GOLDFIELDS

# of South Australia

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MINES AND ENERGY
SOUTH AUSTRALIA

GOLDFIELDS OF SOUTH AUSTRALIA

REPORT BOOK NO. 92/53

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Introduction

Although gold is widespread throughout South Australia, the State has not been a major producer with a recorded production about 23 t representing about 0.4% of the Australian total. More than 60% of this output was produced in the 19th century from the alluvial fields of Echunga, Barossa and Teetulpa. The only significant production this century was from reefs at Tarcoola, Deloraine and Mongolata, and more recently at the Olympic Dam Mine where gold is associated with copper-uranium mineralisation.

The report provides a general account of the location and history of gold occurrences in South Australia. The information has been compiled from published and unpublished departmental reports, Mine Summary Cards and newspaper cuttings. Further enquiries should be directed to the Information Resource Centre, Department of Mines and Energy.

Gold in South Australia occurs in quartz reefs associated with Precambrian rocks, and in Tertiary and modern alluvial deposits. The principal deposits are in the Mount Lofty Ranges, Mid North, Olary and Tarcoola districts. Minor occurences are in the Northern Flinders Ranges, Fleurieu Peninsula, Kangaroo Island and Far North

The goldfields and the accompanying maps are arranged under the following headings (see Map 1):

a.	Mount Lofty Ranges	Map 2
b.	Fleurieu Peninsula	Map 18
c.	Kangaroo Island	Map 19
d.	Mid-North	Map 20
e.	Olary Area	Map 27
f.	Flinders Ranges	Map 36
g.	Tarcoola Area	Map 39
h.	Far North	Map 43

Within each group, the fields are arranged in alphabetical order.

History

MOUNT LOFTY RANGES (MAP 2)

Map 3

Angaston Goldfield

Alluvial gold was discovered south of Angaston in 1896 and a series of small rushes took place during the following decade. Alluvial gold was obtained from Tertiary leads at depths to 14 m, from alluvium, and from the soil profile. The gold was predominantly fine, with an occasional larger piece up to 0.75 oz.

Shallow alluvial gold was discovered on Johnson's property by Paul and Samuel Standish in 1899. A small rush resulted and 100 licences were issued by Johnson to work the diggings, one claim producing 40 oz. in a week.

Following an alluvial rush in 1904 on the Angas property adjoining Johnson's, the Golden Gate reef was discovered and the initial crushing yielded 5.5 oz. per ton. A company was formed, erected a battery on the mine and, up to closure in 1911, produced 397 oz. from 673 t of ore.

Many sections of the Angaston field, including Golden Gate, were reworked between 1930 and 1937. The most successful alluvial area was adjacent to Long Gully Road where about 500 oz. of gold were produced.

Total production of the Angaston field is about 1 500 oz.

Map 4

Barossa Goldfield

The Barossa Goldfield, South Australia's second largest producer, has an estimated production of about 100 000 oz., principally from alluvial workings. The main area of the field is located 10 km southeast of Gawler and stretches for a length of 4 km northwards from the South Para River, which separates it from the Para Wirra Goldfield. Outside of this area there are a few isolated groups of diggings near Lyndoch and Williamstown. The Barossa Goldfield is not available for mining and the southern part of the field is located on Para Wirra Recreation Park where fossicking is prohibited.

In October 1868, Job Harris and party discovered payable alluvial gold at a depth of 4 m in Spike Gully. News of the discovery spread quickly and within four weeks it was estimated that there were 5 000 people on the rush. During its infancy the field averaged 1 to 2 oz. of gold per ton of washdirt with some claims yielding as much as 260 oz., and small nuggets up to 1 oz. were reported.

Initial workings were in alluvial deposits to depths of 6 m in Spike Gully but, as the prospectors moved to the surrounding hillsides, Tertiary leads were discovered up to 36 m below the present land surface. A series of rushes on leads occurred between late 1868 and mid 1869, the most significant being at Goddards Hill, White Lead and Victoria Hill. At Victoria Hill small nuggets up to 7 oz. were found, but the washdirt was usually cemented and required crushing to free gold.

By mid 1870, only 100 men were left on the field. The easily worked gold bearing alluvials and deep leads had been worked over and prospectors had moved on to newly discovered fields at Mount Pleasant and Birdwood. Subsequent discoveries brought diggers back into the area with Sims Rush in 1887 and Yatta Hill Rush in 1889, but these were quickly exhausted. The nature of the gold occurrence at Sims Rush led several miners to suspect that a deep lead existed on an adjoining property. When an alluvial gutter was found, several companies were formed, and during the period 1887 to 1891, the main activity was on the deep lead at the northern extremity of the field. The principal mines which operated during this period were the Barossa Enterprise (1887-1889) and Barossa Deep Lead (1889). There was further alluvial gold mining in the Barossa area on a small scale in 1890s and 1930s, the last alluvial claim being worked on Goddards Hill in the late 1960s.

Little reef mining took place on the field until 1894 when S.W. Pearce discovered auriferous reefs in the gorge of the South Para River. The Lady Pearce and Royal Phoenix syndicates commenced operations on a small scale, but by 1897 both had been acquired by L.R. Menzies, an American mining authority, and renamed Menzies Barossa Mine.

A tramway was built linking the workings with a 40-head battery, capable of treating 600 tons a week, and large and extensive machinery was installed. Menzies planned to make the mine the largest in Australia, and in 1897, 70 men were working three shifts a day. In 1899, the company went into liquidation due to poor ore grades and overspending on machinery. By 1900, all reef mining at Barossa had ceased

Birdwood Goldfield

Map 5

Centred on the township of Birdwood, the goldfield can be divided into four areas:

- Birdwood to Cromer (Map 6)
- Mount Pleasant (Map 7)
- Mount Torrens
- McVitties Hill

There are about 170 individual mines on the field, the largest concentration being in the Birdwood-Cromer area, particularly in the vicinity of the Blumberg Cemetery, 3 km north of Birdwood. Total production of the Birdwood Goldfield is about 20 000 oz., most of which came from Birdwood-Cromer.

During the winter of 1869, a prospecting party discovered alluvial gold about 2 km south of Mount Pleasant and within a year the field had produced about 1 000 oz. of gold. Soon after, a reef was discovered on land that was being cleared for agriculture above the River Torrens between Blumberg (now Birdwood) and Mount Pleasant. A company was formed and the mine, German Reef, produced almost 400 oz. to the end of 1872.

These discoveries attracted prospectors into the area and, in 1870, alluvial discoveries were made at other locations, leading to the formation of companies to work the reefs above the alluvial gullies. The largest alluvial rush took place near the Blumberg Cemetery at Hynes Diggings which produced about 2 000 oz. of gold, including nuggets to 6 oz., between 1890 and 1900.

In 1871, James Scott discovered alluvial gold on his property near Cromer and, with the aid of a puddling machine, recovered about 1 000 oz. from surfacing, including several nuggets up to 36 oz. In 1872, a company was formed and, subsequently, discovered and developed a reef. Although several quartz specimens containing up to 24 oz. were found, mining was unsuccessful and operations ceased in 1876. The nearby Black Snake Mine was worked between 1894 and 1897 when about 500 oz. were produced. Forty men were employed and a 10-head battery and cyanide plant were installed.

A number of small quartz-ironstone-pyrite reef mines on the hill above the Blumberg Cemetery were worked periodically between 1894 and the 1930s. Largest of the mines were Hynes Reef and Lucky Hit, which produced about 1 000 oz. and 650 oz. respectively. Argosy, which produced about 200 oz. up to 1953, and Lucky Hit were reopened in 1978 and produced a small amount of gold.

Near McVitties Hill, 3 km east of Birdwood, a complex of reefs were worked, the most significant mines being Vienna, Penrhyn and Blumberg Proprietary, the last named producing nearly 400 oz. between 1895 and 1903.

Following a rush during 1869-70 near Mount Pleasant, a reef was discovered in the vicinity and worked on a small scale until 1872. It was reworked from 1894 to 1901 as the Golden Slope Mine. A number of other reefs in the vicinity were worked by small syndicates in the mid 1890s. Best results were from Golden Slope North which yielded 197 oz. from 48 t.

Several alluvial discoveries between Birdwood and Mount Torrens in 1870, led to mining of reefs of which the Mount Torrens Mine became the most significant. With the aid of a Government subsidy, a 10-head battery and cyanide plant was erected in 1893; on failure of the company in 1894, the plant and mine were acquired by the Government. The mine produced 1 469 oz. from 3 081 t of ore up to 1917 and the battery remained operative until 1956. During 1894, 800 oz. of alluvial gold was obtained in three months from Gowland's Diggings, northeast of Mount Torrens.

Deloraine Goldfield

Map 8

The Deloraine Goldfield, which produced almost 35 000 oz., is centred on the Deloraine Mine, about 6 km northeast of Kersbrook. A dozen other gold mines extended 5 km from north to south along the line of the Deloraine lode. These produced about 1 500 oz. and include Deloraine Queen, Deloraine King, Deloraine Blocks and Prairie Deloraine.

Gold occurs in quartz-sulphide reefs which infill fissures and crush zones in a sequence of Precambrian siltstone, quartzite and phyllite and is associated with copper minerals chalcocite, covellite and native copper.

Alluvial gold was discovered on Deloraine Creek in 1909. The first reef found near the alluvial discovery was called Day Spring. A shaft was sunk on the lode and the following year the mine was renamed Deloraine. This mine worked almost continuously until 1940 producing a total of 33 270 oz. of gold, 178 oz. of silver and 30 t of copper metal, leaving only irregular, low grade ore at depth. Machinery, including a battery, concentrating tables and pumps was installed. Main Shaft was sunk to more than 180 m.

Because of the relatively high sulphide content, not all gold was recovered by amalgamation and the tailings were treated subsequently by cyanide during the early 1980s.

Echunga Goldfield

Map 9

Reef gold was first discovered at the Victoria mine near Montacute in 1846 and alluvial gold in the Onkaparinga River near Balhannah in 1849. However, Echunga was the first proclaimed goldfield in the South Australia, in 1852. It was the State's most important goldfield, with an estimated production of several hundred thousand ounces. The field stretches southwesterly for 15 km from Hahndorf to Mount Bold Reservoir and consists of three principal areas.

- Hahndorf to Mylor (Map 9)
- Old Echunga Diggings (Map 10)
- Jupiter Creek Diggings (Map 11)

Old Echunga and Jupiter Creek Diggings are now located on Historic Reserves and are two of the most important fossicking areas in the State.

Freshwater sand, gravel and ironstone conglomerate of Tertiary age cover the higher levels in the area and unconformably overlie kaolinised slate and quartzite of Precambrian age. Gold occurs principally as alluvial deposits in leads of Tertiary age and in modern alluvium, to depths up to 10 m. The sources of alluvial gold were numerous thin quartz-ironstone veins on adjacent hillsides, but these rarely proved to be economic propositions.

When William Chapman first discovered alluvial gold at Chapmans Gully in 1852, a rush involving up to 700 people took place and within three months over 5 000 oz. of gold were produced including nuggets up to 5 oz. Several rushes followed in the immediate area, the most notable being Windlass Hill, where yields averaged 3 to 6 oz. per dray load of alluvium. Reefs were discovered nearby and two mines, Echunga and Big Ben, worked intermittently for the next 90 years.

West of Chapel Hill, a number of minor rushes took place during the mid 1850s on alluvial leads. Most significant of these were Christmas Rush (1854), Poor Mans Hill Rush (1855) and New Rush (1858). Many small nuggets up to 1.5 oz. were found but the yields were very variable, the highest reported being 12 oz. per bucket and 150 oz. from one claim at Christmas Rush. These diggings were reworked in the 1880s, 1890s, and 1930s, but with little success, although diamonds and other precious stones were found at Poor Mans Hill Rush. Total production of the Old Echunga Diggings was approximately 100 000 oz.

On the northern part of the field, rushes took place at Donkey Gully in 1855, Hahndorf Gully in 1858 and Biggs Flat in 1877. In 1872, over 400 miners came to rushes in Sailors, Sawmill, and German Gullies which were worked at shallow depths, the largest nugget being 5 oz. from Sailors Gully. A number of reef mines were worked in the vicinity, the most significant being Stirling Reef and Warrakilla, the latter producing 2 500 oz. between 1893 and 1905.

In 1868, Thomas Plane and Henry Sanders discovered alluvial gold near Jupiter Creek which led to a rush, involving 1 200 people at its peak. Many nuggets were found, the largest weighing 12 oz. During 1868, companies prospected the surrounding hillsides for payable reefs, leading to the development of the Caledonian and Beatrice mines. In 1884, Thomas Plane opened the Crystal Mine which operated for nearly 11 years, producing 1 500 oz. of gold. In 1906-7 dredging operations were tried at Jupiter Creek but proved unsuccessful. The Jupiter Creek Diggings, produced between 25 000 and 30 000 oz. of gold.

Several small alluvial areas were worked between Echunga and Meadows but other than the Queen Mine no payable reefs were found. To the west, McTaggart's land was opened as an alluvial goldfield in 1893 and 145 mining licences were issued on the opening day. The first results proved poor but richer areas were later found and a number of reefs were worked on a small scale, the most successful being the Boulder claim held by Messrs. DeRose, Pearce and Brookman. This trio later discovered the Great Boulder Mine in Western Australia.

Many places along the Onkaparinga River have been worked for alluvial gold since the first rushes in 1870, Blacksand Corner, Pennyweight Flat and Seamans Point proving to be the richest.

Forest Range Goldfield

Map 12

Located to the northwest of Forest Range, the goldfield has produced about 6 000 oz.

Gold was discovered in 1854 in Stony Creek by Biggs, Mason and Norton who washed 20 oz. from two loads of washdirt. A rush involving more than 200 men took place in 1855 along the alluvial flats of the creek. Many small nuggets were reported, but the majority of the claims gave poor results and the area was abandoned by 1856. Intermittent prospecting was carried out over the next 30 years.

A reef containing gold and bismuth was discovered in 1870 by Captain Terrell and worked as the Eclipse Mine until 1871.

A new rush attracting 600 men took place in early 1887 following the discovery of a rich alluvial gutter on the hillsides adjacent to Stony Creek. The new discovery was made on the freehold land of Messrs. Boehm and Love, who owned the mineral rights and allowed the men to prospect for a weekly rental of 2s.6d. About 80 to 100 oz. per week were purchased by the bank and many nuggets, including one weighing 48 oz., were recovered. However, the majority of diggers were unsuccessful and, by late 1887, only about 100 remained on the field.

In 1889, J. Bowen discovered gold on Mr. Price Maurice's land about 1 km north of the Forest Range diggings. In November 1889, a petition signed by 73 diggers and local settlers was made to the Government for the property to be proclaimed a goldfield under the Mining on Private Property Act of 1888. This Act enabled private property to be dealt with by the Government as Crown Lands in relationship to mineral regulations. The land was the first in the State to be declared an alluvial goldfield under the new act and was opened to diggers in July 1890, when 1 000 people gathered on the field and 246 mining licences were issued. Named Forest Glen, the new field proved disappointing although a few rich patches were worked. By mid-1890 most of the diggers had moved back to the old diggings at Forest Range where a number remained until 1899. Both the Forest Range and Forest Glen fields were reworked during the depression years of the 1930s.

Gomersal Goldfield

Map 17

Gomersal Goldfield, 4 km west of Tanunda has produced over 750 oz. of gold, mainly from alluvial workings. Alluvial gold was found in a vineyard near Gomersal in 1871. Further mining took place on quartz-ironstone reefs in 1888, 1899 and 1907. In 1923, there was a revival of both reef and alluvial mining. The most significant reef mine was Golden Belt, where coarse gold in pieces up to 1 oz. was reported. Increased activity in 1930 led to some rich discoveries under a road which was officially opened for gold mining in 1931 and a number of shafts were sunk and 500 oz. were produced in six months. The alluvial wash, up to 1 m thick occurred in gutters between 1 and 6 m below the present surface. Mining continued on the field to 1938.

Map 8

Gumeracha Goldfield

Gumeracha Goldfield, located on Mount Crawford Forest Reserve, is an important fossicking area. Access can be gained by permit from the forest headquarters.

Gold was discovered in 1884 by James Watt and three mates in the gully that now bears his name. They worked the gully quietly for a year, but early in 1885 news of their discovery leaked out and the area was quickly rushed.

Within a few weeks, more than 80 men were working in Watts and nearby gullies. A small township, including two stores was established. Gold was found at shallow depths in the modern alluvium and in cemented Tertiary deposits on adjacent hillsides. Watts Gully was by far the richest and yielded gold to a short distance above the fork near the top of the gully. It was particularly rich at the fork where many nuggets were obtained on the western bank, the largest recorded being 22 oz. Total production is estimated at 1 000 oz.

By the end of 1885, most alluvial mining had ceased and attention was directed to quartz reefs which crossed the gully, but results proved disappointing. Further alluvial and reef claims were worked in the mid 1890s and early 1930s. Since the late 1970s, small nuggets have been found in the fossicking area.

In 1933, two prospectors, Kollosche and Barron, found a 20 oz. nugget about 2 km east of Watts Gully and a rush followed. The Mount Crawford Gold Mining Company was formed to work the prospectors claim but no payable reefs were found and work ceased at the end of 1935.

Map 16

Lobethal Goldfield

Total recorded production of the Lobethal Goldfield amounts to over 400 oz.

During the early days of the colony, gold was occasionally found near Lobethal but there was no serious mining until the 1880s when alluvial and reef mining commenced on the western side of town. Some rich patches were struck and a number of reef mines were worked intermittently up to 1900, the most significant being Golden Hill. Small alluvial mining operations took place at intervals up to 1931 when an alluvial patch was discovered near Golden Hill. The ensuing rush extended over 4 km. Most of the claims yielded small amounts of gold but occasionally some isolated rich patches were struck. Several reefs were also worked but operations ceased within a few years.

The Federal and Golden Thorpe mines, southwest of the main area were opened in the 1890s and worked intermittently up to 1936.

Moppa Goldfield

Map 17

Moppa Goldfield, 6 km northwest of Nuriootpa, has a total production of less than 500 oz., principally from alluvial workings.

Gold was first discovered on Moppa Hill in 1873 but little activity ensued. In 1893, a discovery of alluvial gold nearby led to a small rush. The gold occurred in soft sandy clay and numerous shafts between 1 and 6 m were sunk. A few yields of up to 1.5 oz. per day were reported and a number of small nuggets, up to 1 oz. were found. Only small quantities of gold were found in irregular patches and, by 1897, activity had ceased. Further minor shallow work took place in 1930-31.

Several reef mines were worked above the alluvial diggings, the most successful being Garden Gully, which produced about 21 oz. of gold from 4.6 t of ore in 1905, but later crushings gave poor returns.

Mount Rufus Goldfield

Map 17

In 1868, alluvial gold was discovered near Mount Rufus, 11 km north of Truro. The small rush that followed lasted for about nine months and a small quantity of nuggetty gold was recovered. In 1872 and again in 1895, a reef was worked and occasional small pieces of gold were found between 1926 and 1933. Total production from the diggings is about 50 oz.

Para Wirra Goldfield

Map 13

Extending for 10 km from Mount Gawler to the South Para River, the goldfield is bounded on the north by the Barossa Goldfield and on the east by the Deloraine Goldfield. The principal area, known as the Humbug Scrub Diggings, was centred on reef workings now located in Humbug Scrub Wildlife Sanctuary, adjacent to Para Wirra Recreation Park (Map 14). Production from the field has been poorly recorded but is estimated at 8 000 oz., three quarters of which was produced from the Lady Alice Mine.

In December 1868, James Goddard discovered alluvial gold in Hamlin's Gully, now located in Para Wirra Recreation Park; an immediate rush attracted over 100 men. Many small nuggets were found, the largest weighing 3 oz., and over 500 oz. of gold were produced. Reefs were worked by syndicates above the gully during the 1870s, the most significant mine being the Lady Alice, discovered in 1871. A company formed to work the mine in 1873, erected winding and pumping machinery and a 20-head stamp battery. In 1874, Lady Alice became the first gold mine in the State to declare a dividend and, up to closure in 1879, produced about 6 000 oz. of gold and 200 t of copper. A township was established on the mine with two hotels, chapel, school house and about 30 miner's cottages.

During 1877 and 1878, a number of small alluvial rushes took place in Humbug Scrub, the most notable being Marys and Devils Gullies and Bismark Diggings.

In 1932, reef mines were opened above the alluvial workings at Stockyard Gully, 6 km west of Kersbrook, and worked to a depth of 30 m. Stockyard Gully Mine produced about 180 oz. of gold and the adjoining Para Wirra Mine produced 106 oz.; both mines closed in 1953. The gold at these mines occurred in quartz-ironstone reefs, associated with copper and bismuth minerals.

Map 12 Uraidla Goldfield

Located just east of the township of Uraidla, the field was discovered in 1869 when alluvial gold was obtained from shallow diggings. Between 1889 and 1896, further alluvial gold mining took place in Thomas Dyer's paddock, attracting 40 men at its peak. Gold was found in two gutters down the short gully to the main road, and some claim producing as much as 6 oz. per week and nuggets up to 2 oz. Total production is estimated at 2 000 oz. The area was reworked in the 1930s.

The gully is crossed by numerous quartz veins and reefs. Various small reefing companies operated on the field in the mid 1890s, the most significant being Lady Edith and Uraidla which recovered small amounts of gold.

Map 15 Willunga Goldfield

Located east of Willunga, the goldfield has an estimated production of 1 000 oz.

A small alluvial rush took place on Meadows Creek in 1885 at the Willunga Diggings and several reefing claims were taken up on adjacent hillsides. In 1887, a rush on the alluvial flats of Blackfellows Creek, about 1 km above the junction with the River Finniss, yielded small quantities of gold. In 1889, a dam was constructed across the lower end of the creek and connected to a sluicing plant by a 2 km water race. The plant proved unsuitable for the material treated and, in 1896, a new dam and plant costing £7 000 was erected. Sixty men were employed by the project, which again proved unsuccessful.

A number of small reef mines operated in the southern part of the field, the most successful being Mount Monster and McMurties which each produced about 50 oz. of gold; both mines were reworked in the 1930s.

Blackwood Gully, 6 km southwest of Meadows, was the scene of an alluvial rush in 1886 which, at its peak, attracted 300 diggers. The gully was worked for 1 km by shallow diggings and several nuggets up to 14 oz. were discovered.

Woodside Goldfield

Map 16

Located east of Woodside and extending from Oakbank to Mount Charles, the goldfield has a recorded production of nearly 30 000 oz. More than 23 000 oz. came from three mines; Bird-In-Hand, New Era and Eureka. Gold occurred in quartz-sulphide reefs in weathered Precambrian quartzite and schist. Sulphide minerals, including pyrite, arsenopyrite, galena, sphalerite and chalcopyrite, were common in the principal mining area 3 km to the west of Woodside.

Alluvial gold was found in the Onkaparinga River and its tributaries near Balhannah as early as 1849. In 1869, A. Mitchell discovered alluvial gold on his property near Woodside with yields of up to 3 oz. per ton of washdirt. In 1881, a reef was found on the property which attracted prospectors into the Woodside area.

Other reefs were found and companies formed to work them, principally between 1881 and 1899 and again in the 1930s. Pumping and winding plants were installed, batteries erected and extensive underground workings developed. Due to the high sulphide content of the reefs, significant losses were experienced during treatment; the tailings were cyanided in 1897.

The Bird-In-Hand line of reefs extends for 4 km from Fountain Head northwards to the New Era Mine. The largest mine, Bird-In-Hand, is centrally located on the line. The reef was discovered by Mr. D. McCracken, the first mine manager, in 1881 and an initial crushing of 12 tons yielded 22 oz. of gold. A company was formed, the township of Reefton Heights surveyed on the mine property, a 10-head stamp battery erected and ore raised from shallow workings. In late 1882, the original battery was sold and replaced by a new 20-head battery when the mine was hailed as the 'premier gold mine of the colony'. Steam engines and winding plant were installed, housed in large buildings with tall stone and brick chimneys.

In 1886, the company received a subsidy of £5 000 from the Government. A 50-inch diameter Cornish beam pumping engine, from the Bon Accord Mine at Burra, was installed at a new main shaft (Victoria) to drain the mine workings. Difficulties in raising finance for development because of the Broken Hill silver discovery led to closure in July 1889. The mine was used as a water supply and subsequently reworked between 1933 and 1938. Total production was 10 500 oz. from 22 760 t of ore. The adjoining Brind Mine produced about 130 oz. from the reef, while sluicing of surface material to a depth of 1 m produced five nuggets between 4 and 16 oz.

A small alluvial rush near Oakbank in 1882 led to the discovery of the reef on which the Banksia Mine opened in 1884. This was worked intermittently up to 1938 producing about 400 oz. of gold.

A quartz reef on Mount Charles was first prospected in 1884. In 1887 and 1888, Mount Charles Gold Mining Co. worked the mine, installing a steam engine and pumping machinery. The area was reworked between 1931 and 1938, the most successful mine being Gluepot which produced 575 oz. from 755 t of ore.

FLEURIEU PENINSULA (MAP 18)

Gold was discovered in Tertiary alluvium at the head of Cooalinga Creek, near Cape Jervis, in 1862 and a minor rush resulted. Further activity took place in the 1890s when a syndicate drove an adit into the Tertiary capping of the hill and a small quantity of gold was produced. Prospecting was carried out over a large area and other discoveries near Tunk Head and Aarons Hole led to numerous claims being taken up.

The Bullaparatta Diggings were discovered in 1864 and worked for about a year. The field was reworked in 1899 and again in 1903 when a reef thought to have been the source of the gold, was unsuccessfully prospected.

The Callawonga Creek Diggings in Gold Digging Swamp were worked in 1864, between 1890 and 1907, and in the 1930s, but the very fine alluvial gold proved difficult to concentrate. Sluicing of the alluvial gravels was attempted in 1903 and 1906, but proved unsuccessful. Reefs were worked on a small scale above the swamp.

The only payable reef mine on the Fleurieu Peninsula, Grundy Mine, was discovered in 1866 near Second Valley. The lode, predominantly ferruginous quartz with gold and bismuth, was about 4 m wide. It was reworked between 1901 and 1904 when a 10-head stamp battery was erected and again from 1932 to 1935. The mine produced over 100 oz. of gold and nearly 450 kg of bismuth.

KANGAROO ISLAND (MAP 19)

Several small goldfields have been worked on Kangaroo Island but production has been poorly recorded and is estimated at about 100 oz.

During the 1890s, gold mining was undertaken in the Cuttlefish Bay area. Tippins Mine yielded 30 oz. of gold from 50 t of ore in 1890. In 1896, a series of crushings at Bald Hill Mine yielded up to 0.75 oz. of gold per ton.

An alluvial goldfield of about 2.5 square kilometres was opened near Cape Willoughby in 1864. A small alluvial rush took place at the Stunsailboom River in 1906 and many shafts were sunk, averaging 3 m in depth. In 1931, reef prospecting at American River gave encouraging indications from small isolated patches.

During an alluvial rush in 1897 at Daws Diggings, many holes were sunk for a distance of 2 km along the river and on the alluvial flats and higher ground. Some appear to have been sunk into an old Tertiary lead.

The Goyder Range Goldfield was discovered in 1885 and although alluvial gold was worked along the gully, the reefs proved more significant. From a shaft 14 m deep, Mr. Tilka crushed 1 ton of ore for 0.25 oz. of gold. In 1906, the shaft was acquired by a company, renamed the Cygnet Gold Mine and worked for a number of years. Several crushings of ore were made in 1932. Nearby, Rainbows End Mine was worked in low grade ore from 1933-1937 and in 1950. The most important mine on the field, Kohinoor opened in 1885 and was worked intermittently to 1890 and in 1894-95, 1899, 1905-08 for a total recorded production of 36 oz. of gold from 33 t of ore.

MID-NORTH (MAP 20)

Map 21

Mintaro Goldfield

This field, located one km east of Mintaro, has produced approximately 250 oz. of gold.

Gold was discovered in the 1860s but little mining took place. Following a discovery in 1892, the property was opened as a goldfield under the Mining on Private Property Act, and up to 40 men worked the field. Mining ceased in 1893 but renewed activity took place in 1905 and in the 1930s. Alluvial gold was thinly distributed in the surface loam and gravel to a depth of approximately 50 cm, while below this was a second wash of red clay and gravel ranging from 15 to 30 cm thick, lying on slate bedrock. This second lead between 2 and 2.5 m below the surface produced nuggets up to 6 oz. More recently, work has been carried out on quartz-ironstone veins in the slate bedrock.

Map 22

Mongolata Goldfield

Mongolata Goldfield, 16 km northeast of Burra, has produced more than 11 000 oz. from 7 748 t of ore.

Late in 1930 a drover, Henry Byles, discovered gold on the eastern flank of the Mongolata Hills, and Byles Mongolata Gold Mining Co. was formed to work the deposit. The mine became the most successful of many companies that operated on the field, producing more than 3 900 oz. of gold bullion before closure in 1949.

In the months following the discovery, many mining claims were pegged adjoining Byles, of which Takati, Curlew and Baldina were the most significant. Takati, which worked from 1932 to 1942 producing 2 717 oz. of gold, was noted for occasional patches of specimen gold, the largest recorded piece weighing 216 oz. Some rich patches of specimen gold were also found at the Baldina Mine which produced about 1 400 oz. of gold between 1934 and 1945.

The Mongolata Battery and Cyanide Works was erected on the field by the State Government with the aid of a Commonwealth unemployment relief loan in 1932. Operations commenced operations in March 1933 and, up to closure in 1954, recovered nearly 10 300 oz.; hundreds of ounces were handpicked from the ore prior to dispatch to the battery.

Gold occurred in quartz-ironstone reefs filling fractures within a 10 m wide north-south trending fault zone. The reefs carried pockets of gold interspersed between large areas of low grades. Gold may still occur within unworked areas in the fault zone but the patchy distribution renders the rewards from any mining operation uncertain.

Several companies tested the alluvial deposits at the foot of the Mongolata Hills without success.

Mount Grainger Goldfield

Map 23

The field, located about 30 km northeast of Peterborough has produced about 4 000 oz.

The discovery of gold in the Buttamuck silver mine near Mount Grainger in 1889, marked the beginning of the field. Gold bearing quartz-ironstone reefs in the vicinity were prospected and several companies were formed.

The largest mine was at Mount Grainger, discovered in 1894, which produced more than 1 600 oz. up to 1915. In 1901, a winding plant, steam engine and 15-head battery were installed and, in 1912, a cyanide plant was added. Alluvial mining was undertaken in the creek on the northern side of the mine. During 1899, the Dustholes reefs, northwest of Mount Grainger, were discovered and claims have been worked intermittently to the present day, Myrtle and Golden Morn Mines being the most successful. A small production has been won in recent years.

A number of surface alluvial claims near Oodla Wirra produced about 250 oz. between 1945 and 1953.

Pitcairn Range Goldfield

Map 24

In 1931, prospectors J. and P. Cain discovered reef gold in the Pitcairn Ranges, 37 km east of Peterborough; claims were taken up by a number of syndicates. Mines spread for about 1 km along the eastern side of the range and were worked predominantly from shallow adits. Mining ceased in 1938 but resumed between 1942 and 1946. The most significant mines were Altitude and Altimeter, the latter being reworked between 1958 and 1963.

Gold occurs in a series of parallel gently dipping quartz veins between 2 and 20 cm wide in quartzite.

Total production of the field is about 600 oz., 297 oz. of which were produced from the Altimeter Mine at an average grade of 1.25 oz. per t.

Terowie Goldfield

Map 25

Gold was discovered on Waupunyah Creek, 22 km southeast of Terowie, in May 1886 in a quartz-ironstone reef. A minor rush for claims occurred and some rich specimens were found. Various crushings from different claims yielded gold at 1 to 2 oz. per ton, the richest being from the Golden Point Mine. Mining was at shallow depth and most work ceased at the end of 1887 although a little further work was done in 1894 and 1897. Total production was less than 100 oz.

In 1904, a newly discovered alluvial deep lead, Mittopitta was worked, with further activity between 1930 and 1935 when machinery was used to extract about 22 oz. of gold from 70 t of material.

An area 4 km southeast of Terowie was worked during the period 1900-1902.

Map 26

Ulooloo Goldfield

Ulooloo Goldfield, 10 km northeast of Hallett, produced about 5 000 oz. of alluvial gold. The field consists of two principal areas; alluvial workings stretching for 4 km along Coglins Creek, and Twighams Lead, 5 km to the northeast.

Alluvial gold was discovered near the junction of Ulooloo and Coglins Creeks in December 1869 by Harvey. A series of shafts were sunk along the creek, all bottoming on gold bearing wash. Small quantities of gold were found but the discovery attracted little attention and was abandoned within a few months.

In early 1871, a prospecting party led by an experienced digger named Westcott made further discoveries 3 km south of the original find, causing a rush which attracted 300 men at its peak. The first workings were on Noltenius Creek and extended into Coglins Creek. Gold was found in alluvium of three ages; cemented Tertiary alluvium, shallow leads on the present alluvial flats, and the present creek beds. Along Coglins Creek, gold was found at shallow depths in alluvium and at depths of 6 to 9 m in a lead which partly followed the course of the creek. Relatively coarse gold with nuggets up to 12 oz. was recovered. Several stores and more than 100 tents were erected on the diggings but, by late 1872, most of the activity had ceased.

Twighams Lead was discovered in 1872 and a minor rush took place but the payable area was small.

Further mining took place between 1886 and 1889, when the principal activity was on Tertiary alluvium between Scrubbers Creek and White Lead at depths to 12 m.

The field was reworked by about 20 men between 1929 and 1934 with poor results.

OLARY AREA (MAP 27)

Kings Bluff Goldfield

Map 28

Kings Bluff Goldfield, 5 km northwest of Olary, has produced about 1 000 oz., principally from reef workings.

Alluvial gold was discovered in a dry creek bed at the foot of Kings Bluff in 1887 by the Mellor brothers. A rush took place and within days there were about 500 men on the field. Results were poor, although yields of up to 1 oz. per week were reported. Within a few weeks, most of the miners departed and very little alluvial mining has taken place since.

Mellors discovered a reef on the Bluff in May 1887 and the area was proclaimed a goldfield. Mellors Mine was worked by the Kings Bluff Gold Mining Company, but although an early crushing yielded well, later crushings were disappointing and the company went into liquidation in 1889.

In 1901, a new reef was discovered by Forth precipitating a rush for reefing claims. Most work ceased by 1902 but the Outalpa Proprietary Syndicate continued, producing 346 oz. from 140 t of ore.

A further reef discovery in 1906 was worked by the Kings Bluff Syndicate until 1914. A small battery was erected and 298 t of ore crushed for a yield of 373 oz. Several reef claims were worked in 1933 producing 54 oz. from small leaders.

Mannahill Goldfield

Map 29

The mines of the Mannahill Goldfield, 12 km northwest of Mannahill, have produced nearly 3 500 oz. of gold. About 8.3 kg has been produced from the field in recent years. Discovery of a gold-bearing reef near Mannahill at the end of 1885 by McEvoy led to a rush for claims. Within a few months, about 60 mines were being worked along series of reefs. The Birthday Line consists of two or three parallel reefs extending for 1.6 km, with the parallel Aurora Australis Line to the north. The Westward Ho to Trojan Line of reefs extends for about 6 km and the Homeward Bound Line is nearly 1.5 km in length. Many crushings of small quantities of ore were recorded, mostly with low yields. A battery began operating in 1886 and within the first six months about 500 tons of ore were crushed. By 1888, most of the claims had been abandoned due to low yields. Westward Ho and Homeward Bound mines were the most significant producers after that time.

Westward Ho was first worked from 1886 to 1900, when a 20-head stamp battery and winding plant were in operation, and reworked in 1911-12, 1930s and 1947, producing a total of 1 100 oz. Homeward Bound, operated between 1886-1888 and intermittently between 1902 and 1939, for total production of 1 922 oz.

Gold occurs in a series of quartz bands essentially conformable with the surrounding rocks. Only the upper oxidised portions of the reefs have been worked.

Detailed investigations of the Homeward Bound and Westward Ho mines in the 1970s revealed poor prospects for development of the lodes below the oxidised zone.

Map 30 New Luxemburg Goldfield

This field, about 22 km east of Olary and 45 km northwest of the Wadnaminga Goldfield, has a total production of about 500 oz., the majority coming from the Queen Bee and Lux mines.

Payable gold reefs were discovered near Mingary in 1887 by Schmidt and Bottcher and 200 reef claims were pegged out during the resulting rush. Within the first year small crushings were recorded from about 25 separate claims with yields from 0.3 to 1.9 oz. per ton. Within the next few years several copper and silver-lead mines were discovered and developed, in which gold was also found in small quantities. Most claims had ceased work by 1890 except Lux and Queen Bee, both of which operated periodically up to 1916. Lux has recorded a production of 235 oz. of gold from about 640 t, while Queen Bee has produced 200 oz. from 378 t of ore.

The gold-copper mineralisation of Lux and Queen Bee occurs in parallel quartz-sulphide reefs cutting granite and metamorphic rocks on the eastern boundary of an extensive body of amphibolite. Most of the ore dispatched from the mines probably represented hand-picked stone from small, rich patches along otherwise almost barren reefs.

Map 31 Nillinghoo Goldfield

About 100 miners were attracted by the discovery of gold, about 60 km north of Yunta, by Henry Kirkeek in early 1894. The only significant mine was Kirkeeks Treasure, which operated intermittently up to 1916, in the 1930s, 1961, and recommenced operations in 1974. Total recorded gold production is 2 806 oz. from 3 787 t of ore up to 1961, and more than 18.5 kg since 1974.

Workings at Kirkeeks Treasure extend east-west for more than 200 m and include an open cut 90 m long, 6 m wide and 15 m deep and a number of shafts to depths of 63 m. The gold bearing quartz-ironstone veins average 15 to 30 cm in width, and fill a series of irregular fissures in quartzite and siltstone.

Total production of the field is about 3 500 oz.

Taltabooka Goldfield

Map 32

Taltabooka Goldfield, about 30 km south of Olary, has a total production of approximately 300 oz.

Gold was discovered near Taltabooka Well in late 1891 by A. Porter. Numerous reefs were prospected and assays indicated an average grade of more than 2 oz. gold per ton. A number of small companies were formed in 1896. Between 1934 and 1938 some of the old mines were re-worked and a number of new claims were taken up, all of which yielded small amounts of gold.

Gold bearing quartz-ironstone reefs, often containing small amounts of copper and lead and varying between 25 cm and 1 m in width, were worked by shallow shafts and pits. The largest mine was Esmonde, which produced 65 oz. from 72 t of ore.

Teetulpa Goldfield

Map 33

Gold was discovered about 30 km north of Yunta by Thomas Brady and Thomas Smith in October 1886. Several pieces of gold weighing about 1.5 oz. were prised from crevices in the bedrock in the centre of the gully now known as Bradys. The prospectors applied for and received a Government reward of £1 000 for the discovery of a payable goldfield. Their find resulted in a large rush to Bradys Gully which attracted more than 5 000 prospectors within two months.

Teetulpa was noted for the large number of nuggets found, some 150 being reported between 1 oz. and 30 oz. Twenty seven of these, including the largest, weighing a total of 230 oz., were purchased by the Government for exhibition purposes and were displayed at the Jubilee Exhibition of 1887.

Mining was hindered by lack of water and, initially, all alluvium was carted 3 km to Tonkins Well but, later, water was pumped to tanks at the southern end of Bradys Gully. Many prospectors simply laid out the wash on primitive tables and scraped through with knives for visible gold. Thick encrustations of limestone and iron oxides reduced the specific gravity of nuggets and some may have initially been passed over.

The field occupies several shallow valleys. The main alluvial leads represent fossil valley stream bed accumulations slightly offset from the modern drainage. Many of the leads are slightly higher than the existing watercourses. Gold was found in sandy wash near the bottom of the alluvial leads in erosional gutters and pockets in the slate bedrock. Depths to the wash varied from about 1 m in the beds of the present drainage to 7 m on the sides of the valleys.

Initially the diggings were confined to Bradys Gully but subsequent discoveries were quickly rushed. At Windlass Hill, on higher ground, one claim produced about 200 oz. in 6 weeks. When a pocket containing about 24 oz. of nuggetty gold was found at Goslins Gully there was an

immediate rush. The gully proved as rich as Bradys, with nuggets up to 11 oz. being recovered. Fair returns were obtained in Strawbridges Gully with nuggets to 5 oz., but Brennans Gully proved unpayable. Dam Gully yielded well, but was very patchy. A 13 oz. nugget was found in Deep Gully.

In 1887, gold-bearing quartz reefs were prospected by a number of small companies, but these failed to produce payable gold in any way comparable to that obtained from the alluvial deposits. A small battery was erected between Bradys and Goslins gullies, but results were unsatisfactory.

By 1889 the field was virtually deserted. Further mining activity took place in 1909-11, 1913 and 1934. In recent years sporadic alluvial mining and mineral exploration has been undertaken. Today, Teetulpa Goldfield is a popular fossicking area and small nuggets continue to be found.

Total estimated production from the field is 87 000 oz.

Map 34

Wadnaminga Goldfield

Wadnaminga Goldfield, approximately 30 km south of Olary, comprises two groups of workings; Eiffel Tower-Victoria Tower mines in the south-west and the more important Virginia-New Milo-Thunder Queen mines in the northeast.

Reef gold was discovered at Wadnaminga in 1888 by three prospectors who named their claim Eiffel Tower. Other mines were developed along the reef and included Victoria Tower, Oulnina Tower and Countess of Jersey.

In 1889, another line of gold bearing reefs, The Birthday, was discovered northeast of Eiffel Tower. The most important mines opened on this line were New Milo, Virginia, Thunder Queen and Great Eastern.

The Birthday Line was the major producer. The lodes were extensive and contained evenly distributed fine grained gold. In contrast the Eiffel Tower Line was characterised by rich but irregular gold distribution.

The field was most active up to 1898 with 400 miners and three 10-head stamp batteries operating in 1892. The largest mine, New Milo, was worked periodically up to 1940 producing almost 11 000 oz. of gold. Virginia produced more than 5 000 oz. and Thunder Queen, discovered in 1914, produced more than 2 000 oz. up to 1939. Total production of the field is about 25 000 oz, including a small production in recent years.

Waukaringa Goldfield

Map 35

A gold bearing ferruginous quartz reef was discovered by a shepherd named J. Watson, at Waukaringa in 1873. Mines were opened along the length of the reef which was traced for several kilometres. Largest of these mines, Alma and Victoria, was worked from 1873 to 1894 and produced about 45 000 oz. of gold bullion from workings which extended to depths of 360 m. At its peak, the mine employed 140 men and treated 300 t of ore per week. Ore was crushed, roasted to convert sulphides to oxides and amalgamated on site.

By 1879, two 10-head stamp batteries, steam engines and winding plant had been erected. A new roasting plant was built in 1884 and, in 1887, a 20-head battery was erected to replace the two smaller ones. The mine closed in 1894 due to lower ore grades and pinching of the lode. In 1899, the tailings dumps were retreated by cyanidation. Subsequent attempts were made to reopen the mine in 1930-31, 1940-45, 1958, 1966 and 1969 but only resulted in small returns totalling 580 oz.

Of the other mines at Waukaringa, Alma Extended, West Waukaringa and Balaklava were the largest. Ajax, 13 km southwest of the main group of workings, produced more than 2 000 oz. from 1887 to 1938.

Alluvial diggings were opened in 1891 at Whites Lovely Gully but yields were poor and, by 1895, most activity had ceased.

The township of Waukaringa was established to serve the goldfield and, by 1886, facilities included school, post office, telegraph station, hospital, hotel, Wesleyan church, police station and several stores. The Government also excavated large underground tanks covered by galvanised iron to store much needed water. The township was abandoned in the 1950s.

Total production of the Waukaringa Goldfield is estimated at 50 000 oz including 13.3 kg since the 1970s.

FLINDERS RANGES (MAP 36)

Map 37

Angepena Goldfield

Alluvial gold was discovered in 1892 at Angepena, 45 km east of Leigh Creek. In mid-1893, a small rush took place, attracting nearly 400 men, many of whom were sent up by the Unemployment Relief Committee. Gold was found in shallow alluvium in several northeasterly trending gullies and on adjacent hillsides. The best claim returned 18 oz. in two weeks and nuggets up to 18 oz. were reported, particularly from Golden Gully and Windlass Hill. A 50 oz. nugget was reported by Mr. Macey, a storekeeper, but many diggers refused to believe the story, suggesting that Macey was creating a 'storekeepers rush'.

By 1894, the alluvium had been worked out and the field virtually abandoned. Attention turned to quartz-ironstone reefs which extend southeastwards from the alluvial workings for about 6 km. A large number of leases were pegged but yields generally were poor.

Angepena Treasure Mine was opened in 1894. After a very rich crushing, it was proved to have been salted and the miner responsible was brought to trial, found guilty, and gaoled. Between 1942 and 1948, the Xmas Mine produced more than 224 oz. from 40 t of ore. The mine was reworked in the early 1970s with an average yield of 2.3 oz. of gold per ton.

Total production of the Angepena Goldfield is approximately 1 000 oz.

Map 38

Boolooroo Goldfield

Located about 10 km east of Leigh Creek, Boolooroo Goldfield has a total production of approximately 500 oz.

Alluvial gold was discovered about 1 km north of Boolooroo Spring in 1888. A minor rush took place and some rich patches were struck at shallow depths, but few diggers found gold in payable quantities. However, reefs with visible gold were discovered and a number of shallow shafts were sunk. In 1894, another alluvial rush took place and shafts up to 10.5 m in depth were worked until 1896.

A resurgence of alluvial activity between 1933 and 1937 led to the discovery of a nugget weighing 18 oz. Gold was found in the upper part of a gypseous clay and in pockets to depths of 2.5 m. Within a few months in 1933, 200 oz. of gold was recovered by about 20 men. A small sluicing plant was put into operation in 1937.

TARCOOLA AREA (MAP 39)

Earea Dam Goldfield

Map 40

In 1899, Mr. Kingsmill found a rich specimen of gold bearing quartz in surface material near Earea Dam, 35 km west of Kingoonya. Active prospecting commenced and the Wilgena Enterprise Mine began operations shortly after. Within the next few years, eight other mines were worked. The principal mine, Wilgena Enterprise, produced intermittently in 1900-06, 1915 and 1932-41. A total of 1 480 t of ore were raised from thin quartz veins in granite for a yield of 1 620 oz. of gold. Its nearest rival, Perseverance working over the same periods produced 319 oz. from 316 t of ore. Total production of the field is about 2 000 oz.

Glenloth Goldfield

Map 41

Alluvial gold was discovered near Glenloth Well, 30 km southwest of Kingoonya in late 1893 but little mining activity resulted. In 1901, reef discoveries were made and, by 1902, about ten mines were being worked. In 1904, a 5-head stamp battery was erected on the shore of Lake Harris which was taken over by the Government in 1907 and a cyanide plant added. Activity on the field ceased by 1915 and the battery closed in 1924.

Mining recommenced in 1932 and, by 1934, there were about 80 men resident on the field. Activity peaked in 1935-36, when more than 25 mines were operating and the Government, with aid of Commonwealth funds, erected a new 10-head battery and cyanide works. From 1937 to 1941, the number of prospectors decreased, but a few mines continued operating until 1951. The battery finally closed in 1955.

The most significant mines were Fabians No. 3, which raised and crushed 3 054 t of ore for a yield of 3 318 oz. of gold, Florence May, which produced 1 117 oz. from 284 t, Jay Jay, 898 oz. from 1 416 t and Royal Tiger, 871 oz. from 2 060 t. The gold occurs in narrow discontinuous quartz reefs associated with extensive alteration zones in granite.

Since the mid 1960s, exploration companies have taken a renewed interest in the field and a small production has been maintained from the Jay Jay Mine in recent years.

Total production of the Glenloth Goldfield is approximately 10 000 oz.

Tarcoola Goldfield

Map 42

Tarcoola Goldfield, the State's major reef producer, was discovered in 1893, when alluvial gold was found by a local shed hand, Nichols, on the eastern end of Tarcoola Hill. This was followed in 1900 by Fabian and Ward's discovery of reef gold at the site of Fabian Shaft, and a subsequent rush for claims. The Tarcoola Blocks Co. was formed and took up ten 20 acre leases surrounding the find.

Tarcoola Blocks became the largest gold mine in the State, employing 170 men in 1904. A 10-head stamp battery, later increased to 20-head, was started in 1901 and a cyanide plant added in 1904. After 1912, ore was treated in the nearby 10-head Government battery and cyanide works, which opened in 1901 and helped to keep smaller mines of the district viable. The Tarcoola Blocks Co. ceased operations in 1918. In 1924, renewed interest led to the dewatering of underground workings and production continued until 1953. Total production of the mine, between 1901 and 1953, is more than 61 000 oz. from 45 000 t of ore. Sections of the mine have been reworked in recent years with about 7.4 kg of bullion produced since 1978.

Tarcoola Blocks contained numerous parallel to sub-parallel, auriferous quartz reefs, the most important of which were Fabian, McKechnie, Ward, Sullivan, Dedman, Lady Jane and Western Branch reefs. In general, the veins were less than 0.5 m wide and seldom more than 300 m long. Branching, pinching and swelling, and erratic gold distribution are characteristic of all veins worked.

Many smaller mines operated on the field, particularly during the period 1900-12, the most significant being Tarcoola Perseverance (5 464 oz.), Welcome Home (2 076 oz.) and Curdnatta (1 762 oz.). The Government Battery closed in 1955, having treated more than 33 000 t of ore for a return of 37 300 oz. of gold bullion. Total estimated production of the field is 100 000 oz.

Algebuckina Goldfield

Map 43

Gold was discovered in the 1870s in alluvial gravels of the Neales River at a waterhole called Algebuckina by a survey party for the overland telegraph line. Further discoveries were made by Biddle in 1886 and about 30 men worked on the field in early 1887, one party recovering 13 oz. of gold in 11 weeks.

Gold was also found in a basal conglomerate of Jurassic age on the northern bank of the Neales River, just west of the railway bridge carrying the Alice Springs railway line. In 1898, a syndicate was formed and a small battery erected near the bridge to test the conglomerate, but results were unsatisfactory.

During 1897, the Government assisted in prospecting for alluvial gold near Mount Kingston, but without payable results.

Total production of the field is about 150 oz.

Fossicking for Gold

Regulations

Minerals are the property of the Crown in South Australia. For prospecting and mining purposes access to land is obtained through the provisions of the Mining Act, 1971, as amended and the Regulations under the Act.

The Mining Act defines fossicking as the gathering of minerals

(a) as a recreation,

(b) without any intention to sell or dispose of them for commercial or industrial purposes, and

(c) does not disturb the land or water being fossicked by machinery or explosives.

Activities of fossickers do not come under the control of the Mining act and a fossicker does not require a Miner's Right. However, authority for entry onto a property must be obtained from the landowner.

Fossicking and prospecting are not permitted within National Parks, Aboriginal Reserves, Conservation Parks and Forest Reserves. However, fossicking areas have been established on part of the Echunga and Gumeracha goldfields near Adelaide. The Chapel Hill (Old Echunga) and Jupiter Creek diggings near Echunga are located on Historic Reserves controlled by the Department of Mines and Energy, and fossicking is permitted. The Watts Gully Diggings are located on Mount Grawford Forest Reserve and brochures and entry permits are available from the Forest Headquarters.

Areas held under current mineral claims, mineral leases and private mines are not available for prospecting or fossicking. Although such activities are permissible on exploration licences, it is not possible to peg a mineral claim without approval of the licensee.

Information on mining tenure and legislation can be obtained from the Registration Branch, Department of Mines and Energy.

Fossicking Equipment

Basic fossicking equipment includes available geological and topographic maps, geological hammer, pick, shovel, sieves, gold, pan, dolly-pot and magnifying glass. More sophisticated equipment may include a metal detector, cradle rocker or sluice box, hydraulic concentrator, dredge, dry blower and electrostatic concentrator.

Lack of surface water in South Australia severely limits the use of devices based on the availability of water. Such equipment is not permitted in E&WS Watershed Reserves in the Mount Lofty Ranges. Mechanised devises are banned in the fossicking areas at Watts Gully, Chapel Hill and Jupiter Creek. The use of power-operated machinery and equipment is classed as mining and can only be undertaken on an appropriately registered mineral claim or lease.

Dolly-Pot

Rock samples should be crushed before panning. In a dolly pot, samples are contained and crushed without loss of finely ground material. Steel pipe 20 to 25 cm in length and 8 to 10 cm in diameter, welded to a base plate of steel makes a suitable pot. A length of steel upset at the to form a head, is suitable as a dolly or pestle.

After crushing each sample, the pot should be cleaned out and, if necessary, barren rock crushed to prevent contamination of the succeeding sample.

Gold Pan

This is the simplest of gold-saving appliances but, because of limited capacity, is used more for testing materials suspected of being gold-bearing, than for actual recovery of the metal. Special pans of various sizes are available but any dish-like object may be utilised. Any utensil used for gold-washing must, however, be entirely free of great or oil, as gold so contaminated will tend to float off and be lost.

Samples are puddled thoroughly in the dish to ensure that any clay is broken down and any contained gold set free. By shaking with a circular motion, the separated gold settles to the bottom. The dirt is washed off gradually until the particles of gold and other heavies such as iron oxide and rutile are concentrated in the angle of the side with the bottom of the dish. Clean water is added, and with a swirling motion the non-auriferous material is gently washed from the heavier gold particles, leaving the latter exposed as a 'tail'.

In testing for gold, the same quantity of material should be washed each time to give a measure of the gold content. Flat, flaky particles of gold, which produce a good showing, are apt to be over-estimated by the inexperienced.

Metal detectors

Metal detectors respond to metallic objects including bottle tops, coils, rings, ironstone and gold nuggets buried at shallow depths, but are not generally useful for the detection of fine alluvial gold or reef gold.

The operation of metal detectors is based on the principle of electromagnetic induction. A variable current is supplied to the energising (search) coil, producing a correspondingly varying magnetic field. This induces a current flow in any conducting metallic object within range. The current will in turn have its own magnetic field and the presence of such a magnetic field in a previously balanced (nulled) system makes a response in the detector.

Hidden 'treasure' will not be detected at depths much greater than the diameter of the coil, due to the decrease of magnetic field intensity with distance from the energising coil. This will vary somewhat depending on the detection sensitivity of the instrument and the size of the object responding. It must be pointed out, however, that metal detectors are only an aid to prospecting and that for maximum usefulness many hours of practice under different situations will be required.

The gold pan and metal detector are tools used by the fossicker to detect concealed gold. If a gold-bearing deposit of eluvial or alluvial material is to be tested or worked in a small way, there are a number of gold concentrating devices. Cradles, sluices, dredges and hydraulic concentrators are suitable where water is available; dry blowers or electrostatic concentrators where water is scarce. Detailed information can be obtained from retailers.

Cradle or rocker

The cradle is not very efficient but allows the handling of larger quantity of material than a gold pan. Gold bearing material is shovelled onto the screen, or even stream of water applied and the cradle rocked from side to side. Fines are washed through the screen and coarse material is removed by hand.

Material passing through the screen falls on a sloping plate directing the material on to the gold-saving apron plate which is generally covered by corduroy cloth and canvas and is crossed by several riffle-bars. From the end of the apron plate, the material drops to the back end of the base of the cradle, the tailings eventually discharging from the front end.

Gold is caught principally behind the riffles on the apron plate and any passing over is caught behind the riffles on the base of the rocker. The apron plate is detachable and is removed at intervals to that the contained concentrate can be panned off. Mercury is sometimes placed behind the riffles to catch some of the fine gold.

Sluice Box

Modern versions of the sluice box are strong, durable and lightweight, being made of plastic and/or aluminium. A rectangular box flared at the intake end and 1 to 2 m long by 25 cm wide, is line with removable riffles. Below the riffles, matting seals the riffles to aid in holding fine gold concentrate. The box is sunk into the stream where sufficient fall allows water to flow through with some velocity. Where there is no flowing water, a bucket can be used to pour water over the box. Washdirt is shovelled into the head of the box and heavy fragments concentrated by water flow.

Hydraulic concentrator

This lightweight, highly portable device is used to process gold bearing gravels where flowing water is not available. An engine and pump assembly is set up at a convenient water source, and water pumped by hose to the sluice box at the deposit. Gravel is shovelled into the sluice allowing the water to concentrate any gold particles.

Dredge

The lightweight power-operated surface dredge consists primarily of a portable sluice box with a vacuum hose attached for collecting gold-bearing gravel underwater. A motor-driven pump forces water under pressure into the outlet to create a vacuum. As the vacuum hose is introduced into the gravel, the material is sucked into the hose, passed over the sluice box, to be expelled from the exhaust end of the system. Coarse gravel is removed by a screen, while fine material enters the sluice box and is gravity classified by a combination of the riffles and the vibration of the motor.

Dry blower

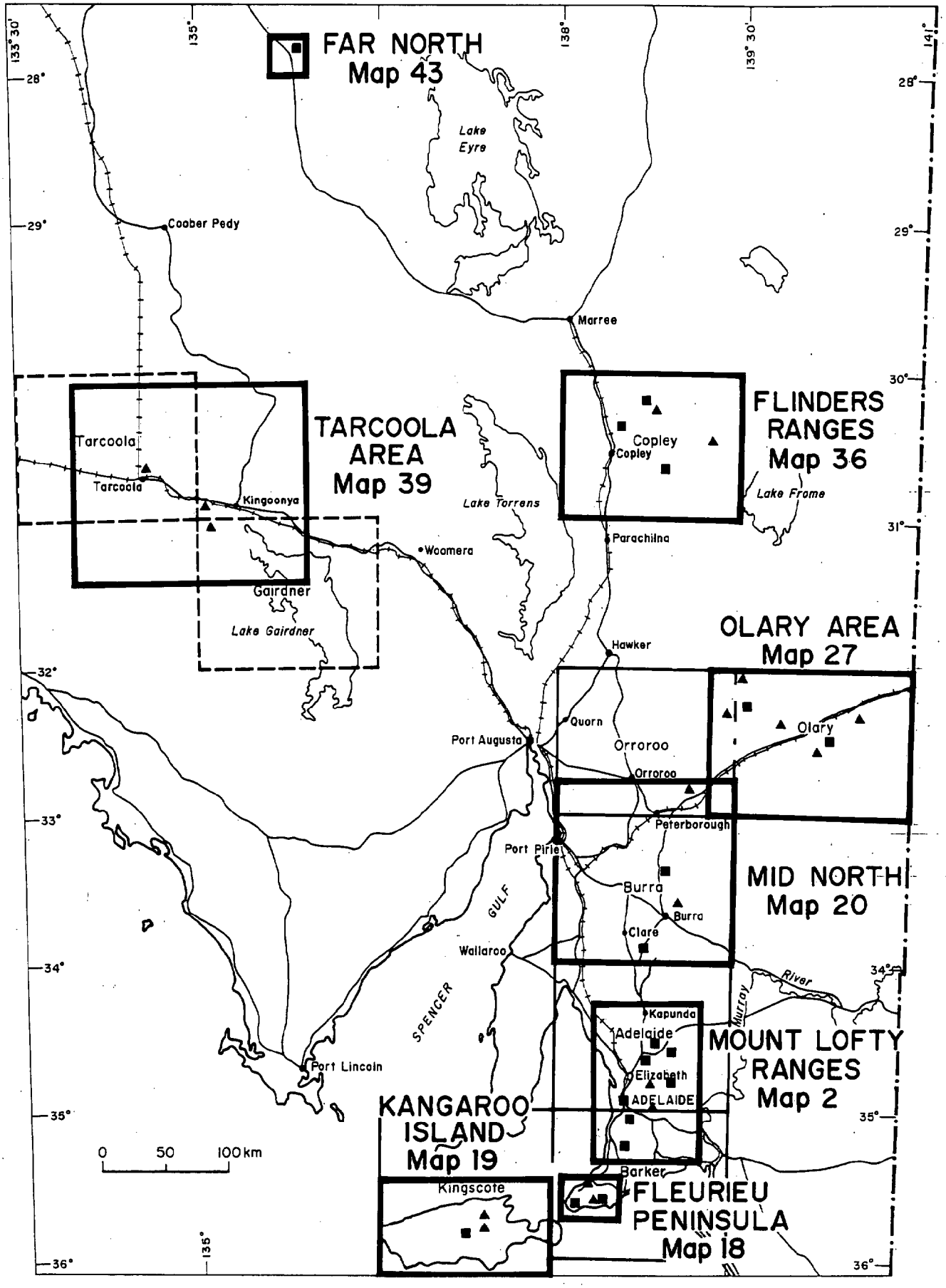
Where water is not available, dry blowing may be a suitable method of gold recovery. Winnowing is the simplest form, whereby dry pulverised gold-bearing material is poured from one pan to another. The wind blows away the light particles, to concentrate the gold content for recovery subsequently by wet panning.

The dry blower combines a rocking riffle-box and bellows. Coarse rock and gravel are removed from the roughly pulverised material by a screen. The fine material (undersize) is fed across an apron-plate to the upper portion of a riffle box, on the top side of the bellows. The shaking of the screen and the working of the bellows can be operated manually or by power. Air puffed from bellows through the permeable bottom of the riffle-box concentrate heavy particles of gold, which settle behind the riffles. Associated light waste is thrown up at each puff, and driven forward to pass over the end of the box.

Electrostatic concentrator

These devices are a development from dry blowers. Air from the bellows is puffed through special synthetic cloth under the riffles. Waste is 'floated off' to create a static charge on the cloth which attracts metalliferous particles as fine as 200 mesh.

GOLD FIELDS OF SOUTH AUSTRALIA



PUBLISHED MAPS AVAILABLE

1:250000 GEOLOGICAL AND TOPOGRAPHICAL SHEET AREAS ..... Olary

1:250000 GEOLOGICAL AND TOPOGRAPHICAL SHEET AREAS WITH 1:50000 TOPOGRAPHICAL MAPS AVAILABLE ..... Adelaide

REEF MINING LOCALITY..... ▲

ALLUVIAL MINING LOCALITY.... ■

DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S22583

REFERENCE

(Maps 2–43)

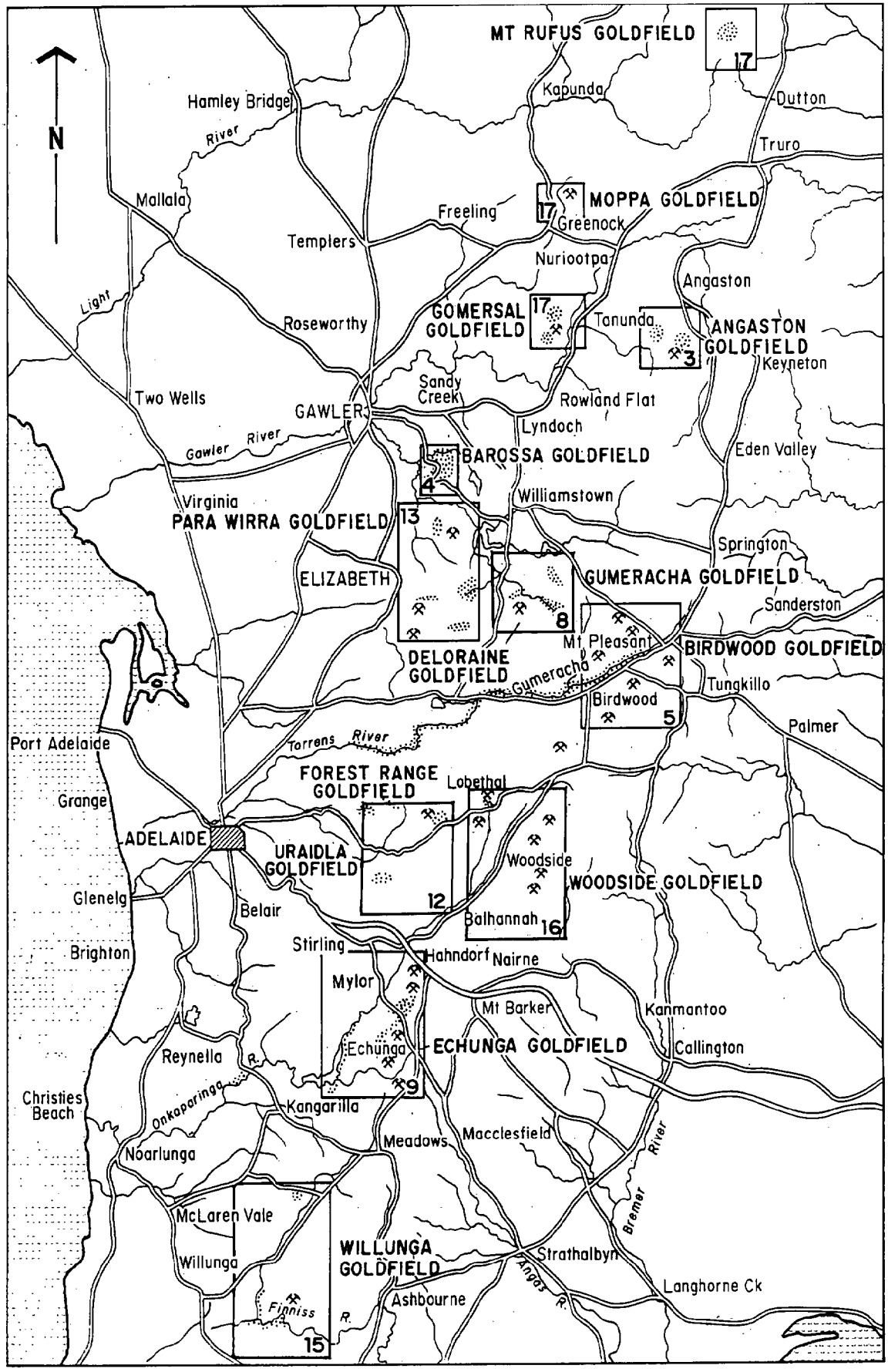
Highway or main road	
Secondary road	
Track	
Fence	
Reserve or park boundary	
Watercourse	
Dam, with embankment	
Alluvial diggings	
Reef mine	
Shaft	
Quarry or pit	

DEPARTMENT OF MINES AND ENERGY—SOUTH AUSTRALIA

S22579

Map No. 2

MOUNT LOFTY RANGES GOLDFIELDS



REEF MINING LOCALITIES

ALLUVIAL MINING LOCALITIES

0 10 20 30
KILOMETRES

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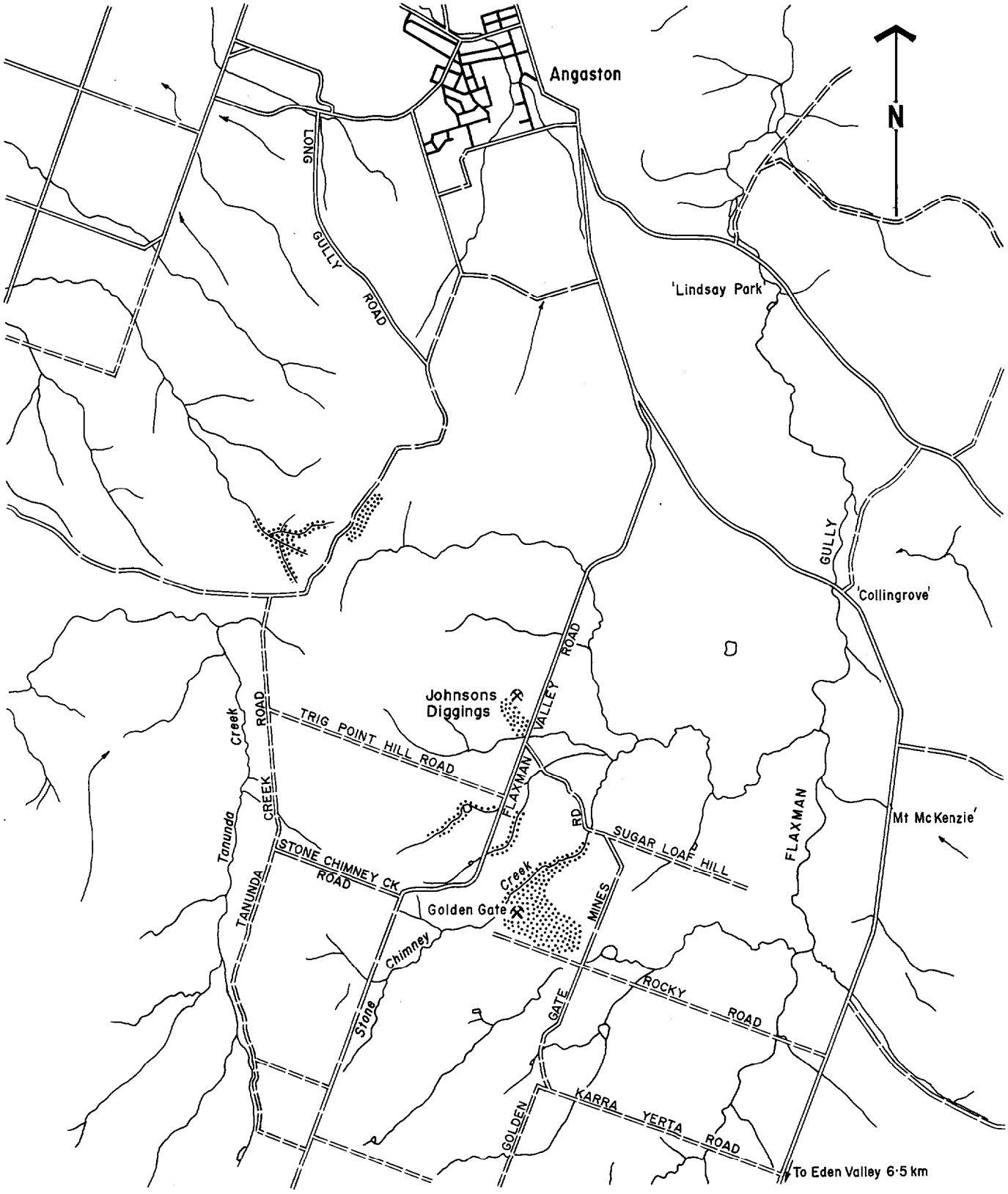
S22584

ANGASTON GOLDFIELD

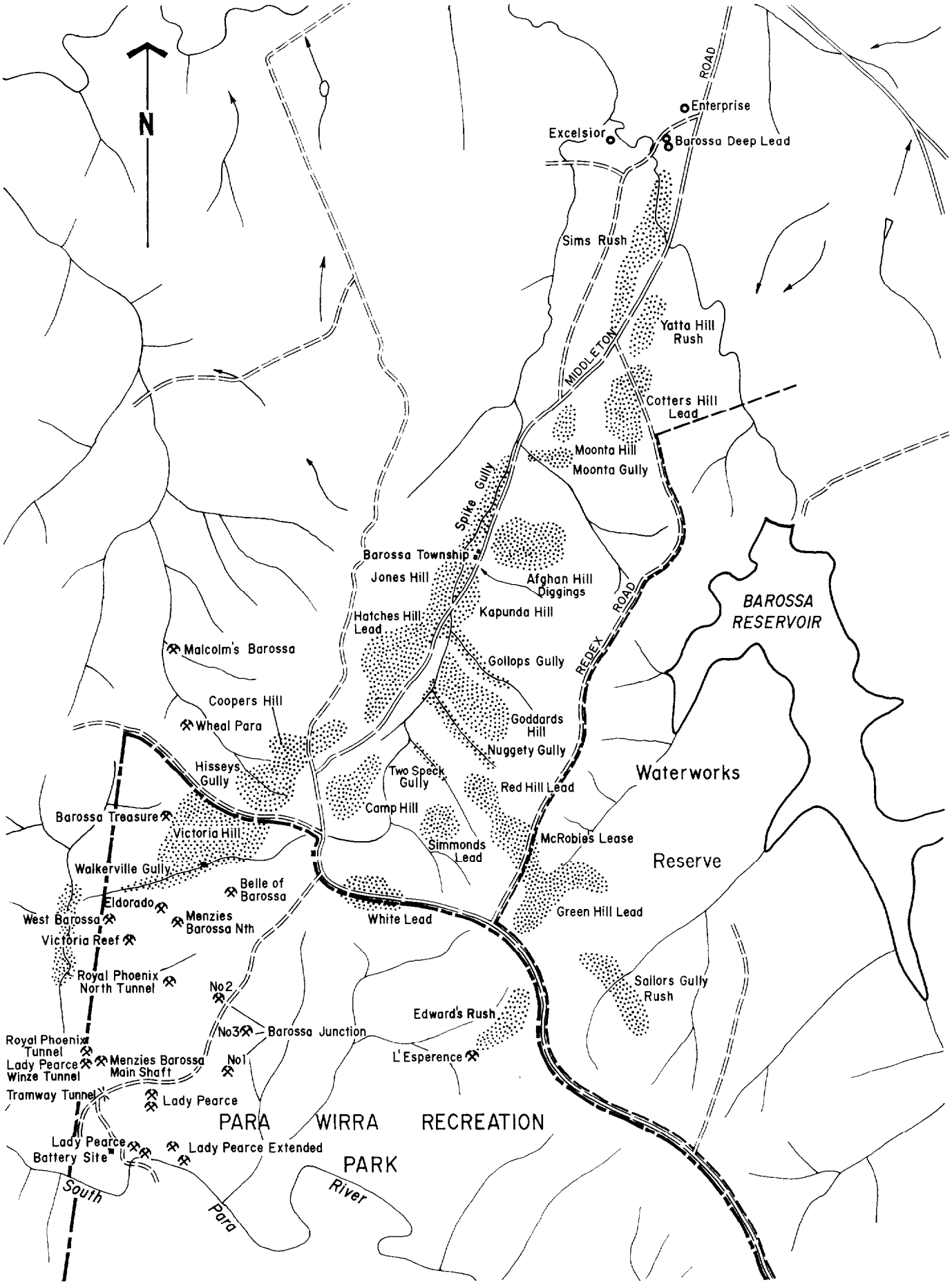


DEPARTMENT OF MINES AND ENERGY— SOUTH AUSTRALIA

S15566

Map No. 4

BAROSSA GOLDFIELD



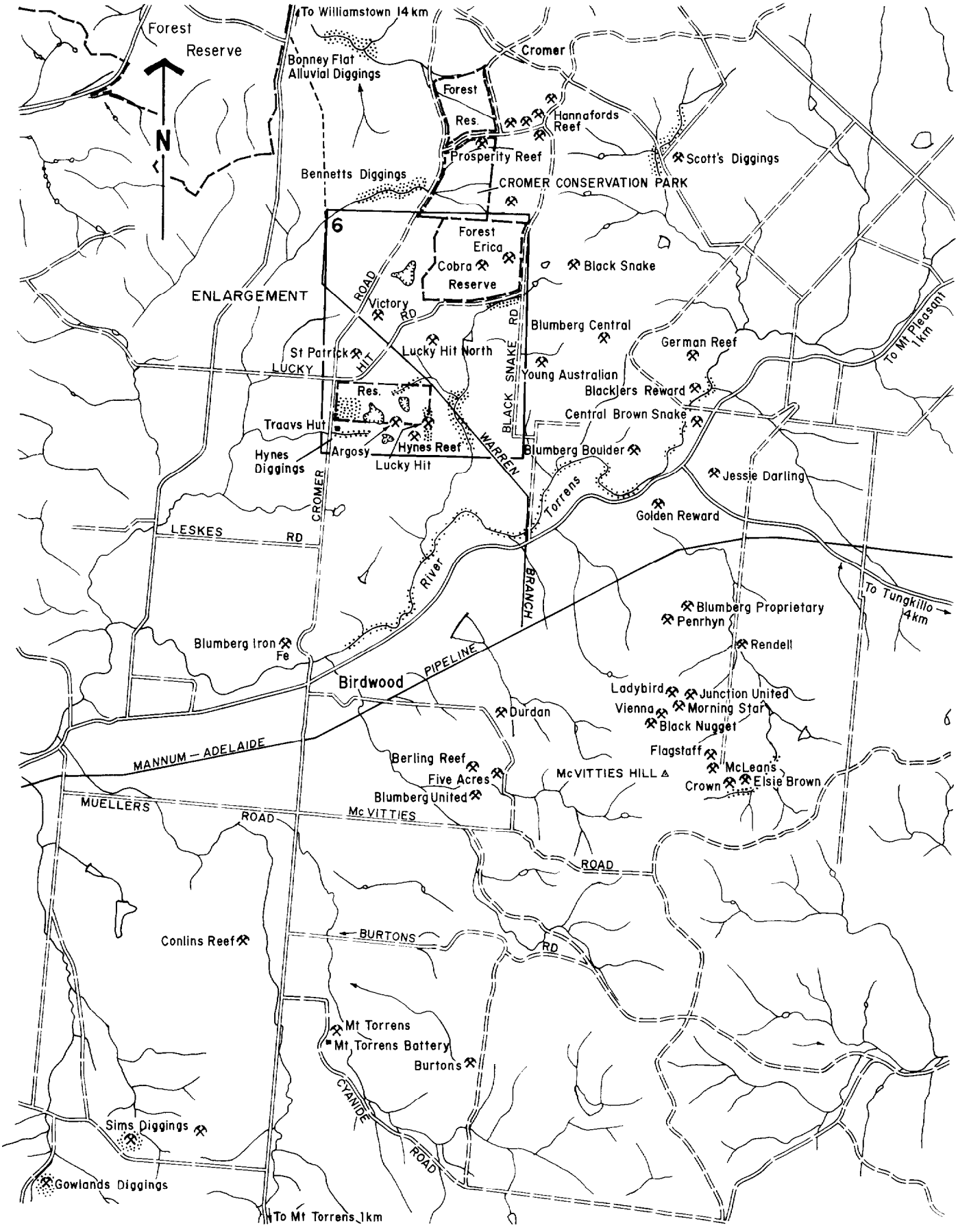
For further details see SADME Plan No. 80-282

DEPARTMENT OF MINES AND ENERGY— SOUTH AUSTRALIA

SI5557

Map No. 5

BIRDWOOD GOLDFIELD



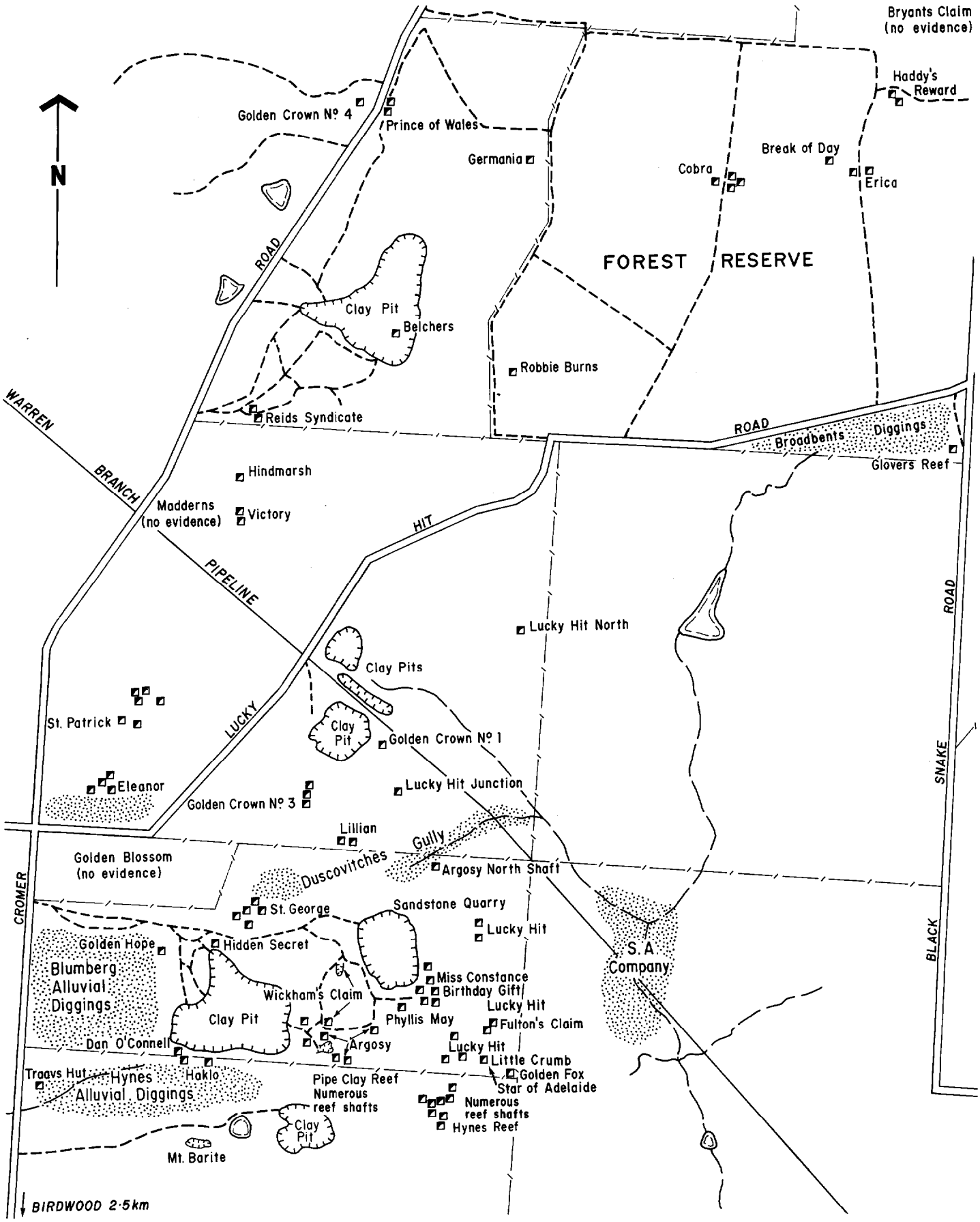
DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15560

BIRDWOOD GOLDFIELD

CROMER AREA

Map No. 6

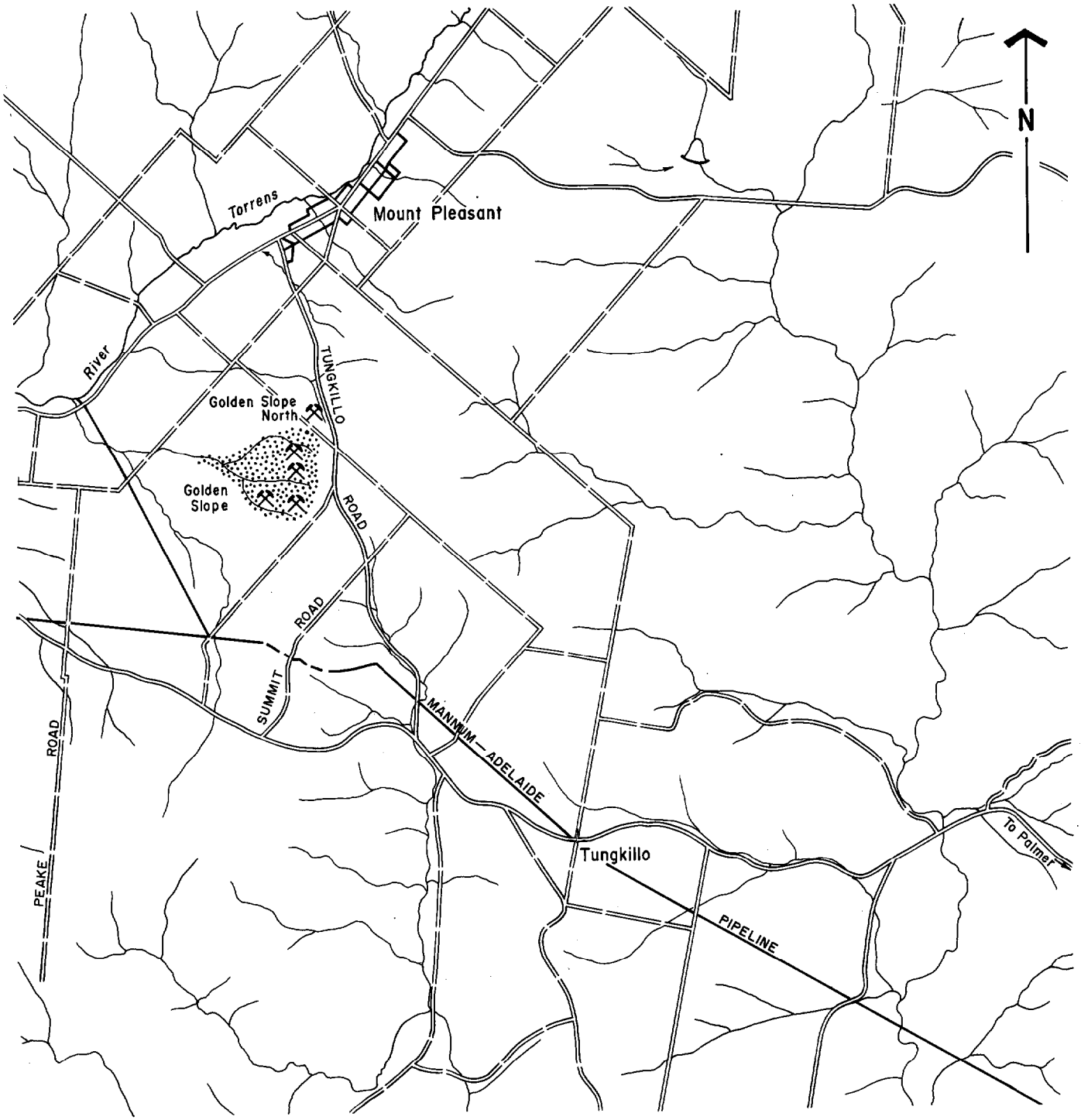


For further details see
SADME Plan No. 80-640

DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15562

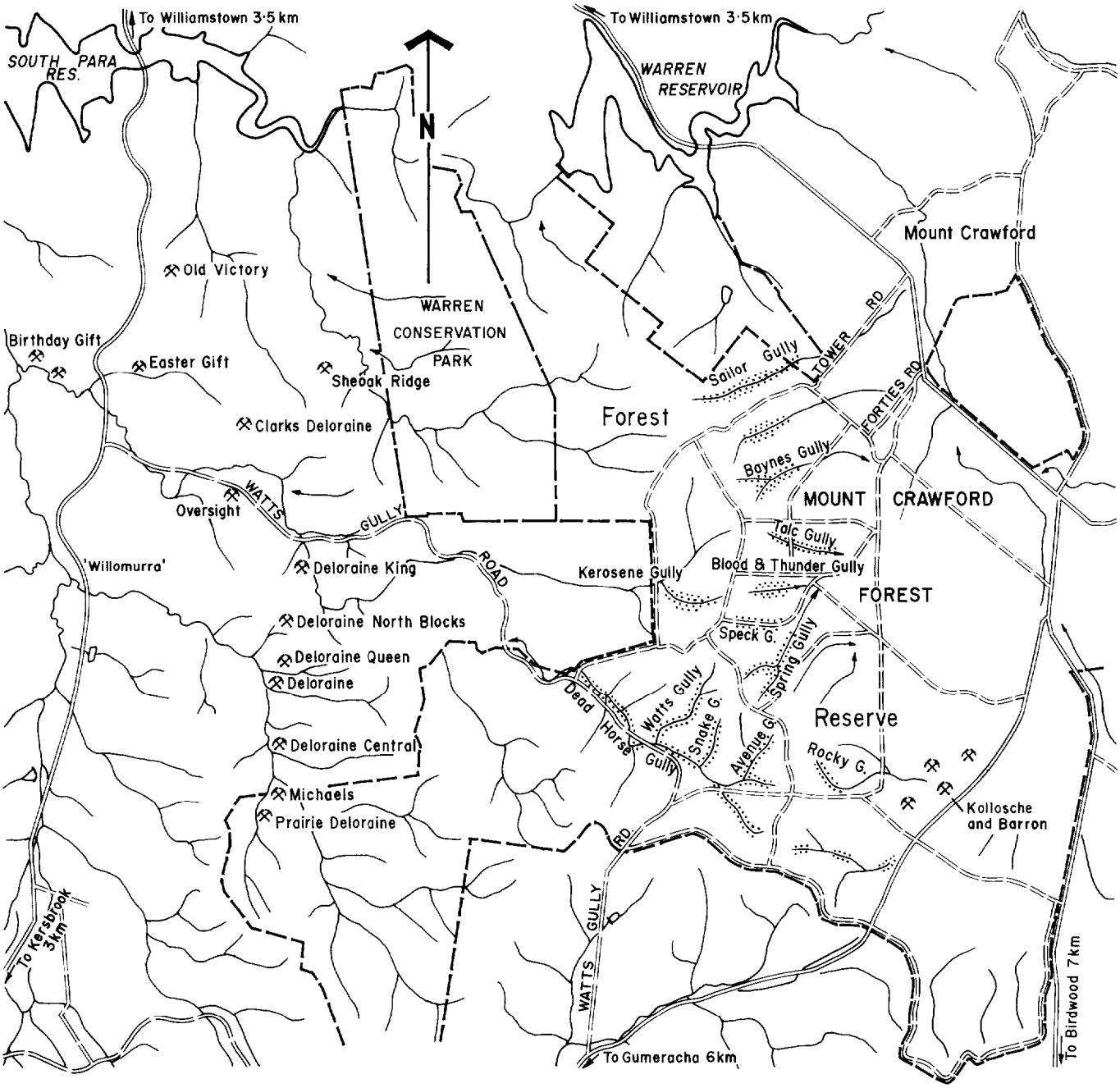
BIRDWOOD GOLDFIELD
MOUNT PLEASANT DIGGINGS



DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15561

DELORAINE and GUMERACHA GOLDFIELDS



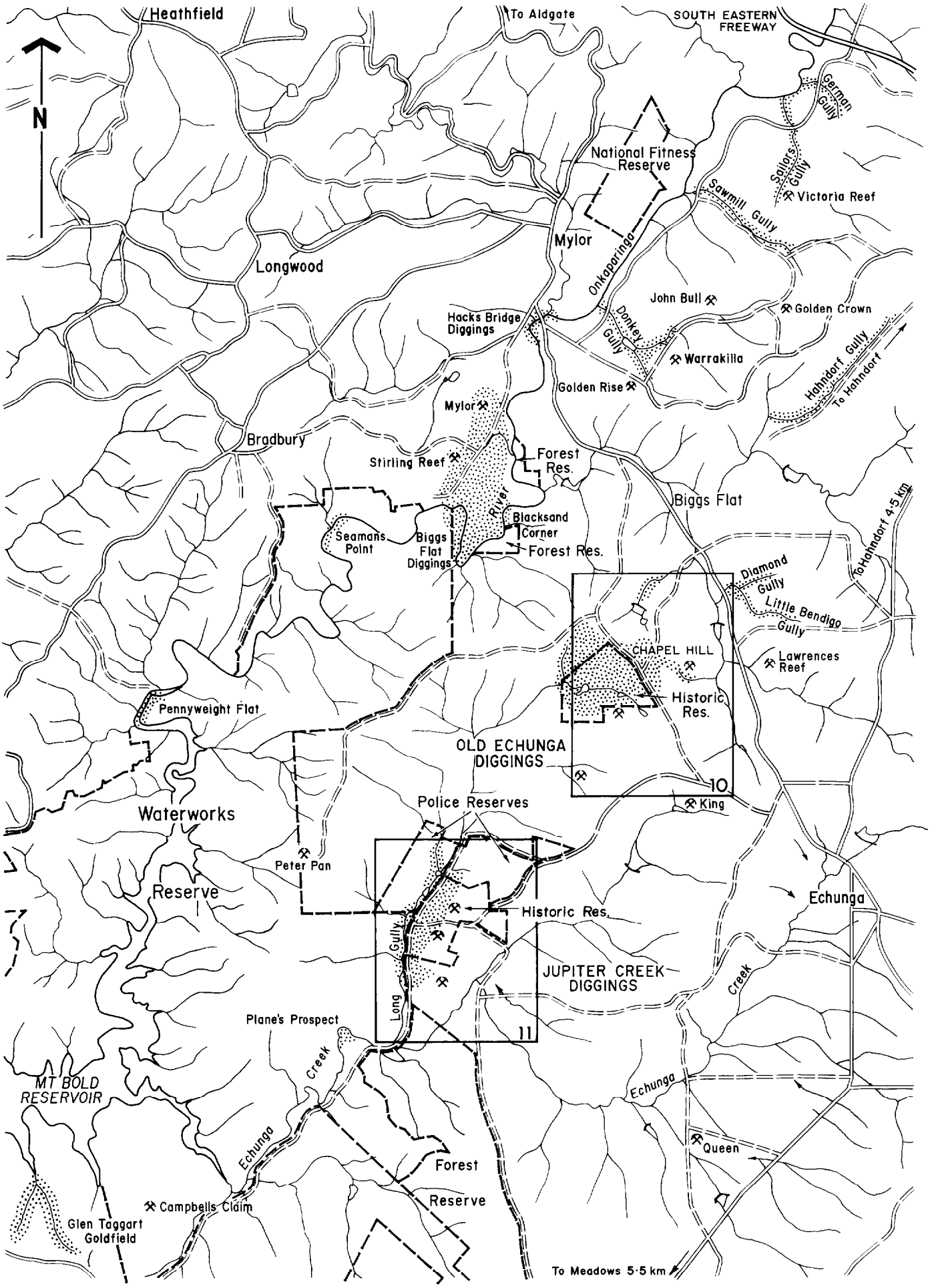
For further details on Mount Crawford Forest Reserve fossicking area contact Mount Crawford Forest for a permit

0 1 2 3
KILOMETRES

DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15558

ECHUNGA GOLDFIELD



DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

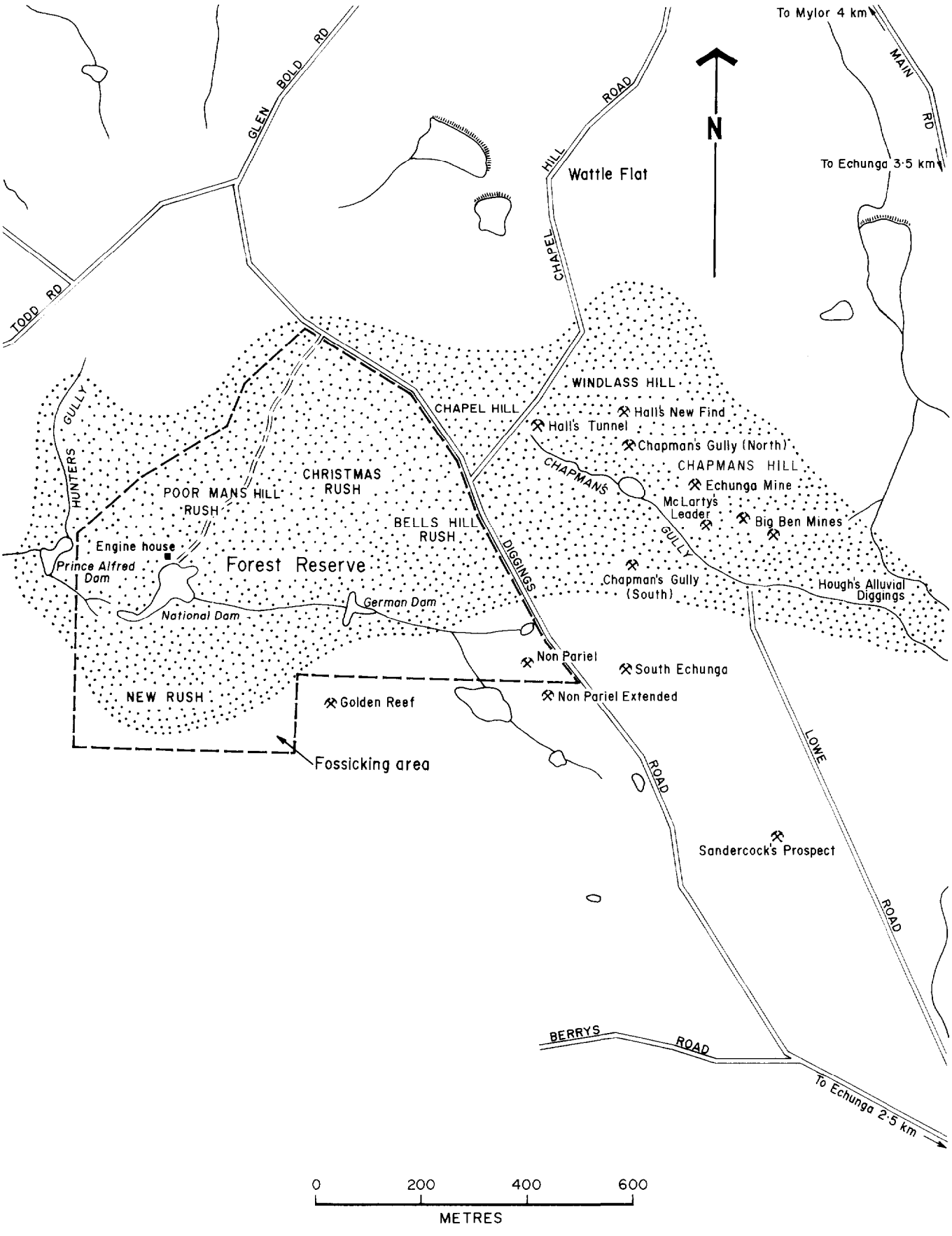
For further details see SADME plan No. 77-453

S15553

Map No. 10

ECHUNGA GOLDFIELD

OLD ECHUNGA DIGGINGS



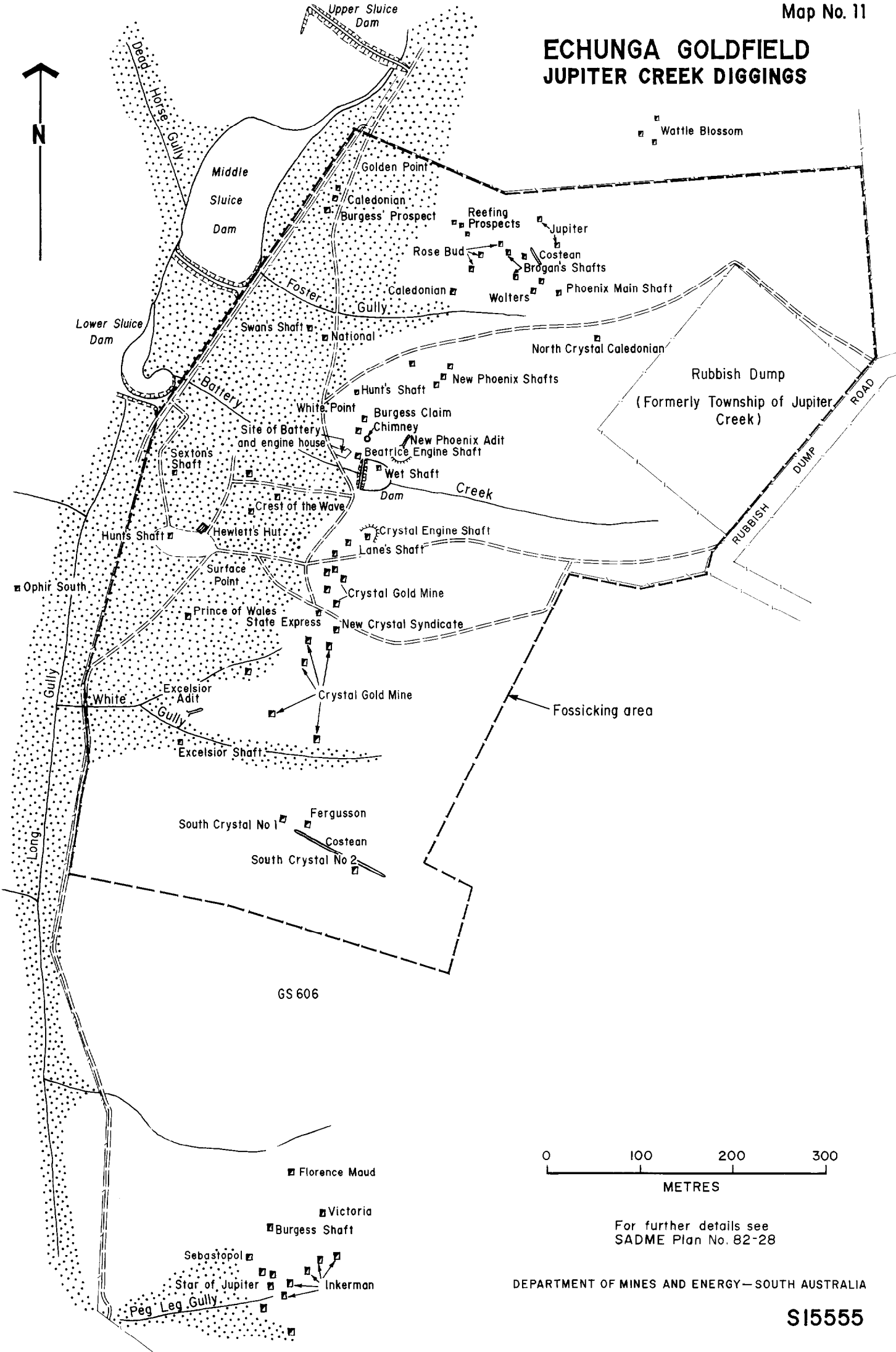
DEPARTMENT OF MINES AND ENERGY— SOUTH AUSTRALIA

S 15554

220:

Map No. 11

ECHUNGA GOLDFIELD
JUPITER CREEK DIGGINGS



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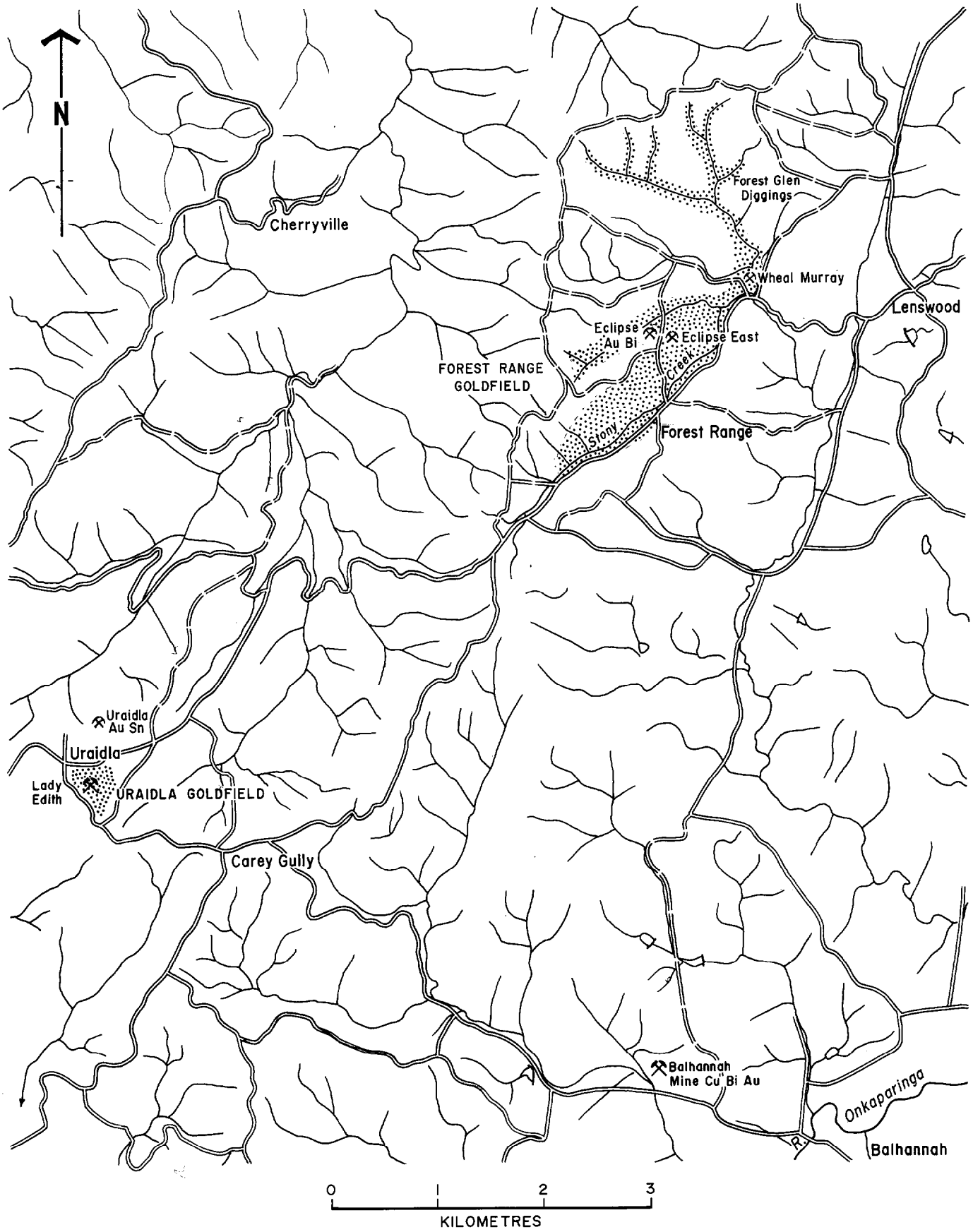
METRES

For further details see
SADME Plan No. 82-28

DEPARTMENT OF MINES AND ENERGY—SOUTH AUSTRALIA

S15555

FOREST RANGE and URAIDLA GOLDFIELDS

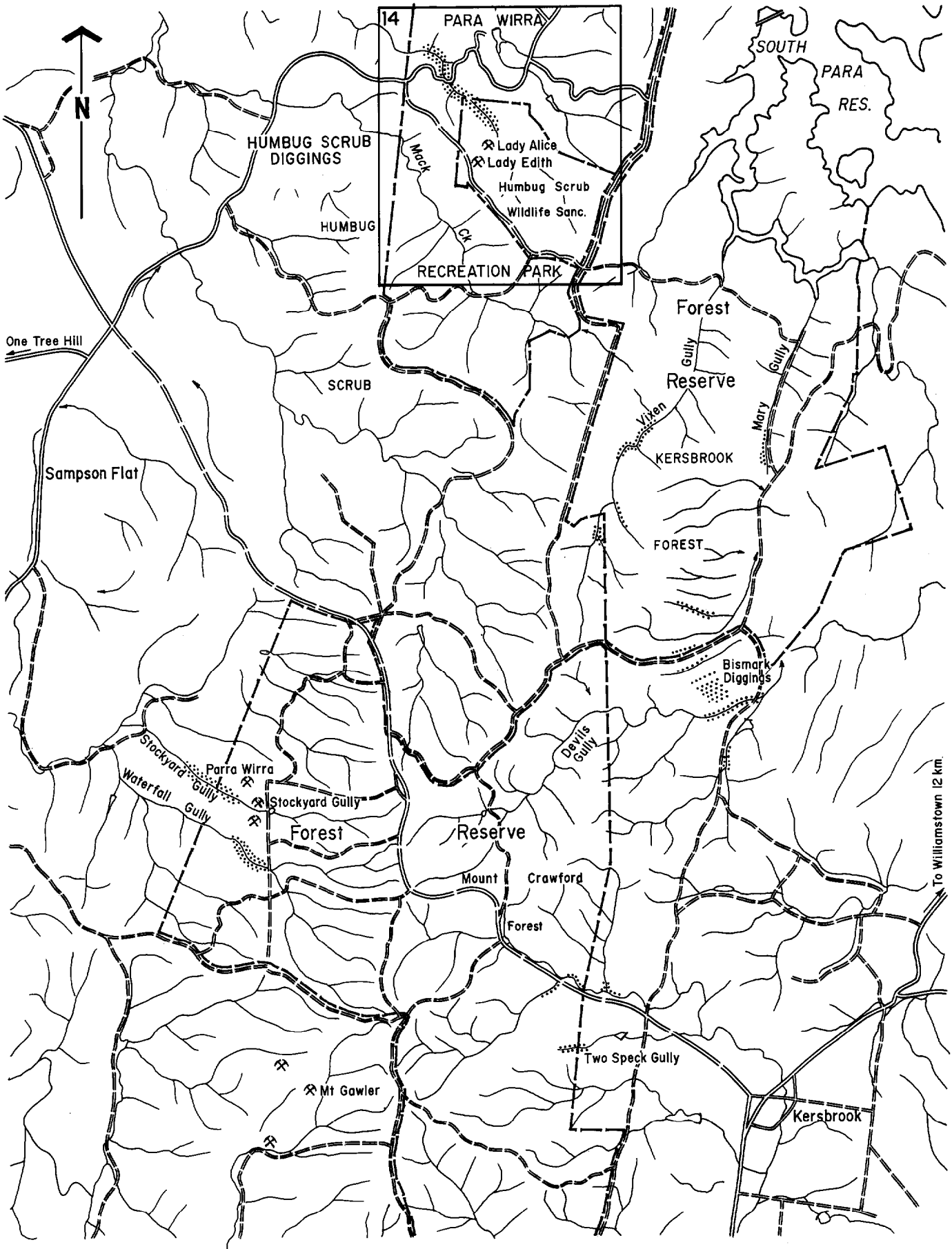


DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15565

Map No. 13

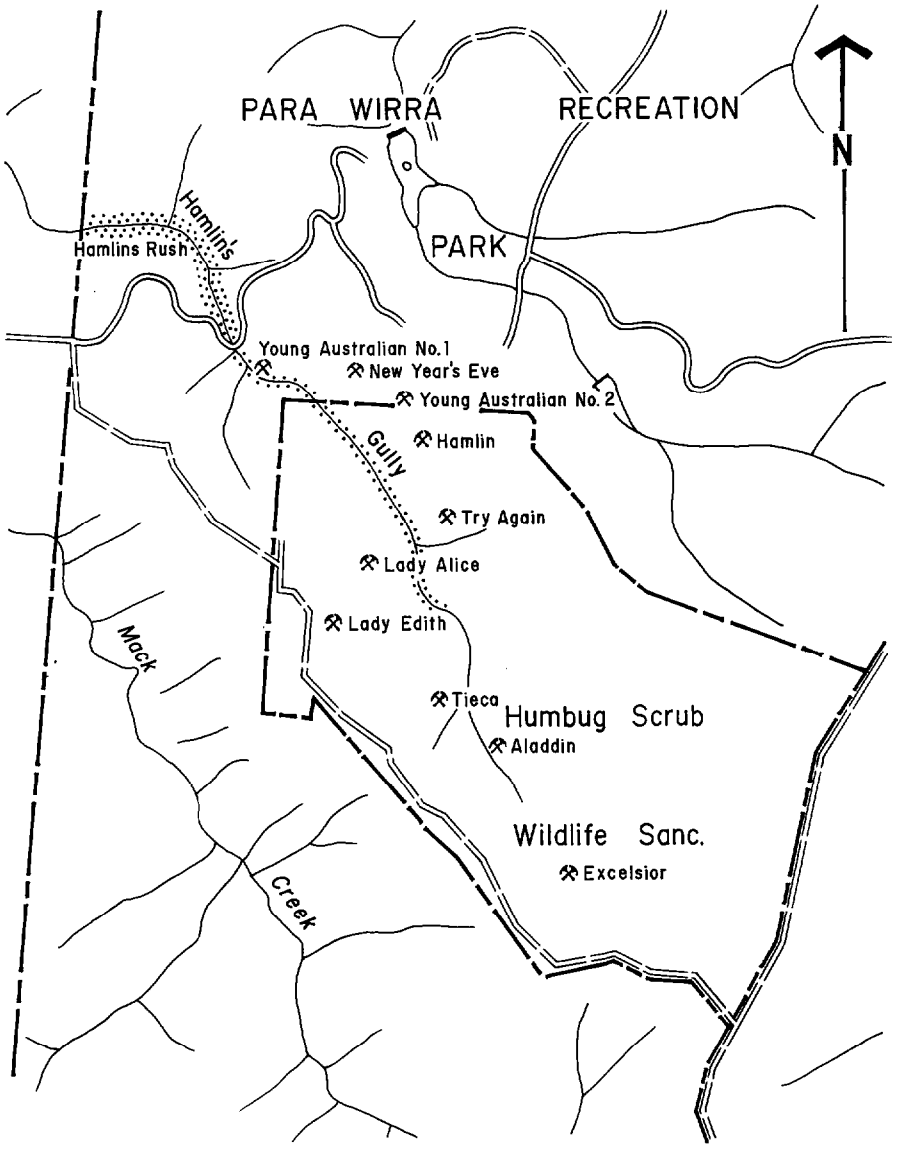
PARA WIRRA GOLDFIELD



DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15563

PARA WIRRA GOLDFIELD
HUMBUG SCRUB DIGGINGS

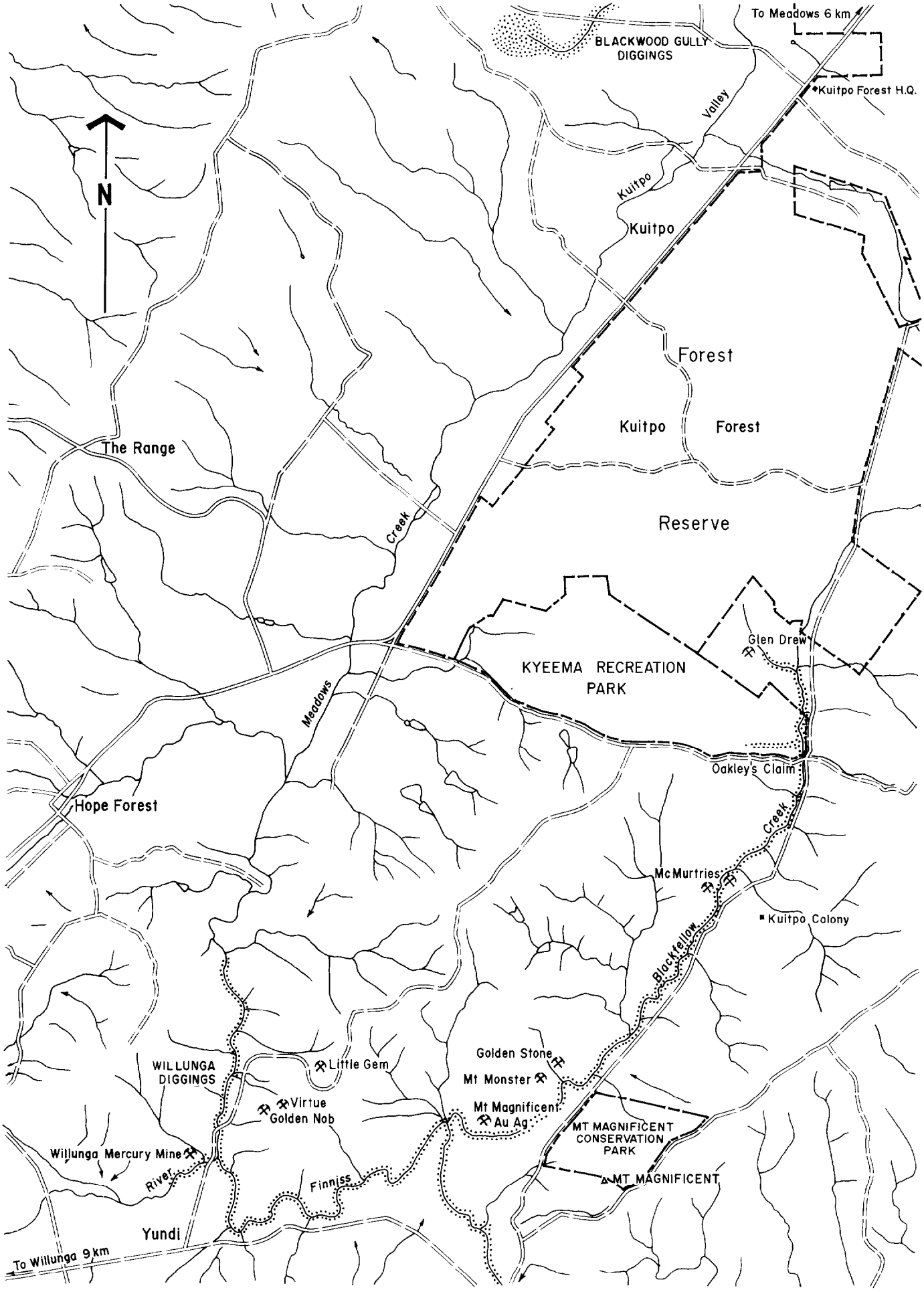


DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15564

Map No. 15

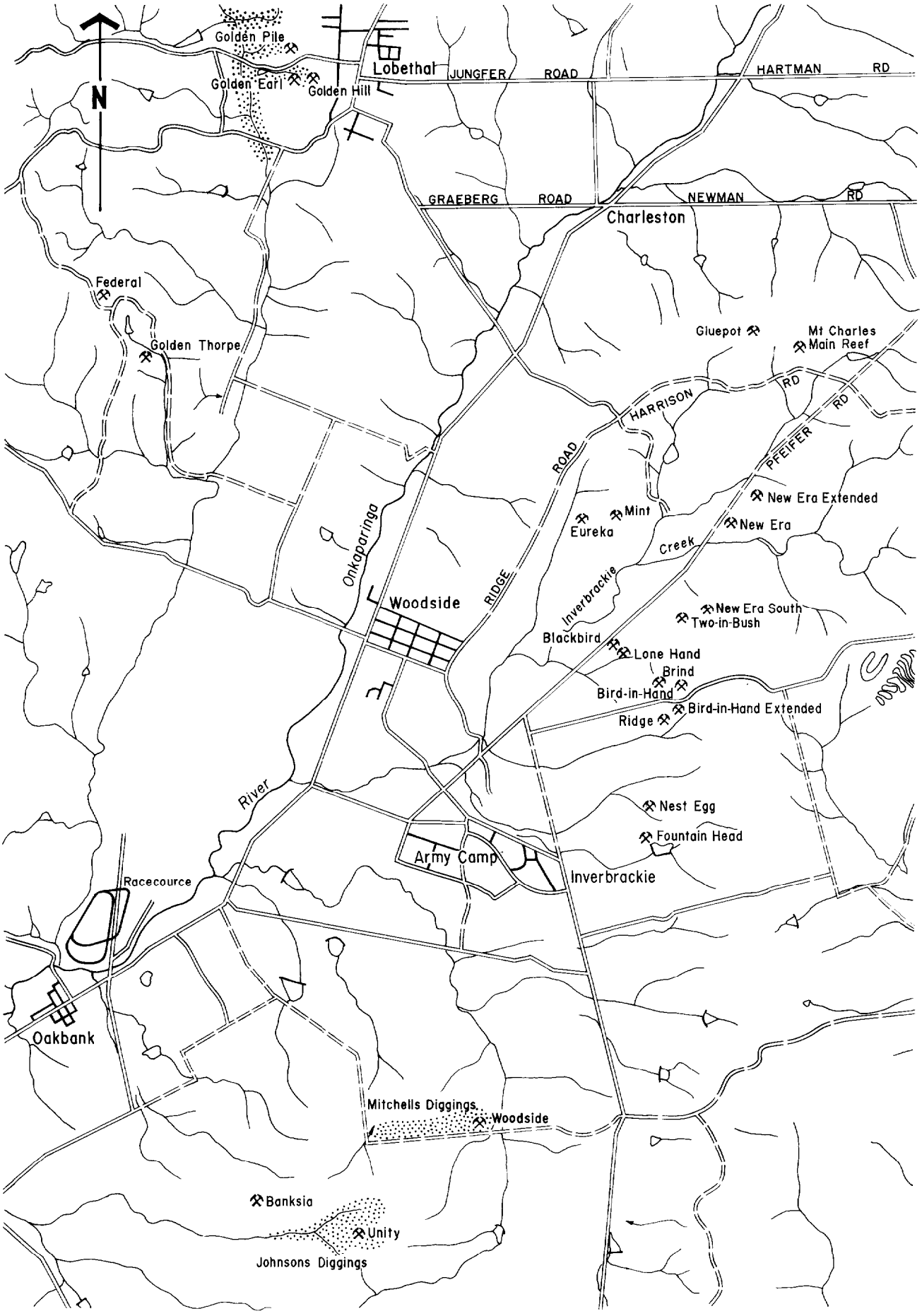
WILLUNGA GOLDFIELD



DEPARTMENT OF MINES AND ENERGY—SOUTH AUSTRALIA

S15556

WOODSIDE and LOBETHAL GOLDFIELDS

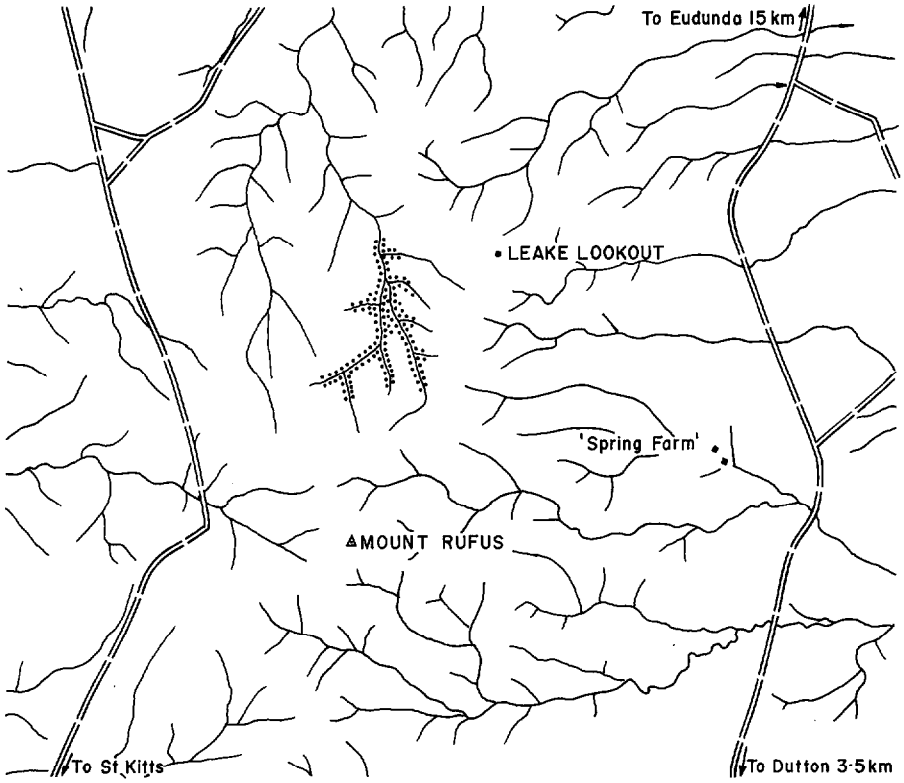


DEPARTMENT OF MINES AND ENERGY— SOUTH AUSTRALIA

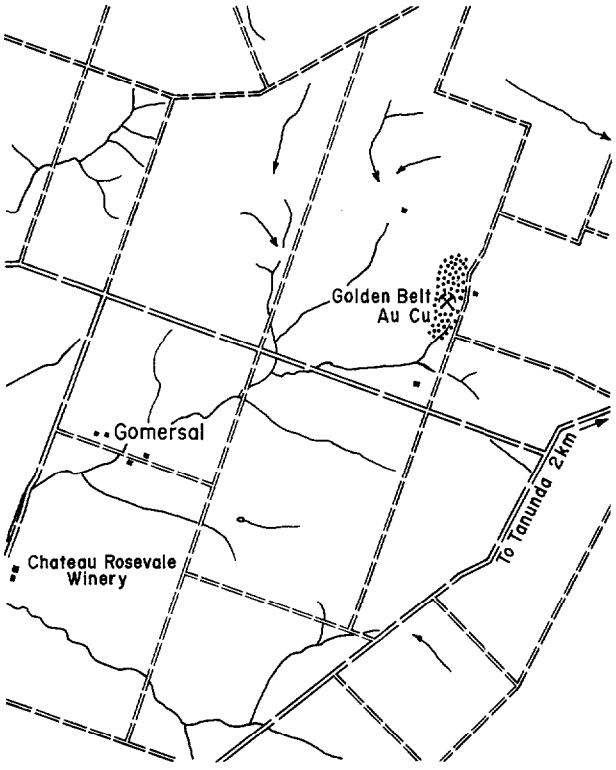
S15559

MOUNT RUFUS, GOMERSAL and MOPPA GOLDFIELDS

MOUNT RUFUS GOLDFIELD

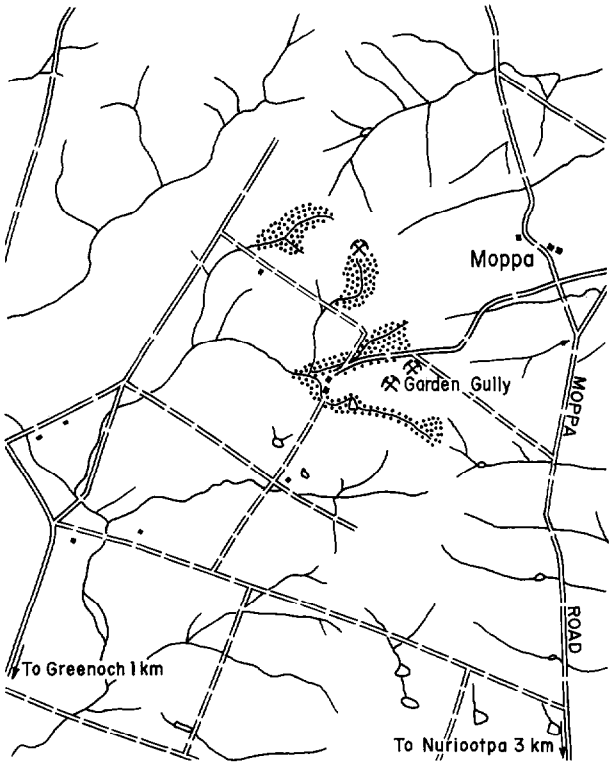


GOMERSAL GOLDFIELD



N

MOPPA GOLDFIELD



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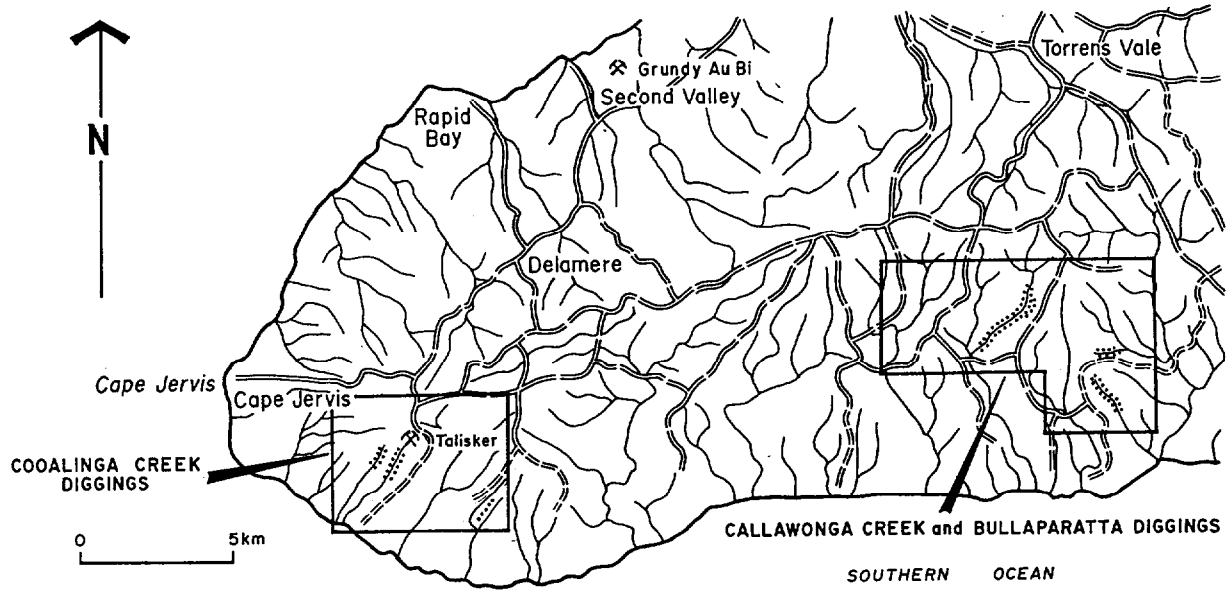
KILOMETRES

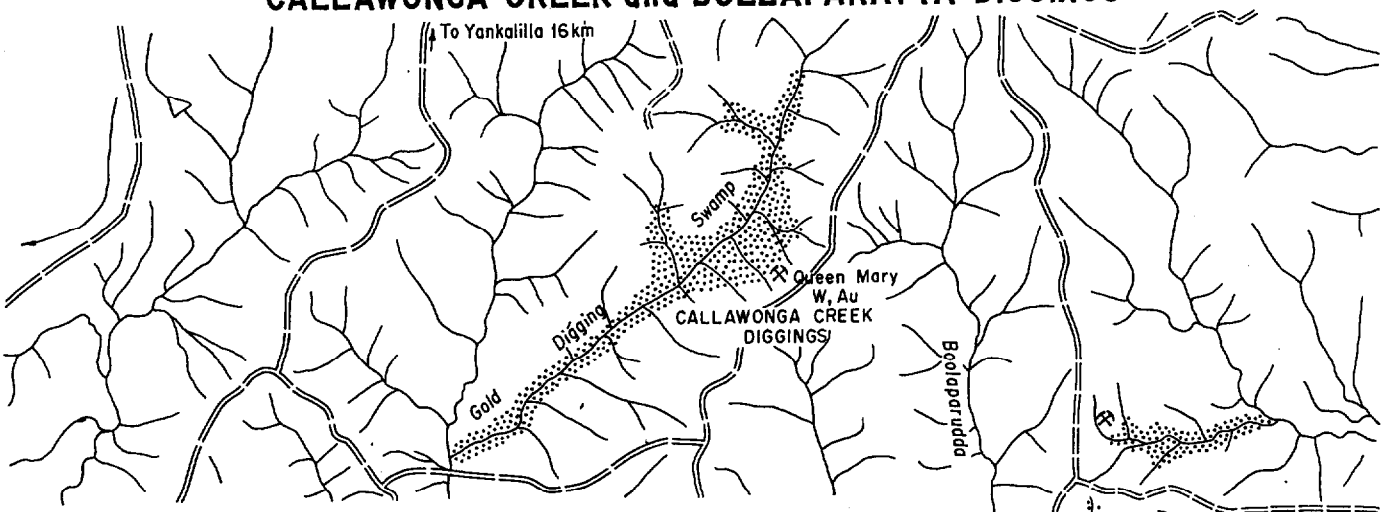
DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15567

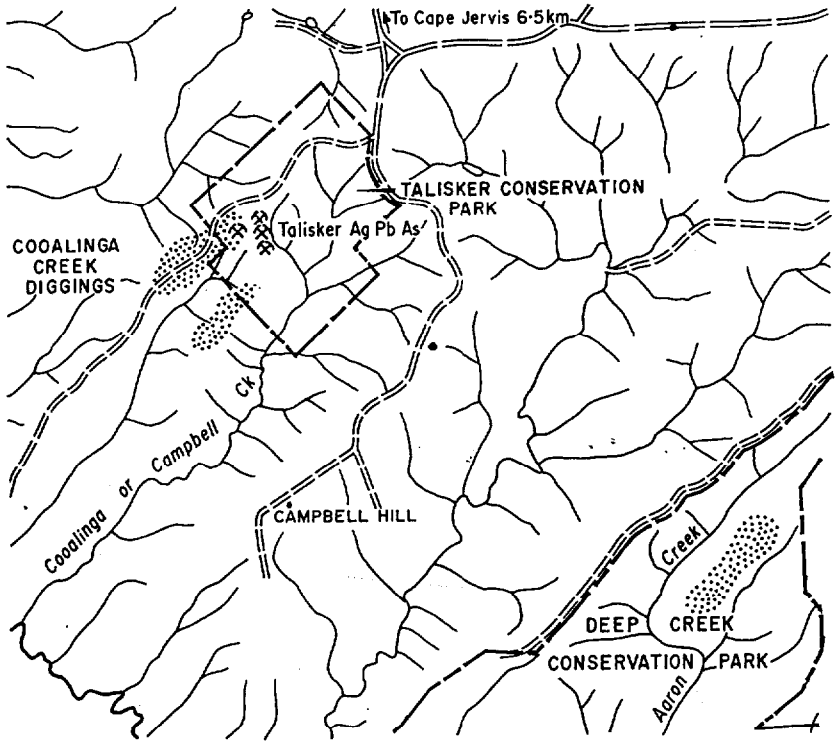
FLEURIEU PENINSULA GOLDFIELDS



CALLAWONGA CREEK and BULLAPARATTA DIGGINGS



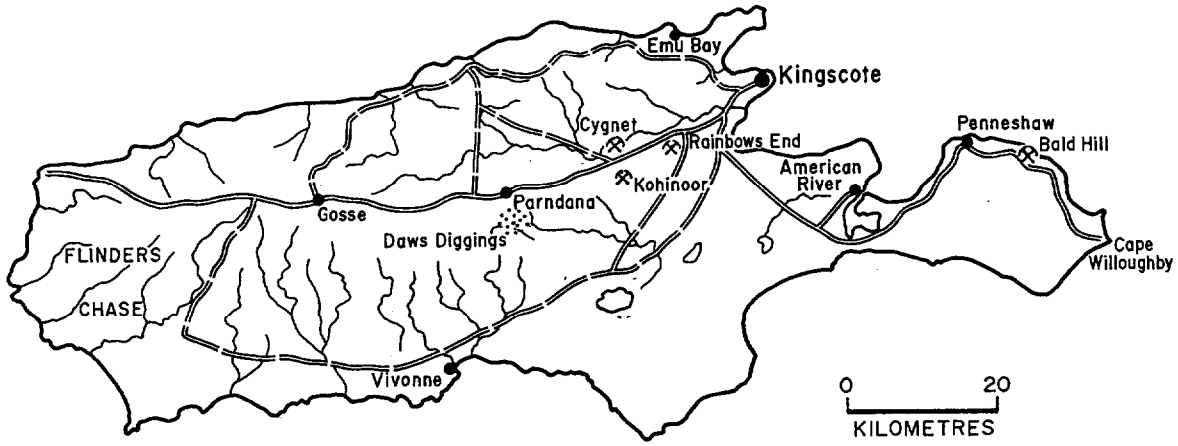
COOALINGA CREEK DIGGINGS



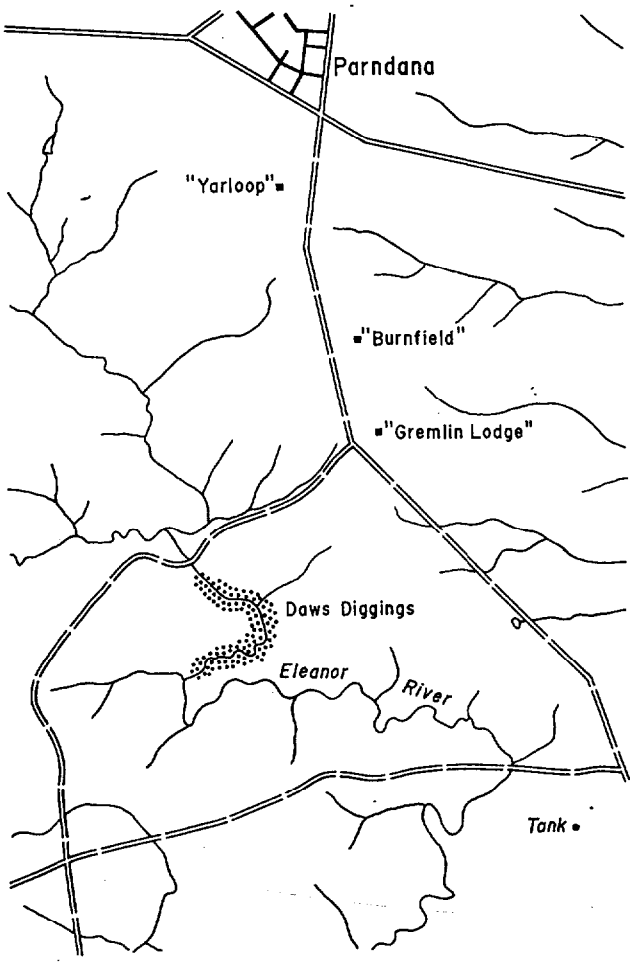
DEPARTMENT OF MINES AND ENERGY— SOUTH AUSTRALIA

S15569

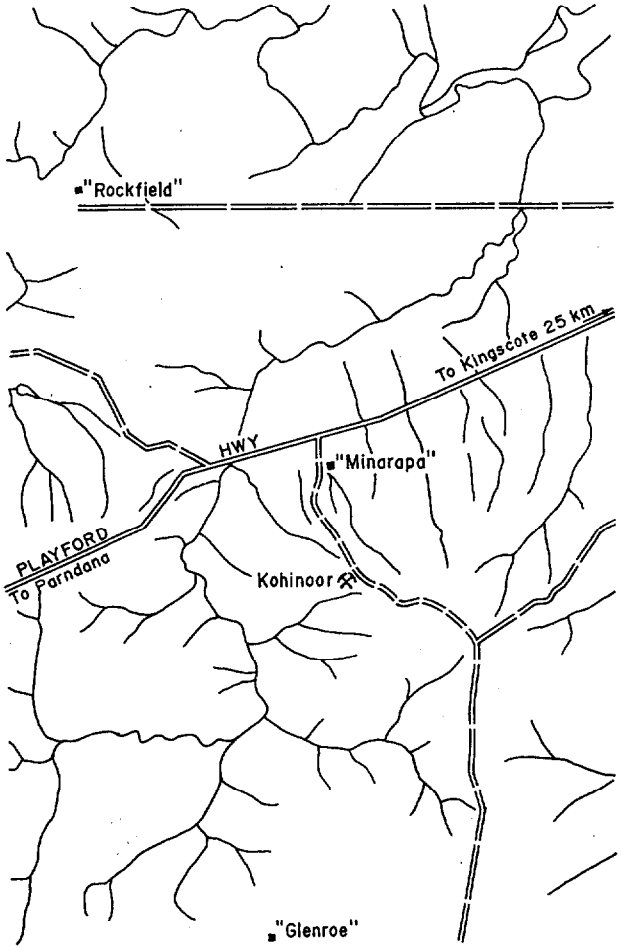
KANGAROO ISLAND GOLDFIELDS



DAWS DIGGINGS



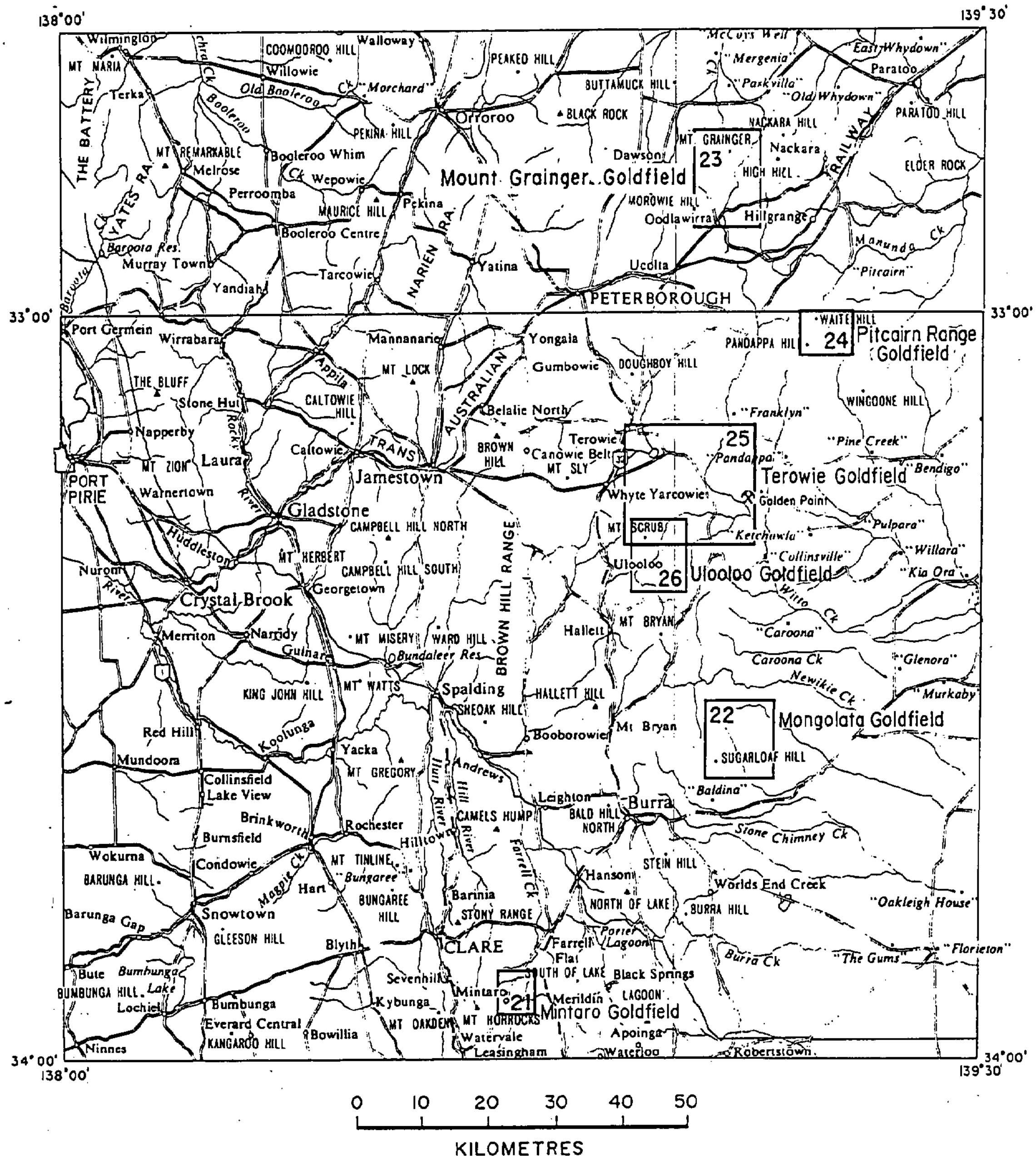
KOHINOOR MINE



DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15570

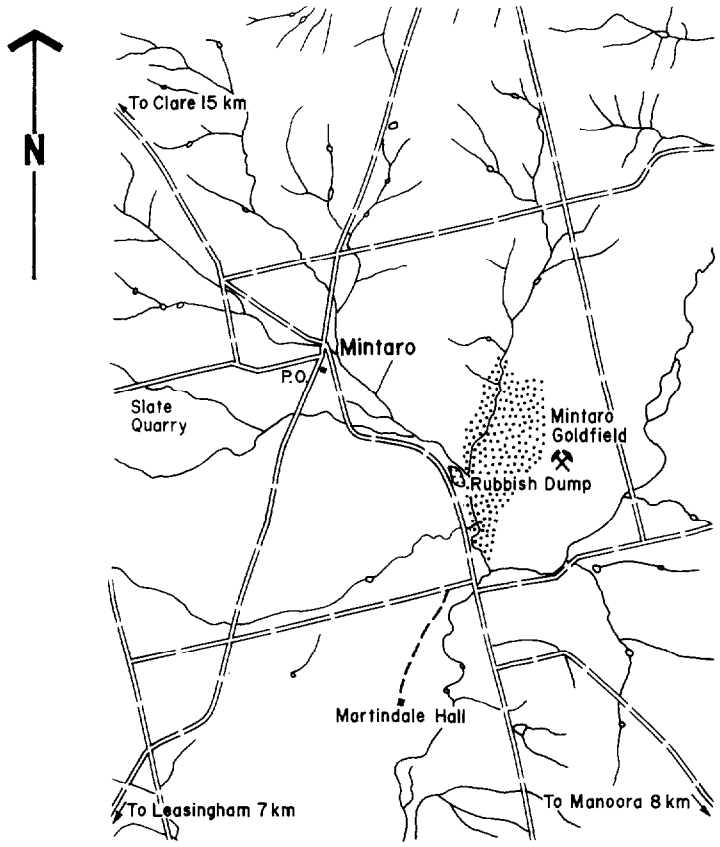
MID NORTH GOLDFIELDS



DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S22580

MINTARO GOLDFIELD

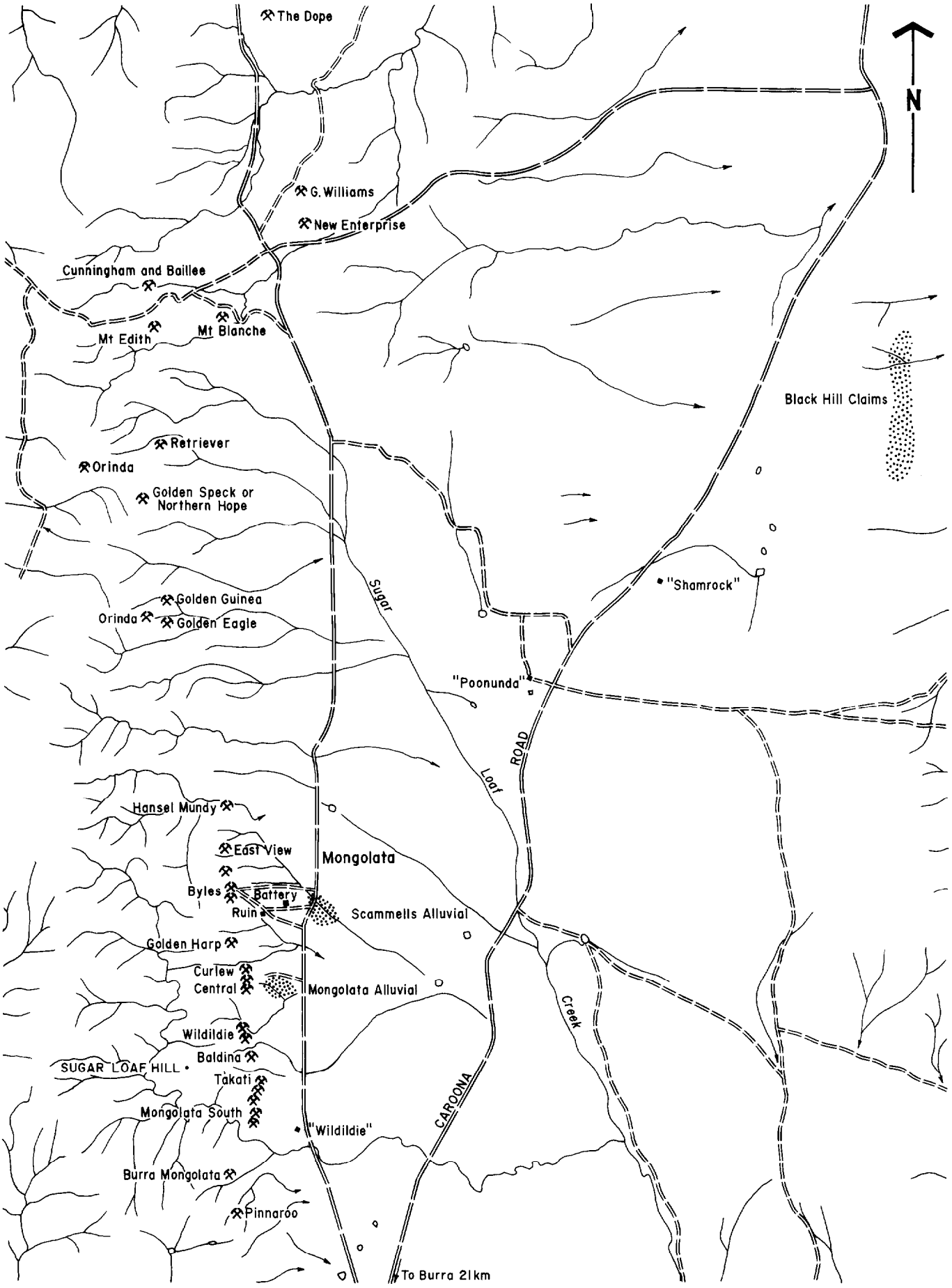


DEPARTMENT OF MINES AND ENERGY – SOUTH AUSTRALIA

S15575

Map No. 22

MONGOLATA GOLDFIELD



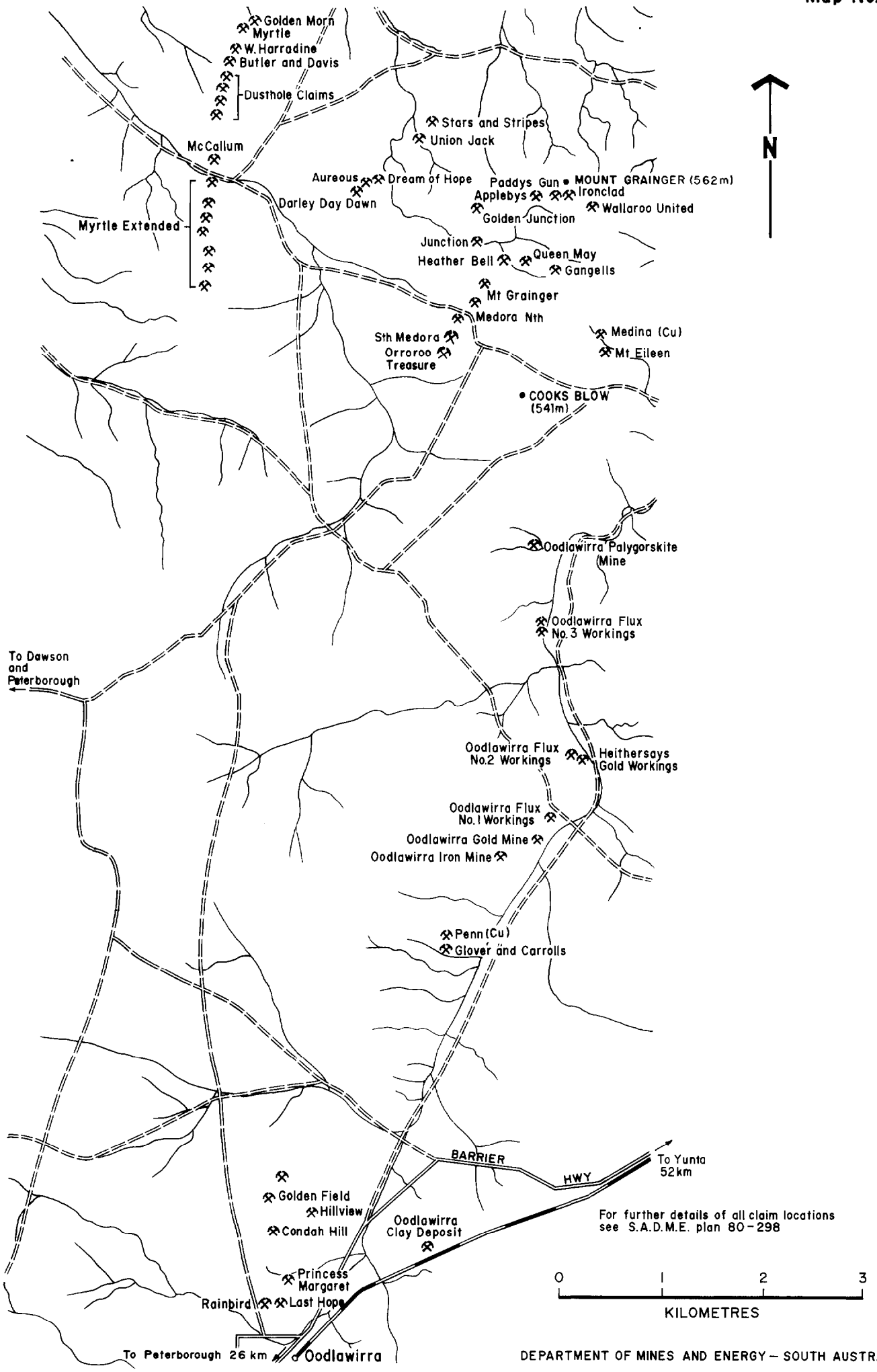
For further details of all withdrawn claim locations see S.A.D.M.E. plan 78-900

DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15572

MOUNT GRAINGER GOLDFIELD

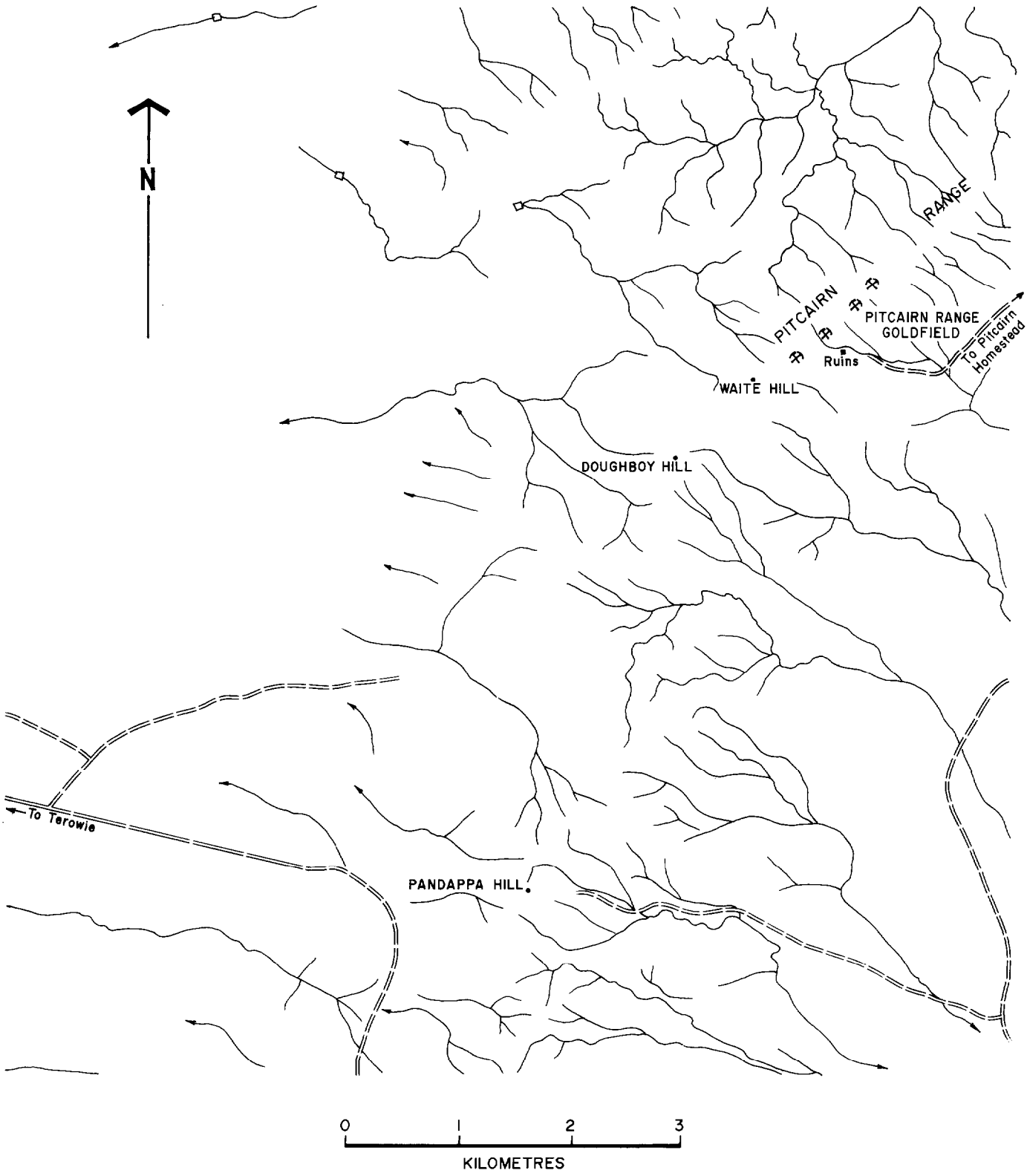
Map No. 23



DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15579

PITCAIRN RANGE GOLDFIELD

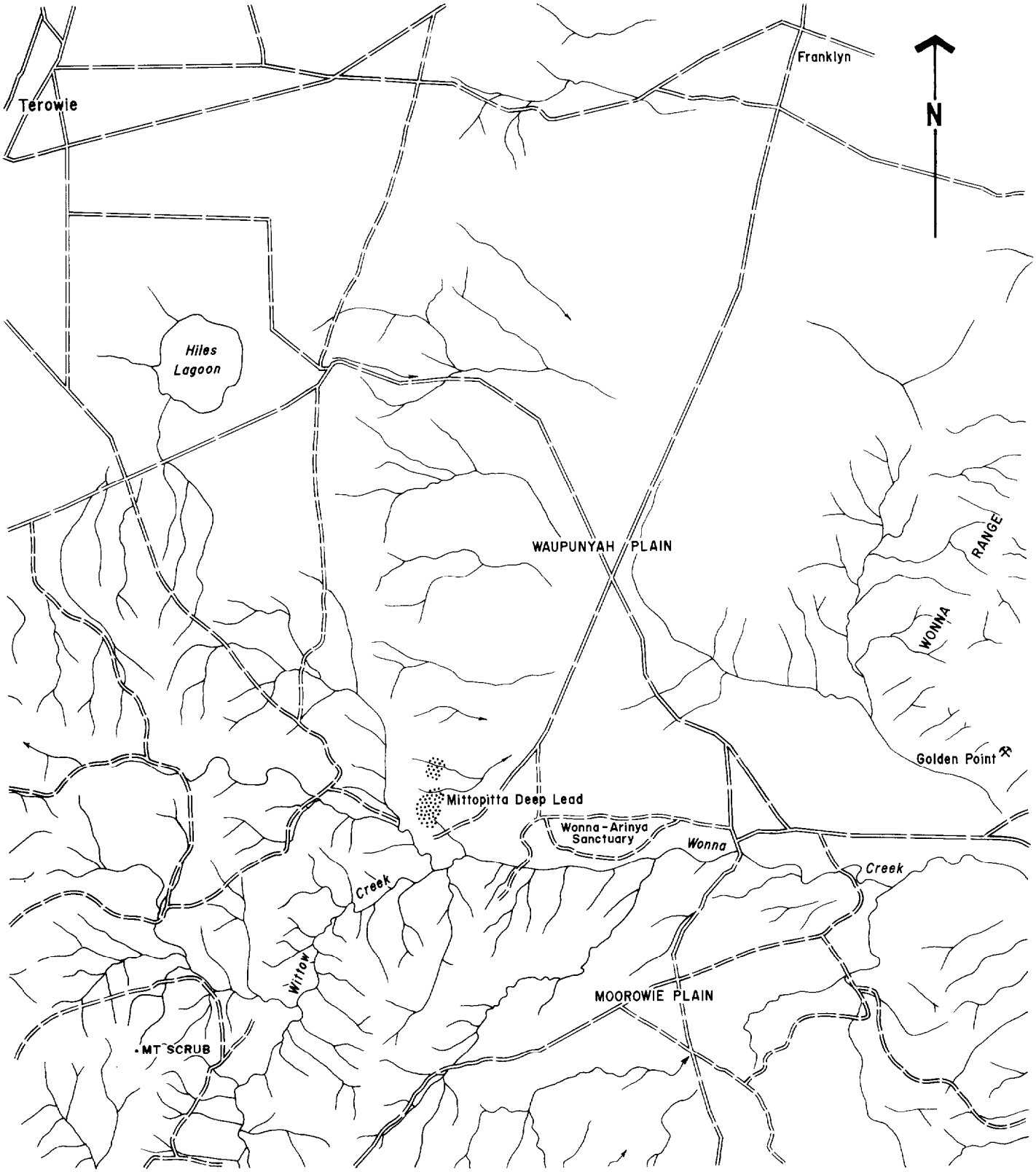


DEPARTMENT OF MINES AND ENERGY—SOUTH AUSTRALIA

S15574

Map No. 25

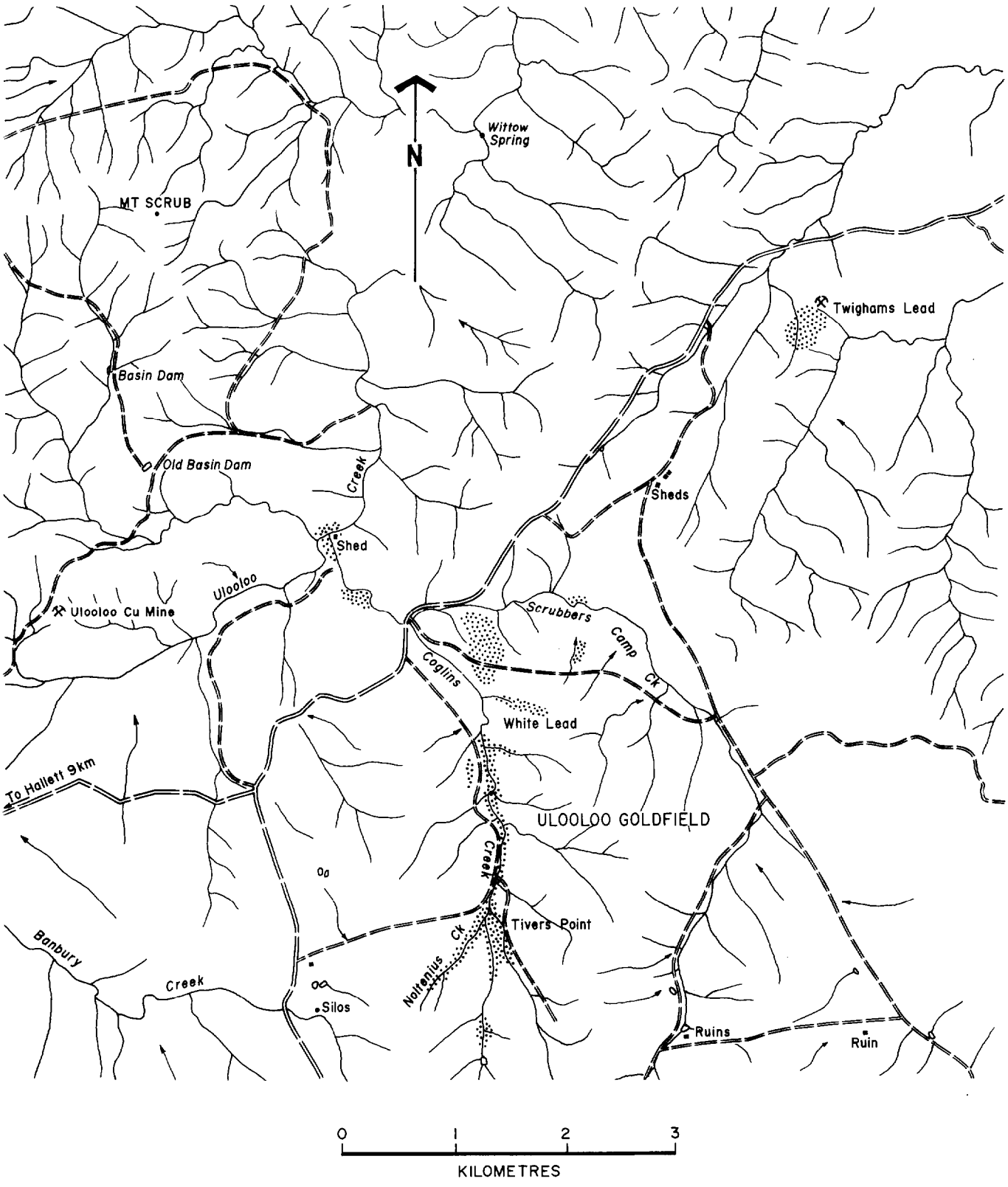
TEROWIE GOLDFIELD



DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15576

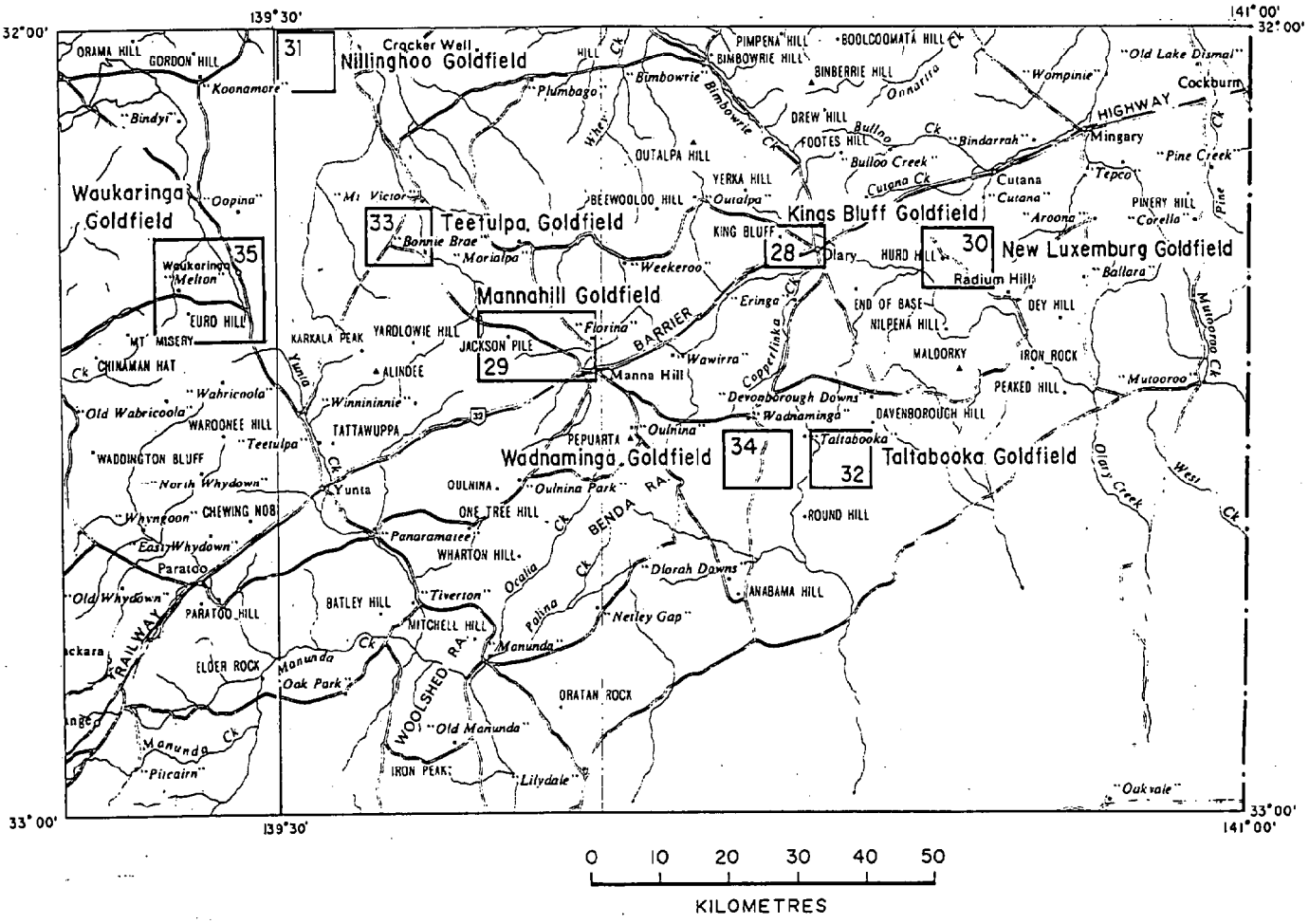
ULOOLOO GOLDFIELD



DEPARTMENT OF MINES AND ENERGY – SOUTH AUSTRALIA

S15573

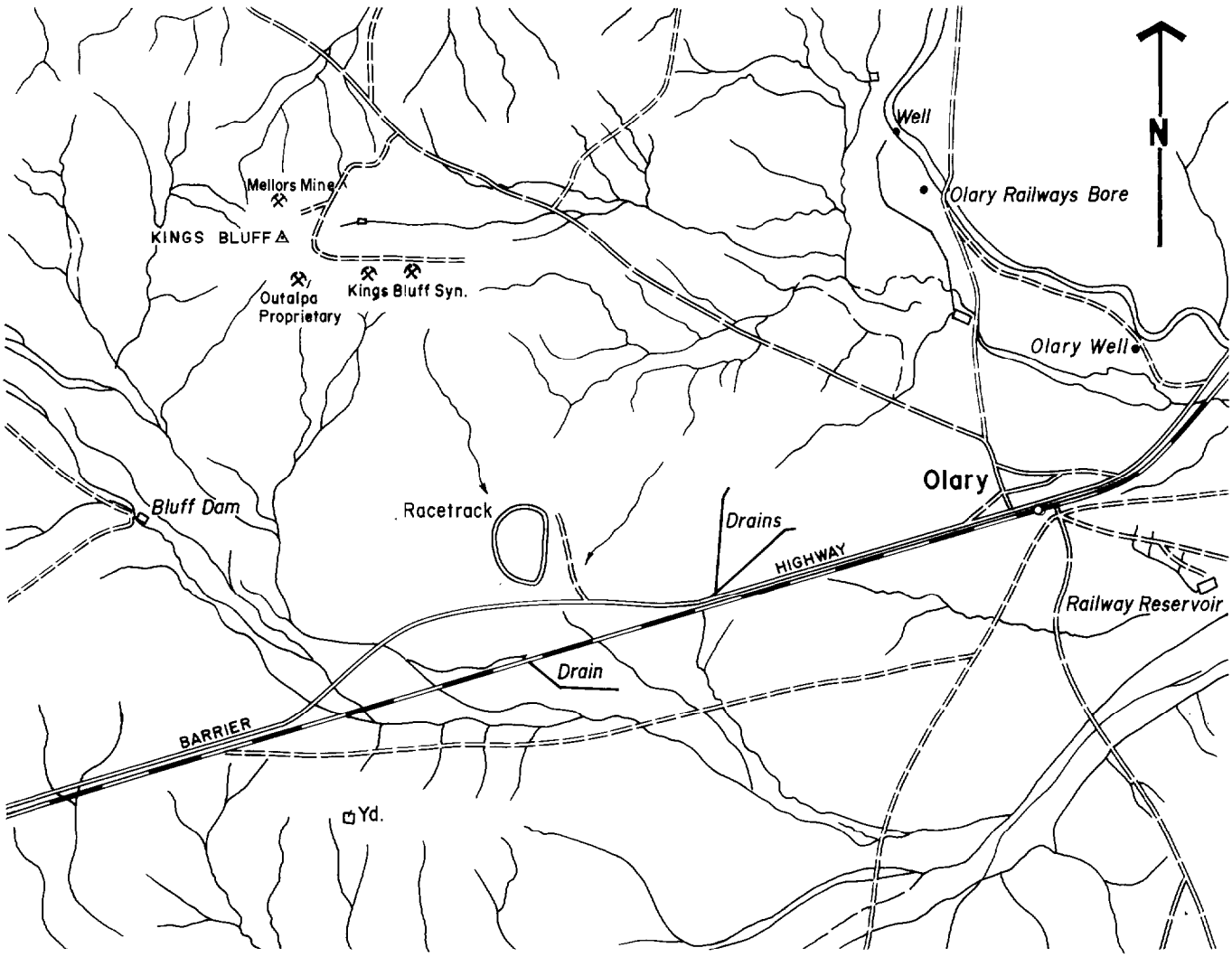
OLARY AREA GOLDFIELDS



DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

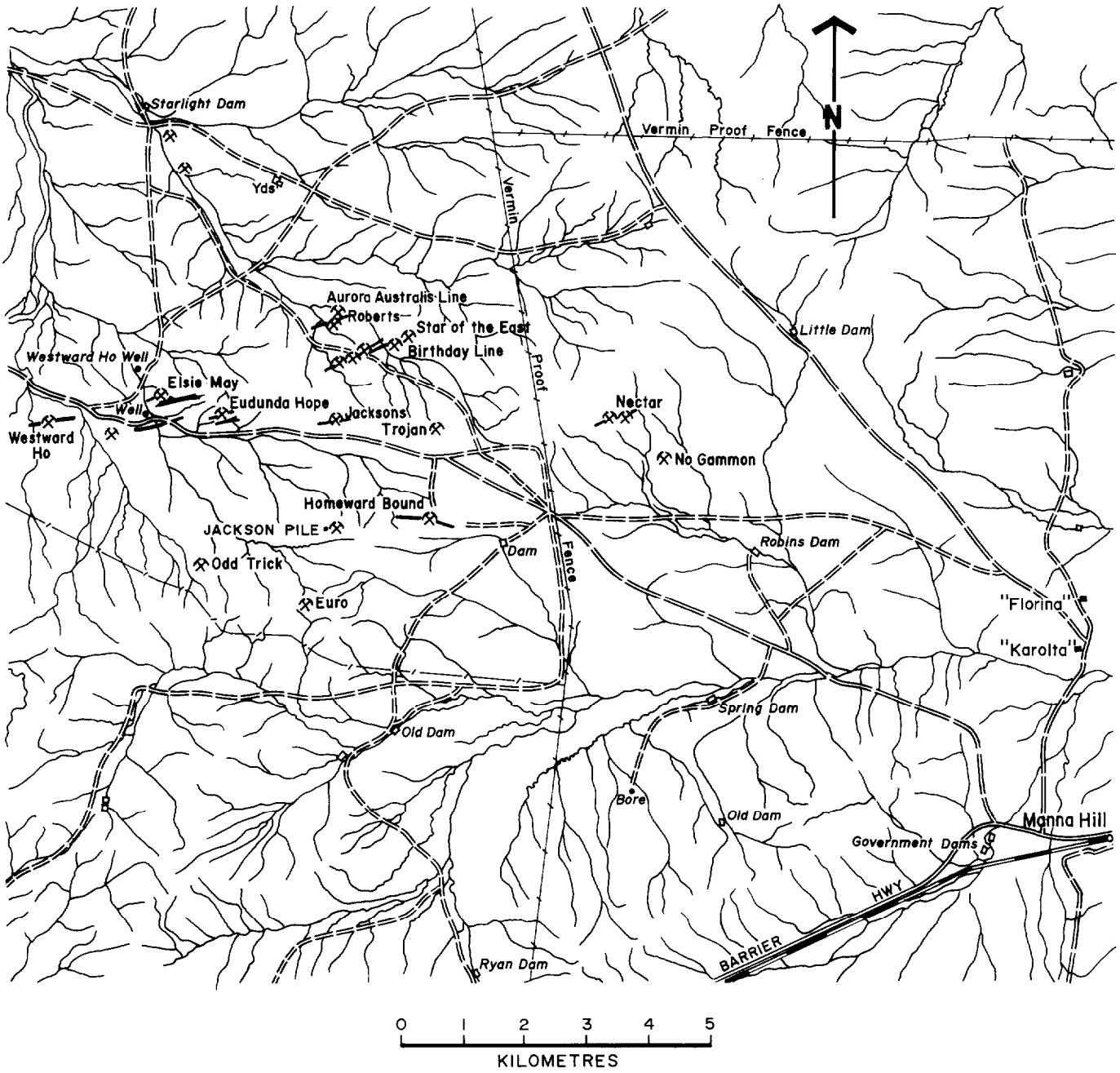
S22581

KINGS BLUFF GOLDFIELD



For further details see
SADME Plan No. 78-595

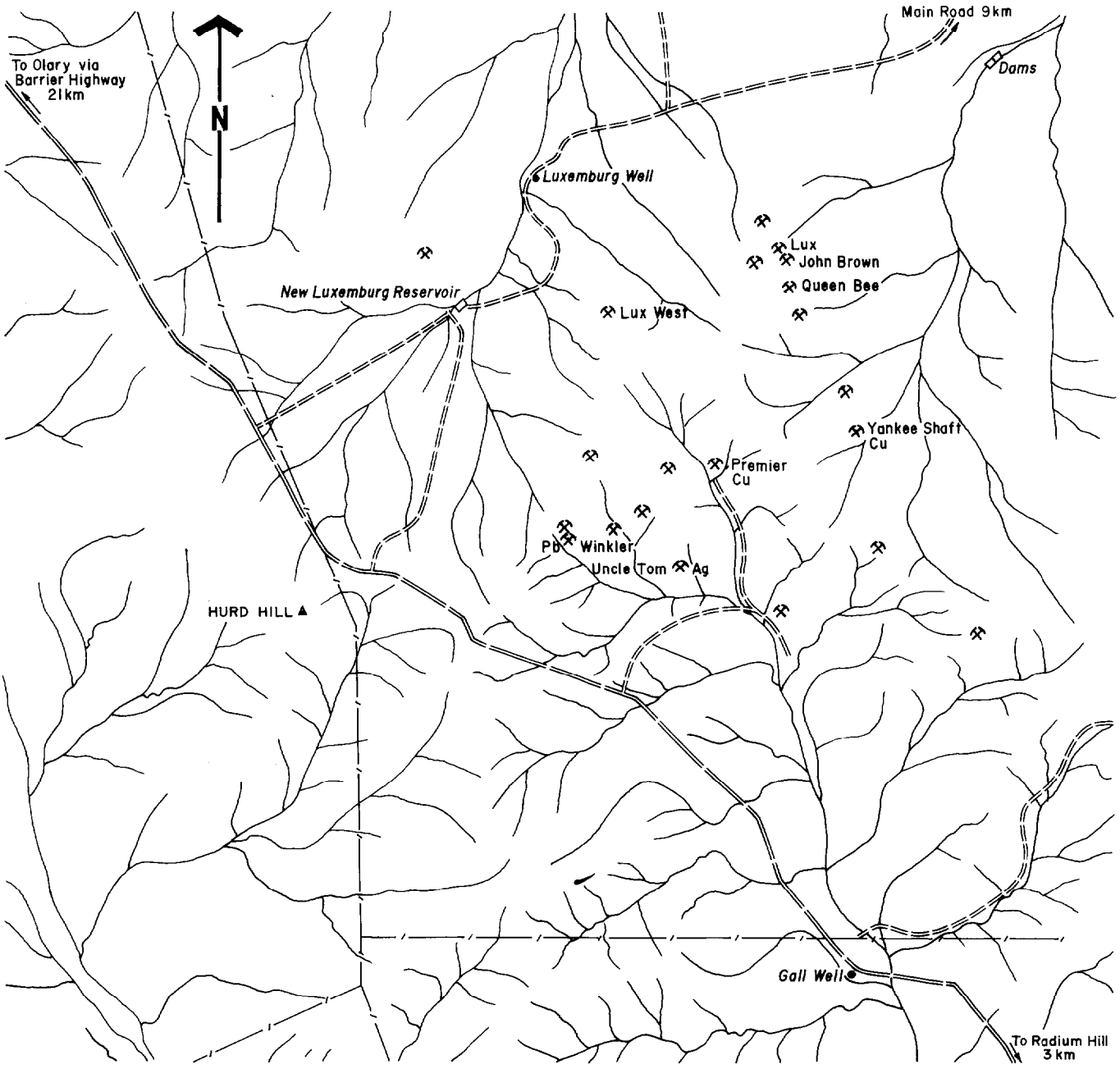
MANNAHILL GOLDFIELD



DEPARTMENT OF MINES AND ENERGY – SOUTH AUSTRALIA

S15583

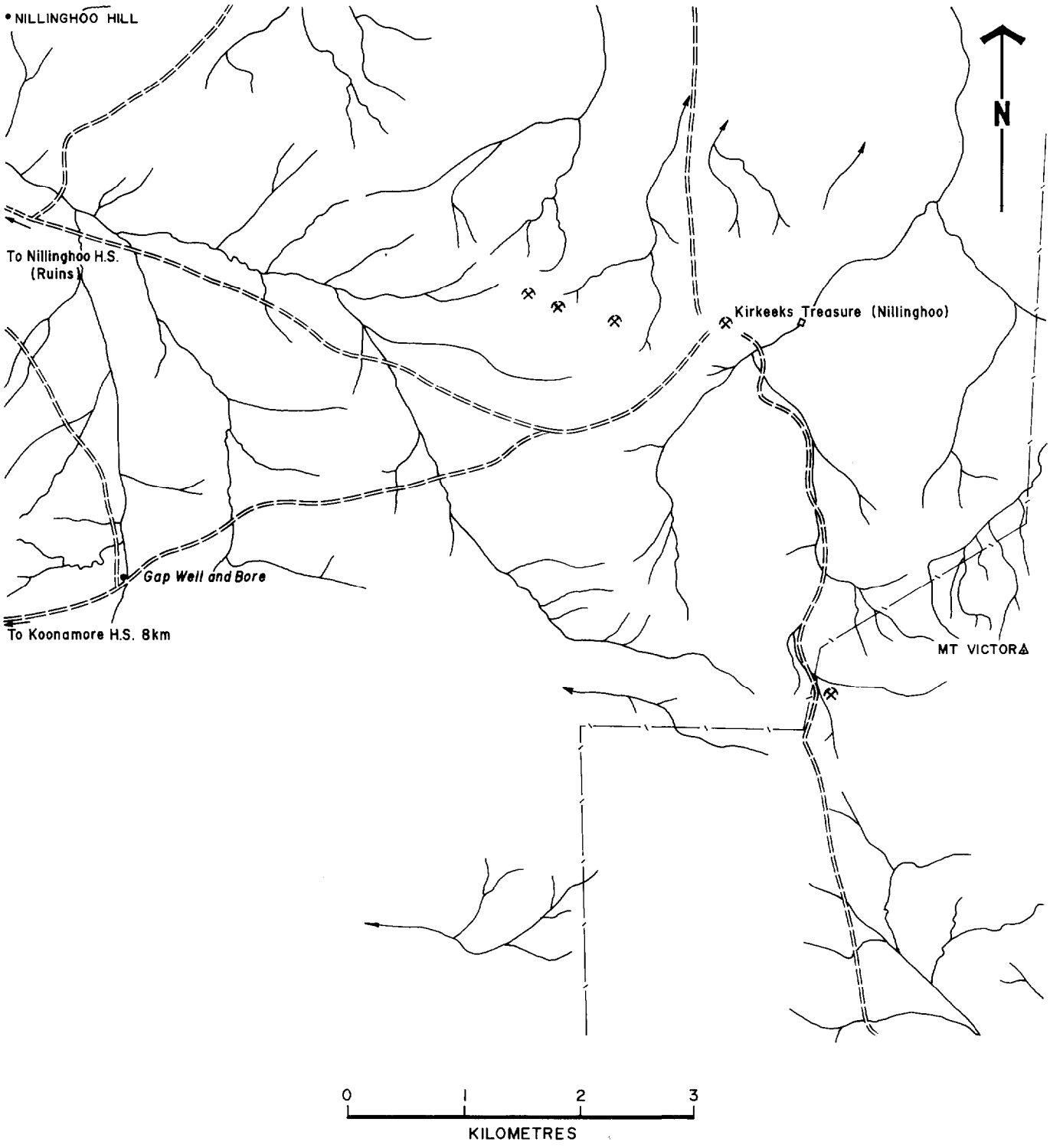
NEW LUXEMBURG GOLDFIELD



DEPARTMENT OF MINES AND ENERGY—SOUTH AUSTRALIA

S15586

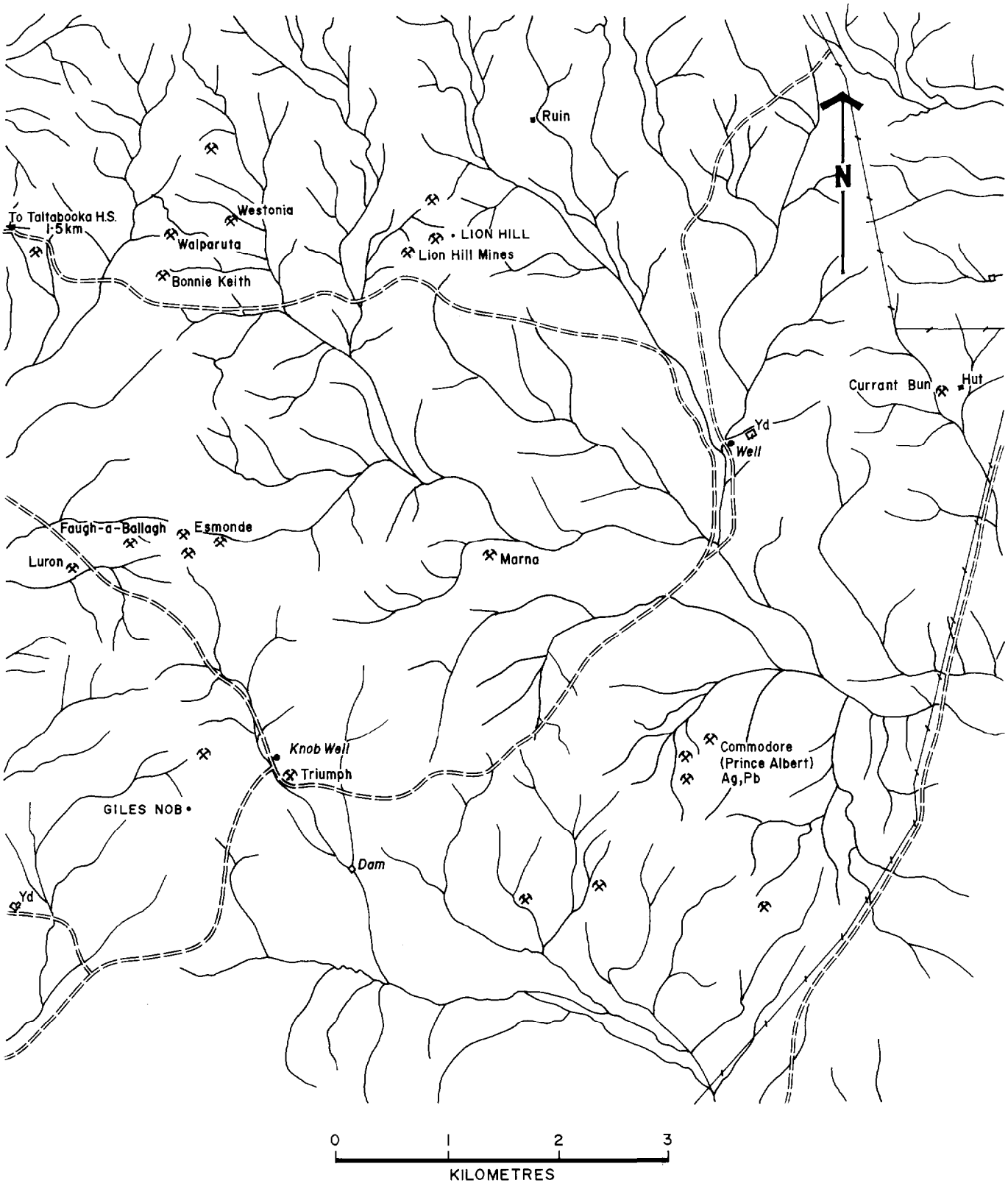
NILLINGHOO GOLDFIELD



DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15584

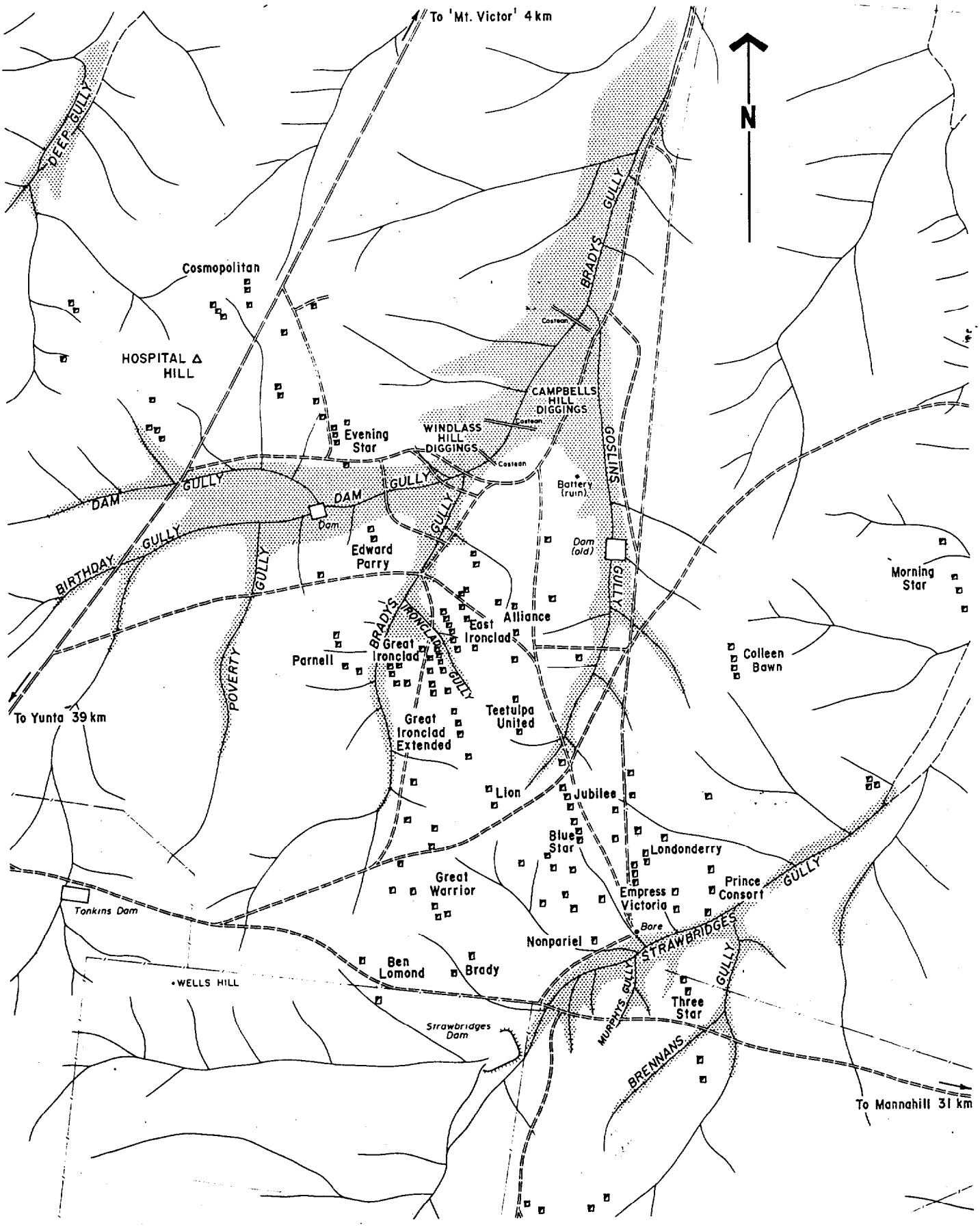
TALTABOOKA GOLDFIELD



DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15587

TEETULPA GOLDFIELD



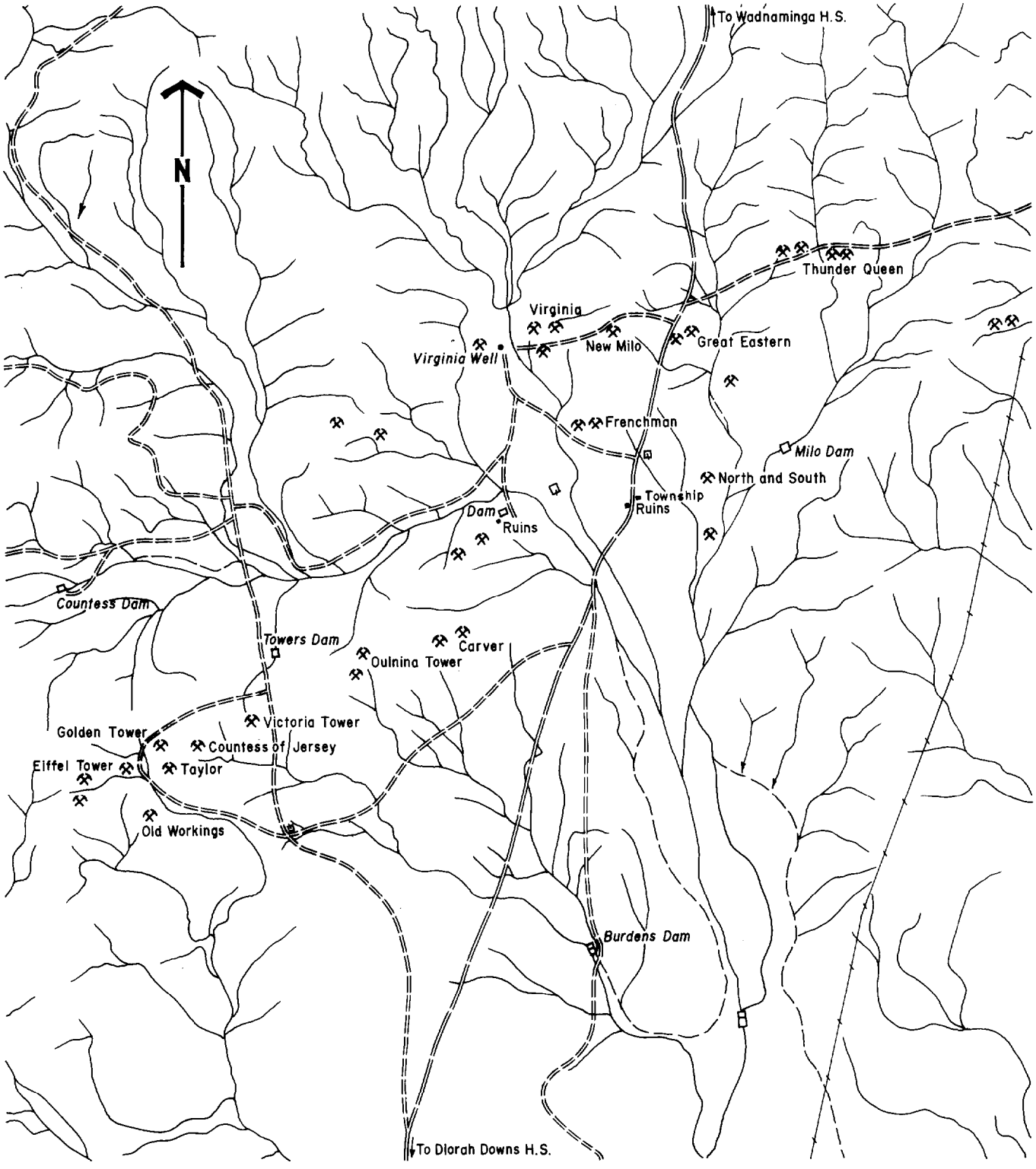
For further details see SADME Plan Nos. 86-541 and 244

0 500 1000
METRES

DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15581

WADNAMINGA GOLDFIELD

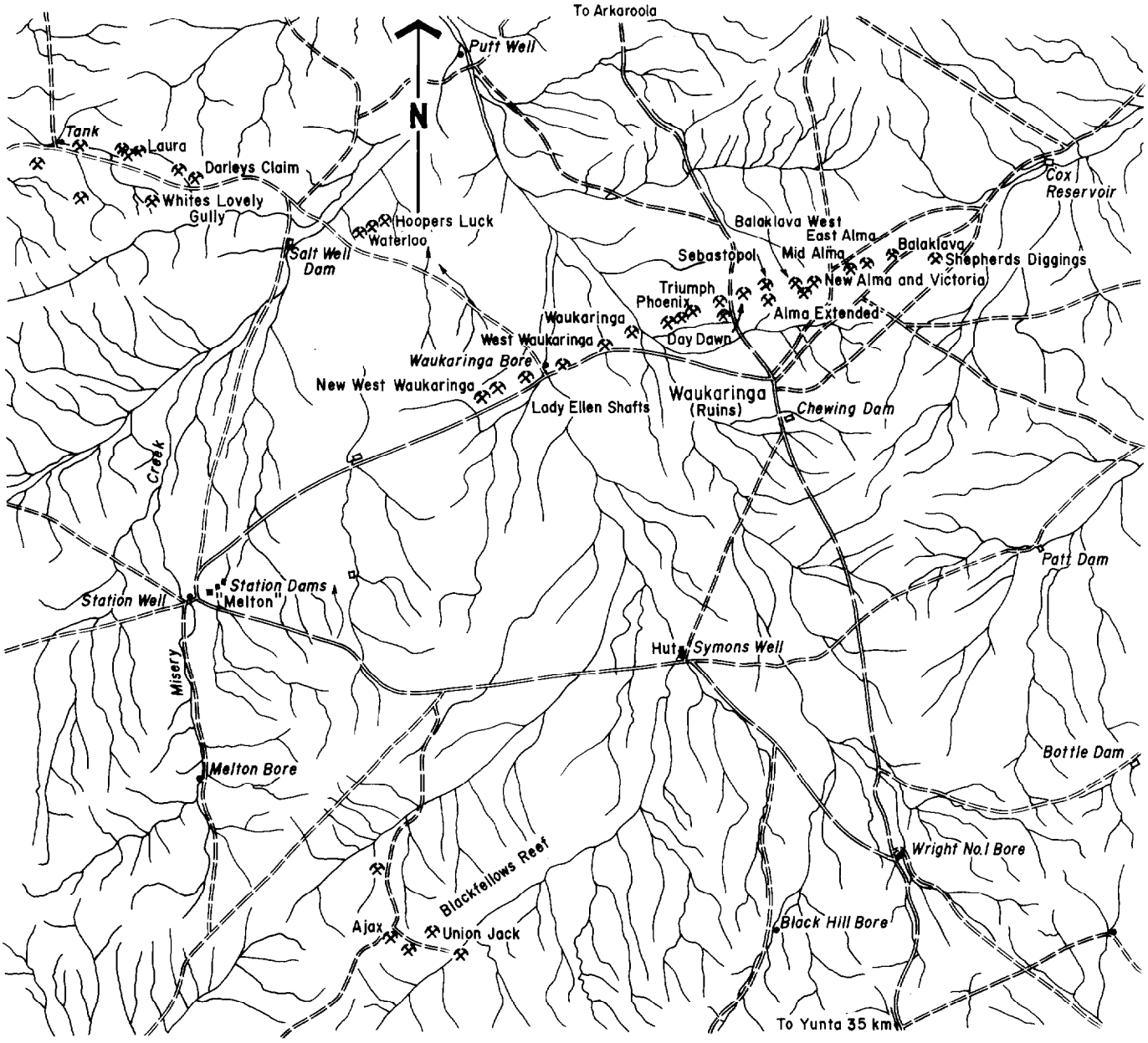


For further details see
SADME Plan No. 75–266

DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

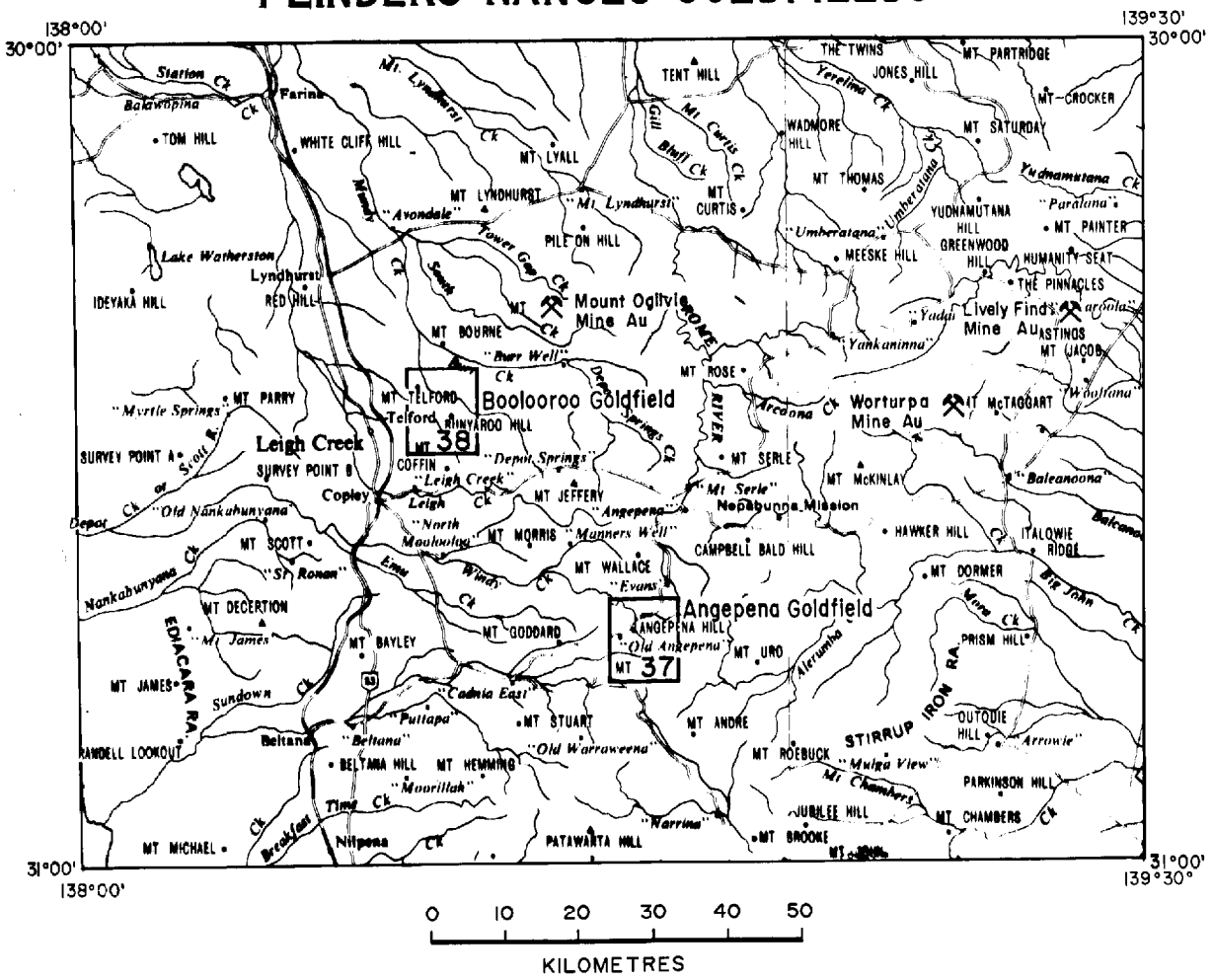
S15582

WAUKARINGA GOLDFIELD



For further details see
SADME Plan No. 81–412

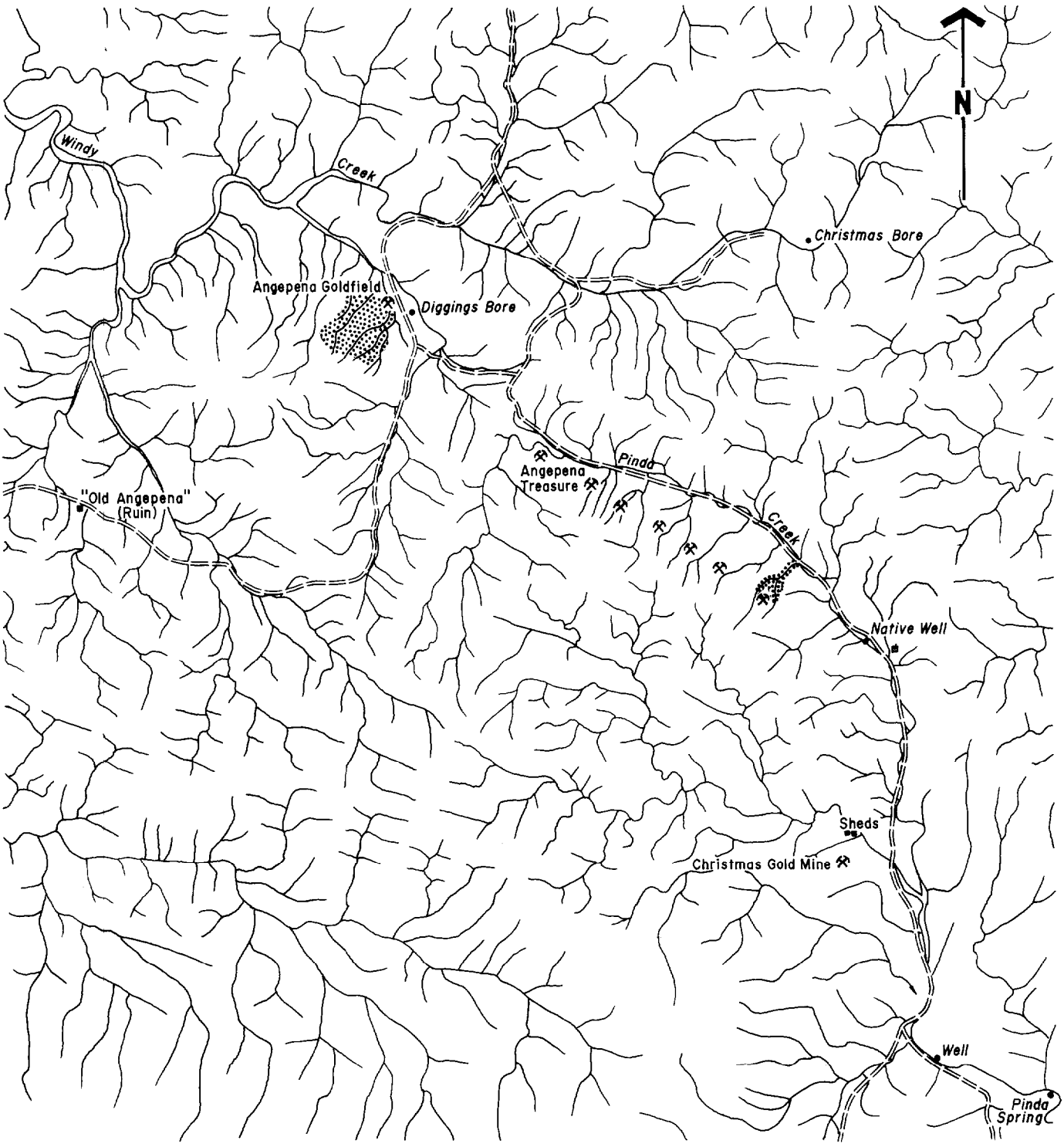
FLINDERS RANGES GOLDFIELDS



DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15588

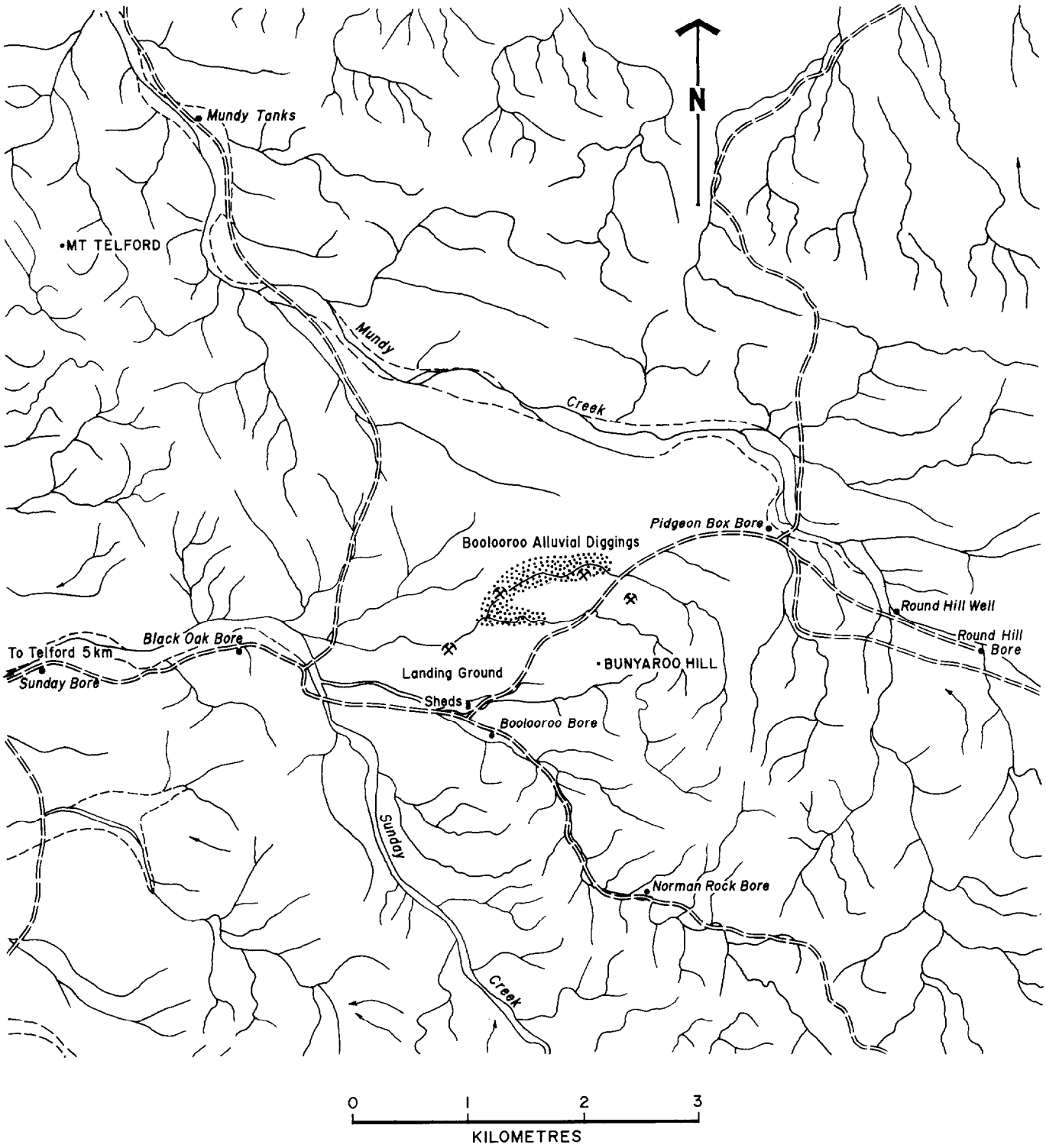
ANGEPENA GOLDFIELD



DEPARTMENT OF MINES AND ENERGY – SOUTH AUSTRALIA

S15589

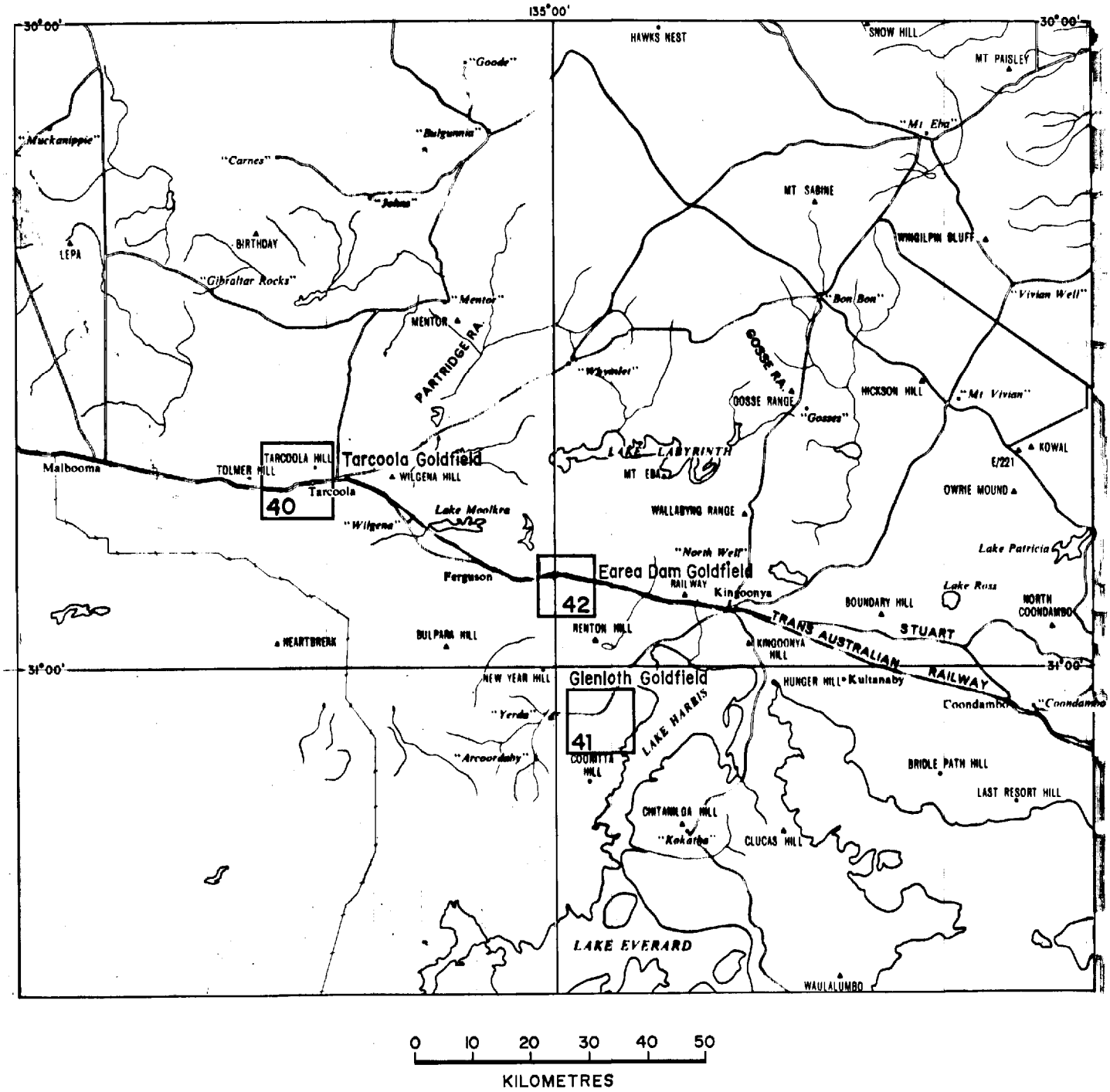
BOOLOOROO GOLDFIELD



DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15590

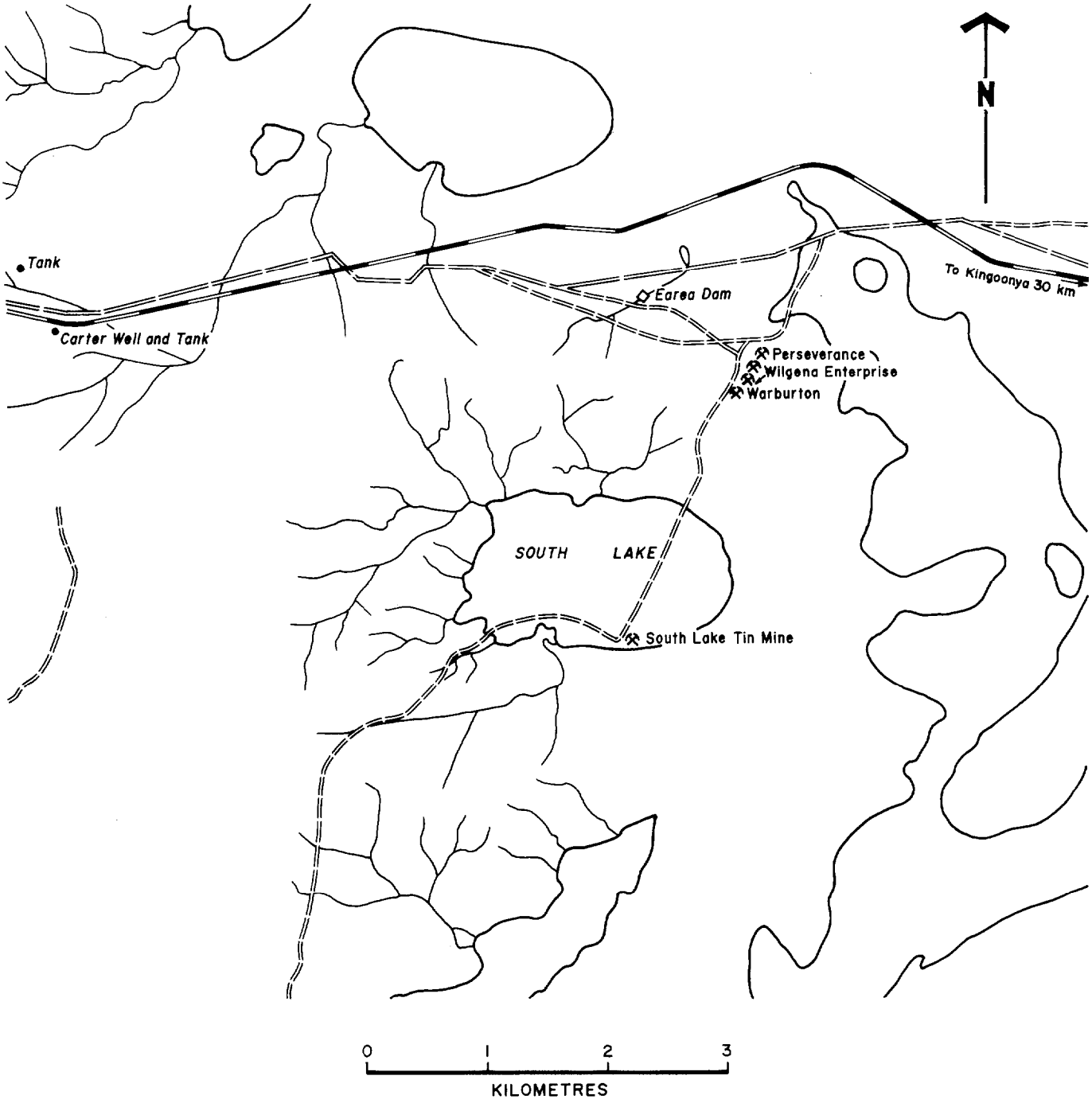
TARCOOLA AREA
LOCATION OF PRINCIPAL GOLDFIELDS



DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15593

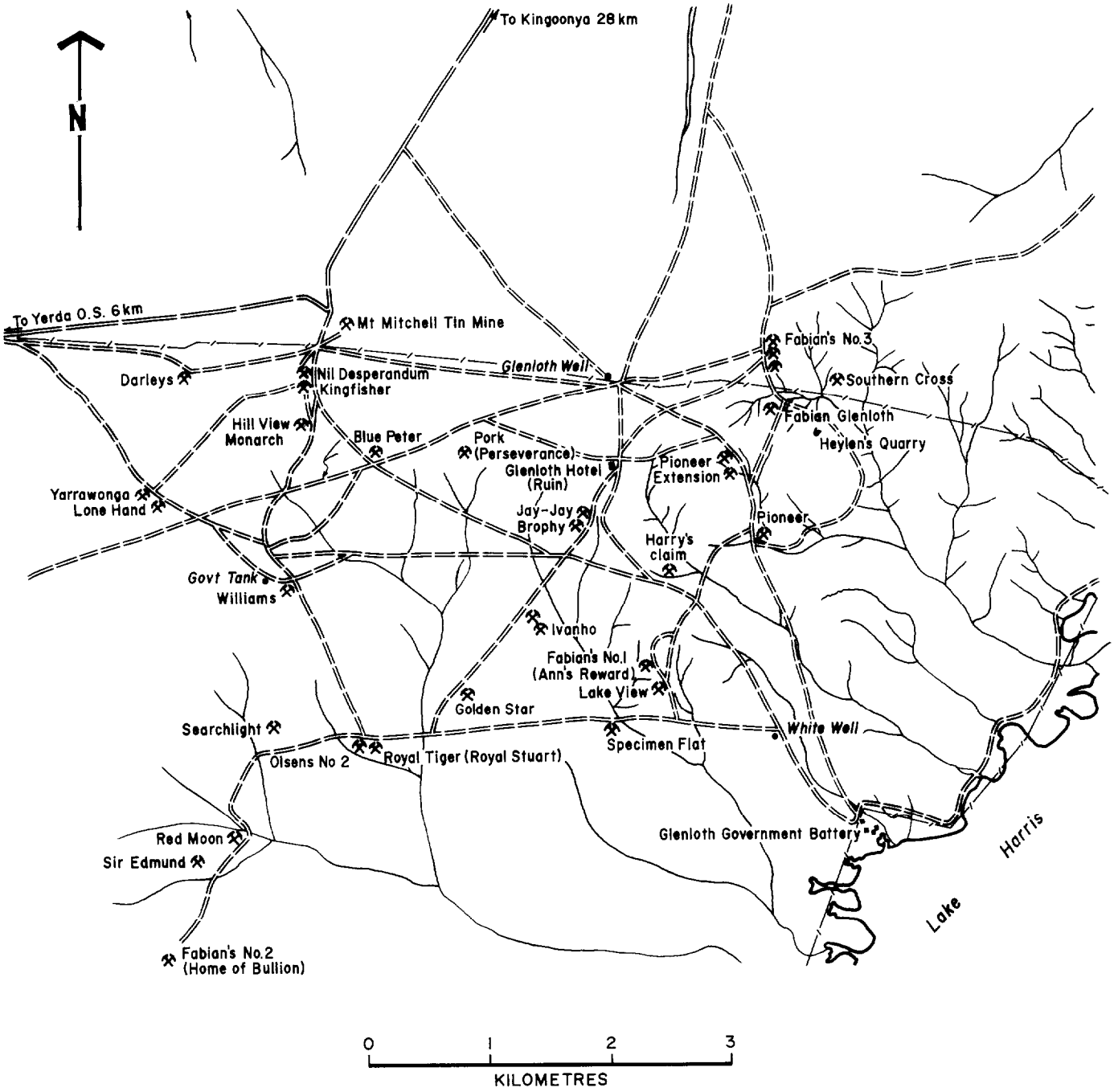
EAREA DAM GOLDFIELD



DEPARTMENT OF MINES AND ENERGY – SOUTH AUSTRALIA

S15596

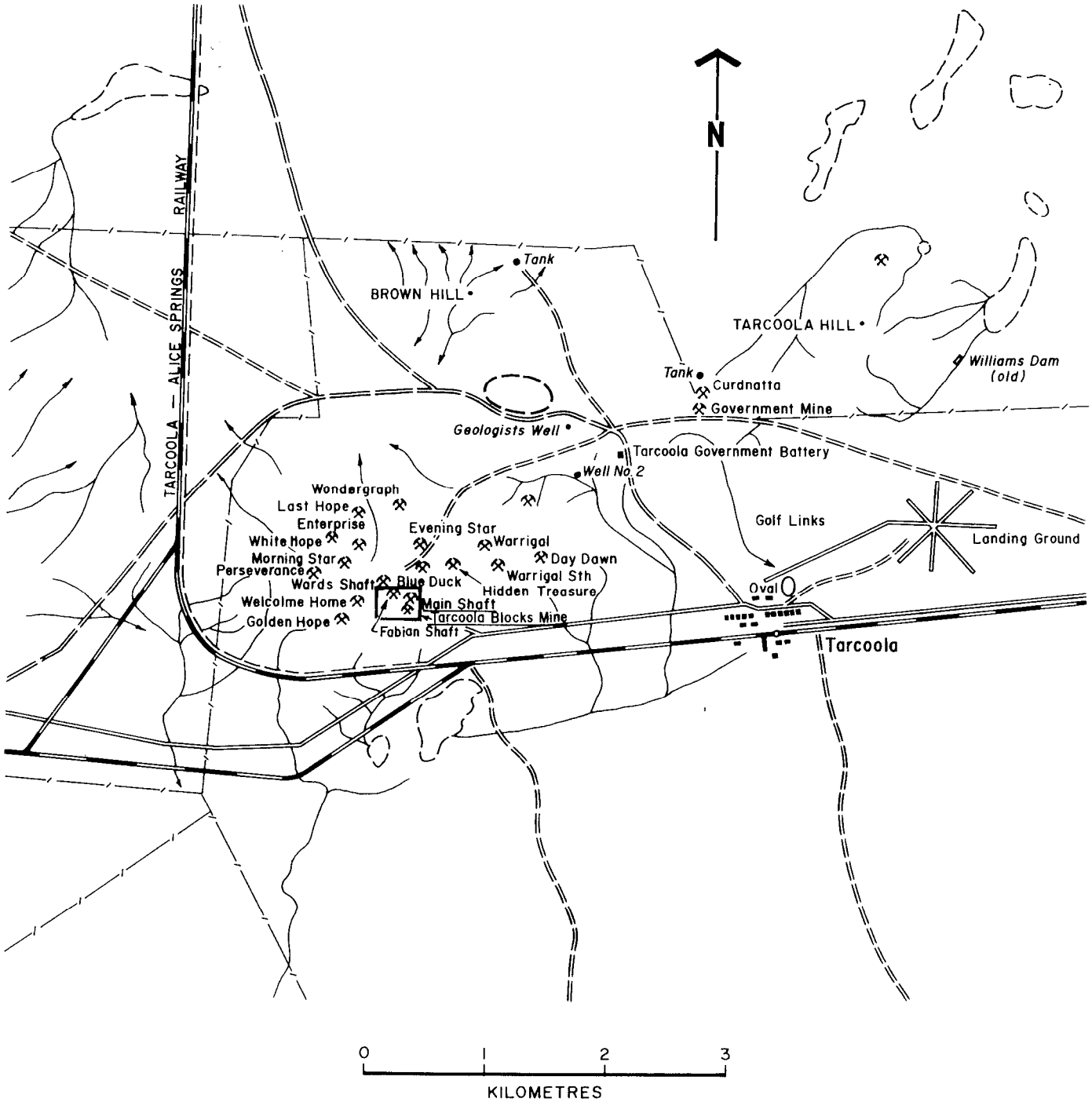
GLENLOTH GOLDFIELD



DEPARTMENT OF MINES AND ENERGY – SOUTH AUSTRALIA

S15595

TARCOOLA GOLDFIELD

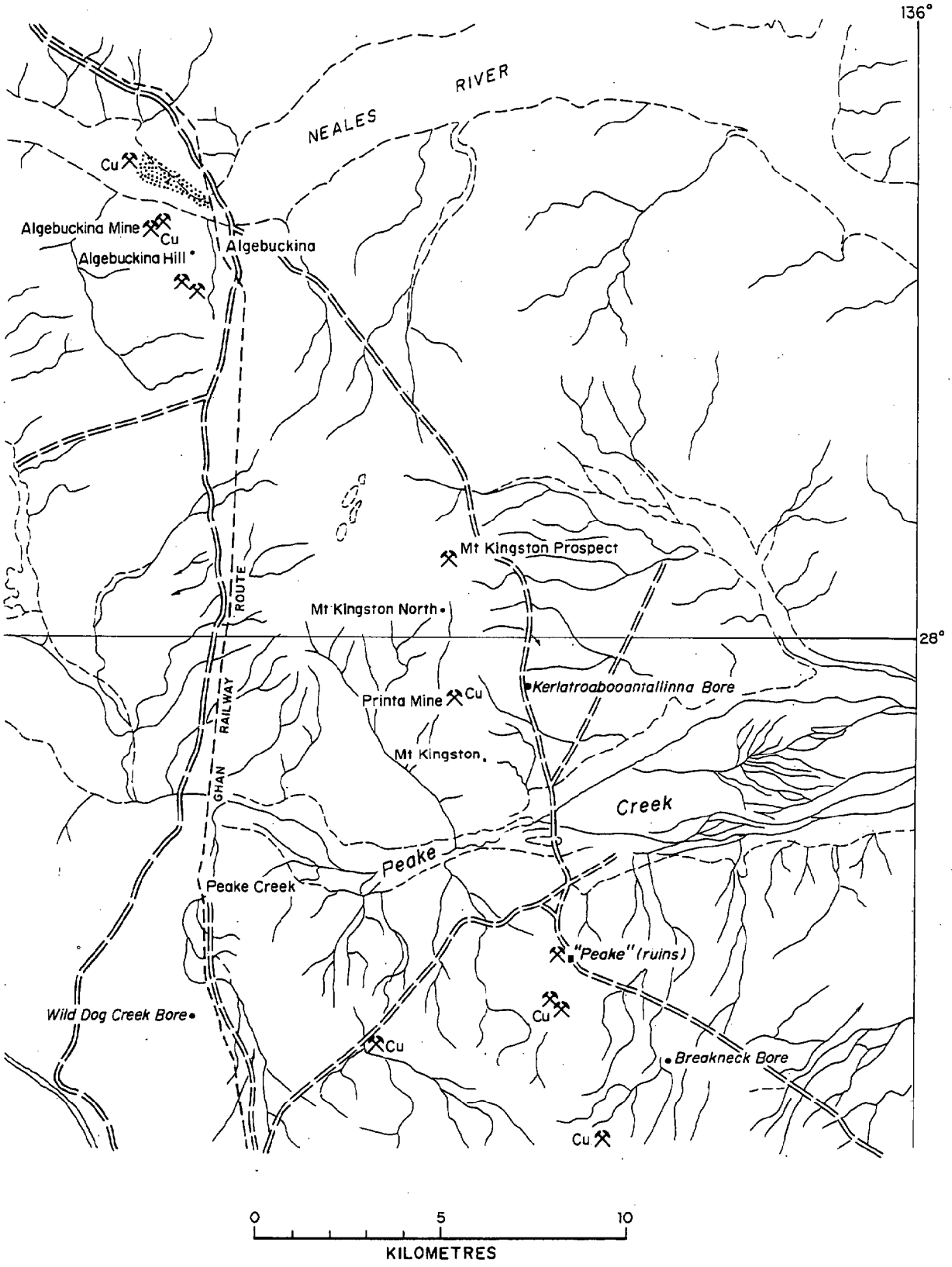


For details of original claims
see SADME Plan No. 297

DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S15594

ALGEBUCKINA GOLDFIELD



DEPARTMENT OF MINES AND ENERGY — SOUTH AUSTRALIA

S22582