

# **EXTRACTION OIL & GAS**

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

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

**TC-AIMS 4-9-11**

**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 4-9-11  
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: 2616ft FSL & 1190ft FEL of Sec 8		3680.0	3732.9	PARKMAN
1700.0	1700.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDDGE (2°/100ft BUR)		4410.0	4489.0	SUSSEX
2446.8	2455.5	15.11	117.66	-46.0	87.7	89.8	99.0	EOB TO 15.11° INC		4820.0	4913.7	SHANNON
6655.0	6814.4	15.11	117.66	-573.5	1094.2	1120.3	1235.3	START BUILD & TURN		6940.0	7151.7	SHARON SPRINGS
7092.0	7580.6	90.00	90.25	-630.2	1651.3	1679.5	1797.7	HZ LP: 1980ft FSL & 460ft FWL of Sec 9		6972.0	7201.5	NIOBRARA
7092.0	20226.1	90.00	90.25	-684.4	14296.7	14313.1	14443.2	BHL: 1979ft FSL & 2500ft FWL of Sec 11		7092.0	7580.6	NIO B TARGET

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LANDING PNT - TC-AIMS 4-9-11	7092.0	-630.2	1651.3	40.412300	-104.792730
BHL - TC-AIMS 4-9-11	7092.0	-684.4	14296.7	40.412140	-104.747320

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

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

PROPOSED LOCAL COORDINATES

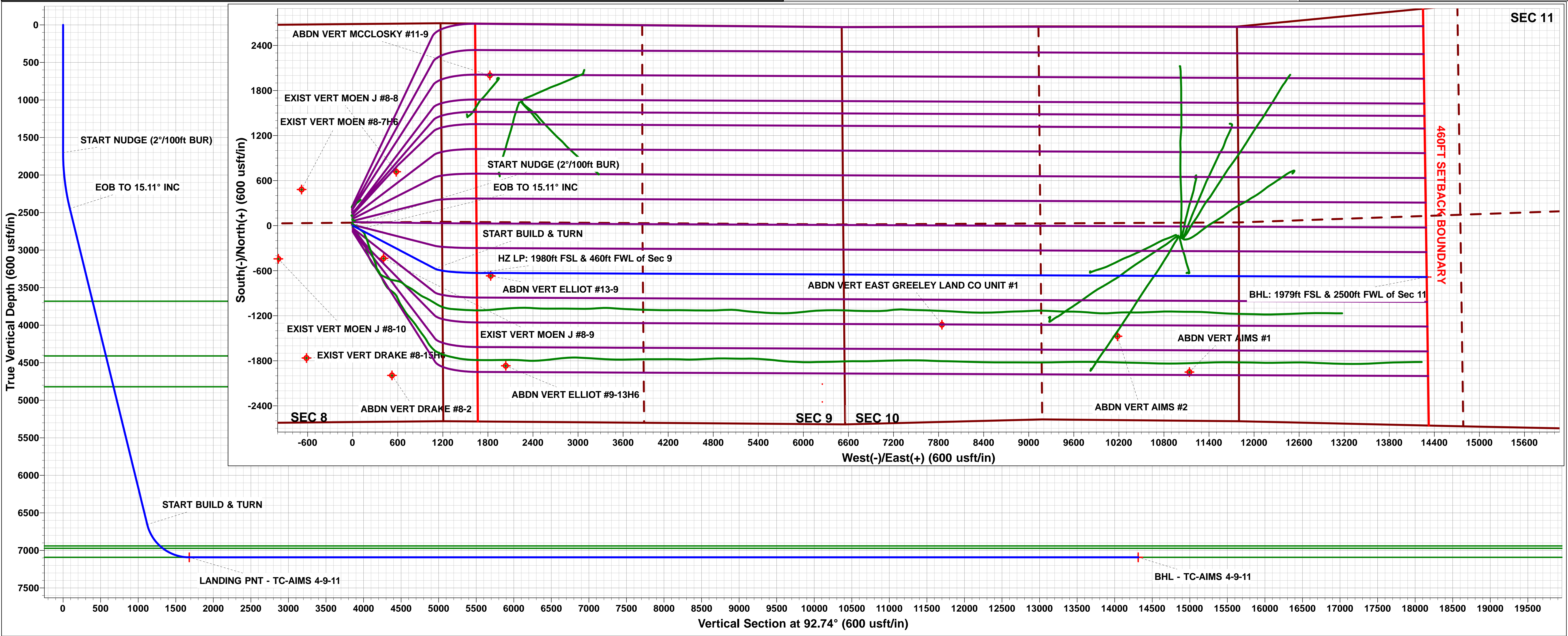
SHL: 2616ft FSL & 1190ft FEL of Sec 8

HZ LP: 1980ft FSL & 460ft FWL of Sec 9

BHL: 1979ft FSL & 2500ft FWL of Sec 11

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



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TC-AIMS 4-9-11
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4807.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4807.0usft
<b>Site:</b>	NE SE SEC. 8 T5N R66W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	TC-AIMS 4-9-11	<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 °

<b>Well</b>	TC-AIMS 4-9-11		
<b>Well Position</b>	<b>+N/-S</b>	80.1 usft	<b>Northing:</b>
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.0 usft		<b>Wellhead Elevation:</b>
			<b>Ground Level:</b>
			4,791.0 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	92.74	

<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	-4,807.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	-3,107.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,455.5	15.11	117.66	2,446.8	-2,360.2	-46.0	87.7	2.00	2.00	0.00	117.66	
6,814.4	15.11	117.66	6,655.0	1,848.0	-573.5	1,094.2	0.00	0.00	0.00	0.00	
7,580.6	90.00	90.25	7,092.0	2,285.0	-630.2	1,651.3	10.00	9.77	-3.58	-28.25	LANDING PNT - TC
20,226.1	90.00	90.25	7,092.0	2,285.0	-684.4	14,296.7	0.00	0.00	0.00	0.00	BHL - TC-AIMS 4-9

## Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TC-AIMS 4-9-11
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4807.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4807.0usft
<b>Site:</b>	NE SE SEC. 8 T5N R66W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	TC-AIMS 4-9-11	<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: 2616ft FSL &amp; 1190ft FEL of Sec 8</b>										
0.0	0.00	0.00	0.0	4,807.00	0.0	0.0	0.0	0.00	0.00	0.00
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	0.00	0.00	200.0	4,607.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,507.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,407.00	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,307.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	4,207.00	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	4,107.00	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	4,007.00	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	3,907.00	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	3,807.00	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	3,707.00	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	3,607.00	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	3,507.00	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	3,407.00	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	3,307.00	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	3,207.00	0.0	0.0	0.0	0.00	0.00	0.00
<b>START NUDGE (2°/100ft BUR)</b>										
1,700.0	0.00	0.00	1,700.0	3,107.00	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	2.00	117.66	1,800.0	3,007.02	-0.8	1.5	1.6	2.00	2.00	0.00
1,900.0	4.00	117.66	1,899.8	2,907.16	-3.2	6.2	6.3	2.00	2.00	0.00
2,000.0	6.00	117.66	1,999.5	2,807.55	-7.3	13.9	14.2	2.00	2.00	0.00
2,100.0	8.00	117.66	2,098.7	2,708.30	-12.9	24.7	25.3	2.00	2.00	0.00
2,200.0	10.00	117.66	2,197.5	2,609.53	-20.2	38.5	39.5	2.00	2.00	0.00
2,300.0	12.00	117.66	2,295.6	2,511.38	-29.1	55.4	56.8	2.00	2.00	0.00
2,400.0	14.00	117.66	2,393.1	2,413.94	-39.5	75.4	77.2	2.00	2.00	0.00
<b>EOB TO 15.11° INC</b>										
2,455.5	15.11	117.66	2,446.8	2,360.23	-46.0	87.7	89.8	2.00	2.00	0.00
2,500.0	15.11	117.66	2,489.7	2,317.27	-51.4	98.0	100.3	0.00	0.00	0.00
2,600.0	15.11	117.66	2,586.3	2,220.72	-63.5	121.1	124.0	0.00	0.00	0.00
2,700.0	15.11	117.66	2,682.8	2,124.18	-75.6	144.2	147.6	0.00	0.00	0.00
2,800.0	15.11	117.66	2,779.4	2,027.64	-87.7	167.3	171.3	0.00	0.00	0.00
2,900.0	15.11	117.66	2,875.9	1,931.10	-99.8	190.4	194.9	0.00	0.00	0.00
3,000.0	15.11	117.66	2,972.4	1,834.55	-111.9	213.4	218.6	0.00	0.00	0.00
3,100.0	15.11	117.66	3,069.0	1,738.01	-124.0	236.5	242.2	0.00	0.00	0.00
3,200.0	15.11	117.66	3,165.5	1,641.47	-136.1	259.6	265.8	0.00	0.00	0.00
3,300.0	15.11	117.66	3,262.1	1,544.93	-148.2	282.7	289.5	0.00	0.00	0.00
3,400.0	15.11	117.66	3,358.6	1,448.38	-160.3	305.8	313.1	0.00	0.00	0.00
3,500.0	15.11	117.66	3,455.2	1,351.84	-172.4	328.9	336.8	0.00	0.00	0.00
3,600.0	15.11	117.66	3,551.7	1,255.30	-184.5	352.0	360.4	0.00	0.00	0.00
3,700.0	15.11	117.66	3,648.2	1,158.76	-196.6	375.1	384.0	0.00	0.00	0.00
<b>PARKMAN</b>										
3,732.9	15.11	117.66	3,680.0	1,127.00	-200.6	382.7	391.8	0.00	0.00	0.00
3,800.0	15.11	117.66	3,744.8	1,062.21	-208.7	398.2	407.7	0.00	0.00	0.00
3,900.0	15.11	117.66	3,841.3	965.67	-220.8	421.2	431.3	0.00	0.00	0.00
4,000.0	15.11	117.66	3,937.9	869.13	-232.9	444.3	455.0	0.00	0.00	0.00
4,100.0	15.11	117.66	4,034.4	772.59	-245.0	467.4	478.6	0.00	0.00	0.00
4,200.0	15.11	117.66	4,131.0	676.04	-257.1	490.5	502.2	0.00	0.00	0.00
4,300.0	15.11	117.66	4,227.5	579.50	-269.2	513.6	525.9	0.00	0.00	0.00
4,400.0	15.11	117.66	4,324.0	482.96	-281.3	536.7	549.5	0.00	0.00	0.00
<b>SUSSEX</b>										
4,489.0	15.11	117.66	4,410.0	397.00	-292.1	557.3	570.6	0.00	0.00	0.00
4,500.0	15.11	117.66	4,420.6	386.42	-293.4	559.8	573.2	0.00	0.00	0.00



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TC-AIMS 4-9-11
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4807.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4807.0usft
<b>Site:</b>	NE SE SEC. 8 T5N R66W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	TC-AIMS 4-9-11	<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	15.11	117.66	4,517.1	289.87	-305.5	582.9	596.8	0.00	0.00	0.00
4,700.0	15.11	117.66	4,613.7	193.33	-317.6	606.0	620.5	0.00	0.00	0.00
4,800.0	15.11	117.66	4,710.2	96.79	-329.7	629.0	644.1	0.00	0.00	0.00
4,900.0	15.11	117.66	4,806.8	0.25	-341.8	652.1	667.7	0.00	0.00	0.00
<b>SHANNON</b>										
<b>4,913.7</b>	<b>15.11</b>	<b>117.66</b>	<b>4,820.0</b>	<b>-13.00</b>	<b>-343.5</b>	<b>655.3</b>	<b>671.0</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
5,000.0	15.11	117.66	4,903.3	-96.30	-353.9	675.2	691.4	0.00	0.00	0.00
5,100.0	15.11	117.66	4,999.8	-192.84	-366.0	698.3	715.0	0.00	0.00	0.00
5,200.0	15.11	117.66	5,096.4	-289.38	-378.1	721.4	738.7	0.00	0.00	0.00
5,300.0	15.11	117.66	5,192.9	-385.92	-390.2	744.5	762.3	0.00	0.00	0.00
5,400.0	15.11	117.66	5,289.5	-482.47	-402.3	767.6	785.9	0.00	0.00	0.00
5,500.0	15.11	117.66	5,386.0	-579.01	-414.4	790.7	809.6	0.00	0.00	0.00
5,600.0	15.11	117.66	5,482.6	-675.55	-426.5	813.8	833.2	0.00	0.00	0.00
5,700.0	15.11	117.66	5,579.1	-772.09	-438.6	836.9	856.9	0.00	0.00	0.00
5,800.0	15.11	117.66	5,675.6	-868.64	-450.7	859.9	880.5	0.00	0.00	0.00
5,900.0	15.11	117.66	5,772.2	-965.18	-462.8	883.0	904.1	0.00	0.00	0.00
6,000.0	15.11	117.66	5,868.7	-1,061.72	-474.9	906.1	927.8	0.00	0.00	0.00
6,100.0	15.11	117.66	5,965.3	-1,158.26	-487.0	929.2	951.4	0.00	0.00	0.00
6,200.0	15.11	117.66	6,061.8	-1,254.81	-499.1	952.3	975.1	0.00	0.00	0.00
6,300.0	15.11	117.66	6,158.3	-1,351.35	-511.2	975.4	998.7	0.00	0.00	0.00
6,400.0	15.11	117.66	6,254.9	-1,447.89	-523.3	998.5	1,022.4	0.00	0.00	0.00
6,500.0	15.11	117.66	6,351.4	-1,544.43	-535.4	1,021.6	1,046.0	0.00	0.00	0.00
6,600.0	15.11	117.66	6,448.0	-1,640.98	-547.5	1,044.7	1,069.6	0.00	0.00	0.00
6,700.0	15.11	117.66	6,544.5	-1,737.52	-559.6	1,067.7	1,093.3	0.00	0.00	0.00
6,800.0	15.11	117.66	6,641.1	-1,834.06	-571.7	1,090.8	1,116.9	0.00	0.00	0.00
<b>START BUILD &amp; TURN</b>										
<b>6,814.4</b>	<b>15.11</b>	<b>117.66</b>	<b>6,655.0</b>	<b>-1,847.96</b>	<b>-573.5</b>	<b>1,094.2</b>	<b>1,120.3</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
6,900.0	23.00	107.28	6,735.8	-1,928.83	-583.6	1,120.1	1,146.7	10.00	9.22	-12.13
7,000.0	32.63	101.44	6,824.2	-2,017.19	-594.8	1,165.2	1,192.4	10.00	9.63	-5.84
7,100.0	42.42	98.06	6,903.4	-2,096.41	-604.9	1,225.2	1,252.7	10.00	9.79	-3.38
<b>SHARON SPRINGS</b>										
<b>7,151.7</b>	<b>47.52</b>	<b>96.78</b>	<b>6,940.0</b>	<b>-2,133.00</b>	<b>-609.6</b>	<b>1,261.5</b>	<b>1,289.2</b>	<b>10.00</b>	<b>9.85</b>	<b>-2.48</b>
7,200.0	52.28	95.76	6,971.1	-2,164.08	-613.6	1,298.2	1,326.0	10.00	9.87	-2.11
<b>NIOBRARA</b>										
<b>7,201.5</b>	<b>52.43</b>	<b>95.73</b>	<b>6,972.0</b>	<b>-2,165.00</b>	<b>-613.8</b>	<b>1,299.3</b>	<b>1,327.2</b>	<b>10.00</b>	<b>9.88</b>	<b>-1.97</b>
7,300.0	62.17	94.01	7,025.2	-2,218.15	-620.7	1,381.8	1,409.9	10.00	9.89	-1.75
7,400.0	72.08	92.55	7,064.0	-2,256.98	-626.0	1,473.7	1,501.9	10.00	9.91	-1.46
7,500.0	82.00	91.25	7,086.4	-2,279.38	-629.2	1,571.0	1,599.3	10.00	9.92	-1.30
<b>HZ LP: 1980ft FSL &amp; 460ft FWL of Sec 9 - NIO B TARGET</b>										
<b>7,580.6</b>	<b>90.00</b>	<b>90.25</b>	<b>7,092.0</b>	<b>-2,285.00</b>	<b>-630.2</b>	<b>1,651.3</b>	<b>1,679.6</b>	<b>10.00</b>	<b>9.92</b>	<b>-1.24</b>
7,600.0	90.00	90.25	7,092.0	-2,285.00	-630.3	1,670.7	1,698.9	0.00	0.00	0.00
7,700.0	90.00	90.25	7,092.0	-2,285.00	-630.7	1,770.7	1,798.8	0.00	0.00	0.00
7,800.0	90.00	90.25	7,092.0	-2,285.00	-631.1	1,870.7	1,898.7	0.00	0.00	0.00
7,900.0	90.00	90.25	7,092.0	-2,285.00	-631.6	1,970.7	1,998.6	0.00	0.00	0.00
8,000.0	90.00	90.25	7,092.0	-2,285.00	-632.0	2,070.7	2,098.5	0.00	0.00	0.00
8,100.0	90.00	90.25	7,092.0	-2,285.00	-632.4	2,170.7	2,198.5	0.00	0.00	0.00
8,200.0	90.00	90.25	7,092.0	-2,285.00	-632.9	2,270.7	2,298.4	0.00	0.00	0.00
8,300.0	90.00	90.25	7,092.0	-2,285.00	-633.3	2,370.7	2,398.3	0.00	0.00	0.00
8,400.0	90.00	90.25	7,092.0	-2,285.00	-633.7	2,470.7	2,498.2	0.00	0.00	0.00
8,500.0	90.00	90.25	7,092.0	-2,285.00	-634.1	2,570.7	2,598.1	0.00	0.00	0.00
8,600.0	90.00	90.25	7,092.0	-2,285.00	-634.6	2,670.7	2,698.0	0.00	0.00	0.00
8,700.0	90.00	90.25	7,092.0	-2,285.00	-635.0	2,770.7	2,797.9	0.00	0.00	0.00
8,800.0	90.00	90.25	7,092.0	-2,285.00	-635.4	2,870.7	2,897.8	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 4-9-11
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4807.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4807.0usft
<b>Site:</b>	NE SE SEC. 8 T5N R66W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	TC-AIMS 4-9-11	<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	-2,285.00	-635.9	2,970.7	2,997.7	0.00	0.00	0.00
9,000.0	90.00	90.25	7,092.0	-2,285.00	-636.3	3,070.7	3,097.6	0.00	0.00	0.00
9,100.0	90.00	90.25	7,092.0	-2,285.00	-636.7	3,170.7	3,197.5	0.00	0.00	0.00
9,200.0	90.00	90.25	7,092.0	-2,285.00	-637.1	3,270.7	3,297.4	0.00	0.00	0.00
9,300.0	90.00	90.25	7,092.0	-2,285.00	-637.6	3,370.7	3,397.3	0.00	0.00	0.00
9,400.0	90.00	90.25	7,092.0	-2,285.00	-638.0	3,470.7	3,497.2	0.00	0.00	0.00
9,500.0	90.00	90.25	7,092.0	-2,285.00	-638.4	3,570.7	3,597.1	0.00	0.00	0.00
9,600.0	90.00	90.25	7,092.0	-2,285.00	-638.9	3,670.7	3,697.0	0.00	0.00	0.00
9,700.0	90.00	90.25	7,092.0	-2,285.00	-639.3	3,770.7	3,796.9	0.00	0.00	0.00
9,800.0	90.00	90.25	7,092.0	-2,285.00	-639.7	3,870.7	3,896.8	0.00	0.00	0.00
9,900.0	90.00	90.25	7,092.0	-2,285.00	-640.1	3,970.7	3,996.7	0.00	0.00	0.00
10,000.0	90.00	90.25	7,092.0	-2,285.00	-640.6	4,070.7	4,096.6	0.00	0.00	0.00
10,100.0	90.00	90.25	7,092.0	-2,285.00	-641.0	4,170.7	4,196.6	0.00	0.00	0.00
10,200.0	90.00	90.25	7,092.0	-2,285.00	-641.4	4,270.7	4,296.5	0.00	0.00	0.00
10,300.0	90.00	90.25	7,092.0	-2,285.00	-641.9	4,370.7	4,396.4	0.00	0.00	0.00
10,400.0	90.00	90.25	7,092.0	-2,285.00	-642.3	4,470.7	4,496.3	0.00	0.00	0.00
10,500.0	90.00	90.25	7,092.0	-2,285.00	-642.7	4,570.7	4,596.2	0.00	0.00	0.00
10,600.0	90.00	90.25	7,092.0	-2,285.00	-643.1	4,670.7	4,696.1	0.00	0.00	0.00
10,700.0	90.00	90.25	7,092.0	-2,285.00	-643.6	4,770.7	4,796.0	0.00	0.00	0.00
10,800.0	90.00	90.25	7,092.0	-2,285.00	-644.0	4,870.7	4,895.9	0.00	0.00	0.00
10,900.0	90.00	90.25	7,092.0	-2,285.00	-644.4	4,970.7	4,995.8	0.00	0.00	0.00
11,000.0	90.00	90.25	7,092.0	-2,285.00	-644.9	5,070.7	5,095.7	0.00	0.00	0.00
11,100.0	90.00	90.25	7,092.0	-2,285.00	-645.3	5,170.7	5,195.6	0.00	0.00	0.00
11,200.0	90.00	90.25	7,092.0	-2,285.00	-645.7	5,270.7	5,295.5	0.00	0.00	0.00
11,300.0	90.00	90.25	7,092.0	-2,285.00	-646.1	5,370.7	5,395.4	0.00	0.00	0.00
11,400.0	90.00	90.25	7,092.0	-2,285.00	-646.6	5,470.7	5,495.3	0.00	0.00	0.00
11,500.0	90.00	90.25	7,092.0	-2,285.00	-647.0	5,570.7	5,595.2	0.00	0.00	0.00
11,600.0	90.00	90.25	7,092.0	-2,285.00	-647.4	5,670.7	5,695.1	0.00	0.00	0.00
11,700.0	90.00	90.25	7,092.0	-2,285.00	-647.9	5,770.7	5,795.0	0.00	0.00	0.00
11,800.0	90.00	90.25	7,092.0	-2,285.00	-648.3	5,870.7	5,894.9	0.00	0.00	0.00
11,900.0	90.00	90.25	7,092.0	-2,285.00	-648.7	5,970.7	5,994.8	0.00	0.00	0.00
12,000.0	90.00	90.25	7,092.0	-2,285.00	-649.1	6,070.7	6,094.8	0.00	0.00	0.00
12,100.0	90.00	90.25	7,092.0	-2,285.00	-649.6	6,170.7	6,194.7	0.00	0.00	0.00
12,200.0	90.00	90.25	7,092.0	-2,285.00	-650.0	6,270.7	6,294.6	0.00	0.00	0.00
12,300.0	90.00	90.25	7,092.0	-2,285.00	-650.4	6,370.7	6,394.5	0.00	0.00	0.00
12,400.0	90.00	90.25	7,092.0	-2,285.00	-650.9	6,470.7	6,494.4	0.00	0.00	0.00
12,500.0	90.00	90.25	7,092.0	-2,285.00	-651.3	6,570.7	6,594.3	0.00	0.00	0.00
12,600.0	90.00	90.25	7,092.0	-2,285.00	-651.7	6,670.7	6,694.2	0.00	0.00	0.00
12,700.0	90.00	90.25	7,092.0	-2,285.00	-652.1	6,770.7	6,794.1	0.00	0.00	0.00
12,800.0	90.00	90.25	7,092.0	-2,285.00	-652.6	6,870.7	6,894.0	0.00	0.00	0.00
12,900.0	90.00	90.25	7,092.0	-2,285.00	-653.0	6,970.6	6,993.9	0.00	0.00	0.00
13,000.0	90.00	90.25	7,092.0	-2,285.00	-653.4	7,070.6	7,093.8	0.00	0.00	0.00
13,100.0	90.00	90.25	7,092.0	-2,285.00	-653.9	7,170.6	7,193.7	0.00	0.00	0.00
13,200.0	90.00	90.25	7,092.0	-2,285.00	-654.3	7,270.6	7,293.6	0.00	0.00	0.00
13,300.0	90.00	90.25	7,092.0	-2,285.00	-654.7	7,370.6	7,393.5	0.00	0.00	0.00
13,400.0	90.00	90.25	7,092.0	-2,285.00	-655.1	7,470.6	7,493.4	0.00	0.00	0.00
13,500.0	90.00	90.25	7,092.0	-2,285.00	-655.6	7,570.6	7,593.3	0.00	0.00	0.00
13,600.0	90.00	90.25	7,092.0	-2,285.00	-656.0	7,670.6	7,693.2	0.00	0.00	0.00
13,700.0	90.00	90.25	7,092.0	-2,285.00	-656.4	7,770.6	7,793.1	0.00	0.00	0.00
13,800.0	90.00	90.25	7,092.0	-2,285.00	-656.9	7,870.6	7,893.0	0.00	0.00	0.00
13,900.0	90.00	90.25	7,092.0	-2,285.00	-657.3	7,970.6	7,993.0	0.00	0.00	0.00
14,000.0	90.00	90.25	7,092.0	-2,285.00	-657.7	8,070.6	8,092.9	0.00	0.00	0.00
14,100.0	90.00	90.25	7,092.0	-2,285.00	-658.1	8,170.6	8,192.8	0.00	0.00	0.00
14,200.0	90.00	90.25	7,092.0	-2,285.00	-658.6	8,270.6	8,292.7	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 4-9-11
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4807.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4807.0usft
<b>Site:</b>	NE SE SEC. 8 T5N R66W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	TC-AIMS 4-9-11	<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	-2,285.00	-659.0	8,370.6	8,392.6	0.00	0.00	0.00
14,400.0	90.00	90.25	7,092.0	-2,285.00	-659.4	8,470.6	8,492.5	0.00	0.00	0.00
14,500.0	90.00	90.25	7,092.0	-2,285.00	-659.9	8,570.6	8,592.4	0.00	0.00	0.00
14,600.0	90.00	90.25	7,092.0	-2,285.00	-660.3	8,670.6	8,692.3	0.00	0.00	0.00
14,700.0	90.00	90.25	7,092.0	-2,285.00	-660.7	8,770.6	8,792.2	0.00	0.00	0.00
14,800.0	90.00	90.25	7,092.0	-2,285.00	-661.1	8,870.6	8,892.1	0.00	0.00	0.00
14,900.0	90.00	90.25	7,092.0	-2,285.00	-661.6	8,970.6	8,992.0	0.00	0.00	0.00
15,000.0	90.00	90.25	7,092.0	-2,285.00	-662.0	9,070.6	9,091.9	0.00	0.00	0.00
15,100.0	90.00	90.25	7,092.0	-2,285.00	-662.4	9,170.6	9,191.8	0.00	0.00	0.00
15,200.0	90.00	90.25	7,092.0	-2,285.00	-662.9	9,270.6	9,291.7	0.00	0.00	0.00
15,300.0	90.00	90.25	7,092.0	-2,285.00	-663.3	9,370.6	9,391.6	0.00	0.00	0.00
15,400.0	90.00	90.25	7,092.0	-2,285.00	-663.7	9,470.6	9,491.5	0.00	0.00	0.00
15,500.0	90.00	90.25	7,092.0	-2,285.00	-664.1	9,570.6	9,591.4	0.00	0.00	0.00
15,600.0	90.00	90.25	7,092.0	-2,285.00	-664.6	9,670.6	9,691.3	0.00	0.00	0.00
15,700.0	90.00	90.25	7,092.0	-2,285.00	-665.0	9,770.6	9,791.2	0.00	0.00	0.00
15,800.0	90.00	90.25	7,092.0	-2,285.00	-665.4	9,870.6	9,891.2	0.00	0.00	0.00
15,900.0	90.00	90.25	7,092.0	-2,285.00	-665.9	9,970.6	9,991.1	0.00	0.00	0.00
16,000.0	90.00	90.25	7,092.0	-2,285.00	-666.3	10,070.6	10,091.0	0.00	0.00	0.00
16,100.0	90.00	90.25	7,092.0	-2,285.00	-666.7	10,170.6	10,190.9	0.00	0.00	0.00
16,200.0	90.00	90.25	7,092.0	-2,285.00	-667.1	10,270.6	10,290.8	0.00	0.00	0.00
16,300.0	90.00	90.25	7,092.0	-2,285.00	-667.6	10,370.6	10,390.7	0.00	0.00	0.00
16,400.0	90.00	90.25	7,092.0	-2,285.00	-668.0	10,470.6	10,490.6	0.00	0.00	0.00
16,500.0	90.00	90.25	7,092.0	-2,285.00	-668.4	10,570.6	10,590.5	0.00	0.00	0.00
16,600.0	90.00	90.25	7,092.0	-2,285.00	-668.9	10,670.6	10,690.4	0.00	0.00	0.00
16,700.0	90.00	90.25	7,092.0	-2,285.00	-669.3	10,770.6	10,790.3	0.00	0.00	0.00
16,800.0	90.00	90.25	7,092.0	-2,285.00	-669.7	10,870.6	10,890.2	0.00	0.00	0.00
16,900.0	90.00	90.25	7,092.0	-2,285.00	-670.1	10,970.6	10,990.1	0.00	0.00	0.00
17,000.0	90.00	90.25	7,092.0	-2,285.00	-670.6	11,070.6	11,090.0	0.00	0.00	0.00
17,100.0	90.00	90.25	7,092.0	-2,285.00	-671.0	11,170.6	11,189.9	0.00	0.00	0.00
17,200.0	90.00	90.25	7,092.0	-2,285.00	-671.4	11,270.6	11,289.8	0.00	0.00	0.00
17,300.0	90.00	90.25	7,092.0	-2,285.00	-671.9	11,370.6	11,389.7	0.00	0.00	0.00
17,400.0	90.00	90.25	7,092.0	-2,285.00	-672.3	11,470.6	11,489.6	0.00	0.00	0.00
17,500.0	90.00	90.25	7,092.0	-2,285.00	-672.7	11,570.6	11,589.5	0.00	0.00	0.00
17,600.0	90.00	90.25	7,092.0	-2,285.00	-673.1	11,670.6	11,689.4	0.00	0.00	0.00
17,700.0	90.00	90.25	7,092.0	-2,285.00	-673.6	11,770.6	11,789.3	0.00	0.00	0.00
17,800.0	90.00	90.25	7,092.0	-2,285.00	-674.0	11,870.6	11,889.3	0.00	0.00	0.00
17,900.0	90.00	90.25	7,092.0	-2,285.00	-674.4	11,970.6	11,989.2	0.00	0.00	0.00
18,000.0	90.00	90.25	7,092.0	-2,285.00	-674.9	12,070.6	12,089.1	0.00	0.00	0.00
18,100.0	90.00	90.25	7,092.0	-2,285.00	-675.3	12,170.6	12,189.0	0.00	0.00	0.00
18,200.0	90.00	90.25	7,092.0	-2,285.00	-675.7	12,270.6	12,288.9	0.00	0.00	0.00
18,300.0	90.00	90.25	7,092.0	-2,285.00	-676.1	12,370.6	12,388.8	0.00	0.00	0.00
18,400.0	90.00	90.25	7,092.0	-2,285.00	-676.6	12,470.6	12,488.7	0.00	0.00	0.00
18,500.0	90.00	90.25	7,092.0	-2,285.00	-677.0	12,570.6	12,588.6	0.00	0.00	0.00
18,600.0	90.00	90.25	7,092.0	-2,285.00	-677.4	12,670.6	12,688.5	0.00	0.00	0.00
18,700.0	90.00	90.25	7,092.0	-2,285.00	-677.9	12,770.6	12,788.4	0.00	0.00	0.00
18,800.0	90.00	90.25	7,092.0	-2,285.00	-678.3	12,870.6	12,888.3	0.00	0.00	0.00
18,900.0	90.00	90.25	7,092.0	-2,285.00	-678.7	12,970.6	12,988.2	0.00	0.00	0.00
19,000.0	90.00	90.25	7,092.0	-2,285.00	-679.1	13,070.6	13,088.1	0.00	0.00	0.00
19,100.0	90.00	90.25	7,092.0	-2,285.00	-679.6	13,170.6	13,188.0	0.00	0.00	0.00
19,200.0	90.00	90.25	7,092.0	-2,285.00	-680.0	13,270.6	13,287.9	0.00	0.00	0.00
19,300.0	90.00	90.25	7,092.0	-2,285.00	-680.4	13,370.6	13,387.8	0.00	0.00	0.00
19,400.0	90.00	90.25	7,092.0	-2,285.00	-680.9	13,470.6	13,487.7	0.00	0.00	0.00
19,500.0	90.00	90.25	7,092.0	-2,285.00	-681.3	13,570.6	13,587.6	0.00	0.00	0.00
19,600.0	90.00	90.25	7,092.0	-2,285.00	-681.7	13,670.6	13,687.5	0.00	0.00	0.00

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TC-AIMS 4-9-11
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4807.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4807.0usft
<b>Site:</b>	NE SE SEC. 8 T5N R66W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	TC-AIMS 4-9-11	<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	-2,285.00	-682.1	13,770.6	13,787.5	0.00	0.00	0.00
19,800.0	90.00	90.25	7,092.0	-2,285.00	-682.6	13,870.6	13,887.4	0.00	0.00	0.00
19,900.0	90.00	90.25	7,092.0	-2,285.00	-683.0	13,970.6	13,987.3	0.00	0.00	0.00
20,000.0	90.00	90.25	7,092.0	-2,285.00	-683.4	14,070.6	14,087.2	0.00	0.00	0.00
20,100.0	90.00	90.25	7,092.0	-2,285.00	-683.9	14,170.6	14,187.1	0.00	0.00	0.00
20,200.0	90.00	90.25	7,092.0	-2,285.00	-684.3	14,270.6	14,287.0	0.00	0.00	0.00
<b>BHL: 1979ft FSL &amp; 2500ft FWL of Sec 11</b>										
<b>20,226.1</b>	<b>90.00</b>	<b>90.25</b>	<b>7,092.0</b>	<b>-2,285.00</b>	<b>-684.4</b>	<b>14,296.7</b>	<b>14,313.1</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Formations						
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,732.9	3,680.0	PARKMAN				
4,489.0	4,410.0	SUSSEX				
4,913.7	4,820.0	SHANNON				
7,151.7	6,940.0	SHARON SPRINGS				
7,201.5	6,972.0	NIOBRARA				
7,580.6	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: 2616ft FSL & 1190ft FEL of Sec 8
1,700.0	1,700.0	0.0	0.0	START NUDGE (2°/100ft BUR)
2,455.5	2,446.8	-46.0	87.7	EOB TO 15.11° INC
6,814.4	6,655.0	-573.5	1,094.2	START BUILD & TURN
7,580.6	7,092.0	-630.2	1,651.3	HZ LP: 1980ft FSL & 460ft FWL of Sec 9
20,226.1	7,092.0	-684.4	14,296.7	BHL: 1979ft FSL & 2500ft FWL of Sec 11