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SAMPSON'S OCHRE DEPOSITS - SMITHTON

These deposits are situated North East of Smithon, near the mouth of Deep Creek. The deposits are so interesting geologically that they are worthy of record. Only a few mineral springs are known in Tasmania outside the Smithon district. In addition to the above, thermal springs have been recorded from Hastings and the Scamander River.

NATURE OF DEPOSITS:

The Smithon ochre deposits are very young geologically and are of Pleistocene age or even younger. Mr. Sampson's workings are on a small mound with a maximum elevation of 15 feet - 20 feet, on the edge of the swampy ground just above tide level.

Of the two small quarries, the larger is 25 feet by 10 feet by 6 feet deep, while the smaller one would only be half that size.

One of the most interesting features is the relationship of the mound and the mineral springs. Mineral springs are very abundant in this locality, and the one near the top of the mound is very strong and is sufficiently pleasant to the palate to be used as mineral water.

Drains from these springs become choked with iron deposits which in color and fineness cannot be distinguished from the material being mined for ochre. This material is brown in color and very fine in texture, and is probably an ochreous ferric hydroxide. The general type of the spring is thus chalybeatic.

SUCCESSION OF BEDS:

The six foot section of the quarry face shows at the base a bed of peat two feet six inches thick. Beneath this, but not exposed, is a more solid layer of what is probably sand. Above the peat are bands of "ochre" (similar to very fine grained mudstone) several inches thick intercalated with bands of sand.

This sequence is rhythmically developed in the face, although the thick peat layer is not repeated. The thin black impersistent facings above the sand seams may indicate an approach to the peat-forming conditions.

The normal sequence is also disturbed by the development of a three inch band of ferruginous limestone.

In the small trenches draining the workings, an accumulation of Carbon Dioxide occurs under certain conditions, and care will have to be exercised to prevent an excessive accumulation of this gas. The quantity of Carbon Dioxide discharged from the spring is sufficient to fill any hollow with no outlet which is below surface level.

FORMATION:

The mound is a spring mound, that is, one formed by the precipitation of sediment from mineral springs. These springs contain iron and other bicarbonates in solution to

the point of saturation in the presence of Carbon Dioxide. This gas escapes on reaching the surface and so the minerals are deposited as carbonates or hydroxides.

The story of the formation of the mound is not as simple as this. The succession of layers of peat, ochre, and then thin layers of sand, points to oscillatory movements of land and sea - the peat representing low level marshy conditions, the ochre, periods when the springs could deposit their sediments above the surface of the peat swamps, and the thin layers of sand the sinking of this land to allow the accumulation of sand.

The beds in the quarry, which is on the north side of the mound, dip up to five degrees to the north, but until additional openings can be inspected, it cannot be stated whether the dips radiate from the spring.

"OCHRE"

The "ochre" assays up to 72% iron oxide, but when mined contains up to 40% moisture. The ore is mined and placed on drying racks which reduce the moisture content to 18% - 27% after one month to six months drying.

The mining is very easy, and the fine nature of the deposit renders grinding practically unnecessary. The colour and fineness are so constant that the deposits have an added value in the market for raw materials for paint manufacture.

Apart from the utilisation of the sediments as a source of ochre, the spring mound and associated mineral springs are worthy of development as tourist attractions.

Mineral springs are always of interest to tourists, particularly when they may be of some value medicinally. The benefits obtained from these springs depend to a large extent on how much can be consumed with no ill effects. From personal experience, it can be stated that large quantities can be consumed with no harmful results, so that the springs can be regarded as being suitable for human consumption. The water is serated and is quite pleasant to the palate.

The attention of the municipal authorities at Smithton should be drawn to these springs, and of their possible interest to tourists. Analyses of the water and the gases might reveal interesting information regarding their properties, and samples should be collected for this purpose.

Apart from the potential value as an attraction to tourists, the springs could be the foundation of an aerated water industry. The flow of water and the amount of included gas, is sufficient to justify the establishment of such an industry, which would be a decided asset to the district.

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