

**ASSESSMENT OF EXTRACTIVE MATERIALS
POTENTIAL OF THE SOUTHEAST QUEENSLAND
BIOGEOGRAPHIC REGION**

by

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A report prepared for the Queensland Department of Mines and Energy, as part of a Comprehensive Regional Assessment of forest values for a Regional Forest Agreement for the Southeast Queensland Biogeographic Region.

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PROJECT OVERVIEW SUMMARY

BACKGROUND

The Queensland Government is currently undertaking Comprehensive Regional Assessments of forested areas in the State in accordance with the Commonwealth - State National Forest Policy of 1992, to identify those forests of environmental value that need to be protected, and those where wood production can continue. A key element of the process is the establishment of a "comprehensive, adequate and representative" reserve system to protect areas of environmental value.

Creation of extensive additional conservation reserves in the region could have a significant impact on access for future exploration for minerals and extractive materials, and possible impacts on existing operations. Assessment of mineral and extractive material potential is thus required to assist the design of the proposed reserve system so as to minimise any loss of access for exploration, mining, or quarrying in known or potentially mineralised terrain, and to advise on the type of reserves that may be appropriate in various situations.

This report, which was compiled under contract to the Department of Mines and Energy, provides an assessment of the quarry rock, sand and gravel, clay and building stone industry in the Southeast Queensland Biogeographic Region and identifies potential resources of these commodities which are important for the future development of the Region.

The Southeast Queensland Biogeographic Region extends from the Queensland - New South Wales border north to almost Gladstone and from the coast west to the Great Dividing Range. The Region includes the densely populated southeast including Brisbane, Ipswich, Gold Coast and Sunshine Coast and major population centres such as Gympie, Bundaberg, Maryborough, Hervey Bay, and Oakey.

In the 1970's the Department undertook an intensive investigation of the industrial rock and mineral resources of the Brisbane, Ipswich, Gold Coast and Sunshine Coast areas to provide planning data for the local Governments. During the same period a less detailed review was undertaken in the Wide Bay - Burnett region. Reviews of workings of construction materials in other areas in the Region were undertaken during the 1970's and 1980's, while updates of the industrial rock and mineral resources of the growth areas were completed in the late 1980's. A review of the eastern Moreton Region was undertaken in 1992. This existing data has been further updated in this report and assessed to ascertain the importance of forested areas to the industry.

INDUSTRY STATUS

Comparison of data collected during this study with that derived from earlier investigations has shown marked changes in the industries supplying construction materials for the development of the Region. This is particularly evident in the supply of quarry rock (including crushed rock and ridge gravels) where the impacts of construction specifications, and the need for quality assurance, has seen a dramatic reduction in the use of local sources of rock in parallel with the establishment of large, efficient operations producing a wide range of products.

The major changes to date in the sand and gravel industry are due principally to the exhaustion of supplies close to the major centres in the southeast. As a consequence most coarse aggregate for concrete is now supplied by the crushed stone producers rather than from river gravel. Community attitudes are also beginning to force sand producers from in-stream operations because of concerns about the stability of river systems and water quality and this is forcing producers to work off-stream point bar and meander resources. However there is evidence along the Mary River that very careful management of these operations will be required to prevent major erosion and changes in stream alignment during flood times.

With the exhaustion of conveniently located coarse sand resources, and the establishment of large, multi-product crushed rock quarries, the major operators have moved to utilise previously waste crusher dust as a coarse sand fraction. The type of rock will dictate the size distribution of the fraction which can efficiently be produced, but generally only coarser grain sizes will be possible. There will thus continue to be a demand for natural fine to medium grained sand (<600 micron) and certainly for fine sand (<300 micron) to provide material which improves the flow and pumping characteristics of concrete. However resources of these materials are now largely limited to the estuarine and coastal environments and to a limited degree to residual deposits developed on sedimentary sequences.

Coarse grained sandstone underlying the building stone at Helidon is currently being evaluated as a source of sand for the construction industry. Preliminary investigations have shown that processes similar to those being employed to produce manufactured sand will be required, with major investment in crushing, size separation and fines disposal.

The clay industry has changed dramatically since the 1970's with the majority of bricks produced by extrusion rather than the dry press methods which were phased out in major plants in the early 1970's. Dry press bricks can be formed from plastic clays, generally of alluvial origin, provided inert materials such as sand or crushed, fired bricks (grog) are used in the blend to control drying shrinkage. On the other hand extruders utilise lower moisture, less plastic materials such as shale which have become the base material for all the works in the region.

Problems facing the structural clay industry are exhaustion of resources, pressures of urbanisation and the cost of transport of raw materials, particularly in Brisbane where PGH and Boral source materials from sites across the city. Although shale resources in the Ipswich Coal Field are substantial, raw materials which provide dark fired colours are difficult to source.

Building stone is important only in the Helidon area, with minor workings north and south of Gympie. Because site specific investigations were not included in this study it has not been possible to identify potential resources of any building stone apart from sandstone at Helidon, where extraction is undertaken from an horizon / horizons close to the top of the Helidon Sandstone. Colouration in the stone is principally due to the presence of iron derived from weathering of iron rich mica in the rock and possibly from overlying lateritic gravel.

Special purpose clays constitute a small but important part of the industry in the region. Bentonite is extracted as a waste material from the coal mines in the Walloon Coal Measures near Willowbank and Amberley and from a mine near Yarraman. The bentonite from Ebenezer Mine is currently being used for stock food, absorbents (including cat litter) and testing has shown that it may be modified for use as a drilling mud. Production of kaolinite for use in a wide range of industries has commenced from deposits of transported clays at Kingaroy

FUTURE RESOURCES

Past and present investigations have shown that many rock types throughout the Region can be utilised as construction materials. As indicated above construction specifications and the requirement for quality assurance has forced the closure of many small pits and scrapings, except those which are utilised for maintenance of local gravel roads and general fill. The majority of Local Government pits have been closed due to the factors described above, cost pressures and the need to comply with the requirements of the Environmental Protection Act.

Apart from the Sunshine Coast and southern Gold Coast areas, where current and potential resources in State Forests are important, sufficient potential resources of **quarry rock** exist outside of State Forests and Crown Land which can be utilised to supply current and future markets. However, there are some resources of rock possibly important for the longer term in State Forest near Maryborough (see p29 **RM2**) In some areas, such as the southern Burnett region, there are limited resources of high quality crushed rock which could be utilised for major projects such as extensions to Tarong power station. In other areas major

quarries outside the region are important suppliers. These include Taragoola, west of Gladstone, Jimbour north of Dalby and Eastments Ridge east of Warwick. On the western Downs round trip hauls of over 200 km from the major operations are not uncommon.

While **sand and gravel** resources may occur in forested areas, no significant resources were recorded in native forest State Forests. However some sand resources are known in plantation State Forests south of Caloundra. As a consequence potential resources have been defined only along major streams or in areas of known coastal sediments. A major impediment to many resources being extensively worked is the presence of feldspar, which prevents the sand being utilised for high strength concrete. This is a major problem along the Burnett and Kolan Rivers and in some resources derived from the Marburg Formation.

Most potential resources within stream beds will almost certainly be sterilised due to environmental concerns regarding stream stability. As indicated above strict controls will need to be imposed to prevent extensive erosion of bunds around off-stream workings along major streams.

Manufactured sand can be derived from many of the large quarries operating within the region, however some materials can be utilised more readily than others. A major problem for their use in concrete is the presence of clays which are extremely difficult to wash from sand size-fractions. As a consequence only fresh rock can be used to produce manufactured sand, otherwise disposal of effluent will be a major problem in the industry.

The industry is now beginning to look at using quartzose sandstone of the Helidon Sandstone as a raw material for manufactured sand. Although distant from the major markets along the coast the area is conveniently located close to major road and rail corridors. Significant parts of this resource are located within State Forest north and east of Helidon.

Clay resources in the Brisbane region do not occur in State Forests although some occur within the broad forested zone. Supplies of clay for the Cooroy brickworks are mainly derived from pits located adjacent to areas of State Forest north of Cooroy, with dark firing materials extracted from a pit in State Forest near Imbil. Near Bundaberg and Maryborough, where substantial areas of potential clay bearing units are utilised for sugar cane (considered as prime agricultural land) potential resources adjacent to existing leases are considered to be of major importance to the brick industry. Some of these areas are within State Forest.

Building stone is only important north of Helidon where the potential extraction sequence lies immediately above a coarse sandstone layer which is a probable source of rock for manufactured sand. Resources currently worked are located on freehold land, but mining lease applications have been made over State Forest. Although the Helidon Sandstone extends east toward Gatton and Esk, no workings are known in this area and the potential of the area has not been investigated.

Mining Leases held for clay within the Region cover 5906 ha on which rentals paid to the Department of Mines and Energy total \$124 039. Production from the leases totalled 1.45 million tonnes in 1994/95 with royalties of approximately \$363 000. Because many of the current building stone operations were current at the time of the introduction of the current Mineral Resources Act, few operations are required to pay a royalty to the Department of Mines and Energy and total production is not known.

FINANCIAL CONTRIBUTION

Because of the lack of statistics and other records, it was not possible to estimate total production of quarry rock, and sand and gravel production within the Region or the number employed in the industry. Because of the long period of drought in the Region many of the Local Governments had not been required to undertake substantial road maintenance, and the state of the economy had resulted in reductions in government spending on infrastructure. Production figures for quarries gazetted under the Mines Regulations Act are available within the Department of Mines and Energy and show wide variation from year to year. Royalties payable to the Department of Natural Resources for rock extracted from State Forest and Crown Land

totalled \$1.2 million in 1995/95. No figures were obtained for sand extracted from permits administered by the Department of Natural Resources.

SIGNIFICANCE OF STATE FORESTS AND CROWN LAND FOR THE INDUSTRY

The majority of quarries supplying Local Governments and private industry are located on freehold land in private or non-forested areas, with a minority in private forested areas. Although numerous pits and scrapings were reported by Forestry officers in plantation areas, particularly on the Maryborough Sheet, there are few pits in native forest areas. If road maintenance is required in these areas gravel is generally derived by widening or straightening access roads.

The only major operations located in State Forests or on Crown Land are in the Sunshine Coast and southern Gold Coast hinterland. Production from these quarries totalled 2.6 million tonnes in 1994/95 although only 1.3 million tonnes valued at \$1.2 million can be assigned to the State Forest areas.

Eighty two percent of the income was generated from three large quarries on the Sunshine Coast. These operations are Image Flat (Nambour), Bli Bli (Nambour), and Sunrock (Beerburrum). These quarries are important suppliers of crushed rock to the Sunshine Coast, Caboolture and northern Brisbane markets. Because of their strategic location close to major road and rail corridors, current and potential resources within the State Forest are of major importance. It is difficult to locate further suitable quarry sites because of the scenic nature of the area, the presence of National Parks and State Forests (plantation and native forest) and extensive residential and rural residential development.

The only other major quarry in State Forest (11 percent of income, and the largest quarry in the Southeast Queensland Biogeographic Region) is the Hymix quarry at Nerang. Only a small proportion of sales is derived from rock within the State Forest although large reserves sufficient for 30 years occur in the State Forest.

The remainder of the income is generated from smaller operations on State Forest and Crown Land including Sugarloaf (Mutdapilly), Purga (south of Ipswich), and Ringtail (Noosa Shire).

Potential resources are present within State Forest throughout the Biogeographic Region, however their importance is limited except in the Sunshine Coast hinterland, and near Maryborough, where deep weathering profiles throughout much of the area restrict available sites. In the Gold Coast hinterland potential resources of quarry rock are limited because of the widespread urban and rural development.

There are no significant sand and gravel resources recorded within State Forest in the Region, however potential resources of sandstone suitable for the manufacture of sand are located within State Forest near Helidon. As natural sand resources are depleted the significance of these resources will increase. This area also contains important resources of sandstone suitable for use as building stone. Currently all extraction is undertaken on adjacent freehold land.

In the Cooroy area some of the clay pits are located adjacent to areas of State Forest, with potential resources within the State Forest. Cooroy Brick Works also extracts dark firing shale from a small pit in State Forest at Imbil. In the Bundaberg and Maryborough areas, where substantial areas of potential clay bearing units are utilised for sugar cane (considered as prime agricultural land) potential resources adjacent to existing leases are considered to be of major importance to the brick industry. Both the Wide Bay Brickworks and Marcotta Tiles extract from leases in State Forest to provide major components of their blends and some of these deposits are in State Forest.

PART 1 - INTRODUCTION

BACKGROUND

The Queensland Government is currently undertaking what are known as Comprehensive Regional Assessments (CRAs) of forested areas in the State, in accordance with the Commonwealth - State National Forest Policy in 1992, to identify those forests of environmental value that need to be protected, and those where wood production can continue. These assessments will lead to Regional Forest Agreements (RFAs) between the Commonwealth and the State. A key element of the process is the establishment of a "comprehensive, adequate and reprehensive" reserve system (CAR) to protect the areas of environmental value.

Creation of extensive additional conservation reserves in the region could have a significant impact on access for future exploration for minerals and extractive materials, and possible impacts on existing operations. Assessment of mineral and extractive material potential is thus required to assist the design of the proposed reserve system so as to minimise any loss of access for exploration, mining or quarrying in known or potentially mineralised terrain, and to advise on the type of reserves that may be appropriate in various situations.

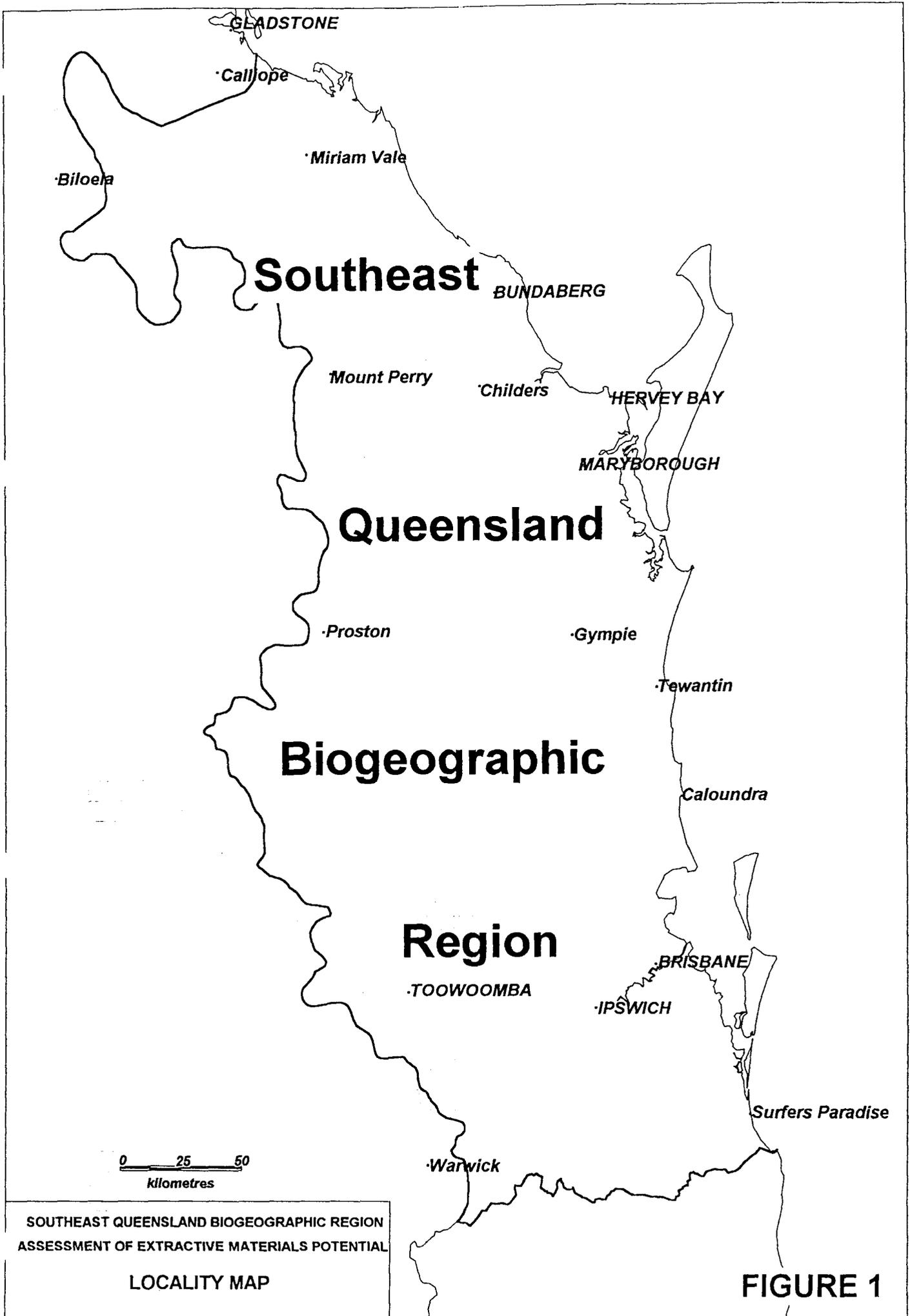
The Southeast Queensland Biogeographic Region (Figure 1) is being assessed by:

Department of Environment	Conservation Values
Department of Mines and Energy	Minerals and Extractive Materials
Department of Natural Resources	Timber Potential, Economic and Social Values.

This report was compiled under contract as part of the assessment of Extractive Materials by the Department of Mines and Energy.

Project Objectives

1. Compile an inventory of previously recorded and currently operating workings of:
 - Quarry Rock (including ridge gravels)
 - Sand and gravel
 - Structural Clay
 - Building Stone
2. Outline areas containing potential resources of commodities listed above.
3. Assess the significance of resources currently worked in forested areas (private, State Forest and Crown Land) to local and regional economies.
4. Assess the importance of potential resources in forested areas to local and regional communities, and compare resources or potential resources in non-forested areas.
5. Assessment of the relative importance of the industry in forested areas as compared to non-forested parts of the region.



DATA SOURCES

The principal data sources utilised in compilation of this report are shown in Figure 2, Table 1 and also listed in the Bibliography. They include:

District reviews of workings of Construction Materials Queensland Government Mining Journal

Industrial rock and mineral surveys - 100 000 Sheets Geological Survey of Queensland Publications

Industrial rock and mineral surveys - Shires Geological Survey of Queensland Records

Other reports utilised included:

Geological Sheet Reports Geological Survey of Queensland Reports
Queensland Department of Mines Map commentaries

Reviews of river sand and gravel resources Department of Primary Industries - Water Resources

More recent information on current workings (Quarry Rock and in some cases Sand and Gravel) was compiled from a questionnaire sent to all Local Governments in the Biogeographic Region, visits to the majority of Local Governments, Departmental knowledge, personal information and data from some of the operating companies. Locations of operations within the State Forests and Timber Reserves was compiled from information supplied during visits to District Offices of DPI / DNR throughout the Region. Data on quarry production in areas controlled by forest authorities was sourced from the DPI / DNR in Brisbane.

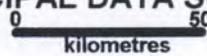
Data on quarries designated under the Mines Regulation Act 1968 was sourced from databases held by the Extractives Industries Unit of the Department of Mines and Energy. Locations of Mining Leases for Clay, Building Stone and Silica and Foundry Sand, together with information on rentals, royalties and production, were extracted from Departmental databases.

TABLE 1 PRINCIPAL DATA SOURCES

Report	Author	Date	Reference
Dalby-Millmerran-Chinchilla	O'Flynn	1984	QGMJ February 84, p49
Toowoomba	O'Flynn	1980	QGMJ September 80, p447
Gladstone	Holmes	1980	QGMJ May 80, p267
Pialba 1:100 000	Robertson	1981	QGMJ March 81, p131
South Burnett	Martin & Neville	1981	QGMJ October 81, p491
Nambour & Caloundra 1:100 000	Martin	1985	GSQ Pub 385
Brisbane & Caboolture 1:100 000	O'Flynn, Holmes & Trezise	1983	GSQ Pub 382
Ipswich 1:100 000	Willmott, Cooper & Martin	1979	GSQ Pub 373
Beenleigh & Murwillumbah 1:100 000	Willmott, Martin, O'Flynn & Cooper	1976	GSQ Pub 368
Beaudesert Shire	Martin	1975	GSQ Rec 1975/27
Laidley & Gatton Shires	Zahawi	1979	GSQ Rec 1979/04
Laidley & Gatton Shires	Zahawi	1979	GSQ Rec 1979/04
Warwick - Stanthorpe	O'Flynn	1983	QGMJ September 83, p339
Gympie	O'Flynn & Graham	1987	QGMJ July 87, 240
Noosa Shire	Trezise	1989	GSQ Rec 1989/21
Maryborough 1:100 000	Robertson	1981	QGMJ Dec 81, 591
Biloela - Mt Morgan	Trezise	1982	QGMJ August 82, p364
Bundaberg 1:100 000	Robertson	1980	GSQ Rec 1980/1
Central Burnett	Trezise	1984	QGMJ May 84, p167
Upper Burnett	Trezise & Graham	1984	QGMJ June 84, p208
Southern Esk Shire	Holmes	1979	GSQ Rec 1979/18
Gatton Shire	Willmott	1987	GSQ Rec 1987/30

SOUTHEAST QUEENSLAND BIOGEOGRAPHIC REGION
ASSESSMENT OF EXTRACTIVE MATERIALS POTENTIAL

PRINCIPAL DATA SOURCES



LEGEND

- O'Flynn (1984)
- O'Flynn & Graham (1987)
- O'Flynn (1980)
- Holmes (1980)
- Robertson (1981)
- Martin & Neville (1981)
- Martin (1985)
- O'Flynn & others (1983)
- Willmott & others (1979)
- Willmott & others (1976)
- Martin (1975)
- Zahawi (1979)
- O'Flynn (1983)
- Trezise (1989)
- Robertson (1981)
- Trezise (1982)
- Robertson (1980)
- Trezise (1984)
- Trezise & Graham (1984)
- Holmes (1979)
- Willmott (1987)

MURGON 1:100 000 Sheet area

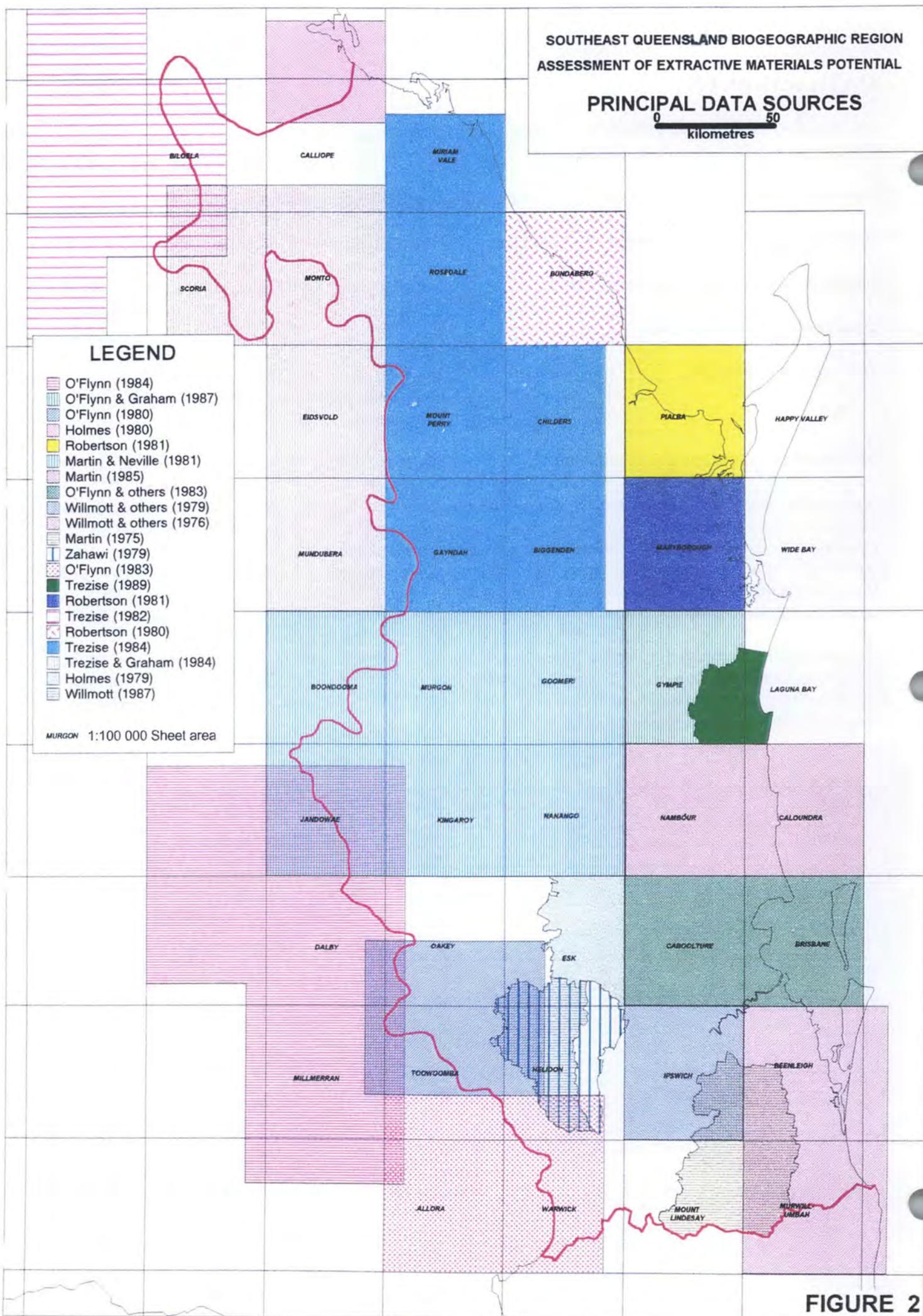


FIGURE 2

DATA COMPILATION

Data supplied by the Departments of Primary Industries and Natural Resources for this project comprised a number of 1:250 000 Sheets showing the boundary of the biogeographic region, State Forest, Timber Reserves and National Parks. The maps also depicted "Forest" and "Non Forest" areas defined by classification of satellite imagery. Because of the intricacy of the areas involved officers of the Department of Mines and Energy manually aggregated the data into a number of broad "Forested Areas".

The boundaries of the "Forested Areas" and the Biogeographic Region were then digitised into MapInfo (Figure 4) to form a base map for the Project.

Quarry Rock and Sand and Gravel workings were compiled on a 1:100 000 basis using a standard Excel spreadsheet. Recording of grid references in previous reports caused the greatest problems in data compilation due to the use of 4 figure references which provide accuracy of +/- 1000 m versus +/- 100 m for 6 figure references. In this report 6 figure AMG grid references are reported in the following manner:

Text BUN 443373 which is an abbreviation of 444300 / 7237300 on the Bundaberg 1:100 000 Sheet

Maps 443373 (an index is provided on each sheet showing the various 1:100 000 Sheets)

Tables the data includes Sheet Name, abbreviated 6 figure and full AMG coordinates.

Clay and Building Stone lease data was also compiled onto Excel spreadsheets with locations converted to AMG coordinates manually or by digitising.

The locations of the various 1:100 000 sheets mentioned in this report are shown in Figure 2 with abbreviations in Table 2.

The Excel 1:100 000 Sheet files for Quarry Rock were then compiled into the various 1:250 000 Special Sheets. The 6 figure grid references were converted to full AMG coordinates for each point. The previous investigations described the workings as "Small", "Medium" and "Large". However the majority of "Large workings" in country areas were not of a size comparable with the large quarries in Southeast Queensland. To enable plotting of the relative size of each working the following system was adopted:

Category	New Category = Psize
Small	1
Medium	3
Large	3
New Large	5

The Sand and Gravel data was compiled in a similar fashion to provide files for each Special Sheet. No distinction was made on size of workings because of the limited data available.

Clay and Building Stone information was compiled on a region basis.

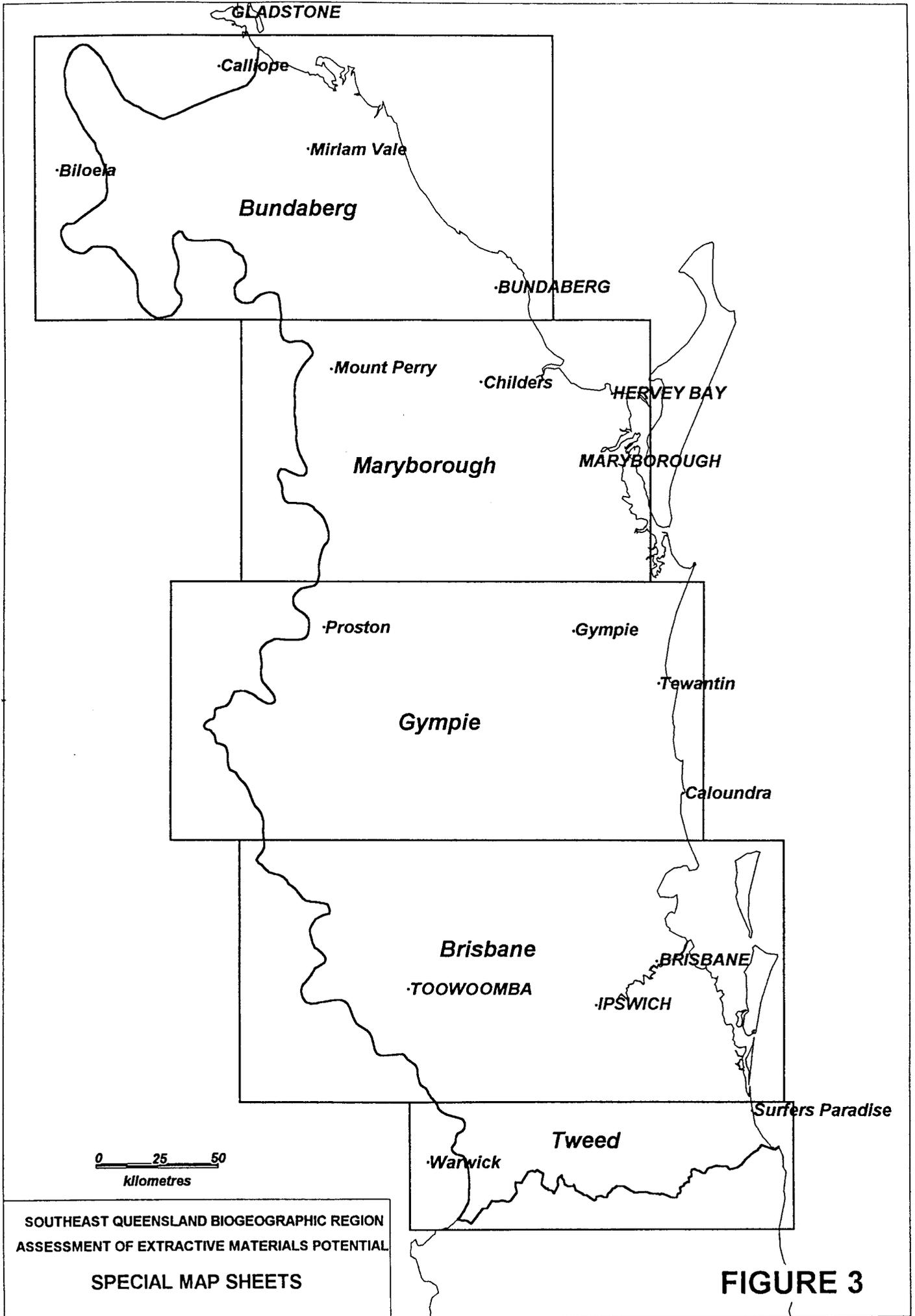
TABLE 2 1:100 000 SHEET ABBREVIATIONS

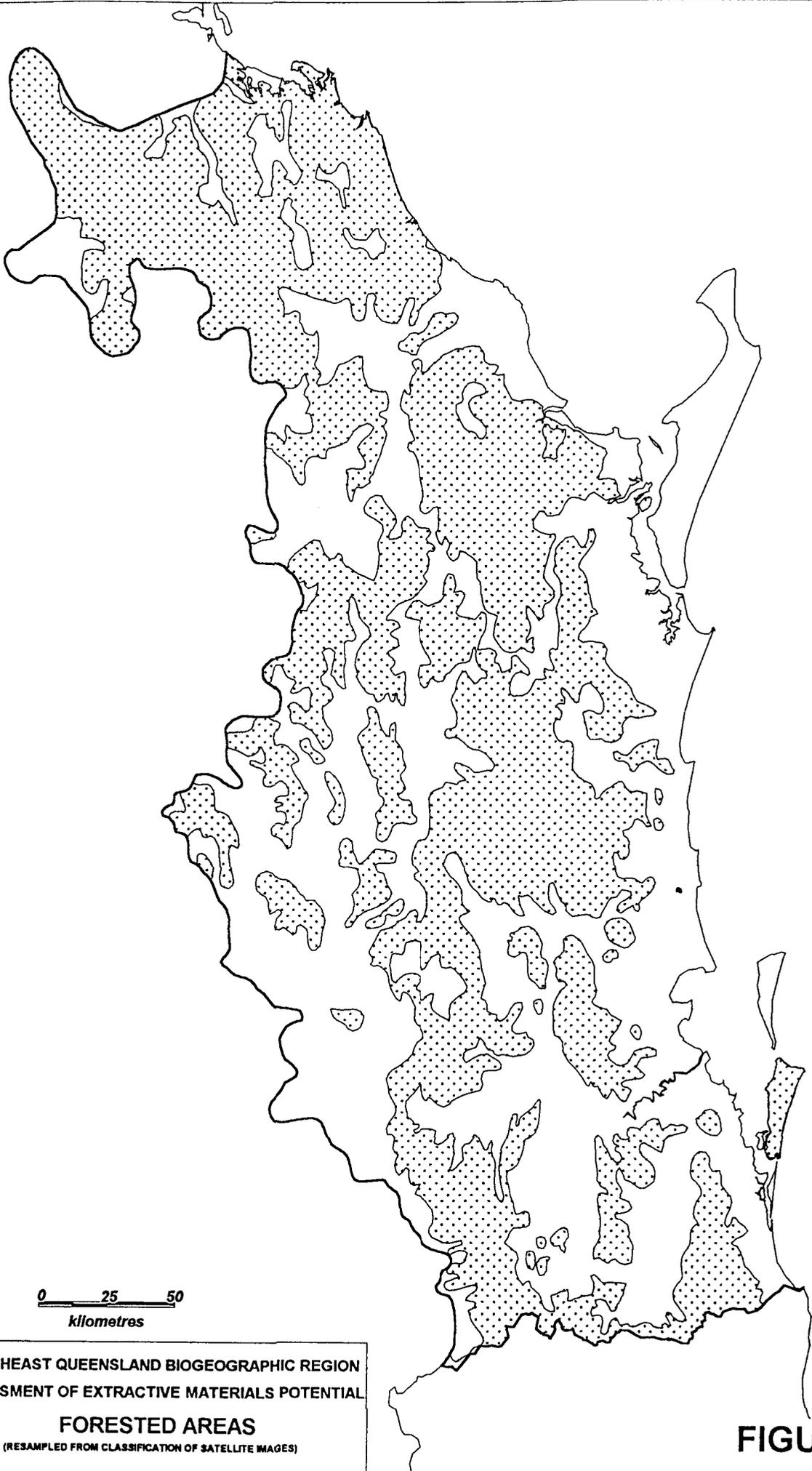
SORTED BY 1:250 000 SPECIAL SHEETS			SORTED BY ABBREVIATION		
Special Sheet	Abbreviation	100 000 sheet	Abbreviation	100 000 Sheet	Special Sheet
Bundaberg	GLA	Gladstone	BEE	Beenleigh	Brisbane
Bundaberg	BIL	Biloela	BIG	Biggenden	Maryborough
Bundaberg	CPE	Calliope	BIL	Biloela	Bundaberg
Bundaberg	MIR	Miriamvale	BOO	Boondooma	Gympie
Bundaberg	SCO	Scoria	BRI	Brisbane	Brisbane
Bundaberg	MON	Monto	BUN	Bundaberg	Bundaberg
Bundaberg	ROS	Rosedale	CAB	Caboolture	Brisbane
Bundaberg	BUN	Bundaberg	CAL	Caloundra	Gympie
Maryborough	MTP	Mount Perry	CHI	Childers	Maryborough
Maryborough	CHI	Childers	CPE	Calliope	Bundaberg
Maryborough	PIA	Pialba	DAL	Dalby	Brisbane
Maryborough	GAY	Gayndah	ESK	Esk	Brisbane
Maryborough	BIG	Biggenden	GAY	Gayndah	Maryborough
Maryborough	MAR	Maryborough	GLA	Gladstone	Bundaberg
Gympie	BOO	Boondooma	GOO	Goomeri	Gympie
Gympie	MUR	Murgon	GYM	Gympie	Gympie
Gympie	GOO	Goomeri	HEL	Helidon	Brisbane
Gympie	GYM	Gympie	IPS	Ipswich	Brisbane
Gympie	LAG	Laguna Bay	JAN	Jandowae	Gympie
Gympie	JAN	Jandowae	KIN	Kingaroy	Gympie
Gympie	KIN	Kingaroy	LAG	Laguna Bay	Gympie
Gympie	NAN	Nanango	MAR	Maryborough	Maryborough
Gympie	NAM	Nambour	MIR	Miriamvale	Bundaberg
Gympie	CAL	Caloundra	MON	Monto	Bundaberg
Brisbane	DAL	Dalby	MTL	Mount Lidesay	Tweed
Brisbane	OAK	Oakey	MTP	Mount Perry	Maryborough
Brisbane	ESK	Esk	MUR	Murgon	Gympie
Brisbane	CAB	Caboolture	MWH	Murwillumbah	Tweed
Brisbane	BRI	Brisbane	NAM	Nambour	Gympie
Brisbane	TOO	Toowoomba	NAN	Nanango	Gympie
Brisbane	HEL	Helidon	OAK	Oakey	Brisbane
Brisbane	IPS	Ipswich	PIA	Pialba	Maryborough
Brisbane	BEE	Beenleigh	ROS	Rosedale	Bundaberg
Tweed	WAR	Warwick	SCO	Scoria	Bundaberg
Tweed	MTL	Mount Lidesay	TOO	Toowoomba	Brisbane
Tweed	MWH	Murwillumbah	WAR	Warwick	Tweed

DATA PRESENTATION

The Southeast Queensland Biogeographic Region covers part or all of thirteen 1:250 000 Sheets. Fraser Island, although part of the Region, is a World Heritage listed area and was not considered in this review. For data presentation the remaining sheets were divided into 5 Special Sheets (Figure 3) as shown below:

Map #	Special Sheet	1:250 000 Sheets
1	Bundaberg	Bundaberg, Monto, Rockhampton
2	Maryborough	Maryborough, Mundubbera
3	Gympie	Gympie, Chinchilla
4	Brisbane	Brisbane, Ipswich, Dalby
5	Tweed	Tweed Heads, Warwick





SOUTHEAST QUEENSLAND BIOGEOGRAPHIC REGION
ASSESSMENT OF EXTRACTIVE MATERIALS POTENTIAL
FORESTED AREAS
(RESAMPLED FROM CLASSIFICATION OF SATELLITE IMAGES)

FIGURE 4

Data tables were imported into MapInfo and checked for accuracy, and symbols were allocated to each commodity. Quarry Rock and Sand and Gravel operations were named by 6 figure grid references while the other commodities were marked by Mining Lease number.

Quarries producing more than 50 000 tpa are considered major operations and are described in more detail than smaller operations.

Draft copies of the maps were prepared to be used as overlays to the geology maps, plots of mining tenements and DPI and DNR maps. Potential resources were then marked on the maps and then digitised into MapInfo prior to printing of the final maps.

DATA ASSESSMENT

In the mid 1970's the Geological Survey of Queensland (Urban and Environmental Section) began a series of programs to provide planning data for cities and Shires in the Brisbane, Sunshine Coast, Gold Coast and Ipswich areas. These investigations covered quarry rock, sand and gravel, clay and various minor commodities which occurred in the study areas. In time, these studies were extended to cover the major regional centres, in part in conjunction with a major review of the Wide Bay - Burnett Region. Resources of construction materials throughout a large part of Queensland were investigated during the 1980's, while in the late 1980's reviews of previous investigations were undertaken in Albert, Noosa and Gatton Shires. A review of the eastern Moreton Region was undertaken in 1992.

During the early investigations it was obvious that construction materials were readily available throughout the region, although in some areas development was placing pressure on some resources. By the late 1980's when reviews were undertaken in Albert and Noosa Shire changes in the supply of quarry rock were emerging due to sterilisation of resources by urban development and by increases in quarrying costs. Changes in the Sand and Gravel and Clay industries were not so obvious.

In the 1990's there have been profound changes in the Quarry Rock industry due to:

- Quality Assurance requirements for Queensland Transport / Main Roads Department contracts

- Introduction of licensing for Environmentally Relevant Activities (ERAs) under the Environmental Protection Act

- Requirements for Environmental Impact Assessments for extractive industry and Mining Lease applications

- Implications of the Native Title Act

- Increasing operating costs for small quarries with limited markets versus economies of scale for "super" quarries or sand plants

- Implications of restrictions on new extractive operations in some Shires

- Limited funding of road building / maintenance except for major highways

- Sterilisation of resources by urban development

- Price competition across the industry to gain market share affecting industry profitability.

As a consequence of these factors there has been a marked reduction in the number of operating quarries, pits and scrapings in the Region. Main Roads contracts are now met from Quality Assured commercial quarries with round trip haulage in excess of 20 km in some instances. In many areas Shire quarries have

been closed and equipment sold. Exceptions include Wambo, Murgon, Tiaro, Miriam Vale, Woocoo, Wondai and Maroochy Shires which still maintain quarries and / or mobile crushing plants. Because of quality assurance requirements widespread use of local ridge gravels has diminished, except for use as maintenance materials for gravel roads.

Quarry rock is mainly used for road construction and maintenance (Shires, Department of Main Roads, private contractors), concrete products (concrete companies), and rail ballast (Department of Transport).

Local Shires are generally one of the largest consumers of quarry rock material as they maintain most of the roads within their Shire. They also carry out work on major road construction under contract from the DMR. Traditionally Shires obtained road base material which makes up the bulk of a road construction material from local pits, scrapings and road cuts. Generally the convenient location of a source had priority over the quality of the material. This resulted in a product of variable quality and the distribution of a large number of unsightly pits and scrapings scattered throughout the Shire commonly visible from the road.

The construction industry is a major user of crushed rock for concrete aggregate purposes, particularly in developing areas such as the Gold Coast and Sunshine Coast and in major population centres. Rock used for the construction industry is of a high standard. The most important factors are location to the markets and the rock quality. The trend to use concrete as a base for major highways (ie widening of the Pacific Highway) may dramatically increase the use of this material.

The other major user of crushed rock is the Queensland Railways which requires large volumes of 40 mm ballast rock. Prior to the 1980's the Department quarried much of its own material. However, during recent times, supply has been contracted to private quarry operators. Quarries producing good quality aggregate will generally be able to supply ballast. Quarries located near railway sidings have a distinct advantage in not only supplying ballast but are also in a position to supply aggregate to more remote areas by rail.

While the sand and gravel industry (including silica and foundry sand) faces similar issues as quarrying, specific implications for the industry include:

- Environmental pressures to exclude in-stream extraction of resources;
- Exhaustion of most sources of coarse sand, and the need to produce alternatives such as manufactured sand;
- Limited resources of high grade medium to fine sands, particularly in some regional areas.

Sand and gravel is used throughout the construction industry for a wide variety of purposes which require various qualities. Operations range from large plants capable of producing up to 500 000 tpa to small scrapings in local creeks.

The major problems in the structural clay industry are:

- Technology changes such as the introduction of plastics for sewer pipes which obliterated the clay pipe industry;
- Sterilisation of resources by urban development;
- Cost of transport of resources, particularly across Brisbane.

However, reductions in coal mining in the Ipswich Coal Field has provided additional resources of brick making materials in stockpiles and in open cuts. Coal mining in the Willowbank - Amberley - Rosewood area has also provided new opportunities for the supply of brick making clays and the potential for the recovery of bentonitic clays suitable for use in stock foods, ceramics, absorbents and civil engineering.

In the late 1970's the Department of Mines undertook a field investigation of the ceramic resources in the coastal area around centres of population and in areas containing special use clays. Drilling was undertaken in the Bundaberg, Maryborough, Gympie, Proston-Kingaroy-Nanango areas, however data is only available for the Maryborough region. No drilling was undertaken in the alluvium where other clays suitable for

ceramic use can be found as most are either under cultivation or too low lying. Current industry practice is to use alluvial clays only to increase plasticity in blends.

The building stone industry appears to suffer few problems as most resources of interest are in less developed areas. Some problems may arise in the forested parts of the Helidon Sandstone area where interest is being shown in potential resources of coarse grained sandstone as feed stock for a manufactured sand industry.

Government Controls

The administration of extractive materials on private land is controlled by Local Governments through provisions of their town planning procedures, although the degree of control varies. Some cities and Shires have Extractive Industry zoning while in other areas it is a consent use in rural zonings. Sand and gravel extraction from in-stream sites in non-tidal and tidal areas is controlled by the Departments of Natural Resources, and Environment respectively. Processing of materials can not be undertaken in-stream. If processing is undertaken on shore, operators are required to have an approval under the Local Government town planning scheme and pay levies when using local roads. If no processing is undertaken then no Local Government approval or road maintenance levies are required. Hard rock resources within State Forests and Crown Land are now controlled by the Department of Primary Industries subject to approval from the Department of Natural Resources. Operations must also conform to the requirements of the relevant town plan.

The extraction of minerals (Clay, Building Stone, Silica Sand and Foundry Sand) requires a Mining Lease administered by the Department of Mines and Energy.

In recent years the Department of Transport (now Department of Main Roads, DMR) and the Department of Environment (DOE) have had a major influence on the way Shires and private contractors operate. The DMR now insists that material used for the construction of roads is to abide by the Australian Standard AS 1726. Continuous testing of material is carried out during the construction period to confirm quality. This has resulted in much of the material for road construction being purchased from commercial quarries where quality control is maintained. Many of the former quarries and pits used by Shires and small contractors identified in earlier resource assessments have been abandoned.

The DOE and Department Local Government and Planning (DLGP) during recent years have clamped down on the practice of using borrow sites without any form of operational or rehabilitation plan. Shires and private operators are now required to submit Environmental Resource Assessments for all their pits where in excess of 5000 m³ of material has or is expected to be removed. Because of the time and expense involved in this process, Shires have significantly reduced the number of borrow pits under their control.

In combination, these two influences have significantly reduced the number of operational quarries, pits and scrapings. A third important factor is economics. The large quarries are able to sell crushed aggregate at a price cheaper than many small operators. Small contractors who produced their own crushed aggregate are now also tending to purchase from the larger operators. As this process is still current, the degree of change varies from Shire to Shire however, the general trend is universal.

The Department of Primary Industries (DPI) maintains roads in State Forests to allow truck movement in and out of the forests for logging. Roads are generally maintained from local borrow pits close to the road reserve. The pits are generally small and operate periodically over a period of several years. The need to maintain these roads is solely for the collection of forest products. If land tenure over the forest is changed to prevent forest harvesting, the need for the roads (with the exception of a few) would no longer be required and therefore loss of the associated borrow pits would not be of any consequence.

The DPI is also under pressure to complete Environmental Impact Statements for borrow pits (>5000 m³). Because most of the pits are relatively small in size this has not had the same influence as for Shires and private operators. Also most of the roads are gravel requiring lower quality material easily accessible from

local sources. The repair and maintenance of forestry gravel roads are very dependant on local weather conditions. During the past few years the weather has been dry and there has been minimal need for road maintenance. Consequently most of the borrow pits have been inactive for years. This study has not tried to locate each and every forest borrow pit.

ECONOMIC SIGNIFICANCE OF THE INDUSTRY

It was not possible during the study to collect data on the significance of the industry to the local communities or the Region as a whole because of the absence of reliable statistics and the inability of Local Governments to provide data. However the importance of the industry can be gauged from a number of readily available statistics as shown below.

Largest Quarry (Hymix at Nerang)	Production 1994/95	>1 million tonnes
Quarry Rock from State Forests in Region	Production 1994/95 Value	>2.6 million tonnes >\$1.2 million
Quarry Rock from Gazetted Quarries in Region	Production 1994/95	>16.7 million tonnes
Clay from Mining Leases in Region	Production 1994/95	>1.45 million tonnes

O'Flynn (1992) indicated that the per capita consumption of quarry rock, sand and gravel for the Moreton Region was between 8 and 10.3 tpa per person. Information from local Governments in the rapidly expanding parts of the Sunshine Coast and Gold Coast indicated that the figure may be as high as 14 tpa per person, while in the less developed areas in the west of the region the figure is obviously quite low.

Fees, Licences and Royalties

Extraction of construction materials requires various fees licences and royalties to be paid to Government Departments, Local Governments and, in the case of freehold land, to the owner. The list includes:

Road Maintenance Fees (Local Governments)

Royalties - Land Owner (private land), DPI (Crown land), DNR (non tidal streams), DOE (tidal waters), or DME (minerals on mining leases)

Licence Fees (ERAs under Environmental Protection Act)

Rental (Mines and Energy for Mining Leases and Exploration Permits)

The amounts paid for some fees and charges are fixed on an annual basis (Government rental, Royalties), while those such as road maintenance charges and "royalties" to land owners vary considerably and, in most instance, could not be determined. Land owner royalties payable by Local Governments appear to be in the range of \$1.20 to \$1.50 / m³, although figures as high as \$5 have been quoted for commercial sand resources near Brisbane. Road maintenance fees, which are variable and range up to 50 c / tonne, must be applied to the roads which each operation uses. To overcome this problem some Shires are moving toward differential rating systems and annual fees.

Income from Mining Leases for Clay and Building stone from Rentals and Royalty are approximately \$125 000 and \$365 000 respectively. Many of the current building stone leases were derived from extraction permits current at the introduction of the current Mineral Resources Act. Royalty agreements in force with land owners at that time were continued and royalties are only paid to the Crown on a small proportion of production. Because production figures are supplied on a company basis it is not possible to allocate production to specific leases and in particular to operations in State Forests.

Income from rentals for Exploration Permits and Mineral Development Licences were captured as part of the parallel assessment of mineral potential of the Region.

PART 2 - REGIONAL ASSESSMENTS

Numerous criteria including rock suitability, accessibility, adequate reserves, environmental acceptance, economic viability and most importantly proximity to markets must be assessed to determine the suitability or otherwise of a potential quarry site. This is an extensive process and has not been attempted in this study. This study has attempted to identify areas where rock of a suitable nature occurs in close proximity to a major consumer or in close proximity to a major transport system (preferably railway line) to allow easy access to markets. These are generally related to areas with large growing populations. The future trend is for a few large quarries to supply virtually all aggregate requirements and smaller quarries and scrapings to disappear. Little information is known about many of the deposits outlined and further work would be required to confirm their absolute suitability.

BUNDABERG SPECIAL SHEET

The Bundaberg Special Sheet covers the onshore portion of the Bundaberg Sheet and the eastern portion of the Monto Sheet that occurs within the Southeast Biogeographic Region. The major population centre is Bundaberg. Smaller communities include Gin Gin, Miriam Vale, and Mt Perry. Monto, Biloela and Calliope occur just outside the Biogeographic Region.

SUMMARY- Significance of State Forests

There are no major quarries in State Forest within the Sheet area. Some small pits and scrapings are operated within State Forest, but these are considered insignificant. When the large quarries at Innes Park are exhausted, which is inevitable because of their limited resources, potential deposits west of Bundaberg will have to be utilised. Most of these are not in State Forest. However, a small portion of **Rm5** is contained in SF645. This resource is large and it should not be a major problem to locate a quarry outside the State Forest should it be necessary.

Sand and gravel workings and deposits are not contained in State Forest. Most of the coastal sand deposits north of the Kolan River are within National Park and have not been considered in this report.

The main clay pit of Wide Bay Brickworks Pty Ltd and some of its smaller pits are located in State Forest. These pits are considered important as the company is the second largest employer in Bundaberg, employing in excess of 100 persons, and has a major influence on the local economy. Although clay material suitable for brick making is widespread in the Bundaberg area, much of the land is unavailable because of agricultural (sugar cane). Therefore the potential reserves outlined adjacent to the existing mining leases are considered very important. Some of these are in State Forest.

QUARRY ROCK

Major Workings:

- Taragoola Quarry** (CAL 207 339)
- Bundaberg Quarries**, Innes Park (BUN 464 749)
- CSR Readymix**, Innes Park(BUN 462 502)
- Smiths Premix Concrete**, Innes Park (BUN 460 492)

Crushed rock products for the Sheet area are supplied by three quarries at Innes Park, by the Taragoola Quarry which lies outside of the Biogeographic Region to the north and by the Paveways Quarry at Childers on the Maryborough Sheet. Smaller important quarries are located at Hill End (ballast) and near Agnes Waters (pavement and maintenance gravels). Supplies of lower quality ridge gravels are readily available throughout the sheet area.

When available resources at Innes Park (**Rm1**) and Hill End (**Rm2**) are exhausted Bundaberg and surrounding areas will have to draw crushed rock from resources such as those in **Rm3** and **Rm4** located 30 to 50 km west of the city close to the Bruce Highway. **Rm5**, the largest of the identified resource areas, is located north of the Kolan River and is not as accessible to the potential market. Areas **Rm3** and **Rm4** are located in non-forested areas while **Rm5** is partly forested, part non forested and includes two areas of crown land and the southeast of SF 645.

Potential resources **Rm6, 7 and 8** have the capacity to supply areas in the north and west of the Sheet, with **Rm6 (north)** capable of supplying high grade limestone suitable for most uses and well as construction materials. **Rm6 (north)** occurs in forested country, which is mainly Crown Land, forming part of the Awoonga Dam catchment, and adjacent to an area of conservation significance on the western slopes of Mount Stanley.

Current Workings

There are four major quarries within the Bundaberg Special Sheet. Three are located at Innes Park and the fourth is at Taragoola about 1.5 km north of the Biogeographic Region boundary. The quarry at Taragoola has been included because of its size, area of influence and large reserves. These quarries supply the bulk of the crushed rock products, including concrete aggregate, asphalt screenings and quality pavement gravels, consumed within the sheet. Small but important quarries in the Sheet include the Paveways and Miriam Vale Shire pits near Agnes Waters and the Hill End pit which supplies ballast for the sugar industry. There are no major quarries located in the western part of the sheet area.

Small pits and scrapings which generally produce less than 5000 m³ pa are scattered throughout the sheet and are concentrated along major roads or close to populated areas. These pits are operated by local Shires and contractors for the supply of low quality pavement material suitable for road construction and fill. Remnant Cainozoic laterite surfaces which are distributed widely across the sheet are the preferred source. Trezise (1984) reported that a wide variety of geological units produce a gravel suitable for unsealed roads and for maintenance purposes. The trend over recent years has been for these pits to be abandoned and supplemented by crushed rock sources.

Taragoola Quarry (CAL 207 339): This quarry owned by Frost Enterprises Pty Ltd is the largest in the sheet and produces in excess of 300 000 t annually. The quarry supplies aggregate and pavement gravels to Gladstone and the surrounding Shires including Calliope, Miriam Vale, Kolan and Monto Shires. Its convenient location to the Taragoola Siding enable this product to be distributed widely. It is also a major supplier of ballast material for Queensland Rail both along the coast and to the west. The material is of high quality and suitable for main road construction, but because of its poor abrasive quality it is unsuitable for screenings. The operation is adjacent to the Comalco Mining Leases at Taragoola which supply limestone to the Gladstone alumina plant.

The rock is a grey massive limestone of the Calliope Beds which has undergone slight metamorphism. The rock ranges from highly weathered to fresh and is easily crushed. The quarry has been developed as a large open cut operation approximately 60 m deep.

Reserves at the site are very large and are expected to sustain production for in excess of 100 years. A portion of the reserves are located in an area that will be inundated should the Awoonga Dam be raised (as is the long term plan). Hence lower areas are being preferentially worked to preserve reserves in areas not threatened by raising the of the dam.

Innes Park Quarries: Three large quarries operated by CSR Readymix (BUN 462 502), Bundaberg Quarries (BUN 464 749), and Smiths Premix Concrete (BUN 460 492) are located at Innes Park east of Bundaberg. They supply Bundaberg and the surrounding districts including Kolan, Miriam Vale and Isis Shires with bitumen screenings, concrete aggregate, and high quality pavement gravel. Between them they supply in excess of 500 000 tpa to the local district.

The quarries are located in the Hummock Basalt, a moderately jointed olivine basalt. The basalt consists of up to three flows that gently dip to the east and overly the Elliott Formation. The flows vary in nature from massive to moderately jointed, vesicular and sometimes glassy. Significant lateral variation occurs in individual flows. This makes quality control management a complex problem. Secondary minerals such as chlorites and zeolite, particularly in some of the vesicular basalts, are deleterious to the strength and durability of the rock, particularly for bitumen screenings.

Robertson (1982) completed a drilling survey for the Woongara Shire Council to locate future reserves of suitable rock. This information has been incorporated in the Shire Plan. As there is no other sources of suitable rock in the Bundaberg area these sources will continue to be the major supplier of crushed rock in the near future.

Potential Resources

Rm1 Supply of future crushed rock products to the city of Bundaberg is a major concern. Robertson (1982) concluded that the Hummock Basalt was the only rock type within close proximity to Bundaberg suitable for crushed rock production. He identified an area, **Rm1** surrounding the three large quarries as the most promising. This area has been incorporated into the town plan. However, the fact that the basalt has a limited thickness, and consumption is in the order of 500 000 tpa, reserves are considered only small. Robertson could not identify any other sites within the Hummock Basalt where good quality crushed rock could be quarried because of urban development and the generally thin nature of the basalt.

Resource	State Forest	Crown Land	Forested Area	Non-Forested
Rm1				Y
Rm2				Y
Rm3				Y
Rm4				Y
Rm5	Y	Y	Y	Y
Rm6 (north)		Y	Y	
Rm6 (south)			Y	Y
Rm7		Y	Y	
Rm8			Y	Y

Rm2 A small deposit of olivine nephelinite (basalt) at Hill End 21 km south of Bundaberg, **Rm2** was investigated by Robertson (1980). He estimated that about 1 million m³ of rock suitable for road pavement gravel and ballast was present. The rock is moderately (60% of deposit) to highly weathered and the presence of secondary minerals make the rock suspect for use as concrete aggregate. This deposit is presently being used occasionally by the Bingera Sugar Mill for rail ballast during cane cutting season. It is unlikely that this deposit will have any influence on the shortage of suitable rock in the Bundaberg area.

Rm3 Small flows and plugs of olivine nephelinite (basalt) occur in the Stoney Range-Monduran Dam area (Trezise 1984). Four small areas all tagged as **Rm3** have been identified as potential deposits where fresh to slightly weathered nephelinite may be present. It has been suggested by Trezise that some of these areas may also include eruptive centers and may be worthy of further investigation.

Rm4 Large reserves of rock similar to that used for the construction of the Monduran Dam occurs to the southeast of the dam wall, **Rm4** (Trezise 1984). The grey-green dacitic to andesitic rocks of the

Aranbanga beds represent a potentially significant source of rock, suitable for crushed aggregate. The rock was used for concrete aggregate, rip rap and fill during the construction of the Monduran Dam and should be suitable for most crushed rock purposes.

Deposits **Rm3** and **Rm4** are not particularly close to Bundaberg, but have good access to the Bruce Highway and would be well placed to supply crushed aggregate to the surrounding Shires, including Miriam Vale, Kolan, and Isis Shires.

- Rm5** Robertson (1980) indicated that very large reserves of rhyolite, trachyte, and tuff of the Grahams Creek Formation occur in the Bucca and Gall Ranges approximately 30 km west of Bundaberg, **Rm5**. He reports that the rock is suitable for most crushed rock purposes. However, similar types of rock quarried in south east Queensland have been found to be unsuitable for asphalt screenings. The deposit has relatively poor access but is considered to be a major long term resource for the Bundaberg and surrounding markets and should not be alienated. The far southwestern corner of the deposit occurs in State Forest 645.
- Rm 6** The Taragoola Quarry (CAL 207 339) with its large reserves of limestone and good access to the rail will continue to play a major role in supply of crushed rock products to the northern and western parts of the Sheet area. However large, high grade limestone deposits in the Calliope beds have been described by Krosch (1981) both to the north and south of Taragoola. Two large deposits have been outlined in the Boyne River Valley to the south (both tagged **Rm 6**). Individual limestone deposits within these areas have been estimated to contain reserves in excess of 100 000 t / vertical metre. Road access to markets for both these deposits is poor because of their relatively remote locations. However, they are both close to a rail line and may represent very long term resources for the area. The northeastern end of the northern deposit is included in part of a Timber Reserve.
- Rm7** In the far western part of the sheet, crushed rock is supplied by the Taragoola quarry. Because of the small demand there are no major quarries in the area. However, if there is a major infrastructure works such as the planned extension to the power station then requirements for crushed rock could be such that the establishment of a quarry would be justified. A large deposit of rock probably suitable for crushed aggregate has been outlined north of Biloela, **Rm7**. The deposit consists of a sequence of andesitic flows and pyroclastics of the Owl Gully Volcanics which occur along the margin of the Mt Gerard Igneous complex. Around the margin of the igneous complex the rocks have been hornfelsed. The deposit has not been assessed for quarry purposes, but geological descriptions of the area by Dear & others (1981), suggest that weathering is minimal and good outcrop occurs in the creek. Although this is still some 35 km from Biloela it is located on the railway line and would therefore have access to Biloela, Callide Power Station and other areas to the west.
- Rm8** Paveways (MIR 818143) are currently working agglomerate in the Agnes Waters Volcanics southwest of Seventeen Seventy. Potential resources in this are sufficient to meet the likely demand in the east of the Shire.

SAND AND GRAVEL

Major Operations: **Smith's Premix Concrete** (BUN 290 490)
 Bundaberg Quarries (BUN 130 540)
 Serciacomi (BUN 170 603)
 Bundaberg Quarries (BUN 305 570, 335 558)

Sand and gravel supplies for Bundaberg are currently supplied from riverine deposits in the Burnett and Kolan Rivers up to 30 km west and northwest of Bundaberg, and from barrier deposits of Pleistocene age up to 20 km north of Bundaberg. The riverine deposits contain variable proportions of feldspar making sand from this source suitable only for general purpose concrete. Sand suitable for high strength concrete is available in the barrier deposits north of Bundaberg.

Potential sand and gravel resources in the Sheet area occur in riverine deposits along the Burnett and Kolan Rivers, but if environmental pressures force operations from the rivers, the only remaining resource will be Sd5 on Tomato Island. Sand and gravel deposits occur in the terraces adjacent to the Burnett River, but thick overburden of loam and silt make these deposits uneconomic at present.

The remainder of the sheet is generally not well endowed with sand and gravel deposits.

Current Workings

Medium to coarse feldspathic sand suitable for concrete aggregate and other constructional purposes is present in the point and longitudinal bars deposits of the Burnett and Kolan Rivers and their tributaries. The high portion of feldspar in these deposits (Robertson, 1980 reported contents up to 50%) is unacceptably high, making the sand unsuitable for high strength structural concrete. The sand is however suitable for quality pavement gravel and general purpose concrete aggregate. flooding potential deposits.

Smith's Pre-mix Concrete (BUN 290 490): Sand and gravel is extracted by mechanical scoop from Tomato Island and wet screened as the sand is clay bound in many parts of the deposit. Loam covers much of the deposit along the center of the island. The sand and gravel is mixed with crushed rock from their quarry at Innes Park for use in quality pavement gravel, concrete aggregate and fill. The silt and loam overburden is worked for fill, garden soil and top dressing.

Bundaberg Quarries (BUN 130 540) and **Serciacomi** (BUN 170 603): Sand is extracted from bar deposits on the Kolan River. Both operations screen the material for blending with crushed rock from the Innes Park quarries to produce concrete aggregate. Serciacomi also produces good quality pavement gravel which is used on local roads. Fine material is sold as bedding sand.

Bundaberg Quarries (BUN 305 570 and 335 558): Two pits in the dune sand of the Fairymead area are worked by a small floating dredge after the organic sand has been removed. The sand is blended with river sand and crushed rock for concrete aggregate and is also used for plasterer's sand. The topsoil is sold for top dressing and fill.

Potential Resources

Burnett River

River deposits in the Burnett and Kolan Rivers have not been fully utilised and significant resources remain within these river systems although some have been flooded by the construction of the barrages at the mouths of both streams.

Sd1 Extensive deposits of feldspathic, medium to coarse sand occurs as channel bar deposits in the Burnett River between Drinan Crossing (BUN 091 380) and Paddy Island (BUN 360 540). An

unknown quantity of material with thick silt and loam overburden occurs in the lower terrace adjacent to the river.

Sd2-4 Robertson (1980) considered the deposits most likely to be worked to be those adjacent to Tyson Crossing **Sd2**, Bingera Barrage **Sd3**, and Cedars Bridge **Sd4**. However, extraction of material from these sites may be restricted by new water quality regulations and environmental constraints particularly as they are upstream of the barrage.

Sd5 Tomato Island (**Sd5**) immediately downstream of the barrage will continue to be an important source of sand and gravel into the near future. Drilling by Robertson (1980) indicated that the Tomato Island deposit is between 10 and 12 m thick. The Bundaberg City Council has zoned Tomato Island for extractive purposes.

Kolan River

Sd6-8 Robertson suggests the Kolan River contains larger potential reserves of sand and gravel than the Burnett River. This is because the Kolan River has not been fully exploited as it is further from the Bundaberg market. The more significant deposits occur at **Sd6**, **Sd7** and **Sd8**. Reserves in **Sd8** were estimated to be in excess of 1.8 million m³.

Pleistocene barrier sand

Fine to medium grained, white Pleistocene dune sand suitable for blending in concrete aggregate occurs in the Fairymead-Moore Park area. Large volumes of fine to medium grained feldspathic sand are also available in the Holocene coastal deposits. However, much of the Holocene sand is now urban or future urban land and unlikely to be used.

Sd9 The very large deposits of white silica sand in the Fairymead-Moore Park area (**Sd9**) will continue to be a very important source. Drilling by Robertson (1980) at the southern end of the Pleistocene barrier deposit indicates that the sand is between 5 and 6 m thick and has reserves in excess of 2 million m³. The sand deposit has been included in the Burnett Shire Council Town Plan as an extractive industry site.

Holocene barrier sand

Sd10 A huge volume of sand occurs in Holocene beach ridge barrier deposits north from the Burnett River to Bustard Headland. Deposits north of Littabella Creek are contained in national parks and are therefore unavailable. South of Littabella Creek the beach ridges are extensively used for agriculture. Robertson (1980) indicates that the sand is poorly graded has a high feldspar content, variable shell content and concludes that the sand is unsuitable for concrete aggregate. However, as the sand is directly derived from the Burnett and Kolan Rivers with a small added shell content it is unlikely to be any less suitable than river sand. These deposits have been identified as resource **Sd10**. Agricultural restrictions, urban sprawl and environmental considerations may prevent these deposits from being developed. However, because of the limited reserves located within the sheet these deposits may become significant.

Miriam Vale Granodiorite

Sd11 A deposit of sand has been identified south of the Tannum Sands turnoff (**Sd11**). The feldspathic sand is derived from the deeply weathered Miriam Vale Granodiorite. The deposit is between 2 and 3 m thick. The sand is suitable for blending with river gravel and crushed rock for use as pavement gravel and concrete aggregate. Because of the high feldspar content this sand is not suitable for high strength concrete aggregate purposes. Because most of the sand at the northern of the sheet is located in coastal sand deposits within national parks this deposit is considered a significant resource.

CLAY

Clay suitable for the manufacture of bricks is widespread in the Bundaberg region, however many potential areas have been sterilised by sugar cane. Important current workings (MLs 1208 and 1218) occur within State Forest 840. Information from Wide Bay Brickworks suggests that potential resources (CL2) adjacent to these leases, CL1 to the south of ML 1177 and CL3 covering an area adjacent to the Burnett River are important for the future of the works.

Wide Bay Brickworks also imports raw materials from the Childers area on the Maryborough sheet. In combination these materials provide blends which enable the works to meet market requirements.

Current Workings

In the Bundaberg area, tests indicate that materials suitable for the manufacture of bricks, non-glazed pipes, common pottery, and tiles are of widespread occurrence in the Elliott Formation and Burrum Coal Measures. Materials which exist in quantity produce an extensive range of colours in fired ware, including white and off-white, cream, ivory, pink and shades of orange and brown. Sediments of the Elliott Formation tend to dip gently, while the Burrum Coal Measures contain thicker beds with pronounced dips.

Wide Bay Brickworks Pty Ltd operate the only brickworks in Bundaberg, employing between 110 and 150 persons making them the second largest employer in Bundaberg. They produce a selection of bricks, pavers, and clay blocks for both local, interstate and export markets. Wide Bay Brickworks hold seven leases within a 50 km radius of Bundaberg. Four of these are on the Maryborough Sheet (see Maryborough-Clay). Approximately 500 tonnes of material are used daily by the Works.

The main clay pit is ML 1177 (BUN 287 433) located south of the Bundaberg Airport. The pit is in lateritised Elliott Formation which consists of deeply weathered mudstone, shale, and grey, pink and red mottled clays. These are excavated to depths of 10 to 15 m and the mined product is of a very consistent nature. Approximately 20 to 30 percent of the material is used in all bricks except for white and cream bricks.

The Bowder Lease, ML 1208 (BUN 212 368) also located in the Elliott Formation contains siltstone, shales and coals which are mined for use in all bricks manufacture. Ball clay from the lease is also sold as a studio clay. ML 1218 (BUN 224 365), located nearby, is held as a future source of deeply weathered pale sandstones and shales. MLs 1208 and 1218 are located within State Forest 840.

Potential Resources

CL1-3 The Bundaberg area is generally well endowed with clay suitable for brick manufacture. Deeply weathered siltstone, mudstone and shale of the Elliott Formation and Burrum Coal Measures which are widespread across the coastal plain are generally suitable for most clay products. A drilling program investigating resources of clay in the Bundaberg area was carried out by the Mines Department, however a report was never completed and the bulk of the data has since been misplaced. The only indication of future sources comes from Wide Bay Brickworks themselves. Although present leases have large reserves sufficient for the brickworks to continue into the foreseeable future, five areas where future sources of material may be found were suggested by the company. Two of these are located on the Maryborough Sheet (see Maryborough Clay). The three areas on the Bundaberg sheet, **CL1, CL2 and CL3** occur in the Elliott Formation. CL1 and CL2 surround their current lease areas and CL3 is located over future lease site. CL2 lies within State Forrest 840.

MARYBOROUGH SHEET

The major population centres within this sheet are Maryborough, Hervey Bay, and Childers. Smaller communities include Gayndah, Biggenden and Mount Perry. The population growth area is along the coast from Hervey Bay north to Woodgate

SUMMARY - Significance of State Forests

There are no major quarries located in State Forest. One of two large quarries at Dundowran is located on Crown Land and administrated by the Department of Primary Industries. The land is cleared and full utilisation of the resource is considered important as this quarry is the only site close to the Hervey Bay Region and alternative resources are more than 30 km to the west.

When the Dundowran quarries are exhausted the closest resource is located at Antigua approximately 15 km southwest of Maryborough (**Rm2**). The main resource at Antigua is contained in SF 562. Because of the lack of suitable rock close to Maryborough and the close proximity to the Mungar railway siding, the resource is considered very important. If this deposit is prevented from operating then the nearest sites of suitable rock are at Childers and south of Tiaro.

Parts of the resources near Childers including **Rm4** and **Rm6** are contained in State Forest. This is not considered significant as **Rm4** is only a small resource and only a small portion of **Rm6** is affected. Suitable resources should be available outside the State Forest if necessary.

Potential resources in the western part of the sheet area are abundant and sites outlined are outside State Forests.

There are no sand and gravel resources within State Forest. Most of the coastal deposits with the exception of the Dundowran area are contained in National Park or have been developed as urban and future urban land. The reserves at Dundowran are small and there are no obvious onshore sources to replace these when exhausted.

Marcotta Tiles operate two clay pits in the State Forest. These are important, as although there is abundant reserves of clay in the area much of the land is cultivated under sugar and therefore unavailable. The potential reserves surrounding the established pits some of which are in State Forest are considered significant.

QUARRY ROCK

Major Workings **Dundowran Quarries** (PIA 751024 and 745 020)
 Mungar Quarry (MAR 546 650)
 Mount Biggenden Mine (GAY 073 749)
 Red Ridge Quarry (CHI 363 163)

There are five major quarries within the Maryborough Sheet. Four of the quarries are located within 40 km of the coast where most development is occurring. The fifth at Biggenden is a spin-off from a mining project. These quarries supply the bulk of the crushed rock products, including concrete aggregate, asphalt screenings and quality pavement gravels consumed within the sheet.

With the exception of the Biggenden Mine the other four quarries have generally small reserves. Alternative sources of rock in the area are restricted to geological units greater than 40 km from the coast. Therefore known deposits close to Hervey Bay, Maryborough and Childers are critical to the continuing supply of reasonably priced crushed rock to these areas. With the exception of **Rm8** and **Rm5** all the potential quarry sites occur either in the State Forest or wooded areas. **Rm8** is located near Mt Perry and is only considered a long term deposit for the western part of the sheet. **Rm5** is strategically located north of Childers and could be a major source of rock for Childers, Bundaberg, Maryborough and Hervey Bay although transport

distances may be large. The two most critical deposits are **Rm2** and **Rm6** which are relatively close to the Hervey Bay/Maryborough markets. Without these deposits haul distances will be large and costs prohibitive to local development.

Current Workings

Small pits and scrapings are scattered throughout the sheet, but are generally concentrated close to populated areas. These pits are operated by local Shires and contractors for the supply of low quality pavement material suitable for road construction and fill. Trezise (1984) reported that a wide variety of geological units produce a gravel suitable for unsealed roads and for maintenance purposes. The trend over recent years has been for these pits to be abandoned and supplemented by crushed rock sources.

Dundowran Quarries: Two large quarries operated by Boral (PIA 751 024) and Barro Group Pty Ltd (PIA 745 020) are located west of Dundowran. These are the major suppliers of crushed rock to the Hervey Bay, Maryborough and Isis areas. The rock is used for all types of aggregate, screenings, ballast and pavement gravels. Between them they supply in excess of 500 000 tpa of crushed rock.

Red Ridge Quarry: This quarry operated by Traywar Pty Ltd (CHI 363 163) is a major supplier of crushed rock to the Childers, Hervey Bay and Bundaberg areas. The rock is used for all types of aggregate, screenings, ballast and pavement gravels. The quarry supplies in excess of 100 000 tpa to the local district. The land has been cleared and is of no apparent environmental or conservation value.

The quarry is sited in a small outcrop of Tertiary olivine basalt. Cranfield reports that the maximum thickness is 24 m. The main working face has slightly weathered to fresh rock overlain by up to 3 m of moderately to highly weathered rock (quarry manager personal communication). The fresh to slightly weathered rock is reported to produce a hard and durable good quality crushed material. This quarry has not been inspected and there are no reports on rock quality. However, as material is being sold to concrete batching plants in Bundaberg the material must be at least equivalent to the basalts of Innes Park. This source will continue to be an important source.

Mungar Quarry: Maryborough Quarries operate a large quarry (MAR 546 650) approximately 15 km southwest of Maryborough. The quarry is an important supplier of aggregate and pavement gravel to the Maryborough, Tiaro, Woocoo, Biggenden and Gayndah Shires. Its close proximity to the Mungar Siding also make it a convenient source for rail ballast.

The Mungar Quarry is located on a northwest trending gently sloping ridge crest formed by one of the numerous northwest trending sills or dykes that intrude the Tiaro Formation. The intrusions are steeply dipping and consist predominantly of quartz microdiorite and microgranodiorite. This rock has been subjected to hydrothermal alteration causing mineralogical and textural variations throughout the rock mass, but not to the detriment of the rock quality. Overburden of highly weathered rock averages about 4 m thickness. The remainder of the rock is slightly weathered to fresh and considered to be physically strong and durable. This material has been used successfully in road construction for twenty years without problem.

Reserves appear large and future expansion is planned for the northern faces of the main quarry.

Mount Biggenden Mine: The Mount Biggenden Mine situated 7 km southwest of Biggenden (GAY 973 749) is operated by the Commercial Minerals. The magnetite mine operating as both a open cut and underground mine is a major source of crushed aggregate supplying Biggenden, Woocoo, Perry, Gayndah and Isis Shires with quality crushed rock. The rock is suitable for screenings, aggregates and high quality pavement gravel.

Mining activities are confined to the contact aureole of the Degilbo Granodiorite and the volcanics of the Gympie Group. Mining activities have produced over 500 000 t (Trezise and Graham, 1984) of spoil materials comprising a complex mix of meta-andesite, slate, and skarn. Although there is considerable

variations in the rock type, the crushed rock produced is of high strength and durability. The only problem is the occurrence of calcite the proportion of which must be restricted.

Potential Resources

The Maryborough Sheet has a wide variety of rock types suitable for crushed rock purposes. However, most of the suitable material is towards the central and western parts of the sheet where demand is small. With the exception of the Dundowran basalts there are no rock units suitable for quarrying within 25 to 35 km of the coast. Most of this area is underlain by the deeply lateritised Elliott Formation, Burrum Coal Measures or undivided Duckinwilla Group, all of which are unsuitable for crushed rock purposes.

Resource	State Forest	Crown Land	Forested Area	Non-Forested
Rm1		Y		Y
Rm2	Y	Y	Y	
Rm3				Y
Rm4	Y	Y	Y	
Rm5			Y	Y
Rm6	Y	Y	Y	
Rm7			Y	Y
Rm8		Y		Y
Rm9		Y	Y	
Rm10			Y	Y

Rm1 The Dundowran basalt deposit (**Rm1**) is one of the most important sites on the Maryborough Sheet because it is the only quarry site centrally located to the coastal developments of Hervey Bay. The deposit encompasses a low northwest trending ridge which is presently being worked at the southeastern end and is cleared of forest. Main Roads Department (1986) assessed the material as being hard and durable. The entire ridge should be preserved for extractive purposes.

Rm2 A deposit of hornblende microdiorite (**Rm2**) has been identified in an intrusion within the Tiaro Coal Measures approximately 15 km southwest of Maryborough. Maryborough Quarries have operated a small test quarry (Antigua Quarry) within this deposit. The material was trucked to Mungar Siding from where it was distributed by rail for use as rail ballast by Queensland Railways. This site was primarily used to test the suitability or otherwise of the rock for long term reserves. The Antigua Quarry consists of a microdiorite which is almost identical to the Mungar quarry to the west although it does not show the same textural or mineralogical variations. The quarry consists of slightly weathered to fresh rock with less than 1 m of weathered overburden. Results of the test indicated that the rock produced was good quality, hard and durable and suitable for most purposes.

The Antigua quarry is located on freehold land abutting State Forest 562, a small forest west of Mungar. If the microdiorite extends to the northwest as surficial outcrop suggests then most of the deposit will occur in the State Forest 562. DPI officers suggest estimates of rock to be in excess of 2 million m³ (estimate method unknown). The forest consists mostly of spotted gum and ironbarks. Because of the lack of suitable quarry rock close to Maryborough and the close proximity to the Mungar railway siding, the deposit will be a very important future resource.

Rm3 The tertiary basalt deposit east of Childers (**Rm3**) currently worked by Traywar Pty Ltd (CHI 363 163) will continue to be an important source of crushed rock. The entire deposit of basalt which has a limited aerial extent and relatively small reserves should be preserved for extractive purposes.

- Rm4** Several small limestone lenses of the Gympie Group crop out west of Childers (**Rm 4**). The light grey to white limestone is finely bedded and recrystallised. The material has been used previously for agricultural purposes. Trezise (1984) considers the limestone resources to be small. However, the mapped aerial extent of the limestones is significant and may be worthy of preservation. Limestone generally produces an aggregate suitable for most purposes. Parts of **RM4** are in State Forest.
- Rm5 & 6** Large reserves of welded rhyolitic tuff and trachyte of the Grahams Creek Formation occur north and south of Childers (**Rm5** and **Rm6**). A quarry operated by Rutherford (CHI 347 810) was established in this unit, but is no longer operating. The Main Roads (1986) assessed the quarry and found the rock to be sound, producing good quality aggregate suitable for most purposes. A small portion of **RM6** is in State Forest.
- Rm7** Large reserves of meta-andesite occur around the margin of the Degilbo Granodiorite at the Biggenden mine (**Rm7**). The life of the mine with respect to mineral production is expected to be less than 5 years. However, the site is expected to continue to supply crushed rock either from the large spoil stockpiles or from continued quarrying as quarry rock is included as a mineral in the mining lease. The mine should continue to be an important source of crushed rock for local Shires.
- Rm8** Large resources of quarry rock suitable for use as crushed aggregate occur in the agglomerate, volcanic breccia and tuff forming Mount Yeatman and Mount Bandy (**Rm8**) south of Mount Perry. The land is cleared and outside State Forest. There is no significant demand for crushed rock in this area at the present time, but future mining projects which may or may not proceed could utilise this resource.
- Rm9** Trezise (1984) suggests that sites suitable for supplying crushed aggregates are present in the Aranbanga beds around Gayndah. A large deposit of rhyolitic to dacitic ignimbrite has been identified east of Gayndah (**Rm9**) in forested crown land.
- Rm10** A deposit of hornblende micro-granodiorite suitable for crushed aggregate has been identified at Mount Grassy (**Rm10**), south of Tiaro by L. Cranfield (Department of Mines and Energy, personal communication). The deposit is conveniently located adjacent to the Bruce Highway.

SAND AND GRAVEL

Sand and gravel from the Burnett River has been worked in small quantities from the western part of the Maryborough Sheet. The material consists of coarse-grained sand and gravel which is high in feldspar. Gayndah presently obtains most of its aggregate material from the Burnett River. However, most of the river deposits although considerable in size are too far from any markets and cheaper local sources are preferred. As these local deposits are exhausted Burnett River deposits will become more significant. Because of the high feldspar content in the Burnett River sand this material is not ideal for concrete aggregate and may be restricted in its use. Crushed quarry rock may replace the material for some uses.

Sand and gravel have long been extracted from the bed of the Mary River, particularly upstream of the Lamington Bridge, Maryborough. The material ranges from medium-grained sand to coarse gravel, but is deficient in fine-grained sand. Within the Maryborough Sheet reserves of Mary River sand are limited to the river bed and small point bar and terrace deposits upstream of Tiaro. Dredged sand from the river bed near Maryborough has been the main source of sand and gravel. Most of these deposits are some distance from Maryborough and consequently have not been used.

It is unlikely that the river bed dredging will be allowed to continue until exhaustion as this would have a significant effect on the integrity of the river. When extraction ceases, sources of sand and gravel from point bar and off-river alluvial deposits further upstream will be the main sources. Some of these are already being used by small operators. However, many of these deposits are a considerable distance from Maryborough. As deposits close to Maryborough are exhausted, crushed rock sources may dominate supply of aggregate. The main problem will be the supply of fine and medium-grained sand.

Extensive deposits of fine to medium-grained siliceous sand occur on the coastal plain between Burrum Heads and Point Vernon. These deposits occur within the extensive Pleistocene and Holocene beach ridges barrier and have supplied Maryborough and Hervey Bay with fine and medium-grained sand. Virtually all the resource except for a small area near Dundowran **Sd2** has now been sterilised by either declaration of National Parks or urban development along the foreshore.

When this deposit is exhausted the Maryborough-Hervey Bay area will have very few alternative sources of fine sand. Large reserves of sand occur on Fraser Island, Great Sandy Strait and the large delta between Moon Point, Fraser Island and Point Vernon. However, these deposits are also sterilised as they are either National Park or Marine National Park. The only other sources are at Bundaberg and from the Sunshine Coast. However sand deposits in both areas are also under considerable environmental and urban pressure.

A more radical source of fine-grained sand which may have to be considered is dredging the enormous reserves of sand held in the Break-Sea Spit at the northern end of Fraser Island. The sand contained in the deposit is poorly graded siliceous fine to medium grained-sand. This deposit represents the end of the line for the along-shore sand transport system for south-east Queensland. At the northern end of the Break-Sea Spit sand spills off the shallow continental shelf down the continental slope. Because of the enormous reserves and the fact that the sand is lost from the continental shelf environment, this would be the ideal source of sand for the future.

Current Workings

Mary River The Mary River is currently dredged by Byrne Bros (MAR 468 781 and 676 754) upstream of the Lamington Bridge and by Boral Resources Qld Pty Ltd (MAR 720 769) downstream of the Lamington bridge. The material is screened and is suitable for use concrete aggregate, screenings and pavement gravel.

Several small operators work point bar deposits along the Mary River including Mr Hayward (MAR 544 556), Mr Russell (MAR 523 521), Tiaro Shire Council (BIG 485 285) and Gootchie Earthmoving (BIG 485 426). The material is used for pavement gravel and fill purposes. There are no major workings along the banks of the Mary River. The main reason for this is the easy access of the dredged material from the city reaches of the Mary River.

Toogum A Mr Hickey excavates medium to coarse grained sand from a large, extensive sand pit at Toogum (PIA 668 025). The pit is located in a Holocene beach ridge barrier which has 3 to 4 m of sand over a fine to very fine-grained tidal flat sand. The working has not been approved by the council which is presently instigating legal action to stop the operation. The land is zoned as Future Urban. The sand is used for concrete aggregate, bedding sand, fill, and most other purposes.

Dundowran Dundowran Blue Metals (PIA 797 023), Drury (PIA 797 025) and Groves (PIA 792 024) all operate medium sized sand pits east of Dundowran. They extract white fine-grained sand by end loader from Pleistocene dune deposits at the rear of the coastal plain. The pits are worked to the top of the sand rock/coffee rock which forms the basement approximately 3 to 4 m below the surface. The sand is blended with crushed aggregate for concrete aggregate purposes. A second similar but smaller Pleistocene dune sand deposit is worked by Perrillup Investments west of Dundowran (Pia 710 016).

Burnett River The only significant sand extraction operation in the Burnett River is at Gayndah where the Gayndah Shire Council (GAY 625 650) and Burnett Readymix (GAY 626 654) extract sand from the river bed by end loader. The sand is screened and used for most purposes including concrete, pavement gravels and fill. The sand has a high feldspar content and is unsuitable for high strength concrete applications. Crushed rock from the Biggenden Mine supplements the river sand. The position of the operations are only approximate as operations migrate along the river.

Potential Resources

Sd1 Large quantities of sand and gravel are located in point bar and longitudinal bar deposits of the Burnett River **Sd1**. The river has deposits scattered along the entire length of its course and individual deposits have not been delineated. The sand is medium to coarse-grained and feldspathic. The aggregate is suitable for most purposes and when screened conforms to the Department of Transport's standards for pavement gravels. The material is not suitable for high strength concrete aggregate. In 1965 The Snowy River Hydro-Electric Authority estimated that about 1.5 million m³ of sand and gravel occurred immediately upstream of Mingo Crossing. Trezise and Graham (1984) estimated that similar sized deposits probably occur immediately downstream of Mingo Crossing. Another deposit southwest of Booyal contains a similar volume of sand in a large bar deposit. Because of the extensive sand and gravel deposits in the river channel, investigations have not been made on the resources of sand within the alluvial terraces. These could be quite considerable although the thick overburden would limit exploitation.

It is unlikely that full utilisation of the channel deposits will be allowed as this will affect the integrity of the river. In the long term extraction will be restricted to off channel deposits on the alluvial terraces. In the short term, the Burnett River sand and gravel will continue to be an important source of aggregate for communities in the north and western parts of the Region around Gayndah.

Sd2 Two small deposits both identified as **Sd2** near Dundowran are the last remaining sources of Pleistocene beach ridge sand in the sheet area (excluding the Coonarr foundry sand mining leases) which are not sterilised by urban development, National Parks or mining leases. The deposits consists of white, fine-grained siliceous sand which is less than 4 m thick, Robertson (1981). The material is suitable for concrete aggregate and most other purposes. Several operators extract from the area and it zoned for extractive purposes. Reserves are limited.

Sd3 The bed of the Mary River will continue to be an important source of sand and gravel. Drilling by the Queensland Water Resource Commission indicated that up to 15 m of sand and gravel may occur as bed load downstream of Mungar, **Sd3**. Full utilisation of this deposit will depend on relevant regulators.

Sd4 Four small point bar and terrace deposits have been identified on the Mary River (all identified as **Sd4**). Several smaller deposits are also present but are too small to be delineated at this scale.

Reserves are considered to be only moderate. Large deposits of sand and gravel as point bar deposits are located further upstream in the Gympie Sheet.

- Sd5** A large area of sandy loam derived from weathered Burrum Coal Measures has been surveyed by the Department of Primary Industries. Approximately 700 000 m³ of material has been proven by drilling. The material is suitable for brickies loam and when processed would produce a fine-grained concrete sand. The land is unallocated crown land and is covered by virgin low coastal wallum woodland.

CLAY

The results of firing tests on surface and drill hole samples taken in the Maryborough area indicate that structural clays suitable for the manufacture of bricks, non-glazed pipes, and common pottery are widespread (Siemon, 1980). Surface clays fire to shades of orange and brown. The Burrum Coal Measures, which contain a high proportion of clay, fire to light pink, white, and cream colours with shades of orange, brown, yellow and grey. Subsurface samples of lateritised Maryborough Formation and Grahams Creek Volcanics fire to similar colours. Clays suitable for glazed pipes and tiles occur in all formations.

Current Workings Clay production in the Maryborough area first commenced in 1936 for earthenware pipes and later bricks. Marcotta Tiles, the second largest terracotta tile producer in Australia are the only producers of clay products in the Maryborough area although Wide Bay Brickworks, Bundaberg extract clay material from four pits at the northern end of the Maryborough sheet.

Marcotta Tiles operate from the old Maryborough Pipeworks. They hold leases north and west of Maryborough which include leases previously held by Maryborough Bricks. Three of their Mining Leases, 5391, 5394, and 5396 (MAR 583 785) are located in State Forest 1294. Marcotta Tiles blend clay 50:50 from the Bluestone clay pit (ML 5384, Pia 667 813) and the White clay pit (ML 5391, MAR 583 785) north and west of Maryborough respectively.

The Bluestone clay pit is within the Burrum Coal Measures, which crop out in an area extending from the Mary River to northwest of Howard and is comprised of sandstone, greywacke, siltstone, shale, mudstone and coal. The unit is generally deeply weathered with extensive development of kaolinitic sandstone, siltstone and mudstone. The White clay pit located in the Maryborough Formation is made up of mudstone, shale, siltstone, and sandstone. The unit crops out in two belts, one trending northwest from Maryborough, and the other southeast from Toogoom. Deep weathering profiles are developed on much of the unit. Mudstone is common in the upper part of the sequence and where deeply weathered, is characteristically white with red iron staining. The mined clay is highly lateritised and kaolinised with hard siliceous bands in places. The iron staining acts as a flux in the firing and provides the colouring. Marcotta Tiles also hold ML 5393, 5378 & 5395 (PIA 708 906, 707 799 & 709 894) in reserve. The company is presently looking for a clay that is not as high in silica but fires terracotta red.

Wide Bay Brickworks operates a large brickworks in Bundaberg (See Bundaberg Clay). Four of their leases occur on the Maryborough Sheet. Kaolinite clay is mined from a large pit at ML 1211 (CHI 204 112). The white clay forms the upper part of a lateritic profile of the Broomfield Granite. The coarse creamy kaolin clays are used as coatings on bricks and for light coloured bricks. Elliott Formation clays are used to bind this clay. The lower decomposed granite is low in quartz and the mica has been altered to iron oxides. The decomposed granite is used to make terracotta bricks.

Deeply weathered fine grain sandstone and shales of the Burrum Coal Measures are mined from ML 1205 and ML 1219 (CHI 229 259 & 228 260). They are used in the manufacture of light coloured bricks.

A sandy-gravelly loam of the decomposed Elliott Formation is mined at ML 1237 (CHI 263 288). This material is used for fill in the manufacture of most bricks.

Potential Resources

Siemon (1980) reported that the results of firing tests on surface and drill hole samples indicate that clays suitable for the manufacture of bricks, non-glazed pipes and common pottery are widespread in the Maryborough area. Material suitable for glazed pipes and tiles occur in most formations. However, significant resources free of agricultural restraints are restricted to the Maryborough Formation and Burrum Coal Measures west and north of Maryborough where present operations are located. Alluvial areas are generally too low lying to permit extraction. Reserves within the existing leases are sufficient for the foreseeable future. However, it is important that sources of supply adjacent to the existing leases be preserved for future use.

- CI 1, 2 and 3** Three areas **CI 1**, **CI 2** and **CI 3** surrounding the current Mining leases have been identified as a potential deposits which should not be alienated. **CI 3** is contained within the south eastern end of State Forest 1294.
- CI 4** North of Childers two areas have been identified as potential deposits which should be preserved for future use. Kaolinite Clays of the Broomfield Granite will continue to be an important source of clay for the Wide Bay Brickworks and similar nearby deposits should not be alienated. Deposit **CI 4** surrounds mining lease 1237 to ensure a continuing supply of this material.
- CI 5** Weathered sandstone, siltstone and shales of the Brooweena Formation could contain a valuable resources of clay, however no exploration has been undertaken in the area. Deposit **CI 5** is located over the Brooweena Formation close to the Bruce Highway. **CI 5** is adjacent to State Forest 832.

GYMPIE SHEET

The major population centres are Gympie, the Sunshine Coast (Noosa to Caloundra) and Nambour. Smaller communities in the west of the sheet include Nanango, Kingaroy and Murgon. The population growth area is the Sunshine Coast and the Shires and Cities of Caloundra, Maroochy and Noosa.

SUMMARY - Significance of State Forests

The eastern part of the Gympie Sheet (Gympie - Sunshine Coast area) is rapidly being developed and is a major consumer of construction materials. Major quarry rock operations in State Forest within the region include:

Image Flat:(NAM 940 580) in State Forest

Bli Bli (NAM 978568) in State Forest

Sunrock Quarry (NAM 970 220) in State Forest

In the Sunshine coast hinterland the quarries at Image Flat and Bli Bli are in State Forest. The geology of the area, particularly of the North Arm Volcanics is complex and the source rock quality is extremely variable. The fact that much of the area is elevated, with difficult access, and extensive rural residential development means that developing any new quarries is difficult, and makes existing operations and their potential resources very important to the region.

The major Sunrock and Glasshouse Quarries in the Glass House Mountains area are important suppliers to the Sunshine Coast, Caboolture and northern Brisbane markets; only Sunrock is located within State Forest. However, because of their strategic location close to major road and rail corridors, current and potential resources in the area are of major importance. It is difficult to locate suitable quarry sites because of the scenic nature of the area and the presence of National Parks and State Forests (plantation and native forest). Most sites are visible from the peaks of the Glasshouse Mountains.

In the Gympie region potential resources have been identified within State Forests, however the demand is low and there are alternative sites outside of the Forests.

In the remainder of the sheet area there are no major quarries within State Forest and potential resources appear to exist outside of the forests.

No major sand and gravel resources are known to occur within State Forest. Some residual sand deposits developed on granitic units may occur in State Forests in the west of the sheet. These resources will be of local significance only.

The Cooroy Brickworks is a major supplier of bricks to the Sunshine Coast and to the broader region. The brickworks operates a small lease (ML 3716) within State Forest at Amamoor. The material is utilised to provide specific colours to the fired bricks. A potential resource, which is partly within State Forest, has been identified within the Myrtle Creek Sandstone north and east of the plant.

Although significant resources of kaolin have been identified in the Kingaroy and Proston areas, no major resources have been identified within State Forests.

No major building stone resources have been identified within State Forests.

QUARRY ROCK

Major Workings

- Curra Quarry** (GYM 572131, ML 50069)
- Ringtail Creek** (GYM 960855)
- Moy Pocket:** (NAM 744647)
- Toolborough Road** (CAL 034650)
- Image Flat:**(NAM 940 580) in State Forest
- Bli Bli** (NAM 978568) in State Forest
- Glasshouse Quarry** (NAM 920 230)
- Sunrock Quarry** (NAM 970 220) in State Forest

There are 10 major quarries within the Gympie sheet area. Six of the quarries are adjacent to the Sunshine Coast, with a further two close to the Bruce Highway in the southern part of the sheet. One large quarry is located north of Gympie with another to the west of Nanango. These quarries supply the bulk of the crushed rock products used in the sheet area, including concrete aggregate, asphalt screenings and pavement gravels.

Most of the major quarries have large reserves of rock. The reserves of three at Image Flat, Bli Bli and Sunrock are mainly located in State Forest. Alternative resources for the Sunshine Coast area are limited to those at Yandina Creek, Kenilworth Bluff and in the Glass House area. Substantial resources exist in the Gympie area close to the rail and road corridors. In the west of the sheet potential resources are also limited. Potential resources in the east of the sheet are generally in forested areas, with 12 of the 24 in State Forests. In the west of the area **Rm27** near Wondai is located in State Forest and **Rm30** in a forested area.

Current Workings

Small pits and scrapings are located throughout the sheet area. They are located close to centres of population or the road network. Many of the current pits are operated by the local authorities for the supply of low quality maintenance gravels for road construction and fill. Over recent years many pits have closed as crushed rock products from quality assured quarries have been required to meet Main Roads specifications.

Curra Quarry (GYM 572131, ML 50069): Industrial Quarries Pty Ltd operate a large quarry approximately 13 km northwest of Gympie adjacent to the Bruce Highway. The quarry produces crushed aggregates suitable for concrete and road construction for supply to the Maryborough and Gympie districts. These quarry products are produced to offset the costs of mining the high quality limestone for agricultural purposes.

The quarry is sited in calcareous sediments of the Gympie Group. The central part of the deposit consists of pure limestone which grades into calcareous argillite. It is this calcareous argillite that is quarried for crushed rock purposes. The rock produces a good quality aggregate although it is a slightly flaky and dusty. The quarry has limited reserves remaining and a life expectancy of less than 4 years. The operation will then be transferred to Murgon where the company has large reserves of limestone under lease.

Ringtail Creek (GYM 966855): This quarry which produced approximately 50 000 t in 1994/95 is operated by the Noosa Shire Council for crushed pavement gravels and aggregates. The quarry is developed in a trachyte intrusion on the Tewantin - Boreen Point road, and supplies the needs of the Noosa Council.

Toolborough Road (CAL 039647): Boral Resources Qld Pty Ltd operate a very large quarry located approximately 5 km west of Coolum. This quarry is a major supplier (>400 000 t) of concrete aggregate to the Sunshine Coast. The crushed rock is also used for road pavement gravel and screenings. The rock consists of a welded tuff of trachyandesite composition. Some variation in texture to agglomeratic type rocks occur in the lower part of the quarry. These are generally more porous and of lower strength. Moderately to slightly weathered rocks make up the majority of the quarry. The rock is of high strength with marginal yet acceptable durability. Large reserves of rock exist in the area.

Image Flat (NAM 940 580): The Maroochy Shire Council operates a very large quarry in State Forest west of Nambour. The quarry is a major supplier of rock to the Sunshine coast. Concrete aggregate is supplied to concrete block manufacturers and premix concrete plants while pavement gravels are supplied to the Council and some road contractors. The rock is not suitable for asphalt screenings. Basalt from the Dulong Quarry is crushed on site and used for this purpose.

The rock consists of a banded rhyolite of the North Arm Volcanics. The majority of the rock is slightly weathered to fresh material with only a thin overlying layer of weathered rock. The rock has a high strength and durability and is suitable for most aggregate purposes, particularly as a concrete aggregate. Large reserves remain.

Bli Bli (NAM 978568): CSR Readymix operate this large quarry north of the Bli Bli road on the northeastern outskirts of Nambour. The quarry workings are being expanded northwards to include the New Kooragan Quarry formerly operated by the Maroochy Shire Council.

The quarry was originally developed in rhyolitic flows and tuff of the North Arm Volcanics. Continued development of benches within the pit has almost exhausted reserves of rhyolite and extraction is now confined to andesite flows which comprise part of the lower sequence in the North Arm Volcanics. Production in 1994/95 was approximately 300 000 t of pavement gravels, fill and concrete aggregate.

The andesite is slightly weathered to fresh although altered in parts. Large resources appear to exist within the quarry permit area in State Forest 249.

Moy Pocket (NAM 744647): Moy Pocket Blue Metals Pty Ltd operate a large quarry approximately 10 km south of Imbil. The quarry supplies mainly the Gympie district with screenings, and road pavement gravels. Widgee, Noosa and Maroochy Shires are also supplied crushed rock.

This quarry is sited in a slightly weathered to fresh trachyandesite. The rock is of high strength and durability and produces a quality crushed aggregate. Some variations in the mineralogy occur in particular the amount of chloritisation present, but is not considered a major problem.

Martin (1985) suggested that large resources of rock are present in the area, however there has been no investigations to confirm resources. It is reasonable to assume that significant resources are present as rock quality generally improves with depth.

Dulong Quarry (NAM 886537). The Maroochy Shire Council intermittently operates a large quarry south of the Nambour-Mapleton Rd. The rock is transported to the Image Flat quarry for processing. The crushed rock is consumed by the council as asphalt screenings.

The rock is a fine grained olivine basalt of Tertiary age. Extremely weathered material 1- 2 m thick caps the deposit. The weathering boundary is very sharp, below which mainly slightly weathered to fresh columnar jointed basalt occurs. Slight alteration of the olivines does occur but this is not considered significant. The rock is considered to be a hard, strong, durable rock suitable for coarse aggregates. It is particularly suitable for use with asphalts, especially when rhyolite (most common rock type in Sunshine Coast) is not well suited to this purpose.

This quarry will continue to be of particular importance because of the type and quality of material available, however the close proximity of development may reduce quarry life.

Glasshouse Quarry (NAM 920230): The Glasshouse Quarry operated by Excel Quarries Pty Ltd is located on a ridge 17 km west of the town of Glasshouse Mountains. An extensive range of aggregates, road pavement gravels and miscellaneous rock products (in excess of 400 000 t) are produced from the quarry. These products are supplied to the Sunshine Coast and northern Brisbane suburbs.

The quarry is sited on an inlier of the North Arm Volcanics within the Mesozoic Landsborough Sandstone. The rock is variable in nature but is essentially a hard resistant crystal lithic tuff of trachyandesite composition. The aggregate produced has been found to have adequate strength and durability for screenings and all other purposes. The quarry is sited at the northeastern end of the ridge. The company has recently applied to extend the operation along the ridge to secure another 50 years of resource. This quarry will remain an important source of crushed rock for the expanding Sunshine Coast.

Sunrock Quarry (NAM 970220) CSR Readymix Pty Ltd operate this very large quarry approximately 3 km south-east of Glasshouse in State Forest 611. The quarry is a major supplier (in excess of 600 000 t) of aggregates, pavement gravels and ballast to the Sunshine coast and northern outskirts of Brisbane.

This quarry is sited in a trachyte intrusion of the Glasshouse Mountains Group. The trachyte which has a thin weathered zone of less than 2 m, is massive, fresh, strong rock of uniform texture and mineralogy. The only problems associated with the rock are its high strength, toughness and abrasiveness and the lack of fines generated in crushing. This results in the need to imported fines for the manufacture of pavement gravels.

Reserves contained within the deposit are considered very large. This deposit will continue to be a very important source and continued access to the State Forest 611 is essential.

Bracalba Quarry (Alzinos) (NAM 818140): This large quarry is developed in decomposed granitic rocks of the Neurum Tonalite near D'Aguilar. The quarry produced in excess of 600 000 t in 1994/95 which were utilised for pavement gravels and crushed rock products. Future reserves include some surrounding hornfels.

Hodgleigh Quarry (KIN 949544): CSR Readymix operate a very large quarry approximately 8 km northwest of Nanango. The quarry supplies Kingaroy, Nanango and surrounding Shires with high quality aggregate, pavement gravels and screenings. The rock is moderately weathered to slightly weathered hornfels of the Maronghi Creek Beds. The hornfels has resulted from the thermal metamorphism of quartz rich mudstone and sandstones by an adjacent granitic intrusion. Quartzite and argillite are exposed in the upper more weathered part of the quarry. Variably altered dykes which intrude the sequence cause considerable disruption to the extraction of hornfels in the lower benches of the quarry. It is the fine grained hornfels which is extracted for better quality crushed rock producing a strong durable aggregate. The more weathered argillite and quartzite are used for road pavement gravels, but quality control must be monitored. Reserves within the quarry are large.

Potential Resources

A wide variety of rocks suitable for crushed rock products occur throughout the sheet area. However, apart from the Gympie region and in the Yandina Creek area west of Coolum, resources are generally limited in size. Close to the Sunshine Coast suitable materials may occur in the North Arm Volcanics, however the unit is variably altered and weathered. Intrusive units in the northern part of the hinterland and in the southeast of the sheet area are of considerable importance as sources of crushed rock.

In the west of the sheet, deep weathering profiles are extensively developed. Units which are less weathered are dominantly those with characteristics less suited to the formation of high quality crushed rock products.

Rm1 Intrusive gabbroic and dioritic rocks form Mount South Goomboorian and Mount Goomboorian respectively. O'Flynn and Graham (1987) reported that the finer grained varieties, particularly the diorite, appeared suitable for hard rock quarrying. Fringing hornfels developed in the Kin Kin beds may also have potential. These rocks are located close to the Tin Can Bay road, and with the closure of the Mount Bilewilliam quarry, may be suitable to supply developments in the coastal areas.

Rm2 This resource covers the Curra Quarry (GYM 572131) where reserves are estimated to last less than 4 years.

Resource	State Forest	Crown Land	Forested Area	Non-Forested
Rm1			Y	
Rm2			Y	
Rm3			Y	
Rm4	SF932	Y	Y	Y
Rm5		Y	Y	Y
Rm6	SF393		Y	
Rm7			Y	
Rm8	SF124		Y	
Rm9	SF256		Y	
Rm10	SF689		Y	Y
Rm11				Y
Rm12	SF1239		Y	
Rm13		Y	Y	
Rm14	SF368		Y	
Rm15	SF249		Y	
Rm16				Y
Rm17			Y	
Rm18	SF832		Y	
Rm19	SF832		Y	
Rm20	SF589	Y		Y
Rm21	SF589/611			Y
Rm22	SF589/611			Y
Rm23	SF589/611			Y
Rm24		?		Y
Rm25				Y
Rm26				Y
Rm27	SF12		Y	Y
Rm28				Y
Rm29				Y
Rm30			Y	
Rm31				Y

- Rm3** A band of calcareous argillite and silty limestone within the Gympie Group extends intermittently for about 10 km northwest of Gympie. Large resources of material similar to that extracted from Curra Quarry exist in the area, but access from the Bruce Highway is poor.
- Rm4** Large resources of andesitic volcanics occur in a northwest trending belt extending from Gympie to near Bells Bridge. Access to the area is limited. O'Flynn (1978) reported that possible alteration and secondary minerals were evident in outcrop. Part of this resource lies within State Forest 932.
- Rm5** Porphyritic microgranite of the Cedar Pocket Porphyry forms a prominent ridge at Cedar Pocket approximately 9 km southeast of Gympie. The rock, which consist of quartz crystals in a fine grained groundmass, has not been exploited.
- Rm6** Potential sources of rock in the Woondum Granite southeast of Gympie form Mothar Mountain and Mount Teitsel, partly within State Forest 393. Although the main part of the intrusion is generally deeply weathered, finer grained dioritic rocks near GYM 775696 may have potential.
- Rm7** This potential resource is a rhyolitic off-shoot of the Woondum Granite. Large reserves exist at the old Meadvale Quarry (GYM 742943) and on a prominent ridge to the northeast. Queensland Rail previously worked the large Meadvale quarry 1.5 km northwest of Tainture Siding for ballast. The operation was abandoned for more than 20 years before it was again temporarily reopened in 1990/91 by F H Resources for the supply of ballast. Fractions too fine for ballast were used for pavement gravels on local roads.
- The quarry is located on a series of small hills comprised of a porphyritic microgranite. Overburden is virtually non existent and no surface stripping is necessary. The rock is mostly fresh to slightly weathered although joints are commonly iron-stained. There are no irregularities in weathering characteristics. The rock is extremely high strength durable material suitable for applications such as screenings, and pavement gravel. The large resources remaining in the quarry and its convenient location to the rail line make this an important resource for the future.
- Rm8** O'Flynn and Graham (1987) indicated that un-named medium grained, granitic rocks near Mount Warrawee, about 20 km southwest of Gympie may provide potential crushed rock products. The area is within State Forest 124.
- Rm9** In the Bella Creek area, southwest of Imbil, regional mapping recorded hornfels surrounding a small granodiorite intrusion. The distance from markets limits the potential of this resource which is in State Forest 256.
- Rm10** The resource in this area comprises diorite intruding units of the North Arm Volcanics. Martin (1985) reported that quarry sites were available in the area although depth of overburden was variable. Approval to quarry one deposit has been received by Excell Quarries Pty Ltd. Resources in this area are of importance because of their proximity to the developing Sunshine Coast region. Unfortunately this area and Rm11 to the southeast are close to areas of development on surrounding ridge tops.
- Rm11** The Toolborough Road Quarry is located at the southeastern end of this resource which comprises North Arm Volcanics with diorite toward the northwest. Much of the resource has been alienated by closer settlement.
- Rm12** This resource includes the old Simpsons Quarry (NAM 931651) northwest of Yandina. The rock is fresh to slightly weathered rhyolite of the North Arm Volcanics. The rock was used for sub-base gravels but should produce better quality materials. The quarry is at a low elevation, but settlement has encroached from the east.
- Rm13** This resource of andesite at Kenilworth Bluff surrounds the Moy Pocket Quarry described above. The transport distance to markets on the Sunshine Coast detracts from the significance of this

resource, however as the more favourably located resources are exhausted this deposit will increase in importance.

- Rm14** The Image Flat Quarry is one of the most significant operations supplying the Sunshine Coast markets. Additional resources of rhyolite, with little overburden, occur along a ridge to the north of the quarry (NAM 940585) (Martin, 1985). The deposit is in State Forest 368.
- Rm15** Potential resources in State Forest 249 to the east of the current workings at Bli Bli Quarry are also important because of their location close to the Sunshine Coast.
- Rm16** Resources of basalt surrounding the Dulong Quarry near Mapleton are limited, however because the rhyolite and andesite produced in the region is not suited to asphalt use, the quarry supplies the majority of the asphalt screenings.
- Rm17** A deposit of intensely fractured hornfels and indurated mudstone at Elaman Creek, northwest of Reesville, is suitable for the production of pavement gravels. The rock in the north of the deposit has been toughened as a result of hornfelsing by the Neurum Tonalite.
- Rm18** The andesite of the Bellthorpe Andesite along the headwaters of Stoney Creek, northwest of Woodford, is likely to be suitable for the production of crushed rock products. The resource which lies in State Forest 832 is accessible from the D'Aguilar Highway.
- Rm19** Martin (1985) reported that fine to medium grained zeolite bearing olivine basalt at NAM 760258 and NAM 751247 was potential sources of quarry rock for the Caboolture - Kilcoy area. The eastern slopes of the bluffs, which are in State Forest 832, are covered with scree of relatively unweathered rock. The coarser grained basalt is irregularly jointed, but closer spaced joints in the finer grained basalt gives rise to slaty material suitable for use in landscaping.
- Rm20** This resource covers the outcrop of the North Arm Volcanics surrounding the Excel Glasshouse Quarry. Development within the area may be limited by the impact of rural residential sub-divisions in the area.
- Rm21** The large Sunrock Quarry is located in State Forest (? 589 / 611) east of the old Bruce Highway between Beerburum and Glass House Mountains. Large resources of trachyte exist at depth within the quarry area, with additional resources underlying the Landsborough Sandstone / alluvium cover.
- Rm22** Comendite and quartz trachyte on a ridge northwest of Beerburum, in State Forest 589, are possible sources of crushed screenings. This deposit is currently buffered from settlement. Unweathered rock of good quality underlies shallow overburden adjacent to the old quarry at NAM 951187. Beerburum Mountain to the south of the site is deeply weathered and unsuitable for crushed screenings (Martin, 1985).
- Rm23** Andesite of the Mount Byron Volcanics forms a low hill adjacent to the Stanley River at Villeneuve. Moderately to slightly weathered rock potentially suitable for crushed screenings is exposed beneath shallow overburden. This resource is probably of local interest only.
- Rm24** A gabbroic body in undifferentiated Palaeozoic metamorphics approximately 3 km west of Proston has been purchased by the Wondai Shire Council as a potential quarry site. Resources suitable for use as concrete aggregate and pavement gravels are approximately 250 000 m³.
- Rm25** The Wondai Shire Council quarry at Cushnie, approximately 12 km west of Wondai, is developed in slightly weathered to fresh basalt. Although the products are used only by the Council, the resource is essential to the continued development in the region through the provision of pavement gravels, crushed screenings and concrete aggregate.

- Rm26** Gravels derived from the Maronghi Creek Beds have been worked in State Forest 12, east of Wondai. The material is only suitable for fill and for maintenance of gravel roads in the eastern part of the shire.
- Rm27** Large resources of weathered basalt exist at Cool Hill, northeast of Wooroolin, at Sempfs Basalt Quarry. The area is worked for concrete aggregate and minor bitumen screenings.
- Rm28** Large resources of weathered granite occur within this area which is to be developed by the Kingaroy Shire Council. The resource lies immediately to the west of the Council's Franklins Quarry which is being used as a refuse disposal site. The rock is suitable for low quality pavement gravels and as additives for road base.
- Rm29** The Hodgeleigh Quarry operated by CSR Readymix is an important operation in the western part of the sheet. The quality of the products meets the specifications of the Main Roads Department and it is also used for concrete aggregate and bitumen screenings.
- Rm30** Large reserves of fresh to slightly weathered, fine grained basalt exist in the area surrounding Steffersons Quarry located 7 km southwest of Kumbia. The site was worked by the Kingaroy Shire council and the Main Roads Department for bitumen screenings. Because of the absence of high quality rock in the southwest of the sheet this deposit is of considerable importance.

SAND AND GRAVEL

In the more populated region in the eastern part of the sheet, sand and gravel is extracted for deposits along and adjacent to the Mary River and from the flood plains of easterly flowing streams south of Nambour such as the Mooloolah River, Eudlo, Sippy, Coochin, Glass Mountain and Elimbah Creeks.

In the north toward Kilkivan, Wide Bay Creek is a local source of sand, while in the west the Boyne and Stuart Rivers and Barkers Creek near Nanango are important sources. Unfortunately sand from the Stuart and Boyne Rivers, which drain large areas of granite, contain appreciable quantities of feldspar and can not be used for high strength concrete. Some extraction of sand and gravel from the upper reaches of the Brisbane River has been undertaken to supply local projects.

Comments about the Mary River in the Maryborough Sheet are applicable in the Gympie Sheet. Sand and gravel resources exist in the river bed and in point bars and terrace deposits along the length of the stream. Many of the deposits are a considerable distance from markets, but as more economic resources are depleted these resources will become of considerable importance. It is unlikely that river bed extraction will be allowed to continue because of actual and perceived problems with the practice. Off- stream extraction will continue along the river, however strict controls will be required to ensure that stream realignment does not occur during flood times.

Additional resources probably occur in the lower reaches of the coastal streams south of Mooloolah. As the majority of streams drain into the Pumicestone Passage development will need to conform to the requirements of the Management Plan for the area. Resources east of the Bruce Highway are mainly within plantation areas of State Forest.

Current Workings

Mary River Sellars currently extract sand and gravel from the Mary River near Gympie (GYM 546129 and 558113). This material is screened for use in concrete and screenings. In the area between Conondale and Beli several pits area operating in the river and off-stream (NAM sheet - Bryant 686513, Mansell 688502 and 687470, Kenilworth Sand 728594 and 740611, Woods 760620 and an unknown operator at 733582. The operation of Woods is extracting sand and gravel; the coarse fraction is crushed to provide concrete aggregate.

Eudlo Creek Marshall (CAL 002487) and Sun coast Sand (CAL 005492) are extracting fine to medium sand and loam from Eudlo Creek close to the Bruce Highway. Although additional resources are available in the area further extraction is constrained by residential development.

Mooloolah River Boral (CAL 020383) and CSR Readymix (CAL 028383) are extracting fine to medium sand and minor loam and soil from the flood plain. Production is unknown but estimated to be in excess of 350 000 tpa. Mooloolah Developments (CAL 017385) have received development approval from Caloundra City Council for another pit.

Other While various Councils indicated that sand and gravel extraction was occurring , the majority were unable to provide specific locations. The majority of locations are only utilised to provide bedding sand and concrete aggregate for local projects undertaken by Councils and local contractors. Production for many of these operations is less than 500 m³.

Potential Resources

Sd1 Small point bar and terrace deposits have been identified along the length of the Mary River by the Department of Primary Industries (1995). Resources within the individual deposits are small to moderate (< 500 000 m³), however in aggregate they represent a major resource. As indicated above the availability of in-stream resources may be limited and strict operating and environmental controls will be needed to ensure the stability of the river system.

- Sd2** Small resources surrounding the remaining operations at Eudlo Creek should be protected from the encroaching residential development.
- Sd3** Extensive sand resources are believed to exist downstream of the CSR Readymix operation on the Mooloolah River. However it is believed that the proportion of clayey sediments increases east of the Bruce Highway.
- Sd4** Sand resources are available in the Boyne River in the western part of the Sheet area. The sand from this area is suitable for most local uses.
- Sd5** Resources remaining in the Stuart River downstream of Gordonbrook are not known. Many areas were worked extensively to supply bedding sand for the Tarong - Wivenhoe and Tarong - Boyne River pipelines. Sand from this resource is generally only suitable for general purpose concrete.
- Sd6** The extent of resources available in Barker Creek is not known. This area was an important source for the Nanango region, however most sand is imported from Kingaroy.
- Sd7** Sand from Wide Bay Creek is used by some concrete plants in Gympie. The extent of resources in this area and the nature of the materials is not known.

STRUCTURAL CLAY

The clay resources of the Gympie region were investigated by the Department of Mines in the 1970's as part of the Wide Bay - Burnett investigation. Unfortunately drilling and testing data is no longer available.

Firing tests of samples taken from numerous drill holes and exposures in the Gympie area indicate that materials suitable for the manufacture of bricks, non-glazed pipes, common pottery, and tiles occur in the Tiaro Coal Measures, Myrtle Creek Sandstone and Gympie Group sediments. In the Cooroy area, PGH Limited extract brick making materials from the Pomona Beds, Myrtle Creek Sandstone and the Kin Kin beds.

In the Gympie area the colour range for fired ware tends to be rather limited, being predominantly in shades of brown, orange, and to a lesser extent pink. Materials burning to white or a light colour are scarce (Geological Survey of Queensland, 1981). Most deposits within the Gympie Group tend to be surficial and limited to a weathered capping on indurated shale. In the Tiaro Coal Measures and the Myrtle Creek Sandstone, shales tend to be thinly bedded, the units consisting predominantly of sandstone. In the Tiaro Coal Measures dips of 55° and the presence of carbonate minerals limits the amount of shale which might readily be recovered. The Pomona Beds contain large resources of clay which are exploited at the Cooroy Brickworks. Shales of the Kin Kin beds at Amamoor, which contain manganese, are used at Cooroy for their dark fired colours.

Brickworks formerly operated at Wondai and Nanango closed in the 1970's. Both plants utilised clays from close to the works. Attempts in the 1980's to find substantial additional resources for the Nanango plant failed (Cooper, 1983).

Current Workings

PGH Limited operate the Cooroy Brickworks which produces a wide range of bricks predominantly for the Sunshine Coast market. Mining leases operated by the company include MLs 3672, 3673, 3698, 3705, 3718, 3729, 50078 at the plant, 3696 south of the plant close to the Bruce Highway and 3709, 3751, 3671 and 3742 to the north of the brickworks. The leases to the north are located in the Myrtle Creek sandstone while those at the plant have Myrtle Creek Sandstone overlying Kin Kin beds. ML 3716 in the Kin Kin beds at Amamoor is utilised for its dark firing characteristics. This resource is in State Forest 435.

Potential Resources

- C11** Information from PGH Limited suggests that the Myrtle Creek Sandstone north and northeast of Cooroy has potential for brick making materials. However, because of the variable development of the shale layers within the unit it is difficult to define areas with a workable thickness of shale. To date the most suitable area defined is close to Boreen Point. Land within this resource includes State Forests 997, 952 and 1271.
- C12** The resource on ML 3716 at Amamoor should be protected for future use. Because the material is used as a colorant, only small quantities are utilised in the blends. This area in State Forest 435 should be preserved because of the scarcity of such materials.

SPECIAL PURPOSE CLAY

Investigations by the Department of Mines in the Proston - Kingaroy - Nanango area in the late 1970's revealed that there were five types of kaolinitic clays in the area.

1. In-situ weathering of granites of the Boondooma Igneous Complex has produced deposits at Brooklands, south of Haleys Round Mountain, in the Corndale area, northeast of Kingaroy and in the Tanduringie Creek area. The material is characterised by decomposition of the feldspars to white clay. Quartz is the major impurity with minor chlorite and mica. Clay from the Brooklands area has been used in refractories.
2. In-situ weathering of granite sands derived from the Boondooma Igneous Complex has resulted in partial or complete kaolinisation of feldspars. In the Dulong area a gradation from unweathered feldspar upward to kaolinite has been recognised in a profile. In the Boat Mountain area, north of Murgon, kaolinitic sandstone of the Oakdale Sandstone is widespread.
3. In-situ weathering of steeply dipping beds in the Maronghi Creek beds has resulted in degrees of kaolinisation. The clays are commonly sandy or silty.
4. In-situ weathering of basalts of the Main Range Volcanics has rarely resulted in kaolinitic deposits; but minor kaolinite is developed in the profiles.
5. Transported white clay derived from weathering of granite south and west of Kingaroy and north and southeast of Proston, underlies basalt and silcrete horizons. The kaolinite generally has little quartz impurity, this being concentrated in sandy horizons overlying the clay.

The most important type of deposit is the transported kaolin, although little attempt has been made to investigate resources of weathered granite. The distribution of both types in the area is shown in Figure 7.

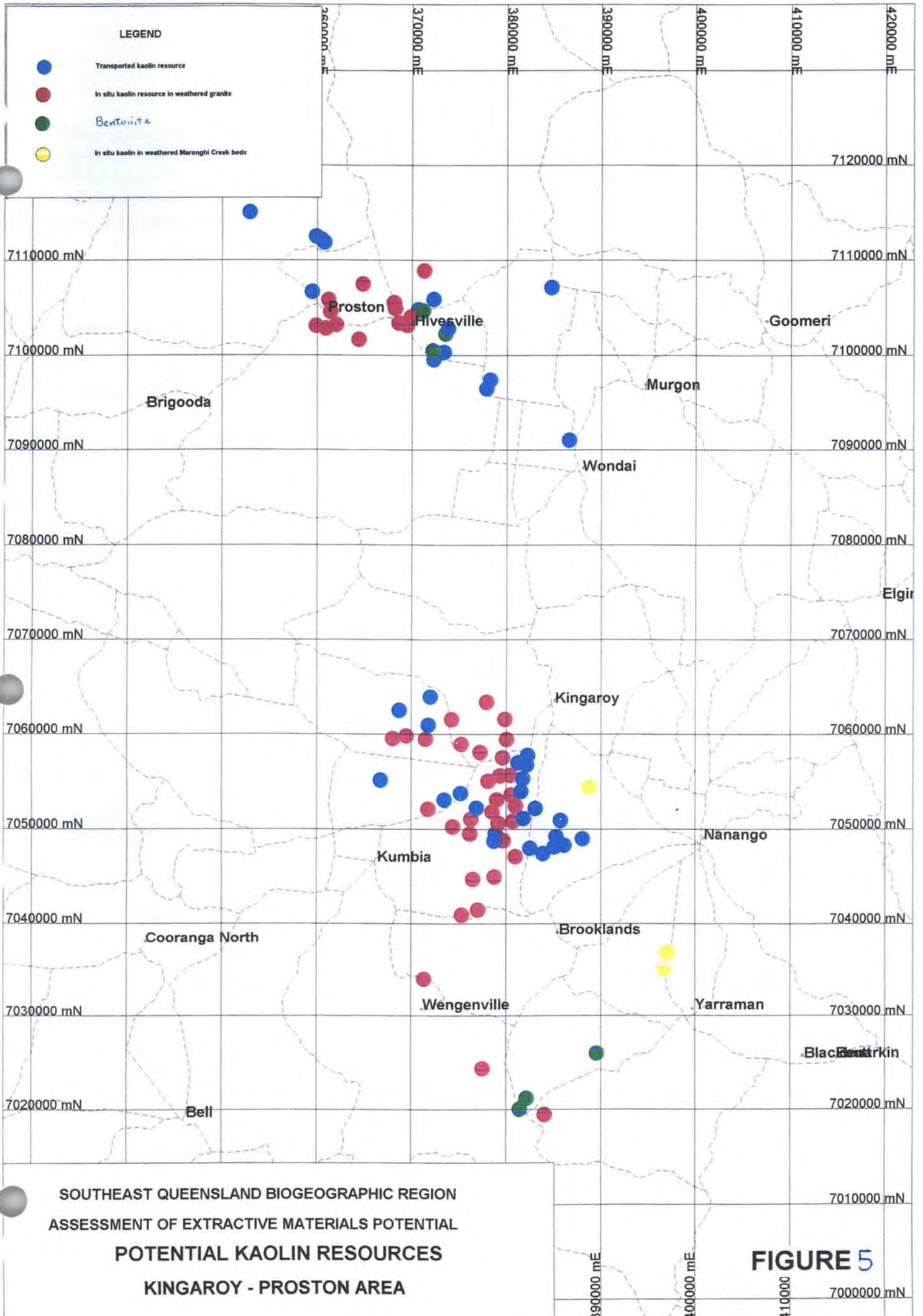
Current Workings

Kingaroy Kaolin Pty Ltd are currently working MLs 5685 and 5684 to supply various markets with clay suitable for use in coating and filling cardboard, for use in paint, plastics, rubber, adhesives, in the manufacture of white cement and it is being trialed in the manufacture of fire resistant timber boards. The clay is processed at a plant in Kingaroy. Currently any sand in the clay is removed and dumped in the tailings pond. Other leases held by the company may be bought in to production as markets increase.

PCP Douglas Pty Ltd operate ML 6610 west of Yarraman. Clay from this lease, which contains both kaolinite and bentonitic material, is processed for use in stock feed and as a filler clay.

Potential Resources

Potential resources of kaolin are shown in Figure 5. It is difficult to define a resource area because preliminary investigations revealed that in situ weathering of the Boondooma Igneous Complex may have affected a particular phase only. An alternative theory is that the granites have undergone localised hydrothermal alteration. Because the geometry of transported resources it is difficult to define individual resources. As a consequence a broad resource areas have been defined in the Kingaroy and Proston regions.



BUILDING STONE

The known building stone resources within the Gympie sheet are restricted to current workings of "slate" within the Kin Kin beds near Gympie, and "granite" north of Crows Nest, in the Blackbutt - Yarraman - Nanango area, and in the metamorphic terrain in the Burrandown area (Trezise, 1990). Suitable sites for the extraction of building stone can only be defined by on site investigation, and it is very difficult to define potential resources without first hand knowledge of the area. As a result no potential areas have been defined in the Gympie sheet.

Current Workings

Anderleigh Quarries (ML 50004, GYM 604209): This quarry produces thinly layered, very fine - grained phyllitic shale which is sold as slate for paving and landscaping (Trezise, 1990).

Mary Valley Slate (ML 50008 GYM 592701) extract metasiltstone of variable quality from the Amamoor beds west of Imbil. The material is used for landscaping.

BRISBANE SPECIAL SHEET

This sheet covers the on shore portions of the Brisbane, Ipswich and the eastern part of the Dalby 1:250 000 Sheet areas. The major populations centre within the sheet is the Sunshine Coast-Brisbane-Gold Coast-Ipswich area and Toowoomba. Smaller communities include Esk, Toogoolawah, Lockyer Valley, Beaudesert, Boonah and Oakey. The Town of Dalby lies to the west of the Region boundary.

SUMMARY - Significance of State Forests

The only major operating quarry in the sheet area in State Forest is the Hymix operation at Nerang where the southern part of the pit and potential resources are in the State Forest. The forest is also important as a buffer from local settlement. Smaller pits at Purga and Sugarloaf, south of Amberley, are located on Crown Land / road reserves.

Potential resources of quarry rock exist in State Forest north of Narangba (**Rm4**), in the Somerset Dam - Ipswich area (**Rm8 to 10 and 12**) and in the Brisbane - Gold Coast region (**Rm15 and 18 to 20**). In the Somerset Dam - Ipswich region the majority of the resources are not close to major haul routes and are a considerable distance from potential markets. However they must be considered as long term potential resources for southeast Queensland.

Resources at Narangba and in the Brisbane Gold Coast region are important sources for the development of the region and should be retained for future use.

There are no quarry rock resources on the eastern Darling Downs within State Forest.

There are no sand and gravel or clay resources identified within State Forest.

Sandstone resources at Helidon are important as building stone and as a possible source material for manufactured sand. There are no alternative sources of building stone sandstone with the characteristics displayed by Helidon Sandstone. There are no granted mining leases within State Forest although applications are currently being processed. The area currently being worked for building stone is a small proportion of the known outcrop of the Helidon Sandstone. No suitable resources have been found elsewhere in the unit, but this may be a reflection of the intensity of exploration to date.

Resources of coarse grained sandstone suitable for manufacturing sand underlie the building stone layer in most of the workings at Helidon and is exposed in creeks draining much of the Helidon Sandstone. This resource is currently being investigated as a source of sand for the Brisbane market. Some interest in sand resources in the State Forest can be expected.

QUARRY ROCK

Major Workings

State Forest	Hymix Quarry - Nerang (BEE 318065) - southern end of workings.
Crown Land	Purga Quarry (IPS 750300) - road reserve
	Sugarloaf Quarry (IPS 640305) - reserve
	Mount Marrow Quarry (IPS 627475)
	Bromelton Quarry (IPS 932 030)
	Petrie Quarry (CAB 930860)
	Whiteside Quarry (CAB 923868)
	Moodlu Quarry (CAB 907064)
	Narangba Quarry (CAB 880940)
	Stapylton Quarries: Boral Resources (BEE 250313), CSR Readymix (241 322) and Stonemaster Quarries Pty Ltd (235342)

Darlington Range Quarries: Boral (BEE 210220), Pioneer (204255), CSR Readymix (218256), and Astex Pty Ltd (185916)
Hymix Quarry - Nerang (BEE 318065)
Kingston (Bega Road) Quarry (BEE 110398)
Redlands Quarry (BEE 199246)
Aratula Quarry (IPS 571087)
Mount Coot-tha Quarry (CAB 972605)
Ferny Grove Quarry (Levitt Road) (CAB 933673)
Mount Cotton Quarry (BEE 226426)
German Church Quarry (BEE 263433)
Purga Quarry (IPS 750300)
Fisherman's Quarry (BRI 517626), **TAZI Quarry** (BRI 512623)
Toowoomba Quarries: Quarry Products Pty Ltd (Harlaxton TOO 977543), CSR Readymix (Glenvale TOO 904497) and Wagners Quarries Pty Ltd (Malu MIL 582748)
Well Camp Deposits : CSR (TOO 832 515) and Wagners (TOO 828 518)

The Pine Mountain quarries of Boral and Brisbane City Council are large in area, however they were not considered as major operations because output has dropped in recent years below the 50 000 t / annum.

Crushed rock products are supplied by many large quarries adjacent to the major population centres. The largest quarry in the sheet (and the Region) is the Hymix Quarry at Nerang which produced over 1 million t in 1994/95. Production from quarries at Petrie and Whiteside exceeded 500 000 t in 1994/95 as did production from groups of closely spaced quarries at Stapylton, Darlington Range, and Toowoomba region.

Potential resources in the sheet area are large, although sterilisation of resources in rapidly growing areas has occurred. Attempts have been made on many occasions to restrict development of resources (eg at Petrie, **Rm5**). Development may also be hindered by road access through rapidly expanding residential areas such as at Narangba (**Rm4**). Large resources occur in most of the major quarries, particularly if working below the free draining level is permitted and encouraged.

Within Brisbane City the only major operation supplying private industry is the Levitt Road Quarry of Pioneer at Ferny Grove (**Rm7**); the Brisbane City Council operation at Mt Coot-tha supplies the Council only. Smaller pits at Mount Cotton (**Rm17**) supply the eastern part of the city and Redland Shire. If development is to continue within the City crushed rock products will need to be supplied by the surrounding region.

South of Brisbane substantial resources exist at Stapylton (**Rm18**), Darlington Range (**Rm19**), at the Hymix operation at Nerang (**Rm20**) and in the Bromelton deposit west of Beaudesert (**Rm23** - also on Tweed Sheet). Extensions of **Rm20** to the south of the existing pit are within State Forest 571. Northwest of Brisbane extensive resources exist in the area extending from east of Esk to northwest of Ipswich (**Rm8** to **Rm13**), however the access to some areas is not known and parts of some areas impinge on State Forests.

Potential resources around existing quarries south of Ipswich have the capacity to contribute to the requirements of the area and also the west of Brisbane. Demand for crushed rock products in the Lockyer Valley can be supplied by either these resources or operations around Toowoomba. None of the resources between Ipswich and the western boundary of the Biogeographic Region are in State Forests.

Quarry rock resources on Stradbroke Island are extremely limited and must be protected at all cost, otherwise crushed rock products will need to be imported. Supplies of lower quality ridge gravels are readily available throughout the western part of the sheet area. In the more highly developed areas fill and maintenance gravels are generally supplied from the major quarries.

Current Workings

Moodlu Quarry (CAB 907064): Boral Resources Pty Ltd operates this large quarry 5 km west Caboolture. The operation supplies various aggregates, pavement gravels, ballast and boulder rock to a market extending from the Sunshine Coast to the northern outskirts of Brisbane. Production in 1994/95 was >200 000 t.

The quarry is located in a narrow, semi-circular plug of trachyte of Tertiary age. The quarry has a amphitheatre-shaped pit with the floor of the quarry below free-draining level. The dark-coloured aegirine trachyte is generally fresh and durable but a central core of weak vesicular rock approximately 50 m wide is avoided for crushed aggregates. Zones of brecciated trachyte on the eastern flank and sandstone on the western flank near the weighbridge are also unsuitable for crushed aggregate production. The rock has moderate strength and good durability and is considered suitable for coarse aggregate applications. Reserves are estimated to be sufficient for at least 10 years but could be greater depending on quarry development.

Narangba Quarry (CAB 880 940) : The Narangba Quarry is a large quarry, northwest of Narangba operated by the Boral. It is a major supplier of aggregates to the north side of Brisbane and part of the Sunshine Coast. The quarry produces a wide range of aggregates suitable for concrete, bitumen screenings and pavement gravels totalling more than 200 000 t in 1994/95.

The site is located in a geologically complex region where metamorphosed Kurwongbah Beds and Rocksberg Greenstones are quarried producing two distinct rock types: hornfels and greenstone. The hornfels source rock is very high strength, durable and tough rock producing a high quality coarse aggregate. The hornfels historically had some problems with regard to variations, but this has been overcome by working higher grade metamorphics closer to the granite. The greenstone source rock is variable in composition, slightly weathered and susceptible to weathering. When slightly weathered to fresh it produces a high strength coarse aggregate. Greenstone is particularly suited to asphaltic aggregate applications. By mixing these two rock sources it is possible to get a aggregate suitable for most purposes. Reserves are large, probably in the order of 30 years. Considerable additional resources are present in the adjacent granite, hornfels and greenstone deposits.

Petrie Quarry (CAB 930860): The Petrie Quarry is a very large quarry, west of Petrie operated by the CSR Readymix Group. It is one of the largest producers in the region and major supplier of aggregates to the north side of Brisbane. Production has exceeded 1 000 000 t (O'Flynn, 1992). The quarry produces a wide range of products including concrete and bitumen screenings, crushed and uncrushed road bases, and fill. Oversized material is also used for armour stone for sea walls and canal estates.

The quarry is located on a massive greenstone belt with weathering restricted to a depth of 2-3 m. The greenstone has high strength and durability and is considered one of the most suitable rock types in the region for bituminous aggregates. Resources remaining in the quarry are large, possibly in excess of 15 years supply. The life of the quarry is to be significantly extended by extracting below the free-draining level.

Whiteside Quarry (CAB 923868): Boral Resources (Qld) Pty Ltd operate this quarry south of the Petrie-Dayboro road in a ridge of greenstone of the Rocksberg Greenstone. Production of greenstone for most uses totalled in excess of 600 000 t in 1994/95.

Ferny Grove Quarry (Levitt Road) (CAB 933673): Pioneer Concrete (Qld) operate this large pit in hornfelsed rocks of the Bunya Phyllite within the contact aureole of the Enoggera Granite. Metamorphic effects appear to be less pronounced than at the Mount Coot-tha Quarry with the original cleavage clearly evident in some sections of the excavation. The hornfels is generally deeply weathered with iron staining persisting along joints down to the lowest bench of the quarry. This has been economically feasible only because of the quarry's strategic location close to the city's ready market for fill. Production of crushed rock was in excess of 700 000t in 1994-95, largely of road-pavement gravels with lesser amounts of concrete and bituminous aggregates.

Mount Coot-tha Quarry (CAB 972605): The Brisbane City Council's Mount Coot-tha Quarry produced over 390 000 t of crushed rock products for Council. Phyllite of the Bunya Phyllite has been locally and somewhat variably hardened to hornfels by a presumed subsurface intrusive body of the Enoggera Granite. The cleavage of the original country rock is still clearly visible in some faces, particularly in the more weathered zones. Production is used for bitumen screenings, some crushed road-pavement gravels boulder rock and drainage material, in an effort to conserve resources.

Because of the central location, the resources remaining in the quarry are significant for the city and are estimated to be sufficient for 10 years on the basis of a plan for the rehabilitation of the site. However, Council considers that life could be extended to 30 years by relocating the Scenic Drive to the summit of Mount Coot-tha to allow reworking of the adjacent, partially rehabilitated north western faces. Because the future development of alternative sources of quarry rock held by the Council is uncertain, maximum utilisation of reserves of rock in Mount Coot-tha Quarry may be preferred.

Kingston (Bega Road) Quarry (BEE 110398): Logan City Council has reopened the Kingston Quarry in recent years for the production of crushed road-pavement gravels and fill for Council requirements. In 1994/95 production totalled in excess of 200 000 t. Sited in quartzite, greywacke, and phyllite of the Neranleigh-Fernvale beds, the quarry was originally abandoned when the hard quartzite band could no longer be ripped with existing plant, and blasting was unacceptable because of a nearby school and residences. Because of the shortage of alternative sources within the Local Authority, the Council reopened the quarry after employing a larger bulldozer to rip the quartzite. Remaining resources were estimated in 1986 at 1.3 m t of rippable rock including an estimated 20% of which consisted of quartzite suitable for crushed road base. However, resources are now thought to be greater, with several more years of rock available.

Redlands Quarry (BEE 199246): Karreman Brothers continue to operate this quarry at West Mount Cotton in a thick, east-west trending band of quartzite and quartz conglomerate within the Neranleigh-Fernvale beds. This quarry has developed from a relatively small road-base quarry into a large crushed rock operation with an average annual production of crushed rock exceeding 200 000 t. The rock is used predominantly in crushed road-pavement gravels, although significant amounts are reportedly supplied to local concrete batching plants; a high bitumen stripping value inhibits its use as road sealing aggregates. Weathered argillite and quartzite spalls are utilised as fill and boulder rock respectively, while bedding sand is produced from the crusher dust. As with most Neranleigh-Fernvale quartzite, clay contamination from argillaceous interbeds and overburden poses the main problem for aggregate quality, although this does not appear to be as severe as at some other quarries. The company estimates that remaining resources are more than sufficient for 30 years supply.

Mount Cotton Quarry (BEE 226426): The Barro Group produced approximately 390 000 t from a relatively narrow band of quartzite bounded by phyllite and shale in the Neranleigh Fernvale beds at Mount Cotton. Crushed rock production comprised road bases for use by local Governments and developers. Additional quantities of fill and boulder rock are also produced. The extent of the resources is not known.

German Church Quarry (BEE 263433): The Redland Shire Council works argillite and quartzite of the Neranleigh-Fernvale beds. Production in excess 60 000 t of road base for subdivisions and Shire works was recorded in 1994/95, as well as additional quantities of fill from weathered rock and argillite material. Remaining resources are estimated as adequate for 5 years supply, although no investigations to reliably estimate these have been made. Future production will continue to be confined to pavement gravels for the Shire Council as no substantial improvement in the quality of the rock is expected. The Council holds Mining Lease 50010 over the site for brick clay to enable the weathered argillite and shale to be disposed of to the clay industry.

Stapylton Quarries: Boral Resources (BEE 250 313), CSR Readymix (241 322) and Stonemaster Quarries Pty Ltd (241 344) operate three large quarries east of the Pacific Highway, approximately 7 to 8 km south east of Beenleigh. The Gold Coast City Council has operated a pit west of the CSR quarry. The quarries are well placed to supply both the Gold Coast and southern Brisbane markets with crushed rock products, in

particular pavement gravels and concrete aggregate. Between them they produce in excess of 1 million t of crushed rock.

All three quarries are located in massive quartzite of the Neranleigh-Fernvale beds. Fresh quartzite is considered both strong and durable and suitable for most applications. However, weathered material is only suitable for sub-base and fill material. As with most quartzite of the Neranleigh Fernvale Beds, finely interbedded argillaceous beds (generally highly weathered) commonly occur within the quartzite. These beds can contaminate the product with clays and must be avoided by careful management. Because of the variable distribution of these weathered zones the quarries must be selectively worked. Resources remaining in the Boral and Stonemaster quarries are estimated to be sufficient for 15 to 20 years at the current rate of production, and include some greywacke suitable for use in concrete and road-sealing aggregates. CSR's quarry has only moderate resources available.

Darlington Range Quarries: Boral (BEE 210220), Pioneer (204255), CSR Readymix (218266), and Astex Pty Ltd (185916) operate four large quarries in the Darlington Range, approximately 5 to 8 km south of Beenleigh. Between them they supply in excess of 3 million t of crushed rock to the Brisbane-Gold Coast markets. The rock is mainly used for concrete and asphalt aggregates and crushed road base. This resources forms one of the most important rock resources in southeast Queensland.

The quarries are located in the resistant greywacke, quartzite and greenstones of the Neranleigh-Fernvale Beds which form the prominent northern part of the Darlington Range. Slightly weathered to fresh greywacke is strong, hard, durable, abrasion-resistant and non-reactive. It has been used successfully since about 1980 for a range of crushed aggregate products including asphalt, concrete and screenings, a variety of other applications and in a variety of major projects such as the construction of the new Brisbane International Airport runway. The quartzites are now being used for the production of sand using a new high-tech crushing plant. The massive greywacke is widely accepted as a desirable source rock for the production of a range of high quality aggregates and quarry products. However, greywacke is not a homogeneous rock type and is not without problems. Some zones of greywacke carry abundant shale clasts that reduce its suitability as an aggregate. Thick beds and lenses of argillite and carbonaceous shale which have been encountered in some of the quarries, resulted in the relocation of main working faces and the loss of significant resources. In some areas, interbedded argillite bands can make selective quarrying impractical.

Potential hard rock resources of greywacke, greenstone, and quartzite in the northern Darlington Range will provide the main long term source of aggregates for the Brisbane - Gold Coast growth corridor. Resources are largely confined to the existing or proposed quarries. It is estimated that in excess of 300 Mt of hard rock is available for the future supply of aggregates. Based on the current rate of production, the resource has an estimated life of about 100 years.

Hymix Quarry - Nerang (BEE 318065): This quarry was opened in 1981 to supply the expanding Gold Coast market. In 1994/95 the quarry produced in excess of 1 million tonnes of greywacke, argillite and quartzite for use as crushed road base, concrete and asphalt aggregates, fill, bedding sand and rip-rap. The quarry also produces coarse grained manufactured sand for use in concrete aggregates. Resources on private land and within State Forest 571 are reported to be sufficient for more than 30 years supply. The State Forest acts as a buffer from the encroaching residential development.

Mount Marrow Quarry (IPS 627475): The Mount Marrow Quarry is a very large quarry 12 km west of Ipswich which is operated by Rocla Quarries Pty Ltd. The quarry is one of the few deposits of relatively fresh basalt in the western part of the region. It is an important source of materials for the Esk, Gatton Shires and Laidley shires, as well as Ipswich and the southwestern suburbs of Brisbane. Production exceeded 500 000 t in 1994/95. Products consisted of mainly screenings, concrete aggregates, road-pavement gravels and crusher dust. Ballast, fill and boulder rock are also produced

The quarry is located in a thick sequence of closely jointed columnar olivine basalt lava flows overlying a more massive olivine basalt core which may be of intrusive origin. A thick mantle of weathered material 15 to 20 m deep covers the crest of the hill. The upper faces of the quarry include a high proportion of highly weathered material but the lower faces consist of relatively homogeneous, slightly weathered to fresh,

durable rock. Altered zones and localised concentrations of secondary minerals associated with different lava flows occur throughout the deposit. Careful management of the quarry should reduce any potential problems with lower strength rock associated with the secondary mineral contamination. This quarry will continue to be an important resource as reserves are estimated to be sufficient for more than 20 years (O'Flynn, 1992).

Purga Quarry (IPS 750300): Boral Resources (Qld) Pty Ltd produced in excess of 200 000 t from this quarry in 1994/95 at Purga, south of Ipswich. Dark grey, fine-grained intrusive basalt occurs as a thick, steeply dipping sill underlain by weathered sandstone. On acquisition by Boral, production was initially confined to crushing stockpiled spall material at their riverside plant at Goodna and removal of overburden from the pit. However, the company reopened the faces and relocated its crushing plant from the Jimboomba quarry to supply the Ipswich market with crushed screenings. Investigations indicate that resources are adequate for 20 years supply at a moderate production rate and could be increased depending on the development option chosen.

Bromelton Quarry (IPS 932030): The Bromelton Quarry is a small quarry south west of Beaudesert which has been operated by the Beaudesert Shire Council for over 30 years. The quarry supplies bitumen screenings and pavement gravel for local council requirements. Production in 1994/95 was approximately 53 000 t.

The quarry is situated on a low hill of massive basalt which contains minor olivine. Surface weathering is shallow and rock quality is good producing a high quality, strong and durable rock. Minor secondary mineral alteration does occur, but is not considered a problem. Drilling of the eastern deposit confirmed very large reserves of similar good quality rock. This deposit has now been incorporated into the town plan as an extractive site. Coupled with its very close proximity to the railway line this deposit will be an important source of aggregate for Beaudesert Shire and southern suburbs of Brisbane.

Aratula Quarry (IPS 571087): Boral Resources operates the **Aratula Quarry**, also known as **Pineridge Quarry**, adjacent to the Cunningham Highway north of Aratula. Columnar-jointed, intrusive trachyte of Tertiary age is worked in an almost closed excavation for the production of crushed aggregates (largely road-sealing aggregates) and road bases for the Transport Department and a number of Local Governments as far afield as Redland and Glengallan Shires. Production in 1994/95 was <50 000. Past production rates have been in excess of 200 000 t, but severe water restrictions prevented further use of the pit during 1994/95.

Toowoomba Quarries: Three major quarries operated by Quarry Products Pty Ltd (Harlaxton Quarry, TOO 977 543), CSR Readymix (Glenvale Quarry, TOO 904497) and Wagners Quarries Pty Ltd (Malu Quarry, MIL 582748) supply in excess of 900 000 tpa of crushed rock to the Toowoomba district. The Harlaxton and Glenvale quarries are located very close to Toowoomba City while the Malu quarry is some 45 km west of Toowoomba.

The Harlaxton quarry (a former Queensland Railways quarry) is located on the eastern slopes of the Toowoomba Range while the Glenvale Quarry is located approximately 2.5 km southwest of Toowoomba. Both quarries produce aggregate for screenings, concrete aggregate and pavement gravels with ballast also produced at Harlaxton. The crushed rock is distributed to numerous Shires including Toowoomba, Glengallan, Gatton, and Clifton Shires as well as private contractors. Reserves in the Harlaxton quarry are very large. The Glenvale quarry has limited reserves, but CSR hold large resources within their Well Camp deposit southwest of Toowoomba.

The Malu Quarry (a former Queensland Railways quarry) is a large quarry west of Jondaryan located adjacent to the Malu Siding. Because of its convenient location to the railway line, high quality crushed rock products (ballast, aggregates and pavement gravels) are distributed as far north as Wondai Shire. The quarry has only limited resources available with probably less than 5 years of reserves remaining. Future resources are held by Wagners at their Well Camp site (near CSR's deposit) in Toowoomba.

All three quarries and the Well Camp sites are located in olivine basalts of the Main Range Volcanics. The basalts flows overlie the Walloon Coal Measures. Columnar jointing is widespread among the deposits and is commonly between 0.3 m and 0.5 m in diameter. Weathering varies from site to site, but generally is between 2 and 4 m. Where the deposit is made up of several flows, flows are commonly separated by weathered zones which must be carefully managed. The major source rock is slightly weathered olivine basalt of good strength and durability. The olivine is slightly altered to a green clay (iddingsite) which in small portions is not deleterious to the strength and durability of the aggregate. Good quarry management is required to maintain quality control. These deposits will continue to be a major source well into the future.

Well Camp Deposits : CSR (TOO 832 515) and Wagners (TOO 828 518) hold very large reserves of olivine basalt of the Main Range Volcanics in this area. Reserves in the Wagners deposit alone are estimated at 70 million t. These deposits along with those held in the Harlaxton quarry form the major source of quarry rock material for the Toowoomba and surrounding districts for well into the 21st century.

Fisherman's Quarry (BRI 517626), TAZI Quarry (BRI 512623): South of Point Lookout, these quarries are intermittently worked by the **Redland Shire Council** and **Consolidated Rutile Ltd** as a source of road-base and road-maintenance gravel for North Stradbroke Island. The quarries are sited in a thick sequence of moderately to highly weathered fluidal rhyolite of Triassic age. Crushed road bases are intermittently produced by mobile crusher and stockpiled. Resources remaining at the site are large relative to the current or production rate. Although total production from the above two quarries is small, they are particularly important since they are sited within the only sizeable deposits of quarry rock on the island.

Potential Resources

Potential resources in the Sheet area are described below. Each resource area should be checked for potential residential development, particularly along the coastal regions.

- Rm1** Limited testing of basalt at Round Mountain has shown that the rock is suitable for use in concrete aggregate. The depth of weathering is variable. The Caboolture Shire Council has removed some material from the site.
- Rm2** A zone of hornfels on the southern boundary of the Neurum Tonalite, west of Bracalba, consists of contact metamorphosed rocks of the Kurwongbah beds. Mines Department drilling (O'Flynn and others, 1983) investigated the quality of the rock which should be suitable for concrete aggregate and road pavement gravels. Some of the hornfels to the east is held as reserves for Alzino's quarry. This resource extends into State Forest 2563.
- Rm3** Two small outcrops of massive greenstone occur southeast of Rocksberg. One of the deposits was investigated by the Department of Mines and found suitable for concrete aggregate, road pavement gravels and bitumen screenings. These areas are now probably too closely settled for development.
- Rm4** In this resource area rocks of the Kurwongbah beds and the Rocksberg Greenstone have undergone contact metamorphism as a result of the intrusion of the Dayboro Tonalite. This resource includes the Boral Narangba Quarry which is extracting hornfels and metamorphosed greenstone. Pioneer have recently investigated the northwestern part of the resource. Although no attempt has been made to exploit the Dayboro Tonalite, possible quarry sites exist in the area.
- Rm5** The available areal extent of greenstone surrounding the Petrie and Whiteside quarries is not known. However further resources may exist in a massive band extending into private forested areas to the northwest toward Narangba.
- Rm6** In the Upper Cedar Creek area east of Mount Glorious, Highvale and Jollys Lookout are zones of hornfels derived from contact metamorphism of the Neranleigh Fernvale beds. Areas of greywacke and greenstone were also identified by O'Flynn and others (1983). Because of the scenic nature of this area, difficult access and proximity to residential development it may be difficult to quarry these resources

Resource	State Forest	Crown Land	Forested area	Non-Forested
Rm1			Y	
Rm2			Y	
Rm3			Y	
Rm4	SF932	Y	Y	Y
Rm5		Y	Y	Y
Rm6	SF393		Y	
Rm7			Y	
Rm8	SF124		Y	
Rm9	SF256		Y	
Rm10	SF689		Y	Y
Rm11			Y	Y
Rm12	SF1239		Y	
Rm13		Y	Y	
Rm14	SF368		Y	
Rm15	SF249	Commonwealth	Y	
Rm16			Y	Y
Rm17			Y	
Rm18	SF832		Y	
Rm19	SF832			
Rm20	SF589	Y		Y
Rm21	SF589/611			Y
Rm22	SF589/611			Y
Rm23	SF589			Y
Rm24				Y
Rm25				Y
Rm26				Y
Rm27	SF12		Y	Y
Rm28				Y
Rm29				Y
Rm30			Y	Y
Rm31				Y
Rm32				Y

Rm33			Y	Y
Rm34				Y
Rm35				Y
Rm36				Y
Rm37				Y
Rm38				Y
Rm39				Y
Rm40				Y
Rm41				Y

- Rm7** This resource surrounds the Pioneer Levitt Road quarry in the Enoggera Granite and includes hornfelsed phyllite of the Bunya Phyllite. Parts of the area are close to residential development.
- Rm8** Potential resources of quarry rock, including gabbro and granophyre of the Somerset Dam Igneous Complex, and associated hornfelsed andesite of the Neara Volcanics are exposed immediately west and southwest of the dam wall. The hornfels was utilised for concrete aggregate for Somerset Dam. The area is located 25 km northeast of Esk and is considered as a long term resource only. Part of the resource occurs in State Forest 637.
- Rm9** Small resources of rhyolite occur in the Mount Byron Volcanics north of Mount Byron. The area is remote and the deposits are of local use only. Part of the resource is in State Forest 893.
- Rm10** A large rhyolite intrusion west of Crossdale, and approximately 15 km east of Esk, is considered as a long term resource. Testing is required to determine its suitability for use in concrete aggregate, however the site has minimal overburden.
- Rm11** Andesite deposits east of Crossdale were identified by O'Flynn and others (1983) as potential resources. The remoteness of the area indicates that these are long term resources only.
- Rm12** Numerous small bodies of chert, quartzite and greenstone in the Neranleigh Fernvale beds have been identified northeast of Northbrook. Limited testing of some areas was undertaken by the Water Resources Commission. Bitumen screenings have been produced from quartzite and greenstone. The resources are within the Wivenhoe Dam catchment and partly in State Forest 809.
- Two dolerite deposits west of Billies Crossing have also been investigated by the Water Resources Commission. These resources are also in the dam catchment.
- Rm13** Deposits of chert and quartzite have been identified in this area. Because of the thin bedded nature of the sequence the materials are probably only suitable for use as road pavement gravels.
- Rm14** Although extensive resources within the Karana Quartz Diorite, held by Boral, and within the Brookfield Volcanics (Pioneer) have been identified for many years, development approval has been withheld. Extensive residential development has occurred in the immediate area. These two deposits are the most significant undeveloped resources close to the metropolitan area.
- Rm15** Although quartzite bands have been identified in the Mount Petrie area, the land is part of the Belmont rifle range and is probably no longer available for development.

- Rm16** This resource covers rhyolite in a quarry reserve and on crown land south of Point Lookout. The rock is suitable for use as pavement gravels, but may not be suitable for bitumen screenings or concrete. High quality crushed rock will probably need to be imported.
- Rm17** Northwest trending bands of quartzite at Mount Cotton are included in this resource area. The southern end of the resource is worked by the Barro Group while Boral Resources (Karreman Bros) worked the northwest. Closer settlement would probably preclude development of any new sites.
- Rm18** The geology of this area has been described under the heading Stapylton Quarries. No resource estimates are available.
- Rm19** The geology of this area has recently been reviewed by the Department of Mines and Energy. Extensive resources remain in all quarries and a new development is planned by Excel in the northwest of the resource. Boundaries of this area may be affected by residential development.
- Rm20** This resource covers extensions of the large Hymix Quarry at Nerang into State Forest 571. The geology of the area and the size of the resource is not known.
- Rm21** Large resources of weathered basalt of the Lamington Group forms Mount Tabragalba east of Beaudesert. Several flows with a total thickness of 150 m are present in the area. Road pavement gravels have been supplied from a quarry in the area.
- Rm22** Potential resources of fine grained basalt have been identified, and worked along the Birnam Range northeast of Beaudesert. Concrete aggregate for Beaudesert has been supplied by Finglas from the area.
- Rm23** The Bromelton resource area occurs west of Beaudesert. The resource consists of a basalt capped hill which has been worked at the western extremity by the Beaudesert Shire Council (IPS 932030). Large resources have been proved and overburden minimal. The Close proximity to the interstate railway line make the deposit a very significant long term resource..
- Rm24** Extensive resources of variably weathered trachyte occurs in the Mount Juillerat area south of Redbank Plains. The quality of the material produced was variable. The Mount Juillerat quarry has reportedly been reopened.
- Rm25** Extensive resources of variably weathered dolerite occur between Warrill Creek and Purga Creek south of Amberley. The material is mainly used for bedding sand, fill and maintenance of local roads.
- Rm26** This resource covers the Purga Quarry operated by Boral Resources. Part of the development covers an extension of Morrows Road (crown land).
- Rm27** Variably weathered dolerite is exposed along the western side of the Peak Crossing dolomite deposits. The material can be used for low quality maintenance gravels and fill.
- Rm28** Large resources of rhyolite and trachyte exist in intrusive plugs in the Flinders Peak area. Because of the scenic nature of the area establishing a quarry would be controversial.
- Rm29** Basalt resources at Mount Marrow are important because of their location adjacent to the Warrego Highway. Basalt screenings from Mount Marrow are widely used. Development of the resource at Perrys Knob to the west of Mount Marrow appears impossible because of the diverse ownership of the site.
- Rm30** Weathered basalt and dolerite are located between Warrill View and the Bremer River at Rosevale.

- Rm31** Drilling by the Department of Mines (Willmott and others, 1979) at Coleyville indicated less weathered material at depth suitable for bitumen screenings and road pavement gravels. Recent private drilling on **RM31** has downgraded the site because of variability.
- Rm32** Large resources of trachyandesite occur at Kangaroo Mountain near the Boral Aratula Quarry. Good quality rock suitable for road pavement gravels should be available at shallow depths.
- Rm33** Similar material is reported to occur along the foot hills of Mount Frazer. However the site is distant from the major markets, and resources adjacent to the Aratula Quarry appear to be sufficient for the foreseeable future.
- Rm34** Resources of basalt at Mount Whiteside quarry and at Paradise Creek were identified by Willmott (1987) as important sources for Gatton Shire. The ready availability of basalt from large quality assured quarries in Toowoomba should reduce the demand for material from this area.
- Rm35** Basalt resources worked by the Crows Nest Shire Council at Mount Cooby is of importance, however flatter slopes than that previously worked would be needed to establish a major quarry.
- Rm36** This resource covers the existing quarry at Harlaxton on the northern outskirts of Toowoomba and is conveniently located on the rail line.
- Rm37** Rural residential development around the CSR Readymix quarry at Glenvale in Toowoomba may curtail quarrying in the medium to long term. Drilling within the quarry has shown that there are at least two basalt flows. Although the upper surface of the lower flow is deeply weathered, quarrying should be able to work through the layer to the underlying fresh rock, provided development approval is given.
- Rm38** At Wellcamp extensive resources of high quality basalt are being developed by Wagner's. The adjacent CSR Readymix resource has been mothballed because of the downturn in the building industry. These deposits are close to the main road and rail links.
- Rm39** O'Flynn (1980) reported that a major basalt scree slope east of Hodgson Vale appeared to have potential as a future source of quarry rock.
- Rm40** This resource surrounds the basalt quarry operated by the Rosalie Shire Council and Main Roads. The importance of this pit will increase when the Malu quarry is exhausted.
- Rm41** This resource covers the important Malu quarry in the western part of the Region.

SAND AND GRAVEL

There are three important types of sand and gravel resources within the sheet area. They are:

1. Riverine - both in and off-stream, including gravel and sand of the Brisbane, Pine, Coomera and Logan Rivers and Buaraba Creek and sand of the Lockyer and Oxley Creek systems.
2. Coastal and estuarine sediments particularly at Beachmere, Meldale - Donnybrook, and Jacobs Well
3. "Hard rock" sources in the Helidon Sandstone.

Residual deposits of sand are mainly small and of local importance only. An exception are extensive residual deposits of fine sand located west of Clifton, outside of the Biogeographic Region boundary, which supply the concrete markets across the southern Darling Downs and into New South Wales.

Because all resources are outside of State Forests and generally outside of forested areas no attempt was made to determine the location of operating plants. Details of workings and potential resources along the Brisbane River upstream of Colleges Crossing are detailed in reports by the Department of Primary Industries (1995a, 1995b). Information on the Lockyer Valley is given in the first report (Department of Primary Industries, 1995a).

Sand and gravel are currently being extracted from the Brisbane River system (including tributaries) from areas upstream of Wivenhoe Dam and downstream toward Colleges Crossing. Materials comprise quartzite, chert, greywacke and volcanics, with the gravel being the major fraction. As with all in-stream extraction pressure is being applied by public interest groups to stop all work. Although large off-stream extraction is in progress or planned for some areas upstream of Wivenhoe Dam, the extent of allowable development in the catchment area is not known.

Sand resources in Lockyer Creek are important local sources of materials particularly for the Darling Downs area. Sand with minor gravel occurs along the alluvial flats of Buaraba Creek north and northwest of Atkinsons Dam. The gravels comprise volcanics derived from the Esk Group and Cressbrook Creek Group.

Sand resources along Oxley Creek, southwest of Brisbane, are largely depleted. The only large resource remaining is that of CSR Readymix (BEE 000436). Resources of sand along the upper reaches of Logan River, Teviot Brook and Woollaman Creek are limited to small off-stream deposits. Resources in the lower reaches of the Logan River near Beenleigh are still available, however expanding residential development may prevent further development. Gravel and sand have been dredged from the tidal reaches of the Brisbane River for many years, but resources are now almost exhausted upstream of the city. Access to resources downstream is still to be negotiated. Resources of sand and gravel along the Pine River system and the Coomera River are still significant, but are limited.

On-shore coastal and estuarine sediments north and south of Brisbane are of importance because of their location, size and particle size distributions. In the Meldale - Donnybrook area (BRI 045110), drilling by CSR Readymix has shown that fine to coarse grained sand is interbedded with estuarine clays.

At Beachmere Southern Pacific Sands are developing a major deposit (BRI 082043, ML 50088) for use as construction sand (concrete aggregate, bedding sand, golf course sand, top soil), in foundry applications and possibly in glass. The sand is fine to medium grained, quartzose and sub-rounded to rounded. In parts of the resource coffee rock layers have been intersected. To the northeast Pioneer Concrete are extracting concrete sand, while Bribie Industrial Sands have operated a foundry sand plant on ML 50064.

In the Jacobs Well area several plants are producing sand from estuarine / coastal sediments. The largest operations are those of Laming (BEE 340272) and Norwell Sands (BEE 328269). Sands suitable for concrete, asphalt and road base fillers, as well as soil, brickies loam and fill are produced.

Residual sand derived from in-situ weathering of the Helidon Sandstone is being worked northeast of Helidon by Stephens (HEL 154550) for use as concrete sand and to manufacture artificial sandstone. Others such as Helidon Sand and Gravel are extracting sand for concrete and fill sands for local use.

Potential Resources

- Sd1 - Sd3** Potential resources of variable size exist along the majority of streams within the Sheet area, east of the divide. Many of the resources are too distant to warrant development, although changing growth patterns and exhaustion of current workings will change this assessment. Apart from development applications made by Rocla near Toogoolawah (ESK 365014 and 445008) and by Boral in the England Creek area (CAB 645653) no potential resources have been identified in riverine systems on this sheet.
- Sd4** Based on the drilling data from the Meldale deposit and a study of the local topography, it appears that similar resources may exist in the Ningi Creek - Toorbul area. Development applications for resources in this area must satisfy the requirements of the Pumicestone Passage Management Plan.
- Sd5** Extensive resources of dune and estuarine sands exist in this resource area, part of which has been lost to development. Within the resource area Southern Pacific Sands are investigating an area southwest of ML 50088 (BRI 060028), while Excel have an interest in a resource on Wallace Road north of Beachmere (BRI 048017)
- Sd6** Extensive resources of sand have been identified by the Department of Mines in the Jacobs Well area. However land within the area is used for the growing of sugar cane and as such is classified as agricultural land which can not be used for other purposes which prevents its use for agriculture. The Gold Coast City Council Strategic Plan records the presence of these resources, but does not yet provide any zoning to allow for potential extraction.
- Sd7** Very large resources of mainly medium to coarse grained and pebbly sandstone occur in the Helidon Sandstone north of Helidon. Exploration for building stone has shown that the potential extraction horizon is generally underlain by coarse grained quartzose sandstone and some lessees are investigating use of the resource which was intersected in GSQ Ipswich 9, a stratigraphic hole drilled on the northeastern outskirts of Helidon. Initial investigations suggest that the target material will require sophisticated equipment to meet product and environmental specifications.

A number of unsuccessful attempts have been made to manufacture sand from the Woogaroo Sub-group in the area south of Redbank Plains. All appear to have failed because of problems associated with the removal and disposal of clays in the sandstone.

CLAY

The most important resources of structural clay in southeast Queensland are the pale burning shale and carbonaceous shale of the Ipswich Coal Measures and the Bundamba Group around Ipswich and Rochedale, and the Landsborough Sandstone at Narangba. Units of the Bundamba Group are exploited by the small brick works at Toowoomba and Warwick. Tertiary sediments at Dinmore, Oxley, Darra and Strathpine are also exploited together with argillite from the Neranleigh Fernvale beds at Westlake and Redland. Some clay resources are also recovered from coal mining in the Walloon Coal Measures at the Ebenezer and Jeebropilly mines west of Amberley. The location of clay leases in the Ipswich Coal Field are shown in Figure 8.

Current Operations

Bricks

Major brick plants producing bricks and pavers are operated in the Brisbane area by The Austral Brick Company Pty Ltd (Rochedale), Boral Bricks (Qld) Limited (Darra), Nubrick (Dinmore) and Monier PGH Holdings Pty Ltd (Oxley and Strathpine). Toowoomba Country Brickworks operates a small plant at Kleinton, north of Toowoomba, while Warwick Brickworks Pty Ltd operates one kiln in Warwick. Claypave Pty Ltd at Dinmore produce a range of pavers.

Austral Brick operate a large plant adjacent to MLs 1151 (BEN 112520), 1156 (BEN 111514), 1165 (BEN 114524), 1166 (BEN 121517) and 1152 (BEN 140488) which supply light burning clay and shales from the Marburg Formation. The company also operates ML 50035 (BEN 262433) at Redland Bay and sources material from the adjacent ML 50010 (BEN 268432), which is a lease covering the Redland Shire Council pit.

Boral Bricks plant at Darra draws its supplies from pits at Ipswich, Strathpine and Westlake. The base material is light burning shale, siltstone and sandstone from the Triassic Blackstone Formation on ML 4622 (IPS 837433) at Cooneana in the Ipswich coalfield. Plastic, dark burning clay of Tertiary age is sourced from MLs 1106 (CAB 960782) and 1171 (CAB 963780) at Strathpine, while dark burning shale and siltstone from the Neranleigh Fernvale beds is extracted from ML 1154 at Westlake (IPS 915524) for use as a dark firing colorant.

Nubrick operate a modern plant at Dinmore and purchase clay from a number of sources in the Ipswich area, in particular from ML 50115 (IPS) operated by Oceanic Coal Australia Limited.

PGH plants at Oxley and Strathpine source clay, siltstone and shale from the Tertiary Petrie Formation at Strathpine on MLs 1168 (CAB 959787), 1169 (CAB 966781) and 1170 (CAB 969787). PGH also operate a number of sites at Dinmore where light burning clay and shale is extracted from pits in the Blackstone Formation, the Tertiary Redbank Plains Formation and from stockpiled overburden from previous coal mining operations. Leases worked in this area include MLs 4552 (IPS 838461), 4604 (IPS 841466), 4639 (IPS 838467), 4640 (IPS 842466), 4706 (IPS 840466), and 50028 (IPS 837465).

PGH also operate 5 mining leases at Greenwood Village in the Ipswich coalfield where shale of the Blackstone Formation and sandstone, conglomerate, shale and siltstone of the Aberdare Conglomerate and Raceview Formation occur in MLs 4628 (IPS 832407), 4629 (IPS 833410), 4632 (IPS 831403), 4644 (IPS 828387), 4654 (IPS 833411), and 4713 (IPS 833413). PGH also operate leases in weathered shale and siltstone of the Landsborough Sandstone north of Narangba on MLs 1111 (CAB 952928), 1114 (CAB 952929), 1125 (CAB 948926), 1131 (CAB 951928), 1134 (CAB 950924), 1135 (CAB 953925), 1138 (CAB 953926) and ML 1128 (CAB 964912) east of Narangba. PGH also hold ML 1101 (BRI 114 618) at Murarrie in Brisbane where weathered shales of the Ipswich Coal Measures have been worked in an old pit.

Warwick Brickworks operate ML 50065 located in the Marburg Formation approximately 6km south of

Warwick on the New England Highway. The company extracts a weathered shale which is interbedded with thick sandstone beds to produce a range of light to dark fired products in a wood fired kiln.

Toowoomba Country Brickworks produces a wide range of bricks in coal fired kilns at Kleinton, north of Toowoomba. The plant was established in 1952. The company operates leases held in the name of Clayware MLs 5950, 5960, and 5963 (OAK 972652, 974652, 976650) in a weathered sequence of micaceous shale, mudstone and sandstone of the Marburg Formation underlying Tertiary basaltic clay.

PGH previously operated a plant at Kleinton utilising clay from ML 5974 (OAK 970660) in the works formerly owned by John Brazier Pty Ltd which opened in the early 1900's. The sequence in the pit comprises micaceous shales and fine grained clayey sandstone of the Marburg Formation.

Claypave extract clay, claystone and shale from pits in the Redbank Plains Formation and Blackstone Formation on MLs 4553 (IPS 834462), 4559 (IPS 826459), 50070 (IPS 838442) and 50077 (IPS 828460) at Dinmore. ML 4642 (IPS 830463) is operated by M & JL Feeney Pty Ltd for clays which are supplied to the pottery industry.

Bentonite

Although bentonitic clays were recorded in the many collieries developed in the Rosewood area in the early to middle part of this century, the potential of the Walloon Coal Measures to produce high quality bentonite was not recognised until the opening of the large open cut mines at Ebenezer and Jeebropilly. Bentonite horizons up to 1.5 m thick are extracted from the lower part of the sequence in ML 4712 (IPS 650380) by Idemitsu South Queensland Coal Pty Ltd. Sold under the brand name Ebenite, the bentonite is used in stock food, kitty litter, wine clarification and as an absorbent. These resources are only economic as a by-product of the coal mining.

Potential Resources - Brick Clays

Clay resource investigations by the Department of Mines in the 1970's concentrated on the alluvium throughout the southeast of the state. Unfortunately most of the industry no longer uses alluvial clays and the results have only limited use.

Boral Bricks are currently exploring EPMs for clay resources in areas around Ipswich (surrounding ML 4622), Redland Bay (Neranleigh-Fernvale beds), Amberley (Walloon Coal Measures and Marburg Formation, Tertiary and Quaternary units) and Mount Crosby (Karana Quartz Diorite). PGH have also been undertaking similar resource studies.

Potential resources of clay in the Neranleigh Fernvale beds south of the Brisbane River are limited by the nature of the parent rocks which include massive greenstone and quartzite with minor argillaceous units. An exception appears to be the area surrounding the clay pits at Redland Bay. North of the Brisbane River the unit is less thickly bedded, is steeply dipping, indurated and contains more argillaceous units. A laterite profile developed on the unit in the Kholo area north of Ipswich contained only limited dark firing materials. The potential of the weathered Neranleigh Fernvale beds between Pine Mountain and Wivenhoe Dam has not been investigated.

Some drilling was undertaken in the Walloon Coal Measures near Ebenezer mine on the Ipswich 1:100 000 sheet. Although tests indicated that the clay fired to yellow brown, brown and dark brown colours, surface continuity was difficult to predict. Utilisation of materials derived from coal mining operations will depend on coordination between supplier and end user and the provision of stockpile areas. Recent investigations based on deeper, widespread drilling have shown that some parts of the sequence contain appreciable quantities of bentonitic materials which markedly affect the shrinkage of the ware.



Active Layers
(Cadastral Background
Mining Lease)

FIGURE 6A

Mining Leases
Iron-ore Coalfield

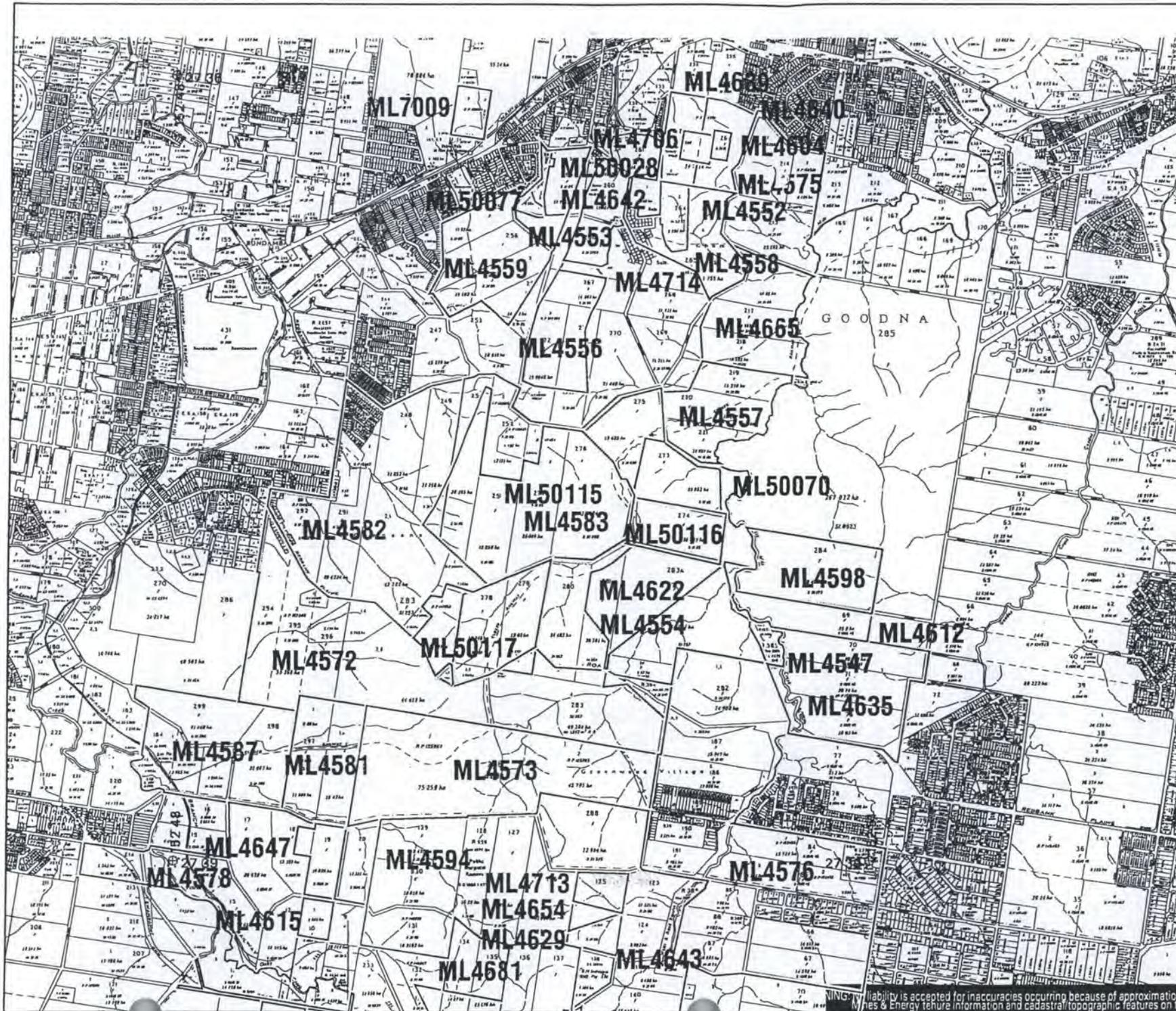
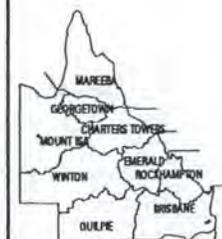
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Requested By: pmutzleb

Date: 04 Sep 96

Time: 4:57 PM



Liability is accepted for inaccuracies occurring because of approximations between Mines & Energy tenure information and cadastral/topographic features on this diagram

DEPARTMENT
OF MINES
AND ENERGY



Active Layers
Cadastral Background
Mining Lease

FIGURE 6B
MINING LEASES
IPSWICH COALFIELD

Projection: Transverse Mercator
Zone: 56

Scale 1:25 000
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Requested By: pmutzelb
Date: 04 Sep 98
Time: 4:35 PM



- CI 1** Potential clay resources in the Ipswich coalfield are restricted to those that are currently being exploited. Many of the coal mining leases in the Ipswich area (Figure 6a, 6b) held by Oceanic Coal Australia Limited, Showa Coal Australia Pty Ltd, Andrew Wright Holdings Pty Ltd, New Whitwood Collieries Pty Ltd and New Hope Collieries Pty Ltd are also held for brick clay and shale. Material from some of these lease is utilised for brick manufacture, particularly by Nubrick. Coal leases in the Rosewood - Amberley area held by Idemitsu South Queensland Coal Pty Ltd, Jeebropilly Collieries Pty Ltd / New Hope Collieries Pty Ltd are also held for clay and shale.
- CI 2** Potential resources of structural clays which fire to brown and orange tan colours were identified by drilling in the Landsborough Sandstone northeast of Caboolture. Much of the resource is low lying and subject to flooding., and some has been developed as industrial land. Resources at Narangba, Burpengary and Caboolture have already been lost to rapidly expanding residential development.
- CI 3** Resources in the Landsborough Sandstone at Beachmere (BRI 053038) fire to tan, yellow-cream, brown, and pale terra cotta. The area lies partly within State Forest 611 and land formerly used for softwood plantations.
- CI 4** Potential resources of dark burning, weathered phyllite exist in the Rocksberg Greenstone and Kurwongbah beds northwest of Narangba.
- CI 5** Potential resources of clay occur adjacent to MLs 50035 and 50010 in the Neranleigh Fernvale beds at Redland Bay. The extent of available clay is restricted because of variable depth of weathering and the presence of quartzite bands.

BUILDING STONE

The main area producing building stone within the Biogeographic Region is at Helidon where four companies are currently producing sandstone for the domestic and export markets. The largest operation is that of J.H. Wagner and Sons Pty Ltd (ML 5006) northeast of Helidon. Processing of stone is undertaken at a large plant in Toowoomba. Other operations include Comerford Sandstone (ML 5007) Australian Sandstone Industries (ML 50016) and Helidon Sandstone (MLs 50094 and 50110).

The location of other leases and Exploration Permits in the area are shown in Figure 7. Existing operations are on private land, but the reserves continue into State Forest.

Areas previously worked for building stone include Brisbane for Brisbane Tuff and sandstone, Moggill for sandstone, Camp Mountain and Enoggera for granite, Karana Downs for diorite, and parts of the Neranleigh Fernvale beds for greywacke, and slate for general landscaping.

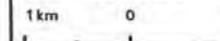


Active Layers
Cadastral Background
Mining Lease
Mineral Exploration Permit

FIGURE 7
EXPLORATION
TITLES
HELDON AREA

Projection/Transverse Mercator
Zone: 56

Scale 1:50 000



Requested By: pmutzelb

Date: 04 Sep 86

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NOTE: No liability is accepted for inaccuracies occurring because of approximations between Mines & Energy tenure information and cadastral/topographic features on this diagram



TWEED SPECIAL SHEET

The major population centres within this sheet are the southern end of the Gold Coast City, Beaudesert Shire, Warwick (outside of the Biogeographic Region) and the Tweed area of New South Wales.

SUMMARY - Significance of State Forests

Although State Forests (and National Parks) cover a large part of the Biogeographic Region within the Sheet area, no major quarries are located within State Forests. All resources in the area are considered significant for the development of Gold Coast City, which has been growing consistently for the past 30 years. The area is continuing to expand and is a large consumer of crushed quarry material. Only part of potential resource Rm4 is located within State Forest.

The southern Beaudesert Shire although not very populated contains deposits of basalt which may become important future sources of quarry rock for the expanding southern Brisbane districts. The far western margin of the South-East Biogeographic Region lies east of Warwick.

There are no resources of sand or clay within State Forests in the Tweed Sheet.

QUARRY ROCK

West Burleigh Quarry (MUR 410907)

Burleigh Quarry (MUR 408907)

Tallebudgera Quarry(MUR 408876)

Eastments Ridge Quarry (WAR 077842)

There are four major quarries within the Tweed Special Sheet. Three of the quarries located in the Tallebudgera - Burleigh Heads area are sited in meta-greywacke and quartzite of the Neranleigh Fernvale Beds. The fourth is sited in basalt northeast of Warwick at Eastments Ridge. This quarry is outside the Southeast Queensland Biogeographic Region, but is included in this report as it is a major supplier of crushed rock for the western part of the region.

Current Workings

Small pits and scrapings scattered throughout the sheet which have traditionally been a source of low quality pavement material suitable for road construction and fill have mostly been abandoned. In general, most of the material is supplied by the larger quarry operations.

West Burleigh Quarry (MUR 410907): The strategically placed West Burleigh Quarry is operated by Boral Resources. It is a major supplier of crushed quarry rock supplying in excess of 500 000 t/yr to the Gold Coast markets. The aggregates are used for screenings, asphalt and concrete aggregate and pavement gravels.

West Burleigh Quarry is sited in a major meta-greywacke band of the Neranleigh Fernvale Beds which forms a significant deposit that has been worked by various operators for several years. The meta-greywacke is moderately weathered to fresh with some interbedded argillite. Highly weathered basalt caps the deposit. The meta-greywacke is strongly abrasion resistant and durable. The rock has a tendency towards flakiness. Minor interbedded argillite unsuitable for crushed rock purposes occurs in the area.

Reserves are estimated to be in excess of 10 years (O'Flynn, 1992) However, even though the land is zoned Extractive Industry, encroachment on its flanks particularly to the east by residential development will prevent full utilisation of the resource.

Burleigh and Tallebudgera Quarries: Two large quarries operated by the Gold Coast City Council (MUR 408 907) and Newmann Dredging (MUR 408 876) respectively are major suppliers of road pavement gravels to the Gold Coast area. Between them they produce in excess of 150 000 tpa.

The quarries are located in quartzite of the Neranleigh Fernvale beds. Typically the steeply dipping quartzite is interbedded with phyllite, argillite and shales. The rock is moderately to slightly weathered with brown iron staining throughout. The material produced from these quarries is not high quality and is only suitable for road pavement material. Reserves of quarry rock at the Burleigh Quarry is considered large with 30 years reserves (O'Flynn, 1992). Reserves at the Tallebudgera Quarry is limited.

Eastments Ridge Quarry (WAR 077 842): Eastments Ridge Quarry is located northeast of Warwick and is worked by the Main Roads Department for asphalt screenings and pavement gravels. The quarry is outside the study area, but has a wide area of influence supplying local Shires including Warwick City Council and Glengallan, Rosenthal, Clifton, and Allora Shire Councils, many of which are in the study area. The aggregate is also suitable for concrete aggregate and bedding sand and several private operators are supplied material for these purposes.

The quarry is sited in a basalt flow of the Main Range Volcanics. The flow is the middle and thickest of a series of three at the site. Slightly weathered to highly weathered rock overlies the slightly weathered rock at depth. Green clay contamination in the flow is considered deleterious to the rock quality. Reserves in the immediate area are considered to be large.

Potential Resources

The two major rock types used in the Gold Coast area are greywacke and quartzite of the Neranleigh-Fernvale beds. Massive quartzite similar to that at Stapylton is not common in this Sheet area. Most is similar to that near Burleigh producing low quality pavement material not generally suitable for crushing. Numerous deposits have been identified by Willmott and others (1978), however, because of their small size and poor quality these deposits have not been included in this report. Greywacke deposits are more significant as they can provide a range of products. Many of the deposits outlined by Willmott and others (1978) particularly those close to the coast have now been overwhelmed by settlement.

Basalts of the Lamington Group and the Main Range Volcanics cover extensive areas, but much is deeply weathered or outcrops in steep scenic terrain. Actual deposits are hard to locate. However, some of the basalt close to Beaudesert forms important reserves for the southern Brisbane area. Those close to the railway line are of particular importance.

Rm1 Bonogin Creek Willmott and others (1978) reported that large reserves of moderately weathered greywacke outcrop as scree slopes over a very large area suggesting that greywacke may occur along the entire ridge. However, rural and urban development have now overwhelmed this deposit.

Resource	State Forest	Crown Land	Forested Area	Non-Forested
Rm1		minor	Part	Y
Rm2				Y
Rm3			Y	
Rm4	SF 702	Y	Y	
Rm5			Y	
Rm6				Y

Rm2 Several small deposits of greywacke between Mudgeeraba and Nerang were outlined by Willmott and others (1978). Most of these reserves have been lost to development. These deposits have been included in the deposits, but are not considered significant.

Rm3 Large reserves of greywacke occur in the hills west of the Nerang River near the Advancetown Dam. The terrain is very steep making any potential quarry difficult to work and conceal. Although these deposits are some distance from the Gold Coast market, they may be quite significant in the longer term because of the alienation of deposits close to the coast.

Rm4 Massive to slightly weathered greywacke exists east and west of the Little Nerang Dam. The rock has been worked for concrete aggregate during the construction of the dam and is therefore capable of being used for crushed aggregate purposes. The area is very steep and would be very difficult to work. These deposits are still considered a significant source with long term significance for the Gold Coast area. The entire deposit is covered by forest and the northern half of both deposits lie within State Forest 702.

Rm5 Rhyolite of the Chillingham Volcanics will continue to provide the Canungra area with good quality pavement gravel. The rhyolite has a shallow soil and can easily be ripped to provide pavement gravel. The rock is also suitable for crushing for top quality pavement gravel. Several areas have been outlined east and southeast of Canungra in which very large reserves of rock are available. The southern deposit is very steep and would be difficult to work.

Rm6 Basalts of the Lamington Group form extensive ranges to the south of Beaudesert on either side of the Albert River Valley. The basalt is generally highly to completely weathered near the surface and has a variable depth of weathering. Favourable areas where slightly weathered rock occurs close to the surface similar to the deposit at Bromelton are likely to occur within the outlined areas. Abundant slightly weathered scree slopes occur within these areas. Further prospecting would be worthwhile along Spring Creek (MUR 010 930), Duck Creek (MUR 050 860) and Running Creek MTL 890 760).

Abundant reserves of rock occur in the area for local consumption. The main significance however, is the areas potential to supply crushed rock to the southern Brisbane districts. Those deposits close to a railway line will be best placed for this purpose.

SAND AND GRAVEL

There are no major operators of sand and gravel in the Tweed Special Sheet. Most of the sand is supplied from deposits in the Coomera and Logan Rivers to the north and the Tweed River to the south. Sand and gravel is worked in small quantities in the upper Logan River south of Beaudesert (MTL 898 904) by Mr Cockburn. The sand is used locally for concrete sand and gravel. Sand and gravel has long been extracted from Currumbin Creek, but extraction has all but ceased and reserves are almost exhausted.

Potential Resources

Large reserves of sand (particularly well graded fine to medium sand) and gravel associated with tidal delta, dune and alluvial deposits occur along the coastal margin of the sheet as outlined by Willmott and others (1978). However, most if not all of these deposits are either alienated by development or fully worked. There are virtually no significant deposits of sand which could be utilised in the future. However, some small deposits may be available in the upper Nerang River and Tallebudgera and Currumbin Creeks. These deposits are not considered significant.

Sand reserves elsewhere are considered negligible. Small reserves of sand occur in the tributaries of the Upper Logan River. This sand is not considered significant as it is lithic rich and commonly has a high feldspar content. Both these features detract from the quality of the deposits.

CLAY

There are no clay workings in the Region within the sheet area.

Warwick Brickworks Pty Ltd operate a pit, which is located outside of the Region, within shale of the Marburg Formation adjacent to the New England Highway south of south of Warwick. Raw materials are transported to the plant on the southern outskirts of Warwick.

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APPENDIX 1

BUNDABERG SPECIAL SHEET

DATA SHEETS - QUARRIES, SAND AND GRAVEL

Bundaberg Special Sheet
Quarries

EAST	NORTH	Name	Sheet	Eastng	Northing	Symbol	Rock Type 1	Rock Type 2	Rock Type 3	Weathering	Working	Size	PSIZE	Status	Operator	Designated	Local Authority	Land Tenure	Land Use	Production	Use 1	Use 2	Use 3	Comments	Report
350500	7328400		MIR	505	284		Gravel				P	L	3	W	Miriam Vale SC						Maintenance gravel				Shire
352700	7305900		MIR	527	059	Pgm	Granite			CW	S	M	3		Miriam Vale SC						Concrete	Bedding	Maintenance gravel	<5m	OGMJ 85/99
352800	7297700		MIR	528	977	Pz	Mica schist	Homfels			S	M	3		Miriam Vale Auto Services						Pavement gravel	Maintenance gravel			OGMJ 85/99
353200	7298500		MIR	532	995	Pz	Mica schist	Homfels			S	M	3		Miriam Vale Auto Services						Pavement gravel	Maintenance gravel			OGMJ 85/99
353600	7297600		MIR	536	978	Pz	Mica schist	Homfels			S	M	3		Miriam Vale Auto Services						Pavement gravel	Maintenance gravel			OGMJ 85/99
353900	7307700		MIR	539	077	Pgm	Granite			CW	S	M	3	W	Dept of Transport						Concrete	Bedding	Maintenance gravel	<5m	OGMJ 85/99
354800	7295900		MIR	548	959	Pz	Mica schist	Homfels			Q	M	3		Miriam Vale Auto Services						Pavement gravel	Maintenance gravel			OGMJ 85/99
355200	7296700		MIR	552	967	Pz	Mica schist	Homfels			S	M	3		Miriam Vale Auto Services						Pavement gravel	Maintenance gravel			OGMJ 85/99
356500	7307700		MIR	565	077	Pz	Mica schist				S	M	3		Miriam Vale SC						Maintenance gravel				OGMJ 85/99
356800	7308200		MIR	568	082	Rw	Rhyolite	Tuff			S	L	3	W	L Miner						Pavement gravel	Maintenance gravel		Small Crusher	OGMJ 85/99
358900	7331800		MIR	589	318		Gravel				P	M	3	W	Miriam Vale SC						Pavement Gravel				Shire
360300	7305300		MIR	603	053	Pgm	Granite			CW	S	M	3		Miriam Vale SC						Concrete	Bedding	Maintenance gravel	<5m	OGMJ 85/99
361200	7304700		MIR	612	047	Rw	Rhyolite	Tuff			S	S	1		Miriam Vale SC						Pavement gravel	Maintenance gravel			OGMJ 85/99
361800	7304300		MIR	618	043	Rw	Rhyolite	Tuff			S	S	1		Miriam Vale SC						Pavement gravel	Maintenance gravel			OGMJ 85/99
363300	7303600		MIR	633	036	Rw	Rhyolite	Tuff			S	S	1		Miriam Vale SC						Pavement gravel	Maintenance gravel			OGMJ 85/99
366800	7302400		MIR	668	024	Rw	Rhyolite	Tuff			S	L	3	W	Miriam Vale SC						Pavement gravel	Maintenance gravel			OGMJ 85/99
366700	7294000		MIR	667	940	To	Mudstone	Laterite			S	L	3		Miriam Vale SC						Maintenance gravel			1.5m	OGMJ 85/99
370100	7292500		MIR	701	925	To	Mudstone	Laterite			S	L	3		Miriam Vale SC						Maintenance gravel			1.5m	OGMJ 85/99
371000	7301700		MIR	710	017	Rw	Volcanics				S	M	3	W	Miriam Vale SC						Maintenance gravel				Shire
374600	7303900		MIR	746	038	Rw	Agglomerate	Tuff	Mudstone		S	L	3		Miriam Vale SC						Pavement gravel	Maintenance gravel			OGMJ 85/99
375200	7308900		MIR	752	089	Rw	Agglomerate	Tuff	Mudstone		S	L	3		Miriam Vale SC						Pavement gravel	Maintenance gravel			OGMJ 85/99
378000	7293600		MIR	780	936	Rw	Agglomerate	Tuff	Mudstone		S	L	3		Miriam Vale SC						Pavement gravel	Maintenance gravel			OGMJ 85/99
378800	7294500		MIR	788	945	Rw	Agglomerate	Tuff	Mudstone		S	L	3		Miriam Vale SC						Pavement gravel	Maintenance gravel			OGMJ 85/99
379200	7315700		MIR	792	157	Rw	Laterite				S	L	3		Miriam Vale SC						Maintenance gravel				OGMJ 85/99
379800	7316400		MIR	798	164	Rw	Laterite				Q	M	3	W	Miriam Vale SC						Maintenance gravel			Largest in the Shire	OGMJ 85/99
381800	7314300		MIR	818	143	Rw	Agglomerate				Q	L	3	W	Paveways						Pavement gravel				Shire
385400	7324600		MIR	854	246	Rw	Rhyolite	Agglomerate	Andesite		S	L	3		Miriam Vale SC						Maintenance gravel	Fill			OGMJ 85/99
385500	7320000		MIR	855	200	Rw	Rhyolite	Agglomerate	Andesite		S	L	3		Miriam Vale SC						Maintenance gravel	Fill			OGMJ 85/99
388200	7321400		MIR	882	214	Rw	Rhyolite	Agglomerate	Andesite		S	L	3		Miriam Vale SC						Maintenance gravel	Fill			OGMJ 85/99
389500	7296800		MIR	895	968	Rw	Quartz				Q	S	1												OGMJ 85/99
291700	7290200		BIL	917	902	Rib	Sandstone	Conglomerate			Q	M	3	W	Miriam Vale SC						Maintenance gravel				OGMJ 85/99
306800	7326400	Dan Dan	CPE	068	264		Gravel				S	M	3	W	Calliope SC				<1000m/yr		Maintenance gravel			Dan Dan SF	Shire
314500	7330500		CPE	145	305		Gravel				S	M	3	W	Calliope SC						Maintenance gravel				Shire
318700	7326500	Iffley	CPE	187	265		Gravel				S	M	3	W	Calliope SC						Maintenance gravel				Shire
323500	7312000	Spencers Pt	CPE	235	120		Gravel				S	M	3	W	Calliope SC						Maintenance gravel				Shire
325300	7309700		CPE	253	097		Gravel				S	S	1	W	Calliope SC						Maintenance gravel			SF 583	Shire
329500	7293700		CPE	295	937		Gravel				S	M	3	W	Calliope SC						Maintenance gravel				Shire
334500	7292000		CPE	345	920	DCd	Chert	Homfels			S	L	3		Calliope SC						Pavement gravel	Maintenance gravel		1-3m	
335400	7293000		CPE	354	930	DCd	Chert	Homfels			S	L	3		Calliope SC						Pavement gravel	Maintenance gravel		1-3m	
336800	7294200	Blackmans Gap	CPE	368	942		Gravel				S	M	3	W	Calliope SC				3000m/yr		Maintenance gravel			State Forest	Shire
337700	7294300		CPE	377	943	DCd	Chert	Homfels			S	L	3	W	Calliope SC						Pavement gravel	Maintenance gravel		1-3m, SF 645	OGMJ 85/99
345500	7296700		CPE	455	967	PRm	Granite				P	M	3		Miriam Vale SC						Maintenance gravel			1.5-4m	OGMJ 85/99
347800	7299300		CPE	478	993	PRm	Granite				P	M	3		Miriam Vale SC						Maintenance gravel			1.5-4m	OGMJ 85/99
297700	7341500	Sheep station ck	CPE	977	415		Gravel				S	M	3	W	Calliope SC						Maintenance gravel				Shire
347300	7318200		CPE	473	182		Gravel				S	M	3	W	Miriam Vale SC						Maintenance gravel				Shire
320700	7333900	Taraqoola	CPE	207	339		Limestone				Q	L	5		Frosts						Aggregate	Ballast			OGMJ81/943
262300	7249700		SCO	623	497	Tb	Basalt				S	L	3		Monto SC						Maintenance			<3m	OGMJ 85/99
262500	7262500		SCO	625	625	Pw	Slate				S	L	3	W	Monto SC						Maintenance			2-4m	OGMJ 85/99
262800	7262700		SCO	628	627	Pw	Slate				S	L	3	W	Monto SC						Maintenance			2-4m	OGMJ 85/99
264200	7278800		SCO	642	788	Tb	Basalt				S	L	3		Banana SC,MRD						Pavement gravel	Maintenance gravel			OGMJ 85/99
265000	7241700		SCO	650	417	PRw	Granite	Xenoliths	Diorite		S	M-L	3		Monto SC,Banana SC						Maintenance	Binder		<8m	OGMJ 85/99
267000	7259300		SCO	670	593	PRw	Granite	Xenoliths	Diorite		S	M-L	3	W	Monto SC,Banana SC						Maintenance	Binder		<8m	OGMJ 85/99
268400	7248000		SCO	684	480	PRw	Granite	Xenoliths	Diorite		S	M-L	3		Monto SC,Banana SC						Maintenance	Binder		<8m	OGMJ 85/99
270000	7266200		SCO	700	662	PRw	Granite	Xenoliths	Diorite		S	M-L	3		Monto SC,Banana SC						Maintenance	Binder		<8m	OGMJ 85/99
271100	7254200		SCO	711	542	PRw	Granite	Xenoliths	Diorite		S	M-L	3	W	Monto SC,Banana SC						Maintenance	Binder		<8m	OGMJ 85/99
271200	7254800		SCO	712	548	PRw	Granite	Xenoliths	Diorite		S	M-L	3	W	Monto SC,Banana SC						Maintenance	Binder		<8m	OGMJ 85/99
271300	7257700		SCO	713	577	PRw	Granite	Xenoliths	Diorite		S	M-L	3		Monto SC,Banana SC						Maintenance	Binder		<8m	OGMJ 85/99
271400	7277700		SCO	714	777	Dr	Metasediments				S	L	3		Banana SC						Maintenance	Pavement Gravel		<3m, large resource	OGMJ 85/99
271400	7278300		SCO	714	783	Dr	Metasediments				S	S	1		Banana SC						Maintenance	Pavement Gravel		large resource	OGMJ 85/99
271600	7275900		SCO	716	759	Dr	Metasediments				S	L	3		Banana SC						Maintenance	Pavement Gravel		<3m, large resource	OGMJ 85/99
272000	7272500		SCO	720	725	Tb	Basalt				S	M	3		Banana SC						Maintenance			<3m	OGMJ 85/99
277400	7275100		SCO	774	751	PRw	Granite	Xenoliths	Diorite		S	M-L	3		MRD						Maintenance	Binder		<8m	OGMJ 85/99
278200</																									

295900	7265100		SCO	959	651	Jlp	Sandstone			S	M	3	Monto SC				Fill	Binder		<3m	OGMJ 85/99
295900	7271400		SCO	959	714		Colluvium			S	L	3	Abigano P/L				Fill			5-8m	OGMJ 85/99
298600	7254700		MON	966	547	Jlo	Laterite	Sandstone		S			Monto SC				Fill				OGMJ 85/99
282300	7254700	Foley's	SCO	823	547		Gravel			S	M	3 W	Monto SC				Maintenance gravel				Shire
281700	7237100		SCO	817	371		Gravel			S	M	3 W	Monto SC								Shire
288100	7247000		SCO	881	470		Gravel			S	M	3 W	Monto SC								Shire
285700	7252400		SCO	857	524		Gravel			S	M	3 W	Monto SC								Shire
303000	7256700		MON	030	567		?			Q	M	3 W	D Baldwin				Concrete	Pavement gravel	Screenings		Shire
307800	7277800		MON	076	776		Gravel			S	M	3 W	Monto SC				Maintenance gravel			Road reserve	Shire
311100	7239800		MON	111	396	Tb	Agglomerate	Tuff		S	M	3	Monto SC				Maintenance gravel			<5m, soft rock	OGMJ 85/99
312200	7251400	Sailsbury	MON	122	514	Ply/Clc	Siltstone	Mudstone	Conglomerate	S	L	3 W	Monto SC		500mYr		Maintenance gravel	Fill		1-10m, State Forest	OGMJ 85/99
312500	7250400	Dump	MON	125	504	Ply/Clc	Siltstone	Mudstone	Conglomerate	S	L	3	Monto SC				Maintenance gravel	Fill		1-10m	OGMJ 85/99
313200	7252800	Baldwins	MON	132	526	Ply/Clc	Siltstone	Mudstone	Conglomerate	S	L	3	Monto SC				Maintenance gravel	Fill		1-10m	OGMJ 85/99
313400	7246200	Frenches	MON	134	462	Ru	Tuff-shale	agglomerate		S	L	3	Monto SC				Maintenance gravel			5-6m	OGMJ 85/99
314400	7245200		MON	144	452	Ply	arenite	Shale	Siltstone	S	L	3	Monto SC				Pavement gravel	Maintenance gravel		3-5m	OGMJ 85/99
315000	7245200		MON	150	452	Ply	arenite	Shale	Siltstone	S	L	3	Monto SC				Pavement gravel	Maintenance gravel		3-5m	OGMJ 85/99
315000	7254000		MON	150	540	Cic	Siltstone	Mudstone		S	M	3	Monto SC				Maintenance gravel			2-3m	OGMJ 85/99
315300	7242000		MON	153	420	Tb	Basalt			Q	S	1	Ogle				Concrete	Screenings	Pavement gravel	<10m	OGMJ 85/99
318300	7259500		MON	163	595	Clr	Mudstone			S	M	3	Monto SC				Maintenance gravel			2-3m, small resources	OGMJ 85/99
317700	7239100	Sengs	MON	177	391	Ru	Mudstone			S	L	3	Monto SC				Maintenance gravel			<3m, moderate reserve	OGMJ 85/99
317800	7238700		MON	178	397	Ru	Mudstone			S	L	3	Monto SC				Maintenance gravel			<3m, moderate reserve	OGMJ 85/99
318400	7281900		MON	184	619	Clr	Mudstone			S	M	3	Monto SC				Maintenance gravel			2-3m, small resources	OGMJ 85/99
318900	7242800	Stewarts	MON	189	428	Cic	Arenite	Shale	Greywacke	S	L	3	Monto SC				Maintenance gravel			<10m, large reserves	OGMJ 85/99
319700	7255200		MON	197	552		Gravel			S	M	3 W	Monto SC				Maintenance gravel				Shire
321100	7246800		MON	211	468	Clr	Meta-sediments	Siltstone	Mudstone	S	L	3	Monto SC				Maintenance gravel			3-4m	OGMJ 85/99
321500	7248400		MON	215	484	Clr	Meta-sediments	Siltstone	Mudstone	S	L	3	Monto SC				Maintenance gravel			<10m	OGMJ 85/99
322300	7234300		MON	223	343	Cic	Mudstone	Siltstone	aa	S	L	3	Monto SC				Maintenance gravel			<3m, Large resources	OGMJ 85/99
322800	7252500		MON	226	525	Cic	Mudstone	Siltstone	aa	S	M	3	Monto SC				Maintenance gravel			<3m	OGMJ 85/99
322800	7234500		MON	228	345	Cic	Mudstone	Siltstone	aa	S	L	3	Monto SC				Maintenance gravel			<3m, Large resources	OGMJ 85/99
324100	7262600		MON	241	626	Cuo	Arenite	Siltstone	Mudstone	S	L	3	Monto SC				Pavement gravel	Maintenance gravel		1-3m, large resources	OGMJ 85/99
324200	7257000		MON	242	570		Gravel			S	M	3 W	Monto SC		State Forest		Pavement gravel	Maintenance gravel			Shire
324500	7263300		MON	245	633	Cuo	Arenite	Siltstone	Mudstone	S	L	3 W	Monto SC				Pavement gravel	Maintenance gravel		1-3m, large resources	OGMJ 85/99
325000	7263600		MON	250	636	Cuo	Arenite	Siltstone	Mudstone	S	L	3	Monto SC				Pavement gravel	Maintenance gravel		1-3m, large resources	OGMJ 85/99
325200	7245600	Yarrol Rd	MON	252	456	Clr	Greywacke	Shale		S	L	3	Monto SC				Maintenance gravel			1-3m	OGMJ 85/99
325500	7265800		MON	255	658	Cuo	Arenite	Siltstone	Mudstone	S	L	3	Monto SC				Pavement gravel	Maintenance gravel		1-3m, large resources	OGMJ 85/99
326000	7245500	Morns	MON	260	455	Clr	Greywacke	Shale		S	L	3	Monto SC				Maintenance gravel			1-3m, worked out	OGMJ 85/99
326600	7267100	Pricas	MON	266	671	Cuo	Arenite	Siltstone	Mudstone	S	L	3	Monto SC				Pavement gravel	Maintenance gravel		1-3m, large resources	OGMJ 85/99
326900	7269400		MON	269	694	Ru	Andesite	Tuff		S	M	3 W	Monto SC				Maintenance gravel			4-5m, small resource	OGMJ 85/99
327600	7276200		MON	276	762	Cic	Siltstone			S	L	3	Calliope SC				Maintenance gravel			Large resources	OGMJ 85/99
328400	7267300	Rose Gum	MON	284	673	Cuo	Arenite	Siltstone	Mudstone	S	L	3	Monto SC				Pavement gravel	Maintenance gravel		1-3m, large resources	OGMJ 85/99
328700	7244700		MON	287	447	Cic	Mudstone			S	M	3	Monto SC				Maintenance gravel			2-3m, moderate resource, kaolinic	OGMJ 85/99
330300	7248800		MON	303	488	Cuo	Shale	Conglomerate	aa	S	M	3	Monto SC				Maintenance gravel			<5m	OGMJ 85/99
330700	7265900	20 mile rd	MON	307	659	Ru	Greywacke	Tuff	Mudstone	S	M	3	Monto SC, Forestry				Maintenance gravel				OGMJ 85/99
330800	7239600		MON	308	396	Pib	Mudstone			S	M	3	Monto SC				Maintenance gravel			2-3m	OGMJ 85/99
331000	7266600		MON	310	666	Ru	Greywacke	Tuff	Mudstone	S	L	3	Monto SC, Forestry				Maintenance gravel				OGMJ 85/99
331000	7268600		MON	310	666	Ru	Greywacke	Tuff	Mudstone	S	L	3	Monto SC, Forestry				Maintenance gravel				OGMJ 85/99
331000	7270000	Main Camp	MON	310	700	Ru	Greywacke	Tuff	Mudstone	S	M	3	Monto SC, Forestry				Maintenance gravel				OGMJ 85/99
331000	7281400		MON	310	814	Ru	Tuff			S	S	1 W	Calliope SC		Forestry		Maintenance gravel			2-3m, Timber Reserve 353	OGMJ 85/99
331400	7266200	Fireclay	MON	314	662	Ru	Greywacke	Tuff	Mudstone	S	M	3	Monto SC, Forestry				Maintenance gravel				OGMJ 85/99
331500	7268000		MON	315	680	Czs	Quartz gravel			S	M	3 W	Monto SC, Forestry				Maintenance gravel				OGMJ 85/99
332700	7273400		MON	327	734		Tuff			S	M	3	Monto SC, Forestry				Maintenance gravel				OGMJ 85/99
333500	7272100		MON	335	721	Ru	Greywacke	Tuff	Mudstone	S	M	3	Monto SC, Forestry				Maintenance gravel				OGMJ 85/99
333800	7283900		MON	338	839	C	Siltstone	Mudstone		S	S	1	Calliope SC				Maintenance gravel				OGMJ 85/99
333900	7271200		MON	339	712	Ru	Greywacke	Tuff	Mudstone	S	M	3	Monto SC, Forestry				Maintenance gravel				OGMJ 85/99
334500	7292000		CPE	345	920	DCd	Chert	Hornfels		S	L	3	Calliope SC				Pavement gravel	Maintenance gravel		1-3m, Large resources	OGMJ 85/99
334700	7271800		MON	347	718	DCd	Chert			S	M	3	Forestry				Maintenance gravel			<3m	OGMJ 85/99
335400	7293000		CPE	354	930	DCd	Chert	Hornfels		S	S	1	Calliope SC				Pavement gravel	Maintenance gravel		1-3m	OGMJ 85/99
335600	7267700		MON	356	677	DCw	Chert	Arenite	Shale	S	M	3	Kolan SC				Maintenance gravel			1-2m, large resources	OGMJ 85/99
335800	7265300		MON	356	853	Pzx	Serpentine			S	M	3	Calliope SC				Maintenance gravel			<8m, large resource	OGMJ 85/99
335800	7270700		MON	358	707	DCw	Chert	Arenite	Shale	S	M	3	Forestry				Maintenance gravel			1-2m, large resources	OGMJ 85/99
337700	7294300		CPE	377	943	DCd	Chert	Hornfels		S	L	3	Calliope SC				Pavement gravel	Maintenance gravel		1-3m, large resources	OGMJ 85/99
340700	7267800		MON	407	679	DCw	Chert	Arenite	Shale	S	M	3	Kolan SC				Maintenance gravel			1-2m	OGMJ 85/99
344200	7264000		MON	442	640	DCw	Chert	Arenite	Shale	S	M	3	Kolan SC				Maintenance gravel			1-2m	OGMJ 85/99
348900	7263200		MON	468	632	DCw	Chert	Arenite	Shale	S	M	3	Kolan SC				Maintenance gravel			1-2m, large resources	OGMJ 85/99
299700	7279800		MON	997	798		Gravel			S	M	3 W	Monto SC				Maintenance gravel				Shire
350100	7263300		ROS	501	633	Pz	Quartzite	Hornfels		S	M	3	Kolan SC				Maintenance gravel			<2m	OGMJ 85/99
360600	7266900		ROS	606	569	Pz	Quartzite	Hornfels		S	M	3	Kolan SC				Maintenance gravel			<2m	OGMJ 85/99
364800	7266000	Hinton	ROS	648	660	PRgm	Granite			S	L	3	MRD				Pavement gravel	Fill			OGMJ 85/99
364900	7255400		ROS	649	554	Pz	Quartzite	Hornfels		S	M	3	Kolan SC				Maintenance gravel			<2m	OGMJ 85/99
364900	7274800		ROS	649	748	PRgm	Granite			S	L	3	MRD				Pavement gravel	Fill			OGMJ 85/99
365600	7266700		ROS	656	667	PRgm	Granite			S	L	3	MRD				Pavement gravel	Fill			OGMJ 85/99
365700	7277000		ROS	657	770	PRgm	Granite			S	L	3	MRD				Pavement gravel	Maintenance gravel		1-2m	OGMJ 85/99
366400	7277000		ROS	664	770	PRgm	Granite			S	L	3	MRD				Pavement gravel	Maintenance gravel		1-2m	OGMJ 85/99
366600	7266000		ROS	666	660	PRgm	Granite			S	L	3	MRD				Pavement gravel	Fill			OGMJ 85/99
369200	7267200		ROS	692	672	Pz	Hornfels	Quartzite	Quartzite	S	L	3	MRD				Pavement gravel			1-2m	OGMJ 85/99
370200	7266200		ROS	702	662	Pz	Hornfels	Quartzite	Quartzite	S	L	3	MRD				Pavement gravel			1-2m	OGMJ 85/99
370200	7267400	Reinck	ROS	702	674	Pz	Hornfels	Quartzite	Quartzite	S	L	3	MRD				Pavement gravel			1-2m	OGMJ 85/99
371100	7288400		ROS	711	884	To	Mudstone	Laterite		S	L	3	Miriam Vale SC				Maintenance gravel				OGMJ 85/99
371400	7282100		ROS	714	821	Pz	Quartzite	Sandstone	Rhyolite	S	L	3	Miriam Vale SC				Pavement gravel				OGMJ 85/99
372200	7248900		ROS	722	489	Pz	Hornfels			S	L	3	MRD				Pavement gravel	Maintenance gravel		<5m	OGMJ 85/99
372600	7288000		ROS	726	880	To	Mudstone	Laterite		S	L	3	Miriam Vale SC								

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Quarries

374900	7240100	ROS	748	401	Pz	Schist	Sandstone	Mudstone	S	S	1	Kolan SC				Pavement gravel			OGMJ 85/99
376300	7240000	ROS	763	400	Pz	Schist	Sandstone	Mudstone	S	L	3	Kolan SC				Maintenance gravel		1-2M	OGMJ 85/99
376800	7240000	ROS	766	400	Pz	Schist	Sandstone	Mudstone	S	L	3	Kolan SC				Pavement gravel		1-2M	OGMJ 85/99
376800	7243700	ROS	768	437	Pz	Schist	Sandstone	Mudstone	S	L	3	MRD				Pavement gravel		1-2M	OGMJ 85/99
377700	7242900	ROS	777	429	Pz	Schist	Sandstone	Mudstone	S	L	3	MRD				Pavement gravel		1-2M	OGMJ 85/99
378200	7243800	ROS	782	438	Pz	Schist	Sandstone	Mudstone	S	L	3	MRD				Pavement gravel		1-2M	OGMJ 85/99
378900	7244200	ROS	789	442	Pz	Schist	Sandstone	Mudstone	S	S	1	MRD				Maintenance gravel			OGMJ 85/99
379400	7289000	ROS	794	890	PRgm	Microgranite			S	S	1	Miriam Vale SC				Maintenance gravel			OGMJ 85/99
379400	7289100	ROS	794	891	Pib	Quartzite			S	S	1	Miriam Vale SC				Maintenance gravel		worked out	OGMJ 85/99
380300	7243700	ROS	803	437	Ra	Rhyolite	Tuff		S	S	1	MRD				Maintenance gravel			OGMJ 85/99
381900	7244300	ROS	819	443	Pz	Schist	Sandstone	Mudstone	S	L	3	MRD				Maintenance gravel		1-2M	OGMJ 85/99
382400	7245200	ROS	824	452	Pz	Schist	Sandstone	Mudstone	S	L	3	MRD				Maintenance gravel		1-2M	OGMJ 85/99
383100	7285300	ROS	831	853	Pz	Sandstone			S	S	1	Miriam Vale SC				Maintenance gravel			OGMJ 85/99
383200	7246800	ROS	832	468	Ra	Rhyolite	Tuff		S	S	1	Kolan SC				Maintenance gravel			OGMJ 85/99
383300	7247400	ROS	833	474	Ra	Rhyolite	Tuff		S	S	1	Kolan SC				Maintenance gravel			OGMJ 85/99
383400	7289800	ROS	834	898	Pib	Sandstone	Metasiltstone		S	L	3	Miriam Vale SC				Maintenance gravel			OGMJ 85/99
384000	7281400	ROS	840	814	PRgm	Granite			S	M	3	Miriam Vale SC				Maintenance gravel			OGMJ 85/99
384000	7289100	ROS	840	891	Pib	Sandstone	Metasiltstone		S	L	3	Miriam Vale SC				Maintenance gravel			OGMJ 85/99
384400	7248700	ROS	844	487	Ra	Andesite	Tuff		Q	L	3	K Morris P/L, QWRC				Concrete	Rip Rap	3 benches	OGMJ 85/99
384700	7281500	ROS	847	815	Pib	Metasiltstone			S	S	1	Miriam Vale SC				Maintenance gravel			OGMJ 85/99
384900	7282000	ROS	849	820	Ra	Andesite	Rhyolite		S	S	1	Miriam Vale SC				Maintenance gravel			OGMJ 85/99
387100	7244100	ROS	871	441	PRgm	Granite			S	M	3	MRD				Fill		3-4m	OGMJ 85/99
387500	7235600	ROS	875	356	Pib	Metasiltstone	Phyllite		S	M	3	Kolan SC				Pavement gravel			OGMJ 85/99
388400	7243500	ROS	884	435	Pib	Hornfels	Schist	Quartzite	S	L	3	MRD				Pavement gravel			OGMJ 85/99
389400	7245700	ROS	894	457	Pib	Hornfels	Biotite hornfels		S	L	3	MRD				Pavement gravel	Maintenance gravel		OGMJ 85/99
389900	7275800	ROS	899	758	Pib	Gravel			Q	L	3	W	Old Rail			Ballast		Stockpiles remaining sold to contractor	Shire
391300	7283000	ROS	913	830	Pib	Gravel			P	M	3	W	Miriam Vale SC			Pavement gravel			Shire
393800	7270400	ROS	938	704	PRgm	Granite			S	L	3	MRD				Pavement gravel	Fill		OGMJ 85/99
395300	7235700	Lynn	ROS	953	357	Pib	Metasiltstone	Mudstone	Phyllite	P	S	1	N Lyn, Gorlick			Maintenance gravel			OGMJ 85/99
397100	7235800	McCormack	ROS	971	358	Pib	Cleystone	Quartzite	S	L	3	W	Kolan SC			Pavement gravel	Maintenance gravel	1-2m, Largest site used by Shire	OGMJ 85/99
390700	7254400		ROS	907	544		Gravel		S	M	3	W	Kolan SC			Pavement gravel	Maintenance gravel		Shire
359200	7237700		ROS	592	377		Gravel		S	S	1	W	Kolan SC			Pavement gravel	Maintenance gravel	State Forest	Shire
400000	7275200	BUN	000	752	Klq	Volcanics			S	S	1			Forestry					1980/1
400500	7280400	BUN	005	804		Laterite			S	L	3	W	Burnett SC						Shire
401600	7273000	BUN	016	730	Klm	Mudstone			S	S	1	W	Burnett SC		8000m taken	Maintenance		State Forest of medium quality	1980/1
402300	7288000	BUN	023	680	Klm	Mudstone			S	S	1		Gooburum			Maintenance			1980/1
402900	7272900	BUN	029	729	Klq	Mudstone			S	S	1		Gooburum			Maintenance			1980/1
403000	7271000	BUN	030	710	Klm	Mudstone			S	S	1		Gooburum			Maintenance			1980/1
403900	7277300	BUN	039	773	Te	Conglomerate			S	S	1		Gooburum			Maintenance			1980/1
404700	7261900	BUN	047	619		Gravel			S	S	1	W	Burnett SC			Maintenance			Shire
404800	7281100	BUN	048	811	Te	Ironstone			S	S	1		Gooburum			Maintenance			1980/1
405400	7257200	BUN	054	572	Klq	Trachyte			Q	S	1		WRC			Rip Rap			1980/1
405600	7251800	BUN	056	518	Klq	Volcanics			S	S	1		Gooburum			Maintenance			1980/1
406200	7259100	BUN	062	591	Klm	Mudstone			S	S	1		Gooburum			Maintenance			1980/1
406400	7279600	BUN	064	796	Klb	Ironstone			S	S	1		Gooburum			Maintenance			1980/1
407100	7280200	BUN	071	802	Te	Ironstone			S	S	1		Gooburum			Maintenance		<1M	1980/1
407500	7262700	BUN	075	627	Klb	Ironstone			S	S	1		Gooburum			Maintenance			1980/1
407500	7276800	BUN	075	768	Te	Conglomerate	Ironstone		S	S	1		Gooburum			Maintenance			1980/1
407600	7277700	BUN	076	777	TE	Ironstone			S	S	1		Gooburum			Maintenance			1980/1
407700	7279000	BUN	077	790	Te				S	S	1		Gooburum			Maintenance			1980/1
408000	7263900	BUN	080	639	Klb	Ironstone			S	S	1		Gooburum			Maintenance			1980/1
408200	7250000	BUN	082	500	Klm	Mudstone			S	S	1		Gooburum			Maintenance			1980/1
409200	7264300	BUN	092	643	Klb	Ironstone			S	S	1		Gooburum			Maintenance			1980/1
409600	7263200	BUN	096	632	Klb	Ironstone			S	S	1		Gooburum			Maintenance			1980/1
410000	7258000	BUN	100	580	Klb	Ironstone			S	S	1		Gooburum			Maintenance			1980/1
410000	7267800	BUN	100	678	Te	Ironstone			S	S	1		Gooburum			Maintenance			1980/1
410100	7258600	BUN	101	586	Klb	Ironstone			S	S	1		Gooburum			Maintenance			1980/1
410100	7265800	BUN	101	658	Te	Ironstone			S	S	1		Gooburum			Maintenance			1980/1
410400	7258600	BUN	104	586	Klb	Ironstone			S	S	1		Gooburum			Maintenance			1980/1
410700	7248300	BUN	107	483	Te	Claystone			S	S	1		Gooburum			FF			1980/1
411500	7255500	BUN	115	555	Klb	Ironstone			S	S	1		Gooburum			Maintenance			1980/1
412000	7262400	BUN	120	624	Klb	Ironstone			S	S	1		Gooburum			Maintenance			1980/1
412100	7237200	BUN	121	372	Te	Conglomerate			S	S	1		Woongarra			Maintenance			1980/1
412200	7249800	BUN	122	498	Te	Claystone			S	S	1					Maintenance			1980/1
412200	7255300	BUN	122	553	Klb	Ironstone			S	S	1		Gooburum			Maintenance			1980/1
412300	7245800	BUN	123	458		Gravel			S	M	3	W	Burnett SC			Pavement gravel			Shire
413900	7236400	BUN	139	364	Te	Conglomerate			S	S	1		Woongarra			Maintenance			1980/1
413900	7264600	BUN	139	646	Klb	Ironstone			S	S	1		Gooburum			Maintenance			1980/1
414200	7261000	BUN	142	610	Klb	Ironstone			S	S	1					Maintenance			1980/1
414400	7245600	BUN	144	456	Te	Conglomerate			S	M	3		Gooburum			Maintenance			1980/1
414400	7259600	BUN	144	596	Klb	Ironstone			S	S	1					Maintenance			1980/1
414700	7289000	BUN	147	890	Te	Conglomerate			S	M	3		Gooburum			Maintenance			1980/1
414800	7252300	BUN	148	523	Te	Conglomerate			S	S	1		Gooburum			Maintenance			1980/1
415000	7245300	BUN	150	453		Gravel			S	M	3	W	Burnett SC		9000m taken	Pavement gravel			Shire
415400	7246500	BUN	154	465	Te	Ironstone			S	S	1		Gooburum			Maintenance			1980/1
415400	7253100	BUN	154	531	Te	Conglomerate			S	M	3		Franklin			Pavement Gravels	Fill		1980/1
415600	7240200	BUN	156	402	Op	Basalt			S	S	1		Burnett SC			Pavement Gravels	Fill		1980/1
415600	7240300	Hill End	BUN	156	403	Op	Basalt		Q	S	1		Bingers Mill			Ballast			1980/1
416000	7269500	BUN	160	695		Gravel			S	M	3	W	Burnett SC	Burnett Shire		Pavement Gravel			SHIRE
416000	7269700	BUN	160	697		Gravel			S	M	3	W	Burnett SC			Pavement gravel			Shire
417100	7237800	BUN	171	378	Te	Conglomerate			S	S	1		Gooburum			Maintenance			1980/1
418400	7257500	BUN	184	575	Te	Conglomerate			S	M	3					Maintenance			1980/1

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419600	7239600	BUN	196	396	Klb	Sandstone	Conglomerate			P	S	1	Pioneer				Maintenance				1980/1
419900	7239600	BUN	199	396	Klb	Sandstone				S	S	1	Pioneer				Maintenance				1980/1
421600	7243300	BUN	216	433	Te	Conglomerate				S	S	1	Gooburum				Maintenance				1980/1
421800	7244500	BUN	218	445	Te	Conglomerate				S	M	3	Gooburum				Maintenance				1980/1
421800	7244900	BUN	218	449	Te	Conglomerate				S	M	3	Gooburum				Maintenance				1980/1
422200	7245800	BUN	222	458	Te	Conglomerate				S	S	1	Gooburum				Maintenance				1980/1
424800	7253200	BUN	248	532	Te	Conglomerate				S	S	1	Gooburum				Maintenance				1980/1
425300	7244400	BUN	253	444	Te	Conglomerate				S	S	1					Maintenance				1980/1
425800	7242900	BUN	258	429	Te	Conglomerate				S	S	1					Maintenance			NOW A DAM	1980/1
426000	7281800	BUN	260	818	Te	Conglomerate				S	S	1	Gooburum				Maintenance				1980/1
426400	7254100	BUN	264	541	Te	Conglomerate				S	S	1	Gooburum				Maintenance				1980/1
427100	7245300	BUN	271	453	Te	Conglomerate	sandstone			S	S	1					Maintenance				1980/1
427800	7252600	BUN	278	526	Te	Conglomerate				S	S	1	Gooburum				Maintenance				1980/1
429700	7246000	BUN	297	460	Te	Clayey Gravel				P	S	1	Gooburum				Fill				1980/1
437500	7236500	BUN	375	365	Te	Laterite				S	M	3	W	Burnett SC			Maintenance				1980/1
438800	7243000	BUN	388	430	Te	Conglomerate				S	S	1					Maintenance				1980/1
441800	7237800	BUN	418	378	Te	Loam	Ironstone			S	S	1					Maintenance				1980/1
442000	7259300	BUN	420	593	Oph	Basalt				Q	M	3	Gooburum				Rock Walls				1980/1
444100	7239200	BUN	441	392	Te	Ironstone				S	S	1	Gooburum				Maintenance				1980/1
445200	7253200	BUN	452	532	Oph	Basalt				P	S	1					Maintenance				1980/1
445600	7244900	BUN	456	449	Oph	Basalt				S	M	3					Maintenance				1980/1
446000	7249200	BUN	460	492	Oph	Basalt				Q	L	5	W	Smiths			Aggregate	Balast		Mixed with sand from Tomato Island	1980/1
446200	7250200	BUN	462	502	Oph	Basalt				Q	L	5	W	CSR Readymix			Concrete	Pavement Gravels		Concrete	1980/1
446400	7247900	BUN	464	479	Oph	Basalt				Q	L	5	W	Bundaberg Quames			Pavement Gravels			Concrete	1980/1
447200	7244200	BUN	472	442	Te	Ironstone				S	L	3	Woongarra				Pavement Gravels				1980/1
399200	7275400	BUN	992	754	Klg	Ironstone				S	S	1				Forestry					1980/1
399200	7277900	BUN	992	779	Klg	Volcanics				S	S	1				Forestry					1980/1
399700	7286600	BUN	997	866	Te	Mudstone				S	S	1	Gooburum				Maintenance				1980/1
399800	7282000	BUN	998	820	Klm	Mudstone				S	S	1	Gooburum				Maintenance				1980/1
245500	7321400	BAN	455	214	Tb	Basalt	sandstone			Q	M	3	Sellars				Base course	sub-base	Select fill		OGMJ 8/82
248700	7299700	BIL	487	997	Ta	Gravel	sandy silt			S	S	1	Banana Shire				Maintenance				
254600	7289700	Thangool Quarry	BIL	546	897	Tb	Basalt	tuff	vesicular basalt	Q	M	3	Banana Shire				Maintenance			Core of columnar basalt flanked by tuff	
259200	7305200	BIL	592	052	Dr	Gravel	conglomerate			S	M	3					Fill				
262000	7298400	BIL	620	984	Dr	Andesitic tuff	trachyte	soil		S	S	1	Banana Shire				Maintenance				
263000	7306300	BIL	630	063	Pua	Andesitic tuff	Diorite			S	M	3	Banana Shire				Maintenance	Fill		Large reserves, possible crusher site	
264000	7288600	BIL	640	886	Ta	Sandstone	Siltstone	Laterite		S	M	3	Banana Shire				Maintenance				Large reserves
264800	7320000	BIL	648	200	Ct	Greywacke	Shale			S	M	3	Main Roads				Maintenance	Fill		Large reserves, possible crusher site	
265300	7321600	BIL	653	216	Pra	Granodiorite	(decomposed)			S	M	3	Main Roads				Maintenance	Base course	sub-base	Large reserves	
265100	7287100	SCO	651	871	Ta	Sandstone	Siltstone	Laterite		S	M	3	Banana Shire				Maintenance	sub-base		Large reserves	
265800	7321900	BIL	658	219	PRa	Granodiorite	(decomposed)			S	M	3	Main Roads				Maintenance	Base course	sub-base	Large reserves	
265600	7298200	BIL	656	982	Dr	Andesite	Andesitic Tuff			S	S	1	Banana Shire				Maintenance				Large reserves to north
267000	7316600	BIL	670	166	Clt	Microdiorite	tuff			Q	M	3	Thiess Bros				Base Course	Sub-base, gravels	Screenings	Large reserves to northeast	
266500	7298100	BIL	665	981	Dr	Agglomerate	andesite	trachyte		S	M	3	Banana Shire				Maintenance				Large reserves to south
267500	7312400	BIL	675	124	Ct	Conglomerate				S	S	1	Banana Shire				Maintenance	Gravels	Fill	Alluvial suitable for crushing	
269300	7299500	BIL	693	995	Dr	Tuff	Andesitic Tuff	Agglomerate		S	M	3	Banana Shire				Maintenance				Large reserves
271400	7277700	SCO	714	777	Dr	Metasediments				S	M	3	Banana Shire				Sub-base	Maintenance			
271400	7278300	SCO	714	783	Dr	Metasediments				S	S	1	Banana Shire				Sub-base	Maintenance			Large reserves
263200	7280700	SCO	632	807	Tb	Basalt	Vesicular Basalt			S	M	3	Banana Shire, MRD				Sub-base	Maintenance			Large reserves
264200	7278800	SCO	642	788	Tb	Basalt	Vesicular Basalt			S	M	3	Banana Shire, MRD				Sub-base	Maintenance			Large reserves
271200	7280800	SCO	712	808	Dr	Metasediments				S	M	3	Banana Shire				Sub-base	Maintenance			Large reserves
272000	7272500	SCO	720	725	Tb	Basalt	Vesicular Basalt			S	M	3	Banana Shire				Maintenance				Large reserves
271600	7275900	SCO	716	759	Dr	Metasediments				S	M	3	Banana Shire				Sub-base	Maintenance			Large reserves
277400	7275100	SCO	774	751	PRw	Granite	Sand			S	M	3	Banana Shire, MRD				Maintenance				Large reserves
278200	7275300	SCO	782	753	PRw	Granite	Sand			S	M	3	Banana Shire, MRD				Maintenance				Large reserves

Bundaberg Special Sheet
Sand and Gravel

EAST	NORTH	Name	Sheet	Easting	Northing	Symbol	Rock Type 1	Rock Type 2	Rock Type 3	Weathering	Working	Size	PSIZE	Status	Operator	Designated	Local Authority	Land Tenure	Land Use	Production	Use 1	Use 2	Use 3	Comments	Report	
350400	7298300		MIR	504	983	Qa	Sand	Gravel	Cobbles		P	M	M		Miriam Vale SC, B Evans						Concrete				Large resource	QGMJ 85/991
331800	7398700		CPE	316	987	Qa	Loam				S	M	M		MRD						Binder				Large resource	QGMJ 85/992
283400	7255200		SCO	834	552	Qa	Sand				S	L	L	W	Baldwin						Concrete				<2m	QGMJ 85/992
283400	7258000		SCO	834	560	Qa	Sand				S	L	L		Baldwin						Concrete				<2m	QGMJ 85/992
294200	7269400		SCO	942	694	Qa	Sand	Gravel			P	L	L		QRWC, Monto SC						Concrete	Pavement gravel	Fill		<5m	QGMJ 85/992
294200	7270300		SCO	942	703	Qa	Sand	Gravel			P	L	L		QRWC, Monto SC						Concrete	Pavement gravel	Fill		<5m	QGMJ 85/992
295200	7271100		SCO	952	711	Qa	Sand	Gravel			P	L	L		QRWC, Monto SC						Concrete	Pavement gravel	Fill		<5m	QGMJ 85/992
289200	7246800		SCO	882	488	Qa	Sand				S	S	S	W	Monto SC						Pavement gravel					Shire
301300	7253700		MON	013	537	Czs	Sand				S	L	L	W	Baldwin						Plaster sand	Concrete	Binder		2-3m	QGMJ 85/992
302200	7251100		MON	022	511	Czs	Sand				S	M	M		Monto SC						Plaster sand	Concrete	Binder			QGMJ 85/992
303600	7252300		MON	038	523	Qa	Sand				P	M	M		Monto SC						Concrete	Pavement gravel			3-4m	QGMJ 85/992
307300	7246800		MON	073	488	Qa	Sand				S	L	L		Baldwin						Plaster sand	Concrete	Binder		<1m	QGMJ 85/992
307700	7244400		MON	077	444	Qa	Sandy silt				P	L	L		Monto SC						Concrete	Binder			<3m	QGMJ 85/992
310900	7252700		MON	108	527	Qa	Gravel				P	M	M		Baldwin						Concrete	Screenings	soil		<2m, small resource	QGMJ 85/992
312900	7258000		MON	129	580	Qa	Gravel				P	S	S		Baldwin						Concrete					QGMJ 85/992
312800	7258800		MON	128	588	Qa	Gravel	Sand			P	S	S		Monto SC						Pavement gravel	Maintenance gravel			<3m	QGMJ 85/992
323400	7248500	Splinter Ck	MON	234	485	Qa	Gravel	Sand	Cobbles		S	L	L	W	Monto SC						Screenings	Pavement gravel			2-3m	QGMJ 85/992
379200	7238500	Gin Gin	ROS	792	365	Qa	Sand				P	S		W	Kolan Shire Council						Concrete	Bedding			1-1.5m	QGMJ 85/991
386000	7249000	Kolan	ROS	890	490	Qa	Sand				S	L			QRWC, K Morris P/L						Concrete	Bedding			5-10m	QGMJ 85/991
387900	7235900	Brushy	ROS	879	359	Qa	Silt				P	S		D	MRD						Binder	Top Soil			1-2m	QGMJ 85/991
393900	7237400	Gin Gin	ROS	939	374	Qa	Sand	Gravel	Silt		S	L			Kolan Shire Council						Concrete	Bedding				QGMJ 85/991
398500	7240500	Gin Gin	ROS	985	405	Qa	Sand	Gravel	Loam		P	L			Kolan Shire Council						Concrete	Bedding			2-3m	QGMJ 85/991
406700	7250800		BUN	067	508	Qa	Sand	Gravel			S	M	M	W	Burnett SC		Burnett Shire				Pavement Gravel				Screened, portable crusher	SHIRE
408400	7250000		BUN	084	500	Qa	Sand	Gravel			S	M	M		GSC						Concrete	Fill			Bank & Bar Deposits	1980/1
413000	7254000		BUN	130	540	Qa	Sand	Gravel			P	L	L	W	Seriscomi		Burnett Shire				Concrete	Pavement gravel			Screened & mixed with Innes Park rock	SHIRE
416200	7261900		BUN	162	619	Qa	Sand	Gravel			S	M	M		McBrides						Concrete	Fill			Bank & Bar Deposits	1980/1
416800	7261200	Knights Crossing	BUN	168	612	Qa	Sand	Gravel			S	S	S	W	Mc Keys		Burnett Shire				Bedding	Pavement gravel				SHIRE
417000	7237200		BUN	170	372	Qa	Sand	Gravel			S	L	L		Baldwin						Concrete	Fill			Bank & Bar Deposits	1980/1
417000	7237300		BUN	170	373	Qa	Sand	Gravel			S	L	L		Necon P/L						Pavement Gravel	Concrete	Fill		Bank & Bar Deposits	1980/1
417000	7260300	Flagstone Ck	BUN	170	803	Qa	Sand				S	M	M	W	Bundaberg Quarries		Burnett Shire				Concrete	Pavement gravel			Screened & mixed with Innes Park rock	SHIRE
417100	7240500		BUN	171	405	Qa	Sand	Gravel			S	L	L		Pioneer						Concrete	Fill			Bank & Bar Deposits	1980/1
417200	7259800		BUN	172	598	Qa	Sand	Gravel			S	M	M		Mascot Specified Metals						Concrete	Fill			Bank & Bar Deposits	1980/1
418000	7261000		BUN	180	610	Qa	Sand	Gravel						F			Burnett Shire		Future Extraction							SHIRE
420900	7240900		BUN	209	409	Qa	Sand	Gravel			S	M	M		Bingers Sugar Mills						Concrete	Fill			Lower Terrace	1980/1
420900	7240900		BUN	209	409	Qa	Sand	Gravel							GSC						Concrete	Fill			Lower Terrace	1980/1
422400	7239100		BUN	224	391	Qa	Sandy Loam	Gravel													Concrete	Fill			Weathered Elliott Fm	1980/1
423000	7244300		BUN	230	443	Qa	Sand	Gravel			S	L	L		McBrides						Concrete	Fill			Bank & Bar Deposits	1980/1
424000	7240800		BUN	240	408	Qa	Sand	Gravel			S	L	L		Maguire						Concrete	Fill			Bank & Bar Deposits	1980/1
424800	7242300		BUN	248	423	Qa	Sand	Loam			S	L	L		McBrides						Loam	Soil	Fill		Bank & Bar Deposits	1980/1
425200	7266500		BUN	252	665	Qhd	Sand																		Dune Sand	1980/1
426000	7262000		BUN	260	620	Qpb	Sand							?	Wide Bay Bricks		Burnett Shire				Bricks				Mixed with clay for bricks	SHIRE
426000	7266600		BUN	260	666		Gravel				S	M	M	W	Smiths Premix Concrete, Mc Bryde						Pavement gravel					Shire
428800	7247800		BUN	288	478	Qa	Sand	Gravel	Loam		S	L	L		Smiths Premix Concrete						Concrete	Fill	Soil		Bank & Bar Deposits	1980/1
429000	7249000	Tomato Island	BUN	290	490		sand	Gravel			S	M	M	W	Smiths Premix Concrete		Bundaberg City			2500Myr	Concrete				Mixed with crushed rock	SHIRE
429000	7263000		BUN	290	630	Qhcb	Sand				S	M	M	W	Smiths Premix Concrete		Burnett Shire		Extractive		Concrete	Bedding				SHIRE
430500	7257000		BUN	305	570	Qpb	Sand				S	L	L	W	Bundaberg Quarries/Smith		Burnett Shire		Future Extraction		Concrete	Bedding			Mixed with crushed rock	SHIRE
433500	7255800		BUN	335	558	Qpb	Sand				S	L	L	W	Bundaberg Quarries/Smith		Burnett Shire		Future Extraction		Concrete	Bedding			Mixed with crushed rock	SHIRE
435000	7253800		BUN	350	538	Qa/Qps	Sand	Loam							Masotti						Fill	Fill			Bank & Bar Deposits	1980/1
436000	7254100		BUN	360	541	Qa	Sand	Loam																	Lower Terrace	1980/1
438800	7261200		BUN	388	612		Sand	Gravel			D			W	Tuttie		Burnett Shire				Bedding sand				Dredged from Burnett River	SHIRE
444300	7237300		BUN	443	373	Te	Sandy Loam				P	L	L	W	Smiths Premix Concrete		Burnett Shire				Brickies loam	Fill			Large reserves (240000m)	1980/1
248500	7302900		BIL	485	029	Qa	Sand	Gravel			P	S	S		Phelan, DPI						Concrete aggreg	pavement gravels			small reserves, Callide Creek	QGMJ Aug82
251400	7301800		BIL	514	019	Qa	Sand	Gravel			P	M	M		Biloela Transport, Queensland Aggregates						Concrete aggreg	crushed screenings	sub-base		Large reserves	QGMJ Aug82
252200	7301800		BIL	522	016	Qa	Sand	Gravel			S	M	M		Banana SC		Banana Shire				Base course	Maintenance	sub-base			QGMJ Aug82
253000	7301100		BIL	530	011	Qa	Sand	Gravel	Loam		S	S	S		Barnes, Banana SC						Concrete aggreg	Pavement gravels	loam		Gravel screened	QGMJ Aug82
254800	7302400		BIL	548	024	Qa	Sand	Gravel			S	M	M		Biloela Transport						Concrete aggreg	Pavement gravels				QGMJ Aug82
257000	7300200		BIL	570	002	Qa	Gravel	Sand			S	M	M		Biloela Transport						Concrete aggreg	Pavement gravels	screenings			QGMJ Aug82

APPENDIX 2

MARYBOROUGH SPECIAL SHEET

DATA SHEETS - QUARRIES, SAND AND GRAVEL

East	North	Name	Sheet	Easting	Northing	Symbol	Rock Type 1	Rock Type 2	Rock Type 3	Weathering	Working	Size	PSIZE	Status	Operator	Designated	Local Authority	Land Tenure	Land Use	Production	Use 1	Use 2	Use 3	Comments	Reopt		
350100	7208500		MTP	501	088	Po	Granite				S	S	1 W	Gayndah SC							Maintenance gravel						
351200	7208800		MTP	512	088	Po	Granite				S	L	3	Perry SC							Maintenance gravel				<3m	OGMJ 85/991	
360400	7187400		MTP	804	874	Rg	Conglomerate				P	L	3 W	Gayndah SC							Pavement gravel	Maintenance gravel			2.4m	OGMJ 85/991	
361200	7232900		MTP	812	329		Gravel				S	S	1 W	Kolan SC							Maintenance gravel				State Forest		
362200	7186200		MTP	822	862	Rg	Conglomerate				S	L	3 W	Gayndah SC							Pavement gravel	Maintenance gravel			2.4m	OGMJ 85/991	
363300	7179700		MTP	833	797	Rg	Conglomerate				S	L	3	Gayndah SC							Pavement gravel	Maintenance gravel			2.4m	OGMJ 85/991	
363600	7213700		MTP	836	137	Pz	Hornfels				S	L	3 W	Miriam Vale SC							Pavement gravel	Fill				OGMJ 85/991	
363600	7181200		MTP	836	812	Rg	Conglomerate				S	L	3	Gayndah SC							Pavement gravel	Maintenance gravel			2.4m	OGMJ 85/991	
364000	7216000		MTP	840	160	DCc	Biotta Schist				S	L	3 W	Miriam Vale SC							Pavement gravel	Fill				OGMJ 85/991	
365800	7208200		MTP	858	082	DCc	Biotta Schist				S	L	3 W	Miriam Vale SC							Pavement gravel	Fill				OGMJ 85/991	
365800	7227100		MTP	858	271	PRgm	Granite				S	M	3 W	Kolan SC							Maintenance gravel				<1m	OGMJ 85/991	
365800	7190200		MTP	858	902	PRy	Granite				S	S	1 W	Gayndah SC							Maintenance gravel					Shire	
366000	7207300		MTP	860	073	DCc	Biotta Schist				S	L	3	Miriam Vale SC							Pavement gravel	Fill				OGMJ 85/991	
366000	7224800		MTP	860	248		Gravel				S	S	1 W	Kolan SC							Maintenance gravel					Shire	
367300	7204700		MTP	873	047	DCc	Biotta Schist				S	L	3	Miriam Vale SC							Pavement gravel	Fill				OGMJ 85/991	
368000	7180800		MTP	880	808		Gravel	Volcanics			S	L	3	Gayndah SC							Pavement gravel	Maintenance gravel			0.6-2m	OGMJ 85/991	
368400	7202700		MTP	884	027	Re	Rhyolite	Tuff			S	M	3 W	Perry SC							Pavement gravel	Maintenance gravel			<3.5m	OGMJ 85/991	
368700	7202100		MTP	887	021		Rhyolite	Tuff			S	M	3	Perry SC							Pavement gravel	Maintenance gravel			<3.5m	OGMJ 85/991	
370200	7198400		MTP	702	984		Rhyolite	Tuff			S	M	3	Perry SC							Pavement gravel	Maintenance gravel			<3.5m	OGMJ 85/991	
371300	7211300		MTP	713	113	PRb	Granite				S	S	1 W	Gayndah SC							Pavement gravel					Shire	
373100	7197600		MTP	731	976	Pm	Granite				S	S	1 W	Perry SC							Maintenance gravel					OGMJ 85/991	
373200	7182300		MTP	732	823	Ts	Conglomerate				S	L	3	Gayndah SC							Maintenance gravel					<5m	OGMJ 85/991
374000	7232200		MTP	740	322	Pz	Quartzite	Chert	Schist		S	L	3	Kolan SC							Pavement gravel	Maintenance gravel				OGMJ 85/991	
374200	7180800		MTP	742	808	Re	Rhyolite	Granite			S	L	3 W	Gayndah SC							Maintenance gravel	Fill				OGMJ 85/991	
374200	7194000		MTP	742	940	Pz	Schist	Quartzite	Chert		S	L	3 W	Perry SC							Maintenance gravel					Fe stained	
374300	7193000		MTP	743	930	Pz	Schist	Quartzite	Chert		S	L	3	Perry SC							Maintenance gravel					Fe stained	
374700	7230800		MTP	747	308	Pz	Quartzite	Chert	Schist		S	L	3	Kolan SC							Pavement gravel	Maintenance gravel				OGMJ 85/991	
374700	7232000		MTP	747	320	Pz	Quartzite	Chert	Schist		S	L	3	Kolan SC							Pavement gravel	Maintenance gravel				OGMJ 85/991	
374900	7230700		MTP	749	307	Pz	Quartzite	Chert	Schist		S	L	3	Kolan SC							Pavement gravel	Maintenance gravel				OGMJ 85/991	
77200	7194200		MTP	772	942	Pz	Schist				S	S	1 W	Gayndah SC							Maintenance gravel					Shire	
600	7198100		MTP	788	981	Pib	Chert	Hornfels			S	M	3 W	Perry SC							Maintenance gravel	Fill			1.2m, small resources	OGMJ 85/991	
800	7234000		MTP	788	340	Rgh	Granite				S	M	3	Kolan SC							Pavement gravel	Maintenance gravel			1.2m, small resources	OGMJ 85/991	
181100	7234000		MTP	811	340	Pib	Metasiltstone	Hornfels			S	S	1	MRD							Pavement gravel					<1m	
381200	7234000		MTP	812	340		Gravel				S	M	3 W	Kolan SC							Maintenance gravel					Shire	
381200	7199000		MTP	812	990	Pib	Chert	Hornfels			S	M	3	Perry SC							Maintenance gravel	Fill			1.2m, small resources	OGMJ 85/991	
381700	7233800		MTP	817	339	Pib	Metasiltstone	Hornfels			S	L	3 W	Kolan SC							Pavement gravel					OGMJ 85/991	
387400	7182400		MTP	874	824	Re	Rhyolite				S	M	3	Biggenden SC							Pavement gravel	Maintenance gravel				Large Resource	
387900	7223900		MTP	879	239		Gravel				S	M	3 W	Kolan SC							Maintenance gravel					Shire	
388300	7232500		MTP	883	325	Pib	Mudstone	Siltstone	Shale		S	L	3	Kolan SC							Pavement gravel	Maintenance gravel				<1.5m	
389100	7228900		MTP	891	289	Pib	Mudstone	Siltstone	Shale		S	S	1	Kolan SC							Pavement gravel	Maintenance gravel				Worked out	
389300	7229400		MTP	893	294	Pib	Mudstone	Siltstone	Shale		S	S	1	Kolan SC							Pavement gravel	Maintenance gravel				Worked out	
389500	7228800		MTP	895	288	Pib	Mudstone	Siltstone	Shale		S	L	3 W	Kolan SC							Pavement gravel	Maintenance gravel				<1.5m	
389800	7227000		MTP	898	270	Pib	Mudstone	Siltstone	Shale		S	S	1	Kolan SC							Pavement gravel	Maintenance gravel				Worked out	
390000	7183400	Port Wine	MTP	900	834	Pib	Mudstone	Phyllite			S	L	3 W	Biggenden SC, MRD							Pavement gravel				<5m, Large resource, sorted, foliated	OGMJ 85/991	
390400	7224300	Thel's	MTP	904	243	CPo	Limestone	Schist			Q	S	1	Mt Perry Co Pavement gravelier							Smelting Lime				4.5m	OGMJ 85/991	
390500	7223300	Steven's	MTP	905	233	CPo	Limestone	Schist			Q	S	1	Mt Perry Co Pavement gravelier							Smelting Lime				4.5m	OGMJ 85/991	
390700	7225900		MTP	907	259		Gravel				S	M	3 W	Kolan SC							Maintenance gravel					Shire	
391100	7224200	Toben's	MTP	911	242	CPo	Limestone	Schist			Q	S	1	Mt Perry Co Pavement gravelier							Smelting Lime				4.5m	OGMJ 85/991	
391500	7186400	Shemrock	MTP	915	864	Pib	Quartzite	Mudstone			S	L	3	Biggenden SC							Pavement gravel	Maintenance gravel				Limited resource	
392400	7216900		MTP	924	169	CPo	Sandstone	Shale	Mudstone		P	M	3	Kolan SC							Pavement gravel	Maintenance gravel				<1m	
392800	7224800		MTP	928	248	Pib	Mudstone	Siltstone	Shale		S	S	1	Kolan SC							Pavement gravel	Maintenance gravel				Worked out	
393300	7197200	Campbell's	MTP	933	972	Pib	Mudstone				S	S	1	Biggenden SC							Maintenance gravel					Poor quality	
394000	7220300		MTP	940	203	CPo	Sandstone	Shale	Mudstone		P	S	1	Kolan SC							Pavement gravel	Maintenance gravel				OGMJ 85/991	
397400	7234300		MTP	974	343	Pib	Claystone	Quartzite	Quartzite		S	M	3	Kolan SC							Maintenance gravel					3.4m	
398200	7232800		MTP	982	328	Pz	Metasediments				S	S	1	Kolan SC							Maintenance gravel					<3m	
401100	7179700		CH	011	797	Pib	Mudstone				P	S	1	Aust Co-op Fertilisers							Ag Lime					OGMJ 85/1984	
401700	7183800	Alaskan	CH	017	838	Pib	Siltstone	Mudstone	Chert		S	M	3 W	Biggenden SC							Pavement gravel					OGMJ 85/1984	
401800	7212000		CH	018	120	Pib	Siltstone	Mudstone	Arenite		S	M	3	MRD							Maintenance gravel	Fill				OGMJ 85/1984	
402800	7231000		CH	028	310	Tb	Basalt				S	S	1	Isis SC							Maintenance gravel					OGMJ 85/1984	
403800	7185300		CH	038	853	Pib	Mudstone				S	M	3								Maintenance gravel					OGMJ 85/1984	
404000	7185400		CH	040	854	Pib	Mudstone				S	M	3								Maintenance gravel					OGMJ 85/1984	

474700	7172900	MAR	747	729	Te	Ironstone			S	L	3	Byrne Bros						Pavement gravel	Maintenance gravel	Fill			OGMJ 82/962			
474800	7135900	MAR	748	359	R.Jy	Quartzite			O	L	3	W Forestry							Pavement gravel	Maintenance gravel	Fill	Good Quality, portable crusher		Plantation Forestry		
474900	7141900	MAR	749	419	Te	Conglomerate			S	S	1	Forestry						Pavement gravel	Maintenance gravel	Fill			OGMJ 82/962			
474900	7134800	MAR	749	348	R.Jy	Quartzite			S	S	1	W Forestry						mm						Plantation Forestry		
475000	7147500	MAR	750	475	Jm	Sandstone			S	M	3	Forestry						Maintenance gravel	Fill					OGMJ 82/962		
475300	7153400	MAR	753	534	Te	Ironstone			S	M	3	Forestry						Maintenance gravel	Fill					OGMJ 82/962		
476000	7171800	MAR	760	718	Te	Ironstone			Latente	S	L	3	Mayborough CC	Mayborough				Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962		
476100	7147900	MAR	761	479	Jm	Sandstone			Latente	S	M	3	Forestry					Maintenance gravel							OGMJ 82/962	
477200	7137800	MAR	772	378	R.Jy	Latente			S	S	1	W Forestry						Maintenance gravel							Plantation Forestry	
477600	7156700	MAR	776	567	Te	Conglomerate			Latente	S	M	3	Forestry						Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
477700	7153600	MAR	777	536	Jm	Sandstone			Latente	S	M	3	Forestry						Maintenance gravel	Fill					OGMJ 82/962	
478000	7177500	MAR	780	775	Te	Conglomerate			S	S	1	Mayborough CC	Mayborough						Maintenance gravel	Fill					OGMJ 82/962	
478400	7153000	MAR	784	530	Jm	Sandstone			Latente	S	M	3	Forestry						Maintenance gravel	Fill					OGMJ 82/962	
478500	7146300	MAR	785	463	Jm	Sandstone			Latente	S	S	1	Forestry						Maintenance gravel	Fill					OGMJ 82/962	
478800	7166900	MAR	788	669	Te	Ironstone			Latente	S	M	3	Forestry						Maintenance gravel							OGMJ 82/962
478900	7157000	MAR	789	570	Jm	Sandstone			Latente	S	M	3	Forestry						Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
479000	7139500	MAR	790	395	Jm	Ironstone	Sandstone		Latente	S	M	3	Forestry						Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
479000	7164700	MAR	790	647	Kim	Ironstone			S	M	3	Mayborough CC Forestry	Mayborough						Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
479000	7175000	MAR	790	750	Te	Ironstone			S	S	1	Mayborough CC	Mayborough						Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
479100	7147600	MAR	791	476	Jm	Sandstone			Latente	S	M	3	Forestry						Maintenance gravel	Fill					OGMJ 82/962	
479100	7169200	MAR	791	692	Te	Ironstone			Latente	S	M	3	Forestry						Maintenance gravel							OGMJ 82/962
479200	7138400	MAR	792	384	R.Jy	Latente			S	S	1	W Forestry							Maintenance gravel							Plantation Forestry
479400	7141700	MAR	794	417	R.Jy	Sandstone			S	S	1	W Forestry							Maintenance gravel							Plantation Forestry
479500	7139500	MAR	795	395	Jm	Ironstone	Sandstone		S	M	3	Forestry							Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
479500	7138800	MAR	795	388	Jm	Ironstone			P	L	3	Forestry							Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
479600	7141300	MAR	796	413	R.Jy	Sandstone			S	S	1	W Forestry							Maintenance gravel							Plantation Forestry
479600	7137600	MAR	796	376	Jm	Ironstone	Sandstone	Latente	S	S	1	Forestry							Maintenance gravel							OGMJ 82/962
479600	7138600	MAR	796	386	Jm	Sandstone			S	S	1	Forestry							Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
479600	7153100	MAR	796	531	Jm	Ironstone			S	S	1	Forestry							Maintenance gravel	Fill					OGMJ 82/962	
479600	7140200	MAR	796	402	R.Jy	Sandstone			S	S	1	W Forestry							Maintenance gravel							Plantation Forestry
480000	7141000	MAR	800	410	R.Jy	Sandstone			S	S	1	W Forestry							Maintenance gravel							Plantation Forestry
480000	7154900	MAR	801	549	Jm	Ironstone			S	M	3	Forestry							Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
480000	7133400	MAR	805	334	R.Jy	Latente			S	S	1	W Forestry							Maintenance gravel							Plantation Forestry
480600	7134500	MAR	806	345	Jm	Sandstone	Conglomerate		S	M	3	Forestry							Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
480700	7138900	MAR	807	389	Jm	Sandstone			S	L	3	Forestry							Maintenance gravel	Fill					OGMJ 82/962	
480700	7135800	MAR	807	358	R.Jy	Latente			S	S	1	W Forestry							Maintenance gravel							Plantation Forestry
480800	7140100	MAR	808	401	Jm	Ironstone			S	M	3	Forestry							Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
480900	7134600	MAR	809	346	Jm	Ironstone	Sandstone	Conglomerate	P	L	3	Forestry							Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
480900	7135600	MAR	809	356	Jm	Sandstone	Conglomerate		S	L	3	Forestry							Maintenance gravel	Fill					OGMJ 82/962	
480900	7153100	MAR	809	531	Jm	Ironstone	Sandstone		S	M	3	Forestry							Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
481000	7131700	MAR	810	317	Jm	Ironstone			S	M	3	Forestry							Maintenance gravel	Fill					OGMJ 82/962	
481100	7134300	MAR	811	343	Jm	Sandstone	Conglomerate		S	S	1	Forestry							Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
481100	7131600	MAR	811	316	R.Jy	Latente			S	S	1	W Forestry							Maintenance gravel							Plantation Forestry
481200	7141300	MAR	812	413	Jm	Sandstone	Ironstone		S	L	3	Forestry							Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
481200	7148900	MAR	812	489	Jm	Ironstone			S	S	1	Forestry							Pavement gravel	Maintenance gravel					OGMJ 82/962	
481200	7134700	MAR	812	347	R.Jy	Latente			S	L	3	W MRD							Maintenance gravel							Plantation Forestry
481300	7158900	MAR	813	589	Jm	Ironstone			S	M	3	Forestry							Maintenance gravel							OGMJ 82/962
481400	7134100	MAR	814	341	Jm	Ironstone			P	L	3	Forestry							Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
481400	7141300	MAR	814	413	Jm	Sandstone	Ironstone		S	L	3	Forestry							Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
481400	7144800	MAR	814	448	Jm	Sandstone			P	S	1	Forestry							Maintenance gravel							OGMJ 82/962
481500	7134000	MAR	815	340	R.Jy	Latente			S	S	1	W Forestry							Maintenance gravel							Plantation Forestry
482300	7132800	MAR	823	328	Jm	Ironstone	Sandstone	Conglomerate	S	L	3	Forestry							Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
482300	7139500	MAR	823	395	Jm	Sandstone	Ironstone		P	M	3	Forestry							Maintenance gravel	Fill					OGMJ 82/962	
482400	7157600	MAR	824	576	Jm	Ironstone	Sandstone	Conglomerate	S	L	3	Forestry							Maintenance gravel	Fill					OGMJ 82/962	
482400	7132800	MAR	824	328	R.Jy	Latente			S	S	1	W Forestry							Maintenance gravel							Plantation Forestry
482800	7138200	MAR	828	382	R.Jy	Latente			S	S	1	W Forestry							Maintenance gravel							Plantation Forestry
482900	7139600	MAR	829	396	Jm	Sandstone			S	S	1	Forestry							Pavement gravel	Maintenance gravel	Fill				OGMJ 82/962	
482900	7138700	MAR	829	387	R.Jy	Latente			S	S	1	W Forestry							Maintenance gravel							Plantation Forestry
483000	7157000	MAR	830	570	Jm	Ironstone	Conglomerate		S	S	1	Forestry							Maintenance gravel	Fill					OGMJ 82/962	
483500	7133000	MAR	835	330	R.Jy	Latente			S	S	1	W Forestry							Maintenance gravel							Plantation Forestry
483600	7138900	MAR	836	389	Jm	Sandstone			P	S	1	Forestry							Maintenance gravel	Fill					OGMJ 82/962	
483600	7162600	MAR	836	626	Jm	Ironstone			P	L	3	MCC	Mayborough						Pavement gravel	Maintenance gravel	TOP COURSE	<2M			OGMJ 82/962	
483800	7134200	MAR	838	342	R.Jy	Latente			S	S	1	W Forestry							Maintenance gravel							Plantation Forestry
483900	7134100	MAR	839	341	Jm	Ironstone	Sandstone		S	S	1	Forestry							Maintenance gravel	Fill					OGMJ 82/962	
483900																										

Maryborough Special Sheet
Sand and Gravel

East	North	Name	Sheet	Easting	Northing	Symbol	Rock Type 1	Rock Type 2	Rock Type 3	Weather	Working	Size	PSIZE	Status	Operator	Designate	Local Aut	Land Ten	Land Use	Product	Use 1	Use 2	Use 3	Comments	Report	
353700	7209800	Red	MTP	537	098	Ca	Sand	Gravel	Loam		P	S	S	W	Perry SC						Concrete	Bedding		1-1.5m	OGMJ 85/991	
385800	7231700	Gorticks	MTP	858	317	Ca	Loam				S	S	S	W	Gortick						Landscaping	Fill		Shire		
389500	7287000	Chowey	MTP	895	870	Ca	Sand				S	M	M	W	Biggenden SC						Concrete	Bedding		Moderate resource	OGMJ 85/991	
450500	7221000		PIA	505	210		Colluvial Sand								Issi SC								poorly sorted	OGMJ 82/953		
451000	7222800		PIA	510	228		Sand	Clay			S	M	M	W	Issi SC						Binder	Pavement gravel			Shire	
452800	7223200		PIA	528	232		Sand				S	M	M	W	Childers Concrete & Housage						Bedding	Fill		Rubbish Reserve limited resources	Mary SF	
454200	7187800		PIA	542	876		Sand				P	S	S		Forestry										OGMJ 82/953	
460800	7211300		PIA	608	113		Sand				P	L	L		Byrne Bros						Sand blasting	Fill			OGMJ 82/953	
460800	7211300		PIA	608	113		Sand				P	L	L		Byrne Bros						Sand blasting	Fill			OGMJ 82/953	
461000	7211000		PIA	610	110		Sand				P	L	L		Sheppard						plasterers sand	Fill			OGMJ 82/953	
461000	7211000		PIA	610	110		Sand				P	L	L		Sheppard						plasterers sand	Fill			OGMJ 82/953	
461800	7182500		PIA	618	825		Sand								Byrne Bros						Bricks loam		Limited reserves	OGMJ 82/953		
462000	7185400		PIA	620	854		sandy loam				P	S	S		Sheppard								2 pts	OGMJ 82/953		
462700	7184800		PIA	627	848		Sand				P	S	S		Byrne Bros										OGMJ 82/953	
462700	7184800		PIA	627	848		Sand								Byrne & Son Sheppard, Maryborough Earthmoving						Fill		Limited Reserves	OGMJ 82/953		
463700	7184300		PIA	637	843		Colluvial Sand								Byrne Bros						Fill		Poorly Sorted, limited reserves	OGMJ 82/953		
466800	7206500		PIA	668	065		Sand	Soil			S	L	L	W	Hickey						Fill	Bedding sand	Concrete	illegal working (Council attempting to shut down)	Shire	
467300	7206100		PIA	673	061		Sand				P														OGMJ 82/953	
467300	7206100		PIA	673	061		Sand				P															OGMJ 82/953
469700	7205300		PIA	697	053		Sand	Coffe Rock			S	M	M	W	Groves Bros						Bedding	Bricks loam	Fill		Shire	
470000	7204200		PIA	700	042		Sand				P	L	L		Haywoods contracting										OGMJ 82/953	
470000	7204200		PIA	700	042		Sand				P	L	L		Haywoods contracting											OGMJ 82/953
470400	7203200		PIA	704	032		Sand				P	L	L		Maryborough Earthmoving											OGMJ 82/953
470400	7203200		PIA	704	032		Sand				P	L	L		Maryborough Earthmoving											OGMJ 82/953
470700	7203800		PIA	707	038		Sand				P	S	S		Haywoods contracting											OGMJ 82/953
470700	7203800		PIA	707	038		Sand				P	S	S		Haywoods contracting											OGMJ 82/953
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	W	Penlup Investments						Bedding	Bricks loam	Fill		Shire	
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA	710	018		Sand	Coffe Rock			S	M	M	F	Turner											Shire
471000	7201800		PIA																							

APPENDIX 3

GYMPIE SPECIAL SHEET

DATA SHEETS - QUARRIES, SAND AND GRAVEL

Gympie Special Sheet
Quarries

East	North	Name	Sheet	Easting	Northing	Symbol	Rock Type 1	Rock Type 2	Rock Type 3	Weathering	Working	Size	pSZ	Status	Operator	Designated	Local Authority	Land Tenure	Land Use	Production	Use 1	Use 2	Use 3	Comments	Report	
450700	7E+06		GYM 507	138		Pg	Andesite				S	M	3		Kildivan SC, Forestry						Pavement gravel				Large reserves	Shire
451300	7E+06	English	GYM 513	983		Pg	Siltstone				S	S	1	W	Cooloola SC						Pavement gravel	Maintenance gravel			10 000m reserves	Shire
451900	7E+06		GYM 519	110		Pg	Siltstone				S	L	3		Kildivan SC, Forestry						Pavement gravel					QGMJ 1987/88
451900	7E+06		GYM 519	239		Jt	Conglomerate				S	M	3		Tiaro SC						Pavement gravel					QGMJ 1987/88
452000	7E+06		GYM 520	135		RJy	Sandstone				S	M	3		Kildivan SC						Maintenance gravel				Lateritised, limited resource	QGMJ 1987/88
452000	7E+06		GYM 520	217		Jt	Conglomerate				S	M	3		Tiaro SC						Pavement gravel					QGMJ 1987/88
452400	7E+06	Harts Rd	GYM 524	750		Pza	Serpentinite				S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			2-5m, moderate resources	QGMJ 1987/88
452500	7E+06		GYM 525	134		RJy	Sandstone				S	M	3		Kildivan SC						Maintenance gravel				Limited resources	QGMJ 1987/88
452800	7E+06	Greendale	GYM 528	018		Pg	Siltstone				S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			Moderate resources	QGMJ 1987/88
454300	7E+06		GYM 543	002		CPa	Volcanics	Jasper			S	M	3		Widgee SC						Pavement gravel	Maintenance gravel				QGMJ 1987/88
454600	7E+06	Williams	GYM 546	070		Pg	Siltstone	Mudstone			P	S	1		Widgee SC						Maintenance gravel				Limited ripplable resource	QGMJ 1987/88
455000	7E+06		GYM 550	874		CPa	Jasper				S	L	3		Forestry						Pavement gravel	Maintenance gravel	Fill		2-4m, moderate resources	QGMJ 1987/88
455100	7E+06	Mercer	GYM 551	772		CPa	Siltstone	Phyllite			S	M	3		Widgee SC						Pavement gravel				1.5m	QGMJ 1987/88
455200	7E+06		GYM 552	148		Pg	Sandstone	Siltstone	Mudstone		S	M	3		Tiaro SC						Maintenance gravel				1-3m, limited resource	QGMJ 1987/88
455300	7E+06	Blunder Rd	GYM 553	993							S	S	1	W	Cooloola SC						Maintenance gravel				Good quality	Shire
455800	7E+06	Bells	GYM 558	894		CPa	Siltstone	Mudstone	Chert		S	M	3		Forestry						Pavement gravel	Maintenance gravel	Fill		1-3m, moderate resources	QGMJ 1987/88
456400	7E+06	Curra County	GYM 564	137		Pg	Siltstone	Mudstone			S	M	3		Tiaro SC						Pavement gravel				2m, hardened material	QGMJ 1987/88
456500	7E+06		GYM 565	843		CPa	Phyllite				S	M	3		Forestry, Widgee SC						Pavement gravel	Maintenance gravel			1-2m, moderate resources	QGMJ 1987/88
456700	7E+06		GYM 567	117		Pg	Conglomerate				S	M	3		Tiaro SC						Maintenance gravel				Limited resources	QGMJ 1987/88
456900	7E+06		GYM 569	996		CPa	Mudstone	Siltstone			Q	S	1		Widgee SC						Pavement gravel	Maintenance gravel			13m, min reserves	QGMJ 1987/88
457200	7E+06	Curra Quarry	GYM 572	131		Pg	Limestone	Argillite			Q	L	5	W	Tamaree Lime		Tiaro				Concrete	Pavement gravel	concrete		20m, at least 3yrs reserves (1996)	QGMJ 1987/88
457400	7E+06		GYM 574	049		Rly	Residual sand				S	M	3		Warhurst						Bedding				1-3m, moderate resources	QGMJ 1987/88
457500	7E+06		GYM 575	122		Pg	Mudstone	Siltstone			S	L	5		Widgee SC, Tiaro SC						Pavement gravel	Maintenance gravel			<5m, limited resource	QGMJ 1987/88
457500	7E+06	Boundary	GYM 575	829		CPa	Phyllite	Argillite			S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			1-2m, moderate resources	QGMJ 1987/88
457700	7E+06		GYM 577	013		RJy	Conglomerate				S	S	1		Widgee SC						Pavement gravel	Maintenance gravel			Limited resources	QGMJ 1987/88
457700	7E+06		GYM 577	023		RJy	Residual sand				S	M	3		Scougall						Concrete	Loam			1-2m, small resources	QGMJ 1987/88
457700	7E+06	Ellis	GYM 577	124		Pg	Siltstone				S	L	3		Widgee SC						Pavement gravel	Maintenance gravel			2-3m	QGMJ 1987/88
457800	7E+06		GYM 578	910		CPa	Mudstone	Jasper	Chert		S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			3-6m	QGMJ 1987/88
458000	7E+06	Buckdeys	GYM 580	070		RJy	Residual sand				S	L	3		Buckley						Concrete	top soil			1-4m, Large resources	QGMJ 1987/88
458100	7E+06		GYM 581	786		CPa	Jasper				S	M	3		Widgee SC						Pavement gravel				mm	QGMJ 1987/88
458200	7E+06		GYM 582	014		RJy	Sandstone				S	M	3		Widgee SC						Maintenance gravel	Fill				QGMJ 1987/88
458300	7E+06	Allens	GYM 583	066		RJy	Sandy Loam				S	L	3		Allen						Bedding	Blinder			Moderate reserves	QGMJ 1987/88
458400	7E+06	Bells Ck	GYM 584	692		CPa	Mudstone				S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			3-5m, Limited resource	QGMJ 1987/88
458600	7E+06	Sellers	GYM 586	135		RJy	Residual Sand				P	L	3		Sellers						Conglomerate	ll			2-3m, Large resources adjacent	QGMJ 1987/88
458800	7E+06		GYM 588	833		CPa	Jasper				S	M	3		Widgee SC						Pavement gravel				mm	QGMJ 1987/88
459200	7E+06		GYM 592	201		Rik	Siltstone	Mudstone			S	L	3		MRD, Tiaro SC						Pavement gravel				Large resources	QGMJ 1987/88
459200	7E+06		GYM 592	697		CPa	Jasper	Mudstone			S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			1-2m, Limited resources	QGMJ 1987/88
459200	7E+06		GYM 592	701		CPa	Siltstone	Andesite			S	S	1		Mary Valley Slate						Landscaping					QGMJ 1987/88
459300	7E+06		GYM 593	057		Pg	Tuffaceous sediment	Siltstone			S	M	3		Widgee SC						Maintenance gravel				1-3.5m, Large resources	QGMJ 1987/88
459700	7E+06		GYM 597	946		CPa	Phyllite	Volcanics			S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			Limited resources	QGMJ 1987/88
459800	7E+06	Bonehams	GYM 598	990		RJy	Residual sand				S	S	1		Boneham						bedding sand	masonry blocks	Pavement gravel		Large resources	QGMJ 1987/88
460000	7E+06		GYM 600	014		Pg	Siltstone	Mudstone			S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			1-3m, limited resources	QGMJ 1987/88
460100	7E+06	Anderleigh	GYM 601	210		RJy	Slate				Q	M	3	W	Pooly						landscaping	pavers	bush rock		large resources	QGMJ 1987/88
460200	7E+06	Deans Rd	GYM 602	024		Pg	Mudstone	Siltstone			S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			3-6m, crushed ans screened, large resources	QGMJ 1987/88
460300	7E+06	Anderleigh	GYM 603	214		RJy	Slate				P	S	1	W	Pooly						landscaping	pavers	bush rock		large resources	QGMJ 1987/88
460400	7E+06		GYM 604	209		Rik	Slate	Slate			Q	M	3	W	Pooly						landscaping	pavers	bush rock		Large resources	QGMJ 1987/88
460600	7E+06	Deans Pit	GYM 606	023							O	S	1	W	Cooloola SC						Pavement gravel				requires crushing, 300m reserves	Shire
461000	7E+06		GYM 610	157		RJy	Residual sand				P	S	1		Warhurst						Conglomerate				2m	QGMJ 1987/88
461600	7E+06	Reisenleiter	GYM 616	932							S	S	1	W	Cooloola SC						Maintenance gravel				Good Quality	Shire
461700	7E+06		GYM 617	706		CPa	Mudstone				S	M	3		Forestry						Pavement gravel	Maintenance gravel			2-3m, large resources	QGMJ 1987/88
461800	7E+06		GYM 618	217		Rik	Slate				Q	M	3		Anderleigh Quarries						landscaping	pavers	bush rock			QGMJ 1987/88
461900	7E+06		GYM 619	745		Pg	Mudstone				S	M	3		Forestry							Fill			1-3m, limited resources	QGMJ 1987/88
462000	7E+06		GYM 620	764		Pg	Siltstone	Mudstone			S	M	3		Forestry						Pavement gravel	Maintenance gravel			1-3m, moderate resources	QGMJ 1987/88
462100	7E+06	Anderleigh	GYM 621	207		Rik	Slate				Q	M	3		Anderleigh Quarries						landscaping	pavers	bush rock		Water filled site	QGMJ 1987/88
462400	7E+06	Happy Valley	GYM 624	796		Pg	Siltstone	Mudstone			S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			1-2.5m	QGMJ 1987/88
462600	7E+06		GYM 626	707			Gravel				S	S	1	W	Forestry						Maintenance gravel				Poor quality	Imbil Forestry
463100	7E+06	Bashford	GYM 631	213		Rik	Shale	Slate			S	S	1		Bashford & Watson						Facing stone	Landscaping			Large resources, adjacent to state forest	QGMJ 1987/88
463200	7E+06		GYM 632	134		Rik	Shale				S	M	3		Widgee SC, Tiaro SC						Maintenance gravel				<2m, Large resources	QGMJ 1987/88
463500	7E+06		GYM 635	236		Jt	Sandstone	Siltstone			P	S	1	W	Tiaro SC						Pavement gravel	Maintenance gravel				

East	North	Name	Sheet	Easting	Northing	Symbol	Rock Type 1	Rock Type 2	Rock Type 3	Weathering	Working	Size	pSize	Status	Operator	Designated	Local Authority	Land Tenure	Land Use	Production	Use 1	Use 2	Use 3	Comments	Report	
450700	7113800		GYM	507	138	Pg	Andesite				S	M	3		Killevan SC Forestry						Pavement gravel				Large reserves	Shire
451300	7098300	Engish	GYM	513	983						S	S	1	W	Cooloola SC						Pavement gravel	Maintenance gravel			10 000m reserves	Shire
451900	7111000		GYM	519	110	Pg	Siltstone				S	L	3		Killevan SC Forestry						Pavement gravel					OGMJ 1987/88
451900	7123900		GYM	519	239	Jt	Conglomerate				S	M	3		Tiaro SC						Pavement gravel					OGMJ 1987/88
452000	7113500		GYM	520	135	RJy	Sandstone				S	M	3		Killevan SC						Maintenance gravel				Latent, limited resource	OGMJ 1987/88
452000	7121700		GYM	520	217	Jt	Conglomerate				S	M	3		Tiaro SC						Pavement gravel					OGMJ 1987/88
452400	7075000	Herts Rd	GYM	524	750	Pze	Serpentine				S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			2.5m, moderate resources	OGMJ 1987/88
452500	7113400		GYM	525	134	RJy	Sandstone				S	M	3		Killevan SC						Maintenance gravel				limited resources	OGMJ 1987/88
452800	7101800	Greendale	GYM	528	018	Pg	Siltstone				S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			Moderate resources	OGMJ 1987/88
454300	7100200		GYM	543	002	CPa	Volcanics	Jesper			S	M	3		Widgee SC						Pavement gravel	Maintenance gravel				OGMJ 1987/88
454600	7107000	Williams	GYM	546	070	Pg	Siltstone	Mudstone			P	S	1		Widgee SC						Maintenance gravel				Limited ripable resource	OGMJ 1987/88
455000	7087400		GYM	550	874	CPa	Jasper				S	L	3		Forestry						Pavement gravel	Maintenance gravel	Fill		2.4m, moderate resources	OGMJ 1987/88
455100	7077200	Mercer	GYM	551	772	CPa	Siltstone	Phyllite			S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			1.5m	OGMJ 1987/88
455200	7114800		GYM	552	148	Pg	Sandstone	Siltstone	Mudstone		S	M	3		Tiaro SC						Maintenance gravel				1.3m, limited resource	OGMJ 1987/88
455300	7099300	Blunder Rd	GYM	553	993						S	S	1	W	Cooloola SC						Maintenance gravel				Good quality	Shire
455800	7089400	Bells	GYM	558	894	CPa	Siltstone	Mudstone	Chert		S	M	3		Forestry						Pavement gravel	Maintenance gravel	Fill		1.3m, moderate resources	OGMJ 1987/88
456400	7113700	Curra County	GYM	564	137	Pg	Siltstone	Mudstone			S	M	3		Tiaro SC						Pavement gravel				2m, hardened material	OGMJ 1987/88
456500	7084300		GYM	565	843	CPa	Phyllite				S	M	3		Forestry, Widgee SC						Pavement gravel	Maintenance gravel			1.2m, moderate resources	OGMJ 1987/88
456700	7111700		GYM	567	117	Pg	Conglomerate				S	M	3		Tiaro SC						Maintenance gravel				Limited resources	OGMJ 1987/88
456900	7096000		GYM	569	996	CPa	Mudstone	Siltstone			Q	S	1		Widgee SC						Pavement gravel	Maintenance gravel			13m, rip reserves	OGMJ 1987/88
457200	7113100	Curra Quarry	GYM	572	131	Pg	Limestone	Argillite			Q	L	5	W	Tamara Lime		Tiaro				Concrete	Pavement gravel	concrete		20m, at least 3yrs reserves (1996)	OGMJ 1987/88
457400	7104900		GYM	574	049	RJy	Residual sand				S	M	3		Warhurst						Bedding				1.3m, moderate resources	OGMJ 1987/88
457500	7112200		GYM	575	122	Pg	Mudstone	Siltstone			S	L	5		Widgee SC, Tiaro SC						Pavement gravel	Maintenance gravel			<5m, limited resource	OGMJ 1987/88
457500	7082900	Boundary	GYM	575	829	CPa	Phyllite	Argillite			S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			1.2m, moderate resources	OGMJ 1987/88
457700	7101300		GYM	577	013	RJy	Conglomerate				S	S	1		Widgee SC						Pavement gravel	Maintenance gravel			Limited resources	OGMJ 1987/88
457700	7102300		GYM	577	023	RJy	Residual sand				S	M	3		Scougall						Concrete	Loam			1.2m, small resources	OGMJ 1987/88
457700	7112400	Ellis	GYM	577	124	Pg	Siltstone				S	L	3		Widgee SC						Pavement gravel	Maintenance gravel			2.3m	OGMJ 1987/88
457800	7091000		GYM	578	910	CPa	Mudstone	Jesper	Chert		S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			3.6m	OGMJ 1987/88
458000	7107000	Buckleys	GYM	580	070	RJy	Residual sand				S	L	3		Buckley						Concrete	top soil			1.4m, large resources	OGMJ 1987/88
458100	7078800		GYM	581	788	CPa	Jasper				S	M	3		Widgee SC						Pavement gravel				mm	OGMJ 1987/88
458200	7101400		GYM	582	014	RJy	Sandstone				S	M	3		Widgee SC						Maintenance gravel				Fill	OGMJ 1987/88
458300	7106800	Allens	GYM	583	088	RJy	Sandy Loam				S	L	3		Allen						Bedding	Binder			Moderate reserves	OGMJ 1987/88
458400	7089200	Belle Cx	GYM	584	892	CPa	Mudstone				S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			3.5m, limited resource	OGMJ 1987/88
458600	7113500	Sellers	GYM	586	135	RJy	Residual Sand				P	L	3		Sellers						Conglomerate				2.3m, large resources adjacent	OGMJ 1987/88
458800	7083300		GYM	588	833	CPa	Jasper				S	M	3		Widgee SC						Pavement gravel				mm	OGMJ 1987/88
459200	7120100		GYM	592	201	Rk	Siltstone	Mudstone			S	L	3		MRD, Tiaro SC						Pavement gravel				Large resources	OGMJ 1987/88
459200	7069700		GYM	592	697	CPa	Jasper				S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			1.2m, limited resources	OGMJ 1987/88
459200	7070100		GYM	592	701	CPa	Siltstone	Andesite			S	S	1		Mary Valley State						Landscaping					OGMJ 1987/88
459300	7105700		GYM	593	057	Pg	Tuffaceous sediment				S	M	3		Widgee SC						Maintenance gravel				1.3-5m, large resources	OGMJ 1987/88
459700	7094600		GYM	597	946	CPa	Phyllite	Volcanics			S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			Limited resources	OGMJ 1987/88
459800	7096000	Bonenams	GYM	598	990	RJy	Residual sand				S	S	1		Boneham						bedding sand	masonry blocks	Pavement gravel		Large resources	OGMJ 1987/88
460000	7101400		GYM	600	014	Pg	Siltstone	Mudstone			S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			1.3m, limited resources	OGMJ 1987/88
460100	7121000	Andeneigh	GYM	601	210	RJy	Slate				Q	M	3	W	Pooly						landscaping	pavers	bush rock		large resources	OGMJ 1987/88
460200	7102400	Deans Rd	GYM	602	024	Pg	Mudstone	Siltstone			S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			3.6m, crushed and screened, large resources	OGMJ 1987/88
460300	7121400	Andeneigh	GYM	603	214	RJy	Slate				P	S	1	W	Pooly						landscaping	pavers	bush rock		large resources	OGMJ 1987/88
460400	7120900		GYM	604	209	Rk	Slate				Q	M	3	W	Pooly						landscaping	pavers	bush rock		Large resources	OGMJ 1987/88
460600	7102300	Deans Pit	GYM	606	023						Q	S	1	W	Cooloola SC						Pavement gravel				reserves crushing, 300m reserves	Shire
461000	7115700		GYM	610	157	RJy	Residual sand				P	S	1		Warhurst						Conglomerate				2m	OGMJ 1987/88
461600	7093200	Resenerter	GYM	616	932						S	S	1	W	Cooloola SC						Maintenance gravel				Good Quality	Shire
461700	7070600		GYM	617	706	CPa	Mudstone				S	M	3		Forestry						Pavement gravel	Maintenance gravel			2.3m, large resources	OGMJ 1987/88
461800	7121700		GYM	618	217	Rk	Slate				Q	M	3		Andeneigh Quarries						landscaping	pavers	bush rock			OGMJ 1987/88
461900	7074500		GYM	619	745	Pg	Mudstone				S	M	3		Forestry										1.3m, limited resources	OGMJ 1987/88
462000	7076400		GYM	620	764	Pg	Siltstone	Mudstone			S	M	3		Forestry						Pavement gravel	Maintenance gravel			1.3m, moderate resources	OGMJ 1987/88
462100	7120700	Andeneigh	GYM	621	207	Rk	Slate				Q	M	3		Andeneigh Quarries						landscaping	pavers	bush rock		Water filled site	OGMJ 1987/88
462400	7079600	Happy Valley	GYM	624	796	Pg	Siltstone	Mudstone			S	M	3		Widgee SC						Pavement gravel	Maintenance gravel			1.2-5m	OGMJ 1987/88
462600	7070700		GYM	626	707						S	S	1	W	Forestry						Maintenance gravel				Poor quality	Imbil Forestry
463100	7121300	Basford	GYM	631	213	Rk	Shale	Slate			S	S	1		Basford & Watson						Facing stone	Landscaping			Large resources, adjacent to state forest	OGMJ 1987/88
463200	7113400		GYM	632	134	Rk	Shale				S	M	3		Widgee SC, Tiaro SC						Maintenance gravel				<2m, large resources	OGMJ 1987/88
463500	7123600		GYM	635	236	Jt	Sandstone	Siltstone			P	S	1	W	Tiaro SC											

472700	7123000		GYM	727	230	Rlk	Siltstone	Mudstone		S	M	3		Widgee SC					Pavement gravel	Maintenance gravel		<2m, Large resources	OGMJ 1987/88
473000	7105800	Mulay	GYM	730	058					S	S	1	W	Coooloolo SC					Maintenance gravel			Minor reserves	Shire
473100	7124000	Nearde	GYM	731	240	Rlk	Mudstone			S	L	3		Widgee SC					Maintenance gravel			3-4m, Limited resources	OGMJ 1987/88
473900	7119800		GYM	739	198	Rlk	Siltstone	Mudstone		S	M	3		Widgee SC					Maintenance gravel			2-4m, Large resources	OGMJ 1987/88
474000	7093400		GYM	740	934	Rlk	Siltstone	Mudstone		S	L	3		Widgee SC					Pavement gravel	Maintenance gravel		3-5m, Moderate Resources	OGMJ 1987/88
474200	7109900		GYM	742	099	JKg	Diorite			P	M	3		Widgee SC					Tennis courts			<3m, Limited resources	OGMJ 1987/88
474200	7076900		GYM	742	766	Pg	Siltstone	Mudstone		S	S	1		Widgee SC					Maintenance gravel			1-2m, Moderate resources	OGMJ 1987/88
474200	7093400	Meadvale	GYM	742	934	Rw	Rhyolite			Q	L	3	F	Old Railways					Ballast	Rip Rap		3 bench, 40m, Large resources	OGMJ 1987/88
474300	7080900		GYM	743	809	Pg	Siltstone	Mudstone		S	M	3		Widgee SC					Pavement gravel	Maintenance gravel		2-3m, Ir	OGMJ 1987/88
474400	7080900		GYM	744	808	Pg	Siltstone	Mudstone		S	M	3		Widgee SC					Maintenance gravel			3-4m, Large resources	OGMJ 1987/88
474800	7123800		GYM	746	238	Rlk	Claystone	Mudstone		S	M	3		Widgee SC					Pavement gravel	Maintenance gravel		1-3m, mod-large resources	OGMJ 1987/88
474800	7079400		GYM	748	794	Pg	Siltstone	Mudstone		S	S	1		Widgee SC					Maintenance gravel			resources exhausted	OGMJ 1987/88
474800	7097400		GYM	748	974	Rk	Shale			S	M	3		Widgee SC					Maintenance gravel			1-3m, small resources	OGMJ 1987/88
475000	7081000		GYM	750	810	Rlk	Siltstone	Mudstone		S	S	1		Widgee SC					Maintenance gravel			1-2m, Large resources	OGMJ 1987/88
475300	7083400	Coles Ck	GYM	753	834	Rlk	Siltstone	Mudstone		S	M	3	W	Noosa SC					Maintenance gravel	Fill		1-2m, Moderate resources	Shire
475300	7087400		GYM	753	874	Rlk	Siltstone	Sandstone		S	M	3		Widgee SC					Pavement gravel	Maintenance gravel		1-2m, Large resources	OGMJ 1987/88
475400	7121500	Johnston Rd	GYM	754	215					Q	L	3	F	Coooloolo SC					Screenings			500 000m reserves, hard good quality	Shire
475400	7083300	Lehman Rd	GYM	754	833	Rlk	Siltstone			S	M	3		Widgee SC					Maintenance gravel	Fill		2-3m, Limited resources	OGMJ 1987/88
475400	7089100		GYM	754	891	Rlk	Siltstone	Mudstone		S	M	3		Widgee SC					Maintenance gravel				OGMJ 1987/88
475600	7077100	Tuchokoi	GYM	756	771	Rf	Sandstone	Conglomerate		S	L	5		Widgee SC					Pavement gravel	Maintenance gravel		2-3m, Limited by ripability	OGMJ 1987/88
476000	7087900		GYM	760	879	Rk	Shale			S	S	1		Widgee SC					Maintenance gravel			3-4m, Limited resources	OGMJ 1987/88
476200	7088000		GYM	762	980	Rc	Trachyte	Shale		S	M	3		Widgee SC					Maintenance gravel	Pavement gravel		1-3m, Large resources	OGMJ 1987/88
478500	7113500	Nail Rd	GYM	785	135	Rk	Schist	Mudstone		S	M	3		Widgee SC					Maintenance gravel	Pavement gravel		1-5m, Limited resources	OGMJ 1987/88
478500	7072900		GYM	785	729	Rf	Conglomerate	Sandstone		S	L	3		Widgee SC					Maintenance gravel	Pavement gravel		1-2m, Small resources	OGMJ 1987/88
479200	7073300	Ridgewood	GYM	792	733	Rf	Conglomerate			P	S	1		Noosa SC					Pavement gravel				Rec 1989/21
480000	7117500	Toolara Forestry	GYM	800	175	Ry	Sandstone			S	L	3		Forestry					Maintenance gravel	Pavement gravel	Fill	<3m, Large resources	OGMJ 1987/88
480000	7118200		GYM	800	182	Ry	Lentite			S	M	3		Forestry					Maintenance gravel				OGMJ 1987/88
480000	7088700	Noosa Rd	GYM	800	887					S	S	1	W	Coooloolo SC					Maintenance gravel			Minor reserves	Shire
480200	7099800		GYM	802	998	Rlk	Siltstone	Sandstone		Q	M	3		Widgee SC					Maintenance gravel	Pavement gravel		<13m	OGMJ 1987/88
480300	7084800		GYM	803	848	Rk	Rhyolite Shale			S	S	1		Noosa SC					Pavement gravel				Rec 1989/21
481700	7085400	Coles Ck	GYM	817	854	Rw	Granodiorite			Q	S	1		Noosa SC					Pavement gravel	Maintenance			Rec 1989/21
481800	7085800		GYM	818	858	Rw	Granodiorite			S	S	1		Noosa SC					Pavement gravel	Maintenance			Rec 1989/21
481900	7088300	Brewers Rd	GYM	819	883	Rw	Granodiorite			S	M	3		Noosa SC					Pavement gravel	Maintenance			Rec 1989/21
482300	7119000		GYM	823	190	Ry	Lentite			S	M	3		Forestry					Maintenance gravel			Moderate resources	OGMJ 1987/88
482800	7089200		GYM	828	892	Ts	Conglomerate			S	M	3		Noosa SC					Pavement gravel	Maintenance			Rec 1989/21
483200	7083800	Jempot	GYM	832	838	Rw	Rhyolite			Q	M	3		Noosa SC					Pavement gravel	Maintenance	Fill	11m	Rec 1989/21
483400	7077400	Black Mtn	GYM	834	774	Rk	Phyllic shale			S	M	3		Noosa SC					Pavement gravel	Maintenance			Rec 1989/21
483500	7081300		GYM	835	813	Ti	Rhyolite			Q	S	1		MRD					Pavement gravel	Maintenance	Fill		Rec 1989/21
483900	7100600		GYM	839	006	Rk	Greywacke			S	M	3		Widgee SC					Maintenance gravel	Pavement gravel		Large resources	OGMJ 1987/88
484300	7105800	Wolvi Mt	GYM	843	058	Ry	Conglomerate	Sandstone		S	M	3		Widgee SC					Maintenance gravel	Pavement gravel		Moderate resources	OGMJ 1987/88
484400	7100500	Hams	GYM	844	005	Rk	Meta sandstone			S	M	3		Noosa SC					Maintenance				Rec 1989/21
484400	7107500	Taggan	GYM	844	075					S	S	1	W	Coooloolo SC					Maintenance gravel			20 000m reserves	Shire
484400	7083300	Mt Cooroora	GYM	844	833	Ti	Comenigte			Q	M	3		Noosa SC					Pavement gravel	Maintenance		Large reserves	Rec 1989/21
484800	7102800	Conroy	GYM	848	028	Rk	Sandstone			S	M	3		Forestry					Maintenance gravel	Pavement gravel		Large resources	OGMJ 1987/88
485300	7118700		GYM	853	187	Ry	Lentite			S	S	1	W	Forestry					Maintenance gravel				Plantation Forestry
485500	7099200	Genie Anne	GYM	855	992	Rk	Phyllic shale			Q	M	3		Noosa SC					Pavement gravel	Maintenance			Rec 1989/21
486200	7116600		GYM	862	166	Ry	Lentite			S	S	1		Forestry					Maintenance gravel				OGMJ 1987/88
486300	7116600		GYM	863	166	Ry	Lentite			S	L	3		Forestry					Maintenance gravel			Large resources	OGMJ 1987/88
486400	7116200		GYM	864	162	Ry	Lentite			S	L	3		Forestry					Maintenance gravel	Pavement gravel		Large resources	OGMJ 1987/88
486700	7119600		GYM	867	196	Ry	Lentite	Sandstone		S	M	3		Forestry					Maintenance gravel				OGMJ 1987/88
487000	7076500		GYM	870	765	Rk	Phyllic shale			S	S	1		Noosa SC					Pavement gravel	Maintenance			Rec 1989/21
487200	7076400	Pegee	GYM	872	764	Rk	Phyllic shale			S	M	3		Noosa SC					Pavement gravel	Maintenance		Moderate resource	Rec 1989/21
487500	7076600	Lawmille	GYM	875	766	Rk	Phyllic shale			Q	M	3		Noosa SC					Pavement gravel	Maintenance		Small reserves	Rec 1989/21
487800	7116500		GYM	878	165	Ry	Lentite			S	S	1		Forestry					Maintenance gravel				OGMJ 1987/88
487800	7117000		GYM	878	170	Ry	Lentite			S	L	3	W	Forestry					Maintenance gravel	Pavement gravel			Plantation Forestry
487900	7115500		GYM	879	155	Ry	Lentite			S	M	3		Forestry					Fill				OGMJ 1987/88
487900	7096400	Bourves	GYM	879	964	Rk	Phyllic shale			P	S	1		Noosa SC					Pavement gravel	Maintenance		Small reserves	Rec 1989/21
488100	7122000		GYM	881	220	Ry	Lentite			S	S	1		Forestry					Maintenance gravel			1-2m, Moderate resources	Plantation Forestry
488200	7104300		GYM	882	043	Ry	Lentite			S	M	3		Forestry					Maintenance gravel			2-3m	Plantation Forestry
488300	7121800		GYM	883	218	Ry	Lentite			S	S	1		Forestry					Maintenance gravel				OGMJ 1987/88
488400	7122700		GYM	884	227	Ry	Lentite			S	S	1	W	Forestry					Maintenance gravel				Plantation Forestry
488400	7123700		GYM	884	237	Ry	Lentite			S	S	1	W	Forestry					Fill			1-2m, Moderate resources	Plantation Forestry
488500	7122700		GYM	885	227	Ry	Lentite			S	S	1	W	Forestry					Maintenance gravel				Plantation Forestry
488600	7123600		GYM	886	236	Ry	Lentite			S	S	1	W	Forestry					Maintenance gravel				Gympie native forestry
489000	7122000		GYM	890	220	Ry	Lentite			S	S	1		Forestry					Maintenance gravel				OGMJ 1987/88
489300	7086500	Six mile (Brazzo)	GYM	893	865	Ry	Sandstone			S	M	3		Bazzo			</						

492500	7093400	GYM	928	934	R,Jy	Sandstone			Q	S	1							Maintenance			No resource	Rec 1989/21	
492700	7111800	GYM	927	118	R,Jy	Lentite			S	S	1		Forestry					Fill	Pavement gravel			Plantation Forestry	
492900	7107800	GYM	929	078	R,Jy	Lentite			S	S	1	W	Forestry					Maintenance gravel				Plantation Forestry	
492900	7108100	GYM	929	081	R,Jy	Sandstone			S	S	1		Forestry					Maintenance gravel	Fill			Plantation Forestry	
493100	7108200	GYM	931	082	R,Jy	Lentite			S	S	1	W	Forestry					Maintenance gravel				Plantation Forestry	
493400	7091000	Davis	GYM	934	910	R,Jy	Sandstone		S	S	1		Noosa SC					Loam	Fill			Rec 1989/21	
493500	7090900	Bellwood	GYM	935	909	R,Jy	Sandstone		S	M	3		Noosa SC					Pavement gravel			Moderate resources	Rec 1989/21	
493700	7107500		GYM	937	075	R,Jy	Lentite		S	S	1	W	Forestry					Maintenance gravel				Plantation Forestry	
493800	7123500		GYM	938	235	R,Jy	Sandstone		S	S	1		Forestry					Maintenance gravel	Fill			QGMJ 1987/88	
494400	7111700		GYM	944	117	R,Jy	Sandstone		S	L	3		Forestry					Pavement gravel	Fill		1.2m, Moderate resources	Plantation Forestry	
494500	7107400		GYM	945	074	R,Jy	Sandstone		S	M	3		Forestry					Maintenance gravel			Large resources	QGMJ 1987/88	
494700	7122800		GYM	947	228	R,Jy	Lentite		S	S	1		Forestry					Fill				QGMJ 1987/88	
494900	7076500	Mt Cooroy (West)	GYM	949	765	Ti	Seyvite		Q	M	3		Noosa SC					Rip rap				Rec 1989/21	
495200	7078700	Mt Cooroy (nth)	GYM	952	787	Ti	Seyvite		Q	M	3		Perry					Rip rap			6m, moderate resources	Rec 1989/21	
495400	7108100		GYM	954	081	R,Jy	Lentite		S	M	3		Forestry					Pavement gravel				Plantation Forestry	
496000	7124000		GYM	960	240	R,Jy	Lentite		S	S	1	W	Forestry					Maintenance gravel	Pavement gravel		Limited resources	Plantation Forestry	
496000	7085500	Ringtail	GYM	960	855	Ti	Trachyte		Q	L	5	W	Noosa SC					Pavement gravel	Rip rap		4m large resource	Shire	
496100	7105200		GYM	961	052	R,Jy	Sandstone		S	M	3	W	Forestry					Maintenance gravel	Fill		<2m, Moderate resources	Plantation Forestry	
496300	7079800		GYM	963	798	Rn	Andesite	Tuff	Q	S	1		MRD					Pavement gravel			8m, small resource	Rec 1989/21	
497200	7101800		GYM	972	018	R,Jy	Meta sandstone		Q	M	3		Forestry					Pavement gravel	Maintenance	Fill	1.2m	Rec 1989/21	
497300	7101700		GYM	973	017	R,Jy	Lentite		S	S	1	W	Forestry					Maintenance gravel				Plantation Forestry	
497300	7101700		GYM	973	017		Diorite		S	M	3	W	Forestry					Tennis courts surface				Plantation Forestry	
497400	7082700		GYM	974	827	Ti	Rhyolite		Q	L	3		Noosa SC					Pavement gravel	Fill		Small resource	Rec 1989/21	
497600	7082400		GYM	976	824	Ri	Rhyolite		S	S	1							Maintenance	Fill		Large resource	Rec 1989/21	
497900	7080900	Mt Timbaran	GYM	979	809	Ti	Rhyolite		Q	M	3		Noosa SC, MRD					Pavement gravel	Maintenance		Large resources	Rec 1989/21	
498000	7077000	Hemingtons	GYM	980	770	Rn	Andesite		Q	S	1		Noosa SC					Pavement gravel			Large resources	Rec 1989/21	
498200	7107800	Harry's Hut	GYM	982	078	R,Jy	Lentite		S	S	1	W	Forestry					Maintenance gravel				Plantation Forestry	
498900	7107800		GYM	989	078	R,Jy	Sandstone		Q	S	1		Forestry					Maintenance			3.4m, Small resource	Rec 1989/21	
498900	7124000	Beckmans Pit	GYM	989	240	R,Jy	Lentite		S	S	1	W	Forestry					Maintenance gravel				Plantation Forestry	
499200	7079200		GYM	992	792	R,Jy	Sandstone		Q	M	3		Noosa SC, MRD					Fill			5.10m	Rec 1989/21	
312500	7094000	Sampf's Quartz Quarry	BOO	125	940	C	Quartz		P	S	1		B Sampf					Screenings	Landscape	ornamental	3.4m		
321000	7072000	Jackson	BOO	210	720	Jm	Ironstone	Sandstone	HW	S	M	3	W	Kingaroy SC, Wondai SC, MRD				Pavement Gravel					
328700	7079300		BOO	287	793	Tm	Ironstone		S	S	1		Kingaroy SC					Maintenance					
330000	7073000	Staines Pit	BOO	300	730	Jm	Ironstone		P	S	1		Kingaroy SC					Pavement					
338900	7080800		BOO	389	808	Tm	Ironstone		S	S	1		Wondai SC					Maintenance			poor quality		
352100	7118800	Byands	MUR	521	188	Tm	Lentite gravel		S	S	1		Wondai SC					Maintenance					
354400	7084000		MUR	544	840	PRb	Granite		CW	S	1		Wondai SC					Maintenance			coarse sand		
357000	7118100	Pearsons	MUR	570	181	Pz	Quartzite		HW	S	M	3		Wondai SC					Top Course				
357500	7104500		MUR	575	045		gabro				3	F	Wondai SC										
358200	7083700		MUR	582	837	Tm	Basalt		Q	S	1	W	Sampf					Pavement					
358900	7103200		MUR	589	032	Pz	Quartzite		HW	S	M	3		Wondai SC					Pavement				
359900	7115400	Hensans	MUR	599	154	Tm	Lentite gravel		S	S	1		Wondai SC					Maintenance					
360300	7073500		MUR	603	735	Tm	Rhyolite		HW	S	L	3		Kingaroy SC				Pavement			moderate reserves		
362300	7111200	Waters	MUR	623	112	Tm	Lentite gravel		P	L	3		Wondai SC						Pavement	Maintenance		2.3m, moderate reserves	
362900	7119800	Hebbies	MUR	629	198		Gravel		S	S	1	W	Wondai SC					Maintenance			Some crushing		
363300	7105200		MUR	633	052	Tm	Lentite gravel		S	S	1		Wondai SC					Maintenance			poor quality		
364000	7089700	Swenbank	MUR	640	897		Gravel		S	S	1	W	Wondai SC					Maintenance					
365100	7082300	Stuart River	MUR	651	823	PRb	Granite		CW	S	S	1	Wondai SC										
371000	7072200	Elmwoods	MUR	710	722	Tm	Lentite gravel		P	S	1		Kingaroy SC					Maintenance					
373000	7111300	Kaperniks	MUR	730	113	Ts	Gravel		S	S	1		Murgon SC					Pavement					
373000	7088500		MUR	730	885	Tm	Lentite gravel		Q	M	3		Wondai SC					Screenings	Pavement				
372900	7090400		MUR	729	904	Pz	Quartzite		HW	S	S	1	Wondai SC					Maintenance					
373900	7109300	Riedys	MUR	739	093	Ts	Gravel		S	M	3		Wondai SC					Top Course			<1m		
373800	7074100		MUR	738	741	Tm	Lentite gravel		S	S	1		Kingaroy SC					Maintenance					
374000	7075000	Liesegangs	MUR	740	750	Pz	Quartzite		S	M	3		Kingaroy SC					Pavement					
374900	7089500	Wicks	MUR	749	895	Tm	Lentite gravel		P	S	1		Kingaroy SC					Maintenance					
374800	7089700	Wondai SC old pit	MUR	748	897	Tm	Basalt		MW-HW	Q	S	1	Wondai SC					Crushed rock					
376000	7074500	Sullivan	MUR	760	745	PRb	Granite		CW	P	S	1	W	Kingaroy SC				Maintenance			<2m		
375800	7088300	Wondai SC	MUR	758	883	Tm	Basalt		SW-F	Q	M	3	W	Wondai SC				crushed rock	Concrete	Pavement	8m face		
380000	7118500	Solomons	MUR	800	185	Tv	Rhyolite		MW-HW	P	M	3		Murgon SC				Top Course			<2m		
379900	7119400		MUR	799	194	Tv	Lentite gravel		S	S	1		Murgon SC					Maintenance					
380500	7117700	Woodyards	MUR	805	177	Pz	Rhyolite		S	S	1		Murgon SC					Maintenance					
380500	7079200	Webars	MUR	805	792	Tm	Lentite gravel		S	S	1		Kingaroy SC					Maintenance			<1m		
382000	7075500		MUR	820	755	Tm	Lentite gravel		P	S	1		Kingaroy SC					Maintenance			<2m		
383400	7072800		MUR	834	728	Tm	Lentite gravel		S	S	1		Kingaroy SC					Maintenance			<2.5m		
365400	7082000		MUR	854	820	Pzm	GrayWacke		HW-MW	P	S	1	Wondai SC					Maintenance	Pavement		1.2m		
385500	7075800	Kingaroy SC	MUR	855	758	Tm	Dolomite		SW-HW	Q	L	3	Kingaroy SC					Screenings	Concrete		<20m		
386000	7080300	Sempfs	MUR	860	803	Tm	Basalt		SW-HW	Q	M	3	W	Sampf				Concrete	Screenings		<10m		
387000	7088500		MUR	870	865	Pzm	Gravel		S	S	1							Maintenance			Many small pits in forest		
387700	7083500	Forestry No1	MUR	877	835	Pzm	Quartzite		HW	S	L	3	W	Wondai SC, Mervocrough Quames				Pavement	Fill		Auction area by Forestry		
390400	7075300		MUR	904	753	PRb	Granite		CW	P	S	1	Kingar										

387800	7068000	Haden & Remmots	KN	878	680	Tr	Ironstone				P	S	1	Kingaroy SC			Maintenance			<2m, small reserves	OGMJ 84/983	
388000	7019000		KN	880	190	Pzm	Phyllite				HW	S	1	Rosale SC			Maintenance				OGMJ 84/983	
388800	7060200	Petersens	KN	888	602	Tr	Ironstone				S	M	3	Kingaroy SC			Maintenance			<2m	OGMJ 84/983	
389100	7021400		KN	891	214	Tr	Ironstone				P	M	3	Rosale SC			Maintenance			2.3m	OGMJ 84/983	
390000	7038000	Kissing Corner	KN	900	390	Rut	Conglomerate				CW-HW	S	M	3	Nanango SC			Maintenance				OGMJ 84/983
390100	7040800		KN	901	408	Rut	Conglomerate				CW	S	M	3	Nanango SC			Pavement				OGMJ 84/983
391900	7025600		KN	919	256	Tr	Ironstone				S	S	1	Rosale SC			Maintenance				OGMJ 84/983	
392400	7061100	Metar	KN	924	611	PRb	Granite				S	M	3	W Kingaroy SC			Fill	Pavement			Shire	
393000	7040200	Tarong	KN	930	402	Tr	Pavement				Q	M	3	Thess			Pavement	Concrete	np rep		OGMJ 84/983	
393500	7021700		KN	935	217	Os, Rut	Gravels				S	S	1	W Rosale SC			Maintenance				Shire	
394100	7026400		KN	941	264	Rut	Sandstone				S	S	1	Rosale SC			Maintenance			<2m	OGMJ 84/983	
394500	7047700		KN	945	477	TuPRt	Granite				S	S	1	Nanango SC			Maintenance				OGMJ 84/983	
394800	7038000		KN	948	360	Tr	Ironstone				S	S	1	Forestry			Maintenance				OGMJ 84/983	
394900	7054400	Hodgeleigh	KN	949	544	Pzm	Hornfels	Quartzite	Argillite		MW-SW	Q	L	5	W CSR Reeyomx			Concrete	Screenings			OGMJ 84/983
395000	7033500	Rocky Creek	KN	950	335	Rut	Conglomerate				CW-HW	P	S	1	Forestry			Maintenance				OGMJ 84/983
395200	7060700	Pearsons	KN	952	607	Pzm	Quartzite				HW	S	M	3	Kingaroy SC			Top Course				OGMJ 84/983
395300	7018100		KN	953	181	Os	Gravels				S	S	1	Rosale SC			Maintenance				Shire	
395800	7031200	Red	KN	958	312	Tr	Ironstone				P	M	3	Forestry, Rosale SC			Maintenance			<4m	OGMJ 84/983	
396800	7034800	White	KN	968	348	Pzm	Quartzite				HW	S	S	1	Forestry, Rosale SC			Maintenance				OGMJ 84/983
398100	7048900		KN	981	489	PRt	Granite				CW	S	S	1	Nanango SC			Maintenance				OGMJ 84/983
399200	7033200		KN	992	332	Pzm	Quartzite	Siltstone			P	S	1	W Gerslowald			Road Base	Fill	Maintenance	Not correctly zoned	Shire	
399400	7031000	Smiths	KN	994	310	Ph	Andesite				Q	S	1	Smiths Premix Concrete			Concrete	Pavement	Screenings		OGMJ 84/983	
400700	7052000		NAN	007	520	Pzm	Quartzite	Mudstone	Siltstone		HW	S	S	1	Nanango SC			Maintenance gravel				OGMJ 198/182
401400	7028700		NAN	014	287	PRt	Granite				CW	P	S	1	Rosale SC			Fill	Pavement gravel		OGMJ 198/182	
401800	7046800		NAN	018	468	PRt	Granite				P	S	1	Lucy			Maintenance gravel				OGMJ 198/182	
402100	7058100		NAN	021	581	Ts	Lentite gravel				S	S	1	Nanango SC			Maintenance gravel				OGMJ 198/182	
402300	7045100		NAN	023	451	Tr	Lentite gravel				S	S	1	Nanango SC			Maintenance gravel				OGMJ 198/182	
404500	7026400	Gill	NAN	045	264	PRt	Granite				CW	P	S	1	Railway			Ballast	Fill		OGMJ 198/182	
404600	7025400		NAN	046	254	Pzs	Quartzite	Sandstone			S	S	1	Rosale SC			Maintenance gravel	Pavement gravel			OGMJ 198/182	
405700	7022000		NAN	057	220	Tr	Lentite gravel				P	S	1	Nanango SC, Rosale SC, Forestry			Maintenance gravel			1.2m	OGMJ 198/182	
405700	7026000		NAN	057	260	PRt	Granite				CW	P	S	1	Rosale SC			Maintenance gravel			<3m	OGMJ 198/182
409300	7029100		NAN	093	291	PRt	Granite				F	P	S	1	Lowther & Son			Building Stone	Monumental	exposed boulders used	OGMJ 198/182	
417000	7024600	Penning	NAN	170	246	Pzm	Mudstone	Shale			HW	S	S	1	Forestry			Maintenance gravel				OGMJ 198/182
417800	7033500	Coppamine	NAN	178	335	Tr	Lentite gravel				P	S	1	Forestry			Maintenance gravel				OGMJ 198/182	
418000	7034100	Muddy Pit No 2	NAN	180	341	Pzm	Greywacke	Mudstone			HW-CW	P	S	1	Forestry			Maintenance gravel				OGMJ 198/182
418300	7027100		NAN	183	271	PRt	Granite				CW	P	S	1	Estk Shire Council MRD			Maintenance gravel	Fill		OGMJ 198/182	
419000	7019400	Opossum	NAN	190	194	Pzm	Mudstone	Shale			HW	S	S	1	Forestry			Maintenance gravel				OGMJ 198/182
419300	7030300	Sandy Pit	NAN	193	303	Pzm	Quartzite	Sandstone	Shale		HW	P	S	1	Forestry			Maintenance gravel				OGMJ 198/182
419700	7035600	Muddy Pit No 1	NAN	197	356	Re	Mudstone	Siltstone			HW	P	S	1	Forestry			Maintenance gravel				OGMJ 198/182
420000	7026500	By pass Road	NAN	200	265	Re	Conglomerate				HW	P	m	3	Estk Shire Council MRD			Maintenance gravel				OGMJ 198/182
420400	7046300		NAN	204	463	Rn	Conglomerate				HW	S	S	1	Estk Shire Council			Maintenance gravel				OGMJ 198/182
427900	7018900	Hardings	NAN	279	189	Pzm	Mudstone	Shale			S	m	3	Estk Shire Council			Maintenance gravel				OGMJ 198/182	
428300	7029700		NAN	283	297	Re	Conglomerate				HW-CW	S	S	1	Estk Shire Council			Maintenance gravel				OGMJ 198/182
432300	7026300		NAN	323	263	Rn	Andesite				HW	P	S	1	Estk Shire Council			Maintenance gravel				OGMJ 198/182
435700	7063700		NAN	357	637	Pm	Arenites	Conglomerates			S	L	3	W Kilcoy SC			Pavement gravel	Maintenance gravel			Estk SC	
436300	7017700	Slaughters	NAN	363	177	Re	Conglomerate				HW-CW	S	S	1	Estk Shire Council			Maintenance gravel	Binder			OGMJ 198/182
436900	7027300		NAN	369	273	Rn	Andesite				HW	S	S	1	Estk Shire Council			Maintenance gravel				OGMJ 198/182
437000	7061300		NAN	370	613	Pm	Shale	Siltstone			HW	S	S	1	Kilcoy SC			Maintenance gravel			<2m	OGMJ 198/182
438100	7024700		NAN	381	247	Rn	TuFill				HW	P	S	1	Estk Shire Council			Pavement gravel				OGMJ 198/182
438800	7019600	Copleys	NAN	388	196	Rn	Conglomerate				HW	S	S	1	Estk Shire Council			Maintenance gravel			<2m	OGMJ 198/182
442700	7015300		NAN	427	153	Pm	Arenites	Conglomerates			S	L	3	W Kilcoy SC			Pavement gravel	Maintenance gravel				Estk SC
446400	7042700		NAN	464	427	Pzb	Mudstone				HW	S	S	1	Kilcoy SC			Maintenance gravel				OGMJ 198/182
450500	7047000		NAM	505	470	CPb	Chert				P	S	1	Forestry			Maintenance gravel				GSO Pub 385	
456800	7040200		NAM	568	402	CPb	Chert				P	S	1	Forestry			Maintenance gravel				GSO Pub 385	
457100	7039600		NAM	571	396	CPb	Greenstone				P	S	1	Forestry			Maintenance gravel			<2.5m	GSO Pub 385	
457400	7038400		NAM	574	384	Rm	Granodiorite				P	S	1	Forestry			Maintenance gravel				GSO Pub 385	
457700	7018700		NAM	577	187	Pn	Sandstone				Q	M	3	Kilcoy SC			Pavement gravel				GSO Pub 385	
458700	7067800	Boumba Quarry	NAM	587	678	Pa	Greenstone				Q	M	3	Imigation & Water			Fill	Rip Rap	Difficult to work		GSO Pub 385	
458800	7024100		NAM	588	241	CPb	Phyllite				S	S	1	Kilcoy SC			Fill				GSO Pub 385	
458800	7027100		NAM	588	271	CPb	Siltstone				P	S	1	Kilcoy SC			Pavement gravel			<7m	GSO Pub 385	
459700	7020800		NAM	597	208	CPb	Phyllite				S	S	1	Kilcoy SC			Fill				GSO Pub 385	
460300	7014100		NAM	603	141	Pn	Shale	Siltstone			P	S	1	Kilcoy SC			Maintenance gravel				GSO Pub 385	
461100	7039900		NAM	611	399	Rm	Granodiorite				S	S	1	Forestry			Maintenance gravel			<2m	GSO Pub 385	
461700	7017700		NAM	617	177	CPb	Phyllite				S	S	1	Kilcoy SC			Maintenance gravel				GSO Pub 385	
461700	7042800		NAM	617	428	CPb	Phyllite				P	S	1	Forestry			Maintenance gravel				GSO Pub 385	
461700	7043200		NAM	617	432	CPb	Chert	Phyllite			P	S	1	Forestry			Maintenance gravel			<4m	GSO Pub 385	
461800	7068000		NAM	618	680		Gravel				S	S	1	W Forestry			Maintenance			Clayey	Imbil Forestry	
462000	7015300		NAM	620	153	Rb	Tuff				S	S	1	Kilcoy SC			Maintenance gravel				GSO Pub 385	
462100	7017600	Villeneuve	NAM	621	176	Pm	Meta-siltstone	Greywacke			Q	L	3	W Villeneuve			Pavement gravel	Maintenance gravel		Main source of rock in Kilcoy area		SHIRE
462200	7017400		NAM	622	174	Pn	Shale	Siltstone	Hornfels		P	M	3	MRD, Kilcoy SC			Pavement gravel			<5m	GSO Pub 385	

Grid Ref	Section	Point	Rock	Age	Strat	Unit	Notes	Material	Use	Remarks
474400	7064700	Moy Pocket	NAM 744	647	Pg	Trachyandesite				
474700	7057200		NAM 747	572	Pa	Chert				
474900	7032500		NAM 749	325	Pa	Mudstone	Chert			
475100	7029100		NAM 751	291	PRb	Andesite				
475300	7061200	Lowes	NAM 753	612	Pn	Chert				
476000	7024200	Woodrow's	NAM 760	242	CPb	Phyllite				small reserves
476300	7056000	Cochrane's	NAM 763	560	Pg	Mudstone				
476800	7044200		NAM 768	442	Rm	Granodiorite				
476900	7019600		NAM 769	196	Rm	Granodiorite				
476900	7032800		NAM 769	328	Tv	Basalt				
477600	7043500	Dixon's	NAM 776	435	Pa	Mudstone				
477700	7023800		NAM 777	238	Rm	Granodiorite				
477700	7043200		NAM 777	432	Pa	Mudstone				
477800	7065300		NAM 778	653	Pg	Shale				
478000	7048300		NAM 780	483	Rn	Tuff				
478200	7044900		NAM 782	449	Rn	Tuff				
479400	7048200		NAM 794	482	Tv	Basalt				
479500	7050100		NAM 795	501	Rn	Rhyolite				
479700	7045300		NAM 797	453	Rn	Andesite				
479800	7015100		NAM 798	151	Rm	Granodiorite				
480200	7037200		NAM 802	372	Tv	Basalt				
480600	7046800		NAM 806	468	Tv	Basalt				
480700	7046500		NAM 807	465	Tv	Basalt				
481000	7066300		NAM 810	663	Pg	Mudstone				
481100	7039500		NAM 811	395	Pa	Chert	Jasper			
481100	7039900	Howell's Knob	NAM 811	399	Pa	Chert				
481500	7039800		NAM 815	398	Pa	Chert	Jasper			
481800	7040300		NAM 816	403	Pa	Chert	Mudstone			
481800	7014000	Bracaba	NAM 818	140	Rm	Granodiorite				
481800	7043400		NAM 818	434	Tv	Basalt				
482000	7037700		NAM 820	377	Pa	Chert	Jasper			
482300	7066000		NAM 823	660	Rf	Conglomerate				
482400	7031600		NAM 824	316	Pc	Andesite				
482400	7036700		NAM 824	367	Rn	Rhyolite				
482700	7052200		NAM 827	522	Rn	Rhyolite				
483000	7030800		NAM 830	308	Pc	Andesite				
483200	7031700		NAM 832	317	Rn	Rhyolite				
483300	7052600		NAM 833	526	Rn	Rhyolite				
483300	7055700		NAM 833	557	Rn	Rhyolite				
483400	7052800		NAM 834	528	Rn	Rhyolite				
483700	7046800		NAM 837	468	Rn	Rhyolite				
483800	7039100		NAM 838	391	Tv	Basalt				
483800	7041700		NAM 838	417	Tv	Basalt				
484400	7067700		NAM 844	677	Rn	Tuff				
484500	7031900		NAM 845	319	Pc	Andesite				
484800	7031700		NAM 848	317	Pc	Andesite				
487300	7043300		NAM 873	433	Tv	Basalt				
487300	7045200		NAM 873	452	R,j	Sandstone				
487400	7044400		NAM 874	444	Tv	Basalt				
488200	7055300	Guppy's	NAM 882	553	Tv	Basalt				
488400	7033700		NAM 884	337	R,j	Sandstone				
488600	7053700	Dulong	NAM 886	537	Tv	Basalt				
489400	7053300		NAM 894	533	Tv	Basalt				
489700	7062900		NAM 897	629	Tv	Basalt				
489800	7048400		NAM 898	484	Tv	Basalt				
490100	7042800		NAM 901	428	Tv	Basalt				
490200	7030600		NAM 902	306	R,j	Sandstone				
490200	7062300		NAM 902	623	Rn	Rhyolite				
490300	7024200		NAM 903	242	R,j	Sandstone				
490800	7037700		NAM 908	377	Tv	Basalt				
491000	7054400		NAM 910	544	Tv	Basalt				
491000	7066400		NAM 910	664	Rn	Rhyolite				
491300	7019200		NAM 913	192	R,j	Lignite				
491300	7038200		NAM 913	382	Tv	Basalt				
491600	7025000		NAM 916	250	R,j	Sandstone				
491600	7038000		NAM 916	380	Tv	Basalt				
491600	7045200		NAM 916	452	Rne	Rhyolite				
491700	7026000		NAM 917	260	R,j	Sandstone				
491700	7026400		NAM 917	264	R,j	Sandstone				
492000	7023000	Glasshouse Exel	NAM 920	230		Trachyandesite				
492000	7036800		NAM 920	368	Tv	Basalt				
492200	7021900		NAM 922	219	Rn	Tuff				
492300	7027600		NAM 923	276	R,j	Sandstone				
492500	7062300		NAM 925	623	Rn	Loam				
492600	7019300		NAM 926	193	Ti	Trachyte				
492800	7064400		NAM 928	644	Rn	Rhyolite				
492900	7036100		NAM 929	361	Tv	Basalt				
492900	7036100		NAM 929	361	Tv	Basalt				
493000	7050200		NAM 930	502	Rne	Andesite				
493100	7065100		NAM 931	651	Rn	Rhyolite				
493200	7017800		NAM 932	178	Ti	Trachyte				
493200	7040300		NAM 932	403	R,j	Sandstone				
493200	7054100		NAM 932	541	Rne	Andesite				
493500	7021700		NAM 935	217	R,j	Sandstone				
493700	7021300		NAM 937	213	R,j	Lignite				
493700	7031400		NAM 937	314	R,j	Sandstone				
493800	7024500		NAM 938	245	Ti	Comendite				
493800	7063800		NAM 938	638	Rn	Rhyolite				
494000	7058000	Image Flat	NAM 940	580	Rn	Rhyolite				
494100	7063200		NAM 941	632	Rn	Rhyolite				
494200	7057700		NAM 942	577	Rn	Rhyolite				
494300	7028000		NAM 943	289	Ti	Trachyandesite				
494400	7043700		NAM 944	437	R,j	Sandstone				

Gympie Special Sheet
Sand and Gravel

East	North	Name	Sheet	Easting	Northing	Symbol	Rock Type 1	Rock Type 2	Rock Type 3	Weathering	Working	Size	Status	Operator	Designated	Local Authority	Land Tenure	Land Use	Production	Use 1	Use 2	Use 3	Comments	Report
330000	7079400	Leers	BOO	300	794		Sand				S	S		Lear						Concrete			Used in Dalby, banks & terraces	OGMJ Oct 81
346000	7086000		BOO	460	860		Residual sand				S	S		Sempf						Concrete blends				OGMJ Oct 81
346700	7084100		BOO	467	841		Residual sand				S	S		Wondal SC						Concrete blends				OGMJ Oct 81
346900	7083800	Okeden	BOO	469	838		Sand				S	S		Wondal SC						Concrete			Moderate reserves, replenished by floods	OGMJ Oct 81
353700	7064200	Taswell Creek	KIN	537	642		Sand				S	S		Kingaroy SC						Concrete			Reserves in Boyne River	OGMJ Oct 81
354800	7085800	Coverly Creek	MUR	548	858		Sand				S	S		Sempf						Concrete			Blended with residual sand from BOO 460 860	OGMJ Oct 81
354900	7085000	Lambing Creek	MUR	549	850		Sand				S	S		Sempf						Concrete			Moderate reserves	OGMJ Oct 81
362100	7118000	Holland Creek	MUR	621	180		Sand				S	S		Sempf						Concrete			Moderate reserves	OGMJ Oct 81
364000	7058400		KIN	640	584		Residual sand				P	S		Various						Concrete	Bedding sand	fill		OGMJ Oct 81
365100	7058600	Sawells	KIN	651	586		Residual sand				P	S		Sawell						Concrete			Blended with Hicks Pit	OGMJ Oct 81
368700	7075100	Hick's	MUR	687	751		Sand				S	M		Kingaroy SC, Sawell						Concrete	Bedding sand	fill		OGMJ Oct 81
372600	7090400		MUR	726	904		Residual sand				P	S												OGMJ Oct 81
377800	7042800		KIN	778	428		Residual sand				P	S												OGMJ Oct 81
381700	7028000		KIN	817	280		Residual sand				P	S												OGMJ Oct 81
386200	7044900	Shepherdsons	KIN	862	449		Sand	Gravel			S	S								Concrete				OGMJ Oct 81
389800	7042400		KIN	898	424		Sand				S	S		Robinson						Concrete			Silty and loam	OGMJ Oct 81
391800	7077700		MUR	918	777		Residual sand				P	S								Fill				OGMJ Oct 81
392700	7039300	Tarong PS	KIN	927	393		Sand				S	M		Readymix						Concrete			Covered by ash dam	OGMJ Oct 81
394400	7069300		MUR	944	693		Residual sand				S	S		Sempf						Concrete			Clay bands	OGMJ Oct 81
398100	7047300	Sandy Creek	KIN	981	473		Sand				S	M		Nanango SC, contractors						Concrete	Bedding sand	fill	Small reserves	OGMJ Oct 81
401000	7102000		GOO	010	020		Residual sand				S	M		Kildvan SC, Murgon SC						Concrete	Fill		Clevey	OGMJ Oct 81
401100	7103500	Jones	GOO	011	035		Residual sand				S	S		Grot						Concrete	Loam	Fill		OGMJ Oct 81
401900	7101400		GOO	019	014		Residual sand				S	M		Kildvan SC, Murgon SC						Concrete				OGMJ Oct 81
419200	7113000	Sawells	GOO	192	130		Sand	Gravel			S	S		Sawells						Concrete			Wide Bay Creek	OGMJ Oct 81
420300	7044200		NAN	203	442		Sand	Gravel			P	S												OGMJ Oct 81
426800	7036200		NAN	268	362		Loam				S	S								Fill	Blinder			OGMJ Oct 81
427300	7036700		NAN	273	367		Sand	Gravel			S	S												OGMJ Oct 81
431300	7024900		NAN	313	249		Gravel				S	S								Maintenance				OGMJ Oct 81
432100	7024900	Campbells	NAN	321	249		Gravel	Cobbles	Silty Sand		P	M								Fill	pavement gravels		Concrete if washed and crushed	OGMJ Oct 81
436200	7015900		NAN	362	159		Sand	gravel			S	S								Concrete	Maintenance			OGMJ Oct 81
465100	7082000		MUR	651	820		Sand				S	S		Sempf	Wondal					Concrete			Stuart River	
465200	7083500		MUR	652	835		Sand				S	S		Sempf	Wondal					Concrete			Stuart River	
502300	7086300		LAG	023	863	RJy	Sand	Sandy clay			P	M		Lenahan & Earl						Fill	Bedding	Loam		Rec 1989/21
502400	7086200		LAG	024	862	RJy	Sand	Sandy clay			P	M		Noosa Earthmoving						Bedding	Fill			Rec 1989/21
502400	7087900		LAG	024	879	Ope	Sand				P	M		Lenahan & Earl						Concrete	Bedding	Loam		Rec 1989/21
502700	7087000		LAG	027	870	RJy	Sandstone	Loam	Sand		S	M		Noosa Earthmoving						Fill	Bedding	Loam	Large resource	Rec 1989/21
502900	7087600	Farbes	LAG	029	876	RJy	Sand				S	M		Sunstone						Bedding	Fill		Small Resource	Rec 1989/21
508300	7078800		LAG	083	788	Qpd	Sand				P	M		Noosa SC						Fill			Large resource	Rec 1989/21
508900	7077800	Council Pit	LAG	089	778	Qpd	Sand				P	M	W	Noosa SC				1000t		Fill	Blinder		Shire	
508800	7077600	Hofmann	LAG	088	776	Qpd	Sand				P	M		Lenahan & Earle						Concrete	Bedding	Blinder	Large resource	Rec 1989/21
504700	7123300	Mt Bluffham	LAG	047	233	Qpd	Sand				P	M		Coooloolo SC						Concrete	bedding	Plaster	Large resources, in Great Sandy Region, future uncertain	OGMJ Jul 87
330600	7020100	Juan Ck	JAN	306	201	Oa	Sand				S	S		WSC						Bedding	Concrete			OGMJ 85/988
419300	7049800		NAN	193	498	Oa	Gravel				S	S	W	Esk SC	Esk	CrWn				mmm				Esk SC
419300	7049800		NAN	193	498	Oa	Sand	Gravel			S	M	W	Williams	Esk					pp			Large Reserves	Esk SC
419300	7049800		NAN	268	367	Oa	Gravel				S	S	W	Esk SC	Esk	CrWn		24m		mmm				Esk SC
426800	7036700		NAN	279	328	Oa	Sand	Gravel			S	S	W	Williams	Esk			1000m		pp				Esk SC
427900	7032800		NAN	290	155	Oa	Gravel				S	S	W	Esk SC	Esk	CrWn		1160m		mmm	pp			Esk SC
429000	7015500		NAN	294	281	Oa	Sand	Gravel			S	S		Oupan Resources	Esk					pp				Esk SC
429400	7028100		NAN	296	290	Oa	Sand	Gravel			S	S			Esk					pp				Esk SC
429600	7029000		NAN	312	252	Oa	Sand	Gravel			S	M	W	Oupan Resources	Esk					pp				Esk SC
431200	7025200		NAN	312	253	Oa	Sand	Gravel			S	S	W	Esk SC	Esk			1508m		Maintenance				Esk SC
431200	7025300		NAN	354	301	Oa	Sand	Gravel			S	S	W	Esk SC	Esk	CrWn				mmm				Esk SC
435400	7030100		NAN	363	214	Oa	Sand	Gravel			S	M	W	Dept of Transport	Esk					pp				Esk SC
436300	7021400		NAN	385	150	Oa	Sand	Gravel						F	Esk					pp			Large Reserves	Esk SC
438500	7015000		NAN	386	265	Oa	Gravel				S	S	W	Esk SC	Esk	CrWn				mmm				Esk SC
439600	7026500		NAN	388	148	Oa	Sand	Gravel			S	M	W	Karremans Bros	Esk	Freehold		17 000t						Esk SC
454300	7027400		NAM	543	274	Oa	Sand				S	M		Kilcoy SC						Pavement gravel				GSO Pub 385
458500	7023200		NAM	585	232	Oa	Sand	Gravel			P	M	W	N Doyle	Kilcoy					Concrete	Bedding		Dredged from the weir to enlarge water supply	SHIRE
460700	7017900		NAM	607	179	Oa	Sand	Loam			P	S		Kilcoy SC						Blinder	Fill	Bedding		GSO Pub 385
462400	7027700		NAM	624	277	Oa	Sand	Gravel						F	Venturiello	Kilcoy				Concrete	Bedding		Application granted in principle V large reserves	SHIRE
468300	7046900		NAM	683	469	Oa	Loam				P	S								Top soil				GSO Pub 385
468600	7051300		NAM	686	513	Oa	Loam				P	M	W	Bryant										Shire
468800	7050200		NAM	688	502	Oa	Loam				P	M	W	Mansell										GSO Pub 385
468700	7047000		NAM	687	470	Oa	Sand	gravel			P	M	W	Mansell						Bedding	Filter			GSO Pub 385
468400	7049200		NAM	684	492	Oa	Sand				P	M		Heading						Concrete				GSO Pub 385
470300	7054500		NAM	703	545	Oa	Sand				S	M		Woods						Concrete				GSO Pub 385
470600	7045300		NAM	706	453	Oa	Sand				S	S		Ruhle										

APPENDIX 4

BRISBANE SPECIAL SHEET

DATA SHEETS - QUARRIES, SAND AND GRAVEL

East	North	Name	Sheet	Easting	Northing	Symbol	Rock Type 1	Rock Type 2	Rock Type 3	Weathering	Working	Size	Paize	Status	Operator	Designated	Local Authority	Land Tenure	Land Use	Production	Use 1	Use 2	Use 3	Comments	Report	
500700	8912900		BEE	007	129	Tv	Basalt				O	S	1		Teese						Maintenance gravel				Publ 368	
501200	8949300		BEE	012	493	Ts	Basalt				O	S	1		Brisbane CC										Water filled	Publ 368
501500	8914600		BEE	015	146	Jw	Sandstone				S	S	1								Fill				Publ 368	
501800	8937400		BEE	018	374	Ts	Conglomerate				S	M	3								Pavement gravel	Maintenance gravel			Publ 368	
501900	8922900	Jimbomba	BEE	019	229	Tv	Basalt				O	L	3	W	Green & Sons					50000t	Pavement gravel				Publ 368	
502200	8905200	Bemam Range	BEE	022	052	Tv	Basalt				O	L	3	W	Fisher Concrete	Y	Beaudesert			5500t	Concrete	Screenings			Large reserves	Publ 368
502400	8926300		BEE	026	363	Rjo	Conglomerate				O	M	3								Maintenance gravel				Publ 368	
503000	8933300		BEE	030	333	Ri	Coal	Sandstone			O	S	1												Small reserves	Publ 368
503100	8901200		BEE	031	012	Ts	Chert				O	S	1												Publ 368	
503100	8911200		BEE	031	112	Tv	Basalt				P	S	1								Maintenance gravel				Publ 368	
503600	8939200		BEE	036	392	Rjo	Conglomerate				S	S	1												Publ 368	
503700	8922900		BEE	037	229	Rjo	Conglomerate	Shale			S	S	1		Brisbane CC							Fill			Publ 368	
504000	8954700		BEE	040	547	Pm	Quartzite				S	S	1		Brisbane CC										Publ 368	
504600	8911500		BEE	046	115	Ts	Conglomerate				S	S	1		MRD						Pavement gravel				Small reserves	Publ 368
505000	8937200		BEE	050	372	Ts	gravel				S	S	1		Beaudesert SC						Maintenance gravel				Publ 368	
505500	8908000		BEE	055	080	Jw	Conglomerate				P	S	1												Publ 368	
505500	8941400		BEE	055	414	Rjo	Conglomerate				S	S	1								Pavement gravel				Publ 368	
506000	8940600		BEE	060	406	Rjo	Conglomerate				S	S	1		Thesis						Pavement gravel				Publ 368	
506500	8909200		BEE	065	092	Jm	Conglomerate				S	S	1								Pavement gravel				Publ 368	
506600	8940300		BEE	066	403	Rjo	Conglomerate				S	S	1								Pavement gravel				Publ 368	
506700	8907700		BEE	067	077	Jm	Sandstone				P	S	1								Pavement gravel				Publ 368	
506800	8943600		BEE	068	436	Pm	Quartzite				O	M	3		CBR Gravels						Top course	Pavement gravel	mm		Major Supplier	Publ 368
507200	8942900		BEE	072	429	Rjo	Conglomerate				P	S	1								Pavement gravel				Publ 368	
507600	8910200		BEE	076	102	Jm	Sandstone				S	S	1								Pavement gravel				Publ 368	
507700	8940300		BEE	077	403	Rjo	Conglomerate				P	S	1								Pavement gravel				Publ 368	
507800	8904300		BEE	078	043	Ti	Basalt				P	S	1								Pavement gravel	Maintenance gravel			Publ 368	
508300	8926300		BEE	083	363	Rjo	Conglomerate				P	S	1								Pavement gravel				Small reserves	Publ 368
508300	8909700		BEE	083	997	Pm	Quartzite				O	M	3		Thesis Bros						Pavement gravel	Top course			Publ 368	
508300	8926000		BEE	083	560	Pm	Quartzite				O	M	3		Readymix						Pavement gravel	Top course			Major Quarry	Publ 368
508300	8954700	Pine Mtn	BEE	083	547	Pm	Quartzite				O	M	3		Brisbane CC					36000t	Pavement gravel	Top course			Major Quarry	Publ 368
508100	8943200		BEE	081	432	Rjo	Conglomerate				S	S	1								Pavement gravel	Top course			Publ 368	
510100	8932700		BEE	101	327	Rjo	Conglomerate				P	S	1		Beaudesert SC						Maintenance gravel				Publ 368	
511000	8932900	Kingston Bega Rd	BEE	110	329	Pm	Quartzite				S	L	3	W	Beaudesert SC					225000t	Pavement gravel				Publ 368	
511200	8912200		BEE	112	122	Jm	Sandstone				P	M	3		Beaudesert SC						Fill				Publ 368	
511300	8937200		BEE	113	372	Pm	Quartzite				S	S	1		Brisbane CC						Pavement gravel				Publ 368	
511800	8957300		BEE	118	573	Pm	Quartzite				S	S	1		Brisbane CC						Pavement gravel				Publ 368	
512100	8928100		BEE	121	281	Ri	Conglomerate				P	S	1								Pavement gravel				Publ 368	
512100	8956100		BEE	121	561	Pm	Quartzite				P	S	1								Pavement gravel				Publ 368	
512600	8955600		BEE	126	556	Pm	Quartzite				O	M	3		MRD						Pavement gravel				Publ 368	
512700	8931000		BEE	127	310	Ri	Conglomerate				S	M	3		MRD						Pavement gravel				Publ 368	
512800	8909800		BEE	128	098	Jm	Sandstone				S	S	1		Beaudesert SC						Fill				Publ 368	
513200	8930300		BEE	132	303	Ri	Conglomerate				S	M	3		Beaudesert SC						Pavement gravel				Publ 368	
513200	8930800		BEE	132	308	Ri	Conglomerate				S	M	3		Old Aggregates						Pavement gravel				Publ 368	
513300	8945600		BEE	133	456	Rjo	Conglomerate				S	M	3								Pavement gravel				Publ 368	
513700	8945300		BEE	137	453	Rjo	Conglomerate				S	S	1								Pavement gravel				Publ 368	
513800	8932800		BEE	138	328	Pm	Quartzite				P	M	3		Railways						Ballast				Publ 368	
513800	8944200		BEE	138	442	Rjo	Conglomerate				O	S	1		Albert SC						Pavement gravel				Publ 368	
513900	8930000		BEE	139	300	Ri	Conglomerate				S	S	1								Maintenance gravel				Publ 368	
514000	8955000		BEE	140	550	Pm	Quartzite				O	S	1		Brisbane CC						Pavement gravel				Publ 368	
514500	8920300		BEE	145	203	Pm	Quartzite				O	M	3		Beaudesert SC						Pavement gravel				Publ 368	
514800	8957900		BEE	148	579	Rjo	Conglomerate				P	M	3		Brisbane CC						Pavement gravel				Publ 368	
515500	8920000		BEE	155	200	Rjo	Argillite				S	S	1		Beaudesert SC						Pavement gravel	Fill			Publ 368	
515900	8918100		BEE	159	181	Ri	Conglomerate				S	S	1		Thomason						Pavement gravel				Publ 368	
515900	8930300		BEE	159	303	Pm	Quartzite				O	S	1								Pavement gravel	grainite stone			Publ 368	
517000	8933800		BEE	170	338	Pm	Argillite				S	S	1								Pavement gravel	Fill			Publ 368	
517200	8944600		BEE	172	446	Pm	Quartzite				O	M	3		Old Aggregates						Pavement gravel				Publ 368	
517400	8947800		BEE	174	478	Pm	Phyllite	Quartzite			P	S	1								Pavement gravel	Fill			Publ 368	
517500	8938200		BEE	175	382	Pm	Greywacke				S	M	3		Albert SC						Maintenance gravel				Publ 368	
517800	8911200		BEE	178	112	Ti	Lignite				P	S	1		Beaudesert SC						Pavement gravel				Publ 368	
517900	8923100		BEE	179	231	Pm	Quartzite				S	S	1		Albert SC						Pavement gravel	Maintenance gravel			Publ 368	
518000	8931700		BEE	180	317	Pm	Quartzite				S	S	1								Pavement gravel				Publ 368	
518500	8921600	Bluerock	BEE	185	216	Pm	Greenstone				O	L	5	W	Astec Pty Ltd					250000t	Screenings	Pavement gravel	Concrete		Publ 368	
518600	8932500		BEE	186	325	Pm	Greywacke				O	M	3		MRD						Pavement gravel				Publ 368	
518900	8930400		BEE	189	304	Pm	Argillite				S	M	3		Albert SC						Maintenance gravel				Publ 368	
518900	8932800		BEE	189	328	Pm	Quartzite																			

Lot No	Address	Owner	Area	Depth	Rock	Quality	Notes	Material	Quantity	Location	Use	Reserves	Other	Notes
153000	6979500	Northbrook Quarry	CAB 630	795	DCn	Greenstone	Quartzite							1979/18
63400	6980500		CAB 634	805	DCn	Quartzite								1979/18
463600	6977100		CAB 626	771	DCn	Greenstone	Quartzite							1979/18
464200	6973100	Spillway Creek	CAB 647	731	DCn	Greenstone	Quartzite							1979/18
465100	6993100		CAB 651	821	Joh	Sandstone								1979/18
465200	6997000		CAB 652	870	DCn	Chert								1979/18
465500	6994000		CAB 655	640	DCn	Chert	Jasper							1979/18
465500	6963000		CAB 655	653	DCn	Sandstone								1979/18
466600	6966800		CAB 656	668	DCn	Chert								1979/18
466700	6963800		CAB 657	638	DCn	Chert	Jasper							1979/18
467500	6960700	Stalmans	CAB 675	607	DCn	Argillite								1979/18
467900	6967200		CAB 679	672	DCn	Jasper								1979/18
467900	6967400		CAB 679	674	DCn	Jasper								1979/18
475300	7001600		CAB 753	016	Tv	Basalt								1979/18
476400	6973900		CAB 764	739	DCn	Phyllite								1979/18
476600	7004400		CAB 766	044	Tv	Basalt								1979/18
476700	7011700		CAB 767	117	Pzr	Greenstone								1979/18
476700	6971500		CAB 767	715	DCn	Hornfels								1979/18
476800	6971600		CAB 768	716	DCn	Hornfels								1979/18
477100	6970500		CAB 771	705	DCn	Hornfels								1979/18
477200	6970600		CAB 772	706	DCn	Hornfels								1979/18
477600	7011700		CAB 776	117	Rg	Granite								1979/18
478300	7004300		CAB 783	063	Tv	Basalt								1979/18
478600	7004400		CAB 786	044	Tv	Basalt								1979/18
479200	7004200		CAB 789	042	Tv	Basalt								1979/18
479400	7004800		CAB 784	048	Tv	Basalt								1979/18
480000	6971300	Williams pt	CAB 800	713	Rg	Granite								1979/18
480300	6969000		CAB 803	690	DCn	Hornfels								1979/18
480400	6993100		CAB 804	931	DCb	Phyllite								1979/18
480400	6993100		CAB 804	931	DCb	Phyllite								1979/18
480600	6976700		CAB 806	767	DCn	Hornfels								1979/18
480700	6991400		CAB 807	914	DCb	Phyllite								1979/18
482500	6966800		CAB 825	668	DCb	Phyllite								1979/18
483700	6976000		CAB 837	760	DCn	Hornfels								1979/18
484000	7007300		CAB 840	073	Pzk	Phyllite								1979/18
485500	6980400		CAB 855	804	Rg	Granite								1979/18
486000	6976700		CAB 860	767	DCb	Phyllite								1979/18
486700	7003800	Old north Rd	CAB 867	038	DCb	Phyllite	Shale							1979/18
487000	6976000		CAB 870	760	DCb	Phyllite								1979/18
487000	6982100		CAB 870	821	Rg	Granite								1979/18
487100	6975200		CAB 871	752	DCb	Phyllite								1979/18
487300	6982400		CAB 873	824	DCb	Phyllite								1979/18
487800	6996700		CAB 878	967	Pzk	Phyllite								1979/18
488000	6994000	Narangba	CAB 880	940	Pzr	Greenstone								1979/18
489600	7011900		CAB 896	119	Tt	Trachyte								1979/18
490700	7006400	Moodu	CAB 907	064	Tt	Trachyte								1979/18
490800	6996900		CAB 908	969	DCb	Phyllite								1979/18
491000	6980300		CAB 910	803	DCb	Phyllite								1979/18
491700	6980700		CAB 917	807	DCb	Phyllite								1979/18
491700	6980700		CAB 917	807	DCb	Phyllite								1979/18
492100	6994400		CAB 921	944	Pzk	Phyllite								1979/18
492300	6966800	Whiteside	CAB 923	668	Pzr	Greenstone								1979/18
492700	6993200		CAB 927	932	Pzk	Phyllite								1979/18
493000	6966000	Petrie	CAB 930	660	Pzr	Greenstone								1979/18
493100	7010000		CAB 931	100	Tt	Trachyte								1979/18
493300	6967300	Levitz Rd	CAB 933	673	Rg	Granite								1979/18
493500	6978000		CAB 935	780	DCb	Phyllite								1979/18
493600	6978400		CAB 936	784	DCb	Phyllite								1979/18
493700	6977200		CAB 937	772	DCb	Phyllite								1979/18
493900	6967600		CAB 939	676	Rg	Granite								1979/18
494100	6965900		CAB 941	659	Rg	Granite								1979/18
494600	6966000		CAB 946	660	Rg	Granite								1979/18
495100	6966900		CAB 951	669	Rg	Granite								1979/18
495200	6966500		CAB 952	665	Rg	Granite								1979/18
495600	6966900		CAB 956	665	Rg	Granite								1979/18
496400	6963500		CAB 964	635	Rg	Granite								1979/18
497700	6960500	Mc Cootha	CAB 972	605	DCb	Hornfels								1979/18
497800	6966400		CAB 973	664	Pzk	Phyllite								1979/18
497600	7012400		CAB 976	124	Rg	Laternite								1979/18
497600	6963800		CAB 976	638	DCb	Hornfels								1979/18
497800	7008800		CAB 978	088	Rg	Laternite								1979/18
498400	6991600		CAB 984	916	Rg	Laternite								1979/18
498500	6993500		CAB 985	935	Rg	Laternite								1979/18
499600	6966300		CAB 996	663	DCb	Quartzite								1979/18
499800	7009800		CAB 998	098	Rg	Laternite								1979/18
316700	6958700		DAL 167	587	Ti	Sandstone	conglomerate							1979/18
324100	6960900	Tipston's	DAL 241	609	Ti	Sandstone	conglomerate							1979/18
328000	7004300		DAL 280	043	Tm	Basalt								1979/18
331500	7006400	Patch's	DAL 315	064	Tm	Basalt								1979/18
332200	7000100	Alexander's	DAL 322	001	Tm	Basalt								1979/18
332800	7006100		DAL 328	061	Tm	Basalt								1979/18
333300	7006300	Council Quarry (old)	DAL 333	063	Tm	Basalt								1979/18
334000	7001900	Alexander's	DAL 340	019	Tm	Basalt								1979/18
339200	6993800	John's	DAL 392	938	Tm	Basalt								1979/18
339600	6995400		DAL 396	954	Tm	Basalt								1979/18
340200	6994600		DAL 402	946	Tm	Basalt								1979/18
341000	6996900	Raceway	DAL 410	969	Tm	Basalt								1979/18
344000	7000700	Leahy's	DAL 440	007	Tm	Basalt								1979/18
345800	7010500		DAL 458	105	Tm	Basalt								1979/18
346700	7010400		DAL 467	104	Tm	Basalt								1979/18
346900	6977000	Bowenville	DAL 469	770	Tm	Basalt								1979/18
348600	6976500		DAL 486	765	Tm	Basalt								1979/18
348900	6977700		DAL 489	777	Tm	Basalt								1979/18
350000	6958900		DAL 500	589	Tm	Basalt								1979/18
401000	6982000		ESK 010	820	Tm	Basalt								1979/18
401000	6986000	Sun's	ESK 010	860	Tm	Basalt								1979/18
406000	6979000	Kanowski's	ESK 060	790	Tm	Basalt								1979/18
409000	6963000	Murphy's Ck	ESK 090	630	Rg	Ironstone								1979/18
411000	6982000		ESK 110	820	P-Rgc	Granite								1979/18
414200	6958300		ESK 142	583	Rg	Granite								19

Code	Address	PS	Lot	Area	To	From	Material	Notes	Company	Product	Grade	Notes	Product	Grade	Notes	Product	Grade	Notes
0400	6346400	PS 604	454	To	basalt				Cochrane	Crushed screenings								hard basalt boulders from scree slope were crushed in the 1920's
0600	6346600	PS 606	466	To	basalt	sandy clay			MSC/ Cochrane	Maintenance								mixture of loam and soft pebbles with high loam content
0800	6312600	PS 608	126	Ti-d	basalt	dolerite				Base Course	Maintenance							Two shallow pits
481100	6953600	Steinhards	PS 611	536	Jom	sandstone			Moreton SC	Fill	Base Course							Small, enlarged road cut and adjacent scraping
481200	6921700		PS 612	217	Jw	sandstone				Base Course	Base Course							
481300	6912900		PS 613	129	Ti-d	basalt	dolerite			Fill	Base Course							Two shallow pits
481800	6917900	Silverdale	PS 618	179	Ti-d	dolerite			Moreton SC/MRO	Base Course/ender	Base Course			Top Course				Moderate-sized pit, mixture of loam and soft pebbles with high loam content, of suspect quality as binder
482000	6918900		PS 620	189	Ti-d	dolerite				Maintenance								
482500	6948000		PS 625	480	To	basalt			MRO	Screenings	Base Course			Top Course				Large quarry, hard basalt with columnar joints, joints clay coated
482500	6910400		PS 625	104	Ti-a	brachyandresite			Railways	Fill	Base Course							Small old pit, rock moderately hard
482700	6941100	King's	PS 627	471	To	basalt			Moreton SC	Base Course	Maintenance							Large scrapings, mixture of hard cobbles and pebbles with sparse loam
482700	6931300	Mc Marrow Quarry	PS 627	357	Ti-d	basalt			Mc Marrow Blue Metal	Screenings	Base Course			Base Course				hard basalt with long columnar joints, concrete aggregate, top course
484000	6930400		PS 640	304	Tv	Basalt			Sellars									
484000	6930500		PS 640	305	T3b	Basalt			Sellars Holdings									
484400	6915100	King's PE	PS 644	151	Ti-s	microsyenite			Boonah SC	Crushed rock	Maintenance							Old small face in hard basalt, last worked in 1920
484700	6910600		PS 647	106	Ti-s	microsyenite			Boonah SC	Base Course	Maintenance							Large pit with face, mixture of hard cobbles and loam
485300	6907400		PS 653	074	Ti-d	dolerite			Boonah SC	Base Course	Maintenance							Moderate-sized scrapings in sandy loam
485500	6929700		PS 655	297	Tv	Basalt			Boonah SC	Base Course	Maintenance							Medium-sized pit, mixture of soft pebbles and loam
485600	6930200		PS 658	302	T3b	Basalt			ipswich CC	Pavement Gravels								
485600	6929800	Gempers	PS 658	298	T3b	Basalt			ipswich CC/MRO	Base Course								Moderate-sized pit, closely fractured, weathered basalt, gives mixture of loam and pebbles with high loam content
485800	6919400		PS 658	194	Ti-d	dolerite				Base Course	Maintenance							Moderate-sized pit, mixture of hard pebbles and loam
486000	6905600		PS 660	056	Ti-s	microsyenite			Boonah SC	Base Course	Maintenance							Small scrapings, mixture of loam with rare soft pebbles. Some hard dolerite nearby
486000	6932300		PS 660	323	T3b	Basalt			MRO	Base Course								Old small pit, mixture of loam and soft pebbles
486600	6941500	Stone Quarry	PS 666	415	T3b	Basalt			Moreton SC	Base Course	Maintenance							Small scrapings, basalt in hard rounded boulders with few fines
487400	6936600		PS 674	366	T3	gravel	loam		Moreton SC / MRO	Base Course	Base Course							Moderate-sized pit, mixture of moderately hard pebbles and loam
487700	6936800		PS 677	368	T3	gravel	loam		Moreton SC / MRO	Base Course	Maintenance							
488400	6910100		PS 684	101	Ti-d	Basalt				Base Course	Maintenance							Enlarged road cut, rock decomposed
488500	6940300		PS 685	403	T3	loam	laterite			Base Course	Maintenance							old extensive surficial scrapings
489000	6915000		PS 690	150	Ti-s	microsyenite				Maintenance								
489000	6930800		PS 690	508	T3	laterite gravel			Moreton SC / MRO	Fill								
489000	6940100		PS 695	401	T3	laterite gravel				Base Course	Maintenance							Small scrapings, laterite moderately hard
489600	6930700		PS 696	357	Ti-d	dolerite			Earth Movers Pty Ltd	Deco								Small pit
489600	6954400		PS 696	544	Rk-k	conglomerate				Base Course								Extensive semi-continuous surficial scrapings
489800	6917100		PS 698	121	Ti-s	microsyenite				Maintenance								Small scrapings/rock decomposed
489900	6929300		PS 699	293	T3b	Basalt				Deco								
490200	6953300		PS 702	533	Rk-k	conglomerate				Base Course								Extensive semi-continuous surficial scrapings
490500	6907000	Podicns PE	PS 705	070	Ti-d	Basalt			Boonah SC	Base Course	Maintenance							Small pit, rock weathered, soft
490700	6954000		PS 707	540	D-Cn	quartzite			ipswich CC	Base Course								Shallow scrapings, quartzite finely interbedded with shale
491100	6923400	Faulkner's	PS 711	234	Ti-d	dolerite			F N. Igan Consolidated	Fill	Base Course							
491500	6952300	Westaways	PS 715	523	Rk-k	conglomerate				Base Course								
491600	6936200		PS 716	362	Ti-d	dolerite			Middle Road Deco Supplies	Deco								
491700	6909200	Stephans	PS 717	092	Ti-s	microsyenite			Boonah SC / MRO	Base Course	Maintenance							Moderate-sized deep pit, mixture of loam with some weathered pebbles
492300	6955500		PS 723	555	Rk-k	conglomerate				Base Course								Large pit, material mixture of loam and hard pebbles
492400	6954800	Russell's	PS 724	548	DCn	Quartzite			Russell & Sons	Pavement gravel								Small pit, little known
492600	6951500		PS 726	515	Rk-k	conglomerate			Stokes	Base Course								Large reserves, quartzite closely fractured, interbedded with shale to give high clay content
492700	6951700		PS 727	517	Rk-k	conglomerate			Sellars Quarries	Base Course	loam							Extensive surficial scrapings
492800	6921200	Webbers #1	PS 728	212	T3b	Basalt			Moreton SC	Base Course	Maintenance							Very extensive surficial scrapings
492800	6949900		PS 728	499	Rk-k	conglomerate	sandstone		Moreton SC	Base Course	Base Course							Small pit, several basalt flows, some vesicular, interbedded with shale, gives mixture of loam and soft pebbles
493000	6916200		PS 730	162	Ti-d	dolerite				Fill	Base Course							Series of scrapings, mainly in weathered sandstone, some fill still occasionally produced
493000	6922000	Webbers #2	PS 730	220	T3b	Basalt			Moreton SC	Maintenance	Maintenance							Small scrapings, now stockpile area, rock decomposed
493000	6921800		PS 730	218	T3b	Basalt				Base Course	Maintenance							Small deep pit, mixture of loam and soft pebbles
493000	6947800		PS 730	487	R-Jw	sandstone				Base Course	Fill							Old shallow scrapings, gravel as in 7322a
493000	6947800		PS 730	478	R-Jw	conglomerate	sandstone	shale		Base Course	Fill							Small quarry in steeply dipping interbedded sediments, use for base course discontinued because of high clay content
493800	6950500		PS 738	505	Rk-k	conglomerate			ipswich CC	Base Course	Maintenance							Surficial scrapings
494100	6932900		PS 741	329	Ti-d	dolerite				Fill	Base Course							
495000	6930000	Purga	PS 750	300	Ti-d	dolerite			Double H Transport	Base Course								Moderate-sized pit
495300	6952900		PS 753	529	Rk-k	conglomerate			Boral Resources	Base Course	Top Course			Concrete				Large pit
495600	6944300		PS 756	443	R-Jw	conglomerate			Stokes	Base Course								Extensive surficial scrapings
496600	6944500		PS 766	445	T3, T3b	Basalt			ipswich CC	Base Course								Small quarry, now storage area for gravels
497400	6952000		PS 774	520	Rk-k	conglomerate			ipswich CC	Base Course								Very old face in council depot, little known
497800	6938100	McGure's	PS 788	381	T3b	Basalt			Moreton SC	Base Course	Maintenance							Very extensive surficial scrapings
497900	6946100		PS 798	461	T3b	Basalt			Railways	Base Course	Fill							Small pit, mixture of pebbles and loam
497900	6945800		PS 799	458	T3b	Basalt			ipswich CC	Base Course								Old moderate-sized quarry, now used for council bitumen plant
497900	6946200		PS 799	462	T3b	Basalt			Railways	Base Course	Fill							Two moderate-sized deep quarries, rock moderately hard
480000	6943800		PS 800	438	R-Jw	conglomerate	sandstone			Base Course								Small pit with surficial scrapings
480300	6953300		PS 803	533	D-Cn	argillite			Moreton SC	Maintenance								Large scrapings, argillite closely fractured, gives a mixture of loam and small soft pebbles
480400	6944200		PS 804	442	R-k	conglomerate	sandstone	shale		Fill	Maintenance							Extensive surficial scrapings
480500	6951400		PS 805	514	Rk-k	conglomerate			Sellars Quarries	Base Course								Extensive surficial scrapings
480700	6952500		PS 807	525	Rk-k	conglomerate				Base Course								Extensive surficial scrapings
481100	6946200		PS 811	462	T3b	Basalt				Ballast	Base Course							Old large quarry, rock moderately hard, little known
481500	6950700		PS 815	507	Rk-k	conglomerate			Sellars Quarries	Base Course								Extensive surficial scrapings
482500	6929900	Moggill Quarry	PS 855	529	Rk-k	Basalt			Brisbane CC	Crushed gravels								Large old quarry with high face, rock hard to moderately hard
486000	6928700	Woods	PS 860	387	Ti-T	trachyte			Rocla Quarry Products	Base Course								Shallow quarry, cobbles and boulders screened off
486200	6938000		PS 862	388	Ti-T	trachyte			Rocla Quarry Products	Pavement gravels								
486200	6939300	Mc Jullerat	PS 862	393	Ti-L	trachyte			Rocla Quarry Products	Base Course	Top Course							Large quarry, screenings
487000	6921200		PS 867	212	Jom	sandstone				Maintenance								Shallow cut on road reserve
487000	6908600		PS 870	086	R-Jw	sandstone				Fill								Scrapings on road reserve
487000	6938700		PS 870	387	T3b	Basalt			N. Johnston	Fill								Small pit, mixture of moderately hard pebbles and loam
487200	6943600		PS 872	436	T3b	Basalt				Fill								Very old small scrapings, little known
487700	6939100		PS 877	391	T3v	Basalt			Rocla Quarry Products	Pavement Gravels								
48770																		

35900	6982100	OAK	559	821	Tm	Basalt			S	M	3	Rosale SC						Pavement gravel	Maintenance gravel			<2m	QGMU 85/988
35900	6982000	OAK	569	820	Tm	Basalt			S	S	1	Rosale SC						Pavement gravel	Maintenance gravel				QGMU 84/983
35900	7017600	OAK	580	128	Tm	Basalt			Q	M	3	Warrick SC						Pavement gravel	Maintenance gravel			<15m	QGMU 85/988
359200	6974800	Mau	OAK	282	148	Tm	Basalt	MW	Q	L	5 W	Wagner						Pavement gravel	Aggregate	Maintenance gravel		3 to 5 years life	Shire
360200	6973200	OAK	602	732	Tm	Basalt			P	S	1	Rosale SC						Pavement gravel	Maintenance gravel				QGMU 84/983
362000	6969800	OAK	620	698	Tm	Basalt		HW	S	S	1	Jondaryan SC						Pavement gravel	Maintenance gravel				QGMU 84/983
363200	6995800	OAK	632	958	Tm	Basalt			Q	M	3	Rosale SC						Pavement gravel	Maintenance gravel			<6m	QGMU 85/988
363800	6987700	OAK	638	877	Tm	Basalt			P	M	3	Rosale SC						Maintenance gravel				rubber top	QGMU 85/988
364400	6982100	OAK	644	821	Tm	Basalt		HW	S	M	3	Rosale SC						Pavement gravel	Maintenance gravel				QGMU 84/983
364800	6974800	OAK	648	748	Tm	Basalt			P	M	3	Rosale SC, MRD						Pavement gravel	Maintenance gravel			<10m	QGMU 85/988
365700	6974800	OAK	657	748	Tm	Basalt			P	M	3 W	Rosale SC, MRD						Pavement gravel	Maintenance gravel				QGMU 84/983
366900	6981700	OAK	669	817	Tm	Basalt			P	S	1	Jondaryan SC						Pavement gravel	Maintenance gravel				QGMU 84/983
370000	6960800	OAK	700	608	Tm	Basalt			S	M	3	Jondaryan SC						Pavement gravel	Maintenance gravel			<5m	QGMU 84/983
370200	6963600	OAK	702	636	Tm	Basalt		CW	P	S	1	Jondaryan SC						Pavement gravel	Maintenance gravel	Fill			QGMU 84/983
371000	6960600	Mason's	OAK	710	606	Tm	Basalt		S	M	3	Jondaryan SC						Pavement gravel	Maintenance gravel				QGMU 84/983
373500	6958400	OAK	735	584	Tm	Basalt			S	S	1	Jondaryan SC						Pavement gravel	Maintenance gravel				QGMU 84/983
373800	6957800	Bowland	OAK	738	578	Tm	Basalt		S	M	3	Jondaryan SC						Pavement gravel	Maintenance gravel				QGMU 84/983
376100	6962300	OAK	761	623	Tm	Basalt			S	S	1	Jondaryan SC						Pavement gravel	Maintenance gravel				QGMU 84/983
378500	6980300	nomers	OAK	785	803	Tm	Basalt		Q	M	3 W	Rosale SC						Pavement gravel	Maintenance gravel			Pavement gravel	QGMU 84/983
378400	6962700	OAK	784	627	Tm	Basalt			P	S	1	Jondaryan SC						Pavement gravel	Maintenance gravel				QGMU 84/983
380200	6964400	OAK	802	644	Tm	Basalt			S	S	1 W	Rosale SC						Pavement gravel	Maintenance gravel				QGMU 84/983
380200	6973900	OAK	802	739	Tm	Basalt			P	M	3	Rosale SC						Pavement gravel	Maintenance gravel			2-3m	QGMU 84/983
381900	6975900	OAK	819	759	Jm	Sand			S	S	1	RSC						Pavement Oil	Maintenance			<6m	QGMU 84/983
385500	6986400	OAK	855	664	Tm	Basalt			S	S	1	Rosale SC						Pavement gravel	Maintenance gravel				QGMU 84/983
389500	6958900	OAK	895	589	Tm	Basalt		HW	P	S	1	Rosale SC						Pavement gravel	Maintenance gravel				QGMU 84/983
390100	6977300	OAK	901	773	Tm	Basalt	Tuff		S	M	3	Rosale SC						Pavement gravel	Maintenance gravel				QGMU 84/983
390300	6967000	OAK	903	670	Tm	Trachyte			S	S	1	Rosale SC						Pavement gravel	Maintenance gravel				QGMU 84/983
391200	6962100	OAK	912	621	Tm	Ironstone			P	M	3	Crows Nest SC, Rosale SC						Pavement gravel	Maintenance gravel				QGMU 84/983
394800	6968300	Potzins	OAK	948	683	Tmc	Trachyte		P	M	3	Cambodia SC						Pavement gravel	Maintenance gravel			<6M	QGMU 84/983
396000	6963000	OAK	960	630	Tm	Basalt			P	S	1	Cambodia SC						Pavement gravel	Maintenance gravel				QGMU 84/983
396000	6986000	OAK	960	860	Tm	Basalt			S	S	1	Crows Nest SC						Maintenance gravel					QGMU 84/983
396400	6973100	OAK	964	731	Tmc	Trachyte	Tuff		P	M	3	Crows Nest SC						Pavement gravel	Maintenance gravel				QGMU 84/983
396800	6967200	OAK	968	672	Jm	Ironstone	Loam		S	S	1	Constaro, MRD						Pavement gravel	Maintenance gravel	Bricks loam			QGMU 84/983
397700	6970600	OAK	977	706	Tm	Basalt			S	S	1	Crows Nest SC						Pavement gravel	Maintenance gravel				QGMU 84/983
399300	6961600	Spring Bluff	OAK	993	616	Tm	Basalt		Q	S	1	Railway						Ballast					QGMU 84/983
399300	6983300	OAK	993	833	Tm	Basalt			S	S	1 W	Rosale SC						Maintenance gravel					QGMU 84/983
353500	6950700	MT Russell	TOO	535	507	Tm	Basalt		Q	M	3	Pittsworth SC						Pavement Gravel	Maintenance Gravel			<6m	QGMU 81/946
353800	6924100	TOO	538	241	Tm	Basalt			Q	M	3	Pittsworth SC						Pavement Gravel	Maintenance Gravel				QGMU 81/946
354200	6941700	TOO	542	417	Tm	Basalt			Q	M	3	Pittsworth SC						Pavement Gravel	Maintenance Gravel				QGMU 81/946
354800	6942700	TOO	548	427	Tm	Basalt			Q	M	3	Pittsworth SC, MRD						Pavement Gravel	Maintenance Gravel				QGMU 81/946
355500	6949800	MT Taylor	TOO	555	498	Tm	Basalt		Q	M	3	Pittsworth SC						Pavement Gravel	Maintenance Gravel				QGMU 81/946
355700	6904400	TOO	557	044	CR	Chert	Laterte		S	M	3	Millerran SC						Pavement gravel					QGMU 81/946
355700	6904700	TOO	557	047	CR	Chert	Laterte		S	M	3	Rosale SC						Pavement gravel					QGMU 81/946
356400	6904400	TOO	564	044	Tm	Basalt			S	S	1	Rosale SC						Pavement gravel				<1m	QGMU 85/988
356400	6953300	TOO	564	533	Tm	Basalt			S	M	3	MRD						Pavement Gravel	Maintenance Gravel				QGMU 81/946
356600	6932100	TOO	566	321	Tm	Basalt			S	M	3	Pittsworth SC						Pavement Gravel	Maintenance Gravel				QGMU 81/946
356800	6953200	Schelbergs	TOO	568	532	Tm	Basalt		P	M	3	Jondaryan SC						Pavement Gravel	Maintenance Gravel	Top Course			QGMU 81/946
357200	6934400	TOO	572	344	Tm	Basalt			S	M	3	Pittsworth SC						Pavement Gravel	Maintenance Gravel				QGMU 81/946
359000	6926600	Scrubby Mt	TOO	590	266	Tm	Basalt		Q	M	3	Jondaryan SC						Pavement Gravel	Maintenance Gravel			<8M	QGMU 81/946
359200	6926500	TOO	592	265	Tm	Basalt			Q	M	3	Jondaryan SC						Pavement Gravel	Maintenance Gravel	Screenings			QGMU 81/946
360000	6941400	TOO	600	414	Tm	Basalt			P	S	1	Pittsworth SC						Pavement Gravel	Maintenance Gravel			<4m	QGMU 85/988
360400	6956000	Orrs	TOO	604	560	Tm	Basalt		P	M	3	Jondaryan SC						Pavement Gravel	Maintenance Gravel				QGMU 81/946
360700	6963300	TOO	607	563	Tm	Basalt			S	M	3	Jondaryan SC						Pavement Gravel	Maintenance Gravel				QGMU 81/946
361100	6933100	TOO	611	331	Tm	Basalt			Q	S	1	Railway, Pittsworth SC						Ballast	Screenings			<8m	QGMU 85/988
361400	6931600	TOO	614	316	Tm	Basalt			S	S	1	Pittsworth SC, MRD						Pavement Gravel	Maintenance Gravel				QGMU 81/946
361500	6929600	TOO	615	296	Tm	Basalt			S	S	1	Pittsworth SC						Maintenance Gravel				Small reserves	QGMU 85/988
361800	6929800	TOO	618	298	Tm	Basalt			S	M	3	Kelly						Pavement Gravel				<7m	QGMU 85/988
362400	6927200	TOO	624	272	Tm	Basalt		SW-MW	Q	M	3	Pittsworth SC						Pavement Gravel	Maintenance Gravel	Aggregate			QGMU 81/946
363000	6935800	TOO	630	358	Tm	Basalt			P	S	1	Pittsworth SC						Pavement Gravel	Maintenance Gravel			<4m	QGMU 85/988
367000	6902500	Collins	TOO	670	025	Tm	Ridge gravel		S	M	3	Clifton SC, Warwick CC						Maintenance Gravel					Shire
367000	6937600	TOO	670	376	Tm	Basalt			P	S	1	Jondaryan SC						Pavement Gravel	Maintenance Gravel				QGMU 81/946
368000	6933600	TOO	680	336	Tm	Basalt			P	S	1	Pittsworth SC						Pavement Gravel	Maintenance Gravel				QGMU 81/946
368700	6927000	TOO	687	270	Tm	Basalt			S	M	3	Jondaryan SC						Pavement Gravel	Maintenance Gravel	Screenings			QGMU 81/946
368700	6957000	Cesvika's	TOO	687	570	Tm	Basalt		S	M	3	Jondaryan SC						Pavement Gravel	Maintenance Gravel	Pavement Gravel			QGMU 81/946
369400	6932800	TOO	694	328	Tm	Basalt			S	S	1	Pittsworth SC						Pavement Gravel	Maintenance Gravel				QGMU 81/946
370900	6921300	TOO	709	213	Tm	Basalt		HW	P	M	3	Pittsworth SC						Pavement Gravel	Maintenance Gravel				QGMU 81/946
371500	6920800	TOO	715	208	Tm	Basalt			S	S	1	Pittsworth SC						Pavement Gravel	Maintenance Gravel				QGMU 81/946
372000	6938000	TOO	720	380	Tm	Basalt			P	S	1	Pittsworth SC						Pavement Gravel	Maintenance Gravel				QGMU 81/946
372500	6920800	TOO	725	208	Tm	Basalt			P	S	1	Pittsworth SC						Pavement Gravel	Maintenance Gravel				QGMU 81/946
373400	6952600	TOO	734	526	Tm	Basalt			S	S	1	Jondaryan SC						Pavement Gravel	Maintenance Gravel				QGMU 81/946
373600	6955600	Towers	TOO	736	556	Tm	Basalt		P	S	1	Jondaryan SC						Pavement Gravel	Maintenance Gravel	Fill			QGMU 81/946
373700	6902900	O'Learys	TOO	737	029	CR	Chert	Laterte	S	M	3 W	Clifton SC, Allora SC						Pavement gravel				<2m	QGMU 81/946
374300	6913400	Beckers	TOO	743	134	Tm	Basalt		P	S	1 W	Clifton SC						Pavement gravel					QGMU 81/946
374400	6951500	TOO	744	515	Tm	Basalt			P	M	3	Jondaryan SC						Pavement Gravel	Maintenance Gravel	Pavement Gravel			QGMU 81/946
375900	6932000	TOO	759	320	Tm	Basalt			P	S	1	Jondaryan SC						Pavement Gravel	Maintenance Gravel				QGMU 81/946
376800	6931300	TOO	768	313	Tm	Basalt			P	S	1	Jondaryan SC						Pavement Gravel	Maintenance Gravel				QGMU 81/946
377200	6951600	TOO	772																				

Brisbane Special Sheet
Quarries

71000	6954400		TOO 910	544	Tm	Basalt				P	S	1	Jondaryn SC					Pavement Gravel	Maintenance Gravel			<5m	QGMJ 81/946	
1400	6930400		TOO 914	304	Tm	Basalt				S	S	1	Cambooya SC					Pavement Gravel	Maintenance Gravel			<5m	QGMJ 81/946	
1900	6920600		TOO 919	206	Tm	Basalt				S	S	1	Cambooya SC					Pavement Gravel	Maintenance Gravel				QGMJ 81/946	
392400	6932000		TOO 924	320	Tm	Basalt				Q	M	3	Cambooya SC					Pavement Gravel	Maintenance Gravel	Pavement Gravel		2 Benches <7m	QGMJ 81/946	
392600	6908400	Rogers	TOO 926	084	Tm	Basalt				P	S	1	W	MRD				Maintenance Gravel						QGMJ 81/946
392700	6926000		TOO 927	260	Tm	Basalt				Q	M	3	Cambooya SC					Pavement Gravel	Maintenance Gravel			<15M	QGMJ 81/946	
393100	6905400	Free	TOO 931	054	Tm	Basalt				S	S	1	W	Clifton SC				Maintenance Gravel				<3m	QGMJ 81/946	
393200	6917200	Mezroth	TOO 932	172	Tm	Basalt				P	M	3	W	Clifton SC				Pavement Gravel						QGMJ 81/946
393200	6929700		TOO 932	297	Tm	Basalt			HW	S	M	3	Cambooya SC					Pavement Gravel	Maintenance Gravel	Fill				QGMJ 81/946
393400	6934900		TOO 934	349	Tm	Basalt				S	S	1	Cambooya SC					Pavement Gravel	Maintenance Gravel					QGMJ 81/946
394700	6933200		TOO 947	332	Tm	Basalt				P	S	1	Cambooya SC					Maintenance Gravel						QGMJ 81/946
395000	6937000		TOO 950	370	Tm	Basalt				S	S	1	Cambooya SC					Maintenance Gravel						QGMJ 81/946
396000	6933700		TOO 960	337	Tm	Basalt				S	S	1	Cambooya SC					Pavement Gravel	Maintenance Gravel					QGMJ 81/946
397400	6923000		TOO 974	230	Tm	Basalt				S	S	1	Cambooya SC					Pavement Gravel	Maintenance Gravel					QGMJ 81/946
397700	6954300	Hartston	TOO 977	543	Tm	Basalt				Q	L	5	W	Quarry Products Pty Ltd				Aggregate	Ballast	Pavement Gravel		<4M	Second Largest Quarry	QGMJ 81/946
398000	6928000		TOO 980	380	Tm	Basalt				P	S	1	Cambooya SC					Pavement Gravel	Maintenance Gravel					QGMJ 81/946
398000	6941000		TOO 980	410	Tm	Basalt				P	S	1	Cambooya SC					Pavement Gravel	Maintenance Gravel					QGMJ 81/946
399300	6932400		TOO 983	324	Tm	Basalt				S	S	1						Maintenance Gravel						QGMJ 81/946
400200	6932800	Chesley's	TOO 002	328	Tm	Basalt				S	S	1	Cambooya SC					Pavement Gravel	Maintenance Gravel					QGMJ 81/946
400800	6931100	East Toowoomba	TOO 008	317	Tm	Basalt				Q	M	3	Toowoomba SC					Pavement Gravel	Maintenance Gravel	Concrete	Screenings		Largest Quarry in District	QGMJ 81/946
401300	6922100	Kratt's	TOO 013	221	Tm	Basalt			HW	P	M	3	Cambooya SC					Maintenance Gravel						QGMJ 81/946
401500	6905400		TOO 015	054	Tm	Basalt				P	S	1	Alora SC, Clifton SC					Pavement Gravel	Maintenance Gravel					QGMJ 81/946
452900	6915000		TOO 529	150	Czw	Sandstone	Collinum			P	M	3	Mimmeran SC					Maintenance Gravel	Pavement Gravel					QGMJ 81/946

Brtsbane Special Sheet
Sand and Gravel

Lat	North	Name	Sheet	Easting	Northing	Symbol	Rock Type 1	Rock Type 2	Rock Type 3	Weathering	Working	Size	Status	Operator	Designated	Local Authority	Land Tenure	Land Use	Production	Use 1	Use 2	Use 3	Comments	Report
356800	6894800		ALL	568	948	Qa	Sand				S	S		Wagner & Sons						Concrete				OGMJ 84/983
357600	6895000	Boonle Doon	ALL	576	950	Qa	Sand				S	S		Wagner & Sons						Concrete				OGMJ 84/983
378000	6877700		ALL	780	767	Qa	Sand	Gravel			P	S		Rosenthal SC						Concrete				OGMJ 84/983
378100	6877900		ALL	781	779	Qa	Sand				S	S		Roche						Concrete				OGMJ 84/983
382600	6858200		ALL	826	582	Qa	Sand				P	M		Roche						Bedding	Concrete			OGMJ 84/983
382600	6859200		ALL	826	592	Qa	Sand				S	S		Roche						Concrete				OGMJ 84/983
391400	6893200		ALL	914	932	Jim	Sand				P	M		Roche						Concrete	Bedding			OGMJ 84/983
392300	6893700		ALL	923	937	Jim	Sand				S	S		Roche						Concrete	Bedding			OGMJ 84/983
394800	6879100		ALL	948	791	Qa	Sand				S	S		Roche						Concrete				OGMJ 84/983
396000	6868000		ALL	960	680	Qa	Sand	Gravel			S	M		Kelly/Roche						Concrete			Future deposit	OGMJ 84/983
402500	6884400		ALL	025	844	Jim	Residual sand				P	S		MRD						Binder	Pavement gravel		1Km of Scrapings	OGMJ 84/983
500000	6941000		BEE	000	410	Qa	Sand	Loam			D	M	W	Boral						Concrete				Shire
500000	6941800		BEE	000	418	Qa	Sand	Loam			D	M	W	Pioneer						Concrete	Bricks			GSQ PUB 386
500000	6943600		BEE	000	436	Qa	Sand	Loam			D	M	W	CSR Readymix						Bricks	Concrete	Top Dressing		GSQ PUB 386
500000	6948500		BEE	000	485	Qa	Sand	Loam			D	M		Beutel						Concrete	Bricks			GSQ PUB 386
500500	6942800		BEE	005	428	Qa	Sand	Loam			D	M	W	Boral						Concrete	Bricks	Top Dressing		GSQ PUB 386
500600	6924500		BEE	006	245	Qa	Sand	Gravel			S	M	W	Steedman		Beaudesert		8117		Concrete				Shire
501000	6947800		BEE	010	478	Qa	Sand	Loam			D	M		Monier						Concrete	Top Dressing			GSQ PUB 386
501300	6926800		BEE	013	268	Qa	Sand	Loam			D	M		Bryer						Concrete	Bedding sand	Top Dressing		GSQ PUB 386
502200	6946600		BEE	022	466	Qa	Sand	Loam			D	M		Amatek						Concrete	Top Dressing			GSQ PUB 386
502600	6923400		BEE	026	234	Qa	Sand	Gravel			S	S	W	Green		Beaudesert		1065		Concrete				Shire
503000	6946000		BEE	030	460	Qa	Sand				D	M	W	Amatek						Concrete				Shire
503500	6949000		BEE	035	490	Residual	Sand																	GSQ PUB 386
505400	6938800		BEE	054	388	Qa	Sand	Loam			P	M		Rtx & SeLoamin						Loam	Top Dressing	Bedding sand		GSQ PUB 386
506000	6939300		BEE	060	393	Qa	Sand	Loam			D	S		Kingston Gravel						Concrete	Top Dressing			GSQ PUB 386
506000	6943300		BEE	060	433		Conglomerate				P	M		CBR Gravels						Concrete				GSQ PUB 386
506400	6943800		BEE	064	438	Qa	Conglomerate				P	M		CBR Gravels						Concrete				GSQ PUB 386
507200	6939800		BEE	072	398	Qa	Loam				P	S		Kingston Sand & Gravel						Concrete	Top Dressing			GSQ PUB 386
507500	6939800		BEE	075	398	Qa	Sand	Loam			P	M		Rtx & SeLoamin						Concrete	Top Dressing			GSQ PUB 386
508000	6939500		BEE	080	395	Qa	Sand	Loam			D	M		Scrubby Creek Sand						Concrete	Bedding sand	Fill		GSQ PUB 386
508000	6939600	Scrubby Ck	BEE	080	396	Qa	Sand						F	Woodridge Sands						Concrete			Future Approved site	GSQ PUB 386
509800	6939700		BEE	098	397	Qa	Sand				D	S		BCT Sands						Concrete				GSQ PUB 386
510400	6940000		BEE	104	400	Qa	Sand				P	M		Beaudesert Shire Council						Bedding sand				GSQ PUB 386
510600	6917300		BEE	106	173	Qa	Sand	Gravel			S	M	W	Yore		Beaudesert		6991		Concrete				Shire
511300	6938300		BEE	113	383	Qa	Sand	Loam			P	S		Steedman						Bedding sand	Fill	Concrete		GSQ PUB 386
511500	6918500		BEE	115	185	Qa	Sand	Gravel			S	L	W	A Earle		Beaudesert		72289		Concrete	Bedding			Shire
512200	6936200		BEE	122	362	Qa	Sand	Gravel			D	L	W	CSR Readymix						Concrete				Shire
514400	6912600		BEE	144	126	Qa	Sand				S	L	W	Fraser		Beaudesert		27496		Concrete	Bedding			Shire
515000	6905700		BEE	150	057	Qa	Sand	Gravel			S	M								mm				GSQ PUB 386
516300	6937600		BEE	163	376	Qa	Sand	Gravel						Logan RVer Sands										
518800	6935600		BEE	188	356	Qa	Sand	Gravel			P	S		Banleigh Sand						Concrete	Top Dressing			GSQ PUB 386
519000	6935300		BEE	190	353	Qa	Sand							Old Aggregates						Pavement Gravel				GSQ PUB 386
524200	6954900		BEE	242	549	Qa	Sand				S	S		Redland Shire Council						Concrete	Fill			GSQ PUB 386
524300	6936800	Carbrook	BEE	243	368	Qa	Sand				D	M	W	RVer Sands						Concrete	Bedding sand	Foundry		GSQ PUB 386
527000	6948800		BEE	270	488	Qa	Sand	Gravel			S	S		Assoc Securitles						Pavement Gravel	Fill			GSQ PUB 386
527200	6948700		BEE	272	487	Qa	Sand	Gravel			D	M		Lees						Concrete				GSQ PUB 386
527400	6925500		BEE	274	255	Qa	Sand				S	S								Fill				GSQ PUB 386
527500	6911600		BEE	275	116	Qa	Sand	Gravel					F	Deepgold										
527700	6912400	Coomera	BEE	277	124	Qa	Sand	Gravel			D	L	W	CSR Readymix						Concrete				GSQ PUB 386
527700	6949200		BEE	277	492	Qa	Sand	Gravel			S	S		Redland Shire Council						Pavement Gravel	Fill			GSQ PUB 386
528300	6913800		BEE	283	138	Qa	Sand	Gravel						Nucrush P/L						Concrete				GSQ PUB 386
528300	6914300		BEE	283	143	Qa	Sand	Gravel			D	M		Farley & Lewers						Concrete				GSQ PUB 386
528400	6914400		BEE	284	144	Qa	Sand				D	M		Nucrush P/L						Concrete				GSQ PUB 386
529000	6914000	Coomera	BEE	290	140	Qa	Sand	Gravel			D	L	W	CSR Readymix						Concrete				Shire
529000	6915000	Coomera	BEE	290	150	Qa	Sand	Gravel			D	L	W	Nucrush Gravels						Concrete				GSQ PUB 386
529300	6925300		BEE	293	253	Qa	Sand	Gravel			P	S								Concrete				GSQ PUB 386
530000	6915800	Coomera	BEE	300	158	Qa	Sand	Gravel			D	M	W	CSR Readymix						Concrete				GSQ PUB 386
530600	6912800		BEE	306	128	Qa	Sand	Gravel			P			Nucrush						Concrete				GSQ PUB 386
531100	6916000		BEE	311	160	Qa	Sand				D	M		Nucrush						Concrete				GSQ PUB 386
531500	6934200		BEE	315	342	Qa	Sand				D	L	W	Nucrush						Concrete	Fill			GSQ PUB 386
531600	6925000		BEE	316	250	Qa	Sand				D	M	W	Norwell Sands						Concrete	fill	soil	Moderate reserves	
531800	6916200		BEE	318	162	Qa	Sand				D			Coomera Sand						Concrete				GSQ PUB 386
532100	6908500		BEE	321	085	Qa	Sand				S	S								Top Dressing	Loam			GSQ PUB 386
532800	6926900		BEE	328	269	Qa	Sand				D	M	W	Norwell Sands						Concrete				GSQ PUB 386
532800	6927700		BEE	328	277	residual					D			Besser Ltd						Concrete Block				GSQ PUB 386
532800	6927600		BEE	328	276	Qa	Sand				D	S		Heck										
532800	6926700		BEE	328	2																			

Brisbane Special Sheet
Sand and Gravel

491100	6918900		IPS	911	189	Qa	Sand			S	M	W	Wyatt		Beaudesert			7007	Concrete	Bedding					SHIRE	
491300	6908000		IPS	913	080	Qa	Sand	Gravel		S	L	W	Reedymix		Beaudesert			38015	Concrete	Bedding					SHIRE	
491800	6944500		IPS	918	445		Sand			D	M		Double H Transport P/L						Concrete Sands	Silica Sand				Suction dredge	Pub 373	
492800	6945000		IPS	928	450		Sand			S	S		Double H Transport P/L						Top Soil					Silica for cement manufacture	Pub 373	
493100	6909000		IPS	931	090	Qa	Sand	Gravel		S	L	W	Fisher		Beaudesert			1830	Concrete						SHIRE	
493800	6908500		IPS	938	095		Sand			D	S		D.B. Fingles and Co.						Concrete Sands					Dredge, reserves replenished by floods	Pub 373	
494100	6947500		IPS	941	475		Loam			S	S		?						Top Soil					Suction dredge and end loader	Pub 373	
494200	6931500		IPS	942	315		Loam			P	S		Australian Turf Lawn Supplies						Top Soil						Pub 373	
494300	6932000		IPS	943	320		Sand	Loam		S	S		?												Pub 373	
494500	6917900		IPS	945	179	Qa	Sand	Gravel				F	Hirze Bros		Beaudesert										Application	SHIRE
494600	6909600		IPS	946	096	Qa	Sand	Gravel				F	Steedman		Beaudesert										New Approval in stream dredge 30-40 000pa	SHIRE
494700	6932500		IPS	947	325		Loam			S	S		Australian Turf Lawn Supplies						Top Soil							Pub 373
494900	6918500		IPS	949	185	Qa	Sand	Gravel		S	L	W	Reedymix		Beaudesert				Concrete	Bedding						SHIRE
495300	6947800		IPS	953	478		Sand	Loam		S	M		?													Pub 373
495800	6946900		IPS	958	469		Sand			P	M		Brisbane City Council													Pub 373
497500	6943100		IPS	975	431		Sand	Loam		S	S		?													Pub 373
498700	6943000		IPS	987	430		Surficial loam			S	M		?													Pub 373
499000	6944600		IPS	990	446		Sand			D	M		The Reedymix Group (Old)						Concrete Sands	Bedding Sand	Brickles Loam					Pub 373
499100	6940300		IPS	991	403		Sand	Loam		S	S		Marsden						Concrete Sands							Pub 373
499400	6942900		IPS	994	429		Sand			D	S		Signorini						Concrete Sands							Pub 373
499500	6945000		IPS	995	450		Sand			D	M		The Reedymix Group (Old)						Concrete Sands	Bedding Sand	Brickles Loam					Pub 373
499700	6939900		IPS	997	399		Loam	Sand		S	M		Belierino P/L						Top Soil	Brickles Loam						Pub 373
499700	6939500		IPS	997	395		Surficial loam			S	S		Belierino P/L						Loam	Top Soil						Pub 373
499700	6940600		IPS	997	406		Loam			S	S		Adermann						Brickles Loam							Pub 373
499700	6942900		IPS	997	429		Sand			D	L		The Reedymix Group (Old)						Concrete Sands							Pub 373
499700	6949000		IPS	997	490		Sand			D	M		Queensland Aggregates P/L						Concrete Sands	Bedding Sand	Road Base					Pub 373
499800	6941400		IPS	998	414		Loam	Sand		D	L		The Reedymix Group (Old)						Concrete Sands							Pub 373
499800	6949300		IPS	998	493		Sand			D	L		Boral Concrete (Old) P/L						Concrete Sands							Pub 373
379600	6981200		OAK	796	812	Jw	Sand			P	S								Loam	Binder						
380700	6980700		OAK	807	807	Jm	Sand			S	M		Martin P/L						Concrete	Loam	Binder				Deco SST	
373800	6909300	Passmore	TOO	738	093	Qa	Sand			S	S				Clifton				Concrete	Bedding						Shire
375100	6908800		TOO	751	088	Jm	Sandstone			CW	S	S	Clifton SC						Binder					<2m	OGMJ 81/946	
381700	6906700		TOO	817	067	Jm	Sandstone			CW	S	M	McCartin						Binder	Concrete						OGMJ 81/946
383300	6905000	Bourke	TOO	833	050		Residual Sand			S	S	W	Helidon Sand & Gravel		Clifton				Concrete							Shire
384300	6906200		TOO	843	062		Residual Sand			S	M	W	Helidon Sand & Gravel		Clifton				Concrete						Fine, Toowoomba to Tenterfield	Shire
385500	6904700		TOO	855	047		Residual Sand				S	F	Wright		Clifton											Shire
399500	6905800		TOO	995	058		Loam			S	S	W	Maher		Clifton											Shire

Tweed Special Sheet
Quarries

East	North	Name	Sheet	Easting	Northing	Symbol	Rock Type 1	Rock Type 2	Rock Type 3	Weathering	Working	Size	size	Status	Operator	Designated	Local Authority	Land Tenure	Land Use	Production	Use 1	Use 2	Use 3	Comments	Report
5E+05	7E+06		MUR	004	792	TI	Basalt				P	S	1		Beaudesert SC						Maintenance gravel				Publ 368
5E+05	7E+06	Taylor's Pit	MUR	012	743	TI	Basalt				P	S	1		Beaudesert SC						Pavement gravel				Publ 368
5E+05	7E+06		MUR	026	897	TI	Basalt				P	S	1		Beaudesert SC						Pavement gravel				Publ 368
5E+05	7E+06		MUR	028	929	TI	Basalt				P	S	1												Publ 368
5E+05	7E+06		MUR	038	821	Cza	Basalt				S	S	1								Maintenance gravel				Publ 368
5E+05	7E+06		MUR	040	822	TI	Basalt				P	S	1		Beaudesert SC						Pavement gravel	Maintenance gravel			Publ 368
5E+05	7E+06		MUR	040	830	TI	Basalt				P	S	1								Maintenance gravel				Publ 368
5E+05	7E+06		MUR	045	857	TI	Basalt				P	S	1								Maintenance gravel				Publ 368
5E+05	7E+06		MUR	045	892	Ts	Conglomerate				S	S	1		Beaudesert SC						Pavement gravel				Publ 368
5E+05	7E+06		MUR	051	766	TI	Basalt				P	S	1		Beaudesert SC										Publ 368
5E+05	7E+06		MUR	053	970	Ts	Conglomerate				P	S	1		Beaudesert SC						Pavement gravel				Publ 368
5E+05	7E+06		MUR	054	959	Ts	Conglomerate				S	M	3		Beaudesert SC						Pavement gravel			Limited reserves	Publ 368
5E+05	7E+06		MUR	057	955	Ts	Conglomerate				P	S	1		Beaudesert SC						Pavement gravel			small reserves	Publ 368
5E+05	7E+06		MUR	058	754	TI	Basalt				P	S	1								Pavement gravel				Publ 368
5E+05	7E+06		MUR	058	758	TI	Basalt				P	S	1								Pavement gravel				Publ 368
5E+05	7E+06		MUR	061	919	TI	Rhyolite				S	S	1								Pavement gravel				Publ 368
5E+05	7E+06		MUR	062	840	TI	Basalt				P	S	1								Pavement gravel				Publ 368
5E+05	7E+06		MUR	073	923	Tr	Rhyolite				P	S	1								Pavement gravel				Publ 368
5E+05	7E+06		MUR	077	917	Tr	Rhyolite				S	M	3								Fill				Publ 368
5E+05	7E+06		MUR	100	011	TI	Basalt				P	S	1		Beaudesert SC						Pavement gravel				Publ 368
5E+05	7E+06		MUR	110	870	TI	Basalt				S	S	1		Beaudesert SC						Maintenance gravel				Publ 368
5E+05	7E+06		MUR	138	997	TI	Basalt				S	M	3		Beaudesert SC						Pavement gravel				Publ 368
5E+05	7E+06		MUR	141	912	TI	Basalt				P	S	1		Beaudesert SC						Pavement gravel				Publ 368
5E+05	7E+06		MUR	157	877	TI	Basalt				S	S	1								Pavement gravel				Publ 368
5E+05	7E+06		MUR	166	999	RJo	Conglomerate				S	M	3		Beaudesert SC						Maintenance gravel				Publ 368
5E+05	7E+06		MUR	180	817	TI	Basalt				S	S	1								Pavement gravel	Maintenance gravel			Publ 368
5E+05	7E+06		MUR	182	887	TI	Basalt				Q	S	1								Pavement gravel				Publ 368
5E+05	7E+06		MUR	187	963	Rc	Rhyolite				P	S	1		Defence Dept						Pavement gravel				Publ 368
5E+05	7E+06		MUR	188	971	Rl	Sandstone				P	S	1								Pavement gravel				Publ 368
5E+05	7E+06		MUR	190	003	Rc	Rhyolite				P	S	1		Beaudesert SC						Pavement gravel	Maintenance gravel			Publ 368
5E+05	7E+06		MUR	190	830	TI	Basalt				P	S	1		Beaudesert SC						Maintenance gravel				Publ 368
5E+05	7E+06		MUR	191	007	Rc	Rhyolite				S	M	3		Beaudesert SC						Pavement gravel	Maintenance gravel			Publ 368
5E+05	7E+06		MUR	191	955	Rc	Rhyolite				P	S	1								Pavement gravel				Publ 368
5E+05	7E+06		MUR	192	842	TI	Basalt				P	S	1		Beaudesert SC						Maintenance gravel				Publ 368
5E+05	7E+06		MUR	195	926	TI	Basalt				P	S	1		Beaudesert SC						Maintenance gravel				Publ 368
5E+05	7E+06		MUR	196	937	TI	Basalt				S	S	1		Brisbane CC						Pavement gravel				Publ 368
5E+05	7E+06		MUR	197	950	Rc	Rhyolite				S	S	1		Beaudesert SC						Pavement gravel				Publ 368
5E+05	7E+06		MUR	201	021	Rc	Rhyolite				S	S	1		Defence Dept						Pavement gravel				Publ 368
5E+05	7E+06		MUR	213	009	Pzn	Greywacke				S	S	1								Pavement gravel				Publ 368
5E+05	7E+06		MUR	222	873	Rc	Rhyolite				P	M	3		Albert SC						Pavement gravel				Publ 368
5E+05	7E+06		MUR	223	879	Rc	Rhyolite				S	S	1		Albert SC						Pavement gravel				Publ 368
5E+05	7E+06		MUR	257	954	Pzn	Argillites	Greywacke			Q	S	1								Pavement gravel				Publ 368
5E+05	7E+06		MUR	264	977	Pzn	Argillite				S	S	1								Pavement gravel	Fill			Publ 368
5E+05	7E+06		MUR	273	008	Pzn	Shale				S	S	1								Maintenance gravel	Fill			Publ 368
5E+05	7E+06		MUR	273	967	Pzn	Greywacke				Q	M	3		QRWC						Rip rap				Publ 368
5E+05	7E+06		MUR	283	868	Pzn	Greywacke				Q	M	3		Gold Coast CC						Concrete				Publ 368
5E+05	7E+06		MUR	298	893	Pzn	Quartzite	Argillite			S	M	3		Albert SC						Maintenance gravel				Publ 368
5E+05	7E+06		MUR	300	993	Pzn	Quartzite	Shale			P	M	3		Albert SC						Pavement gravel				Publ 368
5E+05	7E+06		MUR	305	983	Pzn	Greywacke				S	M	3		Albert SC						Pavement gravel				Publ 368
5E+05	7E+06		MUR	334	922	Pzn	Quartzite	Argillite			P	M	3		Bamerry						Pavement gravel				Publ 368
5E+05	7E+06		MUR	336	977	Pzn	Greywacke				Q	M	3								Rip rap			Large reserves	Publ 368
5E+05	7E+06		MUR	343	878	Pzn	Quartzite				S	S	1								Maintenance gravel	Pavement gravel			Publ 368
5E+05	7E+06	Gilston	MUR	345	997	Pzn	Greywacke				Q	M	3 W		Nucrush						Screenings	Concrete	Pavement gravel		Publ 368
5E+05	7E+06		MUR	346	976	Pzn	Quartzite				S	S	1								Maintenance gravel	Pavement gravel			Publ 368
5E+05	7E+06		MUR	355	943	Pzn	Quartzite				S	M	3		MRD						Pavement gravel				Publ 368
5E+05	7E+06		MUR	358	972	Pzn	Quartzite	Argillite			P	S	1		Albert SC						Maintenance gravel	Pavement gravel			Publ 368
5E+05	7E+06		MUR	359	920	Pzn	Quartzite				S	S	1								Pavement gravel				Publ 368
5E+05	7E+06		MUR	363	918	Pzn	Quartzite				Q	M	3		Campbell						Exposed Aggregate	Ornamental			Publ 368
5E+05	7E+06		MUR	387	937	Pzn	Argillite				S	M	3		Albert SC						Maintenance gravel				Publ 368
5E+05	7E+06		MUR	395	916	Pzn	Quartzite				P	M	3		Theiss						Pavement gravel				Publ 368
5E+05	7E+06		MUR	403	911	Pzn	Quartzite				P	M	3		Zarea						Fill				Publ 368
5E+05	7E+06		MUR	403	911	Pzn	Argillite				P	M	3		A Gravels						Fill				Publ 368
5E+05	7E+06		MUR	404	915	Pzn	Argillite				P	M	3								Fill				Publ 368
5E+05	7E+06		MUR	406	877	Pzn	Quartzite				Q	M	3		Albert SC						Pavement gravel				Publ 368
5E+05	7E+06		MUR	407	916	Pzn	Argillite				S	S	1								Fill				Publ 368
5E+05	7E+06	Tallebudgera	MUR	408	878	Pzn	Quartzite				Q	M	3 W		Newmann Dredging					50000t	Pavement gravel				

APPENDIX 5

TWEED SPECIAL SHEET

DATA SHEETS - QUARRIES, SAND AND GRAVEL

Tweed Special Sheet
Quarries

4E+05	7E+06		WAR	232	947	Tm	Basalt	Vol-Breccia		Laterite	P	M	3	MRD					Pavement Gravel	Maintenance gravel			OGMJ Sep 83
4E+05	7E+06		WAR	228	946	Tm	Basalt			Laterite	S	S	1	MRD					Pavement Gravel GVL	Maintenance gravel			OGMJ Sep 83
4E+05	7E+06	Patterson's	WAR	250	984	Tm	Basalt				P	M	3	Glengallen SC	Glengallen				Maintenance gravel	Pavement Gravel	<4M		OGMJ Sep 83
4E+05	7E+06	Wallace's	WAR	276	804	Tm	Basalt				S	S	1	Glengallen SC	Glengallen				Maintenance gravel	Fill	<4M		OGMJ Sep 83
4E+05	7E+06	Nelson's	WAR	279	850	Tm	Basalt				S	M	3	Glengallen SC	Glengallen				Maintenance gravel		<8M		OGMJ Sep 83
4E+05	7E+06	McMahon's	WAR	283	937	Tm	Basalt				P	S	1	Glengallen SC	Glengallen				Maintenance gravel		<5M		OGMJ Sep 83
4E+05	7E+06	Boyle's	WAR	308	688	Tm	Basalt				Q	M	3	Glengallen SC	Glengallen				Maintenance gravel	Pavement Gravel GVL	<16M		OGMJ Sep 83
4E+05	7E+06		WAR	308	693	Tm	Basalt				S	M	3	Glengallen SC	Glengallen				Maintenance gravel				OGMJ Sep 83
4E+05	7E+06		WAR	324	686	Tm	Basalt				P	S	1	Glengallen SC	Glengallen				Maintenance gravel	Pavement Gravel GVL			OGMJ Sep 83
4E+05	7E+06		WAR	332	856	Tm	Basalt				S	S	1	Glengallen SC	Glengallen				Maintenance gravel				OGMJ Sep 83
4E+05	7E+06		WAR	330	984	Tm	Basalt				S	S	1	Glengallen SC	Glengallen				Maintenance gravel				OGMJ Sep 83
4E+05	7E+06	Wickham's	WAR	402	685	Tm	Basalt				P	S	1	Glengallen SC	Glengallen				Maintenance gravel		<5M		OGMJ Sep 83
4E+05	7E+06	Peterson's	WAR	450	703	Tm	Basalt				P	S	1	Glengallen SC	Glengallen				Maintenance gravel		<6M		OGMJ Sep 83

Tweed Special Sheet
Sand and Gravel

East	North	Name	Sheet	Easting	Northing	Symbol	Rock Type 1	Rock Type 2	Rock Type 3	Weathering	Working	Size	Status	Operator	Designated	Local Authority	Land Tenure	Land Use	Production	Use 1	Use 2	Use 3	Comments	Report
535000	6902000		MUR	350	020	Qa	Sand				D			Pioneer P/L						Concrete				GSQ PUB 386
541100	6902100		MUR	411	021	Estuarine	Sand				D			Gold Coast City Council						Fill				GSQ PUB 386
500900	6902500		MUR	009	025	Residual	Sand	Loam			S	S								Concrete	Top Dressing			GSQ PUB 386
540600	6880900		MUR	406	809	Qa	Sand				DrAgLine	L		Curumbin Sand & Gravel						Concrete				GSQ PUB 386
545300	6885300		MUR	453	853	Estuarine	Sand				D	S		Curumbin Sand										GSQ PUB 386
540800	6887200		MUR	408	872	Qa	Sand				S	S		Pine Ridge						Concrete				GSQ PUB 386
546000	6887300		MUR	460	873	Estuarine	Sand							M & M Quarries						Fill				GSQ PUB 386
547300	6888300		MUR	473	883	Marine	Sand							Gold Coast City Council						Fill				GSQ PUB 386
543200	6890700		MUR	432	907	Qa	Loam				S	S								Top Dressing	Loam			GSQ PUB 386
537000	6893700		MUR	370	937	Qa	Sand				Dredge									Concrete				GSQ PUB 386
540800	6897200		MUR	408	972	Qd	Sand				Dredge			Picardy Landscapes						Fill				GSQ PUB 386
527800	6898700		MUR	278	987	Qa	Sand	Gravel						Readymix						Concrete				GSQ PUB 386
538800	6899000		MUR	388	990	Estuarine	Sand				Dredge			M & M Quarries						Fill	Pavement Gravel			GSQ PUB 386
403800	6881500		WAR	038	815	Qa	Clayey Sand	Gravel			S	M		MRD						Binder			<2M	QGMJ Sep 83
415500	6860300		WAR	155	603	Qa	Sand				S	S		Kelly						Bedding	Concrete		Granite Derived	QGMJ Sep 83
415900	6867700	Fannings	WAR	159	677	Jlm	Sand				S	M		Kelly						Bedding	Concrete		Surficial sand	QGMJ Sep 83
489800	6890400		MTL	898	904	Qa	Sand	Gravel			S	M	W	Cockburn		Beaudesert			2725	Concrete	Bedding			Shire

APPENDIX 6

DATA SHEETS- CLAY MINING LEASES

Clay Mining Leases
Southeast Queensland Biogeographic Region

Eastings	Northing	Sheet	ML #	Name	Minerals	Title Holder	Status	Area	Rent
496120	6950680	Ipswich	ML1100	-	CP-CY-SH	BORAL BRICKS (QLD) LIMITED	GRAN	53.65	972
511414	6961850	Ipswich	ML1101	-	CJ-CP-KAO-SH	PGH LIMITED	GRAN	37.39	741
496780	6950060	Ipswich	ML1102	E N HAM	CY-SH	PGH LIMITED	GRAN	15.18	160
496030	6978200	Ipswich	ML1106	ML939BRIS	CP-CY	BORAL BRICKS (QLD) LIMITED	GRAN	27.04	595
495260	6992850	Ipswich	ML1111	-	CJ-CP-KAO-SH	PGH LIMITED	GRAN	4.08	90
495250	6992980	Ipswich	ML1114	-	CJ-CP-CY-KAO-SH	PGH LIMITED	GRAN	4.77	97.5
492970	6950500	Ipswich	ML1115	-	CY-SH	QUEENSLAND CEMENT LIMITED	GRAN	13.76	273
494850	6992650	Ipswich	ML1125	-	CY	PGH LIMITED	GRAN	17.7	414
496450	6991200	Ipswich	ML1128	JOSEPH FERRIER	CJ-CP-CY-SH	PGH LIMITED	GRAN	14.51	369
495150	6992800	Ipswich	ML1131	-	CJ-CP-CY-KAO-SH	PGH LIMITED	GRAN	2.02	73.8
495000	6992450	Ipswich	ML1134	JUNO	CJ-CP-CY-KAO-SH	PGH LIMITED	GRAN	4.22	123
495350	6992500	Ipswich	ML1135	HERA	CJ-CP-CY-KAO-SH	PGH LIMITED	GRAN	4.19	123
495300	6992650	Ipswich	ML1138	SIXTY-NINE	CJ-CP-CY-SH	PGH LIMITED	GRAN	8.1	221.4
511250	6952000	Ipswich	ML1151	RED STONE	CP-CY-SH	THE AUSTRAL BRICK COMPANY PTY LTD	GRAN	45.8	210
514000	6948800	Ipswich	ML1152	ML1163BRIS	CP-CY-SH	THE AUSTRAL BRICK COMPANY PTY LTD	GRAN	44.23	170
491550	6952400	Ipswich	ML1154	LOFFS	CY-SH	BORAL BRICKS (QLD) LIMITED	GRAN	15.92	526
511100	6951400	Ipswich	ML1156	PREBBLE	CP-CY-SH	THE AUSTRAL BRICK COMPANY PTY LTD	GRAN	50.62	252
496440	6951140	Ipswich	ML1158	BLACK HOLE	CY-SH	BORAL BRICKS (QLD) LIMITED	GRAN	9.91	50
511400	6952420	Ipswich	ML1165	BRICKWORKS 2	CP-CY-SH	THE AUSTRAL BRICK COMPANY PTY LTD	GRAN	9.11	100
512180	6951700	Ipswich	ML1166	BRICKWORKS 1	CP-CY-SH	THE AUSTRAL BRICK COMPANY PTY LTD	GRAN	18.38	190
497230	6950950	Ipswich	ML1167	BRITTAIN	CP	RALPH BRITTAIN & COMPANY PTY LTD	GRAN	15.34	288
495940	6978730	Ipswich	ML1168	STRATHPINE 4	CY	PGH LIMITED	GRAN	29.61	540
496650	6978180	Ipswich	ML1169	STRATHPINE 6	CY	PGH LIMITED	GRAN	16.01	306
496980	6978700	Ipswich	ML1170	STRATHPINE 3	CY	PGH LIMITED	GRAN	25.03	954
496370	6978080	Ipswich	ML1171	BRITTAINS	CY-SH	BORAL BRICKS (QLD) LIMITED	GRAN	18.21	285
497080	6950150	Ipswich	ML1173	OXLEY EAST	CY-SST	PGH LIMITED	GRAN	9.06	195
428533	7243212	Bundaberg	ML1177		CY	WIDE BAY BRICKWORKS PTY LTD	GRAN	19.42	300
422909	7225894	Bundaberg	ML1205	GREGORY	CY	WIDE BAY BRICKWORKS PTY LTD	GRAN	9.49	100
421400	7236524	Bundaberg	ML1208	BOWDER 3	CY	Theodora BOWDER	GRAN	18	324
421200	7236800	Bundaberg	ML1218	WIDE BAY BRICK 11	CY-SH	WIDE BAY BRICKWORKS PTY LTD	GRAN	61.53	1116
422909	7225894	Bundaberg	ML1219	WIDE BAY NO3	CY	WIDE BAY BRICKWORKS PTY LTD	GRAN	2.29	58.5
420471	7211074	Bundaberg	ML1221	WIDE BAY NO4	CY	WIDE BAY BRICKWORKS PTY LTD	GRAN	21.3	429
426320	7228836	Bundaberg	ML1237	WIDE BAY BRICKWORKS NO7	CY	WIDE BAY BRICKWORKS PTY LTD	GRAN	16.94	418.2
491900	7082350	Gympie	ML3671	COOROY	CY	PGH LIMITED	GRAN	12.14	319.8
491650	7079100	Gympie	ML3672	BRICKWORKS 6	CY	PGH LIMITED	GRAN	0.64	32.9
491750	7079300	Gympie	ML3673	BRICKWORKS 5	CY	PGH LIMITED	GRAN	1.21	65.8
		Gympie	ML3676	WHITE ELEPHANT	CY-MN	PGH LIMITED	GRAN	10	329
491550	7075450	Gympie	ML3696	NANDROYA 2	CY	PGH LIMITED	GRAN	49.11	1645
491600	7079150	Gympie	ML3705	COOROY W4	CY-SH	PGH LIMITED	GRAN	1.01	39
491200	7087400	Gympie	ML3709	GLENWOOD 1	CY	PGH LIMITED	GRAN	7.56	80
		Gympie	ML3716	AMAMOOR 2	CY-MN	PGH LIMITED	GRAN	4	131.6
491750	7079600	Gympie	ML3718	COOROY W5	CY	PGH LIMITED	GRAN	9.8	195
491800	7079400	Gympie	ML3729	COOROY WHITE EXTENSION	CY	PGH LIMITED	GRAN	2.99	58.5
491700	7081350	Gympie	ML3742	WEST RIDGE 1	CY	PGH LIMITED	GRAN	29.63	58.5
494450	7084400	Gympie	ML3751	BROGDENS	CY-SST	PGH LIMITED	GRAN	5.62	197.4
483850	6946100	Ipswich	ML4552	-	CJ-CP-CY-SH	PGH LIMITED	GRAN	8.69	175.5
483400	6946200	Ipswich	ML4553	-	CP-CY-SH	CLAYPAVE PTY LTD	GRAN	33.63	1118.6
483150	6945150	Ipswich	ML4556	-	COAL-CY	NEW WHITWOOD COLLIERIES PTY LTD	GRAN	33.75	663

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484200	6944700	Ipswich	ML4557	-	COAL-CY-SH	NEW WHITWOOD COLLIERIES PTY LTD	GRAN	39.73	780
482600	6945950	Ipswich	ML4559	-	COAL-CY	CLAYPAVE PTY LTD	GRAN	70.57	1348.5
		Ipswich	ML4572	RHONDDA COLLIERIES	CO-SH	OCEANIC COAL AUSTRALIA LIMITED	GRAN	161.71	2916
		Ipswich	ML4573		CO-SH	OCEANIC COAL AUSTRALIA LIMITED	GRAN	122.9	1845
482900	6939850	Ipswich	ML4574	SOUTHERN CROSS 15	COAL-CY-SH	ANDREW WRIGHT HOLDINGS PTY LTD	GRAN	166.4	3256.5
469200	6941700	Ipswich	ML4577	THE MINING ON PRIVATE LAND CUT	COAL-CY	JEEBROPILLY COLLIERIES PTY LTD	GRAN	144.3	4770.5
480450	6941350	Ipswich	ML4578	SOUTHERN CROSS OPEN-CUT NO. 3	COAL-CY-SH	ANDREW WRIGHT HOLDINGS PTY LTD	GRAN	74.33	1462.5
481100	6938300	Ipswich	ML4579	SOUTHERN CROSS	COAL-CY-SH	ANDREW WRIGHT HOLDINGS PTY LTD	GRAN	241.31	7961.8
481350	6942250	Ipswich	ML4581	-	COAL-CY	OCEANIC COAL AUSTRALIA LIMITED	GRAN	41.66	799.5
		Ipswich	ML4583		CO-SH	OCEANIC COAL AUSTRALIA LIMITED	GRAN	250.9	3765
		Ipswich	ML4585		CO-BEN	SHOWA COAL AUSTRALIA PTY LTD	GRAN	187.77	3384
484150	6946600	Ipswich	ML4604	-	CP-CY-SH	PGH LIMITED	GRAN	2.42	58.5
483700	6943300	Ipswich	ML4622	-	CY-SH	BORAL BRICKS (QLD) LIMITED	GRAN	38.6	897
483250	6940700	Ipswich	ML4628	-	CY-SH	PGH LIMITED	GRAN	7.39	196.8
483300	6941050	Ipswich	ML4629	-	CY-SH	PGH LIMITED	GRAN	6.81	172.2
483100	6940350	Ipswich	ML4632	BALBOA	CY-SH	PGH LIMITED	GRAN	3.8	98.4
483800	6946700	Ipswich	ML4639	DINMORE 1	CP-CY	PGH LIMITED	GRAN	13.07	460.6
484250	6946600	Ipswich	ML4640	-	CP-SH	PGH LIMITED	GRAN	13.65	460.6
483050	6946350	Ipswich	ML4642	HUDSONS NO 1	CP-SH	M & JL FEENEY PTY LTD	GRAN	10.29	110
483200	6940900	Ipswich	ML4643	REDBANK 8	CP-CY-SH	PGH LIMITED	GRAN	0.49	4
482800	6938700	Ipswich	ML4644	BLUFF HOPE	CY-SH	NEW HOPE COLLIERIES PTY LTD	GRAN	7.28	263.2
482100	6939550	Ipswich	ML4649	ROBROY HOPE	CY-SH	NEW HOPE COLLIERIES PTY LTD	GRAN	18.07	625.1
461600	6946800	Ipswich	ML4651	RYLANCE-MALABAR	COAL-CY-SH	NEW HOPE COLLIERIES PTY LTD	GRAN	62.99	156
483300	6941150	Ipswich	ML4654	GREENWOOD VILLAGE 5	CY-SH	PGH LIMITED	GRAN	3.71	92
482300	6940450	Ipswich	ML4657	NEW HOPE 7 EXT COLLIERY	COAL-CY-SH	NEW HOPE COLLIERIES PTY LTD	GRAN	14.9	225
467300	6941400	Ipswich	ML4689	JEEBROPILLY NO 1	COAL-CY-SH	JEEBROPILLY COLLIERIES PTY LTD	GRAN	94.38	1852.5
466070	6941400	Ipswich	ML4690	JEEBROPILLY NO 2	COAL-CY-SH	JEEBROPILLY COLLIERIES PTY LTD	GRAN	113.33	2223
48400	6946600	Ipswich	ML4706	DINMORE 3	CY-SST	PGH LIMITED	GRAN	4.05	123
467100	6940400	Ipswich	ML4711	JEEBROPILLY NO 20	BEN-COAL-CY-SH	JEEBROPILLY COLLIERIES PTY LTD	GRAN	96.44	2386.2
465050	6938000	Ipswich	ML4712	EBENEZER	BEN-COAL-SH	IDEMITSU SOUTH QUEENSLAND COAL PTY LTD	GRAN	889.4	18912.5
483300	6941350	Ipswich	ML4713	GREENWOOD VILLAGE 6	CY-STKPIL	PGH LIMITED	GRAN	8.61	221.4
483500	6945850	Ipswich	ML4714	NEW CHUM	COAL-CY-SH	NEW WHITWOOD COLLIERIES PTY LTD	GRAN	2	49.2
419400	6977050	Ipswich	ML50003	RAVENSBORNE SAND SUPPLY	CY-KAO-SF-SI	PIONEER CONCRETE (QLD) PTY LTD	GRAN	24.14	822.5
526800	6943250	Ipswich	ML50010	GERMAN CHURCH ROAD QUARRY	CY-SH	REDHEART PTY LTD	GRAN	17.82	592.2
483700	6946500	Ipswich	ML50028	DINMORE WEST BANK	CY	PGH LIMITED	GRAN	0.4	32.9
526200	6943330	Ipswich	ML50035	TESTAROSA	CY-SH	THE AUSTRAL BRICK COMPANY PTY LTD	GRAN	23.1	789.6
		Gympie	ML50062	AIMEE	KAO-STKPIL	Vincent Charles SMITH	GRAN	9.36	329
		Warwick	ML50065	WARBRICK	CY-SH	WARWICK BRICK WORKS PTY LTD	GRAN	7.37	263.2
		Gympie	ML50066	MORRISSEY'S	KAO	NYORA MINING CO PTY LTD	APPL	27.36	
483850	6944250	Ipswich	ML50070	CLAYPAVE SOUTH	CJ-CP-CY-SH	CLAYPAVE PTY LTD	GRAN	21.58	723.8
		Gympie	ML50071	HUBER SOUTH EXTENDED	KAO	CIASOM PTY LTD	GRAN	145.94	4803.4
		Gympie	ML50075	PORTION 29	CJ-CP-DT-PZ	ROCK-EX ENTERPRISES PTY LTD	GRAN	24.32	822.5
482850	6946000	Ipswich	ML50077	CLAYPAVE F	CJ-CY-SH	CLAYPAVE PTY LTD	GRAN	2.03	98.7
		Gympie	ML50078	AZZOPARDI'S	CY-SH	PGH LIMITED	APPL	6.21	230.3
466250	6940200	Ipswich	ML50082	JEEBROPILLY NO. 23	BEN-COAL-CY-SH	JEEBROPILLY COLLIERIES PTY LTD	GRAN	39.05	1316
467850	6941900	Ipswich	ML50093	JEEBROPILLY NO 24	BEN-COAL-CY-SH	JEEBROPILLY COLLIERIES PTY LTD	APPL	42.49	1414.7
		Ipswich	ML50100	EBENEZER EAST	BEN-COAL-CY-SH	IDEMITSU SOUTH QUEENSLAND COAL PTY LTD	GRAN	415.7	13686.4
		Ipswich	ML50106	WESTERN LEASES 2	CY	NEW HOPE COAL PTY LTD	APPL	16.55	
		Ipswich	ML50113	RED BARRY	SH	BARRY G. CLARK	GRAN	4.91	164.5

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	Ipswich	ML50115	NUBRIK #1	SH	OCEANIC COAL AUSTRALIA LIMITED	GRAN	107.4	3553.2
	Ipswich	ML50116	BORAL NORTH	CY-SH	OCEANIC COAL AUSTRALIA LIMITED	APPL	44.65	
	Ipswich	ML50117	BORAL WEST	CY-SH	OCEANIC COAL AUSTRALIA LIMITED	APPL	57.74	
	Gympie	ML50118	MAIDENWELL	BEN	INTERNATIONAL EXPLORATION SERVICES P/L	GRAN	7.48	263.2
	Ipswich	ML50121	BLACK HOLE EXTENDED	CY-SH	BORAL BRICKS (QLD) LIMITED	APPL	0.95	
	Ipswich	ML50123	JACKLINS	CY-CJ-KAO-CP-SH	MONIER PGH HOLDINGS LIMITED	APPL	4.42	
466600	7181300	Maryborough	ML5377	CY-CP	MARCOTTA TILES PTY LTD	GRAN	1.62	46
470700	7180200	Maryborough	ML5378	CP	MARCOTTA TILES PTY LTD	GRAN	3.03	131.6
466600	7181300	Maryborough	ML5384	CY-CP-SH	MARCOTTA TILES PTY LTD	GRAN	3.24	16
458200	7178500	Maryborough	ML5391	CP-SH	MARCOTTA TILES PTY LTD	GRAN	8.68	296.1
466600	7181300	Maryborough	ML5392	CP-SH	MARCOTTA TILES PTY LTD	GRAN	0.72	4
470600	7190800	Maryborough	ML5393	CP-SH	MARCOTTA TILES PTY LTD	GRAN	12	120
458600	7178500	Maryborough	ML5394	CY	MARYBOROUGH BRICKWORKS PTY LTD	GRAN	9.38	48
470900	7189500	Maryborough	ML5395	KAO	William Roland MILNER	GRAN	4.03	50
458500	7177700	Maryborough	ML5396	SH	MARYBOROUGH BRICKWORKS PTY LTD	GRAN	3.38	40
	Gympie	ML5674	SNOW QUEEN	CP	Raymond Edgar BLACK	GRAN	4.86	90
385800	7051000	Gympie	ML5675	-	Raymond Edgar BLACK	GRAN	4.05	115
385400	7047100	Gympie	ML5676	-	Raymond Edgar BLACK	GRAN	1.94	30
	Gympie	ML5677	UNKNOWN	KAO	Raymond Edgar BLACK	GRAN	8.09	162
	Gympie	ML5679	GOODGER MINE	KAO	Raymond Edgar BLACK	GRAN	4.05	164.5
	Gympie	ML5680	HUBER EAST	KAO	CIASOM PTY LTD	GRAN	35.51	176
	Gympie	ML5681	HUBER NORTH	KAO	CIASOM PTY LTD	GRAN	64.72	320
	Gympie	ML5683	HUBER WEST	KAO	CIASOM PTY LTD	GRAN	213.8	1058
	Gympie	ML5684	NYORA	KAO	Raymond Edgar BLACK	GRAN	1.94	10
375500	7053500	Gympie	ML5685	CY-KAO-RUT-ZIR	NYORA MINING CO PTY LTD	GRAN	33.9	510
	Gympie	ML5686	NYORA NO 2	KAO	NYORA MINING CO PTY LTD	GRAN	13.25	273
	Gympie	ML5687	BOONENNE	KAO	CRESTHALL PTY LIMITED	GRAN	24.78	487
397230	6965280	Ipswich	ML5950	-	CLAYWARE MANUFACTURING PTY LTD	GRAN	11.94	216
397450	6965250	Ipswich	ML5960	CLAYWARE NO.3	CLAYWARE MANUFACTURING PTY LTD	GRAN	2.19	98.7
397650	6965050	Ipswich	ML5963	CLAYWARE NO.5	CLAYWARE MANUFACTURING PTY LTD	GRAN	11.74	58
	Ipswich	ML5973	TROY NO 2	KAO	William Roland MILNER	GRAN	1.08	39
397000	6966000	Ipswich	ML5974	BRICKWORKS	PGH LIMITED	GRAN	134.9	2632.5
419000	6977300	Ipswich	ML5977	DUKE	Lindsay Robert Charles PHILP	GRAN	3.64	78
389400	7026000	Gympie	ML6610	THE CEDARS	PCP DOUGLASS PTY LTD	GRAN	8.12	191.25
	Gympie	ML6621	NYORA 4	KAO	NYORA MINING CO PTY LTD	GRAN	21.77	723.8
	Gympie	ML6656	DUAN-ER	KAO	Colin Alfred RENAUD	GRAN	4.23	123
375400	7047900	Gympie	ML6826	REBECCA	Vincent Charles SMITH	GRAN	11.71	394.8
482350	6946800	Ipswich	ML7009	DRAINPIPES NO 1	EBBW VALE DRAINPIPES PTY LIMITED	GRAN	8.18	296.1
465000	6940200	Ipswich	ML7186	JEEBROPILLY NUMBER 22	JEEBROPILLY COLLIERIES PTY LTD	GRAN	142.8	4704.7
							5656.09	121659.7

APPENDIX 7

DATA SHEETS- BUILDING STONE LEASES

Building Stone
Southeast Queensland Biogeographic Region

East	North	Name	Sheet	Easting	Northing	Current M	ML #	Symbol	k_Type_1	Colour	Grain Size	Size	Status	Operator	Local Aut	Land Ten	Land Use	Productio	Product N	Comment	Report
406600	6993300	Austin	ESK	066	933	ML 50009	ML 50009	Crows Nest Granite		pink to da c			?	Lachlan Valley Granites					Austin Red		
409510	6963467		ESK	095	63467	ML 50047	ML 50047	Helidon S Sandstone													
414000	7008200	Nukinend	ESK	140	082	ML 7249		Eskdale G Porphyriti		black m				Marlborough Gold Mines / Pavstar						Trial pits; gabbro dyke in granodiorite	
459200	7070100	Barnes	GYM	592	701	ML 50008	ML 50008	Amamoor siltstone,		blue, black, multicolor	S			Mary Valley Slate (Barnes)							
460400	7120900	Anderleig	GYM	604	209	ML 50004	ML 50004	Kin Kin be Slate, phyllitic shale			M		W	Anderleigh Quarries, Pooley						large resources	
409302	6960411		HEL	093	60411	ML 50054	ML 50054	Helidon Sandstone													
409726	6960317		HEL	097	60317	ML 50096	ML 50096	Helidon Sandstone													
410800	6957700	Zieglers	HEL	108	577	ML 50016	ML 50016	Helidon S Sandstone												Helidon Sandstone	
411611	6957783		HEL	116	57783	ML 50087	ML 50087	Helidon Sandstone													
411845	6956255		HEL	118	56255	ML 7246	ML 7246	Helidon Sandstone													
412000	6956700	Ablatio	HEL	120	567	ML 5007	ML 5007	Helidon S Sandston		white, ma f	S		W	Ablatio Pty Ltd						Helidon Sandstone	
412142	6956556		HEL	121	56556	ML 50007	ML 50007	Helidon Sandstone													
414349	6954060		HEL	143	54060	ML 50055	ML 50055	Helidon Sandstone													
415788	6952728		HEL	157	52728	ML 50103	ML 50103	Helidon Sandstone													
416004	6953752		HEL	160	53752	ML 50102	ML 50102	Helidon Sandstone													
416009	6957179		HEL	160	57179	ML 50022	ML 50022	Helidon Sandstone													
416248	6956059		HEL	162	56059	ML 50086	ML 50086	Helidon Sandstone													
416298	6954361		HEL	163	54361	ML 50097	ML 50097	Helidon Sandstone													
416381	6957918		HEL	164	57918	ML 50013	ML 50013	Helidon Sandstone													
416800	6955600	Wagners	HEL	168	556	ML 5006	ML 5006	Helidon S Sandston		white, ma f	L		W	J.H. Wagner & Sons Pty Ltd						Helidon Sandstone	
416822	6954197		HEL	168	54197	ML 50094	ML 50094	Helidon Sandstone													
416949	6953056		HEL	169	53056	ML 50110	ML 50110	Helidon Sandstone													
390000	7109000	Stuart # 1	MTP	900	090	ML 1213	ML 1213	Goodnight marble		light grey f				Widerhop Kolan		SF 169				proposed	
390000	7108300	Stuart # 2	MTP	900	083	ML 1214	ML 1214	Goodnight marble		light grey f				Widerhop Kolan		SF 169				proposed	
390000	7108200	Stuart # 3	MTP	900	082	ML 1215	ML 1215	Goodnight marble		light grey f				Widerhop Kolan		SF 169				proposed	
423200	6879200		WAR	232	792	ML 50122		Marburg F Sandstone													proposed

East	North	Name	Sheet	Easting	Northing	Current ML	ML #	Symbol	Rock Type 1	Colour	Grain Size	Size	Status	Operator	Local Authority	Land Tenure	Land Use	Production	Product Name	Comments	Report
508200	6813400	Mundoolun	BEE	082	134			Marburg Formation	Sandstone	brown	F-m	S	?	Sandstone Emporium					Mundoolun Sandstone	reopened 1998	
514800	6934500	Waterford	BEE	148	345			Neranleigh Farmvale beds	Phyllite					Brisbane Slate Landscaping							
525000	6909000	Guaneba	BEE	250	090		ML 1140 (Sport)	Neranleigh Farmvale beds	Greywacke					Lenworth Finance Limited							
525900	6912400	Mount Wongawallan	BEE	259	124		ML 1019,1020 (Sport)	Neranleigh Farmvale beds	Slate					Manduric & Simonow							
502400	6968300	Stafford	BRJ	024	683			Brisbane Tuff	tuff			L		Brisbane CC					Porphyry		
502500	6963800	Herston	BRJ	025	638			Brisbane Tuff	tuff			S							Porphyry		
502800	6962700	Spring Hill	BRJ	028	627			Brisbane Tuff	tuff			S							Porphyry		
502900	6965000	Windsor	BRJ	029	550			Brisbane Tuff	tuff			M		Bovvar & Leaver					Porphyry		
502500	6965800	Windsor Town	BRJ	029	658			Brisbane Tuff	tuff			M		Brisbane CC					Porphyry		
503300	6963600	Fortitude Valley	BRJ	033	636			Brisbane Tuff	tuff			L		Herbours & Marine					Porphyry		
503400	6966000	Kangaroo Point	BRJ	034	606			Brisbane Tuff	tuff			L		Herbours & Marine					Porphyry		
504200	6965500	Brydens (Campbells)	BRJ	042	655			Ipwich Coal Measures	Sandstone	Gray, white, light brown	coarse	S		James Campbell & Sons P/L					Breadfast Creek Sandstone		
504200	6965500	Paltrie's	BRJ	042	655			Ipwich Coal Measures	Sandstone		coarse	S		Paltrie					Breadfast Creek Sandstone		
479800	6978200	Cedar Creek	CAB	798	782			Mount Samson Granodiorite	Granite	pink	m	M		A.G. Stonach					Red Granite	also grey granite proposed	
480300	6971200	Samford / Highvale	CAB	803	712		ML 1167 (Br)	Samford Granodiorite	Granite	light grey	m-c	S		Lowther							
487300	6972300	Samford	CAB	873	723			Samford Granodiorite	Granite	light grey	m-c	S		A.G. Stonach							
488600	6968900	Samford / Camp Mountain	CAB	866	689			Samford Granodiorite	Granite	light grey	m-c	S		A.G. Stonach							
496100	6963500	Ashgrove	CAB	961	635			Enoggers Granite	Granite												
496500	6964200	Saint Johns Wood	CAB	965	642			Enoggers Granite	Granite												
496600	6963400	Ashgrove or Karrs	CAB	966	634			Enoggers Granite	Granite	pink	m	L		Kerr, Stirling Granite, Readymit						granodiorite	
408600	6962600		ESK	086	626			Haldon Sandstone	Sandstone	white, light brown	m	S							Murphys Creek Sandstone	crushed rock and building stone source	
408700	6962500	Murphys Creek	ESK	087	625			Haldon Sandstone	Sandstone	white, light grey to brown	m	S							Murphys Creek Sandstone		
409000	6961600		ESK	090	616			Haldon Sandstone	Sandstone		m	S							Murphys Creek Sandstone		
409100	6961500		ESK	091	615			Haldon Sandstone	Sandstone		m	S							Murphys Creek Sandstone		
405300	6963200	Montgomery's	ESK	093	632			Haldon Sandstone	Sandstone	light brown	F-m	M	W	Australian Sandstone Industries					Haldon Sandstone		
409400	6960400	Tweed	ESK	094	604			Haldon Sandstone	Sandstone	white to grey, brown	m	S							Murphys Creek Sandstone		
411000	6994200	Anduaramba	ESK	110	942		ML 126 (Tbe)	Estdale Granodiorite	Granite	grey	m	S		Ziegler					Anduaramba Granite		
414500	6991000	Bluff Mountain	ESK	145	910			Tertiary Dolerite						Jetsign Pty Ltd						potential	
417700	6963900	Mount Cross	ESK	177	639			Crestbrook Creek Group	marble	pink											
418000	7008000		ESK	180	080			Marongh Creek beds	Indurated mudstone					Jetsign Pty Ltd						proposed	
419400	6972000	Ravensbourne	ESK	194	720		ML 147 (Tbe)	Crows Nest Granite													
426200	7108000		GOO	282	080			Palaeozoic schist	Quartzite, phyllite					Poole						Bookleaf stone	
460300	7121400	Anderleigh	GYM	603	214			Myrtle Creek Sandstone	Sandstone	light grey, white	m	S	W	Anderleigh Quarries							
461000	7099300	The Rocks	GYM	610	993			Myrtle Creek Sandstone	Sandstone		m-c	S								Large reserves	
461100	7098200	Heron Road	GYM	611	982			Myrtle Creek Sandstone	Sandstone	light brown, cream		S		J. Smith & Co						Large reserves	
461800	7120700		GYM	618	207			Kn Kn beds	Slate			S		Anderleigh Quarries							
462100	7120700	Old Anderleigh slate	GYM	621	207		ML 558 (Gym)	Kn Kn beds	Slate	blue grey		M		Anderleigh Quarries						large resources	
463100	7121300	Bashford and Watsons	GYM	631	213			Kn Kn beds	phyllitic shale, slate	dark grey, fawn		S		Bashford & Watson						large resources	
472600	7114500	Hamilton & Johnstons	GYM	726	145			Kn Kn beds	phyllitic shale					Hamilton & Johnston		SF 502				potential	
473000	7113200	Noga's	GYM	730	132			Kn Kn beds				S		Noga							
412000	6965000	Comelford's	HEL	120	565			Haldon Sandstone	Sandstone	white, mauve, brown	F	M	W	Comelford Sandstone					Haldon Sandstone		
415400	6955000	Luckyer	HEL	154	550			Haldon Sandstone	Sandstone	light grey, mauve, brown	F-m	S		Luckyer Sandstone					Haldon Sandstone	conglomeratic above and below	
415800	6957100	Waterfall	HEL	158	671			Haldon Sandstone	Sandstone										Haldon Sandstone		
416000	6954400	Haldon	HEL	160	544			Haldon Sandstone	Sandstone												
416600	6957400	Pearsons	HEL	166	574			Haldon Sandstone	Sandstone	white, mauve, brown	F-c (conglom)										
482200	6950100	Lyon's	IPS	822	501			Bressall Sub-group	Sandstone	white to grey, brown	fine	S							Haldon Sandstone		
483500	6957800	Khelo	IPS	835	578			Karana Quartz Diorite	Granite	dark greenish-grey	m	S		Lowther					Mount Crosby or Khelo Granite	large resources	
485400	6956600	Moggill	IPS	854	566			Bressall Sub-group	Sandstone	Grey, white, light brown	fine	S							Moggill Sandstone		
485500	6956300	Moggill	IPS	855	563			Bressall Sub-group	Sandstone	white to grey, brown	fine	S							Moggill Sandstone		
485500	6956400	Moggill	IPS	855	564			Bressall Sub-group	Sandstone	white to grey, brown	fine	S							Moggill Sandstone		
485600	6956200	Moggill	IPS	856	562			Bressall Sub-group	Sandstone	white to grey, brown	m	S							Moggill Sandstone		
486300	6948600	Moggill	IPS	863	486			Bressall Sub-group	Sandstone	white, grey, brown	fine	S							Moggill Sandstone		
380600	7032800	Barnes	KN	806	328			Boondooma Igneous Complex	granite	pink	m-c			Granite Resources Limited						proposed	
381200	7033600	Sanders'	KN	812	336			Boondooma Igneous Complex	Dolerite dyke					Granite Resources Limited						proposed	
394600	7047700	The Boulders	KN	946	477			Taromeo Tonalite	Hornblende granodiorite	grey	m	S		Granite Resources Limited						proposed	
528600	6896000	Gilston	MWH	286	960			Neranleigh Farmvale beds	Slate			S		Davies, Gold Coast CC							
529800	6898400	Gilston	MWH	298	984		ML 1139 (Sport)	Neranleigh Farmvale beds	Slate					Sirrah Pty Ltd							
409300	7029200	Blackbutt	NAN	093	292			Taromeo Tonalite	Granite	dark grey	m	S		Lowther, Ullam Carrars, Langton					Blackbutt Granite		
414100	7018100	Emu Creek	NAN	141	181			Taromeo Tonalite	Granite	light grey	m	S		Lowther, Langton		SF 283					
417000	7033600	Taromeo Creek	NAN	170	336		ML 129 (Nan)	Taromeo Tonalite	Granite	Grey	coarse	S		Ullam Carrars, Langton		SF 283			Black Beauty	diorite xenoliths	
398800	6851700	Bridge Street	TOD	988	517			Main Range Volcanics	basalt			L		Toowoomba CC							
422400	6879900	Yangan or Midson	WAR	224	799			Marburg Formation	Sandstone	brown	F	S									