

# **EXTRACTION OIL & GAS**

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

**SW NW SEC. 15 T5N R65W 6th P.M.**

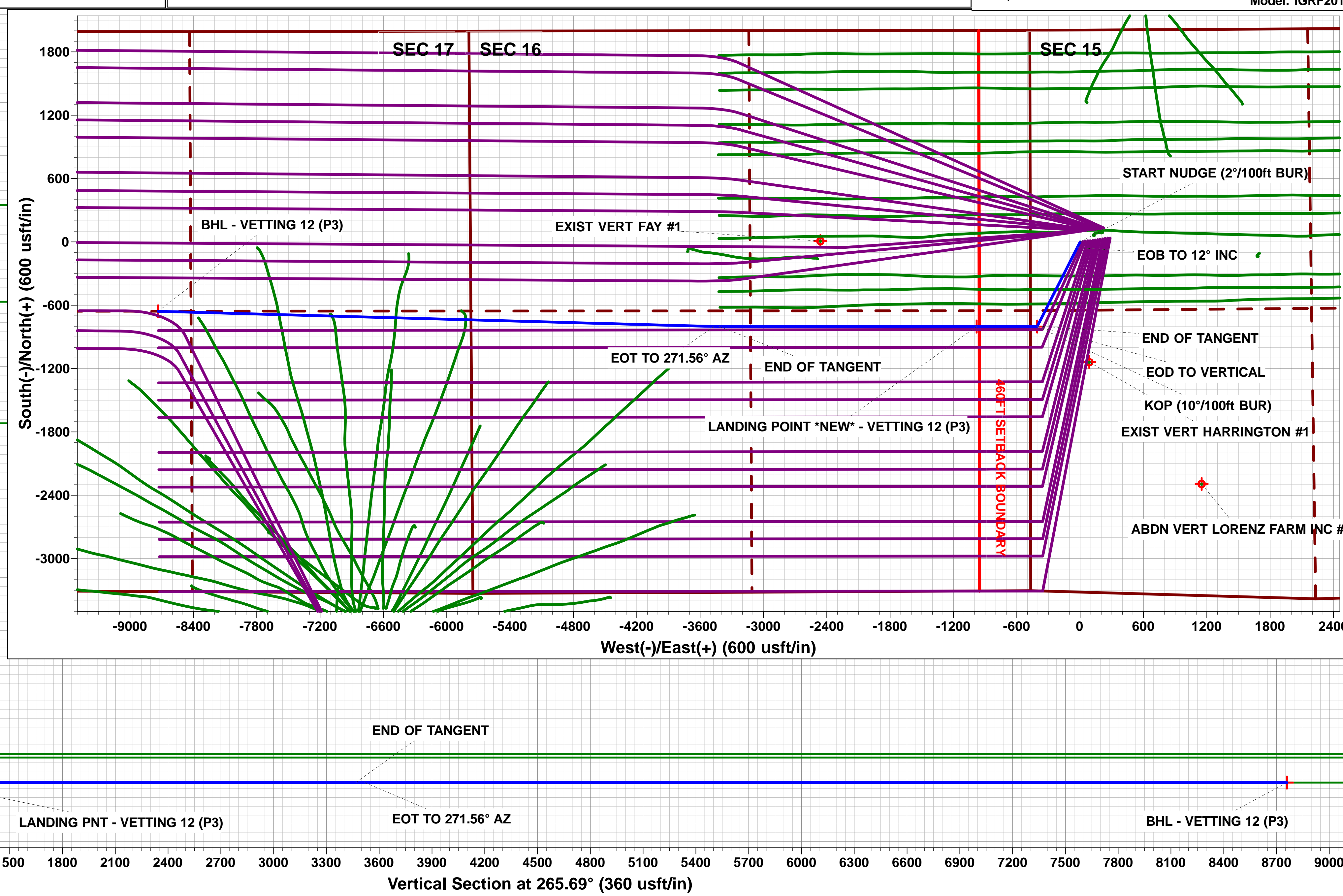
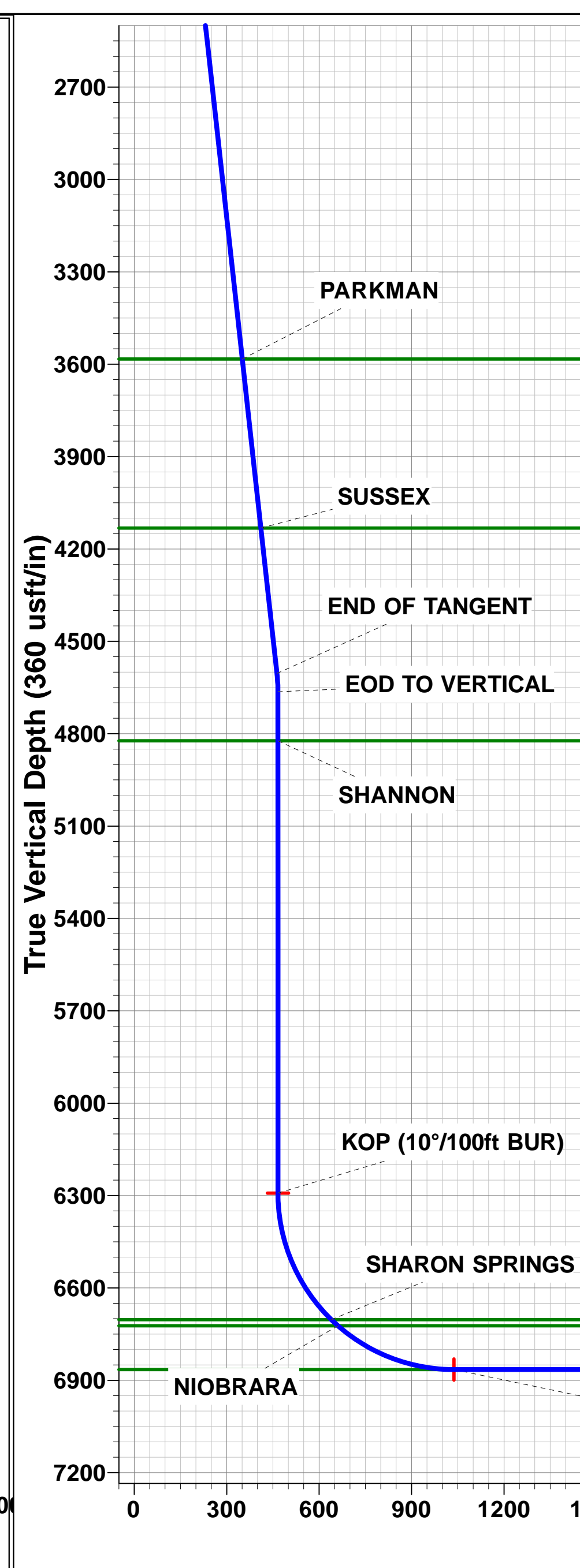
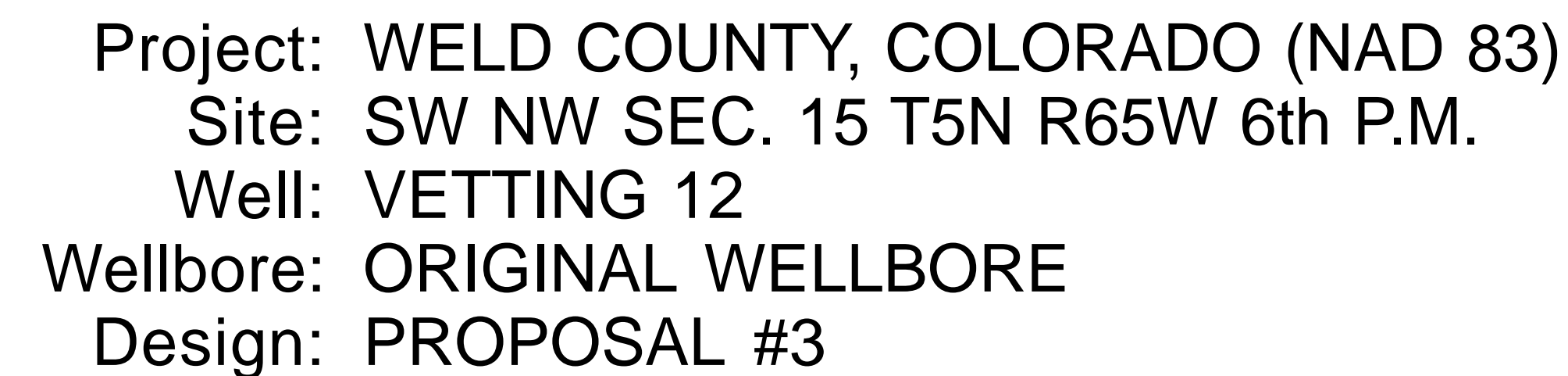
**VETTING 12**

**ORIGINAL WELLBORE**

**19 May, 2016**

**Plan: PROPOSAL #3**





# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well VETTING 12
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4664.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4664.0usft (Original Well Elev)
<b>Site:</b>	SW NW SEC. 15 T5N R65W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	VETTING 12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #3		

<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>	SW NW SEC. 15 T5N R65W 6th P.M.		
<b>Site Position:</b>		<b>Northing:</b>	1,390,032.91 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,234,727.17 usft
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	1.10000ft
		<b>Latitude:</b>	40.400980
		<b>Longitude:</b>	-104.657180
		<b>Grid Convergence:</b>	0.54 °

<b>Well</b>	VETTING 12		
<b>Well Position</b>	<b>+N-S</b>	0.0 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>	usft
		<b>Latitude:</b>	40.400980
		<b>Longitude:</b>	-104.657180
		<b>Ground Level:</b>	4,648.0 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	19/05/2016	8.27	66.90	52,529

<b>Design</b>	PROPOSAL #3			
<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	265.69

<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	-4,664.0	0.0	0.0	0.00	0.00	0.00	0.00	
100.0	0.00	0.00	100.0	-4,564.0	0.0	0.0	0.00	0.00	0.00	0.00	
699.9	12.00	206.92	695.5	-3,968.5	-55.8	-28.3	2.00	2.00	0.00	206.92	
4,696.0	12.00	206.92	4,604.3	-59.7	-796.5	-404.4	0.00	0.00	0.00	0.00	
4,756.0	0.00	0.00	4,663.9	-0.1	-802.1	-407.2	20.00	-20.00	0.00	180.00	
6,384.0	0.00	0.00	6,291.9	1,627.9	-802.1	-407.2	0.00	0.00	0.00	0.00	KOP - VETTING 12
7,284.2	90.00	270.00	6,865.0	2,201.0	-802.1	-980.3	10.00	10.00	-10.00	270.00	LANDING PNT - VE
9,719.9	90.00	270.00	6,865.0	2,201.0	-802.1	-3,416.0	0.00	0.00	0.00	0.00	
9,772.0	90.00	271.56	6,865.0	2,201.0	-801.4	-3,468.0	3.00	0.00	3.00	90.00	
15,040.4	90.00	271.56	6,865.0	2,201.0	-657.8	-8,734.5	0.00	0.00	0.00	0.00	BHL - VETTING 12



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well VETTING 12
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4664.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4664.0usft (Original Well Elev)
<b>Site:</b>	SW NW SEC. 15 T5N R65W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	VETTING 12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #3		

## 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)
0.0	0.00	0.00	0.0	4,664.00	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	4,564.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	2.00	206.92	200.0	4,464.02	-1.6	-0.8	0.9	2.00	2.00	0.00
300.0	4.00	206.92	299.8	4,364.16	-6.2	-3.2	3.6	2.00	2.00	0.00
400.0	6.00	206.92	399.5	4,264.55	-14.0	-7.1	8.1	2.00	2.00	0.00
500.0	8.00	206.92	498.7	4,165.30	-24.9	-12.6	14.5	2.00	2.00	0.00
600.0	10.00	206.92	597.5	4,066.53	-38.8	-19.7	22.6	2.00	2.00	0.00
<b>EOB TO 12° INC</b>										
699.9	12.00	206.92	695.5	3,968.47	-55.8	-28.3	32.4	2.00	2.00	0.00
700.0	12.00	206.92	695.6	3,968.38	-55.8	-28.3	32.5	0.00	0.00	0.00
800.0	12.00	206.92	793.4	3,870.56	-74.4	-37.7	43.2	0.00	0.00	0.00
900.0	12.00	206.92	891.3	3,772.75	-92.9	-47.2	54.0	0.00	0.00	0.00
1,000.0	12.00	206.92	989.1	3,674.93	-111.4	-56.6	64.8	0.00	0.00	0.00
1,100.0	12.00	206.92	1,086.9	3,577.11	-130.0	-66.0	75.6	0.00	0.00	0.00
1,200.0	12.00	206.92	1,184.7	3,479.30	-148.5	-75.4	86.3	0.00	0.00	0.00
1,300.0	12.00	206.92	1,282.5	3,381.48	-167.0	-84.8	97.1	0.00	0.00	0.00
1,400.0	12.00	206.92	1,380.3	3,283.67	-185.6	-94.2	107.9	0.00	0.00	0.00
1,500.0	12.00	206.92	1,478.1	3,185.85	-204.1	-103.6	118.7	0.00	0.00	0.00
1,600.0	12.00	206.92	1,576.0	3,088.04	-222.6	-113.0	129.4	0.00	0.00	0.00
1,700.0	12.00	206.92	1,673.8	2,990.22	-241.2	-122.4	140.2	0.00	0.00	0.00
1,800.0	12.00	206.92	1,771.6	2,892.41	-259.7	-131.8	151.0	0.00	0.00	0.00
1,900.0	12.00	206.92	1,869.4	2,794.59	-278.3	-141.3	161.8	0.00	0.00	0.00
2,000.0	12.00	206.92	1,967.2	2,696.78	-296.8	-150.7	172.5	0.00	0.00	0.00
2,100.0	12.00	206.92	2,065.0	2,598.96	-315.3	-160.1	183.3	0.00	0.00	0.00
2,200.0	12.00	206.92	2,162.9	2,501.14	-333.9	-169.5	194.1	0.00	0.00	0.00
2,300.0	12.00	206.92	2,260.7	2,403.33	-352.4	-178.9	204.9	0.00	0.00	0.00
2,400.0	12.00	206.92	2,358.5	2,305.51	-370.9	-188.3	215.6	0.00	0.00	0.00
2,500.0	12.00	206.92	2,456.3	2,207.70	-389.5	-197.7	226.4	0.00	0.00	0.00
2,600.0	12.00	206.92	2,554.1	2,109.88	-408.0	-207.1	237.2	0.00	0.00	0.00
2,700.0	12.00	206.92	2,651.9	2,012.07	-426.5	-216.5	248.0	0.00	0.00	0.00
2,800.0	12.00	206.92	2,749.7	1,914.25	-445.1	-226.0	258.7	0.00	0.00	0.00
2,900.0	12.00	206.92	2,847.6	1,816.44	-463.6	-235.4	269.5	0.00	0.00	0.00
3,000.0	12.00	206.92	2,945.4	1,718.62	-482.1	-244.8	280.3	0.00	0.00	0.00
3,100.0	12.00	206.92	3,043.2	1,620.81	-500.7	-254.2	291.1	0.00	0.00	0.00
3,200.0	12.00	206.92	3,141.0	1,522.99	-519.2	-263.6	301.8	0.00	0.00	0.00
3,300.0	12.00	206.92	3,238.8	1,425.17	-537.8	-273.0	312.6	0.00	0.00	0.00
3,400.0	12.00	206.92	3,336.6	1,327.36	-556.3	-282.4	323.4	0.00	0.00	0.00
3,500.0	12.00	206.92	3,434.5	1,229.54	-574.8	-291.8	334.2	0.00	0.00	0.00
3,600.0	12.00	206.92	3,532.3	1,131.73	-593.4	-301.2	344.9	0.00	0.00	0.00
<b>PARKMAN</b>										
3,651.9	12.00	206.92	3,583.0	1,081.00	-603.0	-306.1	350.5	0.00	0.00	0.00
3,700.0	12.00	206.92	3,630.1	1,033.91	-611.9	-310.6	355.7	0.00	0.00	0.00
3,800.0	12.00	206.92	3,727.9	936.10	-630.4	-320.1	366.5	0.00	0.00	0.00
3,900.0	12.00	206.92	3,825.7	838.28	-649.0	-329.5	377.3	0.00	0.00	0.00
4,000.0	12.00	206.92	3,923.5	740.47	-667.5	-338.9	388.0	0.00	0.00	0.00
4,100.0	12.00	206.92	4,021.3	642.65	-686.0	-348.3	398.8	0.00	0.00	0.00
4,200.0	12.00	206.92	4,119.2	544.83	-704.6	-357.7	409.6	0.00	0.00	0.00
<b>SUSSEX</b>										
4,213.1	12.00	206.92	4,132.0	532.00	-707.0	-358.9	411.0	0.00	0.00	0.00
4,300.0	12.00	206.92	4,217.0	447.02	-723.1	-367.1	420.4	0.00	0.00	0.00
4,400.0	12.00	206.92	4,314.8	349.20	-741.7	-376.5	431.1	0.00	0.00	0.00
4,500.0	12.00	206.92	4,412.6	251.39	-760.2	-385.9	441.9	0.00	0.00	0.00
4,600.0	12.00	206.92	4,510.4	153.57	-778.7	-395.3	452.7	0.00	0.00	0.00

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<b>Well:</b>	VETTING 12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #3		

## 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>END OF TANGENT</b>										
4,696.0	12.00	206.92	4,604.3	59.67	-796.5	-404.4	463.0	0.00	0.00	0.00
4,700.0	11.20	206.92	4,608.2	55.75	-797.2	-404.7	463.5	19.91	-19.91	0.00
<b>EOD TO VERTICAL</b>										
4,756.0	0.00	206.92	4,663.9	0.11	-802.1	-407.2	466.3	20.00	-20.00	0.00
4,800.0	0.00	0.00	4,707.9	-43.89	-802.1	-407.2	466.3	0.00	0.00	0.00
4,900.0	0.00	0.00	4,807.9	-143.89	-802.1	-407.2	466.3	0.00	0.00	0.00
<b>SHANNON</b>										
4,915.1	0.00	0.00	4,823.0	-159.00	-802.1	-407.2	466.3	0.00	0.00	0.00
5,000.0	0.00	0.00	4,907.9	-243.89	-802.1	-407.2	466.3	0.00	0.00	0.00
5,100.0	0.00	0.00	5,007.9	-343.89	-802.1	-407.2	466.3	0.00	0.00	0.00
5,200.0	0.00	0.00	5,107.9	-443.89	-802.1	-407.2	466.3	0.00	0.00	0.00
5,300.0	0.00	0.00	5,207.9	-543.89	-802.1	-407.2	466.3	0.00	0.00	0.00
5,400.0	0.00	0.00	5,307.9	-643.89	-802.1	-407.2	466.3	0.00	0.00	0.00
5,500.0	0.00	0.00	5,407.9	-743.89	-802.1	-407.2	466.3	0.00	0.00	0.00
5,600.0	0.00	0.00	5,507.9	-843.89	-802.1	-407.2	466.3	0.00	0.00	0.00
5,700.0	0.00	0.00	5,607.9	-943.89	-802.1	-407.2	466.3	0.00	0.00	0.00
5,800.0	0.00	0.00	5,707.9	-1,043.89	-802.1	-407.2	466.3	0.00	0.00	0.00
5,900.0	0.00	0.00	5,807.9	-1,143.89	-802.1	-407.2	466.3	0.00	0.00	0.00
6,000.0	0.00	0.00	5,907.9	-1,243.89	-802.1	-407.2	466.3	0.00	0.00	0.00
6,100.0	0.00	0.00	6,007.9	-1,343.89	-802.1	-407.2	466.3	0.00	0.00	0.00
6,200.0	0.00	0.00	6,107.9	-1,443.89	-802.1	-407.2	466.3	0.00	0.00	0.00
6,300.0	0.00	0.00	6,207.9	-1,543.89	-802.1	-407.2	466.3	0.00	0.00	0.00
<b>KOP (10°/100ft BUR)</b>										
6,384.0	0.00	0.00	6,291.9	-1,627.89	-802.1	-407.2	466.3	0.00	0.00	0.00
6,400.0	1.60	270.00	6,307.9	-1,643.89	-802.1	-407.4	466.5	9.99	9.99	0.00
6,500.0	11.60	270.00	6,407.1	-1,743.10	-802.1	-418.9	478.0	10.00	10.00	0.00
6,600.0	21.59	270.00	6,502.8	-1,838.82	-802.1	-447.4	506.4	10.00	10.00	0.00
6,700.0	31.59	270.00	6,592.1	-1,928.12	-802.1	-492.1	551.0	10.00	10.00	0.00
6,800.0	41.59	270.00	6,672.3	-2,008.31	-802.1	-551.7	610.3	10.00	10.00	0.00
<b>SHARON SPRINGS</b>										
6,842.5	45.83	270.00	6,703.0	-2,039.00	-802.1	-581.0	639.6	10.00	10.00	0.00
<b>NIOBRARA</b>										
6,872.0	48.78	270.00	6,723.0	-2,059.00	-802.1	-602.7	661.2	10.00	10.00	0.00
6,900.0	51.59	270.00	6,741.0	-2,076.95	-802.1	-624.2	682.7	10.00	10.00	0.00
7,000.0	61.58	270.00	6,796.0	-2,131.95	-802.1	-707.6	765.8	10.00	10.00	0.00
7,100.0	71.58	270.00	6,835.6	-2,171.64	-802.1	-799.2	857.2	10.00	10.00	0.00
7,200.0	81.58	270.00	6,858.8	-2,194.82	-802.1	-896.4	954.1	10.00	10.00	0.00
<b>LANDING POINT *NEW* - VETTING 12 (P3) - NIO B TARGET</b>										
7,284.2	90.00	270.00	6,865.0	-2,201.00	-802.1	-980.3	1,037.8	10.00	10.00	0.00
7,300.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-996.1	1,053.5	0.00	0.00	0.00
7,400.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-1,096.1	1,153.2	0.00	0.00	0.00
7,500.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-1,196.1	1,252.9	0.00	0.00	0.00
7,600.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-1,296.1	1,352.6	0.00	0.00	0.00
7,700.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-1,396.1	1,452.4	0.00	0.00	0.00
7,800.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-1,496.1	1,552.1	0.00	0.00	0.00
7,900.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-1,596.1	1,651.8	0.00	0.00	0.00
8,000.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-1,696.1	1,751.5	0.00	0.00	0.00
8,100.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-1,796.1	1,851.2	0.00	0.00	0.00
8,200.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-1,896.1	1,951.0	0.00	0.00	0.00
8,300.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-1,996.1	2,050.7	0.00	0.00	0.00
8,400.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-2,096.1	2,150.4	0.00	0.00	0.00
8,500.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-2,196.1	2,250.1	0.00	0.00	0.00

# Planning Report



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<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4664.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4664.0usft (Original Well Elev)
<b>Site:</b>	SW NW SEC. 15 T5N R65W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	VETTING 12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #3		

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)
8,600.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-2,296.1	2,349.8	0.00	0.00	0.00
8,700.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-2,396.1	2,449.5	0.00	0.00	0.00
8,800.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-2,496.1	2,549.3	0.00	0.00	0.00
8,900.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-2,596.1	2,649.0	0.00	0.00	0.00
9,000.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-2,696.1	2,748.7	0.00	0.00	0.00
9,100.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-2,796.1	2,848.4	0.00	0.00	0.00
9,200.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-2,896.1	2,948.1	0.00	0.00	0.00
9,300.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-2,996.1	3,047.8	0.00	0.00	0.00
9,400.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-3,096.1	3,147.6	0.00	0.00	0.00
9,500.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-3,196.1	3,247.3	0.00	0.00	0.00
9,600.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-3,296.1	3,347.0	0.00	0.00	0.00
9,700.0	90.00	270.00	6,865.0	-2,201.00	-802.1	-3,396.1	3,446.7	0.00	0.00	0.00
END OF TANGENT										
9,719.9	90.00	270.00	6,865.0	-2,201.00	-802.1	-3,416.0	3,466.6	0.00	0.00	0.00
EOT TO 271.56° AZ										
9,772.0	90.00	271.56	6,865.0	-2,201.00	-801.4	-3,468.1	3,518.5	3.00	0.00	3.00
9,800.0	90.00	271.56	6,865.0	-2,201.00	-800.6	-3,496.1	3,546.3	0.00	0.00	0.00
9,900.0	90.00	271.56	6,865.0	-2,201.00	-797.9	-3,596.0	3,645.8	0.00	0.00	0.00
10,000.0	90.00	271.56	6,865.0	-2,201.00	-795.2	-3,696.0	3,745.3	0.00	0.00	0.00
10,100.0	90.00	271.56	6,865.0	-2,201.00	-792.5	-3,795.9	3,844.7	0.00	0.00	0.00
10,200.0	90.00	271.56	6,865.0	-2,201.00	-789.7	-3,895.9	3,944.2	0.00	0.00	0.00
10,300.0	90.00	271.56	6,865.0	-2,201.00	-787.0	-3,995.9	4,043.7	0.00	0.00	0.00
10,400.0	90.00	271.56	6,865.0	-2,201.00	-784.3	-4,095.8	4,143.2	0.00	0.00	0.00
10,500.0	90.00	271.56	6,865.0	-2,201.00	-781.6	-4,195.8	4,242.6	0.00	0.00	0.00
10,600.0	90.00	271.56	6,865.0	-2,201.00	-778.8	-4,295.8	4,342.1	0.00	0.00	0.00
10,700.0	90.00	271.56	6,865.0	-2,201.00	-776.1	-4,395.7	4,441.6	0.00	0.00	0.00
10,800.0	90.00	271.56	6,865.0	-2,201.00	-773.4	-4,495.7	4,541.1	0.00	0.00	0.00
10,900.0	90.00	271.56	6,865.0	-2,201.00	-770.7	-4,595.6	4,640.5	0.00	0.00	0.00
11,000.0	90.00	271.56	6,865.0	-2,201.00	-767.9	-4,695.6	4,740.0	0.00	0.00	0.00
11,100.0	90.00	271.56	6,865.0	-2,201.00	-765.2	-4,795.6	4,839.5	0.00	0.00	0.00
11,200.0	90.00	271.56	6,865.0	-2,201.00	-762.5	-4,895.5	4,939.0	0.00	0.00	0.00
11,300.0	90.00	271.56	6,865.0	-2,201.00	-759.8	-4,995.5	5,038.4	0.00	0.00	0.00
11,400.0	90.00	271.56	6,865.0	-2,201.00	-757.0	-5,095.5	5,137.9	0.00	0.00	0.00
11,500.0	90.00	271.56	6,865.0	-2,201.00	-754.3	-5,195.4	5,237.4	0.00	0.00	0.00
11,600.0	90.00	271.56	6,865.0	-2,201.00	-751.6	-5,295.4	5,336.9	0.00	0.00	0.00
11,700.0	90.00	271.56	6,865.0	-2,201.00	-748.9	-5,395.3	5,436.4	0.00	0.00	0.00
11,800.0	90.00	271.56	6,865.0	-2,201.00	-746.1	-5,495.3	5,535.8	0.00	0.00	0.00
11,900.0	90.00	271.56	6,865.0	-2,201.00	-743.4	-5,595.3	5,635.3	0.00	0.00	0.00
12,000.0	90.00	271.56	6,865.0	-2,201.00	-740.7	-5,695.2	5,734.8	0.00	0.00	0.00
12,100.0	90.00	271.56	6,865.0	-2,201.00	-738.0	-5,795.2	5,834.3	0.00	0.00	0.00
12,200.0	90.00	271.56	6,865.0	-2,201.00	-735.2	-5,895.2	5,933.7	0.00	0.00	0.00
12,300.0	90.00	271.56	6,865.0	-2,201.00	-732.5	-5,995.1	6,033.2	0.00	0.00	0.00
12,400.0	90.00	271.56	6,865.0	-2,201.00	-729.8	-6,095.1	6,132.7	0.00	0.00	0.00
12,500.0	90.00	271.56	6,865.0	-2,201.00	-727.1	-6,195.0	6,232.2	0.00	0.00	0.00
12,600.0	90.00	271.56	6,865.0	-2,201.00	-724.3	-6,295.0	6,331.6	0.00	0.00	0.00
12,700.0	90.00	271.56	6,865.0	-2,201.00	-721.6	-6,395.0	6,431.1	0.00	0.00	0.00
12,800.0	90.00	271.56	6,865.0	-2,201.00	-718.9	-6,494.9	6,530.6	0.00	0.00	0.00
12,900.0	90.00	271.56	6,865.0	-2,201.00	-716.2	-6,594.9	6,630.1	0.00	0.00	0.00
13,000.0	90.00	271.56	6,865.0	-2,201.00	-713.4	-6,694.9	6,729.5	0.00	0.00	0.00
13,100.0	90.00	271.56	6,865.0	-2,201.00	-710.7	-6,794.8	6,829.0	0.00	0.00	0.00
13,200.0	90.00	271.56	6,865.0	-2,201.00	-708.0	-6,894.8	6,928.5	0.00	0.00	0.00
13,300.0	90.00	271.56	6,865.0	-2,201.00	-705.3	-6,994.8	7,028.0	0.00	0.00	0.00
13,400.0	90.00	271.56	6,865.0	-2,201.00	-702.5	-7,094.7	7,127.4	0.00	0.00	0.00
13,500.0	90.00	271.56	6,865.0	-2,201.00	-699.8	-7,194.7	7,226.9	0.00	0.00	0.00

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well VETTING 12
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4664.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4664.0usft (Original Well Elev)
<b>Site:</b>	SW NW SEC. 15 T5N R65W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	VETTING 12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #3		

## Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,600.0	90.00	271.56	6,865.0	-2,201.00	-697.1	-7,294.6	7,326.4	0.00	0.00	0.00
13,700.0	90.00	271.56	6,865.0	-2,201.00	-694.4	-7,394.6	7,425.9	0.00	0.00	0.00
13,800.0	90.00	271.56	6,865.0	-2,201.00	-691.6	-7,494.6	7,525.3	0.00	0.00	0.00
13,900.0	90.00	271.56	6,865.0	-2,201.00	-688.9	-7,594.5	7,624.8	0.00	0.00	0.00
14,000.0	90.00	271.56	6,865.0	-2,201.00	-686.2	-7,694.5	7,724.3	0.00	0.00	0.00
14,100.0	90.00	271.56	6,865.0	-2,201.00	-683.5	-7,794.5	7,823.8	0.00	0.00	0.00
14,200.0	90.00	271.56	6,865.0	-2,201.00	-680.7	-7,894.4	7,923.2	0.00	0.00	0.00
14,300.0	90.00	271.56	6,865.0	-2,201.00	-678.0	-7,994.4	8,022.7	0.00	0.00	0.00
14,400.0	90.00	271.56	6,865.0	-2,201.00	-675.3	-8,094.3	8,122.2	0.00	0.00	0.00
14,500.0	90.00	271.56	6,865.0	-2,201.00	-672.6	-8,194.3	8,221.7	0.00	0.00	0.00
14,600.0	90.00	271.56	6,865.0	-2,201.00	-669.8	-8,294.3	8,321.2	0.00	0.00	0.00
14,700.0	90.00	271.56	6,865.0	-2,201.00	-667.1	-8,394.2	8,420.6	0.00	0.00	0.00
14,800.0	90.00	271.56	6,865.0	-2,201.00	-664.4	-8,494.2	8,520.1	0.00	0.00	0.00
14,900.0	90.00	271.56	6,865.0	-2,201.00	-661.7	-8,594.2	8,619.6	0.00	0.00	0.00
15,000.0	90.00	271.56	6,865.0	-2,201.00	-658.9	-8,694.1	8,719.1	0.00	0.00	0.00
<b>BHL - VETTING 12 (P3)</b>										
<b>15,040.4</b>	<b>90.00</b>	<b>271.56</b>	<b>6,865.0</b>	<b>-2,201.00</b>	<b>-657.8</b>	<b>-8,734.5</b>	<b>8,759.2</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

## Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,651.9	3,583.0	PARKMAN			
4,213.1	4,132.0	SUSSEX			
4,915.1	4,823.0	SHANNON			
6,842.5	6,703.0	SHARON SPRINGS			
6,872.0	6,723.0	NIOBRARA			
7,284.2	6,865.0	NIO B TARGET			

## Plan Annotations

MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
100.0	100.0	0.0	0.0	START NUDGE (2°/100ft BUR)
699.9	695.5	-55.8	-28.3	EOB TO 12° INC
4,696.0	4,604.3	-796.5	-404.4	END OF TANGENT
4,756.0	4,663.9	-802.1	-407.2	EOD TO VERTICAL
6,384.0	6,291.9	-802.1	-407.2	KOP (10°/100ft BUR)
7,284.2	6,865.0	-802.1	-980.3	LANDING POINT *NEW* - VETTING 12 (P3)
9,719.9	6,865.0	-802.1	-3,416.0	END OF TANGENT
9,772.0	6,865.0	-801.4	-3,468.1	EOT TO 271.56° AZ
15,040.4	6,865.0	-657.8	-8,734.5	BHL - VETTING 12 (P3)