

PLATE A: GEOLOGIC MAP OF THE FLETCHER LIMESTONE COMPANY QUARRY, FLETCHER NORTH CAROLINA

Explanation of Map Units

Correlation of Map Units		Structural Features	
QUATERNARY	Qal Alluvium		Strike and dip of schistose foliation
	Unconformity		Vertical schistose foliation
NEO PROTEROZOIC OR EARLY CAMBRIAN (?)	ZCfm Fletcher marble		Strike and dip of color banding
	ZCbp Brevard phyllonite		Strike and dip joint plane
NEOPROTEROZOIC	Zt Tallulah Falls Metamorphic Suite (undifferentiated)		Vertical joint plane
			Strike and dip of crenulation cleavage
			Trend and plunge of slickenlines
			Trend and plunge of fold axes
			Normal fault, dot indicates downslip direction of hanging wall
			Reverse fault, arrow shows dip direction of fault plane
			Concealed fault
			Fault, approximately located. Arrows indicate relative movement. Shown in cross sections only

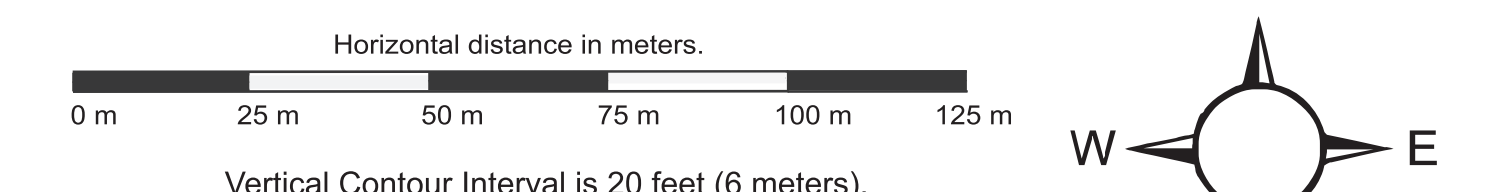
Description of Map Units

Qal	Alluvium (Quaternary) -Heterogenous mixture of light brown silty clay, poorly sorted, fine- to coarse-sand, gravel, and small cobbles. Estimated thickness of strata is 10 meters
ZCfm	Fletcher marble (Neoproterozoic to Early Cambrian) - White to light blue, fine- to medium-crystalline, highly jointed and fractured. No observable bedding. Dominantly composed of dolomite (66%), with lesser amounts of calcite (13%), finely ground cataclastic material (14%), and other minerals (7%). Other mineral assemblages present are: quartz, white-mica, chlorite, talc, tremolite and graphite. Pyrite is present as post-metamorphic sulfide mineralization, which may be replaced by hematite. Mylonitic fabric is defined by a grain-shape preferred fabric of xenotopic dolomite. It is overprinted by a protocataclastic fabric, jointing and fracturing. Light blue color implies the presence of the unit concealed. Blue color indicates the location of rock outcrop.
ZCbp	Brevard phyllonite (Neoproterozoic) : Light silver-green, blue-gray to dark gray, fine- to medium-grained. Composed of white mica, chlorite, quartz, with lesser amounts of microcline, garnet, biotite, trace zircon, sillimanite, and cordierite. Contains centimeter- to meter-scale domains that are graphitic. The phyllonite has a button-like schistose texture. The phyllonite contains numerous exotic rock lithologies. Pervasive jointing and fracturing crosscuts the rock. Light brown color implies the presence of the unit concealed. Dark brown color indicates location of rock outcrop.
Zt	Tallulah Falls Metamorphic Suite (Neoproterozoic) -Undifferentiated sequence of biotite-white mica schist, metagraywacke, biotite-white mica gneiss, garnet-mica schist, and layered biotite gneiss, described by Dabbagh (1974, 1981).

Geographic Features

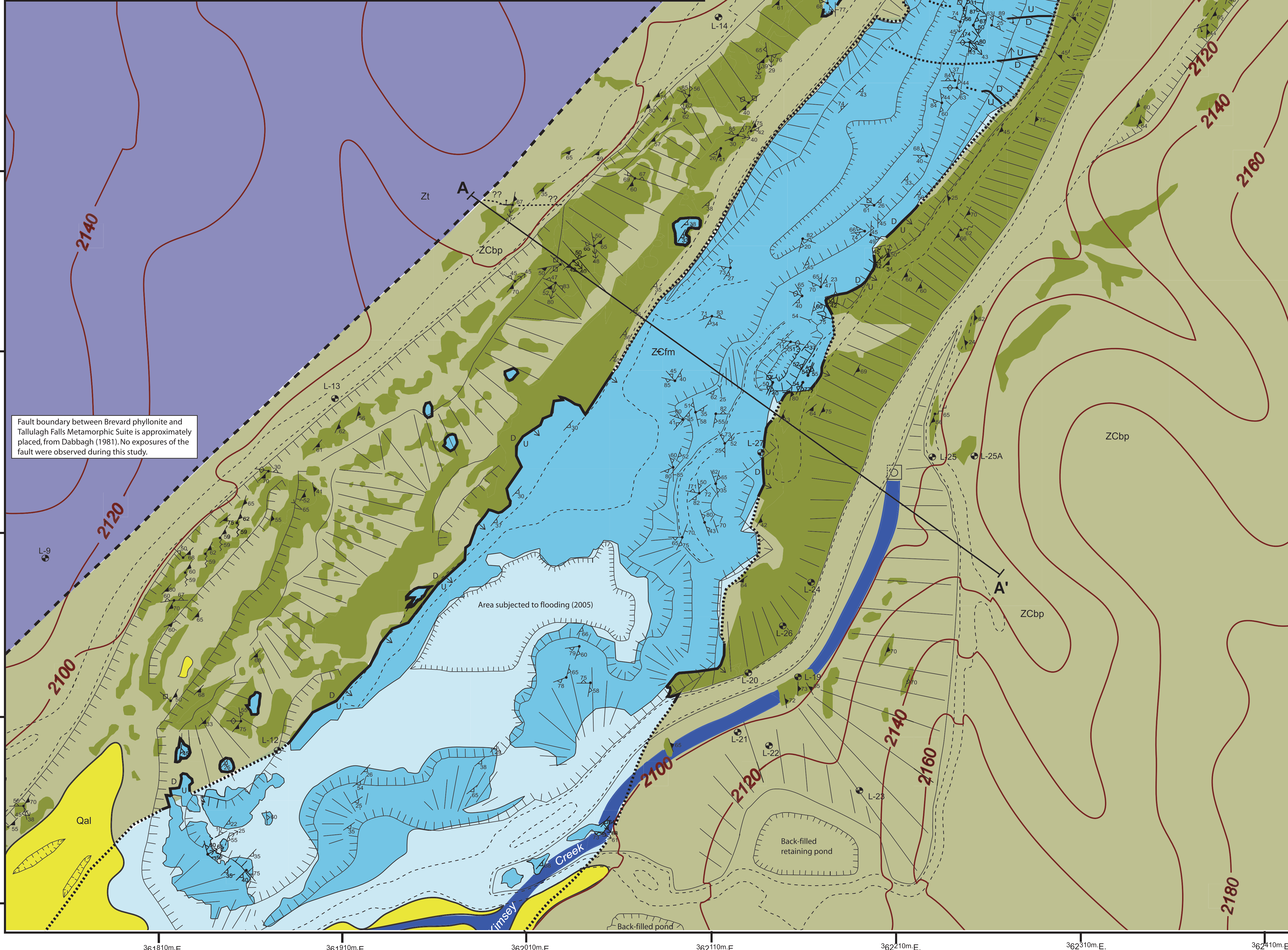
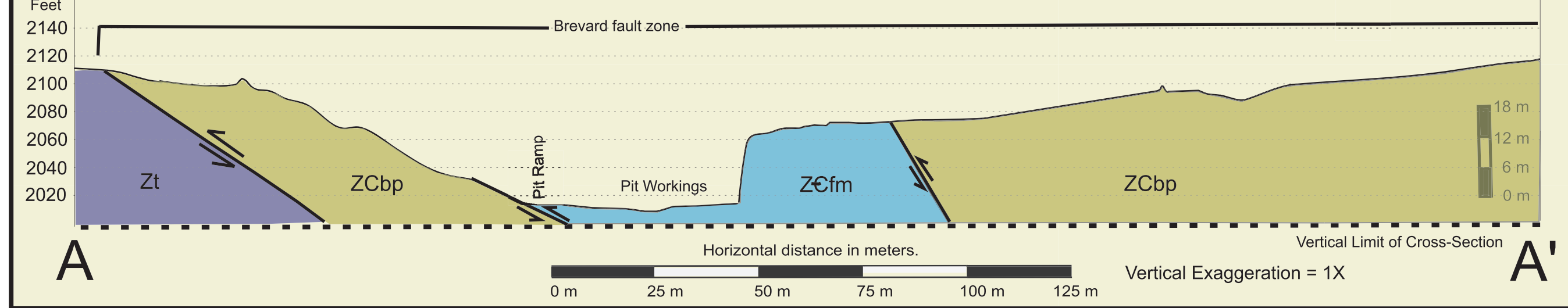
	Quarry road		Quarry sloped wall		Box culvert.
	Quarry cut wall		Pit or depression		Exploratory borehole L-25 (location approximate).

Scale = 1:4,500



Topographic contouring based on field observation and reinterpretation of 1965 topographic survey of the 1:24,000-scale Skyland 7.5 minute quadrangle map, Skyland, N.C. Northing and easting are given in Universal Transverse Mercator coordinate system at 100 meter increments.

Geologic cross section of the Fletcher Limestone Quarry



Fault boundary between Brevard phyllonite and Tallulah Falls Metamorphic Suite is approximately placed, from Dabbagh (1981). No exposures of the fault were observed during this study.