

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF ENERGY, MINERAL, AND LAND RESOURCES

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MAP UNITS

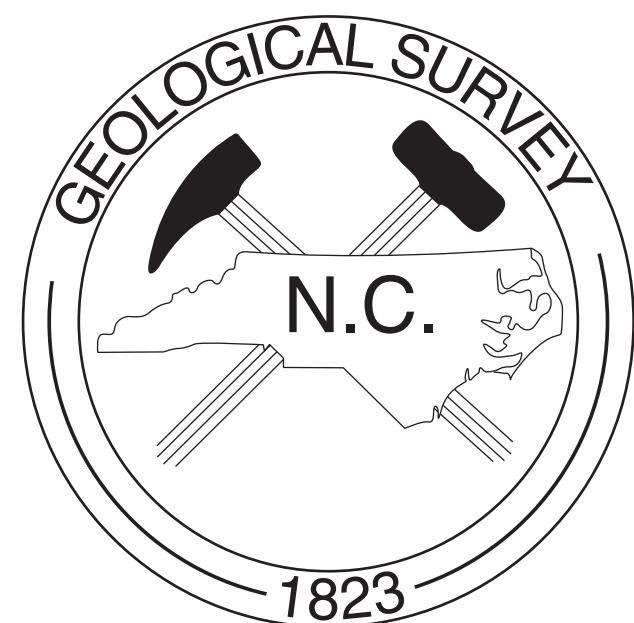
Trondjemite	Pzmg Migmatite
Zag Metagraywacke	
Zagsi Schistose metagraywacke	
Zas Garnet mica schist	
Zaa Amphibolite	
Zua Altered ultramafic	
Zah Biotite hornblende gneiss	

Ashe Metamorphic Suite/Tallulah Falls Formation

Zag Metagraywacke
Zagsi Schistose metagraywacke
Zas Garnet mica schist
Zaa Amphibolite
Zua Altered ultramafic
Zah Biotite hornblende gneiss

Earlies Gap Meta-igneous Gneisses

Ye Biotite gneiss



Research supported by the U.S. Geological Survey, National Cooperative Geologic Mapping Program and USGS award number G12AC20209. This map and explanatory information is submitted for publication with the understanding that the United States Government is authorized to reproduce and distribute reprints for governmental use. The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either express or implied, of the U.S. Government.

¹Mineral percentages are based on visual estimates of selected samples.
²Miller, R.D., 1970, Petrology of the Craggy Pinnacle area, North Carolina, and northern Georgia, with implications for magma history and evolution of the Southern Appalachians: *American Journal of Science*, v. 260, p. 142-172.

WHOLE ROCK ICP ANALYSIS¹ OF SELECTED SAMPLES

SAMPLE ²	COORDINATES (State Plane NAD 83 m)	MAP UNIT	OXIDES IN PERCENT												ELEMENTS IN PPB ³												SUM ⁴
			SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	MgO	CaO	Na ₂ O	K ₂ O	TiO ₂	PbO	MoO ₃	Cr ₂ O ₃	Ba	Cu	Sc	Cr	Y	La	Li	Sn	Se	Lu	Sum			
BC45	216,030N, 795,340E	Zag	79.39	8.76	3.33	0.9	0.51	1.26	0.59	0.31	0.07	0.04	114	9	42	23	<20	121	328	65	42	15	7	0.7	100		
BC46	214,707N, 795,050E	Zag	79.39	8.76	3.33	0.9	0.51	1.26	0.59	0.31	0.07	0.04	114	9	42	23	<20	121	328	65	42	15	7	0.7	100		
BC181	218,140N, 794,270E	Zag	76.15	9.87	4.52	0.84	0.52	1.35	1.18	0.1	0.08	0.04	1029	17	61	100	<20	190	491	67	25	11	9	0.8	99.98		
BC301	218,355N, 800,834E	Zag	61.32	19	6.12	1.33	0.03	0.37	3.38	1.17	0.07	0.21	0.04	981	35	110	<20	90	354	98	22	16	6	7	0.6	99.96	
BC432	218,355N, 800,834E	Zag	43.78	26.69	12.3	4.91	1.97	2.66	3.4	0.19	0.02	0.04	760	74	213	31	30	260	264	96	44	10	24	2	2.2	99.88	
BC432B	218,355N, 800,834E	Zag	43.78	26.69	12.3	4.91	1.97	2.66	3.4	0.19	0.02	0.04	760	74	213	31	30	260	264	96	44	10	24	2	2.2	99.88	
BC432C	218,355N, 800,834E	Zag	43.78	26.69	12.3	4.91	1.97	2.66	3.4	0.19	0.02	0.04	760	74	213	31	30	260	264	96	44	10	24	2	2.2	99.88	
BC432D	218,355N, 800,834E	Zag	43.78	26.69	12.3	4.91	1.97	2.66	3.4	0.19	0.02	0.04	760	74	213	31	30	260	264	96	44	10	24	2	2.2	99.88	
BC432E	218,355N, 800,834E	Zag	43.78	26.69	12.3	4.91	1.97	2.66	3.4	0.19	0.02	0.04	760	74	213	31	30	260	264	96	44	10	24	2	2.2	99.88	
BC432F	218,355N, 800,834E	Zag	43.78	26.69	12.3	4.91	1.97	2.66	3.4	0.19	0.02	0.04	760	74	213	31	30	260	264	96	44	10	24	2	2.2	99.88	
BC432G	218,355N, 800,834E	Zag	43.78	26.69	12.3	4.91	1.97	2.66	3.4	0.19	0.02	0.04	760	74	213	31	30	260	264	96	44	10	24	2	2.2	99.88	
BC432H	218,355N, 800,834E	Zag	43.78	26.69	12.3	4.91	1.97	2.66	3.4	0.19	0.02	0.04	760	74	213	31	30	260	264	96	44	10	24	2	2.2	99.88	
BC432I	218,355N, 800,834E	Zag	43.78	26.69	12.3	4.91	1.97	2.66	3.4	0.19	0.02	0.04	760	74	213	31	30	260	264	96	44	10	24	2	2.2	99.88	
BC432J	218,355N, 800,834E	Zag	43.78	26.69	12.3	4.91	1.97	2.66	3.4	0.19	0.02	0.04	760	74	213	31	30	260	264	96	44	10	24	2	2.2	99.88	
BC432K	218,355N, 800,834E	Zag	43.78	26.69	12.3	4.91	1.97	2.66	3.4	0.19	0.02	0.04	760	74	213	31	30	260	264	96	44	10	24	2	2.2	99.88	
BC432L	218,355N, 800,834E	Zag	43.78	26.69	12.3	4.91	1.97	2.66	3.4	0.19	0.02	0.04	760	74	213	31	30	260	264	96	44	10	24	2	2.2	99.88	
BC432M	218,355N, 800,834E	Zag	43.78	26.69	12.3	4.91	1.97	2.66	3.4	0.19	0.02	0.04	760	74	213	31	30	260	264	96	44	10	24	2	2.2	99.88	
BC432N	218,355N, 800,834E	Zag	43.78	26.69	12.3	4.91	1.97	2.66	3.4	0.19	0.02	0.04	760	74	213	31	30	260	264	96	44	10	24	2	2.2	99.88	
BC432O	218,355N, 800,834E	Zag	43.78	26.69	12.3	4.91	1.97	2.66	3.4	0.19	0.02	0.04	760	74	213	31	30	260	264	96	44	10	24	2	2.2	99.88	
BC432P	218,355N, 800,834E	Zag	43.78	26.69	12.3	4.91	1.97	2.66	3.4	0.19	0.02	0.04	760	74	213	31	30	260	264	96	44	10	24	2	2.2	99.88	
BC432Q	218,355N, 800,834E	Zag	43.78	26.69	12.3	4.91	1.97	2.66	3.4	0.19	0.02	0.04	760	74	213	31	30	260	264	96	44	10	24	2	2.2	99.88	
BC432R	218,355N, 800,834E	Zag	43.78	26.69	12.3	4.91	1.97	2.66	3.4	0.19	0.02	0.04	760	74	213	31</											