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BEACH SAND INVESTIGATION

REPORT FOR MONTH ENDING 30TH NOVEMBER, 1947

by

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SOUTHPORT, QUEENSLAND.

9th December, 1947.

The Chief Geologist.BEACH SANDS INVESTIGATION.Report for Month Ending 30th November, 1947.1. GENERAL.

1947/88

(A) Equipment. Various items of drafting equipment and camping gear were obtained towards the end of the month in Brisbane through the Department of Supply and Shipping. The small Jap theodolite was picked up at Greenfield's where it had been left for adjustment. A plane table with tripod and a telescopic alidade was borrowed from the University, Geology Department. Arrangements were made to obtain Jeep C55198 with trailer C55191 from the Queensland Geological Survey. The two post-hole diggers were fitted with $\frac{1}{2}$ " pipe extensions.

(B) Student Work. A programme of vacation work for students was drawn up. A list of equipment required was forwarded to Mr. Griffith, Department of Supply & Shipping, Brisbane.

(C) Visitors. On the 13th Dr. Dunn visited the Southport laboratory. He was taken to various beach workings and separation plants. On the 19th Messrs. Nunan and Griffith of the Department of Supply & Shipping, Brisbane, visited the Southport laboratory. They inspected the equipment we have here and were taken to some separation plants and beach workings.

(D) Vehicles. Jeep C 55124 was obtained on the 17th from Brisbane where it had been left to be painted, re-covered, re-upholstered and fitted with side curtains. The Jeep can now be used in any weather. Jeep C 55127 was left in Brisbane for painting re-covering etc. Chev C 49124 was taken off the road on the 24th November because of a breakdown of the tail shaft bearing and pinion in the differential. (Up to date, the 9th December, the pinion has been replaced, but not the bearing. The truck will probably be off the road for some time yet. Jeep C 55198 with trailer C 55191 was borrowed from the Queensland Geological Survey on the 1st. December).

(C) Samples of Monazite Bearing Concentrates and Tailings. These were obtained from Associated Minerals Pty., Southport; Mineral Deposit Syndicate, Southport; Rutile Sands Pty., Currumbin; Tweed Rutile Syndicate, Cudgen; Titanium Alloy Mfg. Co., Cudgen; and Metal Recoveries Ltd., Mooball and New Brighton. About 3 lbs. of each was forwarded to O.T. Lempriere, Sydney; and Norman Hill, Sydney.

(D) Assistance to Companies. On the 12th November the output of rutile from A.M.P.'s first electrostatic separator was determined. The mineral composition of the rutile concentrate and of the zircon concentrate from the separator was determined by micro-counting.

2. STAFF.

Mr. Cuthbert was engaged principally in field work with a little drafting. He assisted in laboratory work, mainly panning, weighing and electro-magnetic separation.

Mr. Ward continued with laboratory work, doing practically all of the micro counting, and some panning, weighing and electromagnetic separation. Mr. Traves left Southport on Tuesday morning the 10th.

Until then he had assisted mainly in laboratory work and, to a lesser extent, in field work.

Mr. Dimmick commenced work in Southport on Tuesday the 18th. He was engaged partly on laboratory work, including micro-counting and partly on routine field work.

Mr. Page has attended to correspondence, typing, receipts and recording of samples and furnishing of monthly returns of vehicles maintenance costs, petrol usage, stamp usage, petty cash etc. He has started to compile an inventory of equipment.

3. FIELD WORK.

(A) Sampling of plants. The following plants were sampled:- T.A.M. Cudgen; T.R.S., Cudgen; M.D.S., Mooball; Z.R.L. Beach Tables, Seven Mile Beach.

(B) Sampling of Workings. The working faces of the following companies were sampled:- T.A.M. Coy., Cudgen; T.R.S., Cudgen; R.S.P., Tugun Beach; M.R.L., Crabbes Creek Beach; Z.R.L., Seven Mile Beach.

(C) Mapping and Levelling. When working faces of deposits were sampled (see (B) above), the sites were plotted by plane table and levelled. Where the deposits were adjacent to the beach, spot levels were determined for the purpose of drawing the profile of the land surface from H.W.M. to the top of the foredune. These profiles will be continued westward in conjunction with our own boring at a future date.

A day was spent on the contour survey of Z.R.L. leases, Tallow Beach, in order to show Mr. Dimmick the area and to acquaint him with the work which has been done. Mr. Dimmick will continue the work with one or two students early in December.

4. DRAFTING.

(A) General. The electromagnet set up as described in the report for October was used continuously during the month with very satisfactory results. A higher field strength would decrease the time required for magnetic separation. The magnet was fitted with a foot switch to facilitate operating it and to save current. A buzzer coil has been obtained to experiment with vibrating the platform of the separator, but has not yet been fitted.

A hot plate, 26" x 16" has been obtained for drying samples of concentrate. This has eliminated loss of time in fuelling and attending to the wood stove which had been used previously. The cost of using it will probably be less than the cost of the wood stove, because once the plate has heated the switch is turned to "low".

(B) Report by J. Ward. During the period work was completed on the Mines Department samples from North Stradbroke Island and from Moreton Island. This work consisted of measurement of the weight and volume of the dry samples, panning to obtain a concentrate, drying the concentrate and then measuring the volume and weight of the dry concentrate. The ilmenite together with some garnet, monazite and other minerals (mostly tourmaline and leucoxene with a little epidote) was removed by the electromagnet from a weighed portion of the sample. The magnetics were weighed and the mineral composition of the magnetic and non-magnetic fractions was obtained by micro-counts.

Other determinations made consisted of grain counts on the magnetic tails from the plants of Metal Recoveries (Mooball) and New Brighton; T.A.M. Coy; Tweed Rutile Syndicate and Mineral Deposits Syndicate; and on the products from the electrostatic separation from A.M.P., Southport. Determination of the mineral content of a sample from Mr. Scott-Moffatt at Lennox Head was also made.

(Sgd.) D.E. GARDNER.
Geologist.