

trace; silver, 9.3 oz.; copper, 1 per cent. This sample was not assayed for iron. Another sample from the dump at the collar of the shaft taken for the purpose of showing the copper content assayed: Gold, trace; silver, 1.6 oz.; copper, 0.2 per cent.; iron, 26.2 per cent.

On the first level there is an open-cut, the dimensions of which are 60 feet long on the strike by about 30 feet wide by 35 feet high at the face. This cut exposes a solid body of magnetite associated with some little chalcopyrite and iron pyrites in a garnetite gangue. A considerable proportion of this ore will carry about 1.5 per cent. copper content, and in places could be sorted up to about 3 per cent. copper.

The second level is opened 40 feet above the first and a short distance west of a straight line up the hill, where there is an occurrence of magnetite about 300 feet long by 80 feet wide. The workings are an open-cut 60 feet north to south and 30 feet east to west, with its face nearly 100 feet wide, and an adit driven northward from the open-cut 22 feet long in magnetite. This level is connected with tide-water by a gravity-tramway that was used some years ago when active mining was being done. Several thousand tons of magnetite was shipped to the Irondale blast-furnace for making pig-iron, and the portion of the ore with copper content was sorted out and shipped to some of the copper-smelters on the Coast for fluxing material.

Average samples of magnetite from the second level assay:—

	Lindeman's Sample.	McConnell's Sample.
" Iron	64.30 per cent.	62.57 per cent.
Sulphur	0.303 "	0.403 "
Phosphorus	Not determined.	0.024 "
Insoluble matter	Not determined.	6.46 "
Copper	0.14 per cent.	Not determined."

A shipment of 600 tons of magnetite made about 1885 to the Irondale blast-furnace assayed: Iron, 65.7 per cent.; phosphorus, 0.083 per cent.

The third level is opened at 520 feet elevation by a large open-cut made in magnetite, which shows much less copper and iron sulphides mixed with the magnetite than on either the first or second levels, and is of superior quality for iron-making. This open-cut is made along the strike of the ore; it is 50 feet wide by 100 feet long by 50 feet high at the face. This lens of magnetite on the surface is apparently about 300 feet long, or about the same length as on the second level.

Garnet, hornblende, epidote, and calcite are the non-metallic impurities that occur with the ore on all the levels in varying quantities; these minerals are usually found at and near the boundaries of the occurrences of magnetite, and less frequently in the interior of the mass or lens.

Higher up the mountain, northward from the third level, other large outcroppings of magnetite occur. Two of these are at 640 feet elevation and are in the same contact as the main mass lower down the slope. The third occurrence is at 820 feet elevation and has formed entirely in limestone; it appears to be separated from the main ore-body by a mass of coarse crystalline limestone, in which a number of apparently small irregular lenses of magnetite occur.

There are also outcroppings of magnetite west from the main workings on the *Prescott* mine, along the limestone-diorite and limestone-porphyrity contacts, on which no work has been done.

This mine is about 3,300 feet eastward from the *Prescott*, and **Paxton.** the line of the limestone-diorite contact is traceable between the two mines, but very irregular. The diorite gives place to porphyryrite near the west boundary of the *Paxton* ore-body, which, though, occurs in the quartz diorite near its contact with porphyryrite, and very near the limestone, but not in the immediate contact.

The *Paxton* mine has been developed by open-cuts and short adits on about the same level as the collar of the shaft on the *Prescott* at 290 feet elevation. The