

GOLD OCCURRENCES IN FAR NORTH QUEENSLAND

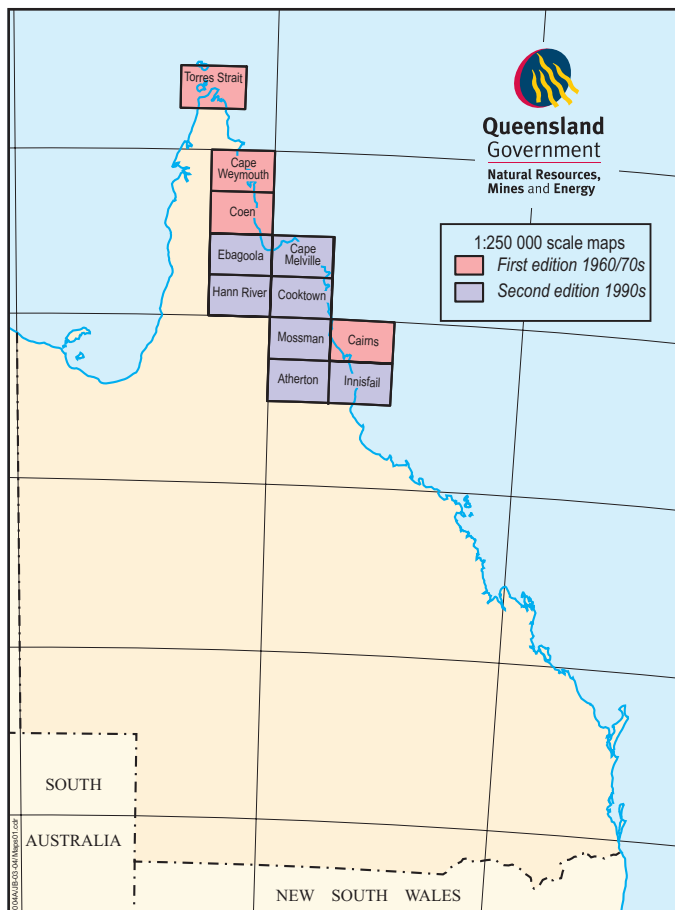
Extracts from the Queensland Mining Guide

Gold is of primary interest to the prospector, partly because of its widespread occurrence in a great variety of ore deposits throughout the metalliferous areas of the State. It may occur native in alluvial or lode, by itself or with other metallic minerals in sulphide ores, or as tellurides in many widely different classes of rock.

In its native or 'free' state, gold is never absolutely pure, but is alloyed with varying proportions of silver, accompanied at times by traces of copper, iron, platinum and other metals. Generally speaking, gold won from alluvial deposits is purer than lode gold from the same locality.

The physical properties which best identify 'free' gold are its weight, colour, low degree of hardness, toughness and malleability. Its freedom from tarnish in the air or when heated and resistance to any single strong acid are also significant. The characteristic yellow colour of the pure gold stands in contrast to the increasingly paler metal when there is a greater proportion of silver present.

General area covered by this report



Despite their high density, very fine gold particles in the form of 'mustard' and 'paint' gold will float readily on water, and this action is greatly increased if any trace of grease is present. The toughness and malleability of gold allows it to be hammered into extremely thin plates; being soft, it may be scratched readily, leaving a streak of the same colour.

By careful observation of these properties, gold is readily distinguishable from such minerals as pyrite, chalcopyrite, limonite and golden-coloured mica which can be mistaken for gold.

In sulphide ores, gold is not always present in a 'free' state, visible in a panning dish. The prospector needs to bear this fact in mind, and, provided any "tail" shows after roasting and regrinding the concentrate, it is well to have an assay made of a representative sample of the sulphide ore before accepting it as worthless.

The presence of gold in the form of tellurides may easily escape detection, although gold tellurides are not common in Queensland. They are highly lustrous minerals, silvery-grey to pale bronze-yellow in colour, and are soft and very heavy. Some of them are similar in appearance to molybdenite or flaky graphite.

INTRODUCTION

No attempt is made in this dissertation to deal with the past history of the various mining fields or to describe the many mines being worked in the State. The object rather is to show — both to the individual prospector and to the mining investor — some of the mining possibilities of each of the districts mentioned, passing reference being made to particular mines in certain cases only. Slight reference only has been made to geological features.

The relative importance of deposits and districts mentioned cannot be gauged by the lengths of the references in these notes. On many of the old fields the conditions are well known, or can be ascertained at the main centres. Special attention has been drawn to some of the lesser known fields.

Any person or company desirous of obtaining further details in relation to any of the mines, deposits, or localities referred to should communicate with the Department of Natural Resources and Mines, Brisbane, or with the nearest Warden, Inspector of Mines, or District Geologist.

The Reworking of Deposits

The fact that certain ore-bodies were worked years ago and were abandoned does not necessarily imply that such deposits cannot be worked profitably under different conditions. The metal market is always a primary factor in deciding the success or failure of mining ventures. The utilization of modern methods of mining and treatment may bring renewed life to some mines.

Some of the causes of work have been discontinued in mines are :

- Want of sufficient capital to explore and develop deposits thoroughly
- High cost of transport of ore to treatment works
- The premature erection of costly plants at mines before requisite values and quantities of ore have been proved
- Failure in prosperous periods to build up a reserve fund for the express purpose of carrying out further developmental work
- Exceptional conditions such as drought, flooding and labour difficulties.

Any person wishing to investigate the further possibilities of any worked deposits or desiring to renew in any locality the search for any particular mineral should weigh all the known factors relating to the closure of previous workings. Some of the factors may be gathered from these notes; others can be obtained from official records or from officers of the Department of Natural Resources and Mines stationed on the various mining fields.

Fresh Discoveries

Although most of the larger and more obvious outcrops of mineral deposits have been located and tested to some extent there are still possibilities of new discoveries within the metalliferous areas of the State.

The fact that in these notes some localities are mentioned as being worthy of further prospecting does not indicate that the other localities referred to should not also be prospected. The special mention is made only in cases where some of the factors making for success are known.

The Far-Northern District

Innisfail Area

Gold has been won in rough scrub-clad country to the west and north-west of Innisfail, embraced in the Jordan, Russell, and Mulgrave goldfields. On the Jordan and Mulgrave fields rich shoots were originally worked, though the total output was not high. On the Jordan field (which is traversed by the Innisfail-Millaa Millaa Highway) a little reefing continues and alluvial deposits are still being worked by sluicing.

Buried alluvial deposits, in which the gold is often accompanied by a little tin, were the chief producers on the Russell Field which includes the headwaters of the Russell River and parts of the North Johnstone Valley. Depth of overburden was a handicap to sluicing operations. Alluvial deposits under basalt cover are widespread, particularly in the Boonjie area, though investigations have not supported proposals for large-scale exploitation. Up to 1942 there was some activity in both alluvial and reef mining on this field, the latter at Towalla. Access to these localities is from Malanda.

In 1937 the announcement of gold-reefs in very rugged scrub at Mount Bartle Frere created a mild "rush," but although some production took place, largely from "floater" stone, activity on the field failed to respond to provision of improved access and to treatment facilities afforded by the premature erection of four crushing plants.

Cairns Area

On the small Mount Peter field (8km south of railway at Edmonton) gold has been won intermittently since 1915 from sporadic rich shoots in otherwise barren fissure veins of small average size. Most of the shoots appear to have had a small vertical range, but the Talisman shoot, the chief producer in recent years, has been followed to a depth of 90m. Most of the easily won stone has already been mined, but there is scope for prospecting for new shoots in the precipitous country, both on the field and further to the west. Crushing facilities are available on the field. Limestone is quarried near Mount Peter.

Mareeba Area

Auriferous lodes have been worked to shallow depths on the Mareeba Goldfield 8km south-east of the town, and near the Clohesy River, 18km to the north-east. Further south, near Pearamon, a gold-bismuth lode has been worked to some extent at Mount Mascotte.

Hodgkinson Field

Northcote (34km by road west of Mareeba) has been the centre of antimony-gold mining. The quartz reefs in which the antimony occurs also carry low gold values, and some gold-antimony deposits have been worked.

Some eighty-seven gold mines in the *Thornborough* area, 13km further west, have been worked mostly for good returns. At the *Kingsborough* mine over 1,000 tonnes were crushed for an average of 147g. The deepest workings were at the Cecil Mine on the General Grant line of lode, with a depth of 215m. Most of the mines were comparatively shallow, and still offer scope for working parties. In more recent years the General Grant and Tyrconnell mines were reopened, and battery and concentrating plant erected at the latter, but operations were interrupted by the impact of war.

A few miles to the east of the defunct Mount Mulligan collieries 48km north of Dimbulah, are the old gold centres of *Woodville*, *Dagworth* and *Stewartstown*.

Antimony-gold ores exist but the average values are not high. Apart from the old mines, lodes occur on which little work has been done.

Near the Mitchell River, 97km north-west from rail at Dimbulah, antimony ore has been won intermittently for many years from lenses in quartz reefs which carry generally low gold values. On available information possibilities for future production are difficult to assess.

Almaden (193km by rail from Cairns). In the Crooked Creek area gold was won from small rich shoots in veins in both granite and volcanics.

Mungana was the railhead (now closed) serving mining of auriferous copper ores at *Cardross*, 32km to the west, where a smelter operated: arsenical gold ores at *Mount Wandoo*, 18km to the south-west, bismuth-gold. ores at *Nolan's Creek*, 32km to the north-north-west.

Fischerton (64km west-south-west of Almaden). Near the old Tate Telegraph Station an isolated gold specimen show was worked in 1895; over 19.85kg were dollied, The old centre of *Williamstown* (between the Tate and Mount Wandoo) was worked for alluvial gold. There were a number of rich leaders, including one which produced 17.01kg but these cut out at shallow depths. The country between the Tate and Mount Wandoo should receive further attention.

Palmer Goldfield (centred on Maytown, 120km south-west of Cooktown; access by road from Laura). The widespread shallow alluvial gold deposits of this field, which in the early days were prolific (over 26 600kg to 1912) have long been virtually exhausted. More recent production has come from dredging at *Strathleven* in the lower reaches of the river and intermittent work on some of the reefs, which, however, have contributed only a small proportion of the total production.

The *Starck Goldfield* has been a small gold producer from reefs worked above water level, little has been done since 1913.

Small gold-bearing reefs have been worked on the *Alice* and *Potallah* Creek fields, 129 and 169km respectively westerly from Laura.

Cape York Peninsula Fields

The portion of the State north of Princess Charlotte Bay contains a number of proclaimed fields which have never recovered from the impact of the war years during which activity had to cease entirely with damage to and loss of equipment.

Coen (308km by road-west of Cooktown; also served by air from that town) is the principal centre for the *Coen*, *Hamilton*, *Rocky River* and *Lochinvar* goldfields and the more recently discovered *Blue Mountains* reefs. The Great Northern line of reef at Coen is credited with about 1415kg of smelted gold. On the Hamilton Field, following early alluvial mining, reefs at Ebagoola and Yarraden were significant producers, but few were worked below 30m. Possibilities for further exploitation of these mines are difficult to assess because of inadequate records. Interest has revived recently in the Blue Mountains reefs.

Portland Road

Access from this point on Weymouth Bay is gained to *Wenlock*, *Hayes' Creek*, *Claudie River* and *Bowden* fields. Considerable gold production has come from *Wenlock* (formerly Batavia) 72km inland, from both lead and reef-mining, and there is again productive activity at that centre.

Torres Strait Islands, *Horn* and *Possession Islands* goldfields offer no further inducement to prospectors. Small tonnages of wolfram were won during the war period by the native population of Banks Island, an aboriginal reserve.

For the information of prospectors who may consider that their chances of success are greater in these more isolated pans of the State, it might be mentioned that those portions of the Peninsula which are not occupied by non-metalliferous, sedimentary rocks have been much more thoroughly prospected than is generally supposed. To work in these distant localities, prospectors need to be well experienced and suitably equipped.

