

General Geology of the District:

Mr. W. W. Leach,¹ who in the summer of 1902 examined the Blairmore-Frank coal field, has, for descriptive purposes, placed these pyroclastics at the top of the Middle and Lower Cretaceous. Accompanying his report is a map showing the distribution of these and other rocks in the district. The volcanics have been traced in a north and south direction at least twenty-four miles. The series attains a maximum thickness of 1500 ft. and where exposed in one of the railway cuts includes some igneous flows of augite-trachyte which contain a great many inclusions similar to the lava itself. Immediately beneath the volcanics is a thickness of 1850 ft. of various shales and sandstones, while overlying them are gray and black shales and sandstones. The extremely important coal measures of the region lie beneath the three formations just mentioned, although some coal is found above them.

The geological structure of the district is somewhat complex,² much faulting and folding being in evidence so that the same strata may outcrop two or three times in an east and west cross-section.

Minerals Found in the Tuffs and Breccias.

The specimens of the volcanics examined consist mostly of crystal-tuffs and breccias, generally of a grayish green or purplish color. The minerals are nearly always present in a fragmentary condition showing rough, angular outlines, although not infrequently the original crystal form has been entirely preserved, and in other cases the rounded condition is suggestive of water action. Only one of the specimens in the collection shows, however, the result of water action in its banded structure.

The following minerals have been identified in the tuffs and breccias: orthoclase, sanidine, analcite, augite, aegirite-augite, aegirite, acmite, diopside, titanite, microcline, anorthoclase, andesine, nephelite, hornblende, apatite, biotite, garnet, magnetite and various secondary minerals, such as chlorite, limonite, calcite, etc. Sodalite is probably present in small quantities and possibly leucite.

1. Summary Report Can. Geo. Survey 1002, p. 167.

2. Leach, W. W. Summary Report Can. Geo. Survey 1902, p. 167.