

On the Reefton field prospecting and development of quartz lodes was given close attention, a considerable number of miners and prospectors being employed under the leadership of engineers and geologists. The Merrijigs, Globe-Progress, and Murray Creek areas containing old workings, known outcrops, and abandoned mines were reopened, surveyed, and tested, with the result that much data has been accumulated re the values of the deposits. The economic value, under to-day's conditions and gold-prices, can now be stated within close limits of all the areas examined with the exception of the Golden Treasure and Perseverance Mines, where investigations are not yet completed.

At Lankey's Creek a party of men were subsidized until they had developed an area of cemented gravels and installed a crushing-plant and air-compressor. This party is now self-supporting and has a considerable tonnage of payable ground proved which will give them several years of remunerative employment.

In the Grey County extensive prospecting of alluvial deposits was carried out under the control of the Grey County Mining Committee and later by the Labour Department's Mining Branch. On the Mosquito Creek - Irishman's Creek area nearly 5,000 ft. of driving and about 600 ft. of shaft-sinking were completed in the search for a deep-lead deposit rich enough to drive out. Much of the ground tested was about 200 ft. in depth, and a theory was held, and later completely disproved, that a deep lead, a continuation of rich deposits worked in the early days of Coast mining, would be traced.

The work cost thousands of pounds, employed a considerable amount of labour, and was finally abandoned as being too poor even for subsidized miners to exploit. Citirini's, New River, Bell Hill, Red Jacks, Deadman's, Blackball, and the Moonlight were extensively tried out, and in none of the areas was a profitable claim discovered.

At Nelson Creek a long tunnel was driven under the flat below the Deep Lead Claim, and later a line of bores was put down, but the supposedly rich continuation of the Nelson Creek lead was not located and the values of the wash proved by both drive and bores disclosed the area to be too low grade for even a large-capacity dredge capable of covering expenses at 4d. per cubic yard.

Lode prospecting in the county, although secondary in both labour and expenditure to alluvial prospecting, was by no means overlooked. A well-equipped prospecting party controlled by a Field Supervisor under the direction of a Mining Engineer spent the greater part of two years in the Waikiti district. No expense was spared in the equipment of the party, tracks were cut, good camps established, and they worked under conditions much superior to those endured by their predecessors.

The discovery of reefs was of daily occurrence, and extravagant stories were circulated concerning the possibilities of the field, but careful sampling by responsible persons and a final check-up of all the operations by a geologist removed all doubts as to the possibilities of the area from a lode-mining point of view.

The Kea Creek, Waikiti, Blue Lake, and Sulphide lode series were all extensively prospected and sampled, and, although it is possible in these areas to pick up fragments of ore which may assay up to 6 oz. or more of gold per ton, nothing approaching these values was found when representative samples were assayed. The final results of the work undertaken proved that the gold is patchy and sporadic in all the reefs investigated and that the quantity is too small to raise the value of the ore as a whole to a payable average.

Owing to a rich patch of gold being found in the Moonlight area by a party of subsidized men in some crushed country containing quartz the idea gained ground that valuable lodes were to be found in the vicinity, and the Labour Department drove an aggregate of 1,490 ft. of tunnels and carried out a considerable amount of trenching before their officers were convinced that the chances of locating a solid body of payable ore were remote.

The Buller County placed their hopes in the reopening of the Mokihinui and Lyell Mines. In the Mokihinui area a large amount of money was spent in restoring the road which was ruined by the 1928 earthquake. Four mines were tested by driving new levels on each of them, and, with the exception of the Red Queen, all were proved to be of too low a grade for economic working. Fairly good ore was struck in the Red Queen below the old workings, and the show has prospects of employing a working party of men.

On the Lyell area eight mines were reopened during the past three years, and Reid's Reef, a new find, which was vigorously developed from two levels, proved a disappointment. Encouraging assays were given by the outcrop and from parts of the top level, but the average value per ton of all lodes exposed was under 3 dwt.

The ventures were eliminated one by one as prospecting and sampling prospered, and when the Labour Department handed over their affairs to the Mines Department the No. 7 level of the Alpine Mine alone survived the tests. From this level a crosscut is being extended east in search of the north block, which was lost between Nos. 6 and 7 levels. This mine is now at a stage where capital could be usefully employed in prospecting. The level, 2,400 ft. in length, is open for the first time in thirty years, and should the faulted block be located there are three levels below No. 7 that could be worked from No. 10 adit, and also three shaft levels below No. 10 that are unworked so far as the north block is concerned.

Late in 1936 parties were organized to prospect in south Westland, and the results of the party led by Mr. W. J. Bolitho in the Paringa District are summarized as follows:—

The search for gold, either lode or alluvial, was not attended with success. The small amount of fine gold found in the Paringa River ended the party's hopes of payable alluvial deposits in this area, and the lodes, although numerous, were, on their appearance alone, not worth sampling. The iron-ore deposits were, on examination, found to be merely rocks coated with oxide of iron. The rumour about a 7 ft. seam of bituminous coal proved it to be 3 ft. in thickness interstratified with pug seams and on the south side of the Paringa River. The geologist's opinion is that the deposit has no commercial value. The reputed occurrence of oil at Lake Paringa was investigated, and certain beds favourable in age and structure were reported, but no signs of oil discovered.

A party, led by Mr. H. I. Evans, examined the Weheka area and investigated a wide belt of metamorphic schists between the Omoeroa and Cook Rivers. They subsequently reported unfavourably on the lenses of quartz they examined and that the chances of finding payable ore-bodies in such formation were not hopeful.

The outlook for profitable alluvial mining is on a par with the lode possibilities. Several streams and their terraces were prospected, but the results in each case showed fine values of gold that were evidently derived from glacial gravels, which were all that could be found or were likely to be found.

In the Craig's Peak area between the 5,000 ft. and 6,000 ft. levels nothing of importance was discovered, and it is now believed that the massive quartz reefs which were reported to be outcropping are merely large bands of quartzite occurring in the schists of the district.

The Lower Waikukapa area, situate between 4,000 ft. and 5,000 ft. above sea-level, contains various schists with bands of quartzites, the latter probably accounting for the quartz lodes described by travellers in the region.

The Cook and Balfour River areas both contain a little fine gold, but cannot be classed as potential goldfields, and the results of the prospecting venture have definitely proved that many of the beliefs and theories concerning the mineral wealth of south Westland are illusions cherished for years and built up from unreliable information.

The same party also investigated the Haast area, including Bullock Creek, Copper Creek, Fox Creek, Wells Creek, Sardine Terrace, and Bald Hill, but no mineral deposits of economic value were discovered.

No auriferous reefs were found, but fine alluvial gold is widely distributed in marine and fluvio-marine gravels which occur extensively in the Bullock Creek area. From the prospects taken by the party, however, it appears that all the available payable ground in this area was thoroughly worked by early prospectors and, although it is possible that isolated patches of rich ground remain, such patches would be very limited.

Iron-ore deposits at the summit of Bald Hill were tested but proved to be very low grade, while outcrops of coal at Coal Creek proved to be of little or no commercial value.