This map presents the results of an evaluation of the relationship between lineament density (Anderson, 2011) and overall generalized well production and success for oil and gas wells found in the Minot 250K sheet. The Minot area is located in the northeastern portion of the Williston Basin in north-central North Dakota. Lineament density was calculated across the map area by automated analysis of the sum of all mapped lineament lengths found to occur within a 1 mile x 1 mile grid cell and overlain with National Public Land Survey System (PLSS) sections. Cellular lineament density values (i.e., total lineament line length per unit cell area) were assigned to each grid cell. Lineament density classes are depicted on the map as ranging from areas of lower lineament density, shown in cooler colors, to areas of higher lineament density, shown in warmer colors. The map shows areas of highest lineament density in the north-central and northwestern portions of the Minot area. Overall, lineament density appears greatest in areas where producing oil and gas wells (Figure 1) are commonly located, and fewer where most producing wells have been drilled. This suggests a relationship between productive areas and relatively higher lineament density. The distribution of wells located within each lineament density class suggests that more dry (oil and gas) wells have been drilled in areas of lower lineament density. Averaged production data suggest that wells located in areas of greater lineament density have generally higher overall average production. In terms of exploration success (i.e., lower or greater than 50%), wells drilled in areas of higher lineament density have also generally been more successful. Well data considered here includes information only from wells drilled before January 31, 2011. It is interesting to note that well completions here are dominantly vertical with the majority of production from the Mahogany.