

The United Italy Mine.—This is a leader claim worked by six tributers. They had two crushings during the year, and obtained 484oz. of gold from 140 tons of stone. They are now driving a low-level tunnel 600ft., which will take about ten months to complete, when they hope to strike the leader which paid them for their labour three months since.

The Tyrconnel Mine.—Another leader claim held by a party of three lessees. Six men are employed driving a tunnel. They have driven 1,000ft. during the past eighteen months, and have struck several leaders, none of them payable. They have to drive about 350ft. further, when they hope to strike the leader which yielded 5oz. to the ton eighteen months ago.

The Cræsus Mine.—This is also a leader claim, owned by the lessees of the Tyrconnel Mine. It is let to a party of two. They had two crushings during the year, but only obtained 6½dwt. to the ton, and, therefore, not payable.

With regard to alluvial mining in this district there is little to report. Very few miners are obtaining payable gold, chiefly owing to the long spells of dry weather during the last six months preventing the working of the claims for want of water.

MURCHISON.

The Mammoth Hydraulic Sluicing Company.—This company hold a special claim of 100 acres at Moonlight's Point, Matakītaki Valley. After prospecting the ground, and being satisfied as to its value, the company proceeded with the survey of the line of the necessary water-race. To insure a permanent and abundant supply, it was found necessary to tap the Matakītaki River, and, as the terraces proposed to be worked are most of them over 100ft. above the river-bed, the head of the race had to start some ten miles up the river to obtain sufficient elevation. After clearing the bush and surveying the line of race, in October last the first contract was let, and the first seven miles was rapidly carried on, when it was discovered that the line encroached on private property, and, as the owner would not allow the work to proceed unless the company paid what was considered an exorbitant demand, a block occurred. The company then decided to pick up the water from the side creeks along the portion of the race already cut, and proceed with the works, pending the settlement of the dispute. As some 70,000ft. of timber was required for fluming, &c., it was found necessary to erect a sawmill. This was done on the 25th of January, and the timber- and earth-works were completed; but sluicing could not be started, as, owing to the state of the road, the carriers refused to convey the necessary plant to the site of the proposed commencement. After some delay the County Engineer had some repairs executed, so as to enable the lighter portions of the plant to be carted up, and sluicing was started during the day only, as it was considered unsafe to work a new face at night. The company are now working three shifts. The length of the race constructed is seven miles; it is 6ft. wide, and 2ft. 6in. deep. Of this portion there are 52 chains of flume. At every section of flume there is a check-gate, by-wash, and overflow, so that no matter what quantity of water comes into the ditch there is no danger to the race, as all extra water spills at the check-gates. The flumes are 5ft. 10in. wide by 2ft. 10in. deep. At present only a 15in. main-pipe is being used, but as soon as the road is made passable an 18in. pipe will be used. The complete plant consists of 18in. diameter main of twelve-gauge riveted steel pipes and angle-iron flanges. Two lines of 15in. diameter sub-mains branching from these supply-pipes of 11in. diameter. The sluice-valves are on the 11in. lines, and are top-screw valves, single-faced, with revolving steel nuts outside. The hydraulic giants are 10in. waterways; the body consists of two 90° bends, bolted through centres with a steel centre-bolt, the flange being fitted with a recessed swivel-joint; this combination gives a full circular sweep to the tool. In the outlet portion of the giant is fitted a socket-joint; into this is fitted a hollow ball-joint, to which is attached the water-tube of the tool. Thus the whole combination gives a tool which, with full pressure on, can be swung round in a complete circle, and in addition can be raised and depressed to an angle of 75°. The water-tube has a threaded terminal, so that jets of any size up to 5in. diameter can be screwed on. Two jets are being used, 4½in. and 3½in. diameter, and in addition a head-race over the face carrying six heads of water. The sluice-boxes are 4ft. wide and 2ft. deep. The head-boxes are laid with angle iron ripples on cocoanut-matting. The lower portion of the run is laid with wood blocks 12in. by 12in. by 8in. Between each row of blocks is a 1in. slot; thus the blocks have a space of 1in. between the rows. These spaces being 6in. deep form a good catchment. The terrace now being worked consists of a varied class of drift. There are two layers of heavy wash, one on the top of the terrace and the other about 60ft. down. The top layer is about 8ft. thick, and the lower about 6ft.; between these two layers is a deposit of finer gravel. The two heavier layers carry much coarser gold, the other carrying a very fine gold, quite as fine as the Charleston black-sand gold. This very fine gold has not been found before by the miners in this locality, which is no doubt due to the fact that by their methods of working they cannot save it. The whole of the exposed face of wash seems to carry the gold very evenly right through. There has been no washing up yet, but from the appearance of the ripples and prospects tried from the blocks there is promise of favourable results.

There are several claims ground-sluicing on the flats below the Mammoth Claim; and all appear to be doing well. On the other or south side of the river opposite the Mammoth Claim, is the Tyrone or White's Claim, which is worked on the hydraulic principle. The face of gravel is over 100ft. high—very fine wash, in which one can scarcely see a colour when trying a prospect, in spite of which a good sample of gold is obtained on washing up. The race is 2ft. wide, 1ft. 6in. deep, and heads from Wheeler's Creek; pipes, 16-gauge; telescope-tubes, 8in. in diameter.

About a mile below the Tyrone Claim, McDowell Brothers are sluicing with water brought from the Glenroy River, about two miles and a half. The race is 2ft. 6in. by 1ft. 3in. Their methods of working are somewhat crude, being too fond of shifting face, whereas the one necessity for working low-grade gravel profitably is continuous and systematic sluicing.

Several small parties are working up the Glenroy River, and there are a good many Chinese working the Matakītaki River beaches.