Four-in-hand Gold-mining Company.

7th August, 1911: W. Jones, leg broken through slipping on ladder.

Old Hauraki Gold-mining Company.

10th May, 1911: H. Colthurst, leg broken by fall of ground.

Rising Sun Gold-mining Company.

2nd November, 1911 : Thomas Goldsworthy, had his leg broken by a fall of ground.

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MATTHEW PAUL, Inspector of Mines.

I have the honour to present my report on the gold-mining industry in the Thames district for the year ended the 31st December, 1911.

May Queen Mine (W. Baker, mine-manager).—No. 10 (1,000 ft.) level (Thames-Hauraki shaft): Work at that level has chiefly consisted of driving on the Queen of Beauty reef, and crosscutting to intersect the Bright Smile lodes. Driving has also been done on the Exchange reef. The Queen of Beauty reef was driven on for 300 ft. in a southerly direction, when the reef pinched to a few inches after having maintained a fairly uniform width of 4 ft. The ore is heavily mineralized; but the indications were not favourable, and a crosscut was then driven a distance of 375 ft. in the direction of the old Bright Smile Company's shaft. So far no reefs of a payable character have been encountered, although the country passed through appeared favourable. The temperature in this crosscut is always high, averaging about 80° Fahr. (dry). The ventilation is, however, good, being maintained at the rate of 200 cubic feet of air per minute per man. The Exchange reef, which was cut through by the main deep levels crosscut, has been driven on for a distance of about 270 ft. The ore for the whole length has been gold-bearing, and a little picked stone has been occasionally secured. The drive is timbered, and stoping is now being done. With a view to testing the value of the ore-body, a rise is being made to connect with No. 9 (747 ft.) level, a distance of 253 ft. This will also provide a second means of exit from the deep levels. The temperature in the drive is 80° Fahr. (dry), and the number of cubic feet of air per minute per man is 171. No. 6 level (750 ft.) (May Queen shaft): Stoping is being done on the quartz leaders on the walls of No. 4 reef, which reef has been worked out at this level. The working-places were found in good order by me. The temperature was reasonable, and the ventilation adequate. During the year the company treated 456 tons 1 qr. 23 lb. of quartz and specimen-ore for a return value of £1,971 118. 8d. Twenty-five men were employed.

Thames Deep Levels (E. Cartwright, manager).—Good progress was made with the extension of the crosscut, which has now passed through the May Queen and Saxon grounds, and entered the Moanataiari Claim. The distance driven at the end of the year was 1,591 ft., made up as follows : Main crosscut, 1,241 ft.; subsidiary crosscut for the Saxon Company, 350 ft. The drive has passed through some very hard country. Since the installation of the Roots blower the ventilation has been very satisfactory, the quantity of air delivered in the face of the drive being at the rate of about 300 cubic feet per minute per man. The temperature averaged about 80° Fahr. (dry), and 78° Fahr. (wet). An analysis of the mine-air in the return gave as follows :  $CO_2$ , 0.55 per cent.; oxygen, 20.89 per cent.

Thames-Hauraki Pump.-A. C. MacDiarmid (Manager and Engineer to the Thames Drainage Board) reports as follows: "During the year just closed the whole of the machinery has run in a most satisfactory manner. We have had no serious breakdowns or accidents. The most important incident was the discovery of fractures in the teeth of the large cast-iron pinion-wheel on the pumping-engine. In order to preserve the life of the pinion, we have lined up the engine crank-shaft, so as to take the stress off the portion of the pinion where the fractures have occurred. In January a new pulley, larger than the previous one, was installed at the collar of the shaft, to receive the capstan-rope ; by so doing, the life of the capstan-rope should be materially extended. In August the capstan-rope was replaced by another, which is giving every satisfaction. One of the large quadrants at the collar of the shaft was lifted out of its bearings, and its journals and bearings were overhauled and adjusted. The four bearings at the top ends of the pump-rods were opened up and adjusted, new oil-grooves being cut in all the brasses. The levers, links, and brasses, on the high-pressure valve-gear were overhauled, repaired, and adjusted. The links and brasses of the main air-pump were overhauled and adjusted. The main air-pump was cleaned out and overhauled, new valves being fitted wherever necessary. The slide valves of the high-pressure engine were examined and reset, and the condenser was washed out. One set of new brake-blocks was fitted to the winding-engine, and several small repairs were carried The cross-head brasses of the blower-engine were overhauled and adjusted, and several other out. small repairs were attended to. During the year ten pump-valves were changed and repaired, and on five occasions draw-lift buckets were changed and repaired. The speed of the blower-engine was forty revolutions per minute at the beginning of the year, but at the end of the year it was 200 revolutions per minute. At different times during the year the capstan and blowing-engines and the three cages were thoroughly overhauled and repaired."

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