



MORNING GUN EXPLORATION

WELD COUNTY, COLORADO (NAD 83)

SW SE SEC. 12 T7N R59W 6th P.M.

CASTOR 7-59 12-1-1

ORIGINAL WELLBORE

11 September, 2018

Plan: PROPOSAL #1



WELD COUNTY, COLORADO (NAD 83)
SW SE SEC. 12 T7N R59W 6th P.M.
CASTOR 7-59 12-1-1
ORIGINAL WELLBORE
PROPOSAL #1

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Dep	Annotation	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL: 510ft FSL & 2422ft FEL of Sec 12	
100.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	START NUDGE (2.5°/100ft BUR)	
1244.85	1298.77	29.97	258.25	-62.41	-300.01	-1.18	306.43	EOB TO 29.97° INC	
4134.39	4634.29	29.97	258.25	-401.73	-1931.31	-7.62	1972.65	END OF TANGENT	
5279.24	5833.06	0.00	0.00	-464.14	-2231.32	-8.80	2279.08	EOD TO VERTICAL	
5379.24	5933.06	0.00	0.00	-464.14	-2231.32	-8.80	2279.08	KOP (10°/100ft BUR)	
5952.20	6833.07	90.00	1.31	108.67	-2218.22	549.83	2852.04	BPI: 600ft FSL & 600ft FWL of Sec 12	
5952.20	16219.04	90.00	1.31	9492.19	-2003.30	9701.06	12238.02	EPI: 600ft FNL & 600ft FWL of Sec 1	
5952.20	16225.62	90.00	1.12	9498.76	-2003.16	9707.47	12244.60	EOT TO 1.12° AZ	
5952.20	16518.94	90.00	1.12	9792.03	-1997.44	9993.68	12537.92	BHL: 300ft FNL & 600ft FWL of Sec 1	

PROPOSED LOCAL COORDINATES:

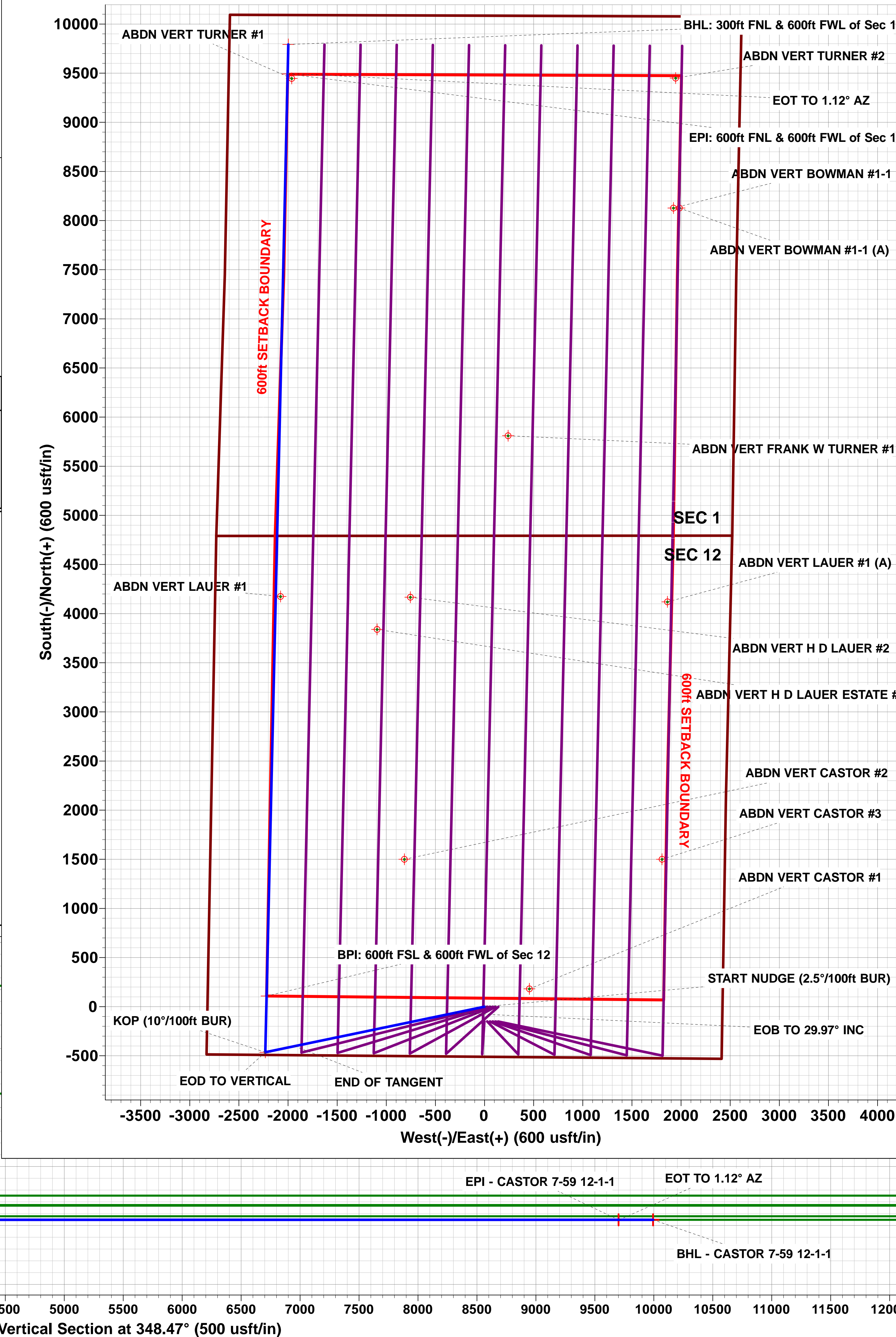
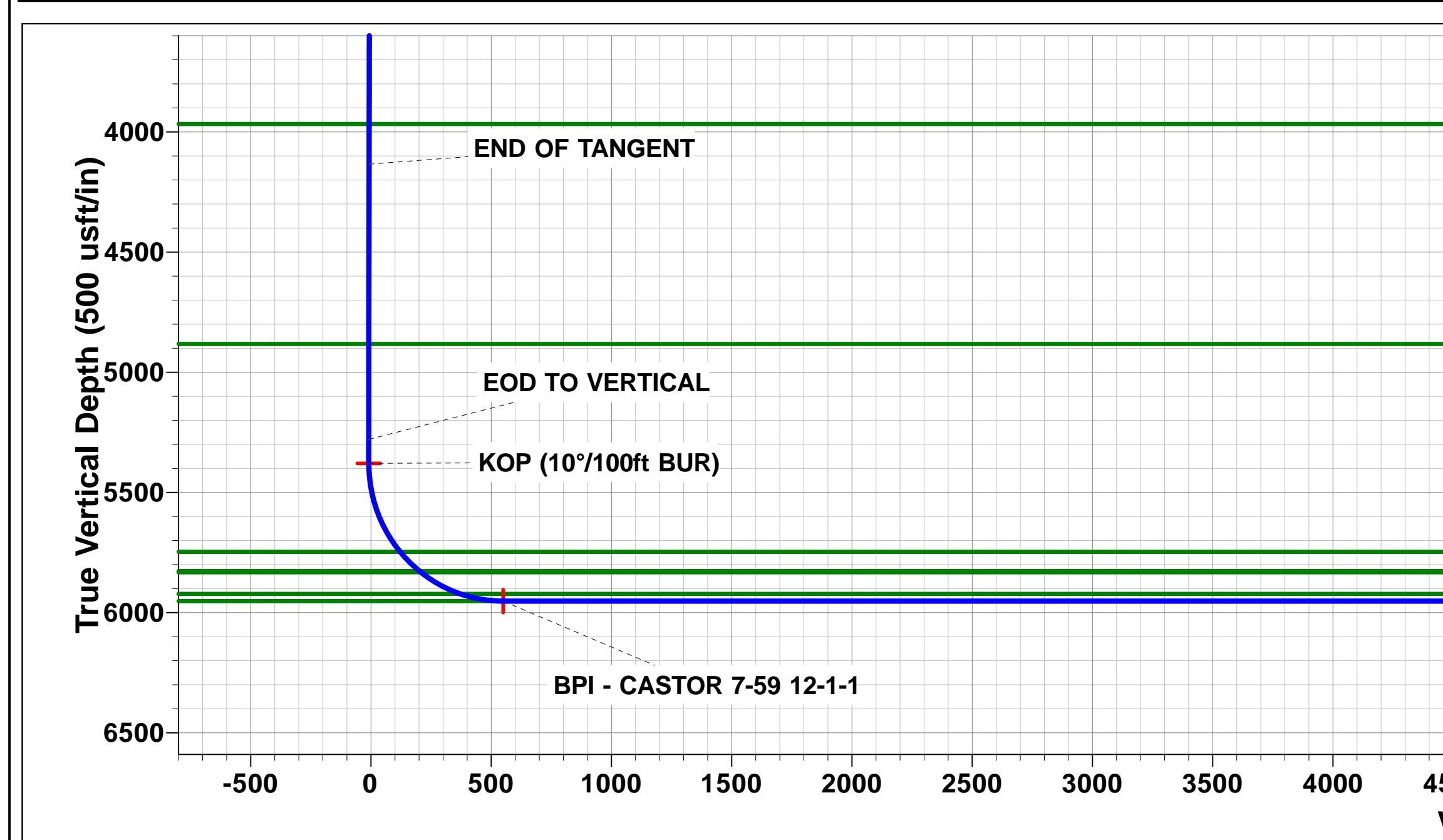
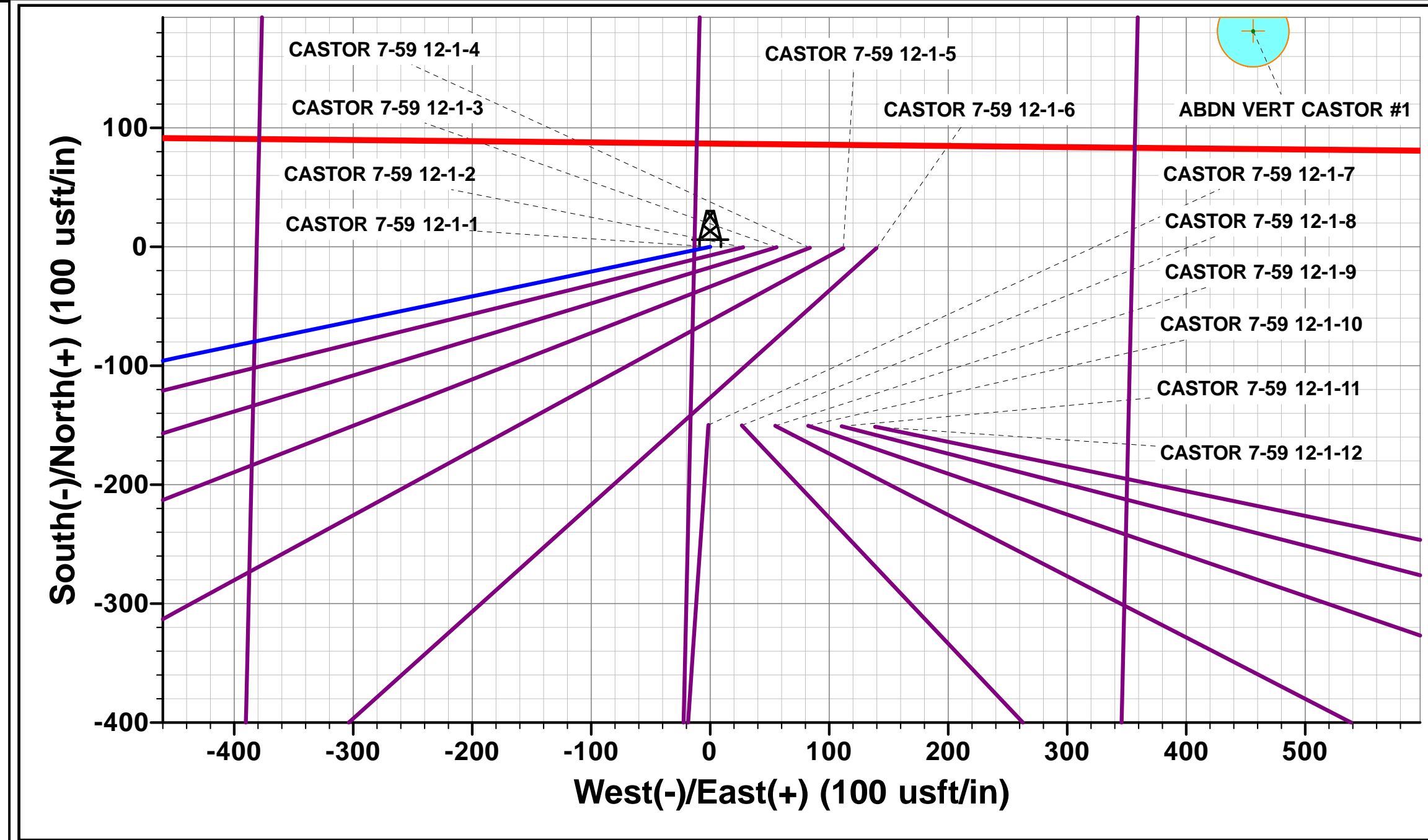
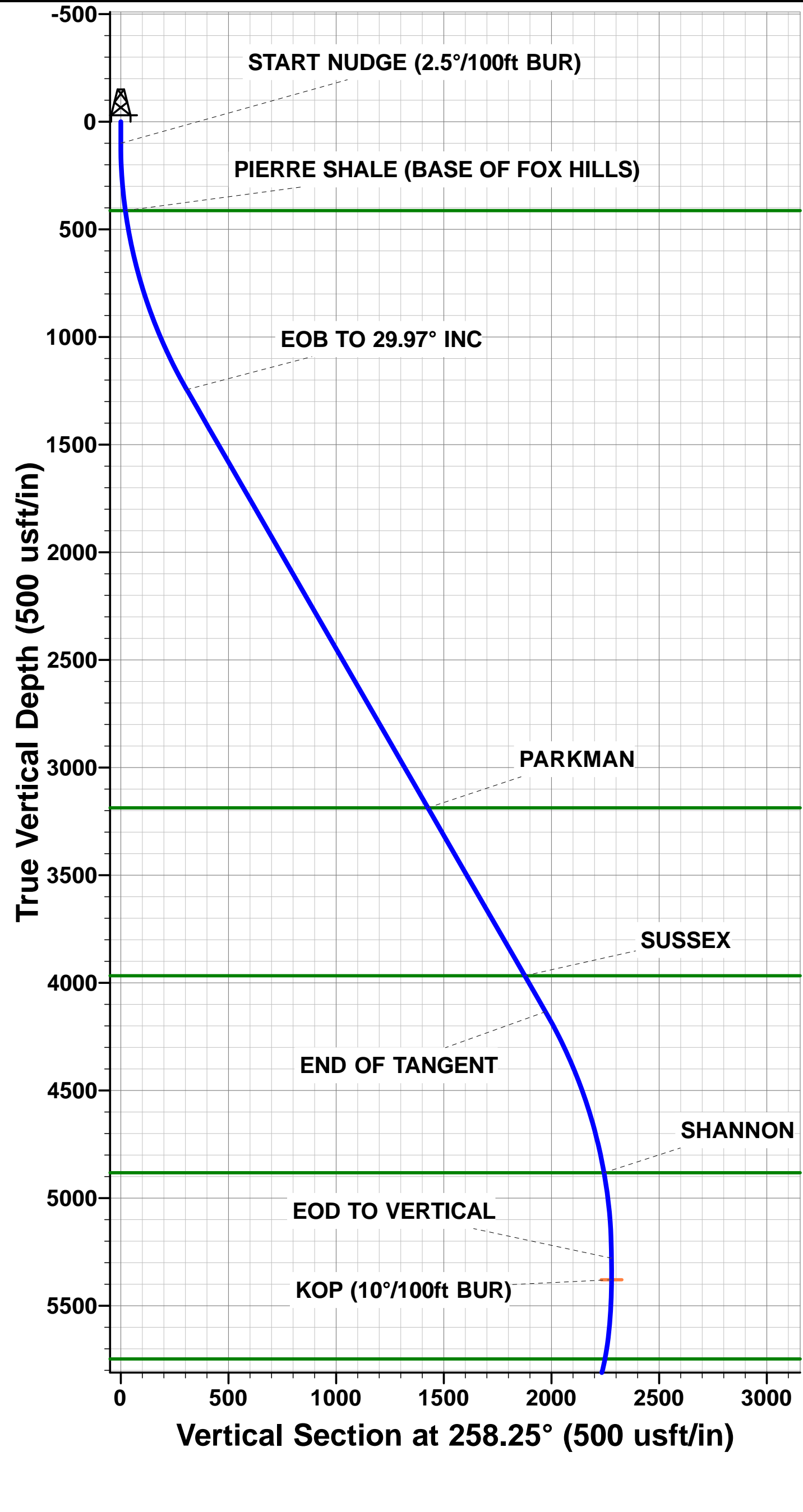
SHL: 510ft FSL & 2422ft FEL Sec 12

BPI: 600ft FSL & 600ft FWL Sec 12

EPI: 600ft FNL & 600ft FWL Sec 1

BHL: 300ft FNL & 600ft FWL of Sec 1

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - CASTOR 7-59 12-1-1	5379.24	-464.14	-2231.32	40.582024	-103.933152
BPI - CASTOR 7-59 12-1-1	5952.20	108.67	-2218.22	40.583596	-103.933105
EPI - CASTOR 7-59 12-1-1	5952.20	9492.19	-2003.30	40.609352	-103.932334
BHL - CASTOR 7-59 12-1-1	5952.20	9792.03	-1997.44	40.610175	-103.932313



Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CASTOR 7-59 12-1-1
Company:	MORNING GUN EXPLORATION	TVD Reference:	KB-EST @ 4902.20usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4902.20usft (Original Well Elev)
Site:	SW SE SEC. 12 T7N R59W 6th P.M.	North Reference:	True
Well:	CASTOR 7-59 12-1-1	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	SW SE SEC. 12 T7N R59W 6th P.M.				
Site Position:		Northing:	1,459,221.09 usft	Latitude:	40.583298
From:	Lat/Long	Easting:	3,437,411.71 usft	Longitude:	-103.925119
Position Uncertainty:	0.00 usft	Slot Radius:	1.10000ft	Grid Convergence:	1.02 °

Well	CASTOR 7-59 12-1-1					
Well Position	+N-S	0.00 usft	Northing:	1,459,221.09 usfi	Latitude:	40.583298
	+E-W	0.00 usft	Easting:	3,437,411.71 usfi	Longitude:	-103.925119
Position Uncertainty		0.00 usft	Wellhead Elevation:	usfi	Ground Level:	4,877.20 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/09/2018	7.64	67.09	52,431

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 (°)
	5,952.20	0.00	0.00	348.47

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	-4,902.20	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	-4,802.20	0.00	0.00	0.00	0.00	0.00	0.00	
1,298.77	29.97	258.25	1,244.85	-3,657.35	-62.41	-300.01	2.50	2.50	0.00	258.25	
4,634.29	29.97	258.25	4,134.39	-767.81	-401.73	-1,931.31	0.00	0.00	0.00	0.00	
5,833.06	0.00	0.00	5,279.24	377.04	-464.14	-2,231.32	2.50	-2.50	0.00	180.00	
5,933.06	0.00	0.00	5,379.24	477.04	-464.14	-2,231.32	0.00	0.00	0.00	0.00	KOP - CASTOR 7-59
6,833.07	90.00	1.31	5,952.20	1,050.00	108.67	-2,218.22	10.00	10.00	0.15	1.31	BPI - CASTOR 7-59
16,219.04	90.00	1.31	5,952.20	1,050.00	9,492.19	-2,003.30	0.00	0.00	0.00	83.51	EPI - CASTOR 7-59
16,225.62	90.00	1.12	5,952.20	1,050.00	9,498.76	-2,003.16	3.00	0.00	-3.00	-90.06	
16,518.94	90.00	1.12	5,952.20	1,050.00	9,792.03	-1,997.44	0.00	0.00	0.00	0.00	BHL - CASTOR 7-59

Planning Report

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Company:	MORNING GUN EXPLORATION	TVD Reference:	KB-EST @ 4902.20usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4902.20usft (Original Well Elev)
Site:	SW SE SEC. 12 T7N R59W 6th P.M.	North Reference:	True
Well:	CASTOR 7-59 12-1-1	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: 510ft FSL & 2422ft FEL of Sec 12										
0.00	0.00	0.00	0.00	4,902.20	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	4,802.20	0.00	0.00	0.00	0.00	0.00	0.00
200.00	2.50	258.25	199.97	4,702.23	-0.44	-2.14	-0.01	2.50	2.50	0.00
300.00	5.00	258.25	299.75	4,602.45	-1.78	-8.54	-0.03	2.50	2.50	0.00
400.00	7.50	258.25	399.14	4,503.06	-3.99	-19.20	-0.08	2.50	2.50	0.00
PIERRE SHALE (BASE OF FOX HILLS)										
414.18	7.85	258.25	413.20	4,489.00	-4.38	-21.05	-0.08	2.50	2.50	0.00
500.00	10.00	258.25	497.97	4,404.23	-7.09	-34.09	-0.13	2.50	2.50	0.00
600.00	12.50	258.25	596.04	4,306.16	-11.06	-53.19	-0.21	2.50	2.50	0.00
700.00	15.00	258.25	693.17	4,209.03	-15.90	-76.46	-0.30	2.50	2.50	0.00
800.00	17.50	258.25	789.17	4,113.03	-21.60	-103.85	-0.41	2.50	2.50	0.00
900.00	20.00	258.25	883.85	4,018.35	-28.15	-135.32	-0.53	2.50	2.50	0.00
1,000.00	22.50	258.25	977.05	3,925.15	-35.53	-170.80	-0.67	2.50	2.50	0.00
1,100.00	25.00	258.25	1,068.57	3,833.63	-43.73	-210.23	-0.83	2.50	2.50	0.00
1,200.00	27.50	258.25	1,158.25	3,743.95	-52.74	-253.53	-1.00	2.50	2.50	0.00
EOB TO 29.97° INC										
1,298.77	29.97	258.25	1,244.85	3,657.35	-62.41	-300.01	-1.18	2.50	2.50	0.00
1,300.00	29.97	258.25	1,245.92	3,656.28	-62.53	-300.61	-1.19	0.00	0.00	0.00
1,400.00	29.97	258.25	1,332.55	3,569.65	-72.70	-349.52	-1.38	0.00	0.00	0.00
1,500.00	29.97	258.25	1,419.17	3,483.03	-82.88	-398.43	-1.57	0.00	0.00	0.00
1,600.00	29.97	258.25	1,505.80	3,396.40	-93.05	-447.33	-1.76	0.00	0.00	0.00
1,700.00	29.97	258.25	1,592.43	3,309.77	-103.22	-496.24	-1.96	0.00	0.00	0.00
1,800.00	29.97	258.25	1,679.06	3,223.14	-113.40	-545.15	-2.15	0.00	0.00	0.00
1,900.00	29.97	258.25	1,765.69	3,136.51	-123.57	-594.05	-2.34	0.00	0.00	0.00
2,000.00	29.97	258.25	1,852.32	3,049.88	-133.74	-642.96	-2.54	0.00	0.00	0.00
2,100.00	29.97	258.25	1,938.95	2,963.25	-143.92	-691.87	-2.73	0.00	0.00	0.00
2,200.00	29.97	258.25	2,025.58	2,876.62	-154.09	-740.77	-2.92	0.00	0.00	0.00
2,300.00	29.97	258.25	2,112.21	2,789.99	-164.26	-789.68	-3.11	0.00	0.00	0.00
2,400.00	29.97	258.25	2,198.84	2,703.36	-174.44	-838.59	-3.31	0.00	0.00	0.00
2,500.00	29.97	258.25	2,285.47	2,616.73	-184.61	-887.49	-3.50	0.00	0.00	0.00
2,600.00	29.97	258.25	2,372.10	2,530.10	-194.78	-936.40	-3.69	0.00	0.00	0.00
2,700.00	29.97	258.25	2,458.73	2,443.47	-204.96	-985.31	-3.89	0.00	0.00	0.00
2,800.00	29.97	258.25	2,545.35	2,356.85	-215.13	-1,034.21	-4.08	0.00	0.00	0.00
2,900.00	29.97	258.25	2,631.98	2,270.22	-225.30	-1,083.12	-4.27	0.00	0.00	0.00
3,000.00	29.97	258.25	2,718.61	2,183.59	-235.47	-1,132.03	-4.46	0.00	0.00	0.00
3,100.00	29.97	258.25	2,805.24	2,096.96	-245.65	-1,180.94	-4.66	0.00	0.00	0.00
3,200.00	29.97	258.25	2,891.87	2,010.33	-255.82	-1,229.84	-4.85	0.00	0.00	0.00
3,300.00	29.97	258.25	2,978.50	1,923.70	-265.99	-1,278.75	-5.04	0.00	0.00	0.00
3,400.00	29.97	258.25	3,065.13	1,837.07	-276.17	-1,327.66	-5.24	0.00	0.00	0.00
3,500.00	29.97	258.25	3,151.76	1,750.44	-286.34	-1,376.56	-5.43	0.00	0.00	0.00
PARKMAN										
3,540.91	29.97	258.25	3,187.20	1,715.00	-290.50	-1,396.57	-5.51	0.00	0.00	0.00
3,600.00	29.97	258.25	3,238.39	1,663.81	-296.51	-1,425.47	-5.62	0.00	0.00	0.00
3,700.00	29.97	258.25	3,325.02	1,577.18	-306.69	-1,474.38	-5.81	0.00	0.00	0.00
3,800.00	29.97	258.25	3,411.65	1,490.55	-316.86	-1,523.28	-6.01	0.00	0.00	0.00
3,900.00	29.97	258.25	3,498.28	1,403.92	-327.03	-1,572.19	-6.20	0.00	0.00	0.00
4,000.00	29.97	258.25	3,584.91	1,317.29	-337.21	-1,621.10	-6.39	0.00	0.00	0.00
4,100.00	29.97	258.25	3,671.54	1,230.66	-347.38	-1,670.00	-6.59	0.00	0.00	0.00
4,200.00	29.97	258.25	3,758.16	1,144.04	-357.55	-1,718.91	-6.78	0.00	0.00	0.00
4,300.00	29.97	258.25	3,844.79	1,057.41	-367.73	-1,767.82	-6.97	0.00	0.00	0.00
4,400.00	29.97	258.25	3,931.42	970.78	-377.90	-1,816.72	-7.16	0.00	0.00	0.00

Planning Report

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Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4902.20usft (Original Well Elev)
Site:	SW SE SEC. 12 T7N R59W 6th P.M.	North Reference:	True
Well:	CASTOR 7-59 12-1-1	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)
SUSSEX										
4,441.30	29.97	258.25	3,967.20	935.00	-382.10	-1,836.92	-7.24	0.00	0.00	0.00
4,500.00	29.97	258.25	4,018.05	884.15	-388.07	-1,865.63	-7.36	0.00	0.00	0.00
4,600.00	29.97	258.25	4,104.68	797.52	-398.25	-1,914.54	-7.55	0.00	0.00	0.00
END OF TANGENT										
4,634.29	29.97	258.25	4,134.39	767.81	-401.73	-1,931.31	-7.62	0.00	0.00	0.00
4,700.00	28.33	258.25	4,191.77	710.43	-408.25	-1,962.64	-7.74	2.50	-2.50	0.00
4,800.00	25.83	258.25	4,280.81	621.39	-417.52	-2,007.20	-7.92	2.50	-2.50	0.00
4,900.00	23.33	258.25	4,371.74	530.46	-425.99	-2,047.92	-8.08	2.50	-2.50	0.00
5,000.00	20.83	258.25	4,464.40	437.80	-433.64	-2,084.71	-8.22	2.50	-2.50	0.00
5,100.00	18.33	258.25	4,558.61	343.59	-440.47	-2,117.51	-8.35	2.50	-2.50	0.00
5,200.00	15.83	258.25	4,654.20	248.00	-446.45	-2,146.26	-8.46	2.50	-2.50	0.00
5,300.00	13.33	258.25	4,750.97	151.23	-451.57	-2,170.90	-8.56	2.50	-2.50	0.00
5,400.00	10.83	258.25	4,848.75	53.45	-455.83	-2,191.38	-8.64	2.50	-2.50	0.00
SHANNON										
5,434.01	9.98	258.25	4,882.20	20.00	-457.08	-2,197.39	-8.67	2.50	-2.50	0.00
5,500.00	8.33	258.25	4,947.35	-45.15	-459.22	-2,207.67	-8.71	2.50	-2.50	0.00
5,600.00	5.83	258.25	5,046.58	-144.38	-461.73	-2,219.73	-8.75	2.50	-2.50	0.00
5,700.00	3.33	258.25	5,146.25	-244.05	-463.35	-2,227.54	-8.78	2.50	-2.50	0.00
5,800.00	0.83	258.25	5,246.18	-343.98	-464.09	-2,231.09	-8.80	2.50	-2.50	0.00
EOD TO VERTICAL										
5,833.06	0.00	0.00	5,279.24	-377.04	-464.14	-2,231.32	-8.80	2.50	-2.50	0.00
5,900.00	0.00	0.00	5,346.18	-443.98	-464.14	-2,231.32	-8.80	0.00	0.00	0.00
KOP (10°/100ft BUR)										
5,933.06	0.00	0.00	5,379.24	-477.04	-464.14	-2,231.32	-8.80	0.00	0.00	0.00
6,000.00	6.69	1.31	5,446.02	-543.82	-460.24	-2,231.23	-4.99	10.00	10.00	0.00
6,100.00	16.69	1.31	5,543.82	-641.62	-440.00	-2,230.77	14.74	10.00	10.00	0.00
6,200.00	26.69	1.31	5,636.62	-734.42	-403.09	-2,229.92	50.74	10.00	10.00	0.00
6,300.00	36.69	1.31	5,721.60	-819.40	-350.63	-2,228.72	101.90	10.00	10.00	0.00
SHARON SPRINGS SHALE										
6,332.63	39.96	1.31	5,747.20	-845.00	-330.41	-2,228.26	121.63	10.00	10.00	0.00
6,400.00	46.69	1.31	5,796.18	-893.98	-284.22	-2,227.20	166.67	10.00	10.00	0.00
NIORARA FORMATION										
6,447.35	51.43	1.31	5,827.20	-925.00	-248.47	-2,226.39	201.53	10.00	10.00	0.00
NIORARA A CHALK										
6,455.45	52.24	1.31	5,832.20	-930.00	-242.11	-2,226.24	207.74	10.00	10.00	0.00
6,500.00	56.69	1.31	5,858.09	-955.89	-205.87	-2,225.41	243.08	10.00	10.00	0.00
6,600.00	66.69	1.31	5,905.45	-1,003.25	-117.96	-2,223.40	328.81	10.00	10.00	0.00
NIORARA B CHALK										
6,646.84	71.38	1.31	5,922.20	-1,020.00	-74.25	-2,222.40	371.44	10.00	10.00	0.00
6,700.00	76.69	1.31	5,936.82	-1,034.62	-23.17	-2,221.23	421.26	10.00	10.00	0.00
6,800.00	86.69	1.31	5,951.25	-1,049.05	75.63	-2,218.97	517.61	10.00	10.00	0.00
BPI: 600ft FSL & 600ft FWL of Sec 12 - NIOBRARA B LP										
6,833.07	90.00	1.31	5,952.20	-1,050.00	108.67	-2,218.22	549.83	10.00	10.00	0.00
6,900.00	90.00	1.31	5,952.20	-1,050.00	175.59	-2,216.69	615.09	0.00	0.00	0.00
7,000.00	90.00	1.31	5,952.20	-1,050.00	275.56	-2,214.40	712.59	0.00	0.00	0.00
7,100.00	90.00	1.31	5,952.20	-1,050.00	375.53	-2,212.11	810.09	0.00	0.00	0.00
7,200.00	90.00	1.31	5,952.20	-1,050.00	475.51	-2,209.83	907.59	0.00	0.00	0.00
7,300.00	90.00	1.31	5,952.20	-1,050.00	575.48	-2,207.54	1,005.09	0.00	0.00	0.00
7,400.00	90.00	1.31	5,952.20	-1,050.00	675.45	-2,205.25	1,102.59	0.00	0.00	0.00
7,500.00	90.00	1.31	5,952.20	-1,050.00	775.43	-2,202.97	1,200.09	0.00	0.00	0.00
7,600.00	90.00	1.31	5,952.20	-1,050.00	875.40	-2,200.68	1,297.59	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CASTOR 7-59 12-1-1
Company:	MORNING GUN EXPLORATION	TVD Reference:	KB-EST @ 4902.20usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4902.20usft (Original Well Elev)
Site:	SW SE SEC. 12 T7N R59W 6th P.M.	North Reference:	True
Well:	CASTOR 7-59 12-1-1	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)
7,700.00	90.00	1.31	5,952.20	-1,050.00	975.38	-2,198.39	1,395.09	0.00	0.00	0.00
7,800.00	90.00	1.31	5,952.20	-1,050.00	1,075.35	-2,196.11	1,492.59	0.00	0.00	0.00
7,900.00	90.00	1.31	5,952.20	-1,050.00	1,175.32	-2,193.82	1,590.09	0.00	0.00	0.00
8,000.00	90.00	1.31	5,952.20	-1,050.00	1,275.30	-2,191.53	1,687.59	0.00	0.00	0.00
8,100.00	90.00	1.31	5,952.20	-1,050.00	1,375.27	-2,189.24	1,785.09	0.00	0.00	0.00
8,200.00	90.00	1.31	5,952.20	-1,050.00	1,475.25	-2,186.96	1,882.59	0.00	0.00	0.00
8,300.00	90.00	1.31	5,952.20	-1,050.00	1,575.22	-2,184.67	1,980.09	0.00	0.00	0.00
8,400.00	90.00	1.31	5,952.20	-1,050.00	1,675.19	-2,182.38	2,077.59	0.00	0.00	0.00
8,500.00	90.00	1.31	5,952.20	-1,050.00	1,775.17	-2,180.09	2,175.08	0.00	0.00	0.00
8,600.00	90.00	1.31	5,952.21	-1,050.01	1,875.14	-2,177.80	2,272.58	0.00	0.00	0.00
8,700.00	90.00	1.31	5,952.21	-1,050.01	1,975.11	-2,175.52	2,370.08	0.00	0.00	0.00
8,800.00	90.00	1.31	5,952.21	-1,050.01	2,075.09	-2,173.23	2,467.58	0.00	0.00	0.00
8,900.00	90.00	1.31	5,952.21	-1,050.01	2,175.06	-2,170.94	2,565.08	0.00	0.00	0.00
9,000.00	90.00	1.31	5,952.21	-1,050.01	2,275.04	-2,168.65	2,662.58	0.00	0.00	0.00
9,100.00	90.00	1.31	5,952.21	-1,050.01	2,375.01	-2,166.36	2,760.08	0.00	0.00	0.00
9,200.00	90.00	1.31	5,952.21	-1,050.01	2,474.98	-2,164.08	2,857.58	0.00	0.00	0.00
9,300.00	90.00	1.31	5,952.21	-1,050.01	2,574.96	-2,161.79	2,955.08	0.00	0.00	0.00
9,400.00	90.00	1.31	5,952.21	-1,050.01	2,674.93	-2,159.50	3,052.58	0.00	0.00	0.00
9,500.00	90.00	1.31	5,952.21	-1,050.01	2,774.91	-2,157.21	3,150.08	0.00	0.00	0.00
9,600.00	90.00	1.31	5,952.21	-1,050.01	2,874.88	-2,154.92	3,247.58	0.00	0.00	0.00
9,700.00	90.00	1.31	5,952.21	-1,050.01	2,974.85	-2,152.63	3,345.08	0.00	0.00	0.00
9,800.00	90.00	1.31	5,952.21	-1,050.01	3,074.83	-2,150.35	3,442.57	0.00	0.00	0.00
9,900.00	90.00	1.31	5,952.21	-1,050.01	3,174.80	-2,148.06	3,540.07	0.00	0.00	0.00
10,000.00	90.00	1.31	5,952.21	-1,050.01	3,274.77	-2,145.77	3,637.57	0.00	0.00	0.00
10,100.00	90.00	1.31	5,952.21	-1,050.01	3,374.75	-2,143.48	3,735.07	0.00	0.00	0.00
10,200.00	90.00	1.31	5,952.21	-1,050.01	3,474.72	-2,141.19	3,832.57	0.00	0.00	0.00
10,300.00	90.00	1.31	5,952.21	-1,050.01	3,574.70	-2,138.90	3,930.07	0.00	0.00	0.00
10,400.00	90.00	1.31	5,952.21	-1,050.01	3,674.67	-2,136.61	4,027.57	0.00	0.00	0.00
10,500.00	90.00	1.31	5,952.21	-1,050.01	3,774.64	-2,134.32	4,125.07	0.00	0.00	0.00
10,600.00	90.00	1.31	5,952.21	-1,050.01	3,874.62	-2,132.03	4,222.57	0.00	0.00	0.00
10,700.00	90.00	1.31	5,952.21	-1,050.01	3,974.59	-2,129.75	4,320.07	0.00	0.00	0.00
10,800.00	90.00	1.31	5,952.21	-1,050.01	4,074.56	-2,127.46	4,417.57	0.00	0.00	0.00
10,900.00	90.00	1.31	5,952.21	-1,050.01	4,174.54	-2,125.17	4,515.06	0.00	0.00	0.00
11,000.00	90.00	1.31	5,952.21	-1,050.01	4,274.51	-2,122.88	4,612.56	0.00	0.00	0.00
11,100.00	90.00	1.31	5,952.21	-1,050.01	4,374.49	-2,120.59	4,710.06	0.00	0.00	0.00
11,200.00	90.00	1.31	5,952.21	-1,050.01	4,474.46	-2,118.30	4,807.56	0.00	0.00	0.00
11,300.00	90.00	1.31	5,952.21	-1,050.01	4,574.43	-2,116.01	4,905.06	0.00	0.00	0.00
11,400.00	90.00	1.31	5,952.21	-1,050.01	4,674.41	-2,113.72	5,002.56	0.00	0.00	0.00
11,500.00	90.00	1.31	5,952.21	-1,050.01	4,774.38	-2,111.43	5,100.06	0.00	0.00	0.00
11,600.00	90.00	1.31	5,952.21	-1,050.01	4,874.35	-2,109.14	5,197.56	0.00	0.00	0.00
11,700.00	90.00	1.31	5,952.21	-1,050.01	4,974.33	-2,106.85	5,295.06	0.00	0.00	0.00
11,800.00	90.00	1.31	5,952.21	-1,050.01	5,074.30	-2,104.56	5,392.55	0.00	0.00	0.00
11,900.00	90.00	1.31	5,952.21	-1,050.01	5,174.28	-2,102.27	5,490.05	0.00	0.00	0.00
12,000.00	90.00	1.31	5,952.21	-1,050.01	5,274.25	-2,099.98	5,587.55	0.00	0.00	0.00
12,100.00	90.00	1.31	5,952.21	-1,050.01	5,374.22	-2,097.69	5,685.05	0.00	0.00	0.00
12,200.00	90.00	1.31	5,952.21	-1,050.01	5,474.20	-2,095.40	5,782.55	0.00	0.00	0.00
12,300.00	90.00	1.31	5,952.21	-1,050.01	5,574.17	-2,093.11	5,880.05	0.00	0.00	0.00
12,400.00	90.00	1.31	5,952.21	-1,050.01	5,674.15	-2,090.82	5,977.55	0.00	0.00	0.00
12,500.00	90.00	1.31	5,952.21	-1,050.01	5,774.12	-2,088.53	6,075.05	0.00	0.00	0.00
12,600.00	90.00	1.31	5,952.21	-1,050.01	5,874.09	-2,086.24	6,172.54	0.00	0.00	0.00
12,700.00	90.00	1.31	5,952.21	-1,050.01	5,974.07	-2,083.95	6,270.04	0.00	0.00	0.00
12,800.00	90.00	1.31	5,952.21	-1,050.01	6,074.04	-2,081.66	6,367.54	0.00	0.00	0.00
12,900.00	90.00	1.31	5,952.21	-1,050.01	6,174.01	-2,079.37	6,465.04	0.00	0.00	0.00
13,000.00	90.00	1.31	5,952.21	-1,050.01	6,273.99	-2,077.08	6,562.54	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CASTOR 7-59 12-1-1
Company:	MORNING GUN EXPLORATION	TVD Reference:	KB-EST @ 4902.20usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4902.20usft (Original Well Elev)
Site:	SW SE SEC. 12 T7N R59W 6th P.M.	North Reference:	True
Well:	CASTOR 7-59 12-1-1	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)
13,100.00	90.00	1.31	5,952.21	-1,050.01	6,373.96	-2,074.78	6,660.04	0.00	0.00	0.00
13,200.00	90.00	1.31	5,952.21	-1,050.01	6,473.94	-2,072.49	6,757.54	0.00	0.00	0.00
13,300.00	90.00	1.31	5,952.21	-1,050.01	6,573.91	-2,070.20	6,855.04	0.00	0.00	0.00
13,400.00	90.00	1.31	5,952.21	-1,050.01	6,673.88	-2,067.91	6,952.53	0.00	0.00	0.00
13,500.00	90.00	1.31	5,952.21	-1,050.01	6,773.86	-2,065.62	7,050.03	0.00	0.00	0.00
13,600.00	90.00	1.31	5,952.21	-1,050.01	6,873.83	-2,063.33	7,147.53	0.00	0.00	0.00
13,700.00	90.00	1.31	5,952.21	-1,050.01	6,973.80	-2,061.04	7,245.03	0.00	0.00	0.00
13,800.00	90.00	1.31	5,952.21	-1,050.01	7,073.78	-2,058.75	7,342.53	0.00	0.00	0.00
13,900.00	90.00	1.31	5,952.21	-1,050.01	7,173.75	-2,056.46	7,440.03	0.00	0.00	0.00
14,000.00	90.00	1.31	5,952.21	-1,050.01	7,273.73	-2,054.16	7,537.53	0.00	0.00	0.00
14,100.00	90.00	1.31	5,952.21	-1,050.01	7,373.70	-2,051.87	7,635.02	0.00	0.00	0.00
14,200.00	90.00	1.31	5,952.21	-1,050.01	7,473.67	-2,049.58	7,732.52	0.00	0.00	0.00
14,300.00	90.00	1.31	5,952.21	-1,050.01	7,573.65	-2,047.29	7,830.02	0.00	0.00	0.00
14,400.00	90.00	1.31	5,952.21	-1,050.01	7,673.62	-2,045.00	7,927.52	0.00	0.00	0.00
14,500.00	90.00	1.31	5,952.21	-1,050.01	7,773.59	-2,042.71	8,025.02	0.00	0.00	0.00
14,600.00	90.00	1.31	5,952.20	-1,050.00	7,873.57	-2,040.41	8,122.52	0.00	0.00	0.00
14,700.00	90.00	1.31	5,952.20	-1,050.00	7,973.54	-2,038.12	8,220.01	0.00	0.00	0.00
14,800.00	90.00	1.31	5,952.20	-1,050.00	8,073.52	-2,035.83	8,317.51	0.00	0.00	0.00
14,900.00	90.00	1.31	5,952.20	-1,050.00	8,173.49	-2,033.54	8,415.01	0.00	0.00	0.00
15,000.00	90.00	1.31	5,952.20	-1,050.00	8,273.46	-2,031.25	8,512.51	0.00	0.00	0.00
15,100.00	90.00	1.31	5,952.20	-1,050.00	8,373.44	-2,028.95	8,610.01	0.00	0.00	0.00
15,200.00	90.00	1.31	5,952.20	-1,050.00	8,473.41	-2,026.66	8,707.51	0.00	0.00	0.00
15,300.00	90.00	1.31	5,952.20	-1,050.00	8,573.38	-2,024.37	8,805.00	0.00	0.00	0.00
15,400.00	90.00	1.31	5,952.20	-1,050.00	8,673.36	-2,022.08	8,902.50	0.00	0.00	0.00
15,500.00	90.00	1.31	5,952.20	-1,050.00	8,773.33	-2,019.78	9,000.00	0.00	0.00	0.00
15,600.00	90.00	1.31	5,952.20	-1,050.00	8,873.30	-2,017.49	9,097.50	0.00	0.00	0.00
15,700.00	90.00	1.31	5,952.20	-1,050.00	8,973.28	-2,015.20	9,195.00	0.00	0.00	0.00
15,800.00	90.00	1.31	5,952.20	-1,050.00	9,073.25	-2,012.91	9,292.50	0.00	0.00	0.00
15,900.00	90.00	1.31	5,952.20	-1,050.00	9,173.23	-2,010.61	9,389.99	0.00	0.00	0.00
16,000.00	90.00	1.31	5,952.20	-1,050.00	9,273.20	-2,008.32	9,487.49	0.00	0.00	0.00
16,100.00	90.00	1.31	5,952.20	-1,050.00	9,373.17	-2,006.03	9,584.99	0.00	0.00	0.00
16,200.00	90.00	1.31	5,952.20	-1,050.00	9,473.15	-2,003.74	9,682.49	0.00	0.00	0.00
EPI: 600ft FNL & 600ft FWL of Sec 1										
16,219.04	90.00	1.31	5,952.20	-1,050.00	9,492.19	-2,003.30	9,701.06	0.00	0.00	0.00
EOT TO 1.12° AZ										
16,225.62	90.00	1.12	5,952.20	-1,050.00	9,498.76	-2,003.16	9,707.47	3.00	0.00	-3.00
16,300.00	90.00	1.12	5,952.20	-1,050.00	9,573.13	-2,001.71	9,780.05	0.00	0.00	0.00
16,400.00	90.00	1.12	5,952.20	-1,050.00	9,673.11	-1,999.76	9,877.62	0.00	0.00	0.00
16,500.00	90.00	1.12	5,952.20	-1,050.00	9,773.09	-1,997.81	9,975.19	0.00	0.00	0.00
BHL: 300ft FNL & 600ft FWL of Sec 1										
16,518.94	90.00	1.12	5,952.20	-1,050.00	9,792.03	-1,997.44	9,993.68	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CASTOR 7-59 12-1-1
Company:	MORNING GUN EXPLORATION	TVD Reference:	KB-EST @ 4902.20usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4902.20usft (Original Well Elev)
Site:	SW SE SEC. 12 T7N R59W 6th P.M.	North Reference:	True
Well:	CASTOR 7-59 12-1-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Formations					
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
414.18	413.20	PIERRE SHALE (BASE OF FOX HI			
3,540.91	3,187.20	PARKMAN			
4,441.30	3,967.20	SUSSEX			
5,434.01	4,882.20	SHANNON			
6,332.63	5,747.20	SHARON SPRINGS SHALE			
6,447.35	5,827.20	NIOBRARA FORMATION			
6,455.45	5,832.20	NIOBRARA A CHALK			
6,646.84	5,922.20	NIOBRARA B CHALK			
6,833.07	5,952.20	NIOBRARA B LP			

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.00	0.00	0.00	0.00	SHL: 510ft FSL & 2422ft FEL of Sec 12
100.00	100.00	0.00	0.00	START NUDGE (2.5°/100ft BUR)
1,298.77	1,244.85	-62.41	-300.01	EOB TO 29.97° INC
4,634.29	4,134.39	-401.73	-1,931.31	END OF TANGENT
5,833.06	5,279.24	-464.14	-2,231.32	EOD TO VERTICAL
5,933.06	5,379.24	-464.14	-2,231.32	KOP (10°/100ft BUR)
6,833.07	5,952.20	108.67	-2,218.22	BPI: 600ft FSL & 600ft FWL of Sec 12
16,219.04	5,952.20	9,492.19	-2,003.30	EPI: 600ft FNL & 600ft FWL of Sec 1
16,225.62	5,952.20	9,498.76	-2,003.16	EOT TO 1.12° AZ
16,518.94	5,952.20	9,792.03	-1,997.44	BHL: 300ft FNL & 600ft FWL of Sec 1