

1.0    SUMMARY

COAL SAMPLING AND TESTING

VOLUME 2

ANALYTICAL TESTWORK

This volume contains detailed coal size analyses for the sample preparation and analytical results on the physical properties and chemical composition of the total, coarse and fine fractions. This information is useful in establishing purchase specifications and design coal sensitivity ranges for equipment sizes.

The ten coals are from the following mines: Old Ben, Lynnville, Lynnville 1, Camp 11, Hamilton, Providence, No. 9, Marissa, Wabash and Delta.

The analytical information prepared by Commercial Testing & Engineering (Section 2.0) contains size analyses for the actual run-of-mine coal, a representative run-of-mine coal, the run-of-mine coal crushed in the laboratory to pass 2 inches, and the total, coarse and fine fractions based on 2-inch top size.

In some cases total, coarse and fine fractions had to be simulated because the operating mine breaker was not set for 2-inch top size or the mine did not have a breaker. The samples that had to be simulated were from the following mines: Old Ben, Lynnville, Lynnville 1, Camp 11, Hamilton, and Delta.

The coal and coal ash analysis details prepared by Commercial Testing & Engineering are reported in Section 3.0. The ASTM standard methods include the proximate and ultimate analyses, equilibrium moisture, gross calorific value, sulfur forms, tumbler test, free swelling index, Hardgrove grindability, ash mineral analysis, and ash fusion temperatures. The special analyses are caking number, water soluble alkalis, spark source mass spectrography, atomic absorption spectroscopy, fluorine, mercury and Fischer assay.

The University of Kentucky - Institute for Mining and Minerals Research report their coal and coal ash analytical data in Section 4.0.