indicated by old mine workings in the valley. The formation does not continue eastward at this point, but east of the valley is displaced about one-eighth mile northward, as shown by the iron mine near the road and by the presence of Hardyston on the hill above the road one-quarter mile northwest of Fairview School. Two iron mines here, with some jasper and siliceous rock, indicate Hardyston. East of the next road, the Hardyston is marked by iron mines eastward to the transmission line. Here the band is about one-quarter mile north of Fairview School. Some gray arkosic quartz rock found here indicates certain Hardyston.

At the transmission line there is an abrupt change. No more mines are found immediately east of the line. The only evidence for Hardyston consists of a few pieces of dubious material, with angular and sub-angular pieces of quartz cemented loosely by an arkosic ferruginous cement. It does not look like typical Hardyston, nor does it look like any of the gneisses that have been found anywhere in the region. This rock is more prominent as one goes up the little valley east of the transmission line, until, near the farmhouse at the north end of the lane indicated on the map, there is some pebbly rock which seems to be a true Hardyston type. Some more rock, which is apparently Hardyston, occurs in large blocks in the fields just east of the lane. The gneiss-Hardyston contact is between 660- and 680-foot contours circling the nose east of the lane. The Hardyston is plentiful west of the valley that marks the eastern side of the nose. Some white chert was seen here, as was also the odd pebbly arkosic rock. On the east side of this valley only gneiss is evident above the 560-foot contour. This and the apparent jump of the contact at the transmission line on the west side of the nose indicate a pair of faults between which the block represented by the nose has been raised. The Hardyston on the nose would then represent a thin remnant which lies on the hill as a dip slope.

Some pebbly rock and some jasperoid material occur up to about the 560-foot contour along the south side of Morgan Valley. The presence of this Hardyston is further indicated by the abandoned workings of an iron mine a few hundred feet southwest of the oldest and highest farmhouse on the south slope of the valley.

This Hardyston in the eastern part of Morgan Valley is probably the end of a canoe-shaped syncline. The presence of an iron mine at the 600-foot contour in the east end of the valley shows that the Hardyston circles around the basin. There is some pebbly Hardyston above the mine, extending possibly to the 620- or 640-foot contour. The geology of Morgan Valley is extremely complicated.