

Branch Creek.

The drill was then transferred to the Branch Creek section of the Cardrona Valley on Run 340b, Block II, Cardrona Survey District, Lake County. A total of 148 holes, with a footage of 1,780 ft., was drilled, and 6 in. casing was used. The drilling period commenced in August, 1936, and concluded in February, 1937. As this sector had been considered to be workable the testing was thorough, and proved that the average depth of the ground is 10.6 ft., with a total yardage of 1,237,000 cubic yards and an average value of 1.56d. per yard, with a total value of £8,040.

These results show that there is practically no possibility of working the ground profitably.

Galloway.

The drill was then transferred to Runs 220H and 220I in Blocks VI and XIX, Tiger Hill Survey District, about two miles and a half north-west from Galloway Railway-station. The ground was deep when compared with Luggate and Branch Creek, and a total of fifty-seven holes, with a footage of 3,865 ft., was drilled during the period from March, 1937, to May, 1938.

This drilling indicated that the major portion of the area drilled had a depth of between 65 ft. and 82 ft. from the surface-level, but that values existed only in portions of the area. A few good values were located, but the drilling as a whole gave very low values, and the area is of no value from a dredging or gravel-pumping point of view.

German Hill.

The No. 4 alluvial drill was then transferred to German Hill in Run 261L, Poolburn Survey District, where twenty-one holes were drilled, with a total footage of 1,253 ft., during the period from May to September, 1938. A line of holes was drilled parallel to the foothills in order to ascertain if a dredging or gravel-pump area existed on the flat below the German Hill surface workings. The first row of holes proved that the schist bed-rock was dipping at the rate of 14 ft. per chain. A second row of holes was drilled farther out on the flat, and the last hole drilled reached a depth of 158 ft. Values in this and the adjoining hole indicated that a deep lead exists in this area parallel to the line of the foothills.

As this drilling was carried out in order to ascertain if shallow ground existed suitable for either dredge or gravel-pump mining, drilling operations were suspended when the deep ground was located. The result of this drilling has shown that there are a few acres of shallow ground along the foothills which could be worked by a small elevator plant if a suitable water-supply could be obtained. Up to the present time it has been impossible to obtain pressure water for elevating purposes, as this is a very dry area, with a resultant poor water-supply. No expression of opinion can be given on the possibilities or extent of the deep ground until further drilling is carried out.

Devonshire.

In order to test the extension of the Devonshire deep lead eastward towards the Matakau deep-lead workings the No. 7 Niven drill, using 4 in. casing, was employed from January, 1936, to April, 1937, on Run 223o, Block VIII, Lauder Survey District. During this period twenty-one holes, with a total footage of 1,225 ft., were drilled. The Matakau deep lead, about five miles to the east of the Devonshire deep lead, had been extensively worked, and had yielded good returns until the depth of the workings prevented further profitable work with the water-pressure available.

It has always been considered by the local mining experts that the deep lead is continuous between Matakau and Devonshire, having been covered by hill-slope material from the foothills of the Dunstan Range. This drilling was carried out so that the eastward extension could be traced from the Devonshire end of the field.

The eastward extension was proved for a distance overlain by varying depths of overburden, but drilling operations were suspended before the track of the hidden lead could be fully outlined. The value and width of the lead were not ascertained, as either deep-drilling or prospecting shafts would be required for this purpose.

The results of the drilling campaign proved that the Arrowtown, Waenga, Luggate, Branch Creek, and Galloway areas were of no use from an economic mining point of view. The German Hill drilling proved that deep ground existed parallel to the foothills on the flats in front of the German Hill surface workings, and the Devonshire drilling proved that the deep lead extends toward the Matakau deep-lead workings, being overlain by hill-slope detritus between the surface workings at Devonshire and Matakau.

Reef-prospecting.

During the early years of the scheme all the reefing areas in the Otago Central and Lake County areas were again prospected by small parties of subsidized and other miners, but nothing of importance was located. It was then decided to give the most promising areas a thorough test by means of organized parties of experienced reef-miners under the supervision of practical prospectors acting under instructions from the area mining engineer.

Skippers Creek Survey District.

In March, 1937, a party of four men prospected the reefing systems of the Skippers area under the supervision of Supervisor George Carson. The following line of lodes was prospected by trenching, dollying, and sampling:—The British American (the extension of the Bullendale reef system), Sainsbury Reef, the Canobia, the Eureka, the Mountain Terrace, the Ballarat Creek, Harveys Reef, and Short's Reef.

The samples taken gave the following returns:—

British American	..	..	..	..	..	6 grains per ton.
Sainsbury Reef	..	..	..	..	..	15 dwt. 15 grains per ton.
Canobia	..	..	..	..	..	9 dwt. 2 grains per ton.
Eureka	..	..	..	..	..	6 grains per ton.
Mountain Terrace	..	..	..	..	..	5 dwt. 5 grains per ton.
Short's Reef	..	..	..	..	..	4 grains per ton.

Prospecting-work had to be discontinued on account of the weather conditions, and operations ceased in April, 1937. The results obtained proved that the reefing systems were broken, with small bunches of low-grade quartz in irregular blocks.