water proved too much to contend with, which has since led to a tunnel being driven from the face of the hill, to cut the reef at a lower level. A Melbourne company has lately purchased the ground, and constructed another level about 120ft. deeper. From the appearance of the reef and the trial-crushings made, it is likely to prove a valuable find. A crushing-battery of ten heads of stamps is in course of erection near the mine.

ANTIMONY-MINING.

Endeavour Inlet Antimony Company, Queen Charlotte Sound, Nelson.

This company holds a mineral lease of 812 acres at the head of Endeavour Inlet, Queen Charlotte Sound. Antimony was discovered here several years ago in loose detached blocks in the sides of the range and in the beds of the watercourses. Of late years the ore has been found *in situ*, and the lode worked in the range between the head of the Inlet and Port Gore. At the time of my visit, which was on the 23rd December last, the company had suspended mining operations for the holidays, and the manager informed me that the principal workings were blocked up, so that I could not see anything; but he explained to me the character and dimensions of the lode, and from what I saw of a portion of the workings there is no reason to suppose but what the information I received was correct.

The range through which the lode goes through is about 1,600ft. above the level of the sea. On the top, where the lode crops out, the ore occurs in the form of valentinite, but in getting deeper it changes into stibnite. Where the white oxide occurs the country is generally soft and broken, but where the rock gets compact the lode changes into sulphide of antimony. A tunnel has been driven through the range at 275ft. under the crown, and 1,000ft. of the lode driven upon. On each side of the range for some distance the lode is broken and partially decomposed, with a mixture of stibnite and valentinite; but for about 300ft. under the centre of the range, and for 100ft. in height above the floor of the tunnel, the lode is compact and contains nothing but sulphide. The lode varies in width, getting narrow in places, then widening out into bunches; but, taking the average, it would be about from 18in. to 2ft. wide. It runs in a northerly and southerly direction, having a slight underlie to the eastward. The lode has been stoped out from the tunnel to near the surface. The manager expects to have the whole of this level stoped out by the end of March.

The company have commenced to construct another tunnel about 250ft. under the level they are working on. This tunnel is only in 40ft., and they expect to cut the lode at about 20ft. further. I have since learned that the lode has been cut at the point where it was expected to be intersected, and contains very rich ore. From this tunnel downward the whole face of the range facing Endeavour Inlet appears to have been a slip. The surface is broken, and large loose blocks of almost pure sulphide of antimony are mixed among the soil and loose disjointed rock. In some places these loose blocks form a continuous flat seam up the face of the range. It is evident from the appearance of this slip that there is a large lode of good ore not far distant. Whether these loose blocks have come from the lode the company is at present working on is a question that has yet to be solved; but the large quantity of this loose ore on the face of the range, about 450ft. above sea-level, will pay for working. The company propose to work this ore by sluicing away the soil.

A head-race has been cut from some of the creeks that fall into Endeavour Inlet, so as to get water on the ground to accomplish this object as soon as the rainy season sets in; which seems to be the best thing the company could do, as it will be the cheapest method of getting the ore, and it will also be the best way of tracing the ore up to the source where it came from.

The ore is taken from the mine to the reduction-works by a tramway of about a mile in length. There are three different grades in the tramway on the face of the range, each of which is worked by a brake. These brakes are very efficient, easily worked, and cheaply constructed. There are two vertical pulleys, with a groove for a steel-wire rope thereon, 4ft. 6in. in diameter, having a flat rim on the one side of the groove for the brake-band to clutch. The pulleys are placed 4ft. 6in. apart, and under these there is another pulley of same dimensions fixed horizontally. The wire-rope goes round the horizontal pulley and over the pulleys which stand vertically. One end of the rope is coupled to the empty truck, and the other end is coupled to the full truck. This method allows the rope to work very smoothly on the pulleys, and is a great improvement on the rope working round a drum, as there is no jerking of the rope by coiling or uncoiling, as is the case at the Westport Colliery Company's inclines. The brake-bands on each of the vertical pulleys are coupled together by a rocking-shaft and cranks, and worked by one man, who can easily lower by this means a truck containing 25cwt. of ore. These are, without exception, the best designs of brakes that I have seen used in the colony in connection with mining.

Dressing-works.—The ore, on arriving at the reduction-works, is hand-sorted and put through the stone-breaker, after which it is taken direct to the smelting-works, and smelted in crucibles with the necessary fluxes; but poor ore has to undergo a different treatment. The whole of the ore is run down from the mine on a tramway, and dumped out of the trucks on to the sorting-floor. The rich ore is first taken out as previously stated, and the remainder is put through the stone-breaker, and from this goes on to an assorting inclined shaking-table, which has a perforated bottom with holes of three different sizes, the finest holes being next to the upper end near the head, and the largest at the lower end. The table has a lateral shaking motion of 6in. throw, and goes at 250 strokes per minute. The stuff coming from this table is caught in three different chutes, which run under the table crosswise. By this means the ore is assorted into three different degrees of fineness, the largest being what would pass through a half-inch mesh. From this it goes through a pulverizer, which reduces it fine enough to pass through a mesh of sixty holes to the inch. On leaving the pulverizer the ore passes over two sets of jigs, each about 5ft. long and 2ft. wide, after which the gangue is carried away in a chute, and again put through another jig, which is 10ft. long by 2ft. wide. After passing through this process, the gangue and slimes leave this jig and are stacked for future treatment.