In the 1990’s John Berge showed that a certain class of tunnel number one knots in the 3-sphere, called double primitive knots, admit lens space surgeries. Then Cameron McA. Gordon conjectured that if a knot in the 3-sphere admits a lens space surgery, then that knot is double primitive. I will discuss an approach to proving this conjecture for all tunnel number one knots in terms of genus 2 Heegaard splittings. With this approach, there are three cases. I will discuss the proof in two of the cases. (Received September 19, 2007)