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N. C. GEOLOGICAL SURVEY

Roadless Area Review and Evaluation (RARE II)

-- Mineral Resources --

There are 31 RARE II areas comprising more than 206,000 acres in North Carolina. The high mineral resource potential of five of these areas totaling 53,340 acres warrants their being excluded from further wilderness consideration. These areas of high mineral resource potential and their most significant mineral commodity are:

- Upper Wilson, L8313 - uranium
- Lost Cove, L8314 - uranium
- Harper Creek, L8315 - uranium
- Chunky Gal, 08059 - olivine
- Cheoah Bald, 08060 - marble and talc

Twelve other areas, totaling 72,385 acres, are rated as having a moderate mineral resource potential. There is good justification for exploring in these areas, however, the certainty of discovering a viable ore body is less. These areas are:

- Southern Nantahala, 08025
- Linville Gorge Ext, 08058
- Snowbird, 08061
- Joyce Kilmer Slickrock, 08062
- Wildcat, 08197
- Fishhawk Mountain, 08198
- Joyce Kilmer Slickrock, 08201
- Birkhead Mountains, 08203
- Catfish Lake South, 08199
- Pocosin, 08015
- Pond Pine, 08204
- Sheep Ridge, 08196

The remaining 14 areas, totaling 81,122 acres, are judged to have a low mineral resource potential. The likelihood of significant discoveries being made in these areas is not considered to be good.

These conclusions are based on a search of all available material, both published and unpublished, relative to mineral deposits in and around the RARE II areas. Some information on 51 mines or prospects within the study areas and 35 others nearby has been uncovered. Unfortunately, lack of time prevented any field work during the course of this review. Obviously, even a visit to evaluate each of the known mines and prospects would take several months; a careful investigation of all of the 200,000 acres would be a major, multi man-year project.

North Carolina has been settled for more than two centuries and probably any surface exposures of outcropping ore bodies have been seen and likely even prospected to some extent. Yet our knowledge of the subsurface where the unexposed or "buried" ore bodies exist, is exceedingly poor. This is because of the sparseness of fundamental detailed geologic maps, the near absence of detailed geophysical information, and, with only a few exceptions,

This report is preliminary and has not been edited or reviewed for conformity with North Carolina Geological Survey standards and nomenclature.

the lack of thorough systematic exploratory drilling in efforts to extend known ore bodies or discover new ones. With particular reference to the RARE II areas it should be pointed out that because of the remoteness and ruggedness of most of these specific areas our knowledge of them is, if anything, even scantier.

The information gathered for each RARE II area is organized in the appendix of this report in the following manner:

- 1) Known mines and prospects within the area's boundaries
- 2) Known mines and prospects in the immediate vicinity of each area
- 3) An annotated listing of the mineral resources, either developed or undeveloped, within each area.

Using these facts tempered with professional geological experience a judgement was made and either a high, moderate, or low mineral resource rating was assigned to each area. The three terms are used relative to other deposits of these commodities in the southern Appalachian Mountains region, Piedmont, and Coastal Plain.

MINERAL RESOURCES

<u>Area ID</u>	<u>Area Name</u>	<u>Mineral Resource Rating</u>	<u>Significant Commodities</u>
L8025	Southern Nantahala	Low	Garnet, copper
L8058	Linville Gorge Extension	Low	---
L8198	Fishhawk Mtn	Low	---
L8313	Upper Wilson	High	Uranium
L8314	Lost Cove	High	Uranium
L8315	Harper Creek	High	Uranium
08015	Pocosin	Moderate	Limestone, peat
08025	Southern Nantahala	Moderate	Olivine, copper, corundum, mica, garnet, vermiculite, kaolin
08031	Ellicott Rock Extension	Low	Mica
08054	Big Creek	Low	Barite
08055	Balsam Cone	Low	Mica, kyanite
08056	Craggy Mtn Extension	Low	Kyanite, garnet
08057	Shining Rock Extension	Low	Sillimanite, quartz, mica
08058	Linville Gorge Ext	Moderate	Uranium
08059	Chunky Gal	High	Olivine, chromite, base metals, sillimanite, vermiculite, asbestos, corundum, talc
08060	Cheoah Bald	High	Marble, talc, uranium, copper
08061	Snowbird	Moderate	Uranium, copper
08062	Joyce Kilmer Slickrock	Moderate	Uranium, copper

<u>Area ID</u>	<u>Area Name</u>	<u>Mineral Resource Rating</u>	<u>Significant Commodities</u>
08190	Tusquitee Mountains	Low	Uranium, copper, flagstone
08193	Craggy Mtn WSA	Low	Kyanite, garnet
08194	Joyce Kilmer Slickrock	Low	Uranium, copper
08195	Joyce Kilmer Slickrock	Low	Uranium, copper
08196	Sheep Ridge	Moderate	Limestone, peat
08197	Wildcat	Moderate	Copper, lead, thorium, uranium, rare earth elements
08198	Fishhawk Mountain	Moderate	Olivine, chromite, mica
08199	Catfish Lake South	Moderate	Limestone, peat
08200	Middle Prong	Low	Talc/soapstone, sillimanite, quartz, mica
08201	Joyce Kilmer Slickrock	Moderate	Uranium, copper
08202	Nolichucky	Low	Quartz, barite
08203	Birkhead Mountains	Moderate	Gold, massive sulphides
08204	Pond Pine	Moderate	Limestone, peat

This table summarizes mineral resource information pertinent to the U.S. Forest Service's RARE II alternatives C, D, and I. These three alternatives assign varying degrees of importance to commodity production or resource value. (Alternative C - output of commodities is emphasized; alternative D - consideration is given to areas with especially high resource values; Alternative I - secondary consideration is given to extremely high resource outputs). The accompanying appendix contains brief descriptions of individual RARE II areas and memoranda from the geologists involved in this appraisal.

APPENDIX

L8025 Southern Nantahala

Mineral Resource Rating - LOW

Lack of known significant mineral deposits within this portion of the Southern Nantahala area (L8025) and the relative low importance of the one known nearby prospect are the reasons for assigning a low mineral resource rating.

Known mines and prospects in the Southern Nantahala (L8025) area

None known

Mines and prospects known to exist nearby the Southern Nantahala (L8025) area

Garnet - Marbleyard Ridge prospect

Potential mineral resources of area

Garnet - Unknown significance; commodity is probably of minor importance.

L8058 Linville Gorge Extension

Mineral Resource Rating - LOW

A low mineral resource rating is assigned to this section of the Linville Gorge Extension (L8058) because there are no known mineral deposits in the area nor is there much reason to anticipate the discovery of any significant ore body.

Mines and prospects known to exist within the Linville Gorge Extension (L8058) area.

None known

Mines and prospects known to exist nearby the Linville Gorge Extension (L8058) area.

None known

Potential mineral resources of area

No significant deposits likely to be found in area.

L8198 Fishhawk Mountain

Mineral Resources Rating - LOW

The Fishhawk Mountain area (L8198) has been assigned a low mineral resource rating because of the absence of any known or potential mineral deposits in the area.

Mines and prospects known to exist within the Fishhawk Mountain (L8198) area.

None known

Mines and prospects known to exist nearby the Fishhawk Mountain (L8198) area.

None known

Potential mineral resources of area.

Not significant

L8313 Upper Wilson

Mineral Resource Rating - HIGH

An excellent chance for discovering significant deposits of uranium, a critical mineral, justifies a high mineral resource rating for this area.

Mines and prospects known to exist within the upper Wilson (L8313) area.

Four prospecting permits or applications for prospecting permits for uranium are on file with the U. S. Forest Service.

Mines and prospects known to exist nearby the upper Wilson (L8313) area.

Much of this area is underlain by the Wilson Creek Gneiss, a formation being actively prospected in nearby areas also.

Potential mineral resources of area.

Uranium - The likelihood of significant deposits of uranium existing in this area is good.

L8314 Lost Cove

Mineral Resource Rating - HIGH

The excellent potential for discovering significant deposit of uranium, a critical mineral, justifies a high mineral resource rating for this area.

Mines and prospects known to exist within the Lost Cove (L8314) area.

There is at least one uranium prospect in the area. In addition, six prospecting permits or applications for permits are on file with the U. S. Forest Service.

Mines and prospects known to exist nearby the Lost Cove (L8314) area.

Much of this area is underlain by the Wilson Creek Gneiss, a formation being prospected actively for uranium in nearby areas also.

Potential mineral resources of area.

Uranium - The likelihood of significant deposits of uranium existing in this area is good.

L8315 Harper Creek

Mineral Resource Rating - HIGH

A high mineral resource rating is assigned to this area because of the well known and wide spread occurrence of uranium, a critical mineral. This area continues to be a focus for exploration in the eastern United States. In 1976, ERDA (now absorbed in the U. S. Department of Energy) speculated that the Grandfather Mountain area may contain 11,000 tons of uranium recoverable at a selling price of \$30 per pound. These estimates, which are probably conservative, indicate a value of about 2/3 billion dollars. Nearly all of the Harper Creek area is underlain by the Wilson Creek Gneiss, host rock for uranium in the region.

L8315 Harper Creek continued

Mines and prospects known to exist within the Harper Creek (L8315) area.

At least 8 prospecting permits or applications are pending or approved in this area. A number of uranium prospects are known and the area has been explored by at least two dozen diamond drill holes at this time.

Mines and prospects known to exist nearby the Harper Creek (L8315) area.

Other prospect areas and diamond drill holes have been put down in the Wilson Creek Gneiss in the Grandfather Mountain area.

Potential mineral resources of area.

Uranium - The likelihood of significant deposits of uranium existing in this area is excellent.

08025 Southern Nantahala

Mineral Resource Rating - MODERATE

This portion of the Southern Nantahala (08025) area is given a moderate mineral resource rating because known deposits of high potential occur nearby and may, on geologic grounds, reasonably be expected to occur within the Southern Nantahala area. These known mineral deposits are olivine in the nearby Buck Creek area, copper prospects near Rainbow Springs, and industrial grade garnets in the Marbleyard Ridge prospect.

Mines and prospects known to exist within the Southern Nantahala (08025) area.

Corundum - Beech Creek deposits

Mica - Big Four Prospect

Mines and prospects known to exist nearby the Southern Nantahala (08025) area.

Garnet - Marbleyard Ridge prospect

Rutile - placer deposits along Hothouse Branch of Shooting Creek district

Vermiculite - Mark Rodger Prospect

Burnett Anderson Prospect

Kaolin - Large unnamed deposit along Hothouse Branch

Potential mineral resources of area.

Olivine - On geologic evidence there is a good possibility that significant olivine deposits may exist in the area.

Cooper - Host rocks of nearby prospect extends into area

Corundum - Known deposits and possible extensions have not been prospected or explored adequately in recent times

Mica - Of minor significance

Vermiculite - Minor significance

Garnet - Unknown significance

08031 Ellicott Rock Extension

Mineral Resource Rating - LOW

The Ellicott Rock Extension area has been assigned a low mineral resource rating because of the absence of significant known mineral deposits in or around the area.

Mines and prospects known to exist within the Ellicott Rock Extension (08031) area.

Mica - J. H. Rochester mica mine

Mines and prospects known to exist nearby the Ellicott Rock Extension (08031) area.

None known

Potential mineral resources of area.

Not significant

08054 Big Creek

Mineral Resource Rating - LOW

The Big Creek area has been given a low mineral resource rating because of the absence of any known mineral deposits in or around the area. Further, the likelihood of a previously unknown deposit occurring at depth in the area, based on our present knowledge, is poor.

Mines and prospects known to exist within the Big Creek (08054) area.

None known

Mines and prospects known to exist nearby the Big Creek (08054) area.

None known

Potential mineral resources of area.

Barite - There is some possibility of barite occurring in restricted rock units in this area.

08055 Balsam Cone

Mineral Resource Rating - LOW

Despite the abundance of mica-bearing pegmatite bodies this area is given a low mineral resource rating. Sheet mica is no longer a strategically critical mineral and the pegmatites, although occasionally carrying other important minerals, probably can no longer be considered as significant ore bodies.

Mines and prospects known to exist within the Balsam Cone (08055) area.

Mica - Woodys Ridge Mine
R. D. Westall Mine
Colbert Ridge Mine
Bill Autry Mine
Westall Mine

Colbert Creek Mine
Middle Ridge Mine
Murphy Mine
Hillbilly Mine
Muscet Mine

08055 Balsam Cone continued

Mines and prospects known to exist nearby the Balsam Cone (08055) area.

Mica - Ed Banner Mine
House Rock Prospect
Joe Young Mine
Joe Young Prospect
Klondike Prospect
Locust Ridge Mine

Potential mineral resources of area.

Pegmatite bodies - Mica-bearing pegmatites are abundant in this area.
Kyanite - Kyanite is known to occur and locally may be present in sufficient concentration to constitute low grade ore bodies.

08056 Craggy Mtn. Extension

Mineral Resource Rating - LOW

This area is given a low mineral resource rating because of the apparent absence of any significant mineral deposits.

Mines and prospects known to exist within the Craggy Mtn. Extension (08056) area.

None known

Mines and prospects known to exist nearby the Craggy Mtn. Extension (08056) area.

None known

Potential mineral resources of area.

Kyanite - Kyanite is known to be present in the area; the possibility exists for low grade deposits.
Garnet - Garnet is common in this area; low grade deposits may occur in favorable host rocks.

08057 Shining Rock Extension

Mineral Resource Rating - LOW

The Shining Rock Extension area is given a low mineral resource rating because of the lack of any known or potential mineral resources of unusual significance and demand.

Mines and prospects known to exist within the Shining Rock Extension (08057) area.

Mica - Gibson Mine
Stringfield Mine

Two unnamed quarries, commodity unknown, are also present within the area. These may be abandoned mica workings.

08057 Shining Rock Extension continued

Mines and prospects known to exist nearby the Shining Rock Extension (08057) area.

One unnamed quarry, commodity unknown, is within 600 feet of the southeastern boundary of the area. This may be an abandoned mica mine.

Potential mineral resources of area.

Mica - Resources are present, however, demand for sheet mica is declining.

Quartz - Quartz veins, similar to the well known outcrop on Shining Rock, have potential as sources of high-silica quartz.

Sillimanite - Regional studies show that sillimanite is present in this area, however, careful prospecting or thorough evaluation has not been performed.

08058 Linville Gorge Extension

Mineral Resource Rating - MODERATE

Although there are no known mines or prospects presently in or near this section of the Linville Gorge Extension (08058) it is given a moderate mineral resource rating because of the possibility of significant deposits of uranium, a critical mineral, being found in parts of the area. A higher rating is not given because of the relatively small section underlain by bedrock favorable for uranium mineralization.

Mines and prospects known to exist within the Linville Gorge Extension (08058) area.

None known

Mines and prospects known to exist nearby the Linville Gorge Extension (08058) area.

None known

Potential mineral resources of area.

Uranium - Significant quantities of uranium may occur in areas underlain by the Wilson Creek Gneiss.

08059 Chunky Gal

Mineral Resource Rating - HIGH

This area is given a high mineral resource rating primarily because of the major olivine deposit near Buck Creek. This deposit is presently (August 19, 1978) being evaluated by commercial interests. Previous investigation by Hunter (1941, N. C. Div. Mineral Resources Bull. 41) indicated 300 million tons of dunite available for relatively simple open pit mining. Hunter states that "the Buck Creek deposit is the largest single outcrop of dunite in the entire olivine belt." The

08059 Chunky Gal continued

present selling price of olivine ranges upward from about \$25 per ton depending on the amount of processing. Even using the low figure this body has a potential value in terms of tens of billions of dollars. As the mineral rights reside with the federal government, all royalties will, in essence, accrue to the taxpayer.

Mines and prospects known to exist within the Chunky Gal area.

Corundum - 1 mine, Herbert mine
8 prospects, Hart prospect
Hutchinson prospect
Ledford prospect
Burrell prospect
South Extension prospect
3 unnamed prospects west of Chestnut Mountain

Copper - 1 prospect, Kitchen prospect

Mines and prospects known to exist nearby the Chunky Gal area.

Corundum - 1 mine, Big Shaft mine

Potential mineral resources

olivine - major significance
chromite - a critical mineral, possibly obtainable as a byproduct from large scale olivine production
sillimanite - significance not evaluated yet
vermiculite - minor importance
talc - minor importance
anthophyllite asbsstos - minor importance
corundum - minor importance commercially, however, individuals continue to collect cabinet specimens of ruby (red gem corundum) from this area
copper - probably of minor significance, however, this area has been inadequately explored

08060 Cheoah Bald

Mineral Resource Rating - HIGH

The Cheoah Bald area is assigned a high mineral resource rating because the very significant Murphy Marble formation extends across the area. The Murphy Marble is the host rock for exceptionally high quality talc deposits. In addition, the marble itself is a valuable source of both dimension and crushed stone. Presently an active marble quarry is located immediately adjacent to the Cheoah Bald area and in fact, the study area may actually encroach into part of the quarry operations.

08060 Cheoah Bald continued

Mines and prospects known to exist within the Cheoah Bald (08060) area.

Talc - Four high-quality talc prospects are known in the area.

Marble - Nantahala Talc and Limestone Company's Hewitt quarry may, in part, be included within the study area.

Mines and prospects known to exist nearby the Cheoah Bald (08060) area.

Marble - Nantahala Talc and Limestone Company's Hewitt quarry and processing plant is immediately adjacent to the Cheoah Bald area.

Talc - Numerous prospects exist to the east and southwest of the Cheoah Bald area.

Potential mineral resources of area.

Marble - Major and important resource.

Talc - Excellent possibilities for the presence of additional deposits of high-quality talc.

Copper - Fairly thick sequences of sulphide-bearing and graphitic rocks underlie much of the area. These rock types are candidates for base metal exploration programs.

Uranium - Possible uranium mineralization is suggested by the sequences of graphitic bearing rocks which underlie the area.

08061 Snowbird

Mineral Resource Rating - MODERATE

There are no known mines or prospects in the Snowbird area, however, it is assigned a moderate mineral resource rating because of the possibility of copper or uranium deposits. Although the area has not been carefully explored, sulphide minerals, some of which are likely copper-bearing, are common in much of the bedrock. In addition, thick sequences of graphitic rocks are present; these provide exploration targets for uranium.

Mines and prospects known to exist within the Snowbird (08061) area.

None known

Mines and prospects known to exist nearby the Snowbird (08061) area.

None known

Potential mineral resources of area.

Copper - Good area for exploration for buried deposits.

Uranium - Possibilities exist for uranium deposits associated with graphitic rocks found throughout the area.

08062 Joyce Kilmer Slickrock

Mineral Resource Rating - MODERATE

This section of the overall Joyce Kilmer Slickrock area (08062) is given a moderate mineral resource rating because of its relatively large area which is underlain by formations which are known copper producers at other places. Also, the possibility exists for uranium, a critical mineral, to be concentrated within this area.

Mines and prospects known to exist within the Joyce Kilmer Slickrock (08062) area.

None known

Mines and prospects known to exist nearby the Joyce Kilmer Slickrock (08062) area.

None known

Potential mineral resources of area.

Copper - The large size of this area and the widespread distribution within it of sulphide-rich rocks make it an attractive area for exploration. Economically valuable base metal deposits are found in these same strata to the southwest and northeast.

Uranium - Sequences of graphite-bearing rocks suggests the possibility of uranium mineralization.

08190 Tusquitee Mountains

Mineral Resource Rating - LOW

The Tusquitee Mountains area is given a low mineral resource rating because of the absence of any known deposits in or around the area.

Mines and prospects known to exist within the Tusquitee Mountains (08190) area.

None known

Mines and prospects known to exist nearby the Tusquitee Mountains (08190) area.

None known

Potential mineral resources of area.

Dimension stone (flagging) - Some of the quartzite units present in the area constitute potential sources of flagstone.

Copper - Thick sequences of sulphide-bearing and graphitic rocks underlie part of the area. These rock types are candidates for base metal exploration programs.

Uranium - The presence of many zones of graphitic rocks suggest the possibility of uranium concentrations.

08193 Craggy Mountain WSA

Mineral Resource Rating - LOW

A low mineral resource rating is given this area because of the absence of any known significant mineral deposits.

Mines and prospects known to exist within the Craggy Mountain WSA (08193) area.

None known

Mines and prospects known to exist nearby the Craggy Mountain WSA (08193) area.

Kyanite - An occurrence of gem quality kyanite is known to the northeast of this area.

Potential mineral resources of area.

Kyanite - Regional geologic information and a few scattered observations indicate it is possible that concentrations of kyanite may exist in the area.

Garnet - Garnet is abundant in some rocks of the area. However, neither the quantity nor quality has been evaluated.

08194 Joyce Kilmer Slickrock

Mineral Resource Rating - LOW

Although there is a chance of copper or uranium mineralization in this section of the Joyce Kilmer Slickrock (08194) area the absence of any known deposits and the area's relatively small size warrants a low mineral resource rating. This area however, has not been carefully explored.

Mines and prospects known to exist within the Joyce Kilmer Slickrock (08194) area.

None known

Mines and prospects known to exist nearby the Joyce Kilmer Slickrock (08194) area.

None known

Potential mineral resources of area.

Copper - Economically valuable deposits of copper-bearing sulphide minerals are found in some of the same bedrock formation of this area both to the northeast and southwest.

Uranium - The presence of many zones of graphitic rocks suggests the possibility of uranium concentrations.

08195 Joyce Kilmer-Slickrock

Mineral Resource Rating - LOW

Although there is a chance of copper or uranium mineralization in this section of the Joyce Kilmer Slickrock (08195) area its relatively small size and the absence of any known deposits warrants a low mineral resource rating.

08195 Joyce Kilmer-Slickrock continued

Mines and prospects known to exist within the Joyce Kilmer Slickrock (08195) area.

None known

Mines and prospects known to exist nearby the Joyce Kilmer Slickrock (08195) area.

None known

Potential mineral resources of area.

Copper - Economically valuable deposits of copper-bearing sulphides are found in some of the same bedrock formation of this area both to the northeast and southwest.

Uranium - The presence of abundant zone of graphitic slate, schist, and phyllite suggest the possibility of uranium mineralization.

08197 Wildcat

Mineral Resource Rating - MODERATE

Although no large extensive mineral deposits are known, several small prospects and occurrences of base metals exist in or immediately adjacent to the area. Radioactive and rare-earth mineral prospects also occur nearby and the host rocks for the known deposits extend into this area. These facts indicate that the area is suitable for additional exploration and it is therefore given a moderate mineral resource rating.

Mines and prospects known to exist within the Wildcat (08197) area.

Copper - Prospects on Mine Ridge

Lead - Prospect above mouth of Painter Branch

Mines and prospects known to exist nearby the Wildcat (08197) area.

Copper - Lead - Occurrence within 600 feet of the southern boundary of the area.

Radioactive minerals - Several prospects in feldspathic sandstone units about $\frac{1}{2}$ mile northwest of the area.

Radioactive and rare-earth - Several prospects in veins lie to northeast. mineral prospects

Potential mineral resources of area.

Copper and other base metals - Interesting prospects; known occurrences have not been carefully examined.

Radioactive minerals - Probably of minor significance within this area. (uranium & thorium)

Rare-earth elements - Probably of minor significance locally.

08201 Joyce Kilmer Slickrock

Mineral Resource Rating - MODERATE

This section of the Joyce Kilmer Slickrock area (08201) is given a moderate mineral resource rating because of the possibility of undiscovered copper deposits. This opinion is based on the general favorability of the region's bedrock and the presence of a nearby prospected occurrence. There are also chances for uranium mineralization.

Mines and prospects known to exist within the Joyce Kilmer Slickrock (08201) area.

None known

Mines and prospects known to exist nearby the Joyce Kilmer Slickrock (08201) area.

Copper - Stratton Bald-Hangover Lead prospect, core drilled by the Tennessee Copper Company.

Potential mineral resources of area.

Copper - Economically valuable deposits of copper-bearing sulphides are found in some of the same bedrock formations of this area both to the southwest and northeast.

Uranium - The presence of numerous zones of graphitic rock suggests the possibility of uranium mineralization.

08202 Nolichucky

Mineral Resource Rating - LOW

A low mineral resource rating is assigned to this area because of the *absence of any known mining activity* in the past and the generally unmineralized nature of most of the bedrock that underlies this area.

Mines and prospects known to exist within the Nolichucky (08202) area.

None known

Mines and prospects known to exist nearby the Nolichucky (08202) area.

Shallow pits in the nearby Cane Bottom may have been for barite or quartzite. Little is known about these workings.

Potential mineral resources of area.

High quality quartz, ganister - Portions of the Unicoi Formation which underlies this area may prove to be high purity quartzite.

Barite - The untested possibility exists for replacement-type barite deposits in the area. The likelihood for undiscovered, commercially significant deposits is unlikely.

08198 Fishhawk Mountain

Mineral Resource Rating - MODERATE

This section of the Fishhawk Mountain area (08198) is given a moderate mineral resource rating because of the reported occurrence of at least one body of olivine in the area. This commodity appears to have an important place as a component in future energy conservation programs. Further, significant deposits of olivine in the eastern United States are limited to the Blue Ridge of North Carolina and adjacent Georgia.

Mines and prospects known to exist within the Fishhawk Mountain (08198) area.

Mica - Penland Prospect

Mines and prospects known to exist nearby the Fishhawk Mountain (08198) area.

Mica - Penland mines

Potential mineral resources of area.

Olivine - Considerable significance, The reported body has not been adequately evaluated as to either quality or size.

Chromite - A critical mineral, associated with olivine deposits and probably only obtainable as a byproduct of large scale olivine production.

08200 Middle Prong

Mineral Resource Rating - LOW

Despite the abundance of mica-bearing pegmatite bodies this area is assigned a low mineral resource rating. Sheet mica is no longer a strategically critical mineral and the pegmatites, although occasionally carrying other important minerals, probably can no longer be considered as significant ore bodies.

Mines and prospects known to exist within the Middle Prong (08200) area.

Mica - Richland Balsam prospect
Ethan Cook mine
Camp Two mine
Mark Reece(?) mine
Unnamed mine, west side of Fork Ridge

Mines and prospects known to exist nearby the Middle Prong (08200) area.

Mica - Richland Balsam NW prospect
Judaculla Field prospect

Potential mineral resources of area.

Pegmatites - Mica-bearing pegmatites are common
Quartz - Quartz veins, similar to the well known outcrop of Shining Rock, have potential as sources of high-quality quartz
Sillimanite - Present in area, thorough exploration and evaluation might reveal areas of significant concentration.
Talc/soapstone - Minor significance

08203 Birkhead Mountains

Mineral Resource Rating - MODERATE

The Birkhead Mountain area is within a portion of the slate belt, generally considered by exploration geologists as having a potential for massive sulphide deposits. Although metallic minerals are not currently produced in the slate belt, the occurrence of small gold and copper deposits, such as these near the study area, indicate favorable environments in which these deposits could have formed.

Mines and prospects known to exist within the Birkhead Mountains (08203) area.

Gold - 1 prospect, Dowd prospect

Mines and prospects known to exist nearby the Birkhead Mountains (08203) area.

Stone - 1 mine, Miller quarry
Gold - 1 mine, Uharie mine
3 prospects, Branson prospect
Rush prospect
Gluyas prospect

Potential mineral resources of area.

Massive sulphides - Recent advances in scientific understanding of how massive sulphides form in a volcanic environment suggest this as a favorable area for exploration. Advanced geophysical and geochemical techniques will be required.

08015 Pocosin

Mineral Resource Rating - MODERATE

Although there are no confirmed mineral resources within Pocosin (08015) the geologic maps of the area indicate a possibility of chemical grade limestone, agricultural limestone, and shell aggregate. Peat reserves have not been evaluated but are known to exist.

Mines and prospects known to exist within the Pocosin (08015) area.

Oil - 1 prospect, V. P. Vinson #1 well

Mines and prospects known to exist nearby the Pocosin (08015) area.

Limestone - 2 mines, Silverdale pit
Belgrade quarry

Potential mineral resources of area.

Limestone - General mapping and nearby mines suggest possibility
Peat - Unevaluated

08199 Catfish Lake South

Mineral Resource Rating - MODERATE

Mineral resource potential similar to Pocosin (08015) area.

Mines and prospects known to exist within the Catfish Lake South (08199) area.

None known

Mines and prospects known to exist nearby the Catfish Lake South (08199) area.

Limestone - 2 mines, Harriett's marl pit
Belgrade quarry

Potential mineral resources of area.

See Pocosin (08015)

08196 Sheep Ridge

Mineral Resource Rating - MODERATE

Mineral resource potential similar to Pocosin (08015) area.

Mines and prospects known to exist within the Sheep Ridge (08196) area.

None known

Mines and prospects known to exist nearby the Sheep Ridge (08196) area.

None known

Potential mineral resources of area.

See Pocosin (08015)

08204 Pond Pine

Mineral Resource Rating - MODERATE

Mineral resource potential similar to Pocosin (08015) area.

Mines and prospects known to exist within the Pond Pine (08204) area.

None known

Mines and prospects known to exist nearby the Pond Pine (08204) area.

None known

Potential mineral resources of area.

See Pocosin (08015)

.. Overflow Creek RARE II Area (N.C. Portion) Mineral Resource Rating - LOW

The Overflow Creek Area is assigned a low mineral resource rating because of the absence of any known deposits in or around the area.

Mines and prospects known to exist within the Overflow Creek RARE II area.

None known

Mines and prospects known to exist nearby the Overflow Creek RARE II area.

One quarry is indicated on the Sealy Mountain quadrangle alongside N.C. Route 106 just outside the northern boundary of the area. This is probably a stone quarry of minor significance.

Potential mineral resources of area.

Not significant

Unaka Mountain ID # CCB

Mineral Resource Rating - Low

The Unaka Mountain area is given a low mineral resource rating because of the absence of any known mines or prospects either within or close by the area.

Mines and prospects known to exist within the Unaka Mountain area (ID# CCB).

None known

Mines and prospects known to exist nearby the Unaka Mountain area (ID# CCB).

None known

Potential mineral resources of area

High quality quartz - Portions of the Unicoi Formation which underlie parts of this area may prove to be high quality quartzite.

Barite - Although unlikely, there is some possibility for the existence of replacement-type barite deposits locally.

Molybdenum - Several occurrences are known about 3½ miles south of the area. The complete extent or significance of these occurrences is not known.

Magnetite - Deposits of magnetite are common elsewhere in the Cranberry Gneiss which underlies much of this area.

Radioactive minerals and rare-earth elements - Prospects exist at many places in the Cranberry Gneiss which underlies much of this area. The Unaka Mountain Area is not known to have been carefully prospected; thus its potential for these commodities is undetermined.

Roan Mountain ID# CCA

Mineral Resource Rating - LOW

This area is underlain mostly by amphibolite and metagabbro of the Bakersville group. Aside from construction stone the Bakersville rocks are not noted for their economic mineral values. This, in addition to the absence of known mines and prospects within the area make a low mineral resource rating appropriate.

Mines and prospects known to exist within the Roan Mountain area.

None

Mines and prospects known to exist nearby the Roan Mountain area

A magnetite prospect lies just outside the Tennessee portion of the Roan Mountain area. Several other magnetite prospects occur approximately 2 miles north of Duladean.

Potential mineral resources of area.

Magnetite - Deposits of magnetite are found in the Cranberry Gneiss surrounding most of Roan Mountain. Although most of the area is clearly underlain by Bakersville rocks, lack of detailed mapping still leaves open the possibility of areas of magnetite-bearing Cranberry Gneiss being present locally.