

BEDROCK GEOLOGIC MAP OF THE OTEEN 7.5-MINUTE QUADRANGLE, NORTH CAROLINA

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF LAND RESOURCES NORTH CAROLINA GEOLOGICAL SURVEY OPEN FILE GEOLOGIC MAP 2008-02

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ROCK DESCRIPTIONS¹

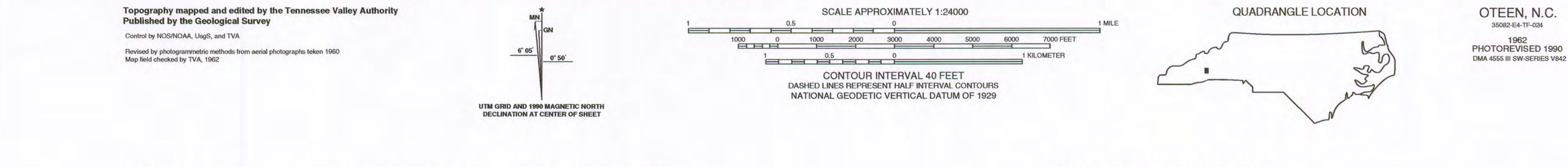
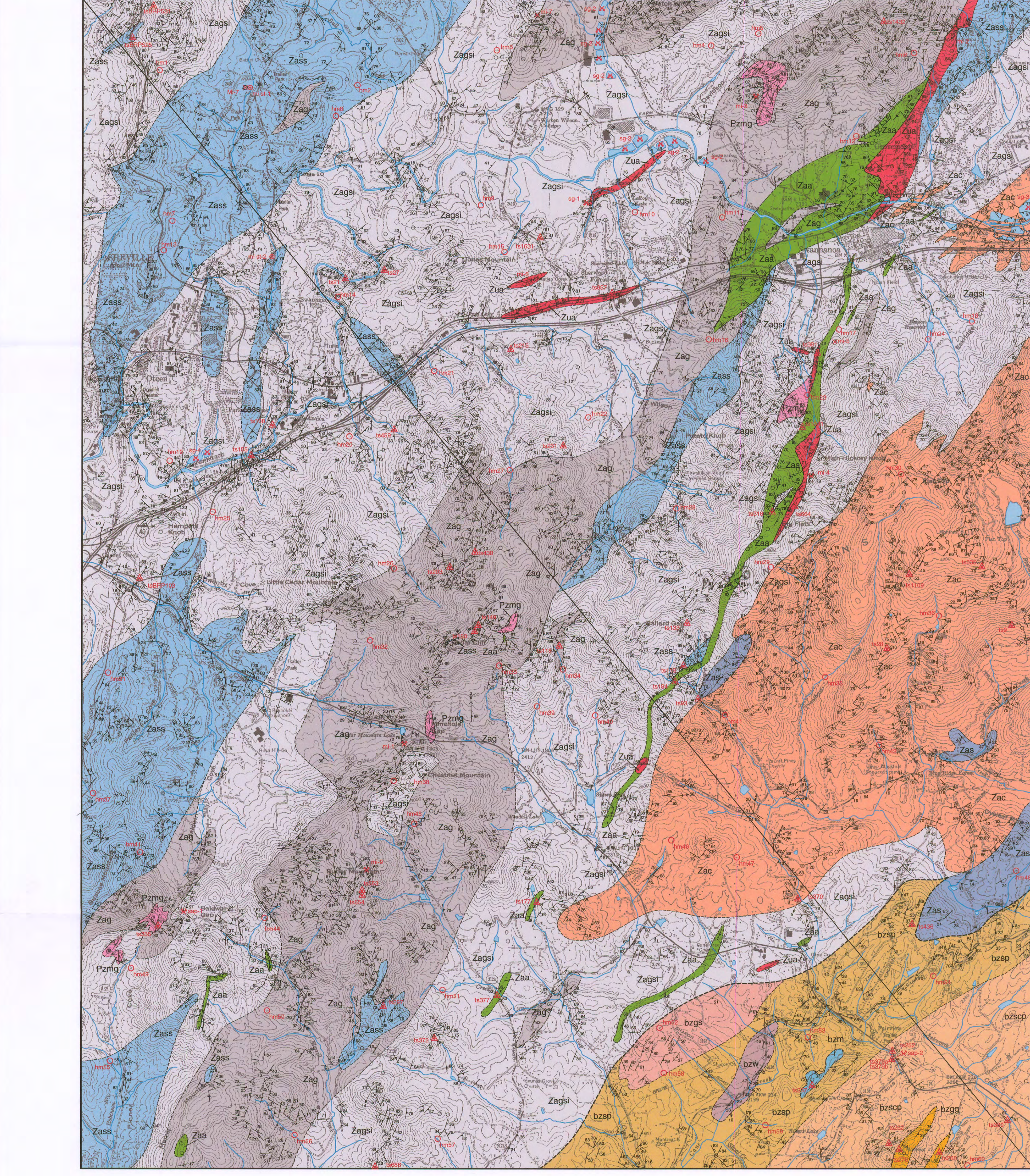
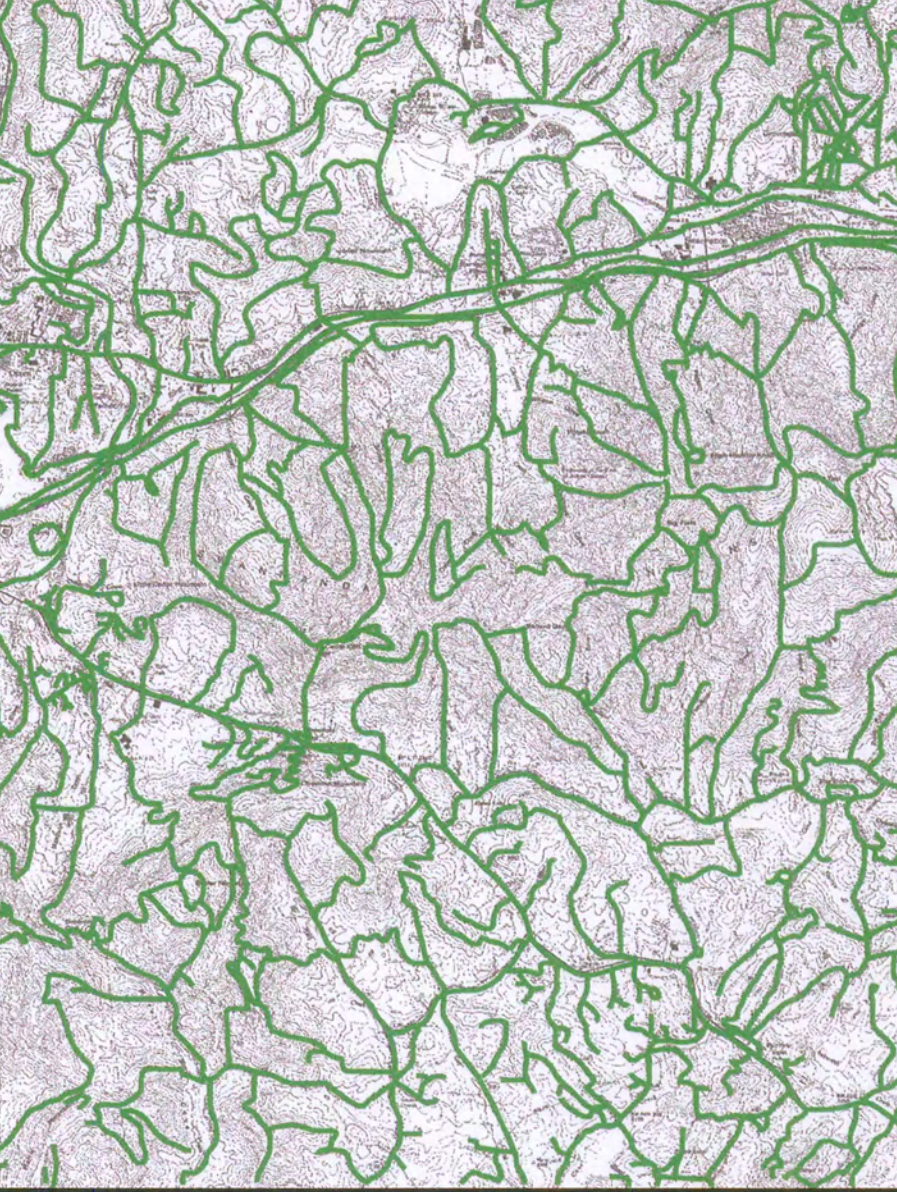
Several traverses completed and included by Richard M. Woolen in 2004. Geology mapped from February 2005 to June 2005 and March 2008 to June 2008. Map preparation, digital cartography, and editing by G. Nicholas Boddag, Bart L. Cattanach, Carl E. Merschat and Blair Torrey.

INTRUSIVES TRONDHEJEMITE - Very light gray to yellowish-gray, typically non-foliated, fine- to medium-grained, equigranular to inequigranular, typically granoblastic to megacrystic... MIGMATITE - White to very light gray, mottled, non-foliated, very coarse-grained, equigranular, granoblastic... BREVARD MYLONITE ZONE mylonitic-granitic gneiss, sericite phyllonite, garnet sericite schist, mylonitic metagraywacke, siliceous marble, sericite-chlorite phyllonite

MAP UNITS Legend with color-coded boxes for Trondhemite, Brevard Mylonite Zone, Ashe Metamorphic Suite/Talulah Falls Formation, and various metamorphic rocks like schistose metagraywacke and amphibolite.

STRUCTURAL FEATURES CONTACTS, STRIKE AND DIP OF PLANAR FEATURES, BEARING AND PLUNGE OF LINEAR FEATURES, NON-STRUCTURAL FEATURES

TRAVERSE MAP



STREAM SEDIMENT HEAVY MINERAL ANALYSIS

Stream sediment heavy mineral analysis was conducted from September 2007 through March 2008 to aid geologic mapping, better define conditions of metamorphism, and inventory minerals of potential economic significance.

Table with columns for sample ID, coordinates, map units, and percentages of heavy mineral species like zircon, rutile, and monazite.

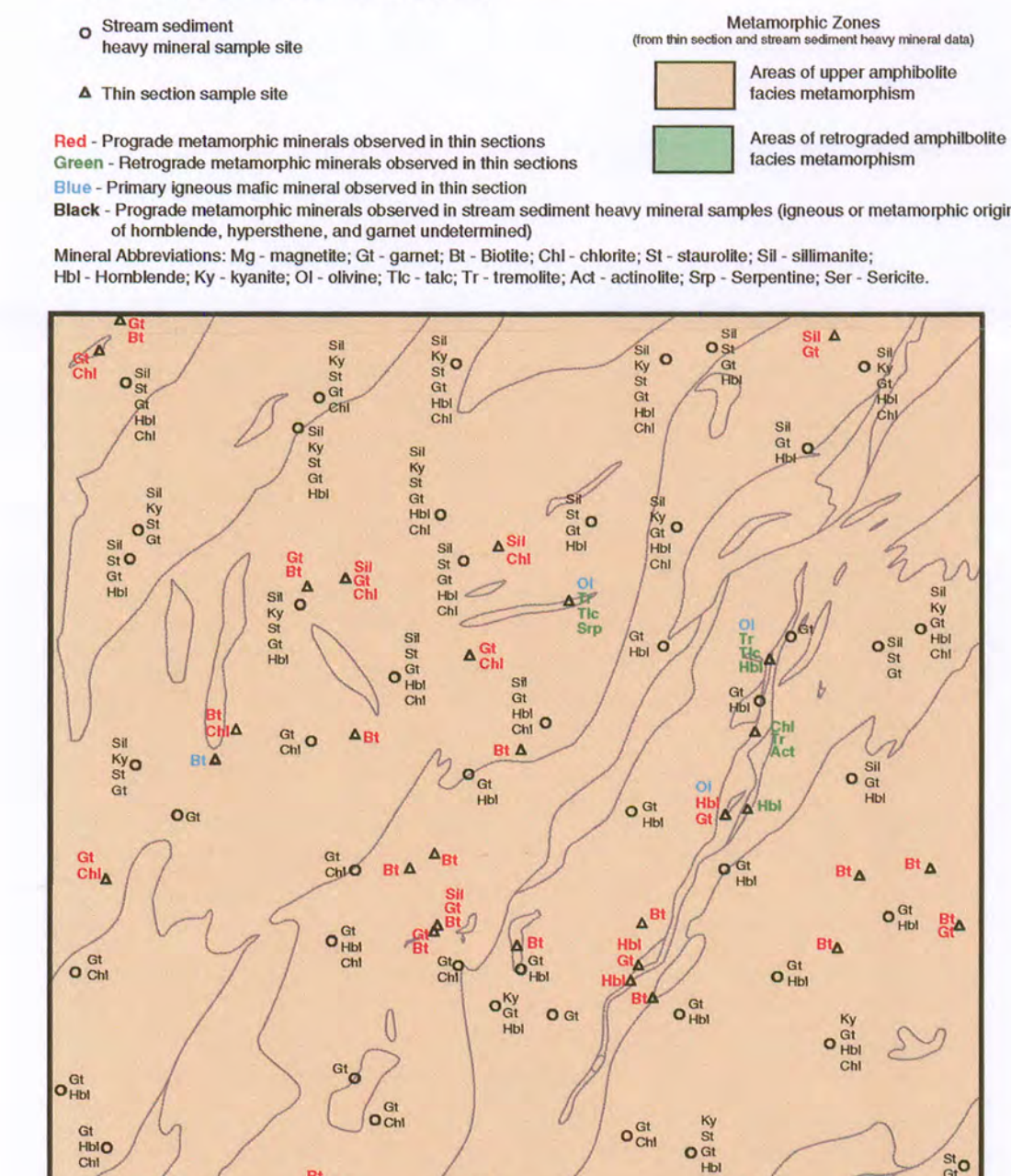
MINERAL RESOURCES

COMMODITY LETTER SYMBOLS: m-h Mineral resource number, referred to in accompanying Mineral Resource Summary... Occurrence, Prospected, Abandoned Pit, Abandoned mine or quarry

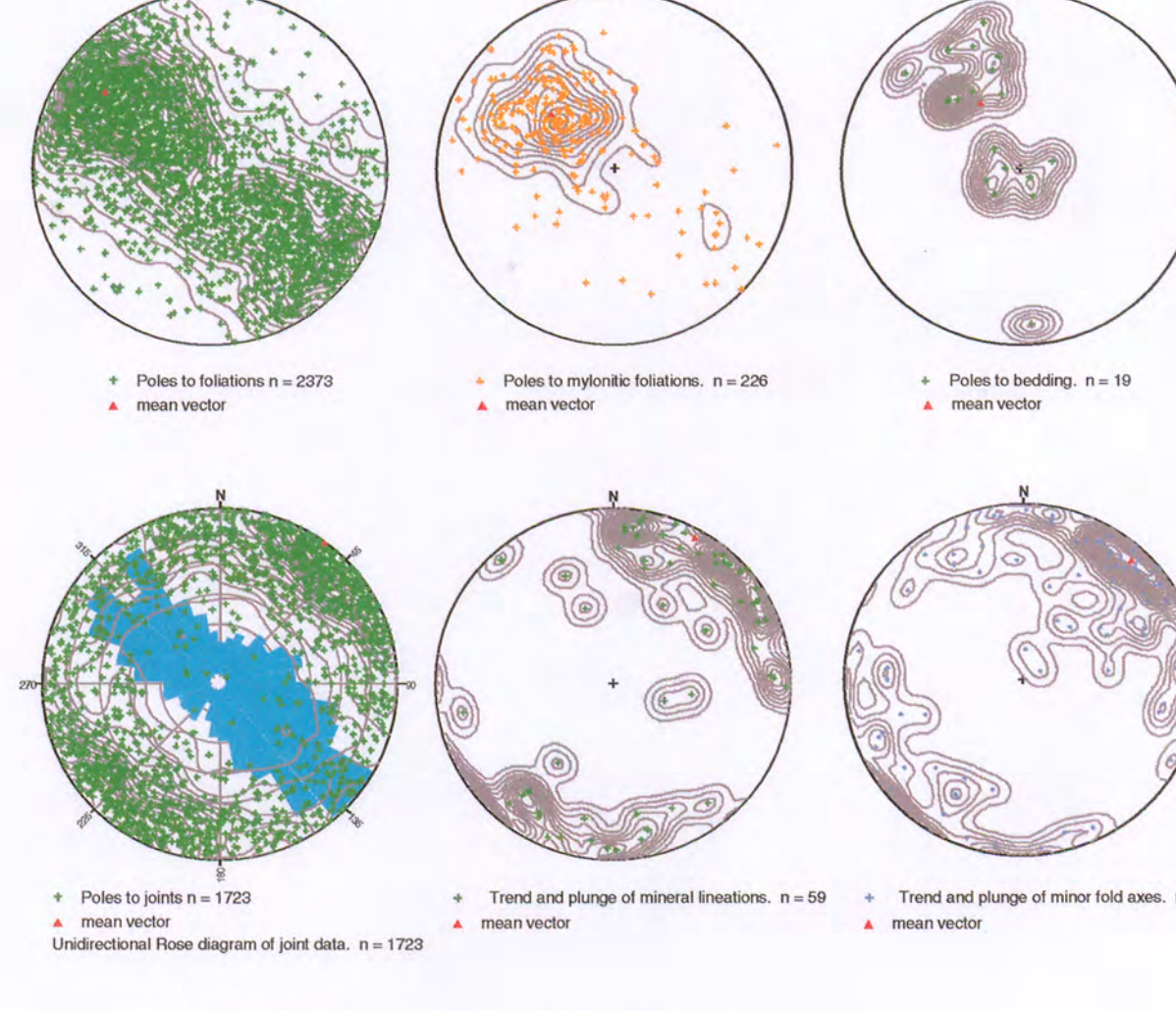
WHOLE ROCK ICP ANALYSIS¹ OF SELECTED SAMPLES

Table with columns for sample ID, coordinates, rock type, and major element percentages (Si, Al, Fe, Ca, Mg, K, Na, Ti, P, S, Cl, Br, I, Sr, Ba, Pb, Zn, Cu, Ni, Mn, Co, Cr, Ni, V, B, F, As, Se, Mo, Cd, Sn, Sb, Bi, Ag, Au, Hg, Tl, Bi, Po, At, Rn, Fr, Ac, Th, U, Np, Pu, Am, Cm, Bk, Cf, Es, Fm, Md, No, Lr, and U, Th, Pa, K, Rb, Cs, Sr, Ba, Pb, Bi, Po, At, Rn, Fr, Ac, Th, U, Np, Pu, Am, Cm, Bk, Cf, Es, Fm, Md, No, Lr).

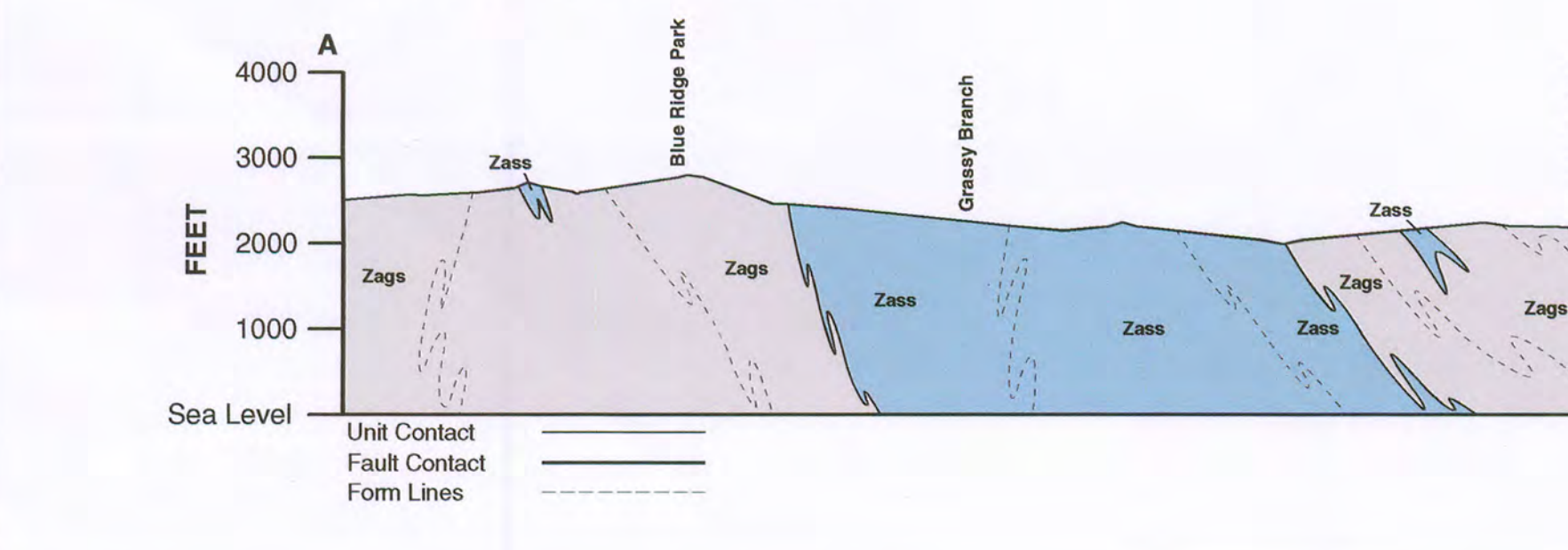
MAP SHOWING ELEMENTS OF IGNEOUS AND METAMORPHIC CONDITIONS



SCHMIDT EQUAL AREA STEREO NET DATA



CROSS SECTION A-A'



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This Open-File geologic map is preliminary and has not been reviewed for conformity with the North Carolina Geological Survey editorial standards or with the North American Stratigraphic Code. Further revisions or corrections to this preliminary map may occur prior to its release as a North Carolina Geological Survey map.