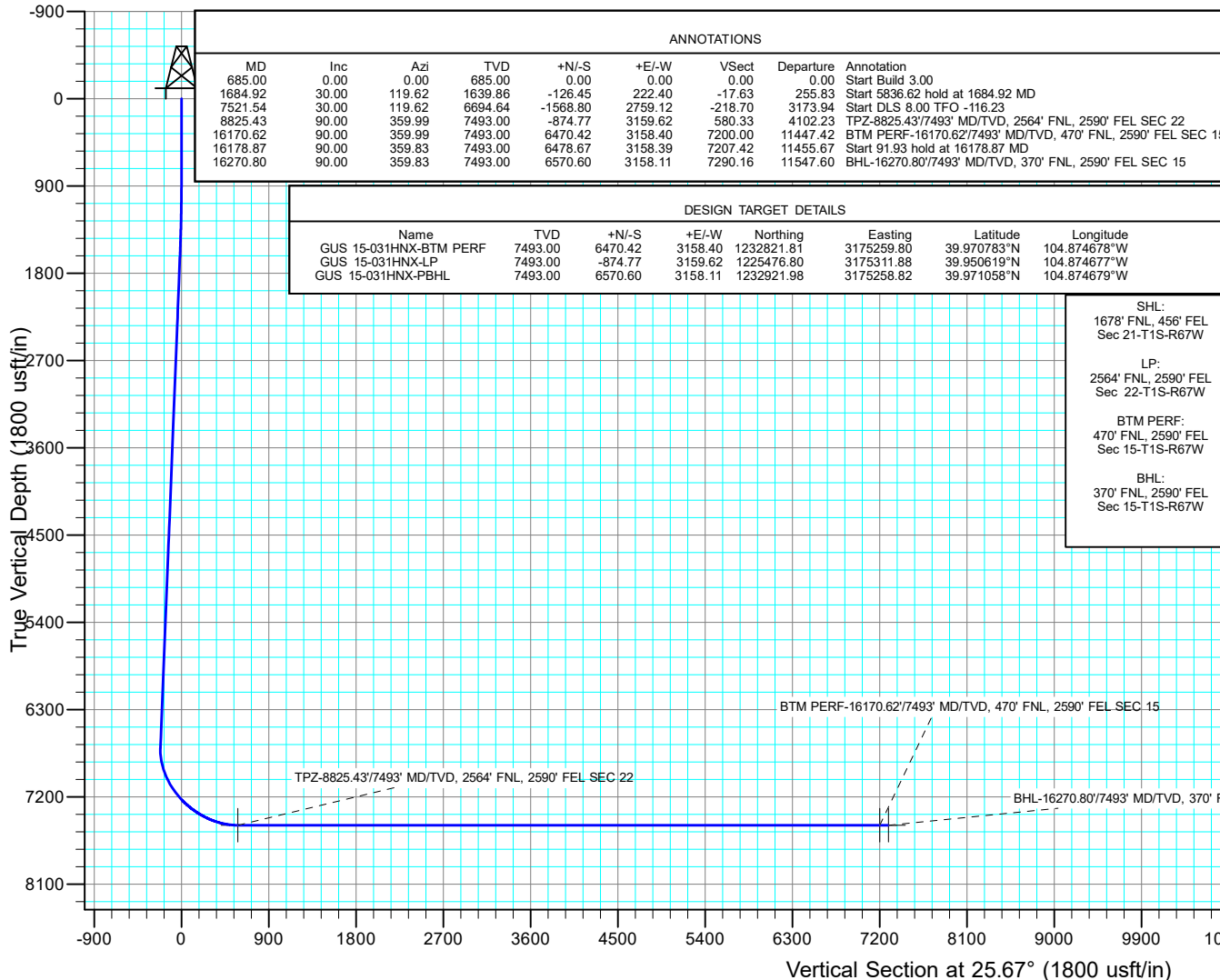
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1226329.67	3172146.28	39.953021°N	104.885947°W	

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	685.00	0.00	0.00	685.00	0.00	0.00	0.00	0.00	0.00	
3	1684.92	30.00	119.62	1639.86	-126.45	222.40	3.00	119.62	-17.63	
4	7521.54	30.00	119.62	6694.64	-1568.80	2759.12	0.00	0.00	-218.70	
5	8825.43	90.00	359.99	7493.00	-874.77	3159.62	8.00	-116.23	580.33	GUS 15-031HNX-LP
6	16170.62	90.00	359.99	7493.00	6470.42	3158.40	0.00	0.00	7200.00	GUS 15-031HNX-BTM PERF
7	16178.87	90.00	359.83	7493.00	6478.67	3158.39	2.00	-90.00	7207.42	GUS 15-031HNX-PBHL
8	16270.80	90.00	359.83	7493.00	6570.60	3158.11	0.00	0.00	7290.16	GUS 15-031HNX-PBHL

FORMATION TOP DETAILS

No formation data is available



## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well GUS LD 15-031HNX
<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 15-031HNX	<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 15-031HNX				
Well Position	+N/-S	0.00 usft	Northing:	1,226,329.67 usft	Latitude:	39.953021°N
	+E/-W	0.00 usft	Easting:	3,172,146.28 usft	Longitude:	104.885947°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	9/16/2021	7.85	66.27	51,677.33573439

<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	25.67	

<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	16,270.80 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	
685.00	0.00	0.00	685.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,684.92	30.00	119.62	1,639.86	-126.45	222.40	3.00	3.00	0.00	119.62	
7,521.54	30.00	119.62	6,694.64	-1,568.80	2,759.12	0.00	0.00	0.00	0.00	
8,825.43	90.00	359.99	7,493.00	-874.77	3,159.62	8.00	4.60	-9.17	-116.23	GUS 15-031HNX-LP
16,170.62	90.00	359.99	7,493.00	6,470.42	3,158.40	0.00	0.00	0.00	0.00	GUS 15-031HNX-BT
16,178.87	90.00	359.83	7,493.00	6,478.67	3,158.39	2.00	0.00	-2.00	-90.00	GUS 15-031HNX-PB
16,270.80	90.00	359.83	7,493.00	6,570.60	3,158.11	0.00	0.00	0.00	0.00	GUS 15-031HNX-PB

# Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well GUS LD 15-031HNX
<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 15-031HNX	<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
685.00	0.00	0.00	685.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00									
700.00	0.45	119.62	700.00	-0.03	0.05	0.00	3.00	3.00	0.00
800.00	3.45	119.62	799.93	-1.71	3.01	-0.24	3.00	3.00	0.00
900.00	6.45	119.62	899.55	-5.98	10.51	-0.83	3.00	3.00	0.00
1,000.00	9.45	119.62	998.57	-12.81	22.53	-1.79	3.00	3.00	0.00
1,100.00	12.45	119.62	1,096.74	-22.20	39.04	-3.09	3.00	3.00	0.00
1,200.00	15.45	119.62	1,193.78	-34.11	60.00	-4.76	3.00	3.00	0.00
1,300.00	18.45	119.62	1,289.43	-48.52	85.34	-6.76	3.00	3.00	0.00
1,400.00	21.45	119.62	1,383.41	-65.38	114.99	-9.12	3.00	3.00	0.00
1,500.00	24.45	119.62	1,475.49	-84.66	148.89	-11.80	3.00	3.00	0.00
1,600.00	27.45	119.62	1,565.40	-106.28	186.92	-14.82	3.00	3.00	0.00
1,684.92	30.00	119.62	1,639.86	-126.45	222.40	-17.63	3.00	3.00	0.00
Start 5836.62 hold at 1684.92 MD									
1,700.00	30.00	119.62	1,652.92	-130.18	228.95	-18.15	0.00	0.00	0.00
1,800.00	30.00	119.62	1,739.52	-154.89	272.41	-21.59	0.00	0.00	0.00
1,900.00	30.00	119.62	1,826.13	-179.60	315.88	-25.04	0.00	0.00	0.00
2,000.00	30.00	119.62	1,912.73	-204.32	359.34	-28.48	0.00	0.00	0.00
2,100.00	30.00	119.62	1,999.34	-229.03	402.80	-31.93	0.00	0.00	0.00
2,200.00	30.00	119.62	2,085.94	-253.74	446.26	-35.37	0.00	0.00	0.00
2,300.00	30.00	119.62	2,172.55	-278.45	489.72	-38.82	0.00	0.00	0.00
2,400.00	30.00	119.62	2,259.15	-303.16	533.19	-42.26	0.00	0.00	0.00
2,500.00	30.00	119.62	2,345.76	-327.88	576.65	-45.71	0.00	0.00	0.00
2,600.00	30.00	119.62	2,432.36	-352.59	620.11	-49.15	0.00	0.00	0.00
2,700.00	30.00	119.62	2,518.97	-377.30	663.57	-52.60	0.00	0.00	0.00
2,800.00	30.00	119.62	2,605.57	-402.01	707.03	-56.04	0.00	0.00	0.00
2,900.00	30.00	119.62	2,692.18	-426.72	750.50	-59.49	0.00	0.00	0.00
3,000.00	30.00	119.62	2,778.78	-451.44	793.96	-62.93	0.00	0.00	0.00
3,100.00	30.00	119.62	2,865.38	-476.15	837.42	-66.38	0.00	0.00	0.00
3,200.00	30.00	119.62	2,951.99	-500.86	880.88	-69.82	0.00	0.00	0.00
3,300.00	30.00	119.62	3,038.59	-525.57	924.35	-73.27	0.00	0.00	0.00
3,400.00	30.00	119.62	3,125.20	-550.28	967.81	-76.71	0.00	0.00	0.00
3,500.00	30.00	119.62	3,211.80	-575.00	1,011.27	-80.16	0.00	0.00	0.00
3,600.00	30.00	119.62	3,298.41	-599.71	1,054.73	-83.60	0.00	0.00	0.00
3,700.00	30.00	119.62	3,385.01	-624.42	1,098.19	-87.05	0.00	0.00	0.00
3,800.00	30.00	119.62	3,471.62	-649.13	1,141.66	-90.49	0.00	0.00	0.00
3,900.00	30.00	119.62	3,558.22	-673.85	1,185.12	-93.94	0.00	0.00	0.00
4,000.00	30.00	119.62	3,644.83	-698.56	1,228.58	-97.38	0.00	0.00	0.00
4,100.00	30.00	119.62	3,731.43	-723.27	1,272.04	-100.83	0.00	0.00	0.00
4,200.00	30.00	119.62	3,818.03	-747.98	1,315.50	-104.27	0.00	0.00	0.00
4,300.00	30.00	119.62	3,904.64	-772.69	1,358.97	-107.72	0.00	0.00	0.00
4,400.00	30.00	119.62	3,991.24	-797.41	1,402.43	-111.16	0.00	0.00	0.00
4,500.00	30.00	119.62	4,077.85	-822.12	1,445.89	-114.61	0.00	0.00	0.00
4,600.00	30.00	119.62	4,164.45	-846.83	1,489.35	-118.05	0.00	0.00	0.00
4,700.00	30.00	119.62	4,251.06	-871.54	1,532.82	-121.50	0.00	0.00	0.00
4,800.00	30.00	119.62	4,337.66	-896.25	1,576.28	-124.95	0.00	0.00	0.00
4,900.00	30.00	119.62	4,424.27	-920.97	1,619.74	-128.39	0.00	0.00	0.00
5,000.00	30.00	119.62	4,510.87	-945.68	1,663.20	-131.84	0.00	0.00	0.00
5,100.00	30.00	119.62	4,597.48	-970.39	1,706.66	-135.28	0.00	0.00	0.00
5,200.00	30.00	119.62	4,684.08	-995.10	1,750.13	-138.73	0.00	0.00	0.00
5,300.00	30.00	119.62	4,770.69	-1,019.81	1,793.59	-142.17	0.00	0.00	0.00
5,400.00	30.00	119.62	4,857.29	-1,044.53	1,837.05	-145.62	0.00	0.00	0.00

# Planning Report

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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 15-031HNX	<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)	
5,500.00	30.00	119.62	4,943.89	-1,069.24	1,880.51	-149.06	0.00	0.00	0.00	
5,600.00	30.00	119.62	5,030.50	-1,093.95	1,923.97	-152.51	0.00	0.00	0.00	
5,700.00	30.00	119.62	5,117.10	-1,118.66	1,967.44	-155.95	0.00	0.00	0.00	
5,800.00	30.00	119.62	5,203.71	-1,143.38	2,010.90	-159.40	0.00	0.00	0.00	
5,900.00	30.00	119.62	5,290.31	-1,168.09	2,054.36	-162.84	0.00	0.00	0.00	
6,000.00	30.00	119.62	5,376.92	-1,192.80	2,097.82	-166.29	0.00	0.00	0.00	
6,100.00	30.00	119.62	5,463.52	-1,217.51	2,141.28	-169.73	0.00	0.00	0.00	
6,200.00	30.00	119.62	5,550.13	-1,242.22	2,184.75	-173.18	0.00	0.00	0.00	
6,300.00	30.00	119.62	5,636.73	-1,266.94	2,228.21	-176.62	0.00	0.00	0.00	
6,400.00	30.00	119.62	5,723.34	-1,291.65	2,271.67	-180.07	0.00	0.00	0.00	
6,500.00	30.00	119.62	5,809.94	-1,316.36	2,315.13	-183.51	0.00	0.00	0.00	
6,600.00	30.00	119.62	5,896.55	-1,341.07	2,358.60	-186.96	0.00	0.00	0.00	
6,700.00	30.00	119.62	5,983.15	-1,365.78	2,402.06	-190.40	0.00	0.00	0.00	
6,800.00	30.00	119.62	6,069.75	-1,390.50	2,445.52	-193.85	0.00	0.00	0.00	
6,900.00	30.00	119.62	6,156.36	-1,415.21	2,488.98	-197.29	0.00	0.00	0.00	
7,000.00	30.00	119.62	6,242.96	-1,439.92	2,532.44	-200.74	0.00	0.00	0.00	
7,100.00	30.00	119.62	6,329.57	-1,464.63	2,575.91	-204.18	0.00	0.00	0.00	
7,200.00	30.00	119.62	6,416.17	-1,489.34	2,619.37	-207.63	0.00	0.00	0.00	
7,300.00	30.00	119.62	6,502.78	-1,514.06	2,662.83	-211.07	0.00	0.00	0.00	
7,400.00	30.00	119.62	6,589.38	-1,538.77	2,706.29	-214.52	0.00	0.00	0.00	
7,500.00	30.00	119.62	6,675.99	-1,563.48	2,749.75	-217.96	0.00	0.00	0.00	
7,521.54	30.00	119.62	6,694.64	-1,568.80	2,759.12	-218.70	0.00	0.00	0.00	
Start DLS 8.00 TFO -116.23										
7,550.00	29.06	115.41	6,719.41	-1,575.29	2,771.55	-219.16	8.00	-3.31	-14.79	
7,600.00	27.75	107.46	6,763.40	-1,583.99	2,793.62	-217.45	8.00	-2.62	-15.91	
7,650.00	26.93	98.93	6,807.84	-1,589.25	2,815.92	-212.52	8.00	-1.64	-17.07	
7,700.00	26.65	90.07	6,852.49	-1,591.02	2,838.33	-204.41	8.00	-0.56	-17.72	
7,750.00	26.92	81.20	6,897.14	-1,589.30	2,860.73	-193.16	8.00	0.54	-17.73	
7,800.00	27.73	72.66	6,941.58	-1,584.10	2,883.03	-178.81	8.00	1.62	-17.08	
7,850.00	29.03	64.70	6,985.59	-1,575.45	2,905.11	-161.44	8.00	2.60	-15.93	
7,900.00	30.76	57.46	7,028.95	-1,563.38	2,926.87	-141.14	8.00	3.46	-14.48	
7,950.00	32.85	50.98	7,071.45	-1,547.96	2,948.19	-118.00	8.00	4.18	-12.95	
8,000.00	35.24	45.25	7,112.88	-1,529.25	2,968.98	-92.14	8.00	4.78	-11.47	
8,050.00	37.87	40.18	7,153.05	-1,507.36	2,989.14	-63.68	8.00	5.26	-10.13	
8,100.00	40.69	35.70	7,191.76	-1,482.39	3,008.56	-32.76	8.00	5.64	-8.97	
8,150.00	43.66	31.71	7,228.82	-1,454.46	3,027.15	0.47	8.00	5.95	-7.97	
8,200.00	46.76	28.14	7,264.04	-1,423.70	3,044.82	35.84	8.00	6.20	-7.13	
8,250.00	49.96	24.93	7,297.27	-1,390.27	3,061.48	73.19	8.00	6.40	-6.43	
8,300.00	53.24	22.01	7,328.32	-1,354.33	3,077.06	112.33	8.00	6.56	-5.85	
8,350.00	56.59	19.32	7,357.06	-1,316.06	3,091.48	153.08	8.00	6.69	-5.36	
8,400.00	59.98	16.84	7,383.35	-1,275.63	3,104.66	195.22	8.00	6.80	-4.96	
8,450.00	63.43	14.53	7,407.05	-1,233.25	3,116.54	238.57	8.00	6.88	-4.63	
8,500.00	66.90	12.35	7,428.05	-1,189.12	3,127.08	282.90	8.00	6.95	-4.36	
8,550.00	70.41	10.28	7,446.24	-1,143.47	3,136.20	328.01	8.00	7.01	-4.14	
8,600.00	73.94	8.30	7,461.55	-1,096.50	3,143.87	373.66	8.00	7.06	-3.96	
8,650.00	77.48	6.39	7,473.89	-1,048.45	3,150.06	419.64	8.00	7.09	-3.82	
8,700.00	81.04	4.53	7,483.21	-999.56	3,154.72	465.73	8.00	7.12	-3.72	
8,750.00	84.61	2.71	7,489.45	-950.06	3,157.85	511.70	8.00	7.14	-3.65	
8,800.00	88.18	0.90	7,492.60	-900.20	3,159.42	557.32	8.00	7.15	-3.60	
8,825.43	90.00	359.99	7,493.00	-874.77	3,159.62	580.33	8.00	7.15	-3.59	
TPZ-8825.43/7493' MD/TVD, 2564' FNL, 2590' FEL SEC 22										
8,900.00	90.00	359.99	7,493.00	-800.20	3,159.60	647.53	0.00	0.00	0.00	
9,000.00	90.00	359.99	7,493.00	-700.20	3,159.59	737.65	0.00	0.00	0.00	
9,100.00	90.00	359.99	7,493.00	-600.20	3,159.57	827.77	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 15-031HNX
<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 15-031HNX	<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)	
9,200.00	90.00	359.99	7,493.00	-500.20	3,159.56	917.90	0.00	0.00	0.00	
9,300.00	90.00	359.99	7,493.00	-400.20	3,159.54	1,008.02	0.00	0.00	0.00	
9,400.00	90.00	359.99	7,493.00	-300.20	3,159.52	1,098.14	0.00	0.00	0.00	
9,500.00	90.00	359.99	7,493.00	-200.20	3,159.51	1,188.26	0.00	0.00	0.00	
9,600.00	90.00	359.99	7,493.00	-100.20	3,159.49	1,278.39	0.00	0.00	0.00	
9,700.00	90.00	359.99	7,493.00	-0.20	3,159.47	1,368.51	0.00	0.00	0.00	
9,800.00	90.00	359.99	7,493.00	99.80	3,159.46	1,458.63	0.00	0.00	0.00	
9,900.00	90.00	359.99	7,493.00	199.80	3,159.44	1,548.75	0.00	0.00	0.00	
10,000.00	90.00	359.99	7,493.00	299.80	3,159.42	1,638.88	0.00	0.00	0.00	
10,100.00	90.00	359.99	7,493.00	399.80	3,159.41	1,729.00	0.00	0.00	0.00	
10,200.00	90.00	359.99	7,493.00	499.80	3,159.39	1,819.12	0.00	0.00	0.00	
10,300.00	90.00	359.99	7,493.00	599.80	3,159.37	1,909.24	0.00	0.00	0.00	
10,400.00	90.00	359.99	7,493.00	699.80	3,159.36	1,999.37	0.00	0.00	0.00	
10,500.00	90.00	359.99	7,493.00	799.80	3,159.34	2,089.49	0.00	0.00	0.00	
10,600.00	90.00	359.99	7,493.00	899.80	3,159.32	2,179.61	0.00	0.00	0.00	
10,700.00	90.00	359.99	7,493.00	999.80	3,159.31	2,269.73	0.00	0.00	0.00	
10,800.00	90.00	359.99	7,493.00	1,099.80	3,159.29	2,359.86	0.00	0.00	0.00	
10,900.00	90.00	359.99	7,493.00	1,199.80	3,159.27	2,449.98	0.00	0.00	0.00	
11,000.00	90.00	359.99	7,493.00	1,299.80	3,159.26	2,540.10	0.00	0.00	0.00	
11,100.00	90.00	359.99	7,493.00	1,399.80	3,159.24	2,630.22	0.00	0.00	0.00	
11,200.00	90.00	359.99	7,493.00	1,499.80	3,159.22	2,720.35	0.00	0.00	0.00	
11,300.00	90.00	359.99	7,493.00	1,599.80	3,159.21	2,810.47	0.00	0.00	0.00	
11,400.00	90.00	359.99	7,493.00	1,699.80	3,159.19	2,900.59	0.00	0.00	0.00	
11,500.00	90.00	359.99	7,493.00	1,799.80	3,159.18	2,990.71	0.00	0.00	0.00	
11,600.00	90.00	359.99	7,493.00	1,899.80	3,159.16	3,080.84	0.00	0.00	0.00	
11,700.00	90.00	359.99	7,493.00	1,999.80	3,159.14	3,170.96	0.00	0.00	0.00	
11,800.00	90.00	359.99	7,493.00	2,099.80	3,159.13	3,261.08	0.00	0.00	0.00	
11,900.00	90.00	359.99	7,493.00	2,199.80	3,159.11	3,351.20	0.00	0.00	0.00	
12,000.00	90.00	359.99	7,493.00	2,299.80	3,159.09	3,441.33	0.00	0.00	0.00	
12,100.00	90.00	359.99	7,493.00	2,399.80	3,159.08	3,531.45	0.00	0.00	0.00	
12,200.00	90.00	359.99	7,493.00	2,499.80	3,159.06	3,621.57	0.00	0.00	0.00	
12,300.00	90.00	359.99	7,493.00	2,599.80	3,159.04	3,711.69	0.00	0.00	0.00	
12,400.00	90.00	359.99	7,493.00	2,699.80	3,159.03	3,801.82	0.00	0.00	0.00	
12,500.00	90.00	359.99	7,493.00	2,799.80	3,159.01	3,891.94	0.00	0.00	0.00	
12,600.00	90.00	359.99	7,493.00	2,899.80	3,158.99	3,982.06	0.00	0.00	0.00	
12,700.00	90.00	359.99	7,493.00	2,999.80	3,158.98	4,072.18	0.00	0.00	0.00	
12,800.00	90.00	359.99	7,493.00	3,099.80	3,158.96	4,162.31	0.00	0.00	0.00	
12,900.00	90.00	359.99	7,493.00	3,199.80	3,158.94	4,252.43	0.00	0.00	0.00	
13,000.00	90.00	359.99	7,493.00	3,299.80	3,158.93	4,342.55	0.00	0.00	0.00	
13,100.00	90.00	359.99	7,493.00	3,399.80	3,158.91	4,432.67	0.00	0.00	0.00	
13,200.00	90.00	359.99	7,493.00	3,499.80	3,158.89	4,522.80	0.00	0.00	0.00	
13,300.00	90.00	359.99	7,493.00	3,599.80	3,158.88	4,612.92	0.00	0.00	0.00	
13,400.00	90.00	359.99	7,493.00	3,699.80	3,158.86	4,703.04	0.00	0.00	0.00	
13,500.00	90.00	359.99	7,493.00	3,799.80	3,158.84	4,793.16	0.00	0.00	0.00	
13,600.00	90.00	359.99	7,493.00	3,899.80	3,158.83	4,883.29	0.00	0.00	0.00	
13,700.00	90.00	359.99	7,493.00	3,999.80	3,158.81	4,973.41	0.00	0.00	0.00	
13,800.00	90.00	359.99	7,493.00	4,099.80	3,158.80	5,063.53	0.00	0.00	0.00	
13,900.00	90.00	359.99	7,493.00	4,199.80	3,158.78	5,153.66	0.00	0.00	0.00	
14,000.00	90.00	359.99	7,493.00	4,299.80	3,158.76	5,243.78	0.00	0.00	0.00	
14,100.00	90.00	359.99	7,493.00	4,399.80	3,158.75	5,333.90	0.00	0.00	0.00	
14,200.00	90.00	359.99	7,493.00	4,499.80	3,158.73	5,424.02	0.00	0.00	0.00	
14,300.00	90.00	359.99	7,493.00	4,599.80	3,158.71	5,514.15	0.00	0.00	0.00	
14,400.00	90.00	359.99	7,493.00	4,699.80	3,158.70	5,604.27	0.00	0.00	0.00	
14,500.00	90.00	359.99	7,493.00	4,799.80	3,158.68	5,694.39	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 15-031HNX
<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 15-031HNX	<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)	
14,600.00	90.00	359.99	7,493.00	4,899.80	3,158.66	5,784.51	0.00	0.00	0.00	
14,700.00	90.00	359.99	7,493.00	4,999.80	3,158.65	5,874.64	0.00	0.00	0.00	
14,800.00	90.00	359.99	7,493.00	5,099.80	3,158.63	5,964.76	0.00	0.00	0.00	
14,900.00	90.00	359.99	7,493.00	5,199.80	3,158.61	6,054.88	0.00	0.00	0.00	
15,000.00	90.00	359.99	7,493.00	5,299.80	3,158.60	6,145.00	0.00	0.00	0.00	
15,100.00	90.00	359.99	7,493.00	5,399.80	3,158.58	6,235.13	0.00	0.00	0.00	
15,200.00	90.00	359.99	7,493.00	5,499.80	3,158.56	6,325.25	0.00	0.00	0.00	
15,300.00	90.00	359.99	7,493.00	5,599.80	3,158.55	6,415.37	0.00	0.00	0.00	
15,400.00	90.00	359.99	7,493.00	5,699.80	3,158.53	6,505.49	0.00	0.00	0.00	
15,500.00	90.00	359.99	7,493.00	5,799.80	3,158.51	6,595.62	0.00	0.00	0.00	
15,600.00	90.00	359.99	7,493.00	5,899.80	3,158.50	6,685.74	0.00	0.00	0.00	
15,700.00	90.00	359.99	7,493.00	5,999.80	3,158.48	6,775.86	0.00	0.00	0.00	
15,800.00	90.00	359.99	7,493.00	6,099.80	3,158.46	6,865.98	0.00	0.00	0.00	
15,900.00	90.00	359.99	7,493.00	6,199.80	3,158.45	6,956.11	0.00	0.00	0.00	
16,000.00	90.00	359.99	7,493.00	6,299.80	3,158.43	7,046.23	0.00	0.00	0.00	
16,100.00	90.00	359.99	7,493.00	6,399.80	3,158.42	7,136.35	0.00	0.00	0.00	
16,170.62	90.00	359.99	7,493.00	6,470.42	3,158.40	7,200.00	0.00	0.00	0.00	
BTM PERF-16170.62'/7493' MD/TVD, 470' FNL, 2590' FEL SEC 15										
16,178.87	90.00	359.83	7,493.00	6,478.67	3,158.39	7,207.42	2.00	0.00	-2.00	
Start 91.93 hold at 16178.87 MD										
16,200.00	90.00	359.83	7,493.00	6,499.80	3,158.33	7,226.44	0.00	0.00	0.00	
16,270.80	90.00	359.83	7,493.00	6,570.60	3,158.11	7,290.16	0.00	0.00	0.00	
BHL-16270.80'/7493' MD/TVD, 370' FNL, 2590' FEL SEC 15										

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 15-031HNX-PBHL - plan hits target center - Point	0.00	0.00	7,493.00	6,570.60	3,158.11	1,232,921.98	3,175,258.82	39.971058°N	104.874679°W
GUS 15-031HNX-BTM F - plan hits target center - Point	0.00	0.00	7,493.00	6,470.42	3,158.40	1,232,821.81	3,175,259.81	39.970783°N	104.874678°W
GUS 15-031HNX-LP - plan hits target center - Point	0.00	0.00	7,493.00	-874.77	3,159.62	1,225,476.80	3,175,311.88	39.950619°N	104.874677°W

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
685.00	685.00	0.00	0.00	Start Build 3.00
1,684.92	1,639.86	-126.45	222.40	Start 5836.62 hold at 1684.92 MD
7,521.54	6,694.64	-1,568.80	2,759.12	Start DLS 8.00 TFO -116.23
8,825.43	7,493.00	-874.77	3,159.62	TPZ-8825.43'/7493' MD/TVD, 2564' FNL, 2590' FEL SEC 22
16,170.62	7,493.00	6,470.42	3,158.40	BTM PERF-16170.62'/7493' MD/TVD, 470' FNL, 2590' FEL SEC 15
16,178.87	7,493.00	6,478.67	3,158.39	Start 91.93 hold at 16178.87 MD
16,270.80	7,493.00	6,570.60	3,158.11	BHL-16270.80'/7493' MD/TVD, 370' FNL, 2590' FEL SEC 15