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REPORT ON BATTERY BAY ALLUVIAL TIN DEPOSIT - CAPE BARREN ISLAND.

Geographical Position

Cape Barren Island is the second largest of the Furneaux Group of Islands at the eastern entrance to Bass Strait. Flinders Island (the largest of the group) lies about 10 miles to the north of Cape Barren Island. The channel separating these islands is known as Banks Strait which is navigable to small trading boats. Several smaller islands lie between Flinders and Cape Barren Islands. The latter is 25 miles by 10 miles at its widest points its longer axis having an east west meridian.

Access

Access to the island is by the small State owned steamers trading from Launceston making fortnightly trips, calling regularly at the North West Corner at which place is a small settlement on the half-caste reservation.

The population of the island does not exceed 150 inhabitants. Shipping facilities at the island are of a primitive character there being no jetties for landing or shipping cargo, which is lightered in small boats. There are numerous small partly sheltered inlets on the coast line and a landing at almost any point can be effected in a small boat under moderately fine weather conditions.

History

It is many years since tin was discovered on the island. Some fifteen years ago small areas of alluvial ground were worked for tin on the northern and southern sides of Mt. Munro. Some boring work was also carried out to test the alluvial areas, the results of this work, which was on a limited scale, is stated to have been satisfactory.

In the aggregate a fair tonnage of tin oxide has been shipped from the island, but information respecting the approximate quantity is not available.

Location

This deposit extends to the shores of Battery Bay - A small indentation on the south coast of the island. Clarke Island lies a few miles to the south. The nearest point to the latter is distant 2½ miles. The proximity of Clarke Island affords shelter in stormy weather. Preservation Island and several smaller islands adjacent to it lying a few miles to the west between Clarke and Cape Barren Islands also assist in protecting the coast line of the latter at Battery Bay and several miles to the westward from heavy weather.

Access

The most convenient and direct method of reaching Battery Bay is by boat. In fine weather a landing from small boats can be effected at many points in the vicinity of the bay. Small trading boats in moderately calm weather can approach within a short distance of the shore. The vicinity of Battery Bay can also be reached by landing on the Island at the Corners at which point the Tasmanian State Steamer regularly calls when on periodical trips to the islands

of the Furneaux Group. From the 'Corners' an unformed cartroad is followed for a distance of 5 miles, the remaining distance of 5 miles is by track along the coast line. The route traversed by road and track is practically level.

Alluvial Tin Deposit

The alluvial tin deposit of Battery Bay is exposed in cliff or escarpment 10 ft deep along the sea shore on the eastern part of the bay over a distance exceeding half a mile. From the sea front the area extends as a practically level plain for a considerable distance inland occupying an area of several hundred acres. The limits of the tin bearing area can be determined by boring only, which can be carried out with little difficulty on the terrace from the sea shore inland. On the western extremity of the deposit at the sea front a small stream enters the bay flowing from a northerly direction. At a distance of a few chains from its mouth, some sluicing work has been carried out on the eastern bank. The wash here consisting of fine quartz gravel intermixed with small quantities of clay shows a face about ten feet deep. The wash dirt is associated with large rounded granite boulders measuring up to several feet in diameter. The depth of drift is about 10 ft. the workings are of limited extent and being situated practically in the channel of the creek it is not surprising to find large water worn boulders amongst the alluvial material. A short distance eastward on the flat ground extending in that direction some boring is said to have been carried out, when a considerable depth of drift was passed through free of boulders. On the sea shore facing the bed of wash dirt a few scattered rounded boulders of granite are lying about. Owing to the fine loose nature of the drift considerable inroads have been made by the sea on the coast line. The denuding action of the waves in breaking down the drift and levelling it on the foreshore has resulted in forming a shallow sea bed at that point for a considerable distance out from high tide marks. Atmospheric agencies have a tendency to consolidate the exposed face of the gravel wash, numerous large lumps of the partly cemented material are strewn along the sea shore at the foot of the cliff. It is very evident from an examination of this deposit that a general subsidance in the land surface has occurred subsequent to the disposition of the drift. To what extent in relation to the present level of the sea remains to be investigated. In no place along the foreshore would any evidence be seen that would give a clue as to probable depth of the drift below high tide level. A few bore holes put down above the latter at the foot of the escarpment would prove the depth below sea level. The sea beach fronting the face of drift is covered by a depth of about a foot of loose beach sand, below this tin bearing dark coloured drift occurs. A dish sample washed from the latter material gave a return equivalent to 2.24 of tin oxide to the cubic yard, the coneentrate assaying 32.08% metallic tin. The low result is due to the presence of titanic iron which is widely distributed in association with the tin oxide occurring on the south side of the island.

Economic geology

The tin bearing alluvial deposits which occur on the island represent the waste material eroded from the granite

peaks and subsidiary hills which occupy a large area of the land surface. The highest peak is Mt. Munro on the north east which rises to a height of 2,345 ft above sea level. The foothills to the south east of this mountain known as Lode Hill and Double Peak are composed wholly of tin bearing granite, also the lower peaks to the south east fronting Battery Bay. The hills slopes as a rule are steeply inclined, the disintegrated material being carried down by action of water and deposited on the low lying flat area extending from the sea shore to varying distances inland, in some cases for several miles over a wide area. These flat areas of ground which around the coast line are dissected by granite ridges afford lodgement for drifts swept down by atmospheric agencies from the higher country.

The drift consists for the most part of fine rounded quartz pebbles intermixed with a small quantity of clay. The largest sized pebbles would not exceed 1 inch in diameter. A regular distribution of titanic iron occurs with the tin oxide both these minerals being black in colour are not readily distinguished. The average grain size of each is about 1/32 inch.

Timber

The flat country of the island is sparsley covered with timber. In the valleys near the base of some of the mountain slopes are some limited areas of good forest land, generally speaking, however, the island may be described as being almost treeless. What forest areas there are, they occupy the most inaccessible parts of the island.

Water

The supply of water from streams is very limited, in the summer months very little water flows in the creeks. The catchment area being comparatively very small and the land surface limited, the area is not sufficient to maintain running streams in the dry seasons. The average rainfall throughout the year is slightly under 30 inches as recorded at sea level on the north west of the island. Probably, in the vicinity of Mt. Munro the above average would be exceeded.

Summary and Conclusions

The Battery Bay alluvial deposit is conveniently situated for working by dredging from the sea. The channel lying between the island and Clarke Island is very well sheltered from storms. The facilities generally are favourable for transportation to the Bay by sea. Small supplies of fresh water can be relied upon in the vicinity throughout the year. Climatic conditions are very mild.

The deposit is one well worthy of investigation by boring in order to obtain data regarding its extent and value. The results of a few scout bores would give sufficient data as to enable an opinion to be formed, if closer boring is warrented.

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