

## MULLOCKY CREEK LODES.

About 13 chains up Mullocky Creek from the Alexander River the "Mullocky reef," a lode formation consisting of a mixture of crushed oxidized country rock ("mullock") and small quartz veins, outcrops on the north bank of the stream at a point 1,165 ft. above sea-level (barometric observation). It appears to strike about magnetic north (*i.e.*, a little east of true north). A sample taken over a width of 3½ ft. by Mr. Downey yielded on assay 1 dwt. 7 gr. of gold per ton. Since gold is present, the further testing of the Mullocky reef by a short drive is advisable.

At 51 chains by paced compass traverse up Mullocky Creek a massive quartz lode, the "Downey reef," outcrops on the north bank at a point about 1,580 ft. above sea-level. It strikes a little east of north, and probably dips almost vertically. At first, owing to the true strike not being distinguished, the width of the lode was estimated at 14 ft. or more, but as a matter of fact the actual width cannot be ascertained until the lode has been cut across at right angles to its strike. The width is certainly over 5 ft., and may be much more. A little up the hillside more quartz outcrops; this probably belongs to a parallel lode. The quartz of the Downey lode is rusty on the joint-surfaces, and shows bluish streaks when broken. Grains of iron-pyrites are fairly common away from the joints. A sample from the outcrop, taken by Mr. Downey over a width of 5 ft., on being assayed yielded 1 dwt. 7 gr. of gold per ton. This result is very low, but, seeing that the lode is large and the quartz of a fairly promising character, further prospecting by means of trenches along the outcrop, and perhaps by driving, is advisable.

## OTHER LODES.

Quartz outcrops in two places on the banks of Mullocky Creek, between Mullocky lode and Downey lode, but the occurrences seem to be unimportant.

A short distance north of the Bull reef outcrop, near the head of Bull Creek, I was shown an outcrop of white, rather glassy, quartz. I also saw several veins of quartz on the spur between Bull and Mullocky creeks. These have been trenched by the prospectors (J. Hurley and L. McVicar), and I was told that a little gold could be obtained from each by crushing and panning the quartz.

A few chains east of the junction of Absolum Creek and the Alexander River quartz intermixed with country rock outcrops over a thickness of several feet. The locality is at the south-west corner of a prospecting-area pegged out by Mr. Newcombe, and about 1,270 ft. above sea-level. A sample of the quartz taken by Mr. Downey assayed only 16 gr. of gold to the ton.

Small quartz veins are reported to outcrop near the Alexander River above Absolum Creek junction. Some years ago Dr. Henderson discovered a small quartz vein in Absolum Creek (Bulletin No. 18, p. 187).

Other quartz veins in the Alexander River district have been reported by recent prospectors. A piece of quartz which I saw, supposed to come from one of these finds, was of a favourable character.

## GENERAL REMARKS.

Until much more trenching and some driving has been done on the lodes it is not possible to state what the prospects of the Alexander River field really are. No mine or mining district can be safely judged by surface prospects alone, much less by the reports of biased or non-technical observers. The Bull lode itself, the main feature of the field, in spite of all that has been said, remains a mere prospect, though one that deserves a thorough test. It offers possibilities to the speculator, but nothing that would tempt the cautious investor. Members of the public should not allow their judgment to be influenced by the fact that a small amount of tolerably rich auriferous quartz has been obtained, and before thinking seriously of investing in the supposed El Dorado should await the results that can be obtained by a moderate expenditure on trenching and driving.

## ADDENDUM.

During my visit to the Alexander an important observation was made—namely, that quartzite, evidently belonging to the same series as that near Reefton (Murray Creek), &c., outcrops on the north bank of the Grey River at the mouth of Staircase Creek, a few chains west of the Alexander River. The strike is east of north (204°), and the dip 45° to 50° to the westward. In the strong fault-zone which crosses the Alexander River 20 to 30 chains above its mouth are many fragments of quartzite. At one place evident fault-breccia is bounded on its west side by a conglomerate composed mainly of rounded fragments of quartzite, hornfels being the only other constituent noted. The layers dip at about 30° eastward. It is thought that the so-called conglomerate is possibly not a conglomerate, but really consists of pieces of rock broken and rounded by fault-movements. The hasty examination made, however, did not permit its true relations to be ascertained.

During March and April, 1860, Sir Julius von Haast was engaged in the exploration of the upper Grey Valley and neighbouring areas. He observed the quartzite at Staircase Creek, and thus described it: "On the western bank of the Alexander we meet, for the first time, with a sedimentary rock of newer origin than those of the central chain—an arenaceous sandstone of greenish-yellow colour, with veins of quartz, striking north and south, with a dip of 45° towards the west. In a few places casts of small shells are visible, but not sufficiently distinct to enable me to form any conclusion concerning them." ("Report of a Topographical and Geological Exploration of the Western Districts of the Nelson Province," p. 101, 1861.)

The quartzite and associated fossiliferous rocks of the Reefton district have sometimes been considered to be of Devonian age (as by Alex. McKay), and sometimes of Silurian age. According to a statement made by Mr. W. S. Dun the Reefton fossiliferous rocks should be correlated with the Baton River Series, and are approximately of Yeringian (roughly equivalent to Wenlock) age.