

No. 14 Level Drive North: This drive advanced 432 ft., of which 366 ft. exposed reef averaging 15.52 dwt. over a width of 27 in., and reached the northern limit of the main ore body at the Prohibition fault.

The reef in the bottom of the mine continues to show up well.

No shaft-sinking was carried out during the year, but a considerable amount of work was done on the Nos. 11, 12, and 13 levels north to locate and drive on the reef north of the main Prohibition fault, and results obtained were most encouraging.

Ore reserves at the end of the year showed a total of 102,349 tons, being an increase of 10,702 tons over the figure for the previous year.

A new hydro-electric plant was erected near the site of the old battery, utilizing the water previously used to drive the old battery, and was put into commission during the month of May. The 1,000 cubic feet steam-driven compressor at the north shaft was completely electrified, and has been in service since the early part of 1938.

Alexander Mine.—No. 5 intermediate level, 80 ft. above No. 6, was extended the full length of the ore body, which maintained its average width, value, and length of 260 ft. The stopes above this intermediate level have yielded most of the ore milled during the year, and the tonnage treated was 1,096 tons in excess of that milled in the previous year. On No. 6 level the country was found to be much disturbed, and considerable difficulty was experienced in locating the reef. A considerable footage of driving in the lode channel and crosscutting into the foot and hanging walls was carried out before the first block was discovered. This block, although carrying high values, was short and narrow, with a flat dip. A rise from No. 6 was put up on the ore chute, and at a point half-way between the main and intermediate levels the lode was faulted. A sub-level was driven on the fault-line and several disconnected lenses of ore located, but it is evident from the amount of development carried out on and above No. 6 level that the present horizon of the mine is in country that has been subject to strong faulting.

Big River Mine.—The following stoping and development operations were carried out:—

No. 5 Level: A winze was sunk to a depth of 39 ft. on a narrow ore-body which cut out at the depth stated.

No. 6 Level: A considerable distance was driven on the lode channel, but only one small lens of very rich ore was discovered. Crosscutting in the walls of the ore channel disclosed that this level had been affected by earth movements which had displaced the lode between Nos. 5 and 6 levels. Development on this horizon in the earlier period of this mine's history had the same result as the present work and proved that this zone is unproductive. On the small rich chute discovered in No. 6, a rise was put up to connect with a winze sunk from No. 5, but the ore cut out a short distance above the level and the rise will be continued through country rock until the connection is established that will provide an air-course and travelling-way. A winze was started on 12 in. of rich ore exposed in the floor of No. 6 and eventually reached a depth of 74 ft. The width of ore gradually increased until a maximum of 60 in. was disclosed, with values maintained. In order to expedite the development of the ore-body proved by the winze, it was decided to retimber the main shaft down to No. 7 level, and, despite the shortage of skilled labour and inability to work more than a single shift, a depth of 74 ft. had been reached by the end of the year.

New Welcome Gold-mining Co.—A party of five men have driven on hand steel the low-level tunnel a distance of 801 ft. from the portal through hard greywacke. At 450 ft. a lode 60 in. wide was met, but proved to be barren when sampled and assayed. This drive should reach its objective during the coming year—namely, the west reef of the Boatman's main lode.

Lankey's Creek.—Watts and party who operate this mine produced 260 tons of cemented gravels yielding 52 oz. 14 dwt. of gold which realized £438 19s. 2d. A considerable part of their time was spent on development work which became necessary owing to an upthrow fault being encountered, and this increased the difficulties of mining and transport to such an extent that wash worth £1 per ton became unpayable.

Murray Creek Mine.—During the year an overhaul of the winding plant was commenced, a two-stage compound steam-driven air-compressor installed, and a new head-gear erected. No underground work was carried out other than draining the mine and preparing the main shaft for the sinking of another 150 ft. lift.

State-controlled Prospecting Operations, Globe-Progress Area. Perseverance Mine: After the restoration of No. 1 crosscut was completed and the lode in the floor of the main level sampled, a winze was sunk to a depth of 74 ft., of which 60 ft. was on solid reef and the remainder on track with veins of quartz. On No. 2 level a total distance of 719 ft. was driven and crosscut without encountering the lode. In order to facilitate the search, a rise was put up through country rock to connect with the winze sunk from No. 1 and to drive an intermediate level 70 ft. above No. 2. The intermediate level was driven on reef for a distance of 205 ft., and at the north end of the block a winze will be sunk on the lode to No. 2 level and the main level continued until it holes into the winze and then along the reef to its extreme north end.

Golden Treasure Mine: The Perseverance crosscut was extended 1,800 ft. and holed into the Treasure shaft, which was proved to be 308 ft. deep from collar to floor of chamber at No. 3 level. The cleaning-out and retimbering of 650 ft. of No. 3 level was completed, also some crosscuts of old workings were made accessible for the purpose of gaining information concerning the structure of the country. Four hundred and six feet of driving and crosscutting were carried out in the north end of the mine on the lode channel and east and west walls, and entry was effected to some of the upper workings by repairing a rise put up from No. 3 and a winze sunk from an intermediate level situated below No. 2. It was ascertained after examination of the mine above No. 3 that the ore-body of considerable width and unknown length had not been worked to any extent below No. 2 level; consequently, when this ore-body is developed on No. 3 level a considerable tonnage of ore will be available for treatment if values justify it being mined. The development work was carried out by contractors using modern rock-drills.

Grey County.

On the cessation of State subsidized prospecting operations in the Paparoa Ranges and the Moonlight and Langdon's Creek districts at the end of 1938, lode mining came to a standstill in the county, and no activity in this direction has ensued during 1939.

Westland County.

Lode prospecting was carried out at Totara Valley, near Ross, for a short period during the year, and no discoveries of economic importance were recorded. At the Seven-mile and in the Taipo Valley a party of men are engaged in prospecting lodes in the district.

Greenland Gold, Ltd., Mount Greenland. The new company installed additional treatment plant and treated a small tonnage extracted from stopes that were accessible when the claim was taken over. No development work was undertaken during the company's period of activity, and the mine closed down in August and has not resumed operations.

DREDGE MINING.

Mataki Dredge, Murchison County.—This dredge, using 7-cubic-feet buckets, is one of the two steam-powered dredges out of a fleet of seventeen operating in this district. Dredging operations continued upstream in ground averaging 17 ft. deep.

Mataki Junction Dredge, Murchison County.—This Diesel-electric dredge working in ground of an average depth of 20 ft. dredged 681,000 cubic yards using 6-cubic-feet buckets.