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**A GEOSCIENCE INFORMATION NEWSLETTER
SERVING THE MINING AND PETROLEUM INTERESTS OF QUEENSLAND**

NEW GEOLOGICAL maps for southern Queensland have been released from the "South-east Queensland Project" area. The 1:100 000 scale maps of Esk and Helidon can be purchased for \$38.50 each (including \$3.50GST). The following is a summary of outcomes from the Project.

Major changes have been made to the first edition 1:250 000 scale geological maps dating from the late 1960s to mid-1970s. New stratigraphic units and subdivision of existing units were recognised as a result of this re-mapping.

Colour compilation maps and preliminary digital data for all new mapping are available on request from the NR&M's Southern Region group. The compilation maps have updated geology from the South-East Queensland map sheets. This pre-release data is not map-production quality and comprises map polygon information. The digital data is usually supplied in ArcInfo and ArcView format, and can be supplied in MapInfo format on request.

Available areas are Beenleigh, Brisbane, Caboolture, Caloundra, Gympie, Ipswich, Laguna Bay,

Nambour, Nanango, Mount Lindesay, Murwillumbah, Toowoomba, Tweed Heads, Boondooma, Jandowae and Oakey 1:100 000 sheets.

Hard copy 1:100 000 map sheets covering the Gympie 1:250 000 Sheet area (Gympie and Nambour specials, Nanango, Goomeri, Murgon and Kingaroy) were completed in 1999 and for the Ipswich 1:250 000 map sheet (Esk and Helidon) in 2001. Reports and maps describing changes to the geology, major mineral occurrences and company exploration to 1995 have been completed over the north-eastern part of the area.

An update on the geology of the Goomeri 1:100 000, based on a recently-completed PhD thesis, is in preparation. The Esk, Beenleigh and Murwillumbah 1:100 000 map sheets are being updated and will be produced as hard copy map-production maps scheduled for release in 2000-2001 and 2001-2002 respectively. The Murwillumbah 1:100 000 map will be produced as a co-operative project with the Geological Survey of New South Wales.

For further information contact Len Cranfield (61 7 3237 1515; lcranfield@dme.qld.gov.au).



Queensland Government
Natural Resources and Mines

TWO NEW PUBLICATIONS FOR NORTH QUEENSLAND

Queensland Geological Record

2001/02 - Mineral occurrences of the Townsville 1:250 000 Sheet area, North Queensland, by DA Morwood, JJ Draper, DJ Ewington, MC Gunther & TJ Denaro.

This report describes the mineralisation and summarises the regional geology, mining history and exploration activity in the Townsville 1:250 000 Sheet area, North Queensland. Altogether, 687 mineral occurrences are listed and their locations are shown on maps at 1:250 000, 1:100 000, 1:50 000 and 1:25 000 scale as appropriate. Detailed data for individual mines is available in a digital format from the MINOCC database.

The rocks in the study area are subdivided into four major and one minor provinces and basins — the Devonian to Carboniferous Burdekin Basin, the Cambrian to Precambrian Lolworth-Ravenswood Province, the Late Ordovician to Devonian Broken River Province, the Carboniferous to Permian North Queensland Volcanic and Plutonic Province, and the Nulla Basalt Province.

Mineral commodities in the study area include gold, tin, silver, copper, lead, molybdenum, tungsten, uranium, nickel, cobalt, limestone and dolomite.

Gold occurs in mesothermal auriferous vein deposits predominantly in the Lolworth–Ravenswood Province. The Alex Hill Shear Zone has acted as a conduit for mineralising fluids in the Fanning area which includes the mines Christian Kruck, Chas Madge, Evening Star and Milnes Reward. Visible gold in quartz veins is commonly associated with galena. Accessory sulphides (dominantly pyrite and chalcopyrite) and copper carbonates generally occur

both as vugh infill and disseminated within the granite host. Mineralisation at the Welcome mine, which is also in the Fanning area, occurs within a “Mount Leyshon” type breccia pipe.

Gold mineralisation in the Piccadilly mine area has been described as “shallow” vein type and is hosted by interbedded sandstone and siltstone of the Late Devonian Julia Formation. The Far Fanning gold deposits are also hosted within quartzo-feldspathic sandstone of this formation.

Gold mineralisation at Mount Success and Golden Valley, however, is hosted within Permo-Carboniferous volcanic breccia pipes and is described as a porphyry-related hydrothermal breccia deposit.

Most of the other deposits within the Townsville Sheet area could be described as being quartz-fissure lode deposits, apart from at Mount Norman where the lodes comprise discontinuous lenticular, possibly pipe-like bodies of quartz-gold and molybdenum hosted within jointed Permo-Carboniferous granite and classified as porphyry-style. Minor alluvial deposits have been mined for gold in some of the areas of hard-rock gold mineralisation.

Several areas have been extensively mined for tin, in both hard rock and alluvial deposits. There are at least sixteen distinct centres of mineralisation, twelve of which occur in the south-west quadrant of the Kangaroo Hills Mineral Field and the rest are scattered across the top half of the Townsville 1:250 000 Sheet area. The main type of mineralisation is cassiterite-bearing, multiphase, dilational, quartz-chlorite-sericite fissure veins. Zonal and structural analysis suggests a number of small magmatic sources for the mineralisation rather than a single, large source.

Within the Kangaroo Hills Mineral Field, tin mineralisation evolved in a deep-subvolcanic to high-plutonic, fold belt-type geologic environment. This Mineral Field is highly prospective for bonanza-style tin-bearing veins, high-tonnage low-grade carbonate replacement, deep lead alluvial tin and stockwork style deposits.

The Ruxton group of workings were the most extensive residual tin workings in the Sheet area. The cassiterite-bearing deep leads appear to closely follow the contact between sediment and a porphyry intrusive in the Ruxton area. Other minor residual workings are located in the White Springs area in the headwaters of Little Sandy Creek.

The tin mineralisation in the Tinvale area occurred in several, discontinuous quartz, quartz-tourmaline lodes in granite. Most creeks and gullies in the vicinity of lode workings have been worked for alluvial cassiterite.

Copper has been mined from four main areas on the Townsville 1:250 000 Sheet area. Mineralisation at the Mount Theckla copper-silver-lead mine in the Kangaroo Hills Mining Field is mostly confined to a major fault separating a quartz conglomerate and siltstone. The Macauley Creek Group consists of four abandoned copper-silver mines sunk on quartz-sericite fissure lodes hosted in the Macauley Creek Granite. The Kennedy Copper mine group of workings comprises fissure-vein type and pyrometomatic mineralisation within sediments of the Keelbottom Group. Copper was also found in the form of native copper infilling amygdals in andesite at the Dotswood Copper mine.

Silver and copper occurring together can be found in four main localities, two of which — the True Blue Lode and Hidden-Treasure–Mount Moss — are located within the Kangaroo Hills

Mineral Field. The Ambrose lodes are hosted by Malmesbury Granodiorite in the headwaters of Sandy Creek, south-west of Mount Oweenee and the Rio Tinto mine which is located adjacent to a fault between the Argentine Metamorphics and Devono-Carboniferous conglomerate at Sandstone. These units have been intruded by quartz-feldspar porphyry dykes related to the Bauman Camp Granite.

The Argentine Mineral Field was the main area where silver and lead were mined, however there were also similar mineral associations found in some mines in the Kangaroo Hills Mineral Field. The lodes in the Argentine Field range from brecciated host rocks with sulphides to quartz vein-type lodes.

Almost all hard-rock mineralisation in the Ollera Creek Mineral Field is associated with the roof-zones and adjacent sidewalls of felsic granite intrusive rocks. The main deposits are irregular, pipe-like bodies composed of buck quartz with both clots and dispersed grains of molybdenite, wolframite, bismuth, pyrite, sphalerite, scheelite and alkali-feldspar. Tungsten mineralisation in the Kangaroo Hills Mineral Field, however, is found in greisen and quartz fissure veins hosted by granite and metamorphic rocks.

Uranium–molybdenum mineralisation was discovered at Ben Lomond East in stockwork and fissure quartz veins and cherty breccia infill hosted by the upper unit of the Saint James Volcanics. The Ben Lomond deposit contains 4035t uranium and 3026t molybdenum in 1.9Mt of ore.

A small low-grade resource of nickel and minor cobalt is located in two lateritised serpentinite outcrops within the Argentine Metamorphics.

Relatively minor occurrences of contact metasomatic replacement style iron deposits associated with limestone are located near Woodstock and Willetts Knob.

The Calcium region has produced ~10Mt of limestone and extensive reserves still remain in the area as well as in the Mount Flagstone and Fanning River caves areas.

Record 2001/02 can be purchased for \$88.00 (including \$8.00GST).

Queensland Geological Record 2001/5 - Mining history of the Woolgar Goldfield, North Queensland, by TJ Denaro, LG Culpeper, PE Burrows and DA Morwood.

This report summarises the history of the Woolgar Goldfield, which produced at least 979kg of gold from 1880–1980. Gold was discovered in the Woolgar River area in 1879, leading to a rush involving some 600 European and Chinese miners in 1880. Reef mining commenced in 1881. Sizeable townships were soon established at Lower Camp, Middle Camp, Top Camp and Upper Camp that supported up to 260 people.

The most productive period was up until about 1907. After this, the field declined, although there was a brief revival in the 1930s. The area was last mined in about 1988.

Few signs of the once thriving townships survive, but the field



contains many historical sites such as old mines and the remains of stamper batteries.

Record 2001/05 can be purchased for \$33.00 (including \$3.00GST).

AIRBORNE GEOPHYSICS FOR NORTH QUEENSLAND

Line & grid magnetic and radiometric data are now available for the Hodgkinson/Georgetown Survey Blocks C and D. Prices can be found on the Internet.

Finally, the Geoserve staff would like to wish all of our readers a very happy Christmas and New Year and a prosperous 2002.

To order any of the products shown in this newsletter, please contact the Geoscience Sales unit on (07) 3237 1434 or email sales/DME@dme.qld.gov.au

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