

EXTRACTION OIL & GAS

WELD COUNTY, COLORADO (NAD 83)

NE SE SEC. 8 T5N R66W 6th P.M.

TC-AIMS 3-9-11

ORIGINAL WELLBORE

09 January, 2017

Plan: PROPOSAL #2





Project: WELD COUNTY, COLORADO (NAD 83)
Site: NE SE SEC. 8 T5N R66W 6th P.M.
Well: TC-AIMS 3-9-11
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #2

ANNOTATIONS										FORMATION TOP DETAILS		
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Dep	Annotation		TVDPath	MDPath	Formation
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 2632ft FSL & 1190ft FEL of Sec 8		3680.0	3724.9	PARKMAN
100.0	100.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE #1 (2°/100ft BUR)		4410.0	4478.1	SUSSEX
249.9	250.0	3.00	270.00	0.0	-3.9	-3.9	3.9	EOB TO 3° INC		4820.0	4901.2	SHANNON
290.9	291.0	3.00	270.00	0.0	-6.1	-6.1	6.1	END OF TANGENT		6940.0	7130.5	SHARON SPRINGS
440.8	441.0	0.00	0.00	0.0	-10.0	-10.0	10.0	EOD TO VERTICAL		6972.0	7180.1	NIOBRARA
1800.0	1800.2	0.00	0.00	0.0	-10.0	-10.0	10.0	START NUDGE #2 (2°/100ft BUR)		7092.0	7558.1	NIO B TARGET
2505.9	2513.4	14.26	104.37	-21.9	75.6	76.1	98.3	EOB TO 14.26° INC				
6656.8	6796.4	14.26	104.37	-283.9	1097.9	1104.8	1153.6	START BUILD & TURN				
7092.0	7558.1	90.00	90.25	-313.2	1654.1	1661.6	1711.2	HZ LP: 2310ft FSL & 460ft FWL of Sec 9				
7092.0	20200.7	90.00	90.25	-367.4	14296.5	14301.2	14353.8	BHL: 2309ft FSL & 2495ft FWL of Sec 11				

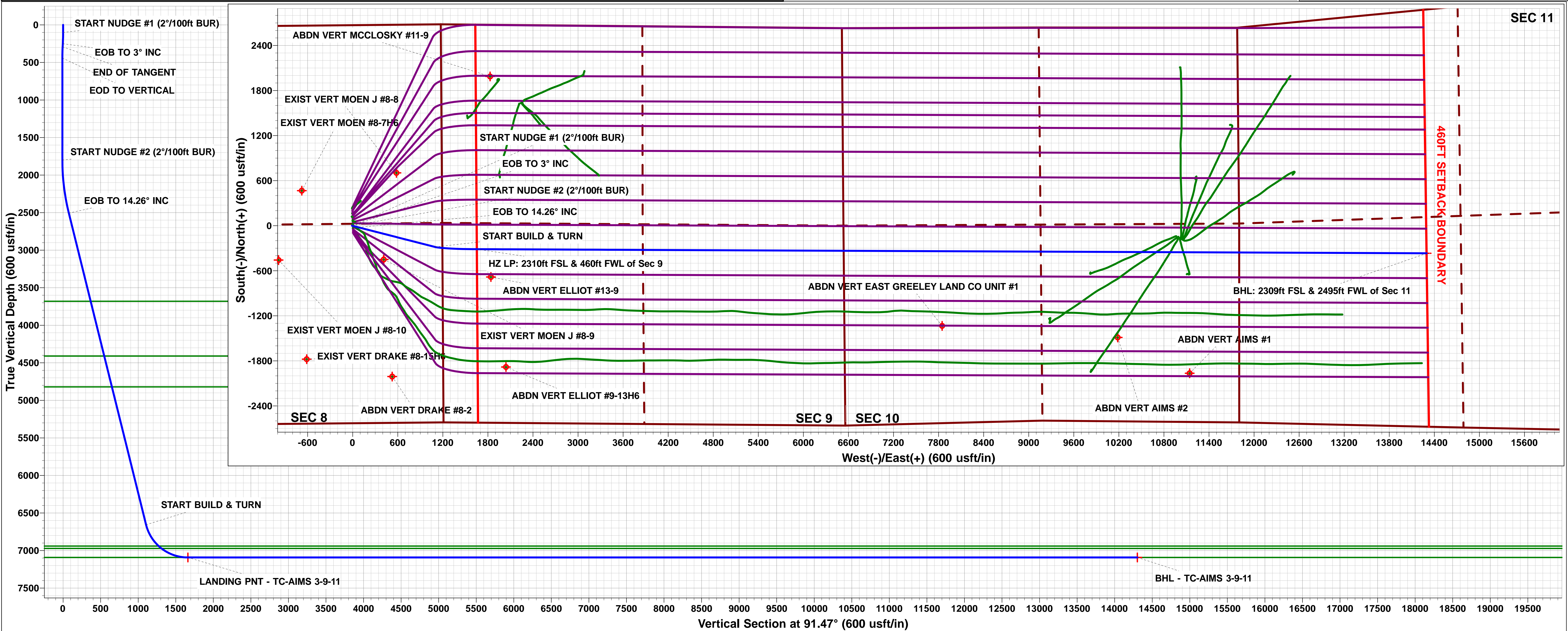
WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LANDING PNT - TC-AIMS 3-9-11	7092.0	-313.2	1654.1	40.413210	-104.792730
BHL - TC-AIMS 3-9-11	7092.0	-367.4	14296.5	40.413050	-104.747330

TC-MOISER HILL 2-9-7
TC-COUNTRY CLUB WEST C1-9-11
TC-MOISER HILL 3-9-11
TC-COUNTRY CLUB WEST 1-9-11
TC-COUNTRY CLUB WEST 2-9-11
TC-COUNTRY CLUB WEST C3-9-11
TC-COUNTRY CLUB WEST A2-9-11
TC-COUNTRY CLUB WEST 3-9-11
TC-AIMS C4-9-11
TC-COUNTRY CLUB WEST 4-9-11
TC-COUNTRY CLUB WEST 5-9-11
TC-AIMS C5-9-11
TC-AIMS 1-9-11
TC-AIMS 2-9-11
TC-HILAND KNOLLS C6-9-11
TC-AIMS 3-9-11
TC-AIMS 4-9-11

TC-HILAND KNOLLS C7-9-11
TC-HILAND KNOLLS 1-9-11
TC-HILAND KNOLLS 2-9-11
TC-HILAND KNOLLS 3-9-11
TC-HILAND KNOLLS 4-9-11

South(-)/North(+) (150 usft/in)
West(-)/East(+) (150 usft/in)

T M
Azimuths to True North
Magnetic North: 8.28°
Magnetic Field
Strength: 52449.8snT
Dip Angle: 66.87°
Date: 28/12/2016
Model: IGRF2015



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TC-AIMS 3-9-11
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4807.0usft
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4807.0usft
Site:	NE SE SEC. 8 T5N R66W 6th P.M.	North Reference:	True
Well:	TC-AIMS 3-9-11	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 SE SEC. 8 T5N R66W 6th P.M.		
Site Position:		Northing:	1,394,363.62 usft
From:	Lat/Long	Easting:	3,195,288.63 usft
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000ft
		Latitude:	40.413810
		Longitude:	-104.798660
		Grid Convergence:	0.45 °

Well	TC-AIMS 3-9-11		
Well Position	+N-S	94.7 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	28/12/2016	8.28	66.87	52,450

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	91.47

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
0.0	0.00	0.00	0.0	-4,807.0	0.0	0.0	0.00	0.00	0.00	0.00	
100.0	0.00	0.00	100.0	-4,707.0	0.0	0.0	0.00	0.00	0.00	0.00	
250.0	3.00	270.00	249.9	-4,557.1	0.0	-3.9	2.00	2.00	0.00	270.00	
291.0	3.00	270.00	290.9	-4,516.1	0.0	-6.1	0.00	0.00	0.00	0.00	
441.0	0.00	0.00	440.8	-4,366.2	0.0	-10.0	2.00	-2.00	0.00	180.00	
1,800.2	0.00	0.00	1,800.0	-3,007.0	0.0	-10.0	0.00	0.00	0.00	0.00	
2,513.4	14.26	104.37	2,505.9	-2,301.1	-21.9	75.6	2.00	2.00	0.00	104.37	
6,796.4	14.26	104.37	6,656.8	1,849.8	-283.9	1,097.9	0.00	0.00	0.00	0.00	
7,558.1	90.00	90.25	7,092.0	2,285.0	-313.2	1,654.1	10.00	9.94	-1.85	-14.56	LANDING PNT - TC
20,200.7	90.00	90.25	7,092.0	2,285.0	-367.4	14,296.5	0.00	0.00	0.00	0.00	BHL - TC-AIMS 3-9

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TC-AIMS 3-9-11
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4807.0usft
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4807.0usft
Site:	NE SE SEC. 8 T5N R66W 6th P.M.	North Reference:	True
Well:	TC-AIMS 3-9-11	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: 2632ft FSL & 1190ft FEL of Sec 8										
0.0	0.00	0.00	0.0	4,807.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE #1 (2°/100ft BUR)										
100.0	0.00	0.00	100.0	4,707.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	2.00	270.00	200.0	4,607.02	0.0	-1.7	-1.7	2.00	2.00	0.00
EOB TO 3° INC										
250.0	3.00	270.00	249.9	4,557.07	0.0	-3.9	-3.9	2.00	2.00	0.00
END OF TANGENT										
291.0	3.00	270.00	290.9	4,516.12	0.0	-6.1	-6.1	0.00	0.00	0.00
300.0	2.82	270.00	299.9	4,507.14	0.0	-6.5	-6.5	2.00	-2.00	0.00
400.0	0.82	270.00	399.8	4,407.19	0.0	-9.7	-9.7	2.00	-2.00	0.00
EOD TO VERTICAL										
441.0	0.00	0.00	440.8	4,366.19	0.0	-10.0	-10.0	2.00	-2.00	0.00
500.0	0.00	0.00	499.8	4,307.19	0.0	-10.0	-10.0	0.00	0.00	0.00
600.0	0.00	0.00	599.8	4,207.19	0.0	-10.0	-10.0	0.00	0.00	0.00
700.0	0.00	0.00	699.8	4,107.19	0.0	-10.0	-10.0	0.00	0.00	0.00
800.0	0.00	0.00	799.8	4,007.19	0.0	-10.0	-10.0	0.00	0.00	0.00
900.0	0.00	0.00	899.8	3,907.19	0.0	-10.0	-10.0	0.00	0.00	0.00
1,000.0	0.00	0.00	999.8	3,807.19	0.0	-10.0	-10.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,099.8	3,707.19	0.0	-10.0	-10.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,199.8	3,607.19	0.0	-10.0	-10.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,299.8	3,507.19	0.0	-10.0	-10.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,399.8	3,407.19	0.0	-10.0	-10.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,499.8	3,307.19	0.0	-10.0	-10.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,599.8	3,207.19	0.0	-10.0	-10.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,699.8	3,107.19	0.0	-10.0	-10.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,799.8	3,007.19	0.0	-10.0	-10.0	0.00	0.00	0.00
START NUDGE #2 (2°/100ft BUR)										
1,800.2	0.00	0.00	1,800.0	3,006.99	0.0	-10.0	-10.0	0.00	0.00	0.00
1,900.0	2.00	104.37	1,899.8	2,907.21	-0.4	-8.3	-8.3	2.00	2.00	0.00
2,000.0	4.00	104.37	1,999.6	2,807.36	-1.7	-3.3	-3.2	2.00	2.00	0.00
2,100.0	6.00	104.37	2,099.3	2,707.74	-3.9	5.2	5.3	2.00	2.00	0.00
2,200.0	8.00	104.37	2,198.5	2,608.49	-6.9	17.0	17.2	2.00	2.00	0.00
2,300.0	10.00	104.37	2,297.3	2,509.72	-10.8	32.1	32.4	2.00	2.00	0.00
2,400.0	12.00	104.37	2,395.4	2,411.57	-15.5	50.6	51.0	2.00	2.00	0.00
2,500.0	14.00	104.37	2,492.9	2,314.13	-21.1	72.4	72.9	2.00	2.00	0.00
EOB TO 14.26° INC										
2,513.4	14.26	104.37	2,505.9	2,301.14	-21.9	75.6	76.1	2.00	2.00	0.00
2,600.0	14.26	104.37	2,589.8	2,217.21	-27.2	96.2	96.9	0.00	0.00	0.00
2,700.0	14.26	104.37	2,686.7	2,120.29	-33.3	120.1	120.9	0.00	0.00	0.00
2,800.0	14.26	104.37	2,783.6	2,023.37	-39.4	144.0	144.9	0.00	0.00	0.00
2,900.0	14.26	104.37	2,880.5	1,926.46	-45.6	167.8	169.0	0.00	0.00	0.00
3,000.0	14.26	104.37	2,977.5	1,829.54	-51.7	191.7	193.0	0.00	0.00	0.00
3,100.0	14.26	104.37	3,074.4	1,732.62	-57.8	215.6	217.0	0.00	0.00	0.00
3,200.0	14.26	104.37	3,171.3	1,635.71	-63.9	239.4	241.0	0.00	0.00	0.00
3,300.0	14.26	104.37	3,268.2	1,538.79	-70.0	263.3	265.0	0.00	0.00	0.00
3,400.0	14.26	104.37	3,365.1	1,441.87	-76.1	287.2	289.0	0.00	0.00	0.00
3,500.0	14.26	104.37	3,462.0	1,344.96	-82.3	311.0	313.1	0.00	0.00	0.00
3,600.0	14.26	104.37	3,559.0	1,248.04	-88.4	334.9	337.1	0.00	0.00	0.00
3,700.0	14.26	104.37	3,655.9	1,151.12	-94.5	358.8	361.1	0.00	0.00	0.00
PARKMAN										
3,724.9	14.26	104.37	3,680.0	1,127.00	-96.0	364.7	367.1	0.00	0.00	0.00
3,800.0	14.26	104.37	3,752.8	1,054.21	-100.6	382.7	385.1	0.00	0.00	0.00

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Well:	TC-AIMS 3-9-11	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)
3,900.0	14.26	104.37	3,849.7	957.29	-106.7	406.5	409.1	0.00	0.00	0.00
4,000.0	14.26	104.37	3,946.6	860.37	-112.8	430.4	433.2	0.00	0.00	0.00
4,100.0	14.26	104.37	4,043.5	763.45	-119.0	454.3	457.2	0.00	0.00	0.00
4,200.0	14.26	104.37	4,140.5	666.54	-125.1	478.1	481.2	0.00	0.00	0.00
4,300.0	14.26	104.37	4,237.4	569.62	-131.2	502.0	505.2	0.00	0.00	0.00
4,400.0	14.26	104.37	4,334.3	472.70	-137.3	525.9	529.2	0.00	0.00	0.00
SUSSEX										
4,478.1	14.26	104.37	4,410.0	397.00	-142.1	544.5	548.0	0.00	0.00	0.00
4,500.0	14.26	104.37	4,431.2	375.79	-143.4	549.7	553.2	0.00	0.00	0.00
4,600.0	14.26	104.37	4,528.1	278.87	-149.5	573.6	577.3	0.00	0.00	0.00
4,700.0	14.26	104.37	4,625.0	181.95	-155.6	597.5	601.3	0.00	0.00	0.00
4,800.0	14.26	104.37	4,722.0	85.04	-161.8	621.3	625.3	0.00	0.00	0.00
4,900.0	14.26	104.37	4,818.9	-11.88	-167.9	645.2	649.3	0.00	0.00	0.00
SHANNON										
4,901.2	14.26	104.37	4,820.0	-13.00	-167.9	645.5	649.6	0.00	0.00	0.00
5,000.0	14.26	104.37	4,915.8	-108.80	-174.0	669.1	673.3	0.00	0.00	0.00
5,100.0	14.26	104.37	5,012.7	-205.71	-180.1	692.9	697.3	0.00	0.00	0.00
5,200.0	14.26	104.37	5,109.6	-302.63	-186.2	716.8	721.4	0.00	0.00	0.00
5,300.0	14.26	104.37	5,206.5	-399.55	-192.3	740.7	745.4	0.00	0.00	0.00
5,400.0	14.26	104.37	5,303.5	-496.46	-198.5	764.6	769.4	0.00	0.00	0.00
5,500.0	14.26	104.37	5,400.4	-593.38	-204.6	788.4	793.4	0.00	0.00	0.00
5,600.0	14.26	104.37	5,497.3	-690.30	-210.7	812.3	817.4	0.00	0.00	0.00
5,700.0	14.26	104.37	5,594.2	-787.22	-216.8	836.2	841.5	0.00	0.00	0.00
5,800.0	14.26	104.37	5,691.1	-884.13	-222.9	860.0	865.5	0.00	0.00	0.00
5,900.0	14.26	104.37	5,788.0	-981.05	-229.0	883.9	889.5	0.00	0.00	0.00
6,000.0	14.26	104.37	5,885.0	-1,077.97	-235.1	907.8	913.5	0.00	0.00	0.00
6,100.0	14.26	104.37	5,981.9	-1,174.88	-241.3	931.6	937.5	0.00	0.00	0.00
6,200.0	14.26	104.37	6,078.8	-1,271.80	-247.4	955.5	961.5	0.00	0.00	0.00
6,300.0	14.26	104.37	6,175.7	-1,368.72	-253.5	979.4	985.6	0.00	0.00	0.00
6,400.0	14.26	104.37	6,272.6	-1,465.63	-259.6	1,003.2	1,009.6	0.00	0.00	0.00
6,500.0	14.26	104.37	6,369.6	-1,562.55	-265.7	1,027.1	1,033.6	0.00	0.00	0.00
6,600.0	14.26	104.37	6,466.5	-1,659.47	-271.8	1,051.0	1,057.6	0.00	0.00	0.00
6,700.0	14.26	104.37	6,563.4	-1,756.38	-278.0	1,074.9	1,081.6	0.00	0.00	0.00
START BUILD & TURN										
6,796.4	14.26	104.37	6,656.8	-1,849.81	-283.9	1,097.9	1,104.8	0.00	0.00	0.00
6,800.0	14.62	104.01	6,660.3	-1,853.30	-284.1	1,098.7	1,105.7	10.07	9.76	-10.03
6,900.0	24.43	98.10	6,754.4	-1,947.44	-290.1	1,131.5	1,138.6	10.00	9.82	-5.91
7,000.0	34.35	95.45	6,841.5	-2,034.47	-295.7	1,180.2	1,187.4	10.00	9.92	-2.64
7,100.0	44.30	93.89	6,918.7	-2,111.73	-300.7	1,243.3	1,250.6	10.00	9.95	-1.56
SHARON SPRINGS										
7,130.5	47.34	93.52	6,940.0	-2,133.00	-302.1	1,265.1	1,272.5	10.00	9.96	-1.21
NIORARA										
7,180.1	52.29	93.00	6,972.0	-2,165.00	-304.3	1,303.0	1,310.3	10.00	9.97	-1.06
7,200.0	54.27	92.80	6,983.9	-2,176.88	-305.1	1,318.9	1,326.3	10.00	9.97	-0.96
7,300.0	64.24	91.96	7,034.9	-2,272.94	-308.6	1,404.6	1,412.1	10.00	9.97	-0.84
7,400.0	74.22	91.25	7,070.4	-2,263.36	-311.2	1,498.0	1,505.5	10.00	9.98	-0.71
7,500.0	84.20	90.61	7,089.1	-2,282.06	-312.8	1,596.1	1,603.6	10.00	9.98	-0.64
HZ LP: 2310ft FSL & 460ft FWL of Sec 9 - NIO B TARGET										
7,558.1	90.00	90.25	7,092.0	-2,285.00	-313.2	1,654.1	1,661.6	10.00	9.98	-0.62
7,600.0	90.00	90.25	7,092.0	-2,285.00	-313.4	1,696.0	1,703.5	0.00	0.00	0.00
7,700.0	90.00	90.25	7,092.0	-2,285.00	-313.8	1,796.0	1,803.4	0.00	0.00	0.00
7,800.0	90.00	90.25	7,092.0	-2,285.00	-314.3	1,896.0	1,903.4	0.00	0.00	0.00
7,900.0	90.00	90.25	7,092.0	-2,285.00	-314.7	1,996.0	2,003.4	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TC-AIMS 3-9-11
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4807.0usft
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4807.0usft
Site:	NE SE SEC. 8 T5N R66W 6th P.M.	North Reference:	True
Well:	TC-AIMS 3-9-11	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)
8,000.0	90.00	90.25	7,092.0	-2,285.00	-315.1	2,096.0	2,103.4	0.00	0.00	0.00
8,100.0	90.00	90.25	7,092.0	-2,285.00	-315.6	2,196.0	2,203.3	0.00	0.00	0.00
8,200.0	90.00	90.25	7,092.0	-2,285.00	-316.0	2,296.0	2,303.3	0.00	0.00	0.00
8,300.0	90.00	90.25	7,092.0	-2,285.00	-316.4	2,396.0	2,403.3	0.00	0.00	0.00
8,400.0	90.00	90.25	7,092.0	-2,285.00	-316.9	2,496.0	2,503.3	0.00	0.00	0.00
8,500.0	90.00	90.25	7,092.0	-2,285.00	-317.3	2,596.0	2,603.3	0.00	0.00	0.00
8,600.0	90.00	90.25	7,092.0	-2,285.00	-317.7	2,696.0	2,703.2	0.00	0.00	0.00
8,700.0	90.00	90.25	7,092.0	-2,285.00	-318.1	2,796.0	2,803.2	0.00	0.00	0.00
8,800.0	90.00	90.25	7,092.0	-2,285.00	-318.6	2,896.0	2,903.2	0.00	0.00	0.00
8,900.0	90.00	90.25	7,092.0	-2,285.00	-319.0	2,996.0	3,003.2	0.00	0.00	0.00
9,000.0	90.00	90.25	7,092.0	-2,285.00	-319.4	3,096.0	3,103.1	0.00	0.00	0.00
9,100.0	90.00	90.25	7,092.0	-2,285.00	-319.9	3,196.0	3,203.1	0.00	0.00	0.00
9,200.0	90.00	90.25	7,092.0	-2,285.00	-320.3	3,295.9	3,303.1	0.00	0.00	0.00
9,300.0	90.00	90.25	7,092.0	-2,285.00	-320.7	3,395.9	3,403.1	0.00	0.00	0.00
9,400.0	90.00	90.25	7,092.0	-2,285.00	-321.1	3,495.9	3,503.0	0.00	0.00	0.00
9,500.0	90.00	90.25	7,092.0	-2,285.00	-321.6	3,595.9	3,603.0	0.00	0.00	0.00
9,600.0	90.00	90.25	7,092.0	-2,285.00	-322.0	3,695.9	3,703.0	0.00	0.00	0.00
9,700.0	90.00	90.25	7,092.0	-2,285.00	-322.4	3,795.9	3,803.0	0.00	0.00	0.00
9,800.0	90.00	90.25	7,092.0	-2,285.00	-322.9	3,895.9	3,903.0	0.00	0.00	0.00
9,900.0	90.00	90.25	7,092.0	-2,285.00	-323.3	3,995.9	4,002.9	0.00	0.00	0.00
10,000.0	90.00	90.25	7,092.0	-2,285.00	-323.7	4,095.9	4,102.9	0.00	0.00	0.00
10,100.0	90.00	90.25	7,092.0	-2,285.00	-324.1	4,195.9	4,202.9	0.00	0.00	0.00
10,200.0	90.00	90.25	7,092.0	-2,285.00	-324.6	4,295.9	4,302.9	0.00	0.00	0.00
10,300.0	90.00	90.25	7,092.0	-2,285.00	-325.0	4,395.9	4,402.8	0.00	0.00	0.00
10,400.0	90.00	90.25	7,092.0	-2,285.00	-325.4	4,495.9	4,502.8	0.00	0.00	0.00
10,500.0	90.00	90.25	7,092.0	-2,285.00	-325.9	4,595.9	4,602.8	0.00	0.00	0.00
10,600.0	90.00	90.25	7,092.0	-2,285.00	-326.3	4,695.9	4,702.8	0.00	0.00	0.00
10,700.0	90.00	90.25	7,092.0	-2,285.00	-326.7	4,795.9	4,802.7	0.00	0.00	0.00
10,800.0	90.00	90.25	7,092.0	-2,285.00	-327.1	4,895.9	4,902.7	0.00	0.00	0.00
10,900.0	90.00	90.25	7,092.0	-2,285.00	-327.6	4,995.9	5,002.7	0.00	0.00	0.00
11,000.0	90.00	90.25	7,092.0	-2,285.00	-328.0	5,095.9	5,102.7	0.00	0.00	0.00
11,100.0	90.00	90.25	7,092.0	-2,285.00	-328.4	5,195.9	5,202.7	0.00	0.00	0.00
11,200.0	90.00	90.25	7,092.0	-2,285.00	-328.9	5,295.9	5,302.6	0.00	0.00	0.00
11,300.0	90.00	90.25	7,092.0	-2,285.00	-329.3	5,395.9	5,402.6	0.00	0.00	0.00
11,400.0	90.00	90.25	7,092.0	-2,285.00	-329.7	5,495.9	5,502.6	0.00	0.00	0.00
11,500.0	90.00	90.25	7,092.0	-2,285.00	-330.1	5,595.9	5,602.6	0.00	0.00	0.00
11,600.0	90.00	90.25	7,092.0	-2,285.00	-330.6	5,695.9	5,702.5	0.00	0.00	0.00
11,700.0	90.00	90.25	7,092.0	-2,285.00	-331.0	5,795.9	5,802.5	0.00	0.00	0.00
11,800.0	90.00	90.25	7,092.0	-2,285.00	-331.4	5,895.9	5,902.5	0.00	0.00	0.00
11,900.0	90.00	90.25	7,092.0	-2,285.00	-331.9	5,995.9	6,002.5	0.00	0.00	0.00
12,000.0	90.00	90.25	7,092.0	-2,285.00	-332.3	6,095.9	6,102.4	0.00	0.00	0.00
12,100.0	90.00	90.25	7,092.0	-2,285.00	-332.7	6,195.9	6,202.4	0.00	0.00	0.00
12,200.0	90.00	90.25	7,092.0	-2,285.00	-333.1	6,295.9	6,302.4	0.00	0.00	0.00
12,300.0	90.00	90.25	7,092.0	-2,285.00	-333.6	6,395.9	6,402.4	0.00	0.00	0.00
12,400.0	90.00	90.25	7,092.0	-2,285.00	-334.0	6,495.9	6,502.4	0.00	0.00	0.00
12,500.0	90.00	90.25	7,092.0	-2,285.00	-334.4	6,595.9	6,602.3	0.00	0.00	0.00
12,600.0	90.00	90.25	7,092.0	-2,285.00	-334.9	6,695.9	6,702.3	0.00	0.00	0.00
12,700.0	90.00	90.25	7,092.0	-2,285.00	-335.3	6,795.9	6,802.3	0.00	0.00	0.00
12,800.0	90.00	90.25	7,092.0	-2,285.00	-335.7	6,895.9	6,902.3	0.00	0.00	0.00
12,900.0	90.00	90.25	7,092.0	-2,285.00	-336.1	6,995.9	7,002.2	0.00	0.00	0.00
13,000.0	90.00	90.25	7,092.0	-2,285.00	-336.6	7,095.9	7,102.2	0.00	0.00	0.00
13,100.0	90.00	90.25	7,092.0	-2,285.00	-337.0	7,195.9	7,202.2	0.00	0.00	0.00
13,200.0	90.00	90.25	7,092.0	-2,285.00	-337.4	7,295.9	7,302.2	0.00	0.00	0.00
13,300.0	90.00	90.25	7,092.0	-2,285.00	-337.9	7,395.9	7,402.2	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TC-AIMS 3-9-11
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4807.0usft
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4807.0usft
Site:	NE SE SEC. 8 T5N R66W 6th P.M.	North Reference:	True
Well:	TC-AIMS 3-9-11	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)
13,400.0	90.00	90.25	7,092.0	-2,285.00	-338.3	7,495.9	7,502.1	0.00	0.00	0.00
13,500.0	90.00	90.25	7,092.0	-2,285.00	-338.7	7,595.9	7,602.1	0.00	0.00	0.00
13,600.0	90.00	90.25	7,092.0	-2,285.00	-339.1	7,695.9	7,702.1	0.00	0.00	0.00
13,700.0	90.00	90.25	7,092.0	-2,285.00	-339.6	7,795.9	7,802.1	0.00	0.00	0.00
13,800.0	90.00	90.25	7,092.0	-2,285.00	-340.0	7,895.9	7,902.0	0.00	0.00	0.00
13,900.0	90.00	90.25	7,092.0	-2,285.00	-340.4	7,995.9	8,002.0	0.00	0.00	0.00
14,000.0	90.00	90.25	7,092.0	-2,285.00	-340.9	8,095.9	8,102.0	0.00	0.00	0.00
14,100.0	90.00	90.25	7,092.0	-2,285.00	-341.3	8,195.9	8,202.0	0.00	0.00	0.00
14,200.0	90.00	90.25	7,092.0	-2,285.00	-341.7	8,295.9	8,301.9	0.00	0.00	0.00
14,300.0	90.00	90.25	7,092.0	-2,285.00	-342.1	8,395.9	8,401.9	0.00	0.00	0.00
14,400.0	90.00	90.25	7,092.0	-2,285.00	-342.6	8,495.9	8,501.9	0.00	0.00	0.00
14,500.0	90.00	90.25	7,092.0	-2,285.00	-343.0	8,595.9	8,601.9	0.00	0.00	0.00
14,600.0	90.00	90.25	7,092.0	-2,285.00	-343.4	8,695.9	8,701.9	0.00	0.00	0.00
14,700.0	90.00	90.25	7,092.0	-2,285.00	-343.9	8,795.9	8,801.8	0.00	0.00	0.00
14,800.0	90.00	90.25	7,092.0	-2,285.00	-344.3	8,895.9	8,901.8	0.00	0.00	0.00
14,900.0	90.00	90.25	7,092.0	-2,285.00	-344.7	8,995.9	9,001.8	0.00	0.00	0.00
15,000.0	90.00	90.25	7,092.0	-2,285.00	-345.1	9,095.9	9,101.8	0.00	0.00	0.00
15,100.0	90.00	90.25	7,092.0	-2,285.00	-345.6	9,195.9	9,201.7	0.00	0.00	0.00
15,200.0	90.00	90.25	7,092.0	-2,285.00	-346.0	9,295.9	9,301.7	0.00	0.00	0.00
15,300.0	90.00	90.25	7,092.0	-2,285.00	-346.4	9,395.9	9,401.7	0.00	0.00	0.00
15,400.0	90.00	90.25	7,092.0	-2,285.00	-346.9	9,495.9	9,501.7	0.00	0.00	0.00
15,500.0	90.00	90.25	7,092.0	-2,285.00	-347.3	9,595.9	9,601.6	0.00	0.00	0.00
15,600.0	90.00	90.25	7,092.0	-2,285.00	-347.7	9,695.9	9,701.6	0.00	0.00	0.00
15,700.0	90.00	90.25	7,092.0	-2,285.00	-348.2	9,795.9	9,801.6	0.00	0.00	0.00
15,800.0	90.00	90.25	7,092.0	-2,285.00	-348.6	9,895.9	9,901.6	0.00	0.00	0.00
15,900.0	90.00	90.25	7,092.0	-2,285.00	-349.0	9,995.9	10,001.6	0.00	0.00	0.00
16,000.0	90.00	90.25	7,092.0	-2,285.00	-349.4	10,095.9	10,101.5	0.00	0.00	0.00
16,100.0	90.00	90.25	7,092.0	-2,285.00	-349.9	10,195.9	10,201.5	0.00	0.00	0.00
16,200.0	90.00	90.25	7,092.0	-2,285.00	-350.3	10,295.9	10,301.5	0.00	0.00	0.00
16,300.0	90.00	90.25	7,092.0	-2,285.00	-350.7	10,395.9	10,401.5	0.00	0.00	0.00
16,400.0	90.00	90.25	7,092.0	-2,285.00	-351.2	10,495.9	10,501.4	0.00	0.00	0.00
16,500.0	90.00	90.25	7,092.0	-2,285.00	-351.6	10,595.9	10,601.4	0.00	0.00	0.00
16,600.0	90.00	90.25	7,092.0	-2,285.00	-352.0	10,695.9	10,701.4	0.00	0.00	0.00
16,700.0	90.00	90.25	7,092.0	-2,285.00	-352.4	10,795.9	10,801.4	0.00	0.00	0.00
16,800.0	90.00	90.25	7,092.0	-2,285.00	-352.9	10,895.9	10,901.3	0.00	0.00	0.00
16,900.0	90.00	90.25	7,092.0	-2,285.00	-353.3	10,995.9	11,001.3	0.00	0.00	0.00
17,000.0	90.00	90.25	7,092.0	-2,285.00	-353.7	11,095.9	11,101.3	0.00	0.00	0.00
17,100.0	90.00	90.25	7,092.0	-2,285.00	-354.2	11,195.9	11,201.3	0.00	0.00	0.00
17,200.0	90.00	90.25	7,092.0	-2,285.00	-354.6	11,295.9	11,301.3	0.00	0.00	0.00
17,300.0	90.00	90.25	7,092.0	-2,285.00	-355.0	11,395.9	11,401.2	0.00	0.00	0.00
17,400.0	90.00	90.25	7,092.0	-2,285.00	-355.4	11,495.9	11,501.2	0.00	0.00	0.00
17,500.0	90.00	90.25	7,092.0	-2,285.00	-355.9	11,595.9	11,601.2	0.00	0.00	0.00
17,600.0	90.00	90.25	7,092.0	-2,285.00	-356.3	11,695.9	11,701.2	0.00	0.00	0.00
17,700.0	90.00	90.25	7,092.0	-2,285.00	-356.7	11,795.9	11,801.1	0.00	0.00	0.00
17,800.0	90.00	90.25	7,092.0	-2,285.00	-357.2	11,895.9	11,901.1	0.00	0.00	0.00
17,900.0	90.00	90.25	7,092.0	-2,285.00	-357.6	11,995.9	12,001.1	0.00	0.00	0.00
18,000.0	90.00	90.25	7,092.0	-2,285.00	-358.0	12,095.9	12,101.1	0.00	0.00	0.00
18,100.0	90.00	90.25	7,092.0	-2,285.00	-358.4	12,195.9	12,201.1	0.00	0.00	0.00
18,200.0	90.00	90.25	7,092.0	-2,285.00	-358.9	12,295.9	12,301.0	0.00	0.00	0.00
18,300.0	90.00	90.25	7,092.0	-2,285.00	-359.3	12,395.9	12,401.0	0.00	0.00	0.00
18,400.0	90.00	90.25	7,092.0	-2,285.00	-359.7	12,495.9	12,501.0	0.00	0.00	0.00
18,500.0	90.00	90.25	7,092.0	-2,285.00	-360.2	12,595.9	12,601.0	0.00	0.00	0.00
18,600.0	90.00	90.25	7,092.0	-2,285.00	-360.6	12,695.9	12,700.9	0.00	0.00	0.00
18,700.0	90.00	90.25	7,092.0	-2,285.00	-361.0	12,795.9	12,800.9	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TC-AIMS 3-9-11
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4807.0usft
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4807.0usft
Site:	NE SE SEC. 8 T5N R66W 6th P.M.	North Reference:	True
Well:	TC-AIMS 3-9-11	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)
18,800.0	90.00	90.25	7,092.0	-2,285.00	-361.4	12,895.9	12,900.9	0.00	0.00	0.00
18,900.0	90.00	90.25	7,092.0	-2,285.00	-361.9	12,995.9	13,000.9	0.00	0.00	0.00
19,000.0	90.00	90.25	7,092.0	-2,285.00	-362.3	13,095.9	13,100.8	0.00	0.00	0.00
19,100.0	90.00	90.25	7,092.0	-2,285.00	-362.7	13,195.9	13,200.8	0.00	0.00	0.00
19,200.0	90.00	90.25	7,092.0	-2,285.00	-363.2	13,295.9	13,300.8	0.00	0.00	0.00
19,300.0	90.00	90.25	7,092.0	-2,285.00	-363.6	13,395.9	13,400.8	0.00	0.00	0.00
19,400.0	90.00	90.25	7,092.0	-2,285.00	-364.0	13,495.9	13,500.8	0.00	0.00	0.00
19,500.0	90.00	90.25	7,092.0	-2,285.00	-364.4	13,595.9	13,600.7	0.00	0.00	0.00
19,600.0	90.00	90.25	7,092.0	-2,285.00	-364.9	13,695.9	13,700.7	0.00	0.00	0.00
19,700.0	90.00	90.25	7,092.0	-2,285.00	-365.3	13,795.9	13,800.7	0.00	0.00	0.00
19,800.0	90.00	90.25	7,092.0	-2,285.00	-365.7	13,895.9	13,900.7	0.00	0.00	0.00
19,900.0	90.00	90.25	7,092.0	-2,285.00	-366.2	13,995.9	14,000.6	0.00	0.00	0.00
20,000.0	90.00	90.25	7,092.0	-2,285.00	-366.6	14,095.9	14,100.6	0.00	0.00	0.00
20,100.0	90.00	90.25	7,092.0	-2,285.00	-367.0	14,195.8	14,200.6	0.00	0.00	0.00
20,200.0	90.00	90.25	7,092.0	-2,285.00	-367.4	14,295.8	14,300.6	0.00	0.00	0.00
BHL: 2309ft FSL & 2495ft FWL of Sec 11										
20,200.7	90.00	90.25	7,092.0	-2,285.00	-367.4	14,296.5	14,301.2	0.00	0.00	0.00

Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,724.9	3,680.0	PARKMAN			
4,478.1	4,410.0	SUSSEX			
4,901.2	4,820.0	SHANNON			
7,130.5	6,940.0	SHARON SPRINGS			
7,180.1	6,972.0	NIOBRARA			
7,558.1	7,092.0	NIO B TARGET			

Plan Annotations

MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.0	0.0	0.0	0.0	SHL: 2632ft FSL & 1190ft FEL of Sec 8
100.0	100.0	0.0	0.0	START NUDGE #1 (2°/100ft BUR)
250.0	249.9	0.0	-3.9	EOB TO 3° INC
291.0	290.9	0.0	-6.1	END OF TANGENT
441.0	440.8	0.0	-10.0	EOD TO VERTICAL
1,800.2	1,800.0	0.0	-10.0	START NUDGE #2 (2°/100ft BUR)
2,513.4	2,505.9	-21.9	75.6	EOB TO 14.26° INC
6,796.4	6,656.8	-283.9	1,097.9	START BUILD & TURN
7,558.1	7,092.0	-313.2	1,654.1	HZ LP: 2310ft FSL & 460ft FWL of Sec 9
20,200.7	7,092.0	-367.4	14,296.5	BHL: 2309ft FSL & 2495ft FWL of Sec 11