topography having Mount Gore (4,873 ft.) as its most prominent feature. The "slate" area, though relatively depressed, varies in height above sea-level from about 1,000 ft. to 3,000 ft. Access at the present time is difficult.

The Lodes.

For many years quartz lodes have been known to exist in the Alexander River district, but until recently none of a promising character had been found. A few months ago James Hurley and Loftus McVicar, two prospectors subsidized by the Mines Department, discovered the Bull reef, which has caused so much excitement during the past two months. Since then several other lodes have been found. Of these the most notable are the Downey and Mullocky reefs, in Mullocky Creek, a small tributary of the Alexander River.

Bull Reef.

The Bull reef outcrop is situated near the top of the high spur between the Alexander and Grey rivers, at an elevation of about 2,500 ft. above sea-level. It has been exposed in four trenches, the most northerly of which, No. 1, is less than a chain and a half from the most southerly, No. 4. As seen in these trenches the lode strikes or trends 30° east of magnetic north—that is to say, about north-east on a true bearing—and dips steeply (80° to 85°) to the north-west. The slaty country enclosing the lode, however, as seen in a trench a few yards south of No. 4 trench, seems to strike about due north and south, and to have a vertical dip.

The quartz broken out from the trenches is of a kindly appearance. It varies in colour from white to bluish; some is slightly iron-stained, and a few little crystals of iron-pyrites may be seen. Many lumps of the broken quartz show numerous but rather small colours of gold, and the stone has been estimated to go perhaps 2 oz. to the ton; but, from the assays quoted below, this estimate, moderate as it is in comparison with some of the accounts published in the newspapers, unfortunately appears to be well over the mark. A hundredweight or more of richly auriferous quartz broken from the outcrop was seen by me at the prospectors' camp and elsewhere, but none of the quartz visible *in situ* was of this character.

Width and Value of Reef.—In the most northerly, or No. 1, trench the reef shows fully 7 ft. of quartz. This and the other trenches were sampled by Mr. J. F. Downey, Inspector of Mines. The sample from No. 1 trench on being assayed at the Reefton School of Mines gave the following results:—

	Gold, per Ton.	Silver, per Ton.	Value, per Ton. Nominal. £ s. d.	Value, per Ton. Average. £ s. d.
(A)	18 dwt. 7 gr.	1 dwt. 7 gr.	3 13 3	3 14 7
(B)	18 dwt. 23 gr.	..	3 15 10	

B was a check assay. I have calculated the value on the ordinary assay-office assumption that gold in the stone is worth £4 per ounce and silver 2s. per ounce. At the present time perhaps 20 per cent. could be added to these values.

In No. 2 trench, about 15 yards south-west of No. 1, the reef as exposed is 3 ft. wide. Mr. Downey's sample, taken over this width, assayed only 1 dwt. 23 gr. gold per ton, giving a nominal value of 7s. 10d. per ton.

The lode at No. 3 trench, 8 yards south-west of No. 2, is 4½ ft. wide. Mr. Downey's sample on assay yielded 4 dwt. 14 gr. gold per ton, equal to 18s. 4d. per ton.

The lode at No. 4 trench, about 9 yards south-west of No. 2, is 6 ft. wide. The quartz is of good appearance, but Mr. Downey's sample yielded on assay only 1 dwt. 23 gr. gold per ton, or a value of 7s. 10d. per ton. I sampled the loose quartz lying about by breaking small pieces off fifteen or sixteen typical lumps. The sample, assayed at the Dominion Laboratory, yielded only 1 dwt. 10 gr. gold per ton, or a value of 5s. 8d. per ton, thus confirming the unexpectedly low result given by Mr. Downey's sample.

The average width of the Bull reef or lode as exposed in the trenches is a little over 5 ft. (5 ft. 1½ in.), and the average value of the outcrop quartz, as calculated from the assays of Mr. Downey's four samples, is £1 7s. 2d. Even if 20 per cent. is added to this value, in order to allow for the appreciated price of gold at the present time, the outcropping quartz cannot be regarded as payable under present conditions. It is true that a small amount of rich stone, none of which was included in the samples, has been obtained from the trenches, but as none of this was seen by Mr. Downey or myself *in situ* obviously no allowance for its presence can be made. There may not be more than a small pocket of such material, and it seems quite certain that the rich stone is not in a continuous band or seam along the lode, otherwise it would have been seen by me, and the assays of Mr. Downey's samples from trenches Nos. 2, 3, and 4 would have been much higher.

General Remarks on the Bull Reef.—The Bull reef needs to be prospected to a much greater extent than has yet been done before one can form a true estimate of its prospects. In the first place, more trenches are necessary in order to find the length of outcrop, and thereafter one or more adits must be driven to cut the lode well below the line of outcrop. If the outcrop can be traced some distance north and south it will be possible to drive on the lode itself, instead of having to crosscut. The difference between the reports published in various newspapers and reality is so great that one finds it hard to form a dispassionate opinion concerning the occurrence. Disregarding all the statements I have heard or read, and relying only on what I have seen, I would say that the Bull reef is well worth prospecting. So far as exposed it is of workable width, it contains some payable ore, and may possibly yield an appreciable amount of high-grade ore. For the present, however, it would be best to take little account of the latter possibility. The lode, though at present difficult of access, is otherwise favourably situated for economical working. Mining-timber is abundant, and ample water-power for a battery, &c., can be obtained from the Alexander River and other streams.