

MALLARD EXPLORATION

WELD COUNTY, COLORADO (NAD 83)

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

GOLDENEYE FED 21-16HN

ORIGINAL WELLBORE

07 May, 2018

Plan: PROPOSAL #1





Project: WELD COUNTY, COLORADO (NAD 83)
Site: NE NW SEC. 21 T8N R60W 6th P.M.
Well: GOLDENEYE FED 21-16HN
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

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: 561ft FNL & 2312ft FWL of Sec 21		
100.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	START NUDGE (2.5"/100ft BUR)		
1224.65	1275.52	29.39	77.30	64.85	287.70	82.95	294.92	EOB TO 29.39° INC		
4521.39	5059.15	29.39	77.30	473.15	2098.96	605.16	2151.63	END OF TANGENT		
5646.04	6234.67	0.00	0.00	538.00	2386.66	688.11	2446.55	EOD TO VERTICAL		
5746.04	6334.67	0.00	0.00	538.00	2386.66	688.11	2446.55	KOP (10"/100ft BUR)		
6319.00	7234.67	90.00	181.12	-34.85	2375.46	1183.51	3019.50	HZ LP: 600ft FNL & 605ft FEL of Sec 21		
6319.00	11334.51	90.00	181.13	-4133.90	2295.09	4728.27	7119.34	BHL: 600ft FSL & 605ft FEL of Sec 21		

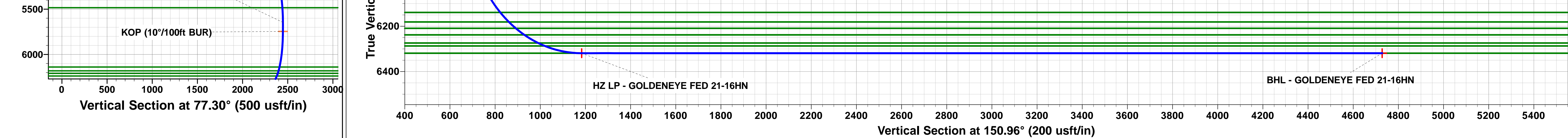
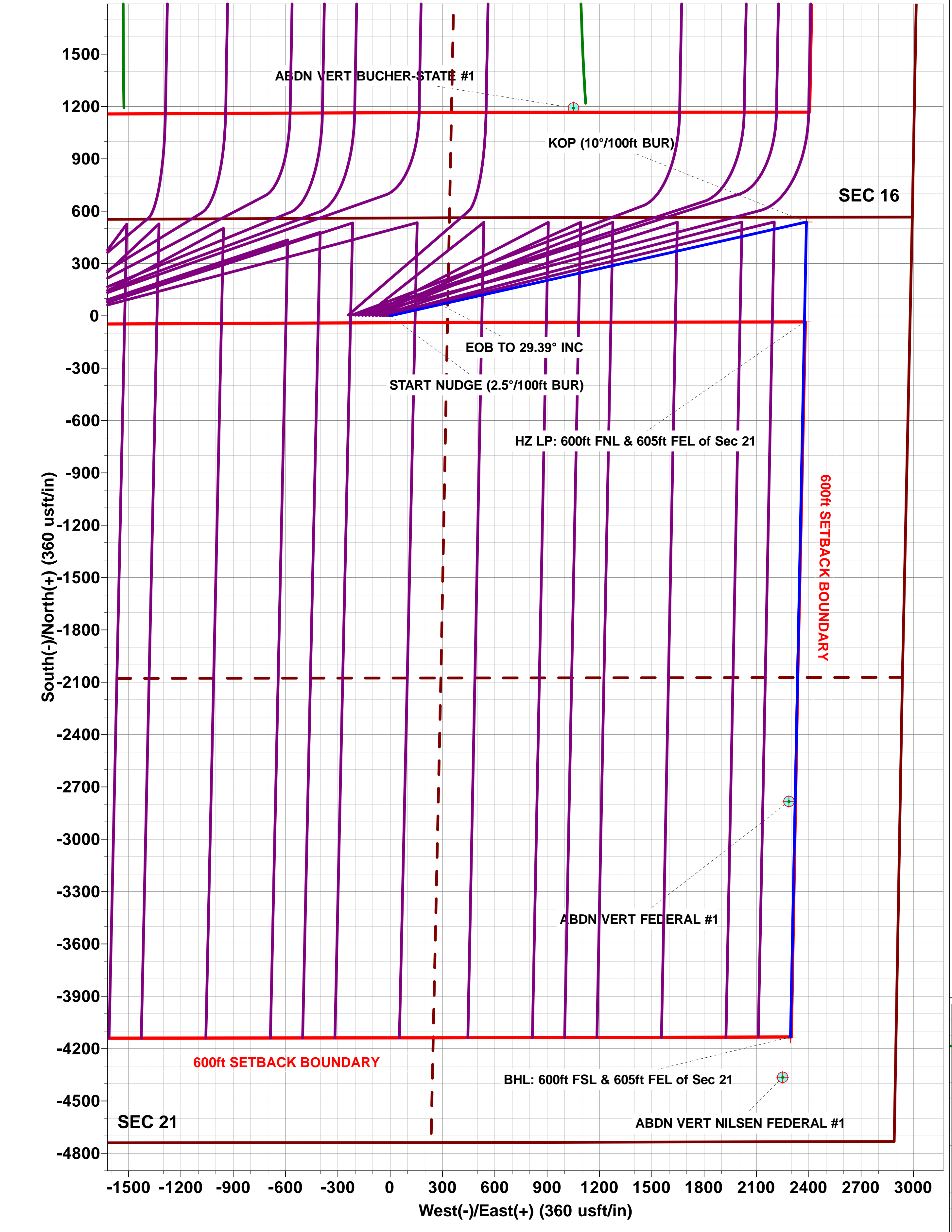
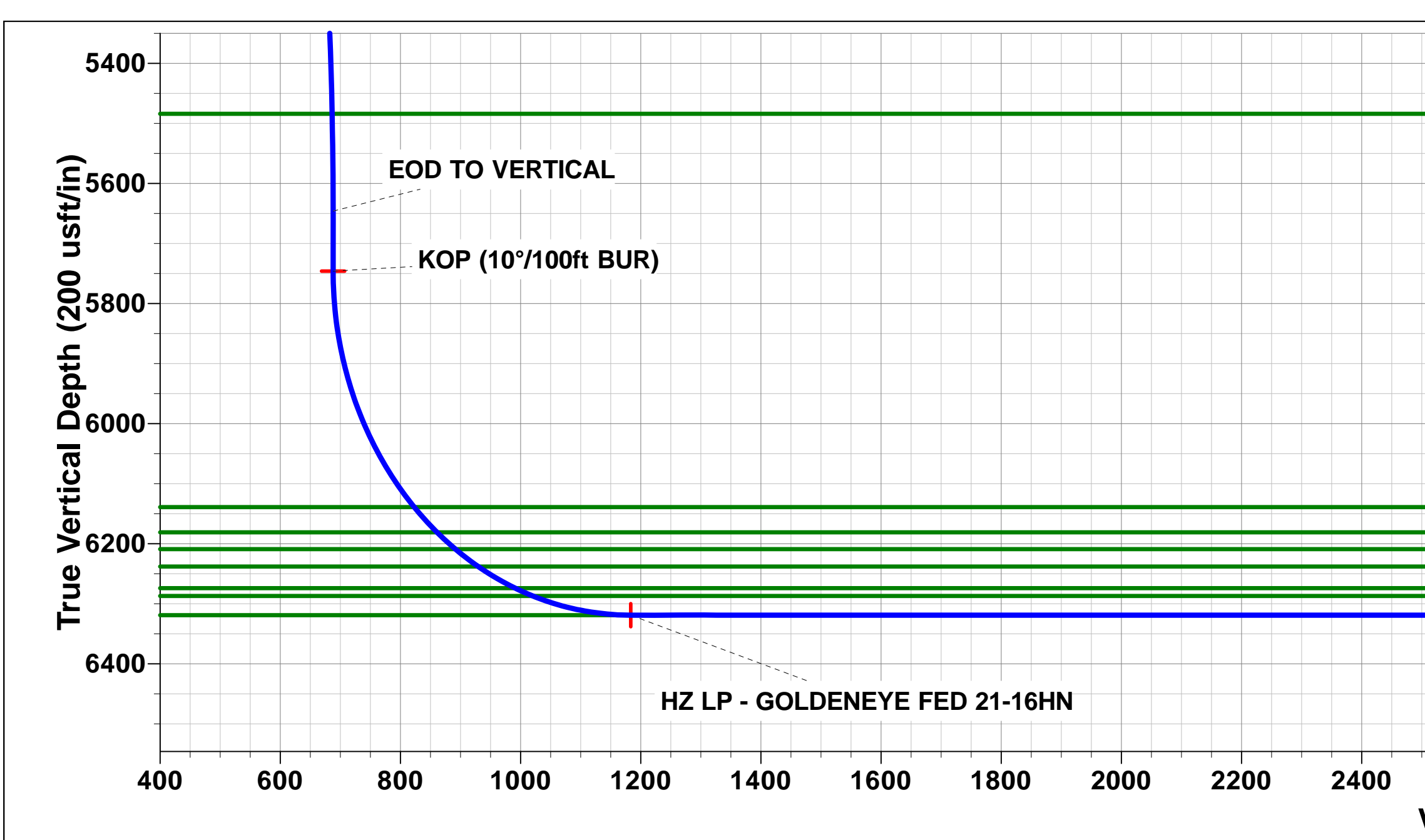
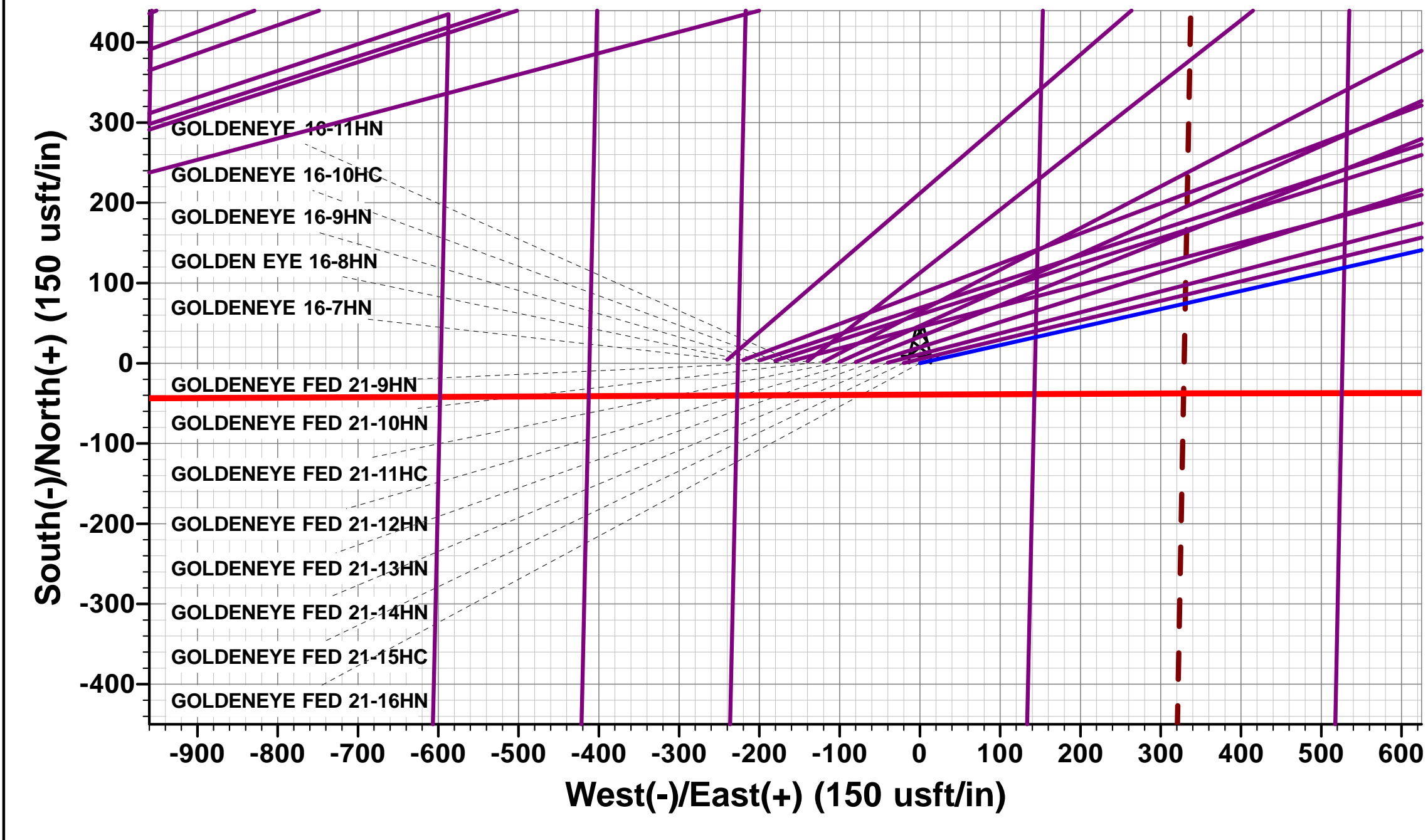
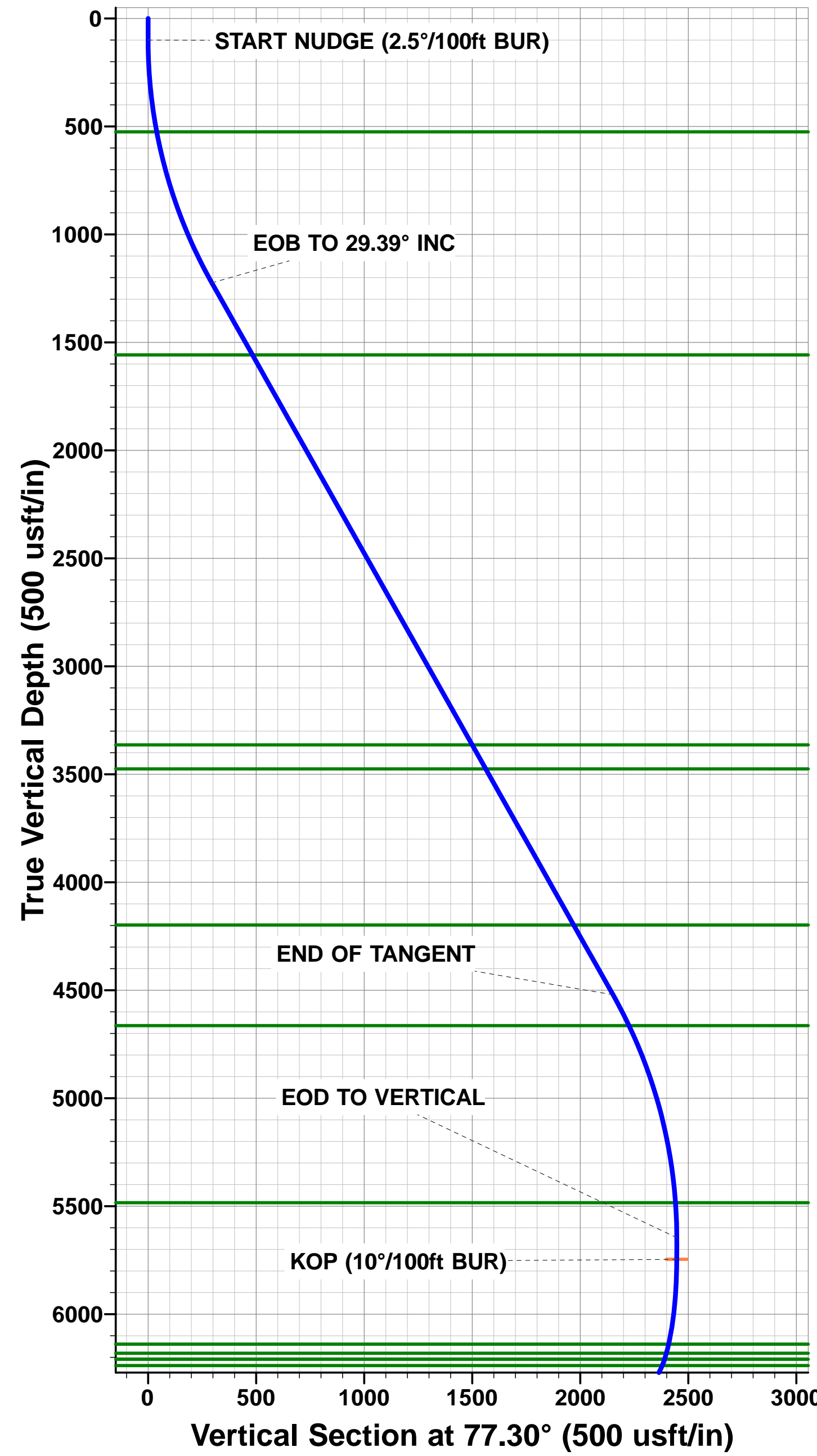
PROPOSED LOCAL COORDINATES:

SHL: 561ft FNL & 2312ft FWL Sec 21

HZ LP: 600ft FNL & 605ft FEL Sec 21

BHL: 600ft FSL & 605ft FEL of Sec 21

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - GOLDENEYE FED 21-16HN	5746.04	538.00	2386.66	40.655020	-104.089028
HZ LP - GOLDENEYE FED 21-16HN	6319.00	-34.85	2375.46	40.653448	-104.089069
BHL - GOLDENEYE FED 21-16HN	6319.00	-4133.90	2295.09	40.642197	-104.089360



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GOLDENEYE FED 21-16HN
Company:	MALLARD EXPLORATION	TVD Reference:	KB-EST @ 4951.00usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4951.00usft (Original Well Elev)
Site:	NE NW SEC. 21 T8N R60W 6th P.M.	North Reference:	True
Well:	GOLDENEYE FED 21-16HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Project	WELD COUNTY, COLORADO (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	NE NW SEC. 21 T8N R60W 6th P.M.		
Site Position:		Northing:	1,484,005.35 usft
From:	Lat/Long	Easting:	3,389,097.57 usft
Position Uncertainty:	0.00 usft	Slot Radius:	1.10000ft
		Latitude:	40.653544
		Longitude:	-104.097630
		Grid Convergence:	0.91 °

Well	GOLDENEYE FED 21-16HN		
Well Position	+N/-S	-0.01 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty		0.00 usft	Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	07/05/2018	7.78	67.13	52,489

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	150.96

Plan Sections											
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	-4,951.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	-4,851.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,275.52	29.39	77.30	1,224.65	-3,726.35	64.85	287.70	2.50	2.50	0.00	77.30	
5,059.15	29.39	77.30	4,521.39	-429.61	473.15	2,098.96	0.00	0.00	0.00	0.00	
6,234.67	0.00	0.00	5,646.04	695.04	538.00	2,386.66	2.50	-2.50	0.00	180.00	
6,334.67	0.00	0.00	5,746.04	795.04	538.00	2,386.66	0.00	0.00	0.00	0.00	KOP - GOLDENEYE
7,234.67	90.00	181.12	6,319.00	1,368.00	-34.85	2,375.46	10.00	10.00	-19.88	181.12	HZ LP - GOLDENEYE
11,334.51	90.00	181.13	6,319.00	1,368.00	-4,133.90	2,295.09	0.00	0.00	0.00	86.49	BHL - GOLDENEYE

Planning Report



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Well:	GOLDENEYE FED 21-16HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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)
SHL: 561ft FNL & 2312ft FWL of Sec 21										
0.00	0.00	0.00	0.00	4,951.00	0.00	0.00	0.00	0.00	0.00	0.00
START NUDGE (2.5°/100ft BUR)										
100.00	0.00	0.00	100.00	4,851.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	2.50	77.30	199.97	4,751.03	0.48	2.13	0.61	2.50	2.50	0.00
300.00	5.00	77.30	299.75	4,651.25	1.92	8.51	2.45	2.50	2.50	0.00
400.00	7.50	77.30	399.14	4,551.86	4.31	19.13	5.51	2.50	2.50	0.00
500.00	10.00	77.30	497.97	4,453.03	7.66	33.97	9.79	2.50	2.50	0.00
Fox Hills Base										
527.47	10.69	77.30	525.00	4,426.00	8.74	38.78	11.18	2.50	2.50	0.00
600.00	12.50	77.30	596.04	4,354.96	11.95	53.00	15.28	2.50	2.50	0.00
700.00	15.00	77.30	693.17	4,257.83	17.17	76.18	21.96	2.50	2.50	0.00
800.00	17.50	77.30	789.17	4,161.83	23.33	103.48	29.83	2.50	2.50	0.00
900.00	20.00	77.30	883.85	4,067.15	30.39	134.83	38.87	2.50	2.50	0.00
1,000.00	22.50	77.30	977.05	3,973.95	38.36	170.18	49.07	2.50	2.50	0.00
1,100.00	25.00	77.30	1,068.57	3,882.43	47.22	209.47	60.39	2.50	2.50	0.00
1,200.00	27.50	77.30	1,158.25	3,792.75	56.94	252.61	72.83	2.50	2.50	0.00
EOB TO 29.39° INC										
1,275.52	29.39	77.30	1,224.65	3,726.35	64.85	287.70	82.95	2.50	2.50	0.00
1,300.00	29.39	77.30	1,245.98	3,705.02	67.50	299.42	86.33	0.00	0.00	0.00
1,400.00	29.39	77.30	1,333.11	3,617.89	78.29	347.29	100.13	0.00	0.00	0.00
1,500.00	29.39	77.30	1,420.24	3,530.76	89.08	395.16	113.93	0.00	0.00	0.00
1,600.00	29.39	77.30	1,507.38	3,443.62	99.87	443.03	127.73	0.00	0.00	0.00
Pierre Shale Top										
1,658.10	29.39	77.30	1,558.00	3,393.00	106.14	470.85	135.75	0.00	0.00	0.00
1,700.00	29.39	77.30	1,594.51	3,356.49	110.66	490.90	141.54	0.00	0.00	0.00
1,800.00	29.39	77.30	1,681.64	3,269.36	121.45	538.77	155.34	0.00	0.00	0.00
1,900.00	29.39	77.30	1,768.77	3,182.23	132.24	586.65	169.14	0.00	0.00	0.00
2,000.00	29.39	77.30	1,855.90	3,095.10	143.03	634.52	182.94	0.00	0.00	0.00
2,100.00	29.39	77.30	1,943.03	3,007.97	153.82	682.39	196.74	0.00	0.00	0.00
2,200.00	29.39	77.30	2,030.17	2,920.83	164.61	730.26	210.54	0.00	0.00	0.00
2,300.00	29.39	77.30	2,117.30	2,833.70	175.41	778.13	224.35	0.00	0.00	0.00
2,400.00	29.39	77.30	2,204.43	2,746.57	186.20	826.00	238.15	0.00	0.00	0.00
2,500.00	29.39	77.30	2,291.56	2,659.44	196.99	873.87	251.95	0.00	0.00	0.00
2,600.00	29.39	77.30	2,378.69	2,572.31	207.78	921.74	265.75	0.00	0.00	0.00
2,700.00	29.39	77.30	2,465.82	2,485.18	218.57	969.61	279.55	0.00	0.00	0.00
2,800.00	29.39	77.30	2,552.96	2,398.04	229.36	1,017.48	293.36	0.00	0.00	0.00
2,900.00	29.39	77.30	2,640.09	2,310.91	240.15	1,065.35	307.16	0.00	0.00	0.00
3,000.00	29.39	77.30	2,727.22	2,223.78	250.94	1,113.23	320.96	0.00	0.00	0.00
3,100.00	29.39	77.30	2,814.35	2,136.65	261.73	1,161.10	334.76	0.00	0.00	0.00
3,200.00	29.39	77.30	2,901.48	2,049.52	272.52	1,208.97	348.56	0.00	0.00	0.00
3,300.00	29.39	77.30	2,988.61	1,962.39	283.32	1,256.84	362.37	0.00	0.00	0.00
3,400.00	29.39	77.30	3,075.75	1,875.25	294.11	1,304.71	376.17	0.00	0.00	0.00
3,500.00	29.39	77.30	3,162.88	1,788.12	304.90	1,352.58	389.97	0.00	0.00	0.00
3,600.00	29.39	77.30	3,250.01	1,700.99	315.69	1,400.45	403.77	0.00	0.00	0.00
3,700.00	29.39	77.30	3,337.14	1,613.86	326.48	1,448.32	417.57	0.00	0.00	0.00
Richard Sandstone										
3,730.83	29.39	77.30	3,364.00	1,587.00	329.81	1,463.08	421.83	0.00	0.00	0.00
3,800.00	29.39	77.30	3,424.27	1,526.73	337.27	1,496.19	431.38	0.00	0.00	0.00
Parkman Sandstone										
3,858.22	29.39	77.30	3,475.00	1,476.00	343.55	1,524.06	439.41	0.00	0.00	0.00
3,900.00	29.39	77.30	3,511.40	1,439.60	348.06	1,544.06	445.18	0.00	0.00	0.00
4,000.00	29.39	77.30	3,598.54	1,352.46	358.85	1,591.93	458.98	0.00	0.00	0.00

Planning Report



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Site:	NE NW SEC. 21 T8N R60W 6th P.M.	North Reference:	True
Well:	GOLDENEYE FED 21-16HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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	29.39	77.30	3,685.67	1,265.33	369.64	1,639.81	472.78	0.00	0.00	0.00
4,200.00	29.39	77.30	3,772.80	1,178.20	380.44	1,687.68	486.58	0.00	0.00	0.00
4,300.00	29.39	77.30	3,859.93	1,091.07	391.23	1,735.55	500.38	0.00	0.00	0.00
4,400.00	29.39	77.30	3,947.06	1,003.94	402.02	1,783.42	514.19	0.00	0.00	0.00
4,500.00	29.39	77.30	4,034.19	916.81	412.81	1,831.29	527.99	0.00	0.00	0.00
4,600.00	29.39	77.30	4,121.33	829.67	423.60	1,879.16	541.79	0.00	0.00	0.00
Sussex Sandstone										
4,688.00	29.39	77.30	4,198.00	753.00	433.10	1,921.29	553.94	0.00	0.00	0.00
4,700.00	29.39	77.30	4,208.46	742.54	434.39	1,927.03	555.59	0.00	0.00	0.00
4,800.00	29.39	77.30	4,295.59	655.41	445.18	1,974.90	569.39	0.00	0.00	0.00
4,900.00	29.39	77.30	4,382.72	568.28	455.97	2,022.77	583.20	0.00	0.00	0.00
5,000.00	29.39	77.30	4,469.85	481.15	466.76	2,070.64	597.00	0.00	0.00	0.00
END OF TANGENT										
5,059.15	29.39	77.30	4,521.39	429.61	473.15	2,098.96	605.16	0.00	0.00	0.00
5,100.00	28.37	77.30	4,557.16	393.84	477.48	2,118.20	610.71	2.50	-2.50	0.00
5,200.00	25.87	77.30	4,646.16	304.84	487.51	2,162.67	623.53	2.50	-2.50	0.00
Shannon Sandstone										
5,219.78	25.37	77.30	4,664.00	287.00	489.39	2,171.01	625.93	2.50	-2.50	0.00
5,300.00	23.37	77.30	4,737.07	213.93	496.67	2,203.30	635.24	2.50	-2.50	0.00
5,400.00	20.87	77.30	4,829.70	121.30	504.94	2,240.02	645.83	2.50	-2.50	0.00
5,500.00	18.37	77.30	4,923.89	27.11	512.33	2,272.77	655.27	2.50	-2.50	0.00
5,600.00	15.87	77.30	5,019.45	-68.45	518.80	2,301.48	663.55	2.50	-2.50	0.00
5,700.00	13.37	77.30	5,116.21	-165.21	524.35	2,326.09	670.65	2.50	-2.50	0.00
5,800.00	10.87	77.30	5,213.97	-262.97	528.96	2,346.57	676.55	2.50	-2.50	0.00
5,900.00	8.37	77.30	5,312.56	-361.56	532.64	2,362.87	681.25	2.50	-2.50	0.00
6,000.00	5.87	77.30	5,411.78	-460.78	535.36	2,374.95	684.73	2.50	-2.50	0.00
TeePee Buttes										
6,072.49	4.05	77.30	5,484.00	-533.00	536.74	2,381.06	686.50	2.50	-2.50	0.00
6,100.00	3.37	77.30	5,511.45	-560.45	537.13	2,382.80	687.00	2.50	-2.50	0.00
6,200.00	0.87	77.30	5,611.37	-660.37	537.94	2,386.40	688.04	2.50	-2.50	0.00
EOD TO VERTICAL										
6,234.67	0.00	0.00	5,646.04	-695.04	538.00	2,386.66	688.11	2.50	-2.50	0.00
6,300.00	0.00	0.00	5,711.37	-760.37	538.00	2,386.66	688.11	0.00	0.00	0.00
KOP (10°/100ft BUR)										
6,334.67	0.00	0.00	5,746.04	-795.04	538.00	2,386.66	688.11	0.00	0.00	0.00
6,400.00	6.53	181.12	5,811.23	-860.23	534.28	2,386.59	691.33	10.00	10.00	0.00
6,500.00	16.53	181.12	5,909.09	-958.09	514.32	2,386.20	708.59	10.00	10.00	0.00
6,600.00	26.53	181.12	6,001.99	-1,050.99	477.67	2,385.48	740.29	10.00	10.00	0.00
6,700.00	36.53	181.12	6,087.11	-1,136.11	425.44	2,384.46	785.45	10.00	10.00	0.00
Sharon Springs										
6,767.69	43.30	181.12	6,139.00	-1,188.00	382.04	2,383.61	822.98	10.00	10.00	0.00
6,800.00	46.53	181.12	6,161.88	-1,210.88	359.23	2,383.16	842.71	10.00	10.00	0.00
Niobrara Top										
6,828.56	49.39	181.12	6,181.00	-1,230.00	338.03	2,382.75	861.04	10.00	10.00	0.00
Niobrara A Chalk										
6,873.69	53.90	181.12	6,209.00	-1,258.00	302.65	2,382.06	891.64	10.00	10.00	0.00
6,900.00	56.53	181.12	6,224.00	-1,273.00	281.05	2,381.63	910.32	10.00	10.00	0.00
Niobrara A Chalk Base										
6,926.30	59.16	181.12	6,238.00	-1,287.00	258.79	2,381.20	929.57	10.00	10.00	0.00
7,000.00	66.53	181.12	6,271.61	-1,320.61	193.27	2,379.92	986.23	10.00	10.00	0.00
Niobrara B1 Chalk Top										
7,006.08	67.14	181.12	6,274.00	-1,323.00	187.69	2,379.81	991.06	10.00	10.00	0.00

Planning Report



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Well:	GOLDENEYE FED 21-16HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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)
Niobrara B1 Chalk Base										
7,042.28	70.76	181.12	6,287.00	-1,336.00	153.91	2,379.15	1,020.27	10.00	10.00	0.00
7,100.00	76.53	181.12	6,303.25	-1,352.25	98.56	2,378.07	1,068.14	10.00	10.00	0.00
7,200.00	86.53	181.12	6,317.95	-1,366.95	-0.21	2,376.13	1,153.55	10.00	10.00	0.00
HZ LP: 600ft FNL & 605ft FEL of Sec 21 - Niobrara B2 Chalk Top (Target)										
7,234.67	90.00	181.12	6,319.00	-1,368.00	-34.85	2,375.46	1,183.51	10.00	10.00	0.00
7,300.00	90.00	181.12	6,319.00	-1,368.00	-100.17	2,374.18	1,240.00	0.00	0.00	0.00
7,400.00	90.00	181.12	6,319.00	-1,368.00	-200.15	2,372.22	1,326.46	0.00	0.00	0.00
7,500.00	90.00	181.12	6,319.00	-1,368.00	-300.13	2,370.27	1,412.92	0.00	0.00	0.00
7,600.00	90.00	181.12	6,319.00	-1,368.00	-400.11	2,368.31	1,499.39	0.00	0.00	0.00
7,700.00	90.00	181.12	6,319.00	-1,368.00	-500.09	2,366.36	1,585.85	0.00	0.00	0.00
7,800.00	90.00	181.12	6,319.00	-1,368.00	-600.07	2,364.40	1,672.31	0.00	0.00	0.00
7,900.00	90.00	181.12	6,319.00	-1,368.00	-700.05	2,362.44	1,758.77	0.00	0.00	0.00
8,000.00	90.00	181.12	6,319.00	-1,368.00	-800.03	2,360.49	1,845.24	0.00	0.00	0.00
8,100.00	90.00	181.12	6,319.00	-1,368.00	-900.01	2,358.53	1,931.70	0.00	0.00	0.00
8,200.00	90.00	181.12	6,319.00	-1,368.00	-999.99	2,356.57	2,018.16	0.00	0.00	0.00
8,300.00	90.00	181.12	6,319.00	-1,368.00	-1,099.97	2,354.61	2,104.62	0.00	0.00	0.00
8,400.00	90.00	181.12	6,319.00	-1,368.00	-1,199.96	2,352.66	2,191.09	0.00	0.00	0.00
8,500.00	90.00	181.12	6,319.00	-1,368.00	-1,299.94	2,350.70	2,277.55	0.00	0.00	0.00
8,600.00	90.00	181.12	6,319.00	-1,368.00	-1,399.92	2,348.74	2,364.01	0.00	0.00	0.00
8,700.00	90.00	181.12	6,319.00	-1,368.00	-1,499.90	2,346.78	2,450.47	0.00	0.00	0.00
8,800.00	90.00	181.12	6,319.00	-1,368.00	-1,599.88	2,344.82	2,536.93	0.00	0.00	0.00
8,900.00	90.00	181.12	6,319.00	-1,368.00	-1,699.86	2,342.86	2,623.40	0.00	0.00	0.00
9,000.00	90.00	181.12	6,319.00	-1,368.00	-1,799.84	2,340.90	2,709.86	0.00	0.00	0.00
9,100.00	90.00	181.12	6,319.00	-1,368.00	-1,899.82	2,338.94	2,796.32	0.00	0.00	0.00
9,200.00	90.00	181.12	6,319.00	-1,368.00	-1,999.80	2,336.98	2,882.78	0.00	0.00	0.00
9,300.00	90.00	181.12	6,319.00	-1,368.00	-2,099.78	2,335.02	2,969.24	0.00	0.00	0.00
9,400.00	90.00	181.12	6,319.00	-1,368.00	-2,199.76	2,333.06	3,055.70	0.00	0.00	0.00
9,500.00	90.00	181.12	6,319.00	-1,368.00	-2,299.74	2,331.10	3,142.16	0.00	0.00	0.00
9,600.00	90.00	181.12	6,319.00	-1,368.00	-2,399.72	2,329.14	3,228.62	0.00	0.00	0.00
9,700.00	90.00	181.12	6,319.00	-1,368.00	-2,499.71	2,327.18	3,315.08	0.00	0.00	0.00
9,800.00	90.00	181.12	6,319.00	-1,368.00	-2,599.69	2,325.22	3,401.55	0.00	0.00	0.00
9,900.00	90.00	181.12	6,319.00	-1,368.00	-2,699.67	2,323.26	3,488.01	0.00	0.00	0.00
10,000.00	90.00	181.12	6,319.00	-1,368.00	-2,799.65	2,321.30	3,574.47	0.00	0.00	0.00
10,100.00	90.00	181.12	6,319.00	-1,368.00	-2,899.63	2,319.33	3,660.93	0.00	0.00	0.00
10,200.00	90.00	181.12	6,319.00	-1,368.00	-2,999.61	2,317.37	3,747.39	0.00	0.00	0.00
10,300.00	90.00	181.12	6,319.00	-1,368.00	-3,099.59	2,315.41	3,833.85	0.00	0.00	0.00
10,400.00	90.00	181.12	6,319.00	-1,368.00	-3,199.57	2,313.45	3,920.31	0.00	0.00	0.00
10,500.00	90.00	181.12	6,319.00	-1,368.00	-3,299.55	2,311.48	4,006.77	0.00	0.00	0.00
10,600.00	90.00	181.12	6,319.00	-1,368.00	-3,399.53	2,309.52	4,093.23	0.00	0.00	0.00
10,700.00	90.00	181.13	6,319.00	-1,368.00	-3,499.51	2,307.56	4,179.68	0.00	0.00	0.00
10,800.00	90.00	181.13	6,319.00	-1,368.00	-3,599.49	2,305.59	4,266.14	0.00	0.00	0.00
10,900.00	90.00	181.13	6,319.00	-1,368.00	-3,699.47	2,303.63	4,352.60	0.00	0.00	0.00
11,000.00	90.00	181.13	6,319.00	-1,368.00	-3,799.46	2,301.67	4,439.06	0.00	0.00	0.00
11,100.00	90.00	181.13	6,319.00	-1,368.00	-3,899.44	2,299.70	4,525.52	0.00	0.00	0.00
11,200.00	90.00	181.13	6,319.00	-1,368.00	-3,999.42	2,297.74	4,611.98	0.00	0.00	0.00
11,300.00	90.00	181.13	6,319.00	-1,368.00	-4,099.40	2,295.77	4,698.44	0.00	0.00	0.00
BHL: 600ft FSL & 605ft FEL of Sec 21										
11,334.51	90.00	181.13	6,319.00	-1,368.00	-4,133.90	2,295.09	4,728.27	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GOLDENEYE FED 21-16HN
Company:	MALLARD EXPLORATION	TVD Reference:	KB-EST @ 4951.00usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4951.00usft (Original Well Elev)
Site:	NE NW SEC. 21 T8N R60W 6th P.M.	North Reference:	True
Well:	GOLDENEYE FED 21-16HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Formations						
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
527.47	525.00	Fox Hills Base				
1,658.10	1,558.00	Pierre Shale Top				
3,730.83	3,364.00	Richard Sandstone				
3,858.22	3,475.00	Parkman Sandstone				
4,688.00	4,198.00	Sussex Sandstone				
5,219.78	4,664.00	Shannon Sandstone				
6,072.49	5,484.00	TeePee Buttes				
6,767.69	6,139.00	Sharon Springs				
6,828.56	6,181.00	Niobrara Top				
6,873.69	6,209.00	Niobrara A Chalk				
6,926.30	6,238.00	Niobrara A Chalk Base				
7,006.08	6,274.00	Niobrara B1 Chalk Top				
7,042.28	6,287.00	Niobrara B1 Chalk Base				
7,234.67	6,319.00	Niobrara B2 Chalk Top (Target)				

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.00	0.00	0.00	0.00	SHL: 561ft FNL & 2312ft FWL of Sec 21
100.00	100.00	0.00	0.00	START NUDGE (2.5°/100ft BUR)
1,275.52	1,224.65	64.85	287.70	EOB TO 29.39° INC
5,059.15	4,521.39	473.15	2,098.96	END OF TANGENT
6,234.67	5,646.04	538.00	2,386.66	EOD TO VERTICAL
6,334.67	5,746.04	538.00	2,386.66	KOP (10°/100ft BUR)
7,234.67	6,319.00	-34.85	2,375.46	HZ LP: 600ft FNL & 605ft FEL of Sec 21
11,334.51	6,319.00	-4,133.90	2,295.09	BHL: 600ft FSL & 605ft FEL of Sec 21