

# **EXTRACTION OIL & GAS**

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

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

**TC-AIMS 2-9-11**

**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 2-9-11  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL #2

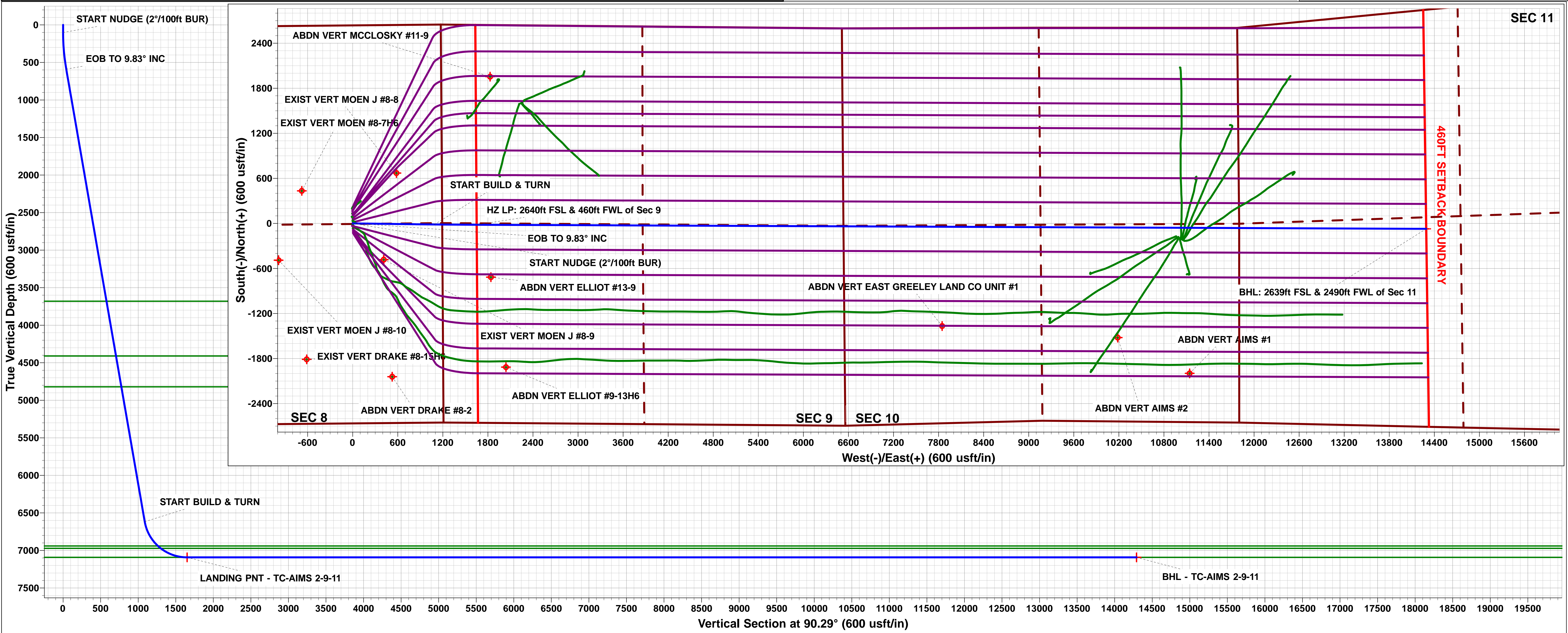
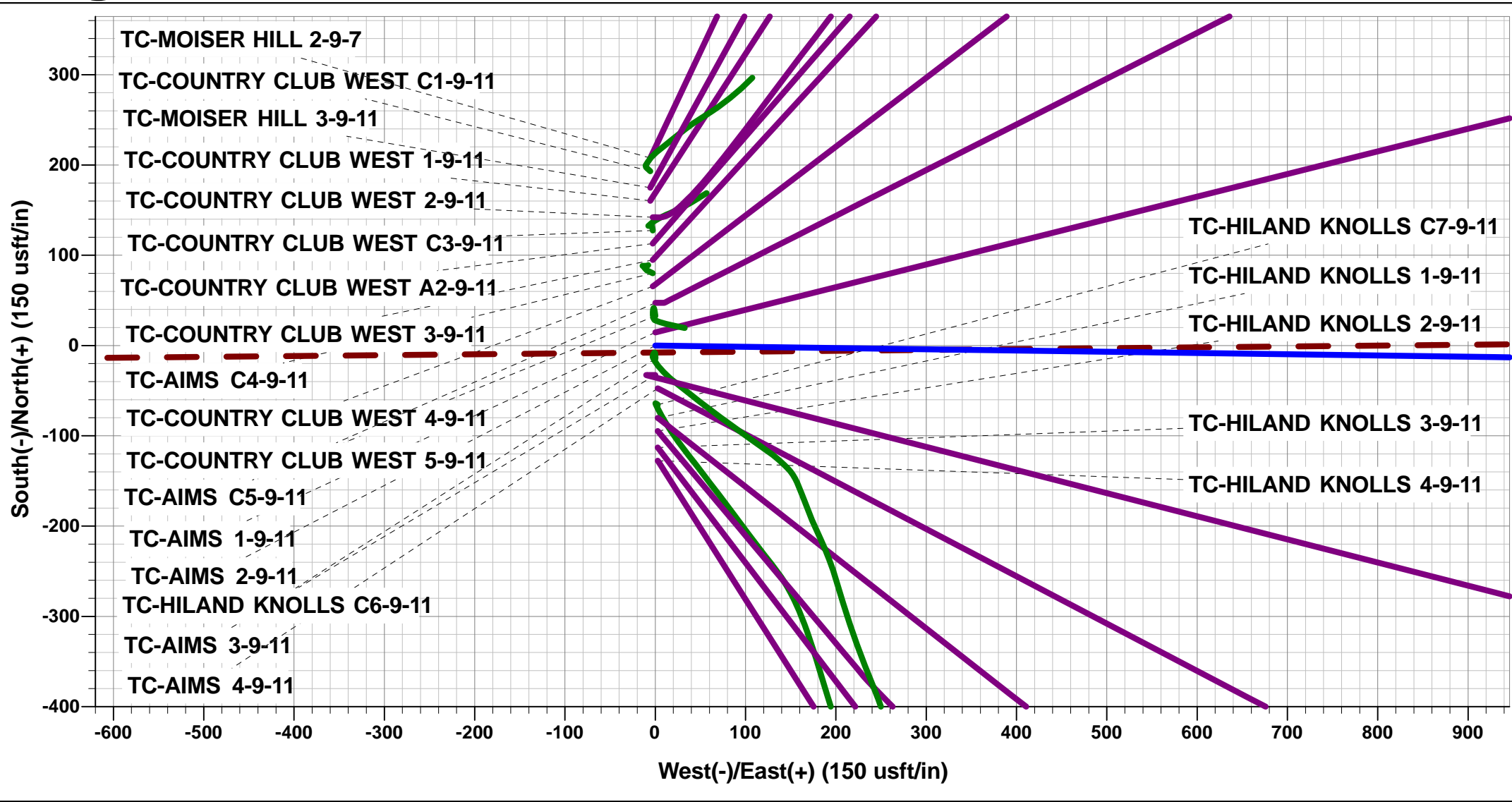
ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Dep	Annotation	
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 2638ft FNL & 1191ft FEL of Sec 8	
100.0	100.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)	
589.3	591.7	9.83	90.79	-0.6	42.1	42.1	42.1	EOB TO 9.83° INC	
6616.9	6709.2	9.83	90.79	-15.0	1086.8	1086.8	1086.9	START BUILD & TURN	
7092.0	7510.8	90.00	90.25	-18.2	1651.2	1651.3	1651.4	HZ LP: 2640ft FSL & 460ft FWL of Sec 9	
7092.0	20150.4	90.00	90.25	-72.4	14290.7	14290.9	14291.0	BHL: 2639ft FSL & 2490ft FWL of Sec 11	

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LANDING PNT - TC-AIMS 2-9-11	7092.0	-18.2	1651.3	40.414110	-104.792740
BHL - TC-AIMS 2-9-11	7092.0	-72.4	14290.8	40.413950	-104.747350

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3680.0	3728.5	PARKMAN
4410.0	4469.4	SUSSEX
4820.0	4885.5	SHANNON
6940.0	7083.7	SHARON SPRINGS
6972.0	7133.2	NIOBRARA
7092.0	7510.8	NIO B TARGET

PROPOSED LOCAL COORDINATES	
SHL: 2638ft FNL & 1191ft FEL of Sec 8	
HZ LP: 2640ft FSL & 460ft FWL of Sec 9	
BHL: 2639ft FSL & 2490ft FWL of Sec 11	

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



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TC-AIMS 2-9-11
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4806.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4806.0usft
<b>Site:</b>	NE SE SEC. 8 T5N R66W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	TC-AIMS 2-9-11	<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 SE SEC. 8 T5N R66W 6th P.M.		
<b>Site Position:</b>		<b>Northing:</b>	1,394,363.62 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,195,288.63 usft
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	1.10000ft
		<b>Latitude:</b>	40.413810
		<b>Longitude:</b>	-104.798660
		<b>Grid Convergence:</b>	0.45 °

Well	TC-AIMS 2-9-11					
Well Position	+N/-S	127.5 usft	Northing:	1,394,491.09 usfi	Latitude:	40.414160
	+E/-W	-2.8 usft	Easting:	3,195,284.83 usfi	Longitude:	-104.798670
Position Uncertainty		0.0 usft	Wellhead Elevation:	usfi	Ground Level:	4,790.0 usft

<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	28/12/2016	8.28	66.87	52,450

<b>Design</b>	PROPOSAL #2				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0	
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	90.29	

<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
0.0	0.00	0.00	0.0	-4,806.0	0.0	0.0	0.00	0.00	0.00	0.00	
100.0	0.00	0.00	100.0	-4,706.0	0.0	0.0	0.00	0.00	0.00	0.00	
591.7	9.83	90.79	589.3	-4,216.7	-0.6	42.1	2.00	2.00	0.00	90.79	
6,709.2	9.83	90.79	6,616.9	1,810.9	-15.0	1,086.8	0.00	0.00	0.00	0.00	
7,510.8	90.00	90.25	7,092.0	2,286.0	-18.2	1,651.3	10.00	10.00	-0.07	-0.55	LANDING PNT - TC
20,150.4	90.00	90.25	7,092.0	2,286.0	-72.4	14,290.8	0.00	0.00	0.00	0.00	BHL - TC-AIMS 2-9

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TC-AIMS 2-9-11
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4806.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4806.0usft
<b>Site:</b>	NE SE SEC. 8 T5N R66W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	TC-AIMS 2-9-11	<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: 2638ft FNL &amp; 1191ft FEL of Sec 8</b>										
0.0	0.00	0.00	0.0	4,806.00	0.0	0.0	0.0	0.00	0.00	0.00
<b>START NUDGE (2°/100ft BUR)</b>										
100.0	0.00	0.00	100.0	4,706.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	2.00	90.79	200.0	4,606.02	0.0	1.7	1.7	2.00	2.00	0.00
300.0	4.00	90.79	299.8	4,506.16	-0.1	7.0	7.0	2.00	2.00	0.00
400.0	6.00	90.79	399.5	4,406.55	-0.2	15.7	15.7	2.00	2.00	0.00
500.0	8.00	90.79	498.7	4,307.30	-0.4	27.9	27.9	2.00	2.00	0.00
<b>EOB TO 9.83° INC</b>										
591.7	9.83	90.79	589.3	4,216.71	-0.6	42.1	42.1	2.00	2.00	0.00
600.0	9.83	90.79	597.5	4,208.53	-0.6	43.5	43.5	0.00	0.00	0.00
700.0	9.83	90.79	696.0	4,110.00	-0.8	60.6	60.6	0.00	0.00	0.00
800.0	9.83	90.79	794.5	4,011.47	-1.1	77.7	77.7	0.00	0.00	0.00
900.0	9.83	90.79	893.1	3,912.94	-1.3	94.7	94.7	0.00	0.00	0.00
1,000.0	9.83	90.79	991.6	3,814.41	-1.5	111.8	111.8	0.00	0.00	0.00
1,100.0	9.83	90.79	1,090.1	3,715.88	-1.8	128.9	128.9	0.00	0.00	0.00
1,200.0	9.83	90.79	1,188.7	3,617.35	-2.0	146.0	146.0	0.00	0.00	0.00
1,300.0	9.83	90.79	1,287.2	3,518.82	-2.2	163.0	163.1	0.00	0.00	0.00
1,400.0	9.83	90.79	1,385.7	3,420.29	-2.5	180.1	180.1	0.00	0.00	0.00
1,500.0	9.83	90.79	1,484.2	3,321.75	-2.7	197.2	197.2	0.00	0.00	0.00
1,600.0	9.83	90.79	1,582.8	3,223.22	-2.9	214.3	214.3	0.00	0.00	0.00
1,700.0	9.83	90.79	1,681.3	3,124.69	-3.2	231.4	231.4	0.00	0.00	0.00
1,800.0	9.83	90.79	1,779.8	3,026.16	-3.4	248.4	248.4	0.00	0.00	0.00
1,900.0	9.83	90.79	1,878.4	2,927.63	-3.7	265.5	265.5	0.00	0.00	0.00
2,000.0	9.83	90.79	1,976.9	2,829.10	-3.9	282.6	282.6	0.00	0.00	0.00
2,100.0	9.83	90.79	2,075.4	2,730.57	-4.1	299.7	299.7	0.00	0.00	0.00
2,200.0	9.83	90.79	2,174.0	2,632.04	-4.4	316.7	316.8	0.00	0.00	0.00
2,300.0	9.83	90.79	2,272.5	2,533.51	-4.6	333.8	333.8	0.00	0.00	0.00
2,400.0	9.83	90.79	2,371.0	2,434.98	-4.8	350.9	350.9	0.00	0.00	0.00
2,500.0	9.83	90.79	2,469.6	2,336.45	-5.1	368.0	368.0	0.00	0.00	0.00
2,600.0	9.83	90.79	2,568.1	2,237.92	-5.3	385.0	385.1	0.00	0.00	0.00
2,700.0	9.83	90.79	2,666.6	2,139.38	-5.5	402.1	402.1	0.00	0.00	0.00
2,800.0	9.83	90.79	2,765.1	2,040.85	-5.8	419.2	419.2	0.00	0.00	0.00
2,900.0	9.83	90.79	2,863.7	1,942.32	-6.0	436.3	436.3	0.00	0.00	0.00
3,000.0	9.83	90.79	2,962.2	1,843.79	-6.2	453.3	453.4	0.00	0.00	0.00
3,100.0	9.83	90.79	3,060.7	1,745.26	-6.5	470.4	470.5	0.00	0.00	0.00
3,200.0	9.83	90.79	3,159.3	1,646.73	-6.7	487.5	487.5	0.00	0.00	0.00
3,300.0	9.83	90.79	3,257.8	1,548.20	-6.9	504.6	504.6	0.00	0.00	0.00
3,400.0	9.83	90.79	3,356.3	1,449.67	-7.2	521.7	521.7	0.00	0.00	0.00
3,500.0	9.83	90.79	3,454.9	1,351.14	-7.4	538.7	538.8	0.00	0.00	0.00
3,600.0	9.83	90.79	3,553.4	1,252.61	-7.6	555.8	555.8	0.00	0.00	0.00
3,700.0	9.83	90.79	3,651.9	1,154.08	-7.9	572.9	572.9	0.00	0.00	0.00
<b>PARKMAN</b>										
3,728.5	9.83	90.79	3,680.0	1,126.00	-7.9	577.8	577.8	0.00	0.00	0.00
3,800.0	9.83	90.79	3,750.5	1,055.55	-8.1	590.0	590.0	0.00	0.00	0.00
3,900.0	9.83	90.79	3,849.0	957.01	-8.4	607.0	607.1	0.00	0.00	0.00
4,000.0	9.83	90.79	3,947.5	858.48	-8.6	624.1	624.2	0.00	0.00	0.00
4,100.0	9.83	90.79	4,046.0	759.95	-8.8	641.2	641.2	0.00	0.00	0.00
4,200.0	9.83	90.79	4,144.6	661.42	-9.1	658.3	658.3	0.00	0.00	0.00
4,300.0	9.83	90.79	4,243.1	562.89	-9.3	675.3	675.4	0.00	0.00	0.00
4,400.0	9.83	90.79	4,341.6	464.36	-9.5	692.4	692.5	0.00	0.00	0.00
<b>SUSSEX</b>										
4,469.4	9.83	90.79	4,410.0	396.00	-9.7	704.3	704.3	0.00	0.00	0.00
4,500.0	9.83	90.79	4,440.2	365.83	-9.8	709.5	709.5	0.00	0.00	0.00



# Planning Report



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<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4806.0usft
<b>Site:</b>	NE SE SEC. 8 T5N R66W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	TC-AIMS 2-9-11	<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)
4,600.0	9.83	90.79	4,538.7	267.30	-10.0	726.6	726.6	0.00	0.00	0.00
4,700.0	9.83	90.79	4,637.2	168.77	-10.2	743.7	743.7	0.00	0.00	0.00
4,800.0	9.83	90.79	4,735.8	70.24	-10.5	760.7	760.8	0.00	0.00	0.00
<b>SHANNON</b>										
<b>4,885.5</b>	<b>9.83</b>	<b>90.79</b>	<b>4,820.0</b>	<b>-14.00</b>	<b>-10.7</b>	<b>775.3</b>	<b>775.4</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
4,900.0	9.83	90.79	4,834.3	-28.29	-10.7	777.8	777.9	0.00	0.00	0.00
5,000.0	9.83	90.79	4,932.8	-126.83	-10.9	794.9	794.9	0.00	0.00	0.00
5,100.0	9.83	90.79	5,031.4	-225.36	-11.2	812.0	812.0	0.00	0.00	0.00
5,200.0	9.83	90.79	5,129.9	-323.89	-11.4	829.0	829.1	0.00	0.00	0.00
5,300.0	9.83	90.79	5,228.4	-422.42	-11.6	846.1	846.2	0.00	0.00	0.00
5,400.0	9.83	90.79	5,326.9	-520.95	-11.9	863.2	863.2	0.00	0.00	0.00
5,500.0	9.83	90.79	5,425.5	-619.48	-12.1	880.3	880.3	0.00	0.00	0.00
5,600.0	9.83	90.79	5,524.0	-718.01	-12.3	897.3	897.4	0.00	0.00	0.00
5,700.0	9.83	90.79	5,622.5	-816.54	-12.6	914.4	914.5	0.00	0.00	0.00
5,800.0	9.83	90.79	5,721.1	-915.07	-12.8	931.5	931.6	0.00	0.00	0.00
5,900.0	9.83	90.79	5,819.6	-1,013.60	-13.1	948.6	948.6	0.00	0.00	0.00
6,000.0	9.83	90.79	5,918.1	-1,112.13	-13.3	965.7	965.7	0.00	0.00	0.00
6,100.0	9.83	90.79	6,016.7	-1,210.66	-13.5	982.7	982.8	0.00	0.00	0.00
6,200.0	9.83	90.79	6,115.2	-1,309.20	-13.8	999.8	999.9	0.00	0.00	0.00
6,300.0	9.83	90.79	6,213.7	-1,407.73	-14.0	1,016.9	1,016.9	0.00	0.00	0.00
6,400.0	9.83	90.79	6,312.3	-1,506.26	-14.2	1,034.0	1,034.0	0.00	0.00	0.00
6,500.0	9.83	90.79	6,410.8	-1,604.79	-14.5	1,051.0	1,051.1	0.00	0.00	0.00
6,600.0	9.83	90.79	6,509.3	-1,703.32	-14.7	1,068.1	1,068.2	0.00	0.00	0.00
6,700.0	9.83	90.79	6,607.8	-1,801.85	-14.9	1,085.2	1,085.2	0.00	0.00	0.00
<b>START BUILD &amp; TURN</b>										
<b>6,709.2</b>	<b>9.83</b>	<b>90.79</b>	<b>6,616.9</b>	<b>-1,810.91</b>	<b>-15.0</b>	<b>1,086.8</b>	<b>1,086.8</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
6,800.0	18.92	90.52	6,704.8	-1,898.78	-15.2	1,109.3	1,109.3	10.00	10.00	-0.30
6,900.0	28.92	90.42	6,796.1	-1,990.08	-15.5	1,149.8	1,149.8	10.00	10.00	-0.10
7,000.0	38.92	90.36	6,879.0	-2,072.96	-15.9	1,205.5	1,205.6	10.00	10.00	-0.05
<b>SHARON SPRINGS</b>										
<b>7,083.7</b>	<b>47.28</b>	<b>90.33</b>	<b>6,940.0</b>	<b>-2,134.00</b>	<b>-16.2</b>	<b>1,262.6</b>	<b>1,262.7</b>	<b>10.00</b>	<b>10.00</b>	<b>-0.04</b>
7,100.0	48.92	90.33	6,950.9	-2,144.90	-16.3	1,274.8	1,274.8	10.00	10.00	-0.03
<b>NIOBRARA</b>										
<b>7,133.2</b>	<b>52.24</b>	<b>90.32</b>	<b>6,972.0</b>	<b>-2,166.00</b>	<b>-16.5</b>	<b>1,300.4</b>	<b>1,300.5</b>	<b>10.00</b>	<b>10.00</b>	<b>-0.03</b>
7,200.0	58.92	90.30	7,009.7	-2,203.73	-16.7	1,355.5	1,355.5	10.00	10.00	-0.02
7,300.0	68.92	90.28	7,053.6	-2,247.64	-17.2	1,445.2	1,445.2	10.00	10.00	-0.02
7,400.0	78.92	90.26	7,081.3	-2,275.31	-17.7	1,541.1	1,541.2	10.00	10.00	-0.02
7,500.0	88.92	90.25	7,091.9	-2,285.90	-18.1	1,640.4	1,640.5	10.00	10.00	-0.02
<b>HZ LP: 2640ft FSL &amp; 460ft FWL of Sec 9 - NIO B TARGET</b>										
<b>7,510.8</b>	<b>90.00</b>	<b>90.25</b>	<b>7,092.0</b>	<b>-2,286.00</b>	<b>-18.2</b>	<b>1,651.3</b>	<b>1,651.3</b>	<b>10.00</b>	<b>10.00</b>	<b>-0.02</b>
7,600.0	90.00	90.25	7,092.0	-2,286.00	-18.5	1,740.4	1,740.5	0.00	0.00	0.00
7,700.0	90.00	90.25	7,092.0	-2,286.00	-19.0	1,840.4	1,840.5	0.00	0.00	0.00
7,800.0	90.00	90.25	7,092.0	-2,286.00	-19.4	1,940.4	1,940.5	0.00	0.00	0.00
7,900.0	90.00	90.25	7,092.0	-2,286.00	-19.8	2,040.4	2,040.5	0.00	0.00	0.00
8,000.0	90.00	90.25	7,092.0	-2,286.00	-20.3	2,140.4	2,140.5	0.00	0.00	0.00
8,100.0	90.00	90.25	7,092.0	-2,286.00	-20.7	2,240.4	2,240.5	0.00	0.00	0.00
8,200.0	90.00	90.25	7,092.0	-2,286.00	-21.1	2,340.4	2,340.5	0.00	0.00	0.00
8,300.0	90.00	90.25	7,092.0	-2,286.00	-21.5	2,440.4	2,440.5	0.00	0.00	0.00
8,400.0	90.00	90.25	7,092.0	-2,286.00	-22.0	2,540.4	2,540.5	0.00	0.00	0.00
8,500.0	90.00	90.25	7,092.0	-2,286.00	-22.4	2,640.4	2,640.5	0.00	0.00	0.00
8,600.0	90.00	90.25	7,092.0	-2,286.00	-22.8	2,740.4	2,740.5	0.00	0.00	0.00
8,700.0	90.00	90.25	7,092.0	-2,286.00	-23.3	2,840.4	2,840.5	0.00	0.00	0.00
8,800.0	90.00	90.25	7,092.0	-2,286.00	-23.7	2,940.4	2,940.5	0.00	0.00	0.00

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TC-AIMS 2-9-11
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4806.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4806.0usft
<b>Site:</b>	NE SE SEC. 8 T5N R66W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	TC-AIMS 2-9-11	<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)
8,900.0	90.00	90.25	7,092.0	-2,286.00	-24.1	3,040.4	3,040.5	0.00	0.00	0.00
9,000.0	90.00	90.25	7,092.0	-2,286.00	-24.5	3,140.4	3,140.5	0.00	0.00	0.00
9,100.0	90.00	90.25	7,092.0	-2,286.00	-25.0	3,240.4	3,240.5	0.00	0.00	0.00
9,200.0	90.00	90.25	7,092.0	-2,286.00	-25.4	3,340.4	3,340.5	0.00	0.00	0.00
9,300.0	90.00	90.25	7,092.0	-2,286.00	-25.8	3,440.4	3,440.5	0.00	0.00	0.00
9,400.0	90.00	90.25	7,092.0	-2,286.00	-26.3	3,540.4	3,540.5	0.00	0.00	0.00
9,500.0	90.00	90.25	7,092.0	-2,286.00	-26.7	3,640.4	3,640.5	0.00	0.00	0.00
9,600.0	90.00	90.25	7,092.0	-2,286.00	-27.1	3,740.4	3,740.5	0.00	0.00	0.00
9,700.0	90.00	90.25	7,092.0	-2,286.00	-27.5	3,840.4	3,840.5	0.00	0.00	0.00
9,800.0	90.00	90.25	7,092.0	-2,286.00	-28.0	3,940.4	3,940.5	0.00	0.00	0.00
9,900.0	90.00	90.25	7,092.0	-2,286.00	-28.4	4,040.4	4,040.5	0.00	0.00	0.00
10,000.0	90.00	90.25	7,092.0	-2,286.00	-28.8	4,140.4	4,140.5	0.00	0.00	0.00
10,100.0	90.00	90.25	7,092.0	-2,286.00	-29.3	4,240.4	4,240.5	0.00	0.00	0.00
10,200.0	90.00	90.25	7,092.0	-2,286.00	-29.7	4,340.4	4,340.5	0.00	0.00	0.00
10,300.0	90.00	90.25	7,092.0	-2,286.00	-30.1	4,440.4	4,440.5	0.00	0.00	0.00
10,400.0	90.00	90.25	7,092.0	-2,286.00	-30.5	4,540.4	4,540.5	0.00	0.00	0.00
10,500.0	90.00	90.25	7,092.0	-2,286.00	-31.0	4,640.4	4,640.5	0.00	0.00	0.00
10,600.0	90.00	90.25	7,092.0	-2,286.00	-31.4	4,740.4	4,740.5	0.00	0.00	0.00
10,700.0	90.00	90.25	7,092.0	-2,286.00	-31.8	4,840.4	4,840.5	0.00	0.00	0.00
10,800.0	90.00	90.25	7,092.0	-2,286.00	-32.3	4,940.4	4,940.5	0.00	0.00	0.00
10,900.0	90.00	90.25	7,092.0	-2,286.00	-32.7	5,040.4	5,040.5	0.00	0.00	0.00
11,000.0	90.00	90.25	7,092.0	-2,286.00	-33.1	5,140.4	5,140.5	0.00	0.00	0.00
11,100.0	90.00	90.25	7,092.0	-2,286.00	-33.5	5,240.4	5,240.5	0.00	0.00	0.00
11,200.0	90.00	90.25	7,092.0	-2,286.00	-34.0	5,340.4	5,340.5	0.00	0.00	0.00
11,300.0	90.00	90.25	7,092.0	-2,286.00	-34.4	5,440.4	5,440.5	0.00	0.00	0.00
11,400.0	90.00	90.25	7,092.0	-2,286.00	-34.8	5,540.4	5,540.5	0.00	0.00	0.00
11,500.0	90.00	90.25	7,092.0	-2,286.00	-35.3	5,640.4	5,640.5	0.00	0.00	0.00
11,600.0	90.00	90.25	7,092.0	-2,286.00	-35.7	5,740.4	5,740.5	0.00	0.00	0.00
11,700.0	90.00	90.25	7,092.0	-2,286.00	-36.1	5,840.4	5,840.5	0.00	0.00	0.00
11,800.0	90.00	90.25	7,092.0	-2,286.00	-36.5	5,940.4	5,940.5	0.00	0.00	0.00
11,900.0	90.00	90.25	7,092.0	-2,286.00	-37.0	6,040.4	6,040.5	0.00	0.00	0.00
12,000.0	90.00	90.25	7,092.0	-2,286.00	-37.4	6,140.4	6,140.5	0.00	0.00	0.00
12,100.0	90.00	90.25	7,092.0	-2,286.00	-37.8	6,240.4	6,240.5	0.00	0.00	0.00
12,200.0	90.00	90.25	7,092.0	-2,286.00	-38.3	6,340.4	6,340.5	0.00	0.00	0.00
12,300.0	90.00	90.25	7,092.0	-2,286.00	-38.7	6,440.4	6,440.5	0.00	0.00	0.00
12,400.0	90.00	90.25	7,092.0	-2,286.00	-39.1	6,540.4	6,540.5	0.00	0.00	0.00
12,500.0	90.00	90.25	7,092.0	-2,286.00	-39.6	6,640.4	6,640.5	0.00	0.00	0.00
12,600.0	90.00	90.25	7,092.0	-2,286.00	-40.0	6,740.4	6,740.5	0.00	0.00	0.00
12,700.0	90.00	90.25	7,092.0	-2,286.00	-40.4	6,840.4	6,840.5	0.00	0.00	0.00
12,800.0	90.00	90.25	7,092.0	-2,286.00	-40.8	6,940.4	6,940.5	0.00	0.00	0.00
12,900.0	90.00	90.25	7,092.0	-2,286.00	-41.3	7,040.4	7,040.5	0.00	0.00	0.00
13,000.0	90.00	90.25	7,092.0	-2,286.00	-41.7	7,140.4	7,140.5	0.00	0.00	0.00
13,100.0	90.00	90.25	7,092.0	-2,286.00	-42.1	7,240.4	7,240.5	0.00	0.00	0.00
13,200.0	90.00	90.25	7,092.0	-2,286.00	-42.6	7,340.4	7,340.5	0.00	0.00	0.00
13,300.0	90.00	90.25	7,092.0	-2,286.00	-43.0	7,440.4	7,440.5	0.00	0.00	0.00
13,400.0	90.00	90.25	7,092.0	-2,286.00	-43.4	7,540.4	7,540.5	0.00	0.00	0.00
13,500.0	90.00	90.25	7,092.0	-2,286.00	-43.8	7,640.4	7,640.5	0.00	0.00	0.00
13,600.0	90.00	90.25	7,092.0	-2,286.00	-44.3	7,740.4	7,740.5	0.00	0.00	0.00
13,700.0	90.00	90.25	7,092.0	-2,286.00	-44.7	7,840.4	7,840.5	0.00	0.00	0.00
13,800.0	90.00	90.25	7,092.0	-2,286.00	-45.1	7,940.4	7,940.5	0.00	0.00	0.00
13,900.0	90.00	90.25	7,092.0	-2,286.00	-45.6	8,040.4	8,040.5	0.00	0.00	0.00
14,000.0	90.00	90.25	7,092.0	-2,286.00	-46.0	8,140.4	8,140.5	0.00	0.00	0.00
14,100.0	90.00	90.25	7,092.0	-2,286.00	-46.4	8,240.4	8,240.5	0.00	0.00	0.00
14,200.0	90.00	90.25	7,092.0	-2,286.00	-46.8	8,340.4	8,340.5	0.00	0.00	0.00

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TC-AIMS 2-9-11
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4806.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4806.0usft
<b>Site:</b>	NE SE SEC. 8 T5N R66W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	TC-AIMS 2-9-11	<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)
14,300.0	90.00	90.25	7,092.0	-2,286.00	-47.3	8,440.4	8,440.5	0.00	0.00	0.00
14,400.0	90.00	90.25	7,092.0	-2,286.00	-47.7	8,540.4	8,540.5	0.00	0.00	0.00
14,500.0	90.00	90.25	7,092.0	-2,286.00	-48.1	8,640.4	8,640.5	0.00	0.00	0.00
14,600.0	90.00	90.25	7,092.0	-2,286.00	-48.6	8,740.4	8,740.5	0.00	0.00	0.00
14,700.0	90.00	90.25	7,092.0	-2,286.00	-49.0	8,840.4	8,840.5	0.00	0.00	0.00
14,800.0	90.00	90.25	7,092.0	-2,286.00	-49.4	8,940.4	8,940.5	0.00	0.00	0.00
14,900.0	90.00	90.25	7,092.0	-2,286.00	-49.8	9,040.4	9,040.5	0.00	0.00	0.00
15,000.0	90.00	90.25	7,092.0	-2,286.00	-50.3	9,140.4	9,140.5	0.00	0.00	0.00
15,100.0	90.00	90.25	7,092.0	-2,286.00	-50.7	9,240.4	9,240.5	0.00	0.00	0.00
15,200.0	90.00	90.25	7,092.0	-2,286.00	-51.1	9,340.4	9,340.5	0.00	0.00	0.00
15,300.0	90.00	90.25	7,092.0	-2,286.00	-51.6	9,440.4	9,440.5	0.00	0.00	0.00
15,400.0	90.00	90.25	7,092.0	-2,286.00	-52.0	9,540.4	9,540.5	0.00	0.00	0.00
15,500.0	90.00	90.25	7,092.0	-2,286.00	-52.4	9,640.4	9,640.5	0.00	0.00	0.00
15,600.0	90.00	90.25	7,092.0	-2,286.00	-52.8	9,740.4	9,740.5	0.00	0.00	0.00
15,700.0	90.00	90.25	7,092.0	-2,286.00	-53.3	9,840.4	9,840.5	0.00	0.00	0.00
15,800.0	90.00	90.25	7,092.0	-2,286.00	-53.7	9,940.4	9,940.5	0.00	0.00	0.00
15,900.0	90.00	90.25	7,092.0	-2,286.00	-54.1	10,040.4	10,040.5	0.00	0.00	0.00
16,000.0	90.00	90.25	7,092.0	-2,286.00	-54.6	10,140.4	10,140.5	0.00	0.00	0.00
16,100.0	90.00	90.25	7,092.0	-2,286.00	-55.0	10,240.4	10,240.5	0.00	0.00	0.00
16,200.0	90.00	90.25	7,092.0	-2,286.00	-55.4	10,340.4	10,340.5	0.00	0.00	0.00
16,300.0	90.00	90.25	7,092.0	-2,286.00	-55.8	10,440.4	10,440.5	0.00	0.00	0.00
16,400.0	90.00	90.25	7,092.0	-2,286.00	-56.3	10,540.4	10,540.5	0.00	0.00	0.00
16,500.0	90.00	90.25	7,092.0	-2,286.00	-56.7	10,640.4	10,640.5	0.00	0.00	0.00
16,600.0	90.00	90.25	7,092.0	-2,286.00	-57.1	10,740.4	10,740.5	0.00	0.00	0.00
16,700.0	90.00	90.25	7,092.0	-2,286.00	-57.6	10,840.4	10,840.5	0.00	0.00	0.00
16,800.0	90.00	90.25	7,092.0	-2,286.00	-58.0	10,940.4	10,940.5	0.00	0.00	0.00
16,900.0	90.00	90.25	7,092.0	-2,286.00	-58.4	11,040.4	11,040.5	0.00	0.00	0.00
17,000.0	90.00	90.25	7,092.0	-2,286.00	-58.9	11,140.4	11,140.5	0.00	0.00	0.00
17,100.0	90.00	90.25	7,092.0	-2,286.00	-59.3	11,240.4	11,240.5	0.00	0.00	0.00
17,200.0	90.00	90.25	7,092.0	-2,286.00	-59.7	11,340.4	11,340.5	0.00	0.00	0.00
17,300.0	90.00	90.25	7,092.0	-2,286.00	-60.1	11,440.4	11,440.5	0.00	0.00	0.00
17,400.0	90.00	90.25	7,092.0	-2,286.00	-60.6	11,540.4	11,540.5	0.00	0.00	0.00
17,500.0	90.00	90.25	7,092.0	-2,286.00	-61.0	11,640.3	11,640.5	0.00	0.00	0.00
17,600.0	90.00	90.25	7,092.0	-2,286.00	-61.4	11,740.3	11,740.5	0.00	0.00	0.00
17,700.0	90.00	90.25	7,092.0	-2,286.00	-61.9	11,840.3	11,840.5	0.00	0.00	0.00
17,800.0	90.00	90.25	7,092.0	-2,286.00	-62.3	11,940.3	11,940.5	0.00	0.00	0.00
17,900.0	90.00	90.25	7,092.0	-2,286.00	-62.7	12,040.3	12,040.5	0.00	0.00	0.00
18,000.0	90.00	90.25	7,092.0	-2,286.00	-63.1	12,140.3	12,140.5	0.00	0.00	0.00
18,100.0	90.00	90.25	7,092.0	-2,286.00	-63.6	12,240.3	12,240.5	0.00	0.00	0.00
18,200.0	90.00	90.25	7,092.0	-2,286.00	-64.0	12,340.3	12,340.5	0.00	0.00	0.00
18,300.0	90.00	90.25	7,092.0	-2,286.00	-64.4	12,440.3	12,440.5	0.00	0.00	0.00
18,400.0	90.00	90.25	7,092.0	-2,286.00	-64.9	12,540.3	12,540.5	0.00	0.00	0.00
18,500.0	90.00	90.25	7,092.0	-2,286.00	-65.3	12,640.3	12,640.5	0.00	0.00	0.00
18,600.0	90.00	90.25	7,092.0	-2,286.00	-65.7	12,740.3	12,740.5	0.00	0.00	0.00
18,700.0	90.00	90.25	7,092.0	-2,286.00	-66.1	12,840.3	12,840.5	0.00	0.00	0.00
18,800.0	90.00	90.25	7,092.0	-2,286.00	-66.6	12,940.3	12,940.5	0.00	0.00	0.00
18,900.0	90.00	90.25	7,092.0	-2,286.00	-67.0	13,040.3	13,040.5	0.00	0.00	0.00
19,000.0	90.00	90.25	7,092.0	-2,286.00	-67.4	13,140.3	13,140.5	0.00	0.00	0.00
19,100.0	90.00	90.25	7,092.0	-2,286.00	-67.9	13,240.3	13,240.5	0.00	0.00	0.00
19,200.0	90.00	90.25	7,092.0	-2,286.00	-68.3	13,340.3	13,340.5	0.00	0.00	0.00
19,300.0	90.00	90.25	7,092.0	-2,286.00	-68.7	13,440.3	13,440.5	0.00	0.00	0.00
19,400.0	90.00	90.25	7,092.0	-2,286.00	-69.1	13,540.3	13,540.5	0.00	0.00	0.00
19,500.0	90.00	90.25	7,092.0	-2,286.00	-69.6	13,640.3	13,640.5	0.00	0.00	0.00
19,600.0	90.00	90.25	7,092.0	-2,286.00	-70.0	13,740.3	13,740.5	0.00	0.00	0.00

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TC-AIMS 2-9-11
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4806.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4806.0usft
<b>Site:</b>	NE SE SEC. 8 T5N R66W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	TC-AIMS 2-9-11	<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)
19,700.0	90.00	90.25	7,092.0	-2,286.00	-70.4	13,840.3	13,840.5	0.00	0.00	0.00
19,800.0	90.00	90.25	7,092.0	-2,286.00	-70.9	13,940.3	13,940.5	0.00	0.00	0.00
19,900.0	90.00	90.25	7,092.0	-2,286.00	-71.3	14,040.3	14,040.5	0.00	0.00	0.00
20,000.0	90.00	90.25	7,092.0	-2,286.00	-71.7	14,140.3	14,140.5	0.00	0.00	0.00
20,100.0	90.00	90.25	7,092.0	-2,286.00	-72.1	14,240.3	14,240.5	0.00	0.00	0.00
<b>BHL: 2639ft FSL &amp; 2490ft FWL of Sec 11</b>										
<b>20,150.4</b>	<b>90.00</b>	<b>90.25</b>	<b>7,092.0</b>	<b>-2,286.00</b>	<b>-72.4</b>	<b>14,290.7</b>	<b>14,290.9</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

## Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,728.5	3,680.0	PARKMAN			
4,469.4	4,410.0	SUSSEX			
4,885.5	4,820.0	SHANNON			
7,083.7	6,940.0	SHARON SPRINGS			
7,133.2	6,972.0	NIOBRARA			
7,510.8	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: 2638ft FNL & 1191ft FEL of Sec 8
100.0	100.0	0.0	0.0	START NUDGE (2°/100ft BUR)
591.7	589.3	-0.6	42.1	EOB TO 9.83° INC
6,709.2	6,616.9	-15.0	1,086.8	START BUILD & TURN
7,510.8	7,092.0	-18.2	1,651.2	HZ LP: 2640ft FSL & 460ft FWL of Sec 9
20,150.4	7,092.0	-72.4	14,290.7	BHL: 2639ft FSL & 2490ft FWL of Sec 11