



Hard rocks

Sedimentary rocks

Banded iron-formation

Banded iron-formation (BIF) outcrops in two locations. A small outcrop of BIF is exposed 42 km north of Morawa as thin sequences of banded, grey and white fine-grained quartz, iron oxides, carbonates and silicates in varying proportions. BIF also outcrops in a narrow belt north-west of Morawa as sequences of alternating BIF with interbedded sand and grey, white and yellow from chert bands. This material has not been worked.

Chert

Chert outcrops in an area 20 km southwest of Morawa and represents silicified dolomite, sandstone and other sedimentary rocks. Silicification took place soon after deposition. The chert is variegated, ranging from white to grey and red and brown. It is commonly laminated and brecciated. A small inactive sand pit is found in this material.

Conglomerate

Two small outcrops of conglomerate are located 50 km north of Morawa where it consists of discontinuous beds of subangular to subrounded boulders and pebbles of chert, basalt, sandstone and vein quartz set in a quartz sandstone matrix. This material has not been worked.

Sandstone

Sandstone is located up to 50 km east of Geraldton and 8 km outcrops west of Northampton. It outcrops as variegated, fine- to coarse-grained, lithologic sandstone with some shales and siltstones, overlain by residual. The sandstone is grey and green, with some quartz, containing material from the weathered sandstone. are located 15 km and 30 km east and 30 km north-west of Geraldton. Historic dimension stone quarries are located 15 km north and 13 km north-west of Geraldton.

Sandstone, minor conglomerate

Sandstone is located in a series of belts between Mullewa and Morawa. Lithologies include well-bedded and cross-bedded quartz and lithologic sandstone, pebbly sandstone and conglomerate. Clasts in the pebbly beds are predominantly of volcanic origin. In places, well-sorted and massive siltstone are common. This material has not been worked.

Sandstone and conglomerate

Thin, poorly sorted sandstone to conglomerate is exposed in two areas — 50 km north-east and 50 km west-south-east of Kalbarri — as small, isolated outcrops. The material is extremely siliceous and has not been worked.

Igneous and metamorphic rocks

Basalt

Small, isolated outcrops of basalt occur 42-47 km north-north-west of Morawa and 21 km north of Morawa. They are grey to dark green, generally massive rocks although pipes and vesicular flows and trachytes are known. This material has not been worked.

Gabbro

Three small, isolated outcrops of gabbro and diorite (microgabbro) crop out 50 km north-north-east of Morawa on rounded hills and into ridges. Gabbro is a dense, granitic or dark, coarse-grained, intrusive igneous rock. This material has not been worked.

Granite

Granite includes a range of rocks: porphyritic granite granule and granite gneiss. They outcrop extensively in eastern half of the area and in a north-trending belt east of Northampton and Geraldton as low hills and domes with locally shaly layers and some locally dissected domes. Gneiss are generally pink to grey, medium- to coarse-grained, equigranular rocks, although porphyritic, banded and other textures are common. They are generally composed of the feldspar, quartz and biotite, with minor amounts of hornblende and garnet. The active and five inactive quarries, all within 25 km of Geraldton, exploit the granite for crushed rock aggregate.

Ultramafic rock

Ultramafic rocks — peridotite, serpentinite and their weathering products — outcrop 40 km north of Morawa as small, discontinuous outcrops. This material has not been worked.

Quarries and pits

Active
Inactive
Proposed
Aggregate
Cry
Cry
Dimens stone
Gvl
Gvl
Lsd
Lsd
Lsd
Lsd
Lsd

Tenure for basic raw material

Mining lease, lve (Mining Act 1978)
Extractive industry licence, lve (Planning and Development Act 2005)
Crown reserve for basic raw materials

Boreholes

Showing thickness of artificial material, in metres
Showing thickness of natural material, in metres

Analyses

Limesand
Limestone
Sand and gravel
Fines
Gravel

DATA SOURCES

Theme	Data Currency	Organisation
Basic raw materials	2014	Geological Survey of Western Australia, Department of Mines and Petroleum
Topography	2013	Landgate - Geoscience Australia
Cartoon	2008	Geological Survey of Western Australia, Department of Mines and Petroleum
Mining tenements	2015	Mining Act 1978, Department of Mines and Petroleum

1 km State Government online resources indicated

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RESOURCE POTENTIAL FOR LAND USE PLANNING

Basic Raw Material Resources

GERALTON-MULLEWA

This map was produced as a basic generalised Basic Raw Material resources within close proximity of infrastructure between Geraldton, Northampton and Morawa. The map represents a bearing relationship from the State Government of Western Australia through the Department of Mines and Petroleum.

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