

# **EXTRACTION OIL & GAS**

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

**NW SW SEC. 21 T2N R67W 6th P.M.**

**LEONARD 10N**

**ORIGINAL WELLBORE**

**28 March, 2017**

**Plan: PROPOSAL #1**

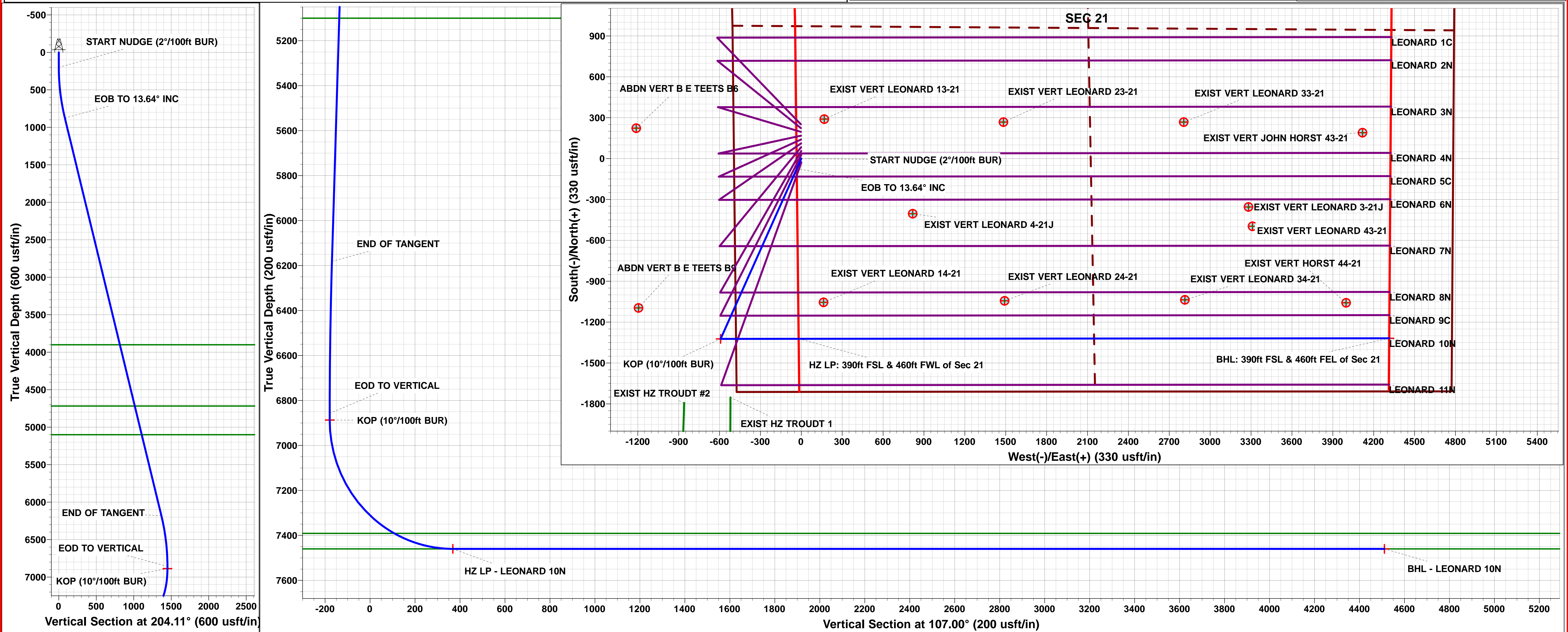
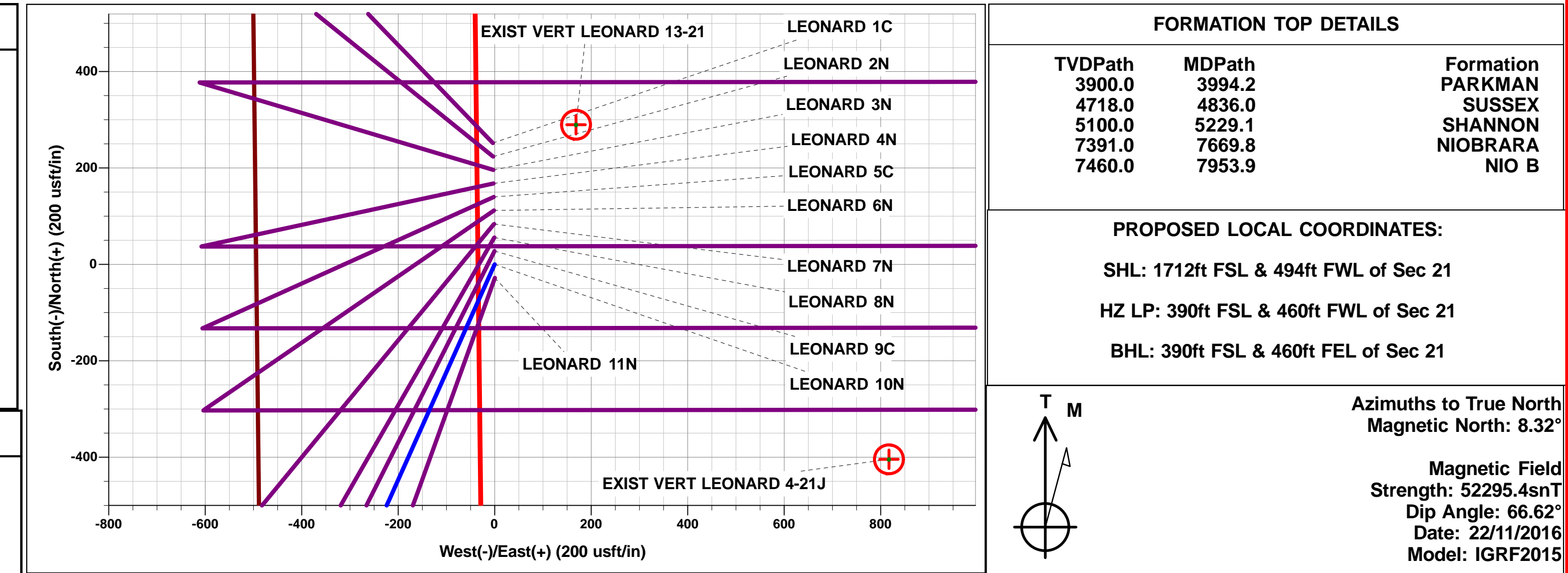




Project: WELD COUNTY, COLORADO (NAD 83)  
Site: NW SW SEC. 21 T2N R67W 6th P.M.  
Well: LEONARD 10N  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL #1

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: 1712ft FSL & 494ft FWL of Sec 21	
200.0	200.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)	
875.7	882.1	13.64	204.11	-73.8	-33.0	-10.0	80.8	EOB TO 13.64° INC	
6181.3	6341.8	13.64	204.11	-1249.1	-559.0	-169.4	1368.5	END OF TANGENT	
6857.0	7023.9	0.00	0.00	-1322.9	-592.0	-179.4	1449.3	EOD TO VERTICAL	
6887.0	7053.9	0.00	0.00	-1322.9	-592.0	-179.4	1449.3	KOP (10°/100ft BUR)	
7460.0	7953.9	90.00	89.95	-1322.4	-19.0	368.4	2022.3	HZ LP: 390ft FSL & 460ft FWL of Sec 21	
7460.0	12286.8	90.00	89.96	-1318.7	4313.8	4510.9	6355.1	BHL: 390ft FSL & 460ft FEL of Sec 21	

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - LEONARD 10N	6887.0	-1322.9	-592.0	40.117554	-104.905390
HZ LP - LEONARD 10N	7460.0	-1322.4	-19.0	40.117555	-104.903341
BHL - LEONARD 10N	7460.0	-1318.7	4313.8	40.117564	-104.887849



# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well LEONARD 10N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 5020.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 5020.0usft (Original Well Elev)
<b>Site:</b>	NW SW SEC. 21 T2N R67W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	LEONARD 10N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

<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>	NW SW SEC. 21 T2N R67W 6th P.M.		
<b>Site Position:</b>		<b>Northing:</b>	1,287,804.83 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,166,871.56 usft
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	1.10000ft
		<b>Latitude:</b>	40.121876
		<b>Longitude:</b>	-104.903286
		<b>Grid Convergence:</b>	0.39 °

<b>Well</b>	LEONARD 10N		
<b>Well Position</b>	<b>+N-S</b>	-251.7 usft	<b>Northing:</b>
	<b>+E-W</b>	3.6 usft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	usft
		<b>Latitude:</b>	40.121185
		<b>Longitude:</b>	-104.903273
		<b>Ground Level:</b>	5,004.0 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	22/11/2016	8.32	66.62	52,295

<b>Design</b>	PROPOSAL #1			
<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	107.00

<b>Plan Sections</b>											
MD (usft)	Inc (°)	Azi (°)	Vertical Depth	SS (usft)	+N-S (usft)	+E-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	-5,020.0	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	-4,820.0	0.0	0.0	0.00	0.00	0.00	0.00	
882.1	13.64	204.11	875.7	-4,144.3	-73.8	-33.0	2.00	2.00	0.00	204.11	
6,341.8	13.64	204.11	6,181.3	1,161.3	-1,249.1	-559.0	0.00	0.00	0.00	0.00	
7,023.9	0.00	0.00	6,857.0	1,837.0	-1,322.9	-592.0	2.00	-2.00	0.00	180.00	
7,053.9	0.00	0.00	6,887.0	1,867.0	-1,322.9	-592.0	0.00	0.00	0.00	0.00	KOP - LEONARD 1
7,953.9	90.00	89.95	7,460.0	2,440.0	-1,322.4	-19.0	10.00	10.00	9.99	89.95	HZ LP - LEONARD
12,286.8	90.00	89.96	7,460.0	2,440.0	-1,318.7	4,313.8	0.00	0.00	0.00	65.13	BHL - LEONARD 10

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well LEONARD 10N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 5020.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 5020.0usft (Original Well Elev)
<b>Site:</b>	NW SW SEC. 21 T2N R67W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	LEONARD 10N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

## Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
<b>SHL: 1712ft FSL &amp; 494ft FWL of Sec 21</b>										
0.0	0.00	0.00	0.0	5,020.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,920.00	0.0	0.0	0.0	0.00	0.00	0.00
<b>START NUDGE (2°/100ft BUR)</b>										
200.0	0.00	0.00	200.0	4,820.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	2.00	204.11	300.0	4,720.02	-1.6	-0.7	-0.2	2.00	2.00	0.00
400.0	4.00	204.11	399.8	4,620.16	-6.4	-2.9	-0.9	2.00	2.00	0.00
500.0	6.00	204.11	499.5	4,520.55	-14.3	-6.4	-1.9	2.00	2.00	0.00
600.0	8.00	204.11	598.7	4,421.30	-25.4	-11.4	-3.5	2.00	2.00	0.00
700.0	10.00	204.11	697.5	4,322.53	-39.7	-17.8	-5.4	2.00	2.00	0.00
800.0	12.00	204.11	795.6	4,224.38	-57.1	-25.6	-7.7	2.00	2.00	0.00
<b>EOB TO 13.64° INC</b>										
882.1	13.64	204.11	875.7	4,144.33	-73.8	-33.0	-10.0	2.00	2.00	0.00
900.0	13.64	204.11	893.1	4,126.93	-77.6	-34.7	-10.5	0.00	0.00	0.00
1,000.0	13.64	204.11	990.2	4,029.75	-99.2	-44.4	-13.4	0.00	0.00	0.00
1,100.0	13.64	204.11	1,087.4	3,932.57	-120.7	-54.0	-16.4	0.00	0.00	0.00
1,200.0	13.64	204.11	1,184.6	3,835.39	-142.2	-63.6	-19.3	0.00	0.00	0.00
1,300.0	13.64	204.11	1,281.8	3,738.22	-163.7	-73.3	-22.2	0.00	0.00	0.00
1,400.0	13.64	204.11	1,379.0	3,641.04	-185.3	-82.9	-25.1	0.00	0.00	0.00
1,500.0	13.64	204.11	1,476.1	3,543.86	-206.8	-92.5	-28.0	0.00	0.00	0.00
1,600.0	13.64	204.11	1,573.3	3,446.68	-228.3	-102.2	-31.0	0.00	0.00	0.00
1,700.0	13.64	204.11	1,670.5	3,349.50	-249.8	-111.8	-33.9	0.00	0.00	0.00
1,800.0	13.64	204.11	1,767.7	3,252.32	-271.4	-121.4	-36.8	0.00	0.00	0.00
1,900.0	13.64	204.11	1,864.9	3,155.14	-292.9	-131.1	-39.7	0.00	0.00	0.00
2,000.0	13.64	204.11	1,962.0	3,057.96	-314.4	-140.7	-42.6	0.00	0.00	0.00
2,100.0	13.64	204.11	2,059.2	2,960.78	-336.0	-150.3	-45.6	0.00	0.00	0.00
2,200.0	13.64	204.11	2,156.4	2,863.61	-357.5	-160.0	-48.5	0.00	0.00	0.00
2,300.0	13.64	204.11	2,253.6	2,766.43	-379.0	-169.6	-51.4	0.00	0.00	0.00
2,400.0	13.64	204.11	2,350.8	2,669.25	-400.5	-179.2	-54.3	0.00	0.00	0.00
2,500.0	13.64	204.11	2,447.9	2,572.07	-422.1	-188.9	-57.2	0.00	0.00	0.00
2,600.0	13.64	204.11	2,545.1	2,474.89	-443.6	-198.5	-60.2	0.00	0.00	0.00
2,700.0	13.64	204.11	2,642.3	2,377.71	-465.1	-208.1	-63.1	0.00	0.00	0.00
2,800.0	13.64	204.11	2,739.5	2,280.53	-486.7	-217.8	-66.0	0.00	0.00	0.00
2,900.0	13.64	204.11	2,836.6	2,183.35	-508.2	-227.4	-68.9	0.00	0.00	0.00
3,000.0	13.64	204.11	2,933.8	2,086.17	-529.7	-237.0	-71.8	0.00	0.00	0.00
3,100.0	13.64	204.11	3,031.0	1,989.00	-551.2	-246.7	-74.8	0.00	0.00	0.00
3,200.0	13.64	204.11	3,128.2	1,891.82	-572.8	-256.3	-77.7	0.00	0.00	0.00
3,300.0	13.64	204.11	3,225.4	1,794.64	-594.3	-265.9	-80.6	0.00	0.00	0.00
3,400.0	13.64	204.11	3,322.5	1,697.46	-615.8	-275.6	-83.5	0.00	0.00	0.00
3,500.0	13.64	204.11	3,419.7	1,600.28	-637.3	-285.2	-86.4	0.00	0.00	0.00
3,600.0	13.64	204.11	3,516.9	1,503.10	-658.9	-294.8	-89.4	0.00	0.00	0.00
3,700.0	13.64	204.11	3,614.1	1,405.92	-680.4	-304.5	-92.3	0.00	0.00	0.00
3,800.0	13.64	204.11	3,711.3	1,308.74	-701.9	-314.1	-95.2	0.00	0.00	0.00
3,900.0	13.64	204.11	3,808.4	1,211.56	-723.5	-323.8	-98.1	0.00	0.00	0.00
<b>PARKMAN</b>										
3,994.2	13.64	204.11	3,900.0	1,120.00	-743.7	-332.8	-100.9	0.00	0.00	0.00
4,000.0	13.64	204.11	3,905.6	1,114.39	-745.0	-333.4	-101.0	0.00	0.00	0.00
4,100.0	13.64	204.11	4,002.8	1,017.21	-766.5	-343.0	-103.9	0.00	0.00	0.00
4,200.0	13.64	204.11	4,100.0	920.03	-788.0	-352.7	-106.9	0.00	0.00	0.00
4,300.0	13.64	204.11	4,197.2	822.85	-809.6	-362.3	-109.8	0.00	0.00	0.00
4,400.0	13.64	204.11	4,294.3	725.67	-831.1	-371.9	-112.7	0.00	0.00	0.00
4,500.0	13.64	204.11	4,391.5	628.49	-852.6	-381.6	-115.6	0.00	0.00	0.00
4,600.0	13.64	204.11	4,488.7	531.31	-874.2	-391.2	-118.5	0.00	0.00	0.00
4,700.0	13.64	204.11	4,585.9	434.13	-895.7	-400.8	-121.5	0.00	0.00	0.00

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well LEONARD 10N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 5020.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 5020.0usft (Original Well Elev)
<b>Site:</b>	NW SW SEC. 21 T2N R67W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	LEONARD 10N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

## Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,800.0	13.64	204.11	4,683.0	336.95	-917.2	-410.5	-124.4	0.00	0.00	0.00
<b>SUSSEX</b>										
<b>4,836.0</b>	<b>13.64</b>	<b>204.11</b>	<b>4,718.0</b>	<b>302.00</b>	<b>-925.0</b>	<b>-413.9</b>	<b>-125.4</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
4,900.0	13.64	204.11	4,780.2	239.78	-938.7	-420.1	-127.3	0.00	0.00	0.00
5,000.0	13.64	204.11	4,877.4	142.60	-960.3	-429.7	-130.2	0.00	0.00	0.00
5,100.0	13.64	204.11	4,974.6	45.42	-981.8	-439.4	-133.1	0.00	0.00	0.00
5,200.0	13.64	204.11	5,071.8	-51.76	-1,003.3	-449.0	-136.1	0.00	0.00	0.00
<b>SHANNON</b>										
<b>5,229.1</b>	<b>13.64</b>	<b>204.11</b>	<b>5,100.0</b>	<b>-80.00</b>	<b>-1,009.6</b>	<b>-451.8</b>	<b>-136.9</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
5,300.0	13.64	204.11	5,168.9	-148.94	-1,024.9	-458.6	-139.0	0.00	0.00	0.00
5,400.0	13.64	204.11	5,266.1	-246.12	-1,046.4	-468.3	-141.9	0.00	0.00	0.00
5,500.0	13.64	204.11	5,363.3	-343.30	-1,067.9	-477.9	-144.8	0.00	0.00	0.00
5,600.0	13.64	204.11	5,460.5	-440.48	-1,089.4	-487.5	-147.7	0.00	0.00	0.00
5,700.0	13.64	204.11	5,557.7	-537.66	-1,111.0	-497.2	-150.7	0.00	0.00	0.00
5,800.0	13.64	204.11	5,654.8	-634.83	-1,132.5	-506.8	-153.6	0.00	0.00	0.00
5,900.0	13.64	204.11	5,752.0	-732.01	-1,154.0	-516.4	-156.5	0.00	0.00	0.00
6,000.0	13.64	204.11	5,849.2	-829.19	-1,175.5	-526.1	-159.4	0.00	0.00	0.00
6,100.0	13.64	204.11	5,946.4	-926.37	-1,197.1	-535.7	-162.3	0.00	0.00	0.00
6,200.0	13.64	204.11	6,043.6	-1,023.55	-1,218.6	-545.3	-165.3	0.00	0.00	0.00
6,300.0	13.64	204.11	6,140.7	-1,120.73	-1,240.1	-555.0	-168.2	0.00	0.00	0.00
<b>END OF TANGENT</b>										
<b>6,341.8</b>	<b>13.64</b>	<b>204.11</b>	<b>6,181.3</b>	<b>-1,161.33</b>	<b>-1,249.1</b>	<b>-559.0</b>	<b>-169.4</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
6,400.0	12.48	204.11	6,238.0	-1,218.04	-1,261.1	-564.4	-171.0	2.00	-2.00	0.00
6,500.0	10.48	204.11	6,336.0	-1,316.04	-1,279.3	-572.5	-173.5	2.00	-2.00	0.00
6,600.0	8.48	204.11	6,434.7	-1,414.67	-1,294.3	-579.2	-175.5	2.00	-2.00	0.00
6,700.0	6.48	204.11	6,533.8	-1,513.81	-1,306.2	-584.5	-177.1	2.00	-2.00	0.00
6,800.0	4.48	204.11	6,633.4	-1,613.35	-1,314.9	-588.4	-178.3	2.00	-2.00	0.00
6,900.0	2.48	204.11	6,733.2	-1,713.16	-1,320.5	-590.9	-179.1	2.00	-2.00	0.00
7,000.0	0.48	204.11	6,833.1	-1,813.12	-1,322.8	-592.0	-179.4	2.00	-2.00	0.00
<b>EOD TO VERTICAL</b>										
<b>7,023.9</b>	<b>0.00</b>	<b>0.00</b>	<b>6,857.0</b>	<b>-1,837.00</b>	<b>-1,322.9</b>	<b>-592.0</b>	<b>-179.4</b>	<b>2.00</b>	<b>-2.00</b>	<b>0.00</b>
<b>KOP (10°/100ft BUR)</b>										
<b>7,053.9</b>	<b>0.00</b>	<b>0.00</b>	<b>6,887.0</b>	<b>-1,867.00</b>	<b>-1,322.9</b>	<b>-592.0</b>	<b>-179.4</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
7,100.0	4.61	89.95	6,933.1	-1,913.07	-1,322.9	-590.1	-177.6	10.00	10.00	0.00
7,200.0	14.61	89.95	7,031.5	-2,011.55	-1,322.9	-573.5	-161.7	10.00	10.00	0.00
7,300.0	24.61	89.95	7,125.6	-2,105.63	-1,322.8	-539.9	-129.6	10.00	10.00	0.00
7,400.0	34.61	89.95	7,212.5	-2,192.46	-1,322.8	-490.6	-82.5	10.00	10.00	0.00
7,500.0	44.61	89.95	7,289.4	-2,269.40	-1,322.7	-426.9	-21.6	10.00	10.00	0.00
7,600.0	54.61	89.95	7,354.1	-2,334.12	-1,322.7	-350.9	51.1	10.00	10.00	0.00
<b>NIOBRARA</b>										
<b>7,669.8</b>	<b>61.59</b>	<b>89.95</b>	<b>7,391.0</b>	<b>-2,371.00</b>	<b>-1,322.6</b>	<b>-291.6</b>	<b>107.8</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
7,700.0	64.61	89.95	7,404.6	-2,384.64	-1,322.6	-264.7	133.5	10.00	10.00	0.00
7,800.0	74.61	89.95	7,439.4	-2,419.44	-1,322.5	-171.1	223.0	10.00	10.00	0.00
7,900.0	84.61	89.95	7,457.5	-2,437.46	-1,322.4	-72.9	316.9	10.00	10.00	0.00
<b>HZ LP: 390ft FSL &amp; 460ft FWL of Sec 21 - NIO B</b>										
<b>7,953.9</b>	<b>90.00</b>	<b>89.95</b>	<b>7,460.0</b>	<b>-2,440.00</b>	<b>-1,322.4</b>	<b>-19.0</b>	<b>368.4</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
8,000.0	90.00	89.95	7,460.0	-2,440.00	-1,322.3	27.1	412.4	0.00	0.00	0.00
8,100.0	90.00	89.95	7,460.0	-2,440.00	-1,322.2	127.1	508.1	0.00	0.00	0.00
8,200.0	90.00	89.95	7,460.0	-2,440.01	-1,322.2	227.1	603.7	0.00	0.00	0.00
8,300.0	90.00	89.95	7,460.0	-2,440.01	-1,322.1	327.1	699.3	0.00	0.00	0.00
8,400.0	90.00	89.95	7,460.0	-2,440.01	-1,322.0	427.1	794.9	0.00	0.00	0.00
8,500.0	90.00	89.95	7,460.0	-2,440.02	-1,321.9	527.1	890.5	0.00	0.00	0.00
8,600.0	90.00	89.95	7,460.0	-2,440.02	-1,321.8	627.1	986.1	0.00	0.00	0.00

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well LEONARD 10N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 5020.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 5020.0usft (Original Well Elev)
<b>Site:</b>	NW SW SEC. 21 T2N R67W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	LEONARD 10N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

## Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,700.0	90.00	89.95	7,460.0	-2,440.02	-1,321.7	727.1	1,081.7	0.00	0.00	0.00
8,800.0	90.00	89.95	7,460.0	-2,440.02	-1,321.6	827.1	1,177.3	0.00	0.00	0.00
8,900.0	90.00	89.95	7,460.0	-2,440.02	-1,321.5	927.1	1,272.9	0.00	0.00	0.00
9,000.0	90.00	89.95	7,460.0	-2,440.03	-1,321.4	1,027.1	1,368.5	0.00	0.00	0.00
9,100.0	90.00	89.95	7,460.0	-2,440.03	-1,321.3	1,127.1	1,464.1	0.00	0.00	0.00
9,200.0	90.00	89.95	7,460.0	-2,440.03	-1,321.3	1,227.1	1,559.7	0.00	0.00	0.00
9,300.0	90.00	89.95	7,460.0	-2,440.03	-1,321.2	1,327.1	1,655.3	0.00	0.00	0.00
9,400.0	90.00	89.95	7,460.0	-2,440.03	-1,321.1	1,427.1	1,750.9	0.00	0.00	0.00
9,500.0	90.00	89.95	7,460.0	-2,440.03	-1,321.0	1,527.1	1,846.5	0.00	0.00	0.00
9,600.0	90.00	89.95	7,460.0	-2,440.03	-1,320.9	1,627.1	1,942.1	0.00	0.00	0.00
9,700.0	90.00	89.95	7,460.0	-2,440.03	-1,320.8	1,727.1	2,037.7	0.00	0.00	0.00
9,800.0	90.00	89.95	7,460.0	-2,440.03	-1,320.7	1,827.1	2,133.3	0.00	0.00	0.00
9,900.0	90.00	89.95	7,460.0	-2,440.03	-1,320.7	1,927.1	2,229.0	0.00	0.00	0.00
10,000.0	90.00	89.95	7,460.0	-2,440.03	-1,320.6	2,027.1	2,324.6	0.00	0.00	0.00
10,100.0	90.00	89.95	7,460.0	-2,440.03	-1,320.5	2,127.1	2,420.2	0.00	0.00	0.00
10,200.0	90.00	89.95	7,460.0	-2,440.03	-1,320.4	2,227.1	2,515.8	0.00	0.00	0.00
10,300.0	90.00	89.95	7,460.0	-2,440.03	-1,320.3	2,327.1	2,611.4	0.00	0.00	0.00
10,400.0	90.00	89.95	7,460.0	-2,440.03	-1,320.2	2,427.1	2,707.0	0.00	0.00	0.00
10,500.0	90.00	89.95	7,460.0	-2,440.03	-1,320.2	2,527.1	2,802.6	0.00	0.00	0.00
10,600.0	90.00	89.95	7,460.0	-2,440.03	-1,320.1	2,627.1	2,898.2	0.00	0.00	0.00
10,700.0	90.00	89.95	7,460.0	-2,440.03	-1,320.0	2,727.1	2,993.8	0.00	0.00	0.00
10,800.0	90.00	89.95	7,460.0	-2,440.03	-1,319.9	2,827.1	3,089.4	0.00	0.00	0.00
10,900.0	90.00	89.95	7,460.0	-2,440.03	-1,319.8	2,927.1	3,185.0	0.00	0.00	0.00
11,000.0	90.00	89.95	7,460.0	-2,440.03	-1,319.7	3,027.1	3,280.6	0.00	0.00	0.00
11,100.0	90.00	89.95	7,460.0	-2,440.03	-1,319.7	3,127.1	3,376.2	0.00	0.00	0.00
11,200.0	90.00	89.95	7,460.0	-2,440.03	-1,319.6	3,227.1	3,471.8	0.00	0.00	0.00
11,300.0	90.00	89.95	7,460.0	-2,440.02	-1,319.5	3,327.1	3,567.5	0.00	0.00	0.00
11,400.0	90.00	89.95	7,460.0	-2,440.02	-1,319.4	3,427.1	3,663.1	0.00	0.00	0.00
11,500.0	90.00	89.95	7,460.0	-2,440.02	-1,319.3	3,527.1	3,758.7	0.00	0.00	0.00
11,600.0	90.00	89.95	7,460.0	-2,440.02	-1,319.3	3,627.1	3,854.3	0.00	0.00	0.00
11,700.0	90.00	89.95	7,460.0	-2,440.02	-1,319.2	3,727.1	3,949.9	0.00	0.00	0.00
11,800.0	90.00	89.95	7,460.0	-2,440.01	-1,319.1	3,827.1	4,045.5	0.00	0.00	0.00
11,900.0	90.00	89.95	7,460.0	-2,440.01	-1,319.0	3,927.1	4,141.1	0.00	0.00	0.00
12,000.0	90.00	89.96	7,460.0	-2,440.01	-1,318.9	4,027.1	4,236.7	0.00	0.00	0.00
12,100.0	90.00	89.96	7,460.0	-2,440.01	-1,318.9	4,127.1	4,332.3	0.00	0.00	0.00
12,200.0	90.00	89.96	7,460.0	-2,440.00	-1,318.8	4,227.1	4,427.9	0.00	0.00	0.00
<b>BHL: 390ft FSL &amp; 460ft FEL of Sec 21</b>										
<b>12,286.8</b>	<b>90.00</b>	<b>89.96</b>	<b>7,460.0</b>	<b>-2,440.00</b>	<b>-1,318.7</b>	<b>4,313.8</b>	<b>4,510.9</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

## Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,994.2	3,900.0	PARKMAN			
4,836.0	4,718.0	SUSSEX			
5,229.1	5,100.0	SHANNON			
7,669.8	7,391.0	NIOBRARA			
7,953.9	7,460.0	NIO B			

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well LEONARD 10N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 5020.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 5020.0usft (Original Well Elev)
<b>Site:</b>	NW SW SEC. 21 T2N R67W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	LEONARD 10N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

## Plan Annotations

MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.0	0.0	0.0	0.0	SHL: 1712ft FSL & 494ft FWL of Sec 21
200.0	200.0	0.0	0.0	START NUDGE (2°/100ft BUR)
882.1	875.7	-73.8	-33.0	EOB TO 13.64° INC
6,341.8	6,181.3	-1,249.1	-559.0	END OF TANGENT
7,023.9	6,857.0	-1,322.9	-592.0	EOD TO VERTICAL
7,053.9	6,887.0	-1,322.9	-592.0	KOP (10°/100ft BUR)
7,953.9	7,460.0	-1,322.4	-19.0	HZ LP: 390ft FSL & 460ft FWL of Sec 21
12,286.8	7,460.0	-1,318.7	4,313.8	BHL: 390ft FSL & 460ft FEL of Sec 21