GEOLOGY OF THE CLEVELAND FARMS GREENFIELD SITE
RANDOLPH COUNTY, ALABAMA

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The Cleveland Farms Property is located approximately one mile north of Wadley in southeastern Randolph County, Alabama in portions of sections 34, 35, and 36, T.21S., R.10E., and sections 1 and 2, T.22S., R.10E., and is shown on the Wadley North U.S. Geological Survey 7½’ topographic quadrangle (Figure 1). The site is bounded on the northeast by the CSX main rail line between LaGrange, Georgia and Birmingham, Alabama. Northwest-southeast access is provided by Alabama State Route 77 and northeast-southwest access is via Alabama State Route 22. The property is convenient to US Highway 431 at both Roanoke and Lafayette, Alabama.

The Cleveland Farms greenfield site is located within the crystalline rocks of the Northern Piedmont. Quadrangle-scale geology has been described and mapped by Neathery and Reynolds (1975). Abundant outcrops of the Almond Trondhjemite (Figure 2), scattered float blocks, and light colored, sandy soils characterize a northeast-trending zone in the south-central portion of section 35 and the northwest corner of section 2 (Figure 3). Good granitic gneiss outcrops occur along the CSX right-of-way. Reconnaissance mapping suggests that this unit cores a broad northeast-trending fold and exhibits a general foliation strike and dip of North 55° East and 30° Southeast, respectively. The strike length and exposed width of this unit on the property are approximately 4000 feet and 1000 feet, respectively. In outcrop, the rock is quite uniform, consisting of equigranular, augen-shaped feldspars and quartz with minor accessory micas. Foliation is imparted by a general alignment of the long direction of feldspar grains, parallel arrangement of mica aggregates, parallelism of subtle broad compositional bands, and elongation of xenolith-like inclusions of other felsic rocks.

Two diamond core holes were drilled on the property in May 2003. The cores were logged and photographed (Appendix 1 and 2) and shipped to Tech IV Corporation, Bunn, North Carolina for splitting, crushing, and testing. The test results indicate an excellent potential aggregate resource (Table 1).

The petrography of the Cleveland Farms site was examined through the analysis of nine standard thin sections cut from selected drill core, four from hole CF 1-03 (at 28.5, 90.6, 138.8 and 241.5 feet) and five from hole CF 2-03 (at 80.2, 92.5, 169.2, 260.9, and 306.9 feet). The two quite similar lithologies described in the core logs are well illustrated in thin section. The first is a relatively coarse-grained, leucocratic gneiss with