

Appendix 1. List of Samples

The following is a list of the localities used in the collection of Ordovician data for this study. Many are replications of collections made by Vogel and Brett (2009) and are indicated by *, while others represent similar environments in stratigraphically analogous beds.

Sample 1: Located in Maysville, KY on the AA (Alexandria to Ashland) highway, a major portion of the road also named KY 9. Southeast of Maysville, KY on AA highway, the outcrop is located on the south side just before Junction 1449. The outcrop is Lower Waynesville, either Ft. Ancient or Clarksville.

Sample 2*: Located east of Petersburg, KY on KY 8/ KY 20 (Bulletsville Rd.) between Old Ferry Rd. and Rice Rd. The outcrop is in the Mt. Auburn or Corryville Mbr. and was collected, in part, by David Meyer's undergraduate paleontology class.

Sample 3*: Located ~3 km N of Monterey, KY on Rt. 127 S. The outcrop is located on the west side just past the junction of 845 and 127 and next to a residential driveway, address 7935. This outcrop is nicknamed "Brachiopod Paradise" for its abundant *Platystrophia* deposits and is stratigraphically found in the Bellevue Mbr. of the Grant Lake Fm.

Sample 4*: Located near Monterey, KY on Rt. 127 S. Traveling south on 127, the outcrop is located on the east side just before the junction of 355 and 127. The outcrop contains the contact between the Upper Point Pleasant and Lower Kope Formations.

Sample 6*: Located on IN Rte. 1, approximately 7 miles north of I-74. and ~1 km S of US 52 junction and ~3 km N of St. Peter's Road, South Gate, Dearborn Co., Indiana. The outcrop is the only substantial one in the area and located on both sides of the road. Collections were made from the east side of the road in the Blanchester Mbr. of the Waynesville Fm.

Sample 7*: Located immediately north of Somo, Mason Co., Kentucky on the north side of the AA highway (Rte. 546), just east of junction 3313 and is of the Arnheim Fm.

Sample 8*: Located on IN Rte. 1, approximately 7 miles north of I-74. and ~1 km S of US 52 junction and ~3 km N of St. Peter's Road, South Gate, Dearborn Co., Indiana. The outcrop is the only substantial one in the area and located on both sides of the road. Collections were made from the east side of the road in the Clarksville Member of the Waynesville Fm.

Sample 9: Located west of Somo, Mason Co., KY on the north side of the AA highway one mile east of 1448 junction, .5 miles east of junction with KY Rte. 11, and just west of Strodes Run Road and is from the Waynesville (Bull Fork) Fm.

Sample 10: Located in Maysville, KY on the AA highway across the street from Walmart and Bob Evans $\frac{3}{4}$ miles east of the 62/68 junction. Mt. Auburn or Arnheim in area.

Sample 11*: Located in Sharonville, OH in Trammel Fossil Park (formerly Sharonville Industrial Park) off Rte. 42. Traveling east on Rte. 42, turn left onto Hauck Rd., then right onto Tramway Dr. Collection made on the hillslope exposure of the Miamitown Mbr. lowest shale overlying the top of the Fairview Fm.

Sample 12: Located in Sharonville, OH in Trammel Fossil Park (formerly Sharonville Industrial Park) off Rte. 42. Traveling east on Rte. 42, turn left onto Hauck Rd., then right onto Tramway Dr. Collection made on the hillslope exposure of the Miamitown Mbr. middle limestone overlying the lower shale.

Sample 13*: Located in Sharonville, OH in Trammel Fossil Park (formerly Sharonville Industrial Park) off Rte. 42. Traveling east on Rte. 42, turn left onto Hauck Rd., then right onto Tramway Dr. Collection made on the hillslope exposure of the uppermost Fairview Fm. limestone.

Sample 15*: Located near Covington, KY on KY 17 about 1 mile south of I-275 overpass. The outcrop is now destroyed, but was located behind the White Castle processing plant and was Lower Kope in age.

Sample 16: Madison, IN upper Liberty Formation. Large roadcuts along US 421 about 2.5 miles North of Madison, IN and about .5 miles South of the intersection with IN 62.