

fathom, and \$9.72 per ton of ore. The thickness of the bed at this point was $10\frac{1}{2}$ feet, — $2\frac{1}{2}$ fathoms. Consequently a square fathom of the bed contained 6.54 tons of 12 per cent ore, and cost \$26.73. The limestone in No. 5 shaft generally maintained a dip of from 70° to 80° , and the character of the ore was principally that described by Sir W. E. Logan, as above quoted. The richest specimen assayed from this shaft contained 41.2 per cent copper, and 19.2 per cent of silicious matter. It was not altogether free from limestone. The strike of the bed of limestone from shaft No. 4. to No. 5. is N. 34° . E. Friction grooves have been observed at the junction of both the foot and the hanging shale with the limestone. These generally dip to the west at an angle of about 50° . In August and September, No. 5 shaft was further sunk fifteen feet, thus reaching a depth of ninety-one feet. The ground between the shaft and the fault above noticed was also stoped out. It was poorer than that previously excavated, but the thickness of the bed increased to twenty-four feet.

Immediately to the west of Flowers's pit, there appears to exist one or more powerful faults, which have thrown the cupriferous limestone 140 feet to the right hand. These are indicated on the map, from which it will be seen that the principal one has a direction of about east and west, and comes in at the east end of Harvey's pit, where the evidences of the existence of this right hand throw are very striking. It is worthy of remark, that a great accumulation of rich ore was excavated from Flowers's pit, at the point where this fault intersected the one described as occurring in the drift to the west of No. 5; traces of this are also to be found on the surface. These faults, the existence of which was, I believe, first pointed out by Principal Dawson, will doubtless be found to influence considerably the ore-bearing qualities of the limestone bed.

Harvey's pit is the next open working to the west of Flowers's pit. On the surface it has a length of one hundred, and a breadth of eighty feet. The following is a section of the working, at right angles to the direction of the strike; from which it will be seen that the same relations exist here as in Flowers's pit, so far as the architecture of the limestone and the underlying shale is concerned:—

The same contraction in the thickness of the limestone is visible