GROUNDHOG COALFIELD
(104A/15; 104H/2, 3)

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A joint Geological Survey of Canada – Ministry of Mines and Petroleum Resources reconnaissance mapping project was conducted in the Groundhog Coalfield for a two-week period in late July – early August. Personnel consisted of T. A. Richards and his assistant R. Stevens for the Geological Survey of Canada and the author and his assistant W. Killick for the Ministry of Mines and Petroleum Resources. The purpose of the project was to determine the broad stratigraphic and structural relationships of the central part of the basin so as to be able (1) to evaluate the feasibility of a more detailed study of the whole basin and (2) to comment on the coal resource potential of the area. As time was limited, investigations were confined to the area bounded by the Nass River on the east, the Skeena River on the west, Didene Creek on the north, and Panorama Creek on the south.

It was concluded that the strata could be subdivided on the basis of facies units. Several workers (Malloch, Best, Jenkins, Eisbacher) have attempted this, but none of the units have been correlated throughout the basin with detailed control. Facies changes are quite rapid in some of the coarse alluvial rocks, however outcrop is excellent and should provide enough control. Much of the coal measures outcrop below timberline and hence have limited exposure, but hopefully facies changes will not be so rapid, as in the coarser clastics. In fact it will be necessary to describe the coal zones in as much detail as possible for correlation purposes across the major valleys and other areas lacking exposure.

As the southern part of the basin has received the majority of the previous work, investigation for coal potential was confined to the northern half of the area defined in the first paragraph. Not surprisingly what appears to be the fullest stratigraphic section is found on the highest peak in the area, just south of Mount Gunanoot. Here over 750 metres of conglomerates overlie the coal measures. The coal measures essentially outcrop on the perimeter of the 'central structural basin,' that is, on the steeply folded limbs of the syncline and on the northern, southward steeply plunging end of the syncline.

Coal was observed at several localities on the west limb, but only in float or thin (1 metre) seams. An analysis on a sample taken just off the crest of the ridge immediately east of Nass Lake showed a relatively high volatile matter, 26.54 per cent for a coal of 15.53 per cent ash (all analyses on raw coal and given in a dry basis). A sample taken less than 3 kilometres north on the same ridge, but somewhat lower in the section, had a very low ash content, 6.78 per cent, but a volatile matter of only 10.36 per cent.

The area east of Tahtsedle Creek lies in a structurally separate unit from the central syncline. The western portion is very flat and approximates a shallow southwest dip slope whereas the eastern part is very tightly folded. An analysis on a coal seam exposed in a locally disturbed area at the north end of the dip slope showed an ash content of 23.55 per cent and a volatile matter content of 13.3 per cent. An accurate seam thickness could not be obtained but is believed to be over 2 metres.

The rapid thickening of the coarse clastic units toward the centre of the basin may imply an independent mechanism of subsidence. If this mechanism were operating during deposition of the coal measures, it

would be possible to have significant thickening of the coal seams in the centre of the basin. However, they would have been and would continue to be under the maximum cover and would therefore be relatively inaccessible and highly coalified.

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