

# **MALLARD EXPLORATION**

**WELD COUNTY, COLORADO (NAD 83)**

**NE NW SEC. 21 T8N R60W 6th P.M.**

**GOLDENEYE FED 21-1HC**

**ORIGINAL WELLBORE**

**11 July, 2019**

**Plan: PROPOSAL #2**



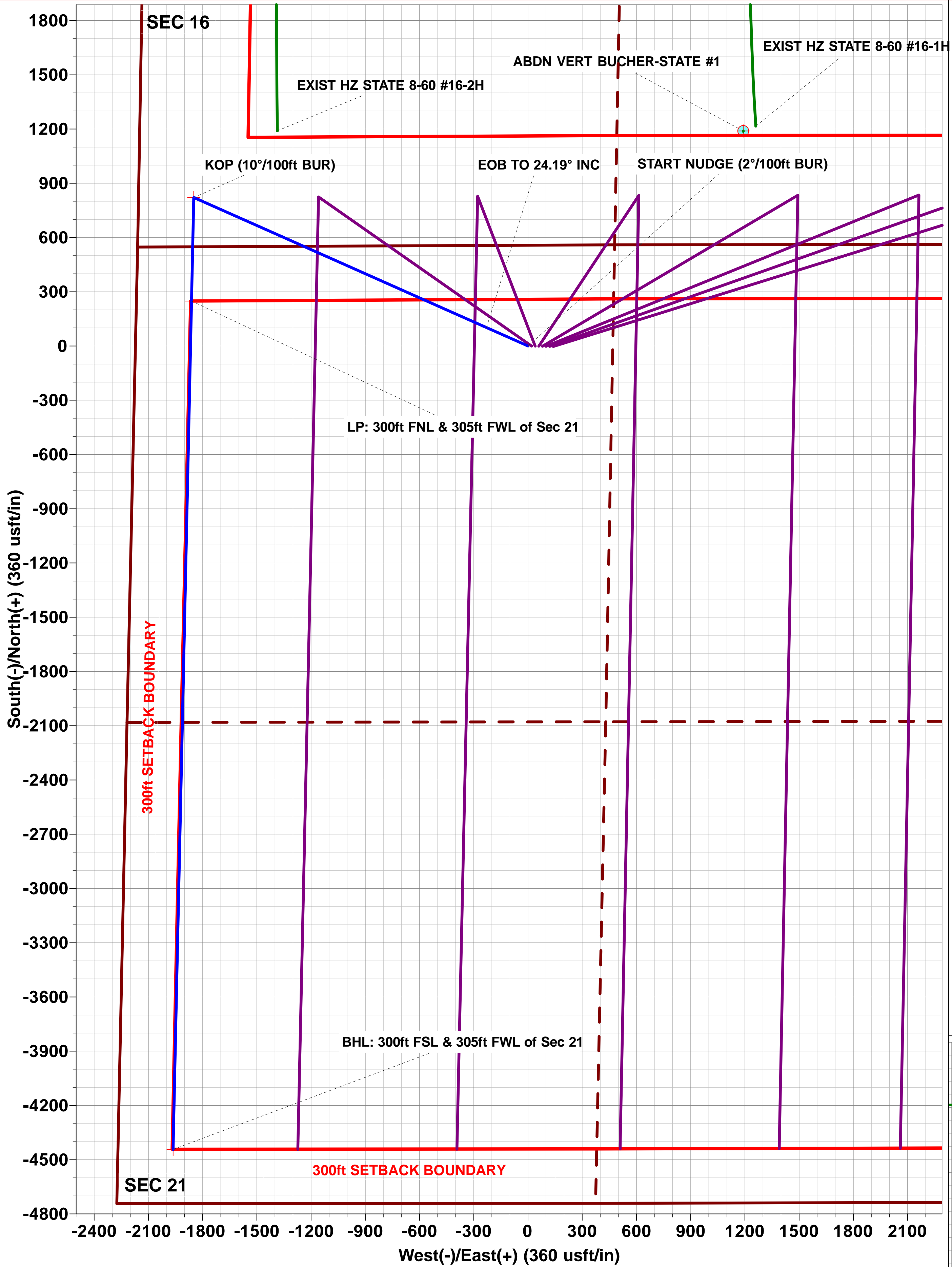
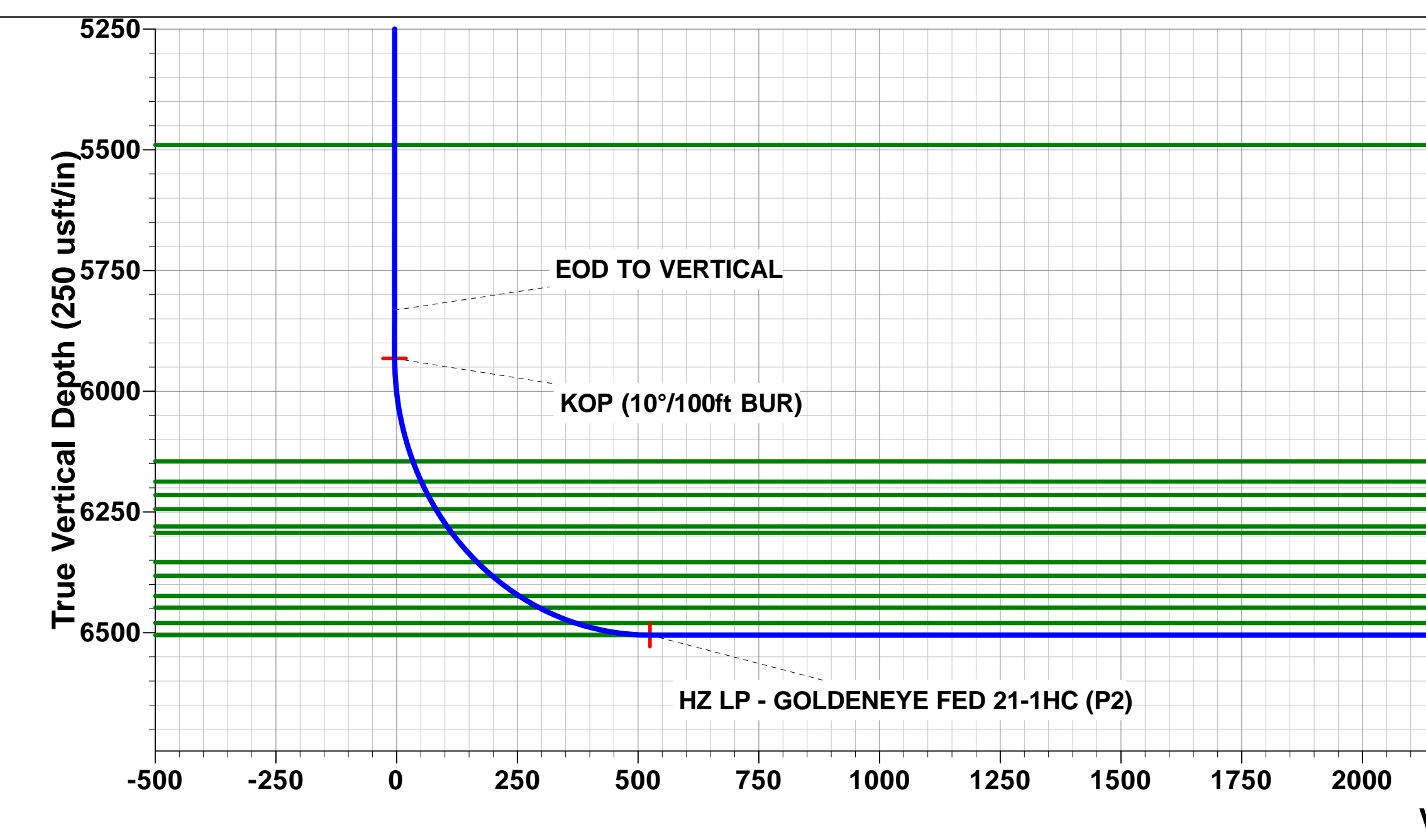
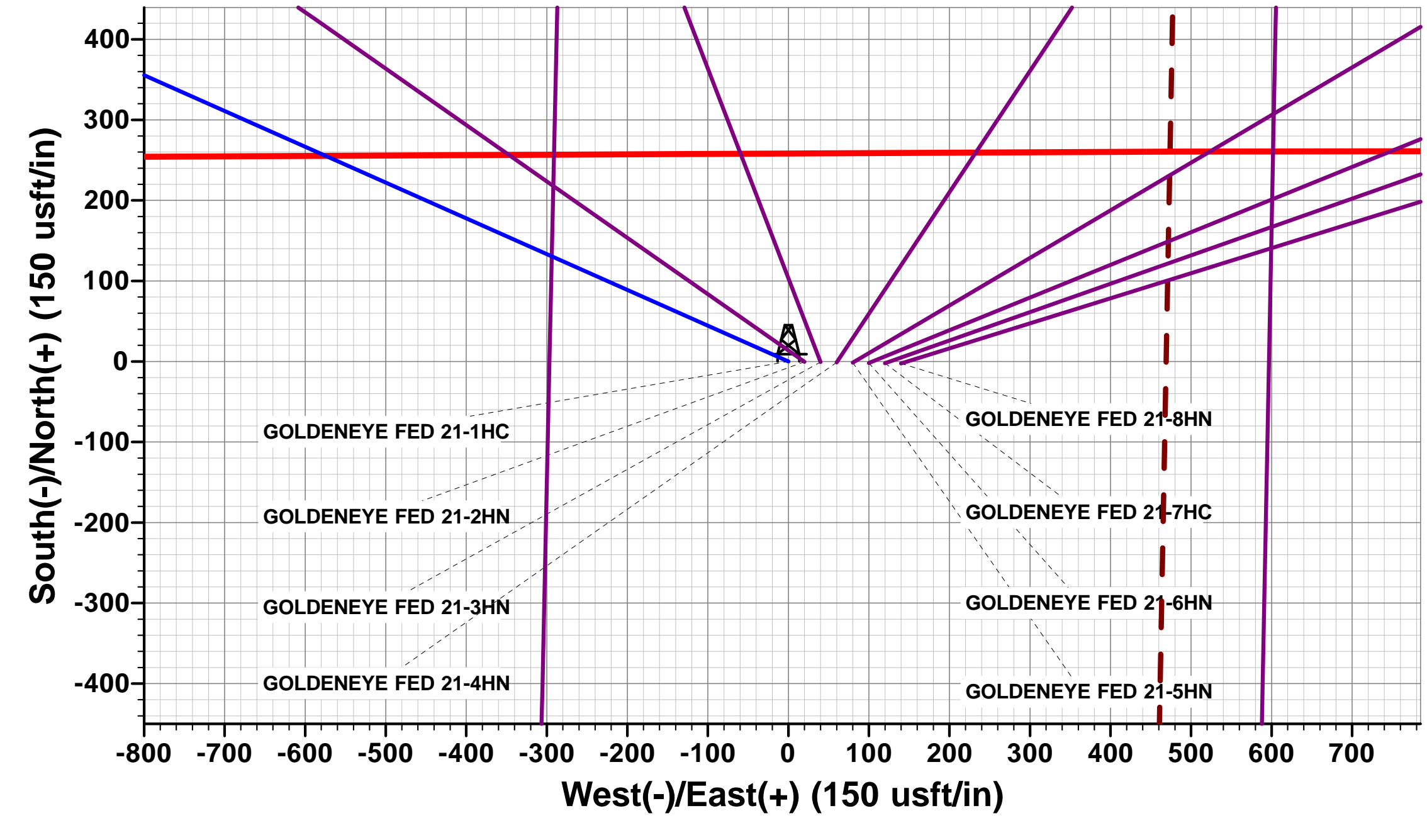
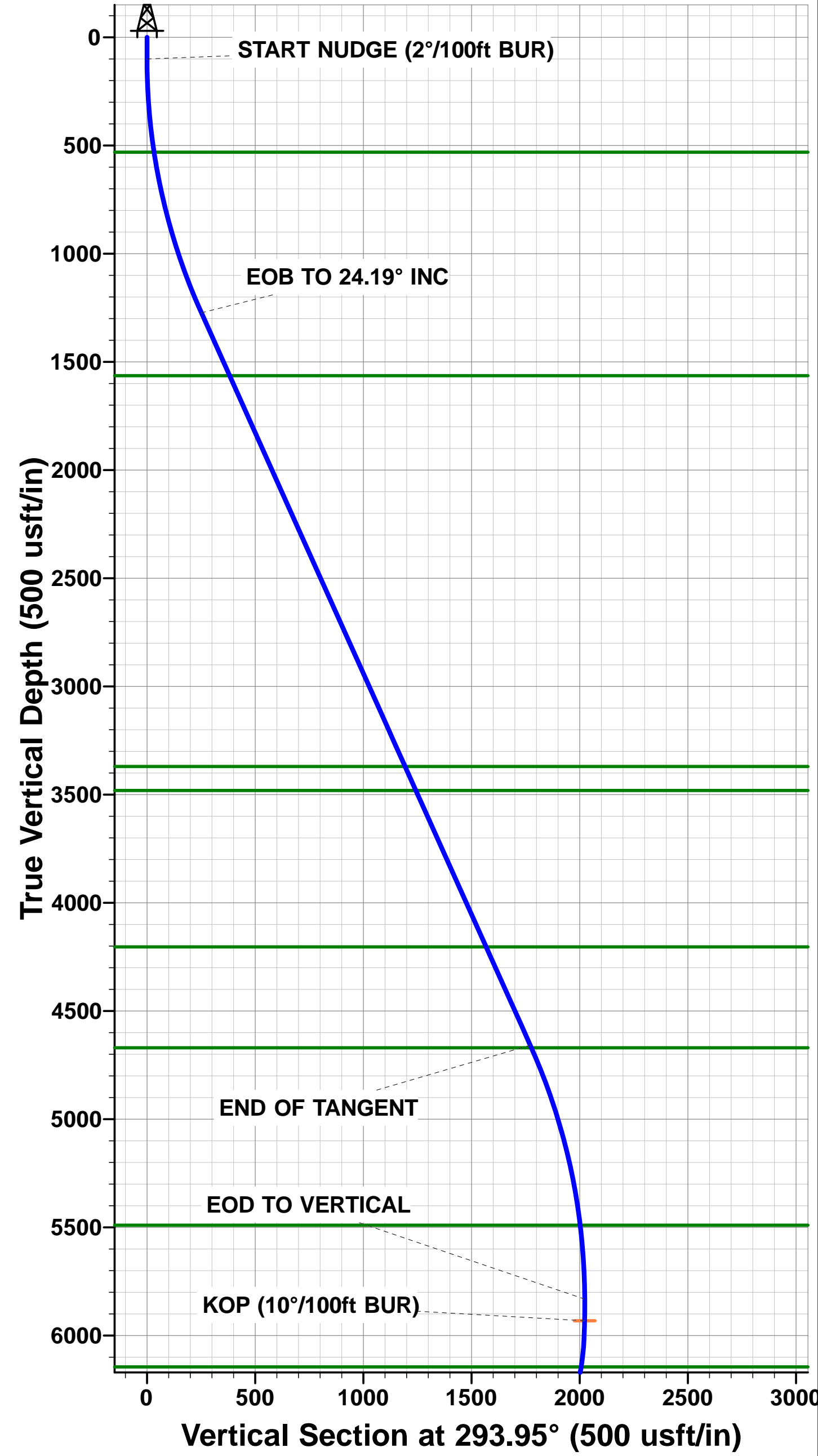


Project: WELD COUNTY, COLORADO (NAD 83)  
Site: NE NW SEC. 21 T8N R60W 6th P.M.  
Well: GOLDENEYE FED 21-1HC  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL #2

ANNOTATIONS										
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Dep	Annotation		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL: 557ft FNL & 2172ft FWL of Sec 21		
100.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	START NUDGE (2°/100ft BUR)		
1273.68	1309.28	24.19	293.95	102.10	-229.80	-0.50	251.46	EOB TO 24.19° INC		
4658.36	5019.63	24.19	293.95	719.28	-1618.98	-3.52	1771.57	END OF TANGENT		
5832.04	6228.91	0.00	0.00	821.37	-1848.78	-4.02	2023.03	EOD TO VERTICAL		
5932.04	6328.91	0.00	0.00	821.37	-1848.78	-4.02	2023.03	KOP (10°/100ft BUR)		
6505.00	7228.91	90.00	181.25	248.55	-1861.28	524.98	2595.98	LP: 300ft FNL & 305ft FWL of Sec 21		
6505.00	11921.81	90.00	181.25	-4443.24	-1963.48	4857.74	7288.89	BHL: 300ft FSL & 305ft FWL of Sec 21		

PROPOSED LOCAL COORDINATES:  
  
SHL: 557ft FNL & 2172ft FWL Sec 21  
HZ LP: 300ft FNL & 305ft FWL Sec 21  
BHL: 300ft FSL & 305ft FWL of Sec 21

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - GOLDENEYE FED 21-1HC (P2)	5932.04	821.37	-1848.78	40.655805	-104.104797
HZ LP - GOLDENEYE FED 21-1HC (P2)	6505.00	248.55	-1861.28	40.654233	-104.104842
BHL - GOLDENEYE FED 21-1HC (P2)	6505.00	-4443.24	-1963.48	40.641355	-104.105209



# Planning Report



<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well GOLDENEYE FED 21-1HC
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB 20' @ 4957.00usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB 20' @ 4957.00usft
<b>Site:</b>	NE NW SEC. 21 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GOLDENEYE FED 21-1HC	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

<b>Project</b>	WELD COUNTY, COLORADO (NAD 83)		
<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		Using geodetic scale factor

<b>Site</b>	NE NW SEC. 21 T8N R60W 6th P.M.		
<b>Site Position:</b>		<b>Northing:</b>	1,484,003.48 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,387,339.89 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	1.10 ft
		<b>Latitude:</b>	40.653615
		<b>Longitude:</b>	-104.103964
		<b>Grid Convergence:</b>	0.90 °

<b>Well</b>	GOLDENEYE FED 21-1HC		
<b>Well Position</b>	<b>+N/-S</b>	-23.27 usft	<b>Northing:</b>
	<b>+E/-W</b>	1,617.67 usft	<b>Easting:</b>
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>
			<b>Latitude:</b>
			<b>Longitude:</b>
			<b>Ground Level:</b>

<b>Wellbore</b>	ORIGINAL WELLBORE				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	11/07/2019	7.65	67.10	52,354

<b>Design</b>	PROPOSAL #2			
<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>
	6,505.00	0.00	0.00	203.84

<b>Plan Sections</b>											
MD (usft)	Inc (°)	Azi (°)	Vertical Depth	SS (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100usf)	Turn Rate (°/100usf)	TFO (°)	Target
0.00	0.00	0.00	0.00	-4,957.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	-4,857.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,309.28	24.19	293.95	1,273.68	-3,683.32	102.10	-229.80	2.00	2.00	0.00	293.95	
5,019.63	24.19	293.95	4,658.36	-298.64	719.27	-1,618.98	0.00	0.00	0.00	0.00	
6,228.91	0.00	0.00	5,832.04	875.04	821.37	-1,848.78	2.00	-2.00	0.00	180.00	
6,328.91	0.00	0.00	5,932.04	975.04	821.37	-1,848.78	0.00	0.00	0.00	0.00	KOP - GOLDENEYE
7,228.91	90.00	181.25	6,505.00	1,548.00	248.55	-1,861.28	10.00	10.00	-19.86	181.25	HZ LP - GOLDENEYE
11,921.81	90.00	181.25	6,505.00	1,548.00	-4,443.24	-1,963.48	0.00	0.00	0.00	-78.63	BHL - GOLDENEYE

# Planning Report



<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well GOLDENEYE FED 21-1HC
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB 20' @ 4957.00usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB 20' @ 4957.00usft
<b>Site:</b>	NE NW SEC. 21 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GOLDENEYE FED 21-1HC	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
<b>SHL: 557ft FNL &amp; 2172ft FWL of Sec 21</b>										
0.00	0.00	0.00	0.00	4,957.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>START NUDGE (2°/100ft BUR)</b>										
100.00	0.00	0.00	100.00	4,857.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	2.00	293.95	199.98	4,757.02	0.71	-1.59	0.00	2.00	2.00	0.00
300.00	4.00	293.95	299.84	4,657.16	2.83	-6.38	-0.01	2.00	2.00	0.00
400.00	6.00	293.95	399.45	4,557.55	6.37	-14.34	-0.03	2.00	2.00	0.00
500.00	8.00	293.95	498.70	4,458.30	11.32	-25.48	-0.06	2.00	2.00	0.00
<b>Fox Hills Base</b>										
532.64	8.65	293.95	531.00	4,426.00	13.24	-29.80	-0.06	2.00	2.00	0.00
600.00	10.00	293.95	597.47	4,359.53	17.67	-39.77	-0.09	2.00	2.00	0.00
700.00	12.00	293.95	695.62	4,261.38	25.42	-57.21	-0.12	2.00	2.00	0.00
800.00	14.00	293.95	793.06	4,163.94	34.55	-77.77	-0.17	2.00	2.00	0.00
900.00	16.00	293.95	889.64	4,067.36	45.06	-101.42	-0.22	2.00	2.00	0.00
1,000.00	18.00	293.95	985.27	3,971.73	56.93	-128.14	-0.28	2.00	2.00	0.00
1,100.00	20.00	293.95	1,079.82	3,877.18	70.15	-157.89	-0.34	2.00	2.00	0.00
1,200.00	22.00	293.95	1,173.17	3,783.83	84.69	-190.64	-0.41	2.00	2.00	0.00
1,300.00	24.00	293.95	1,265.21	3,691.79	100.56	-226.34	-0.49	2.00	2.00	0.00
<b>EOB TO 24.19° INC</b>										
1,309.28	24.19	293.95	1,273.68	3,683.32	102.10	-229.80	-0.50	2.00	2.00	0.00
1,400.00	24.19	293.95	1,356.44	3,600.56	117.19	-263.77	-0.57	0.00	0.00	0.00
1,500.00	24.19	293.95	1,447.67	3,509.33	133.82	-301.21	-0.65	0.00	0.00	0.00
1,600.00	24.19	293.95	1,538.89	3,418.11	150.45	-338.65	-0.74	0.00	0.00	0.00
<b>Pierre Shale Top</b>										
1,627.53	24.19	293.95	1,564.00	3,393.00	155.03	-348.96	-0.76	0.00	0.00	0.00
1,700.00	24.19	293.95	1,630.11	3,326.89	167.09	-376.09	-0.82	0.00	0.00	0.00
1,800.00	24.19	293.95	1,721.33	3,235.67	183.72	-413.53	-0.90	0.00	0.00	0.00
1,900.00	24.19	293.95	1,812.55	3,144.45	200.36	-450.97	-0.98	0.00	0.00	0.00
2,000.00	24.19	293.95	1,903.78	3,053.22	216.99	-488.41	-1.06	0.00	0.00	0.00
2,100.00	24.19	293.95	1,995.00	2,962.00	233.62	-525.85	-1.14	0.00	0.00	0.00
2,200.00	24.19	293.95	2,086.22	2,870.78	250.26	-563.29	-1.22	0.00	0.00	0.00
2,300.00	24.19	293.95	2,177.44	2,779.56	266.89	-600.73	-1.30	0.00	0.00	0.00
2,400.00	24.19	293.95	2,268.67	2,688.33	283.53	-638.17	-1.39	0.00	0.00	0.00
2,500.00	24.19	293.95	2,359.89	2,597.11	300.16	-675.62	-1.47	0.00	0.00	0.00
2,600.00	24.19	293.95	2,451.11	2,505.89	316.79	-713.06	-1.55	0.00	0.00	0.00
2,700.00	24.19	293.95	2,542.33	2,414.67	333.43	-750.50	-1.63	0.00	0.00	0.00
2,800.00	24.19	293.95	2,633.56	2,323.44	350.06	-787.94	-1.71	0.00	0.00	0.00
2,900.00	24.19	293.95	2,724.78	2,232.22	366.70	-825.38	-1.79	0.00	0.00	0.00
3,000.00	24.19	293.95	2,816.00	2,141.00	383.33	-862.82	-1.87	0.00	0.00	0.00
3,100.00	24.19	293.95	2,907.22	2,049.78	399.96	-900.26	-1.95	0.00	0.00	0.00
3,200.00	24.19	293.95	2,998.45	1,958.55	416.60	-937.70	-2.04	0.00	0.00	0.00
3,300.00	24.19	293.95	3,089.67	1,867.33	433.23	-975.14	-2.12	0.00	0.00	0.00
3,400.00	24.19	293.95	3,180.89	1,776.11	449.87	-1,012.58	-2.20	0.00	0.00	0.00
3,500.00	24.19	293.95	3,272.11	1,684.89	466.50	-1,050.02	-2.28	0.00	0.00	0.00
3,600.00	24.19	293.95	3,363.34	1,593.66	483.13	-1,087.46	-2.36	0.00	0.00	0.00
<b>Richard Sandstone</b>										
3,607.31	24.19	293.95	3,370.00	1,587.00	484.35	-1,090.20	-2.37	0.00	0.00	0.00
3,700.00	24.19	293.95	3,454.56	1,502.44	499.77	-1,124.90	-2.44	0.00	0.00	0.00
<b>Parkman Sandstone</b>										
3,728.99	24.19	293.95	3,481.00	1,476.00	504.59	-1,135.75	-2.47	0.00	0.00	0.00
3,800.00	24.19	293.95	3,545.78	1,411.22	516.40	-1,162.34	-2.52	0.00	0.00	0.00
3,900.00	24.19	293.95	3,637.00	1,320.00	533.04	-1,199.78	-2.61	0.00	0.00	0.00
4,000.00	24.19	293.95	3,728.22	1,228.78	549.67	-1,237.22	-2.69	0.00	0.00	0.00

# Planning Report



<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well GOLDENEYE FED 21-1HC
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB 20' @ 4957.00usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB 20' @ 4957.00usft
<b>Site:</b>	NE NW SEC. 21 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GOLDENEYE FED 21-1HC	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,100.00	24.19	293.95	3,819.45	1,137.55	566.30	-1,274.66	-2.77	0.00	0.00	0.00
4,200.00	24.19	293.95	3,910.67	1,046.33	582.94	-1,312.10	-2.85	0.00	0.00	0.00
4,300.00	24.19	293.95	4,001.89	955.11	599.57	-1,349.54	-2.93	0.00	0.00	0.00
4,400.00	24.19	293.95	4,093.11	863.89	616.21	-1,386.98	-3.01	0.00	0.00	0.00
4,500.00	24.19	293.95	4,184.34	772.66	632.84	-1,424.43	-3.09	0.00	0.00	0.00
<b>Sussex Sandstone</b>										
4,521.56	24.19	293.95	4,204.00	753.00	636.42	-1,432.50	-3.11	0.00	0.00	0.00
4,600.00	24.19	293.95	4,275.56	681.44	649.47	-1,461.87	-3.17	0.00	0.00	0.00
4,700.00	24.19	293.95	4,366.78	590.22	666.11	-1,499.31	-3.26	0.00	0.00	0.00
4,800.00	24.19	293.95	4,458.00	499.00	682.74	-1,536.75	-3.34	0.00	0.00	0.00
4,900.00	24.19	293.95	4,549.23	407.77	699.37	-1,574.19	-3.42	0.00	0.00	0.00
5,000.00	24.19	293.95	4,640.45	316.55	716.01	-1,611.63	-3.50	0.00	0.00	0.00
<b>END OF TANGENT</b>										
5,019.63	24.19	293.95	4,658.36	298.64	719.27	-1,618.98	-3.52	0.00	0.00	0.00
<b>Shannon Sandstone</b>										
5,032.38	23.93	293.95	4,670.00	287.00	721.38	-1,623.73	-3.53	2.00	-2.00	0.00
5,100.00	22.58	293.95	4,732.12	224.88	732.22	-1,648.12	-3.58	2.00	-2.00	0.00
5,200.00	20.58	293.95	4,825.11	131.89	747.15	-1,681.73	-3.65	2.00	-2.00	0.00
5,300.00	18.58	293.95	4,919.32	37.68	760.76	-1,712.35	-3.72	2.00	-2.00	0.00
5,400.00	16.58	293.95	5,014.65	-57.65	773.02	-1,739.95	-3.78	2.00	-2.00	0.00
5,500.00	14.58	293.95	5,110.97	-153.97	783.92	-1,764.49	-3.83	2.00	-2.00	0.00
5,600.00	12.58	293.95	5,208.17	-251.17	793.45	-1,785.95	-3.88	2.00	-2.00	0.00
5,700.00	10.58	293.95	5,306.13	-349.13	801.60	-1,804.29	-3.92	2.00	-2.00	0.00
5,800.00	8.58	293.95	5,404.73	-447.73	808.36	-1,819.49	-3.95	2.00	-2.00	0.00
<b>TeePee Buttes</b>										
5,886.05	6.86	293.95	5,490.00	-533.00	813.05	-1,830.05	-3.97	2.00	-2.00	0.00
5,900.00	6.58	293.95	5,503.85	-546.85	813.71	-1,831.54	-3.98	2.00	-2.00	0.00
6,000.00	4.58	293.95	5,603.38	-646.38	817.66	-1,840.43	-4.00	2.00	-2.00	0.00
6,100.00	2.58	293.95	5,703.18	-746.18	820.19	-1,846.13	-4.01	2.00	-2.00	0.00
6,200.00	0.58	293.95	5,803.13	-846.13	821.31	-1,848.65	-4.01	2.00	-2.00	0.00
<b>EOD TO VERTICAL</b>										
6,228.91	0.00	0.00	5,832.04	-875.04	821.37	-1,848.78	-4.01	2.00	-2.00	0.00
6,300.00	0.00	0.00	5,903.13	-946.13	821.37	-1,848.78	-4.01	0.00	0.00	0.00
<b>KOP (10°/100ft BUR)</b>										
6,328.91	0.00	0.00	5,932.04	-975.04	821.37	-1,848.78	-4.01	0.00	0.00	0.00
6,400.00	7.11	181.25	6,002.95	-1,045.95	816.97	-1,848.88	0.05	10.00	10.00	0.00
6,500.00	17.11	181.25	6,100.60	-1,143.60	796.02	-1,849.33	19.40	10.00	10.00	0.00
<b>Sharon Springs</b>										
6,547.10	21.82	181.25	6,145.00	-1,188.00	780.33	-1,849.68	33.88	10.00	10.00	0.00
<b>Niobrara Top</b>										
6,593.13	26.42	181.25	6,187.00	-1,230.00	761.53	-1,850.09	51.25	10.00	10.00	0.00
6,600.00	27.11	181.25	6,193.13	-1,236.13	758.44	-1,850.15	54.10	10.00	10.00	0.00
<b>Niobrara A Chalk</b>										
6,624.85	29.59	181.25	6,215.00	-1,258.00	746.64	-1,850.41	65.00	10.00	10.00	0.00
<b>Niobrara A Chalk Base</b>										
6,658.79	32.99	181.25	6,244.00	-1,287.00	729.02	-1,850.79	81.27	10.00	10.00	0.00
6,700.00	37.11	181.25	6,277.73	-1,320.73	705.37	-1,851.31	103.11	10.00	10.00	0.00
<b>Niobrara B1 Chalk Top</b>										
6,702.86	37.39	181.25	6,280.00	-1,323.00	703.64	-1,851.35	104.71	10.00	10.00	0.00
<b>Niobrara B1 Chalk Base</b>										
6,719.40	39.05	181.25	6,293.00	-1,336.00	693.40	-1,851.57	114.16	10.00	10.00	0.00
6,800.00	47.11	181.25	6,351.82	-1,394.82	638.41	-1,852.77	164.94	10.00	10.00	0.00



# Planning Report



<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well GOLDENEYE FED 21-1HC
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB 20' @ 4957.00usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB 20' @ 4957.00usft
<b>Site:</b>	NE NW SEC. 21 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GOLDENEYE FED 21-1HC	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

## Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
<b>Niobrara B2 Chalk Base</b>										
6,803.21	47.43	181.25	6,354.00	-1,397.00	636.05	-1,852.82	167.12	10.00	10.00	0.00
<b>Niobrara C Chalk Top</b>										
6,846.42	51.75	181.25	6,382.00	-1,425.00	603.17	-1,853.54	197.49	10.00	10.00	0.00
6,900.00	57.11	181.25	6,413.16	-1,456.16	559.61	-1,854.49	237.71	10.00	10.00	0.00
<b>Niobrara C Chalk Base</b>										
6,920.54	59.16	181.25	6,424.00	-1,467.00	542.17	-1,854.87	253.82	10.00	10.00	0.00
<b>Niobrara D Chalk Top</b>										
6,971.17	64.23	181.25	6,448.00	-1,491.00	497.62	-1,855.84	294.96	10.00	10.00	0.00
7,000.00	67.11	181.25	6,459.88	-1,502.88	471.36	-1,856.42	319.21	10.00	10.00	0.00
<b>Ft. Hays</b>										
7,059.03	73.01	181.25	6,480.00	-1,523.00	415.91	-1,857.62	370.43	10.00	10.00	0.00
7,100.00	77.11	181.25	6,490.56	-1,533.56	376.34	-1,858.49	406.96	10.00	10.00	0.00
7,200.00	87.11	181.25	6,504.27	-1,547.27	277.44	-1,860.65	498.30	10.00	10.00	0.00
<b>LP: 300ft FNL &amp; 305ft FWL of Sec 21 - Codell (Target)</b>										
7,228.91	90.00	181.25	6,505.00	-1,548.00	248.55	-1,861.28	524.98	10.00	10.00	0.00
7,300.00	90.00	181.25	6,505.00	-1,548.00	177.47	-1,862.83	590.62	0.00	0.00	0.00
7,400.00	90.00	181.25	6,505.00	-1,548.00	77.50	-1,865.01	682.94	0.00	0.00	0.00
7,500.00	90.00	181.25	6,505.00	-1,548.00	-22.48	-1,867.19	775.27	0.00	0.00	0.00
7,600.00	90.00	181.25	6,505.00	-1,548.00	-122.45	-1,869.37	867.60	0.00	0.00	0.00
7,700.00	90.00	181.25	6,505.00	-1,548.00	-222.43	-1,871.55	959.92	0.00	0.00	0.00
7,800.00	90.00	181.25	6,505.00	-1,548.00	-322.41	-1,873.73	1,052.25	0.00	0.00	0.00
7,900.00	90.00	181.25	6,505.00	-1,548.00	-422.38	-1,875.91	1,144.58	0.00	0.00	0.00
8,000.00	90.00	181.25	6,505.00	-1,548.00	-522.36	-1,878.09	1,236.90	0.00	0.00	0.00
8,100.00	90.00	181.25	6,505.00	-1,548.00	-622.33	-1,880.27	1,329.23	0.00	0.00	0.00
8,200.00	90.00	181.25	6,505.00	-1,548.00	-722.31	-1,882.45	1,421.56	0.00	0.00	0.00
8,300.00	90.00	181.25	6,505.00	-1,548.00	-822.29	-1,884.63	1,513.88	0.00	0.00	0.00
8,400.00	90.00	181.25	6,505.01	-1,548.01	-922.26	-1,886.81	1,606.21	0.00	0.00	0.00
8,500.00	90.00	181.25	6,505.01	-1,548.01	-1,022.24	-1,888.99	1,698.54	0.00	0.00	0.00
8,600.00	90.00	181.25	6,505.01	-1,548.01	-1,122.22	-1,891.17	1,790.86	0.00	0.00	0.00
8,700.00	90.00	181.25	6,505.01	-1,548.01	-1,222.19	-1,893.34	1,883.19	0.00	0.00	0.00
8,800.00	90.00	181.25	6,505.01	-1,548.01	-1,322.17	-1,895.52	1,975.51	0.00	0.00	0.00
8,900.00	90.00	181.25	6,505.01	-1,548.01	-1,422.14	-1,897.70	2,067.84	0.00	0.00	0.00
9,000.00	90.00	181.25	6,505.01	-1,548.01	-1,522.12	-1,899.88	2,160.17	0.00	0.00	0.00
9,100.00	90.00	181.25	6,505.01	-1,548.01	-1,622.10	-1,902.06	2,252.49	0.00	0.00	0.00
9,200.00	90.00	181.25	6,505.01	-1,548.01	-1,722.07	-1,904.24	2,344.82	0.00	0.00	0.00
9,300.00	90.00	181.25	6,505.01	-1,548.01	-1,822.05	-1,906.42	2,437.14	0.00	0.00	0.00
9,400.00	90.00	181.25	6,505.01	-1,548.01	-1,922.03	-1,908.59	2,529.47	0.00	0.00	0.00
9,500.00	90.00	181.25	6,505.01	-1,548.01	-2,022.00	-1,910.77	2,621.80	0.00	0.00	0.00
9,600.00	90.00	181.25	6,505.01	-1,548.01	-2,121.98	-1,912.95	2,714.12	0.00	0.00	0.00
9,700.00	90.00	181.25	6,505.01	-1,548.01	-2,221.96	-1,915.13	2,806.45	0.00	0.00	0.00
9,800.00	90.00	181.25	6,505.01	-1,548.01	-2,321.93	-1,917.31	2,898.77	0.00	0.00	0.00
9,900.00	90.00	181.25	6,505.01	-1,548.01	-2,421.91	-1,919.48	2,991.10	0.00	0.00	0.00
10,000.00	90.00	181.25	6,505.01	-1,548.01	-2,521.88	-1,921.66	3,083.43	0.00	0.00	0.00
10,100.00	90.00	181.25	6,505.01	-1,548.01	-2,621.86	-1,923.84	3,175.75	0.00	0.00	0.00
10,200.00	90.00	181.25	6,505.01	-1,548.01	-2,721.84	-1,926.02	3,268.08	0.00	0.00	0.00
10,300.00	90.00	181.25	6,505.01	-1,548.01	-2,821.81	-1,928.19	3,360.40	0.00	0.00	0.00
10,400.00	90.00	181.25	6,505.01	-1,548.01	-2,921.79	-1,930.37	3,452.73	0.00	0.00	0.00
10,500.00	90.00	181.25	6,505.01	-1,548.01	-3,021.77	-1,932.55	3,545.05	0.00	0.00	0.00
10,600.00	90.00	181.25	6,505.01	-1,548.01	-3,121.74	-1,934.72	3,637.38	0.00	0.00	0.00
10,700.00	90.00	181.25	6,505.01	-1,548.01	-3,221.72	-1,936.90	3,729.70	0.00	0.00	0.00
10,800.00	90.00	181.25	6,505.01	-1,548.01	-3,321.69	-1,939.08	3,822.03	0.00	0.00	0.00
10,900.00	90.00	181.25	6,505.00	-1,548.00	-3,421.67	-1,941.25	3,914.35	0.00	0.00	0.00

# Planning Report



<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well GOLDENEYE FED 21-1HC
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB 20' @ 4957.00usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB 20' @ 4957.00usft
<b>Site:</b>	NE NW SEC. 21 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GOLDENEYE FED 21-1HC	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,000.00	90.00	181.25	6,505.00	-1,548.00	-3,521.65	-1,943.43	4,006.68	0.00	0.00	0.00
11,100.00	90.00	181.25	6,505.00	-1,548.00	-3,621.62	-1,945.60	4,099.00	0.00	0.00	0.00
11,200.00	90.00	181.25	6,505.00	-1,548.00	-3,721.60	-1,947.78	4,191.33	0.00	0.00	0.00
11,300.00	90.00	181.25	6,505.00	-1,548.00	-3,821.58	-1,949.96	4,283.65	0.00	0.00	0.00
11,400.00	90.00	181.25	6,505.00	-1,548.00	-3,921.55	-1,952.13	4,375.98	0.00	0.00	0.00
11,500.00	90.00	181.25	6,505.00	-1,548.00	-4,021.53	-1,954.31	4,468.30	0.00	0.00	0.00
11,600.00	90.00	181.25	6,505.00	-1,548.00	-4,121.51	-1,956.48	4,560.63	0.00	0.00	0.00
11,700.00	90.00	181.25	6,505.00	-1,548.00	-4,221.48	-1,958.66	4,652.95	0.00	0.00	0.00
11,800.00	90.00	181.25	6,505.00	-1,548.00	-4,321.46	-1,960.83	4,745.28	0.00	0.00	0.00
11,900.00	90.00	181.25	6,505.00	-1,548.00	-4,421.43	-1,963.01	4,837.60	0.00	0.00	0.00
<b>BHL: 300ft FSL &amp; 305ft FWL of Sec 21</b>										
<b>11,921.81</b>	<b>90.00</b>	<b>181.25</b>	<b>6,505.00</b>	<b>-1,548.00</b>	<b>-4,443.24</b>	<b>-1,963.48</b>	<b>4,857.74</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Formations						
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
532.64	531.00	Fox Hills Base				
1,627.53	1,564.00	Pierre Shale Top				
3,607.31	3,370.00	Richard Sandstone				
3,728.99	3,481.00	Parkman Sandstone				
4,521.56	4,204.00	Sussex Sandstone				
5,032.38	4,670.00	Shannon Sandstone				
5,886.05	5,490.00	TeePee Buttes				
6,547.10	6,145.00	Sharon Springs				
6,593.13	6,187.00	Niobrara Top				
6,624.85	6,215.00	Niobrara A Chalk				
6,658.79	6,244.00	Niobrara A Chalk Base				
6,702.86	6,280.00	Niobrara B1 Chalk Top				
6,719.40	6,293.00	Niobrara B1 Chalk Base				
6,803.21	6,354.00	Niobrara B2 Chalk Base				
6,846.42	6,382.00	Niobrara C Chalk Top				
6,920.54	6,424.00	Niobrara C Chalk Base				
6,971.17	6,448.00	Niobrara D Chalk Top				
7,059.03	6,480.00	Ft. Hays				
7,228.91	6,505.00	Codell (Target)				

# Planning Report



<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well GOLDENEYE FED 21-1HC
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB 20' @ 4957.00usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB 20' @ 4957.00usft
<b>Site:</b>	NE NW SEC. 21 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GOLDENEYE FED 21-1HC	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.00	0.00	0.00	0.00	SHL: 557ft FNL & 2172ft FWL of Sec 21
100.00	100.00	0.00	0.00	START NUDGE (2°/100ft BUR)
1,309.28	1,273.68	102.10	-229.80	EOB TO 24.19° INC
5,019.63	4,658.36	719.27	-1,618.98	END OF TANGENT
6,228.91	5,832.04	821.37	-1,848.78	EOD TO VERTICAL
6,328.91	5,932.04	821.37	-1,848.78	KOP (10°/100ft BUR)
7,228.91	6,505.00	248.55	-1,861.28	LP: 300ft FNL & 305ft FWL of Sec 21
11,921.81	6,505.00	-4,443.24	-1,963.48	BHL: 300ft FSL & 305ft FWL of Sec 21