

Regulatory Citation(s):

78.83. Surface and coal protective casing and cementing procedures.

(c) The operator shall drill to approximately 50 feet below the deepest fresh groundwater or at least 50 feet into consolidated rock, whichever is deeper, and immediately set and permanently cement a string of surface casing to that depth. Except as provided in subsection (f), the surface casing may not be set more than 200 feet below the deepest fresh groundwater except if necessary to set the casing in consolidated rock.

78.1. Definitions.

Deepest fresh groundwater – The deepest fresh groundwater bearing formation penetrated by the wellbore as determined from drillers logs from the well or from other wells in the area surrounding the well or from historical records of the normal surface casing seat depths in the area surrounding the well, whichever is deeper.

Question:

Are there any limitations to which oil or gas well offsets may be used as a reference for determining an appropriate surface casing set depth?

Response:

It is not appropriate to determine surface casing set depths by referencing the offsets of proposed oil or gas wells drilled prior to December 19, 1984 (prior to the 1984 Oil and Gas Act) or those drilled prior to February 5, 2011 (prior to the most recent well construction amendments to 25 Pa.Code Chapter 78) in areas where no fresh groundwater was being utilized as a source of drinking water within a 1,000-foot radius of the offset well. Surface casing set depths at wells drilled prior to the 1984 Oil and Gas Act were not necessarily dictated by the location of the base of fresh groundwater. Wells drilled prior to February 5, 2011 were permitted to be constructed using a single cemented string of casing across fresh, brackish, and salt water zones, a provision which was removed from the regulations on February 5, 2011. If an operator sets the casing of a new well by referencing such wells, the operator may allow commingling of fresh and non-fresh waters in the wellbore and drilling to such a depth to set surface casing is a violation unless it can be verified through petrophysical analysis or some other means that the casing will not be set deeper than the provision under 25 Pa. Code Section 78.83(c).