A. Thickness of the sedimentary package above the basement and 1.2° slope of basement (bottom of Cambrian Waynesboro Formation) constrained by map and well data (Ryder et al., 2008).

B. Duplexing of Cambrian–Ordovician carbonates beneath the Valley and Ridge are inferred to fill space between the basal décollement and the roof thrust in the Ordovician Reedsville Formation. Horse geometries determined through the fault-bend fold model (Suppe, 1983).

C. Duplexes 13, 14, and 15 fill space beneath the easternmost syncline in the Valley and Ridge. Deformation of the fold-thrust belt is dominated by extensive pressure solution and >50% LPS in the Ordovician Martinsburg Formation (Wright and Platt, 1982).

D. Bedding thickness variations within the Reedsville Formation are inferred only when necessary to fill space beneath second-order features. Evidence of similar bedding thickness variation can be found in seismic reflection lines in the southern Appalachians of Alabama (Thomas, 2001, 2007).

E. Detachment at the base of the Silurian Wills Creek Formation based upon field observations (Nickelsen, 1986; Klawon, 1994). The Wills Creek detachment feeds displacement from horses 3 and 4 onto the detachment in the Silurian Salina Formation and the Ordovician Martinsburg Formation on the Appalachian Plateau (i.e., Prucha, 1968; Wiltchko and Chapple, 1977; Davis and Engelder, 1985).

F. Elkins Valley anticline.

G. Location and depth of thrust faults in fault-propagation anticlines in strata between Salina detachment and Martinsburg Formation are inferred to accommodate shortening in cores of both anticlines and synclines consistent with regional seismic and well data (Ryder et al., 2008; Kulander and Ryder, 2005). Well locations indicated by ✳ .

H. Bed thickness variations on the Appalachian Plateau vary in the plastic Salina evaporite group (Prucha, 1968; Wiltchko and Chapple, 1977).

I. Bed thickness variations in the predominately folded sequence are constrained by previously published local stratigraphic studies and regional-scale correlations

J. Location of wells used to constrain depth to basement (Ryder et al., 2008).

Lammie et al.
Plate 1