

EXTRACTION OIL & GAS

WELD COUNTY, COLORADO (NAD 83)

NE NW SEC. 9 T5N R65W 6th P.M.

MT-HEATH 1-8-7

ORIGINAL WELLBORE

20 June, 2015

Plan: PROPOSAL #2

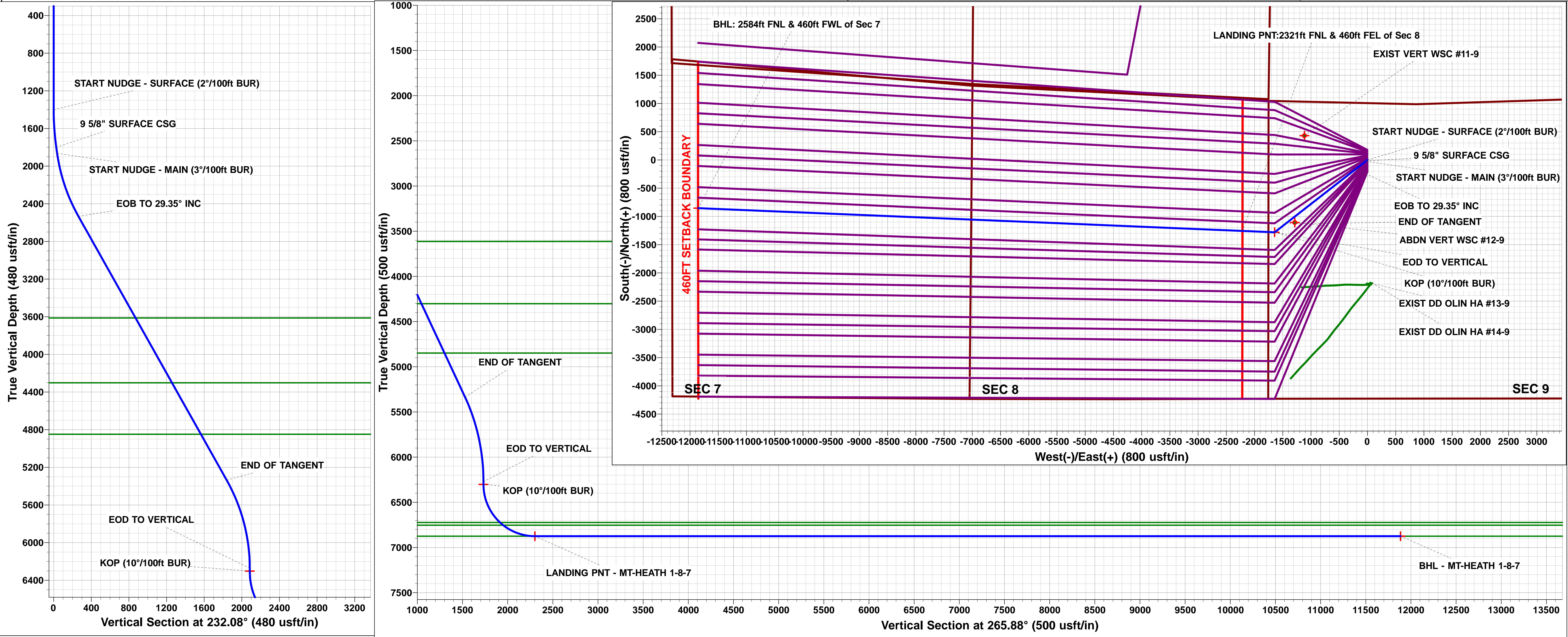
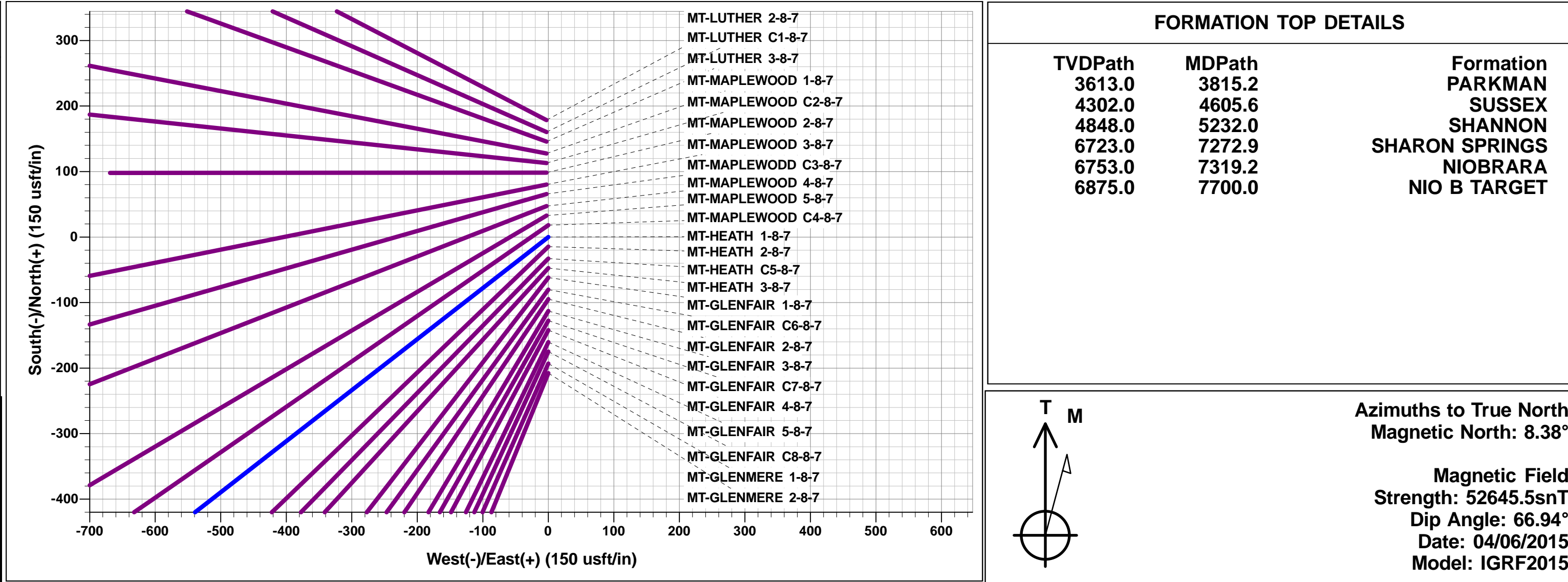




Project: WELD COUNTY, COLORADO (NAD 83)
Site: NE NW SEC. 9 T5N R65W 6th P.M.
Well: MT-HEATH 1-8-7
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #2

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Dep	Annotation	
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 1004ft FNL & 1753ft FWL of Sec 9	
1400.0	1400.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE - SURFACE (2°/100ft BUR)	
1800.0	1801.3	8.03	232.08	-17.2	-22.1	23.3	28.1	9 5/8" SURFACE CSG	
1864.4	1866.3	8.03	232.08	-22.8	-29.3	30.9	37.1	START NUDGE - MAIN (3°/100ft BUR)	
2533.7	2577.0	29.35	232.08	-162.0	-207.9	219.0	263.5	EOB TO 29.35° INC	
5336.0	5791.8	29.35	232.08	-1130.2	-1450.8	1528.2	1839.0	END OF TANGENT	
6272.0	6770.0	0.00	232.08	-1280.8	-1644.1	1731.8	2084.1	EOD TO VERTICAL	
6302.0	6800.0	0.00	0.00	-1280.8	-1644.1	1731.8	2084.1	KOP (10°/100ft BUR)	
6875.0	7700.0	89.99	272.40	-1256.8	-2216.5	2301.0	2657.0	LANDING PNT:2321ft FNL & 460ft FEL of Sec 8	
6875.0	17345.8	90.00	272.39	-853.3	-11853.9	11884.5	12302.8	BHL: 2584ft FNL & 460ft FWL of Sec 7	

WELLBORE TARGET DETAILS (LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	
KOP - MT-HEATH 1-8-7	6302.0	-1280.8	-1644.1	40.414554	-104.677564	
LANDING PNT - MT-HEATH 1-8-7	6875.0	-1256.8	-2216.6	40.414620	-104.679620	
BHL - MT-HEATH 1-8-7	6875.0	-853.3	-11853.9	40.415720	-104.714230	



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well MT-HEATH 1-8-7
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4651.0usft (SAV 802)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4651.0usft (SAV 802)
Site:	NE NW SEC. 9 T5N R65W 6th P.M.	North Reference:	True
Well:	MT-HEATH 1-8-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

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. 9 T5N R65W 6th P.M.		
Site Position:		Northing:	1,396,398.95 usft
From:	Lat/Long	Easting:	3,230,631.97 usft
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000ft
		Latitude:	40.418560
		Longitude:	-104.671670
		Grid Convergence:	0.54 °

Well	MT-HEATH 1-8-7		
Well Position	+N/-S	-178.5 usft	Northing:
	+E/-W	2.8 usft	Easting:
Position Uncertainty		0.0 usft	Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	04/06/2015	8.38	66.94	52,645

Design	PROPOSAL #2			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	265.88

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
0.0	0.00	0.00	0.0	-4,651.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	-3,251.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,801.3	8.03	232.08	1,800.0	-2,851.0	-17.2	-22.1	2.00	2.00	0.00	232.08	
1,866.3	8.03	232.08	1,864.4	-2,786.6	-22.8	-29.3	0.00	0.00	0.00	0.00	
2,577.0	29.35	232.08	2,533.7	-2,117.3	-161.9	-207.9	3.00	3.00	0.00	0.00	
5,791.8	29.35	232.08	5,336.0	685.0	-1,130.2	-1,450.8	0.00	0.00	0.00	0.00	
6,770.0	0.00	0.00	6,272.0	1,621.0	-1,280.8	-1,644.1	3.00	-3.00	0.00	180.00	
6,800.0	0.00	0.00	6,302.0	1,651.0	-1,280.8	-1,644.1	0.00	0.00	0.00	0.00	KOP - MT-HEATH
7,700.0	90.00	272.40	6,875.0	2,224.0	-1,256.8	-2,216.6	10.00	10.00	-9.73	272.40	LANDING PNT - M
17,345.8	90.00	272.39	6,875.0	2,224.0	-853.3	-11,853.9	0.00	0.00	0.00	-54.26	BHL - MT-HEATH 1

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well MT-HEATH 1-8-7
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4651.0usft (SAV 802)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4651.0usft (SAV 802)
Site:	NE NW SEC. 9 T5N R65W 6th P.M.	North Reference:	True
Well:	MT-HEATH 1-8-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
SHL: 1004ft FNL & 1753ft FWL of Sec 9										
0.0	0.00	0.00	0.0	4,651.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,551.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,451.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,351.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,251.00	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,151.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	4,051.00	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	3,951.00	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	3,851.00	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	3,751.00	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	3,651.00	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	3,551.00	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	3,451.00	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	3,351.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE - SURFACE (2°/100ft BUR)										
1,400.0	0.00	0.00	1,400.0	3,251.00	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	2.00	232.08	1,500.0	3,151.02	-1.1	-1.4	1.5	2.00	2.00	0.00
1,600.0	4.00	232.08	1,599.8	3,051.16	-4.3	-5.5	5.8	2.00	2.00	0.00
1,700.0	6.00	232.08	1,699.5	2,951.55	-9.6	-12.4	13.0	2.00	2.00	0.00
1,800.0	8.00	232.08	1,798.7	2,852.30	-17.1	-22.0	23.2	2.00	2.00	0.00
9 5/8" SURFACE CSG										
1,801.3	8.03	232.08	1,800.0	2,851.00	-17.2	-22.1	23.3	2.00	2.00	0.00
START NUDGE - MAIN (3°/100ft BUR)										
1,866.3	8.03	232.08	1,864.4	2,786.65	-22.8	-29.3	30.9	0.00	0.00	0.00
1,900.0	9.04	232.08	1,897.7	2,753.32	-25.9	-33.2	35.0	3.00	3.00	0.00
2,000.0	12.04	232.08	1,996.0	2,655.02	-37.1	-47.7	50.2	3.00	3.00	0.00
2,100.0	15.04	232.08	2,093.2	2,557.81	-51.5	-66.1	69.7	3.00	3.00	0.00
2,200.0	18.04	232.08	2,189.0	2,461.96	-69.0	-88.6	93.3	3.00	3.00	0.00
2,300.0	21.04	232.08	2,283.3	2,367.72	-89.6	-115.0	121.1	3.00	3.00	0.00
2,400.0	24.04	232.08	2,375.6	2,275.37	-113.1	-145.2	152.9	3.00	3.00	0.00
2,500.0	27.04	232.08	2,465.8	2,185.15	-139.6	-179.2	188.8	3.00	3.00	0.00
EOB TO 29.35° INC										
2,577.0	29.35	232.08	2,533.7	2,117.29	-162.0	-207.9	219.0	3.00	3.00	0.00
2,600.0	29.35	232.08	2,553.8	2,097.24	-168.9	-216.8	228.3	0.00	0.00	0.00
2,700.0	29.35	232.08	2,640.9	2,010.07	-199.0	-255.4	269.1	0.00	0.00	0.00
2,800.0	29.35	232.08	2,728.1	1,922.90	-229.1	-294.1	309.8	0.00	0.00	0.00
2,900.0	29.35	232.08	2,815.3	1,835.74	-259.2	-332.8	350.5	0.00	0.00	0.00
3,000.0	29.35	232.08	2,902.4	1,748.57	-289.3	-371.4	391.2	0.00	0.00	0.00
3,100.0	29.35	232.08	2,989.6	1,661.40	-319.5	-410.1	432.0	0.00	0.00	0.00
3,200.0	29.35	232.08	3,076.8	1,574.23	-349.6	-448.7	472.7	0.00	0.00	0.00
3,300.0	29.35	232.08	3,163.9	1,487.06	-379.7	-487.4	513.4	0.00	0.00	0.00
3,400.0	29.35	232.08	3,251.1	1,399.90	-409.8	-526.1	554.1	0.00	0.00	0.00
3,500.0	29.35	232.08	3,338.3	1,312.73	-439.9	-564.7	594.9	0.00	0.00	0.00
3,600.0	29.35	232.08	3,425.4	1,225.56	-470.1	-603.4	635.6	0.00	0.00	0.00
3,700.0	29.35	232.08	3,512.6	1,138.39	-500.2	-642.0	676.3	0.00	0.00	0.00
3,800.0	29.35	232.08	3,599.8	1,051.22	-530.3	-680.7	717.0	0.00	0.00	0.00
PARKMAN										
3,815.2	29.35	232.08	3,613.0	1,038.00	-534.9	-686.6	723.2	0.00	0.00	0.00
3,900.0	29.35	232.08	3,686.9	964.06	-560.4	-719.4	757.7	0.00	0.00	0.00
4,000.0	29.35	232.08	3,774.1	876.89	-590.5	-758.0	798.5	0.00	0.00	0.00
4,100.0	29.35	232.08	3,861.3	789.72	-620.6	-796.7	839.2	0.00	0.00	0.00
4,200.0	29.35	232.08	3,948.4	702.55	-650.8	-835.4	879.9	0.00	0.00	0.00

Planning Report



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Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4651.0usft (SAV 802)
Site:	NE NW SEC. 9 T5N R65W 6th P.M.	North Reference:	True
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Wellbore:	ORIGINAL WELLBORE		
Design:	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)
4,300.0	29.35	232.08	4,035.6	615.38	-680.9	-874.0	920.6	0.00	0.00	0.00
4,400.0	29.35	232.08	4,122.8	528.21	-711.0	-912.7	961.4	0.00	0.00	0.00
4,500.0	29.35	232.08	4,210.0	441.05	-741.1	-951.3	1,002.1	0.00	0.00	0.00
4,600.0	29.35	232.08	4,297.1	353.88	-771.2	-990.0	1,042.8	0.00	0.00	0.00
SUSSEX										
4,605.6	29.35	232.08	4,302.0	349.00	-772.9	-992.2	1,045.1	0.00	0.00	0.00
4,700.0	29.35	232.08	4,384.3	266.71	-801.3	-1,028.7	1,083.5	0.00	0.00	0.00
4,800.0	29.35	232.08	4,471.5	179.54	-831.5	-1,067.3	1,124.3	0.00	0.00	0.00
4,900.0	29.35	232.08	4,558.6	92.37	-861.6	-1,106.0	1,165.0	0.00	0.00	0.00
5,000.0	29.35	232.08	4,645.8	5.21	-891.7	-1,144.6	1,205.7	0.00	0.00	0.00
5,100.0	29.35	232.08	4,733.0	-81.96	-921.8	-1,183.3	1,246.4	0.00	0.00	0.00
5,200.0	29.35	232.08	4,820.1	-169.13	-951.9	-1,222.0	1,287.2	0.00	0.00	0.00
SHANNON										
5,232.0	29.35	232.08	4,848.0	-197.00	-961.6	-1,234.3	1,300.2	0.00	0.00	0.00
5,300.0	29.35	232.08	4,907.3	-256.30	-982.1	-1,260.6	1,327.9	0.00	0.00	0.00
5,400.0	29.35	232.08	4,994.5	-343.47	-1,012.2	-1,299.3	1,368.6	0.00	0.00	0.00
5,500.0	29.35	232.08	5,081.6	-430.63	-1,042.3	-1,337.9	1,409.3	0.00	0.00	0.00
5,600.0	29.35	232.08	5,168.8	-517.80	-1,072.4	-1,376.6	1,450.0	0.00	0.00	0.00
5,700.0	29.35	232.08	5,256.0	-604.97	-1,102.5	-1,415.3	1,490.8	0.00	0.00	0.00
END OF TANGENT										
5,791.8	29.35	232.08	5,336.0	-684.99	-1,130.2	-1,450.8	1,528.2	0.00	0.00	0.00
5,800.0	29.10	232.08	5,343.1	-692.15	-1,132.6	-1,453.9	1,531.5	2.98	-2.98	0.00
5,900.0	26.10	232.08	5,431.8	-780.76	-1,161.1	-1,490.5	1,570.0	3.00	-3.00	0.00
6,000.0	23.10	232.08	5,522.7	-871.67	-1,186.7	-1,523.3	1,604.6	3.00	-3.00	0.00
6,100.0	20.10	232.08	5,615.6	-964.64	-1,209.3	-1,552.3	1,635.1	3.00	-3.00	0.00
6,200.0	17.10	232.08	5,710.4	-1,059.40	-1,228.9	-1,577.5	1,661.7	3.00	-3.00	0.00
6,300.0	14.10	232.08	5,806.7	-1,155.71	-1,245.4	-1,598.7	1,684.0	3.00	-3.00	0.00
6,400.0	11.10	232.08	5,904.3	-1,253.29	-1,258.8	-1,615.9	1,702.1	3.00	-3.00	0.00
6,500.0	8.10	232.08	6,002.9	-1,351.87	-1,269.1	-1,629.1	1,716.0	3.00	-3.00	0.00
6,600.0	5.10	232.08	6,102.2	-1,451.20	-1,276.1	-1,638.1	1,725.5	3.00	-3.00	0.00
6,700.0	2.10	232.08	6,202.0	-1,550.99	-1,280.0	-1,643.1	1,730.7	3.00	-3.00	0.00
EOD TO VERTICAL										
6,770.0	0.00	232.08	6,272.0	-1,620.98	-1,280.8	-1,644.1	1,731.8	3.00	-3.00	0.00
KOP (10°/100ft BUR)										
6,800.0	0.00	0.00	6,302.0	-1,650.98	-1,280.8	-1,644.1	1,731.8	0.00	0.00	0.00
6,900.0	10.00	272.40	6,401.5	-1,750.47	-1,280.4	-1,652.8	1,740.5	10.00	10.00	0.00
7,000.0	20.00	272.40	6,497.9	-1,846.94	-1,279.3	-1,678.6	1,766.1	10.00	10.00	0.00
7,100.0	30.00	272.40	6,588.5	-1,937.46	-1,277.6	-1,720.8	1,808.1	10.00	10.00	0.00
7,200.0	39.99	272.40	6,670.3	-2,019.28	-1,275.2	-1,778.0	1,865.0	10.00	10.00	0.00
SHARON SPRINGS										
7,272.9	47.28	272.40	6,723.0	-2,072.00	-1,273.1	-1,828.2	1,914.9	10.00	10.00	0.00
7,300.0	49.99	272.40	6,740.9	-2,089.90	-1,272.2	-1,848.6	1,935.1	10.00	10.00	0.00
NIOBRARA										
7,319.2	51.91	272.40	6,753.0	-2,102.00	-1,271.6	-1,863.5	1,949.9	10.00	10.00	0.00
7,400.0	59.99	272.40	6,798.2	-2,147.20	-1,268.8	-1,930.3	2,016.4	10.00	10.00	0.00
7,500.0	69.99	272.40	6,840.4	-2,189.42	-1,265.0	-2,020.7	2,106.3	10.00	10.00	0.00
7,600.0	79.99	272.40	6,866.3	-2,215.28	-1,260.9	-2,117.1	2,202.2	10.00	10.00	0.00
LANDING PNT:2321ft FNL & 460ft FEL of Sec 8 - NIO B TARGET										
7,700.0	90.00	272.40	6,875.0	-2,224.00	-1,256.8	-2,216.6	2,301.1	10.00	10.00	0.00
7,800.0	90.00	272.40	6,875.0	-2,224.01	-1,252.6	-2,316.4	2,400.4	0.00	0.00	0.00
7,900.0	90.00	272.40	6,875.0	-2,224.02	-1,248.4	-2,416.3	2,499.7	0.00	0.00	0.00
8,000.0	90.00	272.40	6,875.0	-2,224.02	-1,244.2	-2,516.2	2,599.1	0.00	0.00	0.00
8,100.0	90.00	272.40	6,875.0	-2,224.03	-1,240.0	-2,616.2	2,698.4	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well MT-HEATH 1-8-7
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4651.0usft (SAV 802)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4651.0usft (SAV 802)
Site:	NE NW SEC. 9 T5N R65W 6th P.M.	North Reference:	True
Well:	MT-HEATH 1-8-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
8,200.0	90.00	272.40	6,875.0	-2,224.04	-1,235.8	-2,716.1	2,797.8	0.00	0.00	0.00
8,300.0	90.00	272.40	6,875.0	-2,224.04	-1,231.6	-2,816.0	2,897.1	0.00	0.00	0.00
8,400.0	90.00	272.40	6,875.1	-2,224.05	-1,227.4	-2,915.9	2,996.5	0.00	0.00	0.00
8,500.0	90.00	272.40	6,875.1	-2,224.06	-1,223.2	-3,015.8	3,095.8	0.00	0.00	0.00
8,600.0	90.00	272.40	6,875.1	-2,224.06	-1,219.0	-3,115.7	3,195.2	0.00	0.00	0.00
8,700.0	90.00	272.40	6,875.1	-2,224.07	-1,214.8	-3,215.6	3,294.5	0.00	0.00	0.00
8,800.0	90.00	272.40	6,875.1	-2,224.08	-1,210.6	-3,315.5	3,393.9	0.00	0.00	0.00
8,900.0	90.00	272.40	6,875.1	-2,224.08	-1,206.5	-3,415.5	3,493.3	0.00	0.00	0.00
9,000.0	90.00	272.40	6,875.1	-2,224.09	-1,202.3	-3,515.4	3,592.6	0.00	0.00	0.00
9,100.0	90.00	272.40	6,875.1	-2,224.09	-1,198.1	-3,615.3	3,692.0	0.00	0.00	0.00
9,200.0	90.00	272.40	6,875.1	-2,224.10	-1,193.9	-3,715.2	3,791.3	0.00	0.00	0.00
9,300.0	90.00	272.40	6,875.1	-2,224.11	-1,189.7	-3,815.1	3,890.7	0.00	0.00	0.00
9,400.0	90.00	272.40	6,875.1	-2,224.11	-1,185.5	-3,915.0	3,990.0	0.00	0.00	0.00
9,500.0	90.00	272.40	6,875.1	-2,224.12	-1,181.3	-4,014.9	4,089.4	0.00	0.00	0.00
9,600.0	90.00	272.40	6,875.1	-2,224.12	-1,177.1	-4,114.8	4,188.7	0.00	0.00	0.00
9,700.0	90.00	272.40	6,875.1	-2,224.13	-1,172.9	-4,214.7	4,288.1	0.00	0.00	0.00
9,800.0	90.00	272.40	6,875.1	-2,224.13	-1,168.7	-4,314.7	4,387.4	0.00	0.00	0.00
9,900.0	90.00	272.40	6,875.1	-2,224.13	-1,164.6	-4,414.6	4,486.8	0.00	0.00	0.00
10,000.0	90.00	272.40	6,875.1	-2,224.14	-1,160.4	-4,514.5	4,586.1	0.00	0.00	0.00
10,100.0	90.00	272.40	6,875.1	-2,224.14	-1,156.2	-4,614.4	4,685.5	0.00	0.00	0.00
10,200.0	90.00	272.40	6,875.1	-2,224.15	-1,152.0	-4,714.3	4,784.9	0.00	0.00	0.00
10,300.0	90.00	272.40	6,875.2	-2,224.15	-1,147.8	-4,814.2	4,884.2	0.00	0.00	0.00
10,400.0	90.00	272.40	6,875.2	-2,224.15	-1,143.6	-4,914.1	4,983.6	0.00	0.00	0.00
10,500.0	90.00	272.40	6,875.2	-2,224.16	-1,139.4	-5,014.0	5,082.9	0.00	0.00	0.00
10,600.0	90.00	272.40	6,875.2	-2,224.16	-1,135.2	-5,114.0	5,182.3	0.00	0.00	0.00
10,700.0	90.00	272.40	6,875.2	-2,224.16	-1,131.0	-5,213.9	5,281.6	0.00	0.00	0.00
10,800.0	90.00	272.40	6,875.2	-2,224.17	-1,126.9	-5,313.8	5,381.0	0.00	0.00	0.00
10,900.0	90.00	272.40	6,875.2	-2,224.17	-1,122.7	-5,413.7	5,480.3	0.00	0.00	0.00
11,000.0	90.00	272.40	6,875.2	-2,224.17	-1,118.5	-5,513.6	5,579.7	0.00	0.00	0.00
11,100.0	90.00	272.40	6,875.2	-2,224.17	-1,114.3	-5,613.5	5,679.0	0.00	0.00	0.00
11,200.0	90.00	272.40	6,875.2	-2,224.18	-1,110.1	-5,713.4	5,778.4	0.00	0.00	0.00
11,300.0	90.00	272.40	6,875.2	-2,224.18	-1,105.9	-5,813.3	5,877.7	0.00	0.00	0.00
11,400.0	90.00	272.40	6,875.2	-2,224.18	-1,101.7	-5,913.3	5,977.1	0.00	0.00	0.00
11,500.0	90.00	272.40	6,875.2	-2,224.18	-1,097.6	-6,013.2	6,076.5	0.00	0.00	0.00
11,600.0	90.00	272.40	6,875.2	-2,224.18	-1,093.4	-6,113.1	6,175.8	0.00	0.00	0.00
11,700.0	90.00	272.40	6,875.2	-2,224.19	-1,089.2	-6,213.0	6,275.2	0.00	0.00	0.00
11,800.0	90.00	272.40	6,875.2	-2,224.19	-1,085.0	-6,312.9	6,374.5	0.00	0.00	0.00
11,900.0	90.00	272.40	6,875.2	-2,224.19	-1,080.8	-6,412.8	6,473.9	0.00	0.00	0.00
12,000.0	90.00	272.40	6,875.2	-2,224.19	-1,076.6	-6,512.7	6,573.2	0.00	0.00	0.00
12,100.0	90.00	272.40	6,875.2	-2,224.19	-1,072.5	-6,612.6	6,672.6	0.00	0.00	0.00
12,200.0	90.00	272.40	6,875.2	-2,224.19	-1,068.3	-6,712.6	6,771.9	0.00	0.00	0.00
12,300.0	90.00	272.40	6,875.2	-2,224.19	-1,064.1	-6,812.5	6,871.3	0.00	0.00	0.00
12,400.0	90.00	272.40	6,875.2	-2,224.19	-1,059.9	-6,912.4	6,970.6	0.00	0.00	0.00
12,500.0	90.00	272.40	6,875.2	-2,224.19	-1,055.7	-7,012.3	7,070.0	0.00	0.00	0.00
12,600.0	90.00	272.40	6,875.2	-2,224.19	-1,051.5	-7,112.2	7,169.3	0.00	0.00	0.00
12,700.0	90.00	272.40	6,875.2	-2,224.19	-1,047.4	-7,212.1	7,268.7	0.00	0.00	0.00
12,800.0	90.00	272.40	6,875.2	-2,224.19	-1,043.2	-7,312.0	7,368.1	0.00	0.00	0.00
12,900.0	90.00	272.40	6,875.2	-2,224.19	-1,039.0	-7,411.9	7,467.4	0.00	0.00	0.00
13,000.0	90.00	272.40	6,875.2	-2,224.19	-1,034.8	-7,511.9	7,566.8	0.00	0.00	0.00
13,100.0	90.00	272.40	6,875.2	-2,224.19	-1,030.6	-7,611.8	7,666.1	0.00	0.00	0.00
13,200.0	90.00	272.40	6,875.2	-2,224.19	-1,026.4	-7,711.7	7,765.5	0.00	0.00	0.00
13,300.0	90.00	272.40	6,875.2	-2,224.19	-1,022.3	-7,811.6	7,864.8	0.00	0.00	0.00
13,400.0	90.00	272.40	6,875.2	-2,224.18	-1,018.1	-7,911.5	7,964.2	0.00	0.00	0.00
13,500.0	90.00	272.40	6,875.2	-2,224.18	-1,013.9	-8,011.4	8,063.5	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well MT-HEATH 1-8-7
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4651.0usft (SAV 802)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4651.0usft (SAV 802)
Site:	NE NW SEC. 9 T5N R65W 6th P.M.	North Reference:	True
Well:	MT-HEATH 1-8-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
13,600.0	90.00	272.40	6,875.2	-2,224.18	-1,009.7	-8,111.3	8,162.9	0.00	0.00	0.00
13,700.0	90.00	272.40	6,875.2	-2,224.18	-1,005.5	-8,211.2	8,262.2	0.00	0.00	0.00
13,800.0	90.00	272.40	6,875.2	-2,224.18	-1,001.4	-8,311.2	8,361.6	0.00	0.00	0.00
13,900.0	90.00	272.40	6,875.2	-2,224.18	-997.2	-8,411.1	8,461.0	0.00	0.00	0.00
14,000.0	90.00	272.40	6,875.2	-2,224.17	-993.0	-8,511.0	8,560.3	0.00	0.00	0.00
14,100.0	90.00	272.40	6,875.2	-2,224.17	-988.8	-8,610.9	8,659.7	0.00	0.00	0.00
14,200.0	90.00	272.40	6,875.2	-2,224.17	-984.6	-8,710.8	8,759.0	0.00	0.00	0.00
14,300.0	90.00	272.40	6,875.2	-2,224.16	-980.5	-8,810.7	8,858.4	0.00	0.00	0.00
14,400.0	90.00	272.39	6,875.2	-2,224.16	-976.3	-8,910.6	8,957.7	0.00	0.00	0.00
14,500.0	90.00	272.39	6,875.2	-2,224.16	-972.1	-9,010.5	9,057.1	0.00	0.00	0.00
14,600.0	90.00	272.39	6,875.2	-2,224.16	-967.9	-9,110.5	9,156.4	0.00	0.00	0.00
14,700.0	90.00	272.39	6,875.2	-2,224.15	-963.7	-9,210.4	9,255.8	0.00	0.00	0.00
14,800.0	90.00	272.39	6,875.1	-2,224.15	-959.6	-9,310.3	9,355.1	0.00	0.00	0.00
14,900.0	90.00	272.39	6,875.1	-2,224.14	-955.4	-9,410.2	9,454.5	0.00	0.00	0.00
15,000.0	90.00	272.39	6,875.1	-2,224.14	-951.2	-9,510.1	9,553.9	0.00	0.00	0.00
15,100.0	90.00	272.39	6,875.1	-2,224.14	-947.0	-9,610.0	9,653.2	0.00	0.00	0.00
15,200.0	90.00	272.39	6,875.1	-2,224.13	-942.9	-9,709.9	9,752.6	0.00	0.00	0.00
15,300.0	90.00	272.39	6,875.1	-2,224.13	-938.7	-9,809.8	9,851.9	0.00	0.00	0.00
15,400.0	90.00	272.39	6,875.1	-2,224.12	-934.5	-9,909.8	9,951.3	0.00	0.00	0.00
15,500.0	90.00	272.39	6,875.1	-2,224.12	-930.3	-10,009.7	10,050.6	0.00	0.00	0.00
15,600.0	90.00	272.39	6,875.1	-2,224.11	-926.1	-10,109.6	10,150.0	0.00	0.00	0.00
15,700.0	90.00	272.39	6,875.1	-2,224.11	-922.0	-10,209.5	10,249.3	0.00	0.00	0.00
15,800.0	90.00	272.39	6,875.1	-2,224.10	-917.8	-10,309.4	10,348.7	0.00	0.00	0.00
15,900.0	90.00	272.39	6,875.1	-2,224.10	-913.6	-10,409.3	10,448.1	0.00	0.00	0.00
16,000.0	90.00	272.39	6,875.1	-2,224.09	-909.4	-10,509.2	10,547.4	0.00	0.00	0.00
16,100.0	90.00	272.39	6,875.1	-2,224.09	-905.3	-10,609.1	10,646.8	0.00	0.00	0.00
16,200.0	90.00	272.39	6,875.1	-2,224.08	-901.1	-10,709.1	10,746.1	0.00	0.00	0.00
16,300.0	90.00	272.39	6,875.1	-2,224.07	-896.9	-10,809.0	10,845.5	0.00	0.00	0.00
16,400.0	90.00	272.39	6,875.1	-2,224.07	-892.7	-10,908.9	10,944.8	0.00	0.00	0.00
16,500.0	90.00	272.39	6,875.1	-2,224.06	-888.6	-11,008.8	11,044.2	0.00	0.00	0.00
16,600.0	90.00	272.39	6,875.1	-2,224.05	-884.4	-11,108.7	11,143.5	0.00	0.00	0.00
16,700.0	90.00	272.39	6,875.0	-2,224.05	-880.2	-11,208.6	11,242.9	0.00	0.00	0.00
16,800.0	90.00	272.39	6,875.0	-2,224.04	-876.1	-11,308.5	11,342.3	0.00	0.00	0.00
16,900.0	90.00	272.39	6,875.0	-2,224.03	-871.9	-11,408.5	11,441.6	0.00	0.00	0.00
17,000.0	90.00	272.39	6,875.0	-2,224.03	-867.7	-11,508.4	11,541.0	0.00	0.00	0.00
17,100.0	90.00	272.39	6,875.0	-2,224.02	-863.5	-11,608.3	11,640.3	0.00	0.00	0.00
17,200.0	90.00	272.39	6,875.0	-2,224.01	-859.4	-11,708.2	11,739.7	0.00	0.00	0.00
17,300.0	90.00	272.39	6,875.0	-2,224.00	-855.2	-11,808.1	11,839.0	0.00	0.00	0.00
BHL: 2584ft FNL & 460ft FWL of Sec 7										
17,345.8	90.00	272.39	6,875.0	-2,224.00	-853.3	-11,853.9	11,884.5	0.00	0.00	0.00

Formations						
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,815.2	3,613.0	PARKMAN				
4,605.6	4,302.0	SUSSEX				
5,232.0	4,848.0	SHANNON				
7,272.9	6,723.0	SHARON SPRINGS				
7,319.2	6,753.0	NIOBRARA				
7,700.0	6,875.0	NIO B TARGET				

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well MT-HEATH 1-8-7
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4651.0usft (SAV 802)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4651.0usft (SAV 802)
Site:	NE NW SEC. 9 T5N R65W 6th P.M.	North Reference:	True
Well:	MT-HEATH 1-8-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Plan Annotations

MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.0	0.0	0.0	0.0	SHL: 1004ft FNL & 1753ft FWL of Sec 9
1,400.0	1,400.0	0.0	0.0	START NUDGE - SURFACE (2°/100ft BUR)
1,801.3	1,800.0	-17.2	-22.1	9 5/8" SURFACE CSG
1,866.3	1,864.4	-22.8	-29.3	START NUDGE - MAIN (3°/100ft BUR)
2,577.0	2,533.7	-162.0	-207.9	EOB TO 29.35° INC
5,791.8	5,336.0	-1,130.2	-1,450.8	END OF TANGENT
6,770.0	6,272.0	-1,280.8	-1,644.1	EOD TO VERTICAL
6,800.0	6,302.0	-1,280.8	-1,644.1	KOP (10°/100ft BUR)
7,700.0	6,875.0	-1,256.8	-2,216.5	LANDING PNT:2321ft FNL & 460ft FEL of Sec 8
17,345.8	6,875.0	-853.3	-11,853.9	BHL: 2584ft FNL & 460ft FWL of Sec 7