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COMMONWEALTH OF AUSTRALIA.

DEPARTMENT OF NATIONAL DEVELOPMENT.
BUREAU OF MINERAL RESOURCES
GEOLOGY AND GEOPHYSICS.

RECORDS.

1962/187



SUMMARY OF ACTIVITIES 1962

RESIDENT GEOLOGICAL SECTION - PAPUA AND NEW GUINEA

by

G.A. Taylor

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The Resident Geological Section attached to the Administration of Papua and New Guinea operates from three centres.

(a) a headquarters office at Port Moresby staffed by:-

Senior Geologist	(G.A. Taylor)
Geologist Grade III	(G. Brouxhon)
Geologist Grade I	(L. Hamilton)

(b) an office at Wau staffed by:-

Geologist Grade III	(R.G. Horne)
Geologist Grade I	(M. Plane)

(c) a vulcanological observatory at Rabaul staffed by:-

Geologist Grade III	(J.H. Latter)
Geologist Grade II	(J.H. Herlihy)

Geological services are provided to Administration and Commonwealth Departments and to the Public.

Except for geological studies connected with the Port Moresby Hydro-Electric Scheme the work of the staff engaged on general geology has been concerned chiefly with investigations of specific mineral prospects.

DRILLING

The following drilling projects were carried out during the year under the supervision of the geological staff:-

Luluai, Woodlark Island

Investigations of a copper prospect at Luluai were completed without discovering an orebody of economic grade.

Kulumadau, Woodlark Island

An area at the old Kulumadau Mine was drilled in the hope of discovering an explanation of a magnetic anomaly which looked as if it may have been related to structure or disposition of the country rock. Poor coring of this badly weathered material undoubtedly contributed to the inconclusive results.

Federation & Busai Leases, Woodlark Island

A drilling programme to test the mineralization in these areas was laid out and work is continuing.

Dubuna Mine Area, Port Moresby

Preliminary drilling has been carried out in an area showing magnetic anomalies. Further work is planned and detailed geological studies are being made before other sites are selected.

Upper Edie Creek

The area is being drilled with the object of delineating deep alluvial gold leads.

Golden Peaks, Demetrius Area

Reserves of ore are being estimated from the results of drilling.

Golden Gates Extension (Lower Koranga)

Drilling has failed to reveal adequate reserves of ore and Koranga Gold Sluicing Ltd are ceasing operations.

Day Dawn Deep Lead

Drilling has indicated that the deep lead is narrow and low in gold values.

Dredging & Sluicing Claim 158, Bulolo Area

Drilling confirmed the presence of approximately 36 feet of workable river gravel below 10 feet of river flood tailings.

Aifunka Hill (Barola Reefs) Kainantu

Percussion drilling of this copper prospect has proved ineffective. Diamond drilling is necessary to penetrate a garnetiferous layer.

Rouna Falls

Commonwealth Department of Works have drilled ten holes in the Rouna Area to supply geological data relevant to the siting of the underground power house, the tailrace tunnel and the weir site. Cores have been logged by the resident staff and data passed on to the engineering geology section of B.M.R.

INVESTIGATIONS

Further study of the geology of Woodlark Island has been made in connection with the planning of drilling programmes.

A brief reconnaissance was made of copper bearing area on Sideia Island near Samarai.

Misima Island was visited to study the mineralization and the latest prospecting work being carried out by Pacific Island Mines Ltd.

Fergusson and Dobu Islands were visited to make an assessment of the availability of pumice and to collect samples for laboratory investigations of its properties as a building material. Samples were forwarded to C.S.I.R.O.

A brief investigation was made of an area on the Musgrave River near Javarerere where native miners have been winning gold.

In the Lake Trist area residual rocks overlying ultra-basic rocks to the north-east of the lake were tested by augering. Fourteen auger holes to an average depth of 24 feet yielded samples having an average nickel content of 0.451%.

A preliminary investigation was made of the lode mining possibilities in the Porgera Goldfield, Western Highlands District.

Copper occurrences near Yanderra Village, Madang District, were briefly investigated as a preliminary to more detailed study.

Ground water conditions in the Marshall Lagoon area were investigated for the Administration.

DETAILED MAPPING

A plane ~~table~~ survey of a sluiced area in the Golden Peaks mine.

Tape and compass surveys of the mine areas of Kulumadau, Federation and Busai on Woodlark Island.

RECONNAISSANCE MAPPING

A geological reconnaissance was made of the dissected lowland country between the Bamu, Wawoi and Turama rivers north of Komewu and south of Mount Bosavi. Auger samples were taken over a wide area to examine the possibility of bauxite occurring in economic quantities.

The country near Marshall Lagoon was examined as a preliminary to a more detailed reconnaissance.

In the Wau area regional mapping was carried out on the Wau-Bulldog track, at Quambu Creek and Sampa Creek.

In conjunction with the Western Highlands Party an area was mapped along the Mango River, a tributary of the Koru River on the southern slopes of Mount Wilhelm.

VULCANOLOGICAL WORK.

Continuous vulcanological observations have been maintained at Rabaul and at Manam during the year. Field and temporary station checks have been made at other centres.

Seismic observations at Rabaul have been maintained with a heavy motion Omori type instrument and a 3 component Benioff seismograph. This equipment was supplemented early in the year by the installation of a set of standard short and long period recorders by courtesy of the United States of America. Data from these instruments has been distributed to international stations by means of weekly bulletins.

Data on shocks felt throughout the Territory have been supplied by a system of local observers who inform the Observatory of such events by radio and formal monthly reports.

During installation of the New American equipment

tiltmeter installations were reorganised and some components were returned to the manufacturers for repair. Two sets of two component tiltmeters with greatly increased sensitivity will be in operation by the end of the year. The Rapindik Station instruments were reinstalled this month.

Temperature checks and inspections of all the main thermal areas near Rabaul have been made at weekly intervals. A tide gauge has been maintained at the main wharf and strand line level markers around the harbour have been read at weekly intervals.

Special investigations of a local type of seismic disturbance has continued with the use of portable Willmore equipment. These investigations have been assisted by the transfer of the Benioff instrument from the Observatory to an instrument station at Rapindik. These investigations are continuing.

At Manam volcano continuous tilt and seismic observations have been made with the help of indigenous assistance. Observations are radioed daily to the central Observatory at Rabaul. An eruption occurred early in April and a check of the conditions of the volcano was made by an Officer from the central Observatory.

Investigation of other volcanoes in the Territory included Tulumán, Long Island, Mount Lamington, Dobu, Mount Dayman and Mount Victory. Permanent tiltmeters have been installed at Mount Lamington. A temporary instrument station equipped with a Willmore seismograph and tiltmeters has been set up at Mount Victory where earlier field investigations indicated abnormal seismic movement.

The Administration approved the creation of a position of technical officer for the Rabaul Observatory. Mr. N.O. Myers was appointed to this position and began duties early in October.