

COMMONWEALTH OF AUSTRALIA.

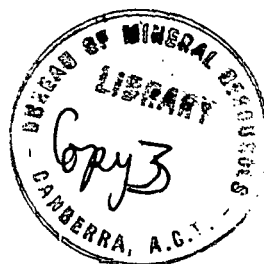
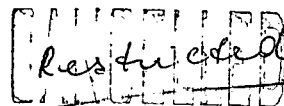
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DEPARTMENT OF NATIONAL DEVELOPMENT.  
BUREAU OF MINERAL RESOURCES  
GEOLOGY AND GEOPHYSICS.

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**RECORDS.**

1959/113



REPORT ON THE KUMBRUF GOLD PROSPECT SIMBAI RIVER,  
MADANG DISTRICT.

by

D.B. Dow.

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INTRODUCTION

HISTORY:

Gold was first discovered in the area in a tributary of the Simbai River by D. Leahy while accompanying a government patrol in early 1954. J.C. Mackinnon visited the area in September, 1954, and first pegged the E.P.L. in April, 1956.

LOCATION AND ACCESS (See Plate 1.)

The prospect is located, at an altitude of 4,500 feet, near the head of the Simbai Valley, near the junction of the Schrader and Bismark Ranges, about 90 miles west of Madang. It is on the south side of the Simbai Valley about 4 miles walk along a rough walking track from Simbai Patrol Post.

An airstrip, newly constructed by Mr. MacKinnon at the patrol post, is capable of taking light Cessna aircraft and will be extended by the Administration to accommodate Junkers aircraft. Freight is carried by air from Madang at present for about 1/- per pound, but when Junkers aircraft are used the cost will be approximately 4d. per pound.

The only alternative access is by rough walking track from Aiome Patrol Post, a walk of two to three days.

TOPOGRAPHY AND VEGETATION:

The surrounding country is rugged, with mountains up to 7,000 feet in elevation. The streams are deeply incised with high gradients and many gorges. Most of the Simbai Valley has been cleared and is covered with kunai grass and secondary scrub but the surrounding mountains are covered with virgin bush.

GEOLOGY OF THE PROSPECT

DESCRIPTION OF THE PROSPECT AREA: (See Plate 2)

The prospect is a north-north-east trending ridge about 3 miles long and averaging 2,000 feet wide between the Nanoi and Soi Creeks on the west and Tunonk Creek on the east. The crest of the spur has a relatively gentle gradient over most of its length and an average elevation of about 200 feet above the creek. Most of the ridge is covered with kunai grass and secondary scrub.

DEVELOPMENT:

A water race bringing water from Anabapim Creek follows close to the crest of the prospect ridge for approximately one mile and supplies water for ground sluicing operations on the lower terraces. Gold has been won from inside bends in the Tunonk, Nanoi and Soi Creeks and tests by ground-sluicing have been performed on some of the lower terraces of Tunonk Creek.

### GENERAL GEOLOGY:

The basement rocks of the area consist of northerly dipping basic volcanic rocks (including agglomerate and pillow lavas), associated basic intrusive rocks, indurated siltstone and phyllite, calcareous siltstone, and crystalline limestone of unknown age.

Capping the prospect ridge as far as the Simbai River, and resting unconformably on the basement rocks is the dissected remnant of a once extensive alluvial terrace. This terrace is deeply weathered and was probably formed by streams draining the Jimmi River - Simbai River divide when downcutting of the Simbai River was temporarily held up by a resistant bar of basic igneous rock downstream from the Tunonk junction. The terrace consists of flat-lying, weathered and unconsolidated wash with interbedded lenses of siltstone and muddy sandstone. The largest stones seen in the wash were about two feet in diameter but the majority are pebble to cobble size. The terrace has been proved auriferous for about 2,500 feet north of Anabapim Creek and the distribution of the gold along Tunonk Creek indicates that it is auriferous over most of the length of the ridges to the Simbai River. The gold seems to be distributed throughout the thickness of the wash. The maximum thickness of wash exposed is about 30 feet but with the completion of stripping operations recommended it is expected that a greater thickness will be exposed. However, no estimate of the average thickness of the wash is as yet possible.

Barren clay overburden is usually present and is of variable thickness, up to 25 feet.

Both flanks of the prospect ridge are covered by a series of younger terrace remnants down to creek level in both the Tunonk and Nanoi Creeks. These younger remnants are much less weathered than the capping terrace and contain numerous large boulders up to 6 feet in diameter with interstitial pebbly wash. The gold is concentrated in the bottom three feet of these terraces and most of the gold rests on the bottom. Usually present in significant volume is barren yellow clay overburden which has resulted from downward movement of material from above.

### THE ORIGIN OF THE GOLD:

The gold in the terraces and the creeks is about 890 fine and varies in size from fine colours to nuggets up to 1 oz. in weight. Some of the gold is little worn and has not travelled far but all grades of wear up to well-rounded and flattened are found. Small quartz/gold and haematite/gold specimens are common. The schists and phyllite intruded by granite porphyry, which constitute the Jimmi River-Simbai River divide, are still shedding gold into Tunonk Creek probably from small quartz/haematite stringers introduced by the granite porphyry. The gold in the terraces was almost certainly derived from this source.

### CONCLUSIONS

#### PROSPECTS:

The younger terrace remnants in themselves are not attractive because of the many large boulders contained in them and the probable increase of barren overburden towards the ridge. With the few exposures available it is impossible to estimate the reserves in these remnants but the bottom rises steeply and the volume of ground is fairly limited. Tests by

groundsluicing 500 to 1,000 cubic yards of wash were done in four places giving values of 3/- to 5/- per yard. If the capping terrace proves payable these terrace remnants will no doubt provide useful additional reserves.

The future of the prospect depends on proving the capping terrace payable. At present no estimate of the volume of ground in the terrace can be made but from the few exposures available there could be a minimum of 400,000 yards of auriferous wash available. If the terrace is proved auriferous to the Simbai River the volume will be much greater. However, it must be emphasised that no idea of the values in this terrace has yet been obtained but it is possible that sufficient payable ground will be proved to interest a company or syndicate.

#### RECOMMENDATIONS

The capping terrace is at present exposed in very few places and future work should be directed to estimating available yardage and values for this terrace.

It is recommended that three large cuts be put in the terrace to bedrock in the places shown on Plate 2 using the small monitor at present on the prospect. In addition costeans down the flanks of the ridge on either side at 500 feet intervals should be put in to expose the wash. These costeans would be relatively cheap to dig using water from the existing water race.

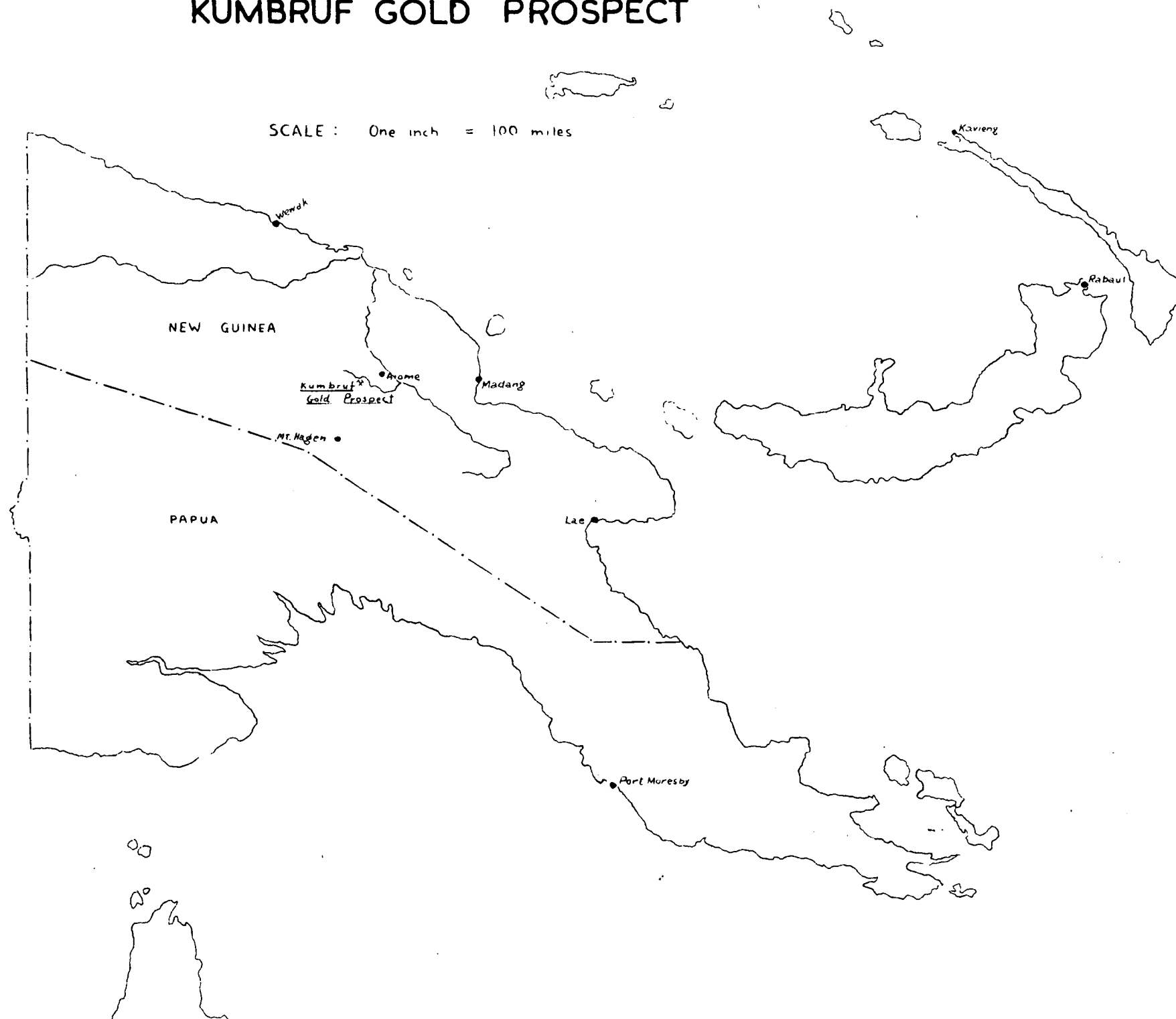
If the terrace is proved payable at the south end, the north end could be proved by use of the Mines Department's light percussion drill providing values are not erratic or confined to the bottom of the terrace.

The cost of transporting stores to the prospect is prohibitive at present but can be alleviated to some extent by the following:-

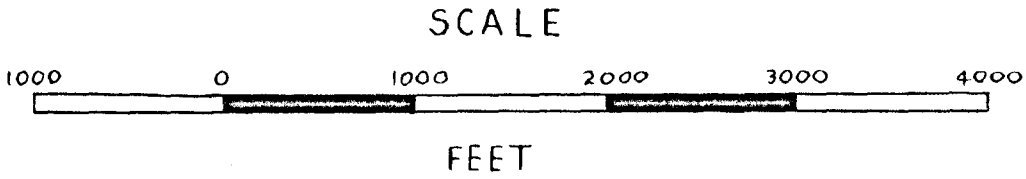
1. Extension of the airstrip to accommodate Junkers aircraft. This work I believe is to be carried out in the current financial year by the Administration.
2. The construction of a graded walking track from the Simbai Patrol Post to the prospect. This deserves first priority in any Administration plan for construction of walking tracks in the Simbai Valley, but failing that, a grant could be made to cover the cost of the track from the Mines Department Assistance to Mining vote.

# LOCALITY MAP KUMBRUF GOLD PROSPECT

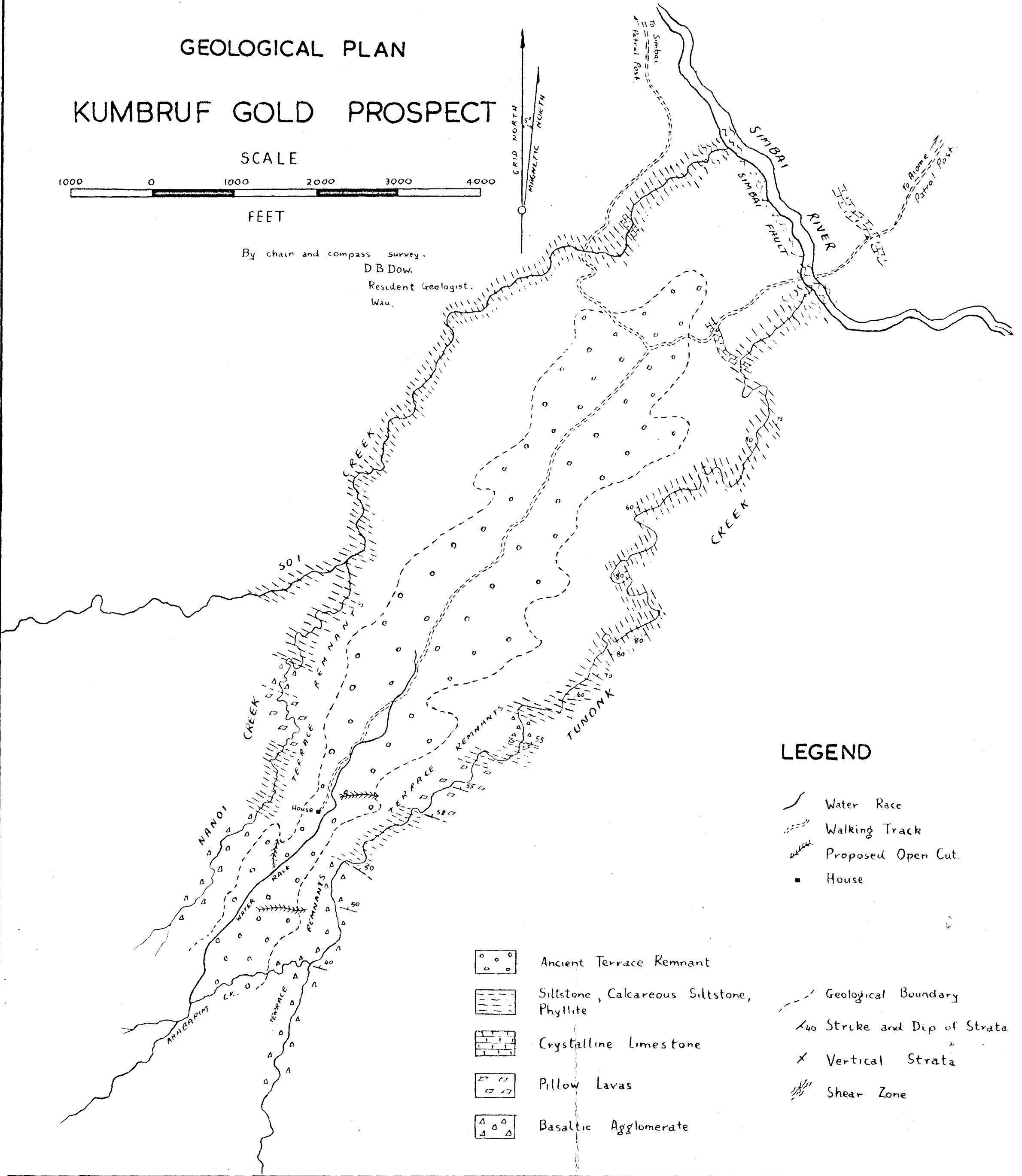
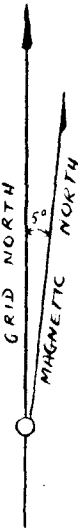
SCALE : One inch = 100 miles



GEOLOGICAL PLAN  
KUMBRUF GOLD PROSPECT



By chain and compass survey.  
D B Dow.  
Resident Geologist.  
Wau.



LEGEND

- Water Race
- Walking Track
- Proposed Open Cut
- House

- Ancient Terrace Remnant
- Siltstone, Calcareous Siltstone, Phyllite
- Crystalline Limestone
- Pillow Lavas
- Basaltic Agglomerate

- Geological Boundary
- Strike and Dip of Strata
- Vertical Strata
- Shear Zone