

# Appendix 1

## Summary reports for operating mines in Queensland

The following section presents detailed information for each of Queensland's significant operating mines. Mineral deposits are presented in alphabetic order. Each mineral deposit report contains information about the location, commodities, size classification, production, resources/reserves, mining styles, tenures, host rocks, mineral deposit models, mineralisation ages and other comments.

The resource information recorded does not duplicate resources documented as reserves or under any other resource classification. For example, if a published 'measured, indicated and inferred resource' includes the 'proved and probable ore reserves', these reserves are not recorded. However, if published reserves are in addition to the published resources they are recorded separately. Open file information sources such as company annual reports, quarterly reports and stock exchange announcements have been used, where available, to ensure current information is captured. Most resource and reserve figures are in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC code), which is included as **Appendix 9**. Some older resource figures are not in accordance with the JORC code. Individual summary reports indicate whether or not the resource and reserve figures are JORC compliant. All sources used are referenced wherever possible.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 504532 ABLATIO QUARRY

### OPERATING MINE

Descriptive Location: EAST OF AIR FORCE ROAD, SOUTH OF GOLD MINE RD, HELIDON.

1:100 000 sheet Number and Name: 9342 HELIDON

Grid Reference: Zone 56 411960 mE 6956693 mN Latitude -27.5105 Longitude 152.1086 Date Recorded: 14/January/2015

### Other Names for Deposit / Mine

Ablatio Sandstone 1

Commodities	Size	Size Definition
BUILDING STONE	VERY SMALL	<100 000 tonnes BLST
SANDSTONE	SMALL	10 000 - 100 000 tonnes SST

### Production Details

Period: 1-Jul-1997 to 30-Jun-2014

SANDSTONE 33,260.6 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

### Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 50007	100.00%	BONDZULIC BROS PTY LTD

### Host Rock/Cover Sequences

*Structural Unit*

*Formation Name/Age*

CLARENCE-MORETON BASIN

Helidon Sandstone / TRIASSIC to TRIASSIC

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

### Mineralisation Age

ORE

### Comments

Albatio Pty Ltd was set up by the Anglican Church to secure a source of sandstone for restoration of St Johns Cathedral in Brisbane. The company also produces sandstone for the domestic and overseas markets.

In 2013 Bondzulich Brothers bought off Ablatio quarry, but retained the name and website.

### Web Page

<http://www.ablstone.com.au/>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 481011 ALIMB

### OPERATING MINE

Descriptive Location: 74 KM NORTH-WEST OF CHARTERS TOWERS, 110KM WEST OF TOWNSVILLE.

1:100 000 sheet Number and Name: 8058 HILLGROVE

Grid Reference: Zone 55 371621 mE 7831524 mN Latitude -19.6071 Longitude 145.7758 Date Recorded: 14/January/2015

### Other Names for Deposit / Mine

Hillgrove Dolomite  
Mitchell  
Surprise  
The Pauleeson

### Commodities

Commodities	Size	Size Definition
EARTHY LIME / DOLOMITE (AGRICULTURAL)	SMALL	10 000 - 100 000 tonnes ELIM

### Production Details

Period: 1-Jul-1996 to 30-Jun-2014

EARTHY LIME / DOLOMITE (AGRICULTURAL) 104,944.5 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
1993		
1996	to 1999	Mined by bull dozer and loader from open cut.

### Mining Operations

OPEN CUT MINING

### Comments

Previous opencutting has been rehabilitated.

Tenure Type/Number	SHARE	Company Name/Surname
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ML 10043	100.00%	KELMAS PTY. LTD.
ML 10044	100.00%	ALIMB PTY. LIMITED

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
NULLA BASALT PROVINCE	Allingham Formation / TERTIARY to TERTIARY

### Deposit Model

GENERAL OREBODY MODEL	SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL	DOLOMITE DEPOSIT

### Mineralisation Age

ORE	PLIOCENE
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### Comments

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 38241 ANDOOM BAUXITE MINE

### OPERATING MINE

Descriptive Location: 18.6 KM NNW OF WEIPA AIRSTRIP.

1:100 000 sheet Number and Name: 7272 WEIPA

Grid Reference: Zone 54 590422 mE 8613766 mN

Latitude -12.5384 Longitude 141.8323

Date Recorded: 14/January/2015

### Other Names for Deposit / Mine

Andoom  
Ne Weipa

### Commodities

BAUXITE

Size  
LARGE

### Size Definition

>200 000 000 tonnes BX

### Production Details

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
BR 10183	2012	RIO TINTO PLC	2012 ANNUAL REPORT.	RIO TINTO PLC, LONDON. REPORTED TO AUSTRALIAN STOCK EXCHANGE, MARCH 2013; RIO TINTO LTD, MELBOURNE

### Major Mining Related Events

Year Commenced	Year Completed	Comments
2003	to 2004	As part of the NeWeipa Expansion project this resource was developed. A beneficiation plant and new power station were constructed at the site.

### Mining Operations

### Comments

SURFACE MINING METHODS

Tenure Type/Number	SHARE	Company Name/Surname
ML 7024	100.00%	RTA WEIPA PTY LTD

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
KARUMBA BASIN	

### Deposit Model

GENERAL OREBODY MODEL	RESIDUAL DEPOSIT
DETAILED OREBODY MODEL	LATERITIC BAUXITE

### Mineralisation Age

ORE CENOZOIC

### Comments

In 2003, Comalco commenced its \$230 million NE Weipa expansion project and constructed a 9.5Mt per annum beneficiation plant and power station at Andoom. Construction was completed by the end of 2004 and the plant was commissioned.

Andoom ore is now mined and treated separately, increasing Comalco's capacity to meet customer requirements. Note that Andoom production and resources are reported in the figures for the Weipa Bauxite Mine.

Prior to 2004, bauxite ore from Andoom was blended with ore from the Weipa mine to produce the final bauxitic product.

### Web Page

[www.riotintoalcan.com](http://www.riotintoalcan.com)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 36967 BAAL GAMMON

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 6.4KM WEST OF HERBERTON, 65KM SW OF CAIRNS.

1:100 000 sheet Number and Name: 7963 ATHERTON

Grid Reference: Zone 55 322254 mE 8077569 mN

Latitude -17.3805 Longitude 145.3269

Date Recorded: 2/February/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
TIN	MEDIUM	1 000 - 100 000 tonnes SN
COPPER	SMALL	500 - 50 000 tonnes CU
SILVER	SMALL	5 - 500 tonnes AG
INDIUM		
LEAD	VERY SMALL	<1000 tonnes PB
ZINC	VERY SMALL	<200 tonnes ZN

### Production Details

Period: 1-Jan-1892 to 31-Dec-1949 6,201 tonnes HARD ROCK ORE (OR REEF)

CASSITERITE 88.4 tonnes

### Published Reserves/Resources

BR 10071 Published in 2012

#### BAAL GAMMON

**INDICATED MINERAL RESOURCE** 1,979,000 tonnes Ore @

33.00 g/t SILVER **FOR** 65,307 Kilograms SILVER

0.80 % COPPER **FOR** 15,832 Tonnes COPPER

Comments/Cut Off Factor: 0.2% Cu cutoff.

note that the tin and indium grades were reported in earlier resource statement

BR 10071 Published in 2012

#### BAAL GAMMON

**INFERRED MINERAL RESOURCE** 31,000 tonnes Ore @

18.00 g/t SILVER **FOR** 551 Kilograms SILVER

0.60 % COPPER **FOR** 183 Tonnes COPPER

Comments/Cut Off Factor: 0.2% Cu cutoff

note that tin and indium grades were stated in earlier resource calculations

BR 10071 Published in 2012

#### BAAL GAMMON

**PROBABLE ORE RESERVE** 317,000 tonnes Ore @

90.00 g/t SILVER **FOR** 28,530 Kilograms SILVER

2.80 % COPPER **FOR** 8,876 Tonnes COPPER

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10071	2012	KAGARA MINING	OPPORTUNITY TO ACQUIRE KAGARA LIMITED'S NORTH QUEENSLAND ASSETS	REPORT TO THE AUSTRALIAN SECURITIES EXCHANGE. 14 SEPTEMBER 2012 KAGARA MINING, PERTH.

### Major Mining Related Events

Year Commenced	Year Completed	Comments

### Mining Operations

OPEN CUT MINING

UNDERGROUND MINING METHODS

ADITS

### Comments

Tenure Type/Number	SHARE	Company Name/Surname
ML 20388	100.00%	BAAL GAMMON COPPER PTY LTD

### Host Rock/Cover Sequences

Structural Unit

HODGKINSON PROVINCE

Formation Name/Age

Hodgkinson Formation / DEVONIAN to DEVONIAN

### Deposit Model

GENERAL OREBODY MODEL

INTRUSIVE-RELATED (PORPHYRY-RELATED)

DETAILED OREBODY MODEL

TIN VEINS (CORNISH-TYPE)

### Mineralisation Age

ORE

LATE CARBONIFEROUS

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Comments

In 2006, North Queensland Metals Ltd commenced a feasibility study to re-evaluate the Baal Gammon deposit. A JORC compliant resource estimate was calculated and baseline environmental studies and preliminary evaluation work have commenced.

In July 2007, North Queensland Metals announced a probable ore reserve for the deposit. In May 2008, the company announced that the project will proceed to development.

Drilling results announced in April 2007 included 4.05m at 8.5% Cu, 1.18% Sn, 224g/t Ag and 642g/t In from 36.85m, 7.4m at 3.36% Cu, 1.24% Sn, 97g/t Ag and 264g/t In from 39m, and 5m at 5.16% Cu, 0.21% Sn, 128g/t Ag and 337g/t In from 33m.

The mine is expected to process 500 000t over a seven year mine life to produce ~20 000t of Cu-Sn-Ag-In concentrate per year. A review of the mine design in the June 2009 quarter indicated that a smaller higher grade pit is feasible.

February 2011: Monto Minerals purchased the Baal Gammon deposit as part of a larger suite of tin prospective ground in North Queensland.

In 2012 Monto Mins reported a larger than anticipated high grade zone identified within the Baal Gammon resource - 829kT @ 2.5% Cu, 96g/t Ag, 0.4% Sn & 96g/t In (BR9802). These results are based on Kagara 28 hole drilling programme concluded 30 Oct 2011.

In September 2011 Kagara commenced open pit mining and are processing Baal Gammon ore at their nearby 500,000tpa Mt Garnet copper processing facility. Under the terms of BG MRA Kagara will pay the NSR to Monto within 5 days of receipt of payment from the Sept 2011 (cont.) product (Concentrate) buyer. Kagara at present generally sell concentrate from Mt Garnet facility on a monthly basis. (BR9802). Kagara is responsible for all costs with respect to Baal Gammon mine development and operations.

In May 2011, Kagara Ltd announced that it had formed a strategic alliance with Monto Minerals to mine Baal Gammon copper ore, with the ore to be treated at Kagara's Mount Garnet plant. In 2012 a resource update was reported to ASX (BR9802)

Mine development is to start immediately following approvals and ore processing is targeted to start by October 2011. Kagara will investigate the potential to construct a tin extraction circuit at Mount Garnet.

This mine is in the United North Australia group of mines. The orebody is adjacent to a stanniferous, quartz porphyry intrusive, locally rich in tourmaline.

In January 2012 Monto Minerals reported a revised combined (indicated and inferred) resource of 2.8 Mt @ 0.966% Cu, 0.199% Sn, 18 g/t Ag and 39 g/t In. Later resources no longer reported tin and indium.

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## Web Page

[www.montominerals.com](http://www.montominerals.com), [www.spmining.com.au/](http://www.spmining.com.au/)

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 478932 BALCOOMA

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 33 KM NORTH-WEST OF GREENVALE, 120KM SSW OF MOUNT GARNET, 215KM NW OF TOWNSVILLE.

1:100 000 sheet Number and Name: 7860 CONJUBOY

Grid Reference: Zone 55 258920 mE 7922870 mN

Latitude -18.7718 Longitude 144.7130

Date Recorded: 19/January/2015

### Other Names for Deposit / Mine

Golden Creek  
Boys 5  
Monte Carlo  
I-35  
Scots Find  
West Boyds Creek Prospect  
Dry River

Commodities	Size	Size Definition
COPPER	MEDIUM	50 000 - 250 000 tonnes CU
ZINC	SMALL	200 - 200 000 tonnes ZN
LEAD	SMALL	1000 - 100 000 tonnes PB
GOLD	SMALL	0.5 - 5 tonnes AU
SILVER	SMALL	5 - 500 tonnes AG

### Production Details

Period: 1-Jul-2010 to 30-Jun-2014

COPPER	METAL	33,909.0 tonnes
GOLD	METAL	230.0 kilograms
SILVER		31,806.3 kilograms
LEAD	METAL	1,575.0 tonnes
ZINC	METAL	63,327.0 tonnes

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Published Reserves/Resources

BR 10071 Published in 2012

### BALCOMA UNDERGROUND MAIN CU

**INFERRED MINERAL RESOURCE** 53,000 tonnes Ore @  
0.70 % COPPER **FOR** 371 Tonnes COPPER  
4.00 g/t SILVER **FOR** 212 Kilograms SILVER

BR 10071 Published in 2012

### BALCOMA UNDERGROUND MAIN CU

**MEASURED MINERAL RESOURCE** 235,000 tonnes Ore @  
2.90 % COPPER **FOR** 6,815 Tonnes COPPER  
13.00 g/t SILVER **FOR** 3,055 Kilograms SILVER

BR 10071 Published in 2012

### BALCOOMA - POLYMETALLIC

**INDICATED MINERAL RESOURCE** 568,000 tonnes Ore @  
5.60 % ZINC **FOR** 31,808 Tonnes ZINC  
33.00 g/t SILVER **FOR** 18,744 Kilograms SILVER  
1.90 % LEAD **FOR** 10,792 Tonnes LEAD  
1.20 % COPPER **FOR** 6,816 Tonnes COPPER  
0.30 g/t GOLD **FOR** 170 Kilograms GOLD

BR 10071 Published in 2012

### BALCOOMA - POLYMETALLIC

**INFERRED MINERAL RESOURCE** 575,000 tonnes Ore @  
3.10 % ZINC **FOR** 17,825 Tonnes ZINC  
24.00 g/t SILVER **FOR** 13,800 Kilograms SILVER  
1.50 % COPPER **FOR** 8,625 Tonnes COPPER  
1.20 % LEAD **FOR** 6,900 Tonnes LEAD  
0.30 g/t GOLD **FOR** 172 Kilograms GOLD

BR 10071 Published in 2012

### BALCOOMA - POLYMETALLIC

**MEASURED MINERAL RESOURCE** 389,000 tonnes Ore @  
5.70 % ZINC **FOR** 22,173 Tonnes ZINC  
26.00 g/t SILVER **FOR** 10,114 Kilograms SILVER  
1.90 % LEAD **FOR** 7,391 Tonnes LEAD  
1.10 % COPPER **FOR** 4,279 Tonnes COPPER

BR 10071 Published in 2012

### BALCOOMA - POLYMETALLIC

**PROBABLE ORE RESERVE** 27,000 tonnes Ore @  
9.20 % ZINC **FOR** 2,484 Tonnes ZINC  
5.30 % LEAD **FOR** 1,431 Tonnes LEAD  
35.00 g/t SILVER **FOR** 945 Kilograms SILVER  
0.60 % COPPER **FOR** 162 Tonnes COPPER  
0.00 g/t GOLD

BR 10071 Published in 2012

### BALCOOMA UNDERGROUND CU

**PROBABLE ORE RESERVE** 130,000 tonnes Ore @  
1.60 % COPPER **FOR** 2,080 Tonnes COPPER  
8.00 g/t SILVER **FOR** 1,040 Kilograms SILVER  
0.02 g/t GOLD **FOR** 3 Kilograms GOLD

BR 10071 Published in 2012

### BALCOOMA UNDERGROUND CU

**PROVED ORE RESERVE** 64,000 tonnes Ore @  
2.50 % COPPER **FOR** 1,600 Tonnes COPPER  
13.00 g/t SILVER **FOR** 832 Kilograms SILVER  
0.05 g/t GOLD **FOR** 14 Kilograms GOLD

BR 10071 Published in 2012

### BALCOOMA UPPER LENS CU

**INDICATED MINERAL RESOURCE** 124,000 tonnes Ore @  
1.30 % COPPER **FOR** 9,100 Tonnes COPPER  
5.00 g/t SILVER **FOR** 620 Kilograms SILVER

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10071	2012	KAGARA MINING	OPPORTUNITY TO ACQUIRE KAGARA LIMITED'S NORTH QUEENSLAND ASSETS	REPORT TO THE AUSTRALIAN SECURITIES EXCHANGE. 14 SEPTEMBER 2012 KAGARA MINING, PERTH.

## Major Mining Related Events

Year Commenced	Year Completed	Comments
2004	to 2005	Mining activities commenced with prestrip in December 2004.

**Operating Mine Life: 2005 to 2008 Kagara Zinc Ltd commenced open cut mining in 2005/06.**

Mining Operations	Comments
OPEN CUT MINING	Open cut to base of oxidation with decline planned from pit floor. Pit wall stability problems due to host rock schistosity causing slope failures.

Tenure Type/Number	SHARE	Company Name/Surname
ML 1393	100.00%	SNOW PEAK MINING PTY LTD
ML 30156	100.00%	SNOW PEAK MINING PTY LTD

## Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
THALANGA PROVINCE	Balcooma Metavolcanic Group / LATE CAMBRIAN to EARLY ORDOVICIAN

## Deposit Model

GENERAL OREBODY MODEL	VOLCANIC HOSTED MASSIVE SULPHIDE
DETAILED OREBODY MODEL	VMS - KUROKO STYLE (NORANDA, FELSIC TO INTERMED VMS TYPE)

## Mineralisation Age

ORE	LATE CAMBRIAN to EARLY ORDOVICIAN
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## Comments

Carpentaria Exploration Company Pty Ltd identified the Balcooma gossans in 1978. In 1979, the first drillhole intersected massive sulphides.

The Balcooma deposit consists of four separate stratigraphic units containing massive sulphide mineralisation with three types of massive mineralisation recorded - magnetite, pyrite-chalcopyrite and sphalerite-galena-pyrite.

In January 2009, Kagara announced that it had suspended development and mining at the Balcooma polymetallic underground mine. The underground copper deposit is unaffected.

In March 2006, Kagara Zinc Ltd purchased the Thalanga treatment plant, which will be used to treat ore from Balcooma from around September 2006. At July 2006, total reserves and resources at Balcooma were 3.965Mt at 3.5% Cu, 15g/t Ag and 0.36g/t Au.

Open cut mining commenced at Balcooma in 2005/06. The high-grade supergene ore was processed through the new copper circuit at Mount Garnet. Mining changed to the low-grade ore of the Balcooma North orebody in the September 2006 quarter.

Production in the September 2006 quarter totalled 79,408t at 2.2% Cu and 13,646t at 2.41g/t Au. Separate production figures have not been recorded for the mine.

Development declines for the Balcooma polymetallic orebody and the Balcooma copper deposits encountered development ore and stoping of the copper deposit was to commence in the September 2009 quarter.

The Balcooma open pit will continue to produce copper ore until September 2009, after which all copper ore production will be mined from underground. The decline advanced to 1510m from the portal in the March 2009 quarter.

In 2007/08, ore from Balcooma was treated at the Mount Garnet and Thalanga processing plants.

Between 2007 and 2010 Balcooma open cut produced 265107 t of copper concentrate, 35735 t of lead concentrate, and 243131 zinc concentrate for 64795 t of Cu Metal, 603.6kg Au, 60402 kg Ag, 22261 t of lead metal and 123049 t of zinc metal (BR6187).

## Web Page

[www.kagara.com.au](http://www.kagara.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 518225 BEDROCK SILICA

### OPERATING MINE

Descriptive Location: 45KM W OF TOWNSVILLE, ALONG HARVEYS RANGE ROAD.

1:100 000 sheet Number and Name: 8159 ROLLINGSTONE

Grid Reference: Zone 55 434263 mE 7852830 mN

Latitude -19.4177 Longitude 146.3739

Date Recorded: 14/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
SILICA SAND	SMALL	1 000 - 1 000 000 tonnes SIS

### Production Details

Period: 1-Jul-2000 to 30-Jun-2014

SILICA SAND 27,914.5 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

### Comments

OPEN CUT MINING

SURFACE MINING METHODS

Tenure Type/Number	SHARE	Company Name/Surname
ML 10241	100.00%	BEDROCK LANDSCAPES SUPPLIES (QLD) PTY LTD
ML 10245	100.00%	BEDROCK LANDSCAPES SUPPLIES (QLD) PTY LTD

### Host Rock/Cover Sequences

*Structural Unit*

*Formation Name/Age*

KENNEDY PROVINCE/IGNEOUS ASSOCIATION

Speed Creek Granite/2 / EARLY PERMIAN to EARLY PERMIAN

### Deposit Model

GENERAL OREBODY MODEL

RESIDUAL DEPOSIT

### Mineralisation Age

ORE

PALAEOZOIC

Silica sand.

### Comments

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 38297 BIANCA

### OPERATING MINE

Descriptive Location: 13.5KM NW OF ALMADEN.

1:100 000 sheet Number and Name: 7863 CHILLAGOE

Grid Reference: Zone 55 242214 mE 8089997 mN

Latitude -17.2605 Longitude 144.5754

Date Recorded: 14/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
MARBLE	SMALL	10 000 - 100 000 tonnes MARB
BUILDING STONE	VERY SMALL	<100 000 tonnes BLST

### Production Details

Period: 1-Jul-2001 to 30-Jun-2014

MARBLE 12,247.6 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

### Comments

OPEN CUT MINING

UNDERGROUND MINING METHODS

PITS

DREDGING

SURFACE MINING METHODS

Tenure Type/Number	SHARE	Company Name/Surname
ML 5184	50.00%	S & A PTY. LTD.
ML 5184	50.00%	D & G SPRALJA PTY LTD

### Host Rock/Cover Sequences

*Structural Unit*

HODGKINSON PROVINCE

*Formation Name/Age*

Chillagoe Formation / EARLY SILURIAN to EARLY DEVONIAN

### Deposit Model

GENERAL OREBODY MODEL

INTRUSIVE-RELATED (PORPHYRY-RELATED)

DETAILED OREBODY MODEL

MARBLE DEPOSIT

### Mineralisation Age

ORE

CARBONIFEROUS

### Comments

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 507793 BORAL BRICKS IPSWICH

### OPERATING MINE

Descriptive Location: 7.5KM EAST OF IPSWICH.

1:100 000 sheet Number and Name: 9442 IPSWICH

Grid Reference: Zone 56 483642 mE 6943629 mN

Latitude -27.6312 Longitude 152.8342

Date Recorded: 14/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
BRICK CLAY	MEDIUM	200 000 - 20 000 000 tonnes BKCY

### Production Details

Period: 1-Jul-1996 to 30-Jun-2014

BRICK CLAY 2,578,824.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

### Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 4583	100.00%	BORAL BRICKS PTY LTD
ML 4622	100.00%	BORAL BRICKS PTY LTD
ML 50116	100.00%	BORAL BRICKS PTY LTD
ML 50117	100.00%	BORAL BRICKS PTY LTD

### Host Rock/Cover Sequences

Structural Unit

Formation Name/Age

CLARENCE-MORETON BASIN

Raceview Formation / NORIAN to RHAETIAN

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

SEDIMENTARY CLAY DEPOSITS

### Mineralisation Age

ORE

TRIASSIC to JURASSIC

### Comments

### Web Page

[www.boral.com.au](http://www.boral.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 507506 BORAL DARRA

### OPERATING MINE

Descriptive Location: ADJACENT TO IPSWICH MOTORWAY DARRA.

1:100 000 sheet Number and Name: 9442 IPSWICH

Grid Reference: Zone 56 496189 mE 6950812 mN Latitude -27.5665 Longitude 152.9614 Date Recorded: 14/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
BRICK CLAY	SMALL	2 000 - 200 000 tonnes BKCY

### Production Details

Period: 1-Jul-1999 to 30-Jun-2010

BRICK CLAY 71,144.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
<b>Major Mining Related Events</b>				
Year Commenced	Year Completed	Comments		

Mining Operations	Comments
OPEN CUT MINING	

Tenure Type/Number	SHARE	Company Name/Surname
ML 1100	100.00%	BORAL BRICKS PTY LTD

Host Rock/Cover Sequences	Formation Name/Age
<i>Structural Unit</i> OXLEY BASIN	Darra Formation / TERTIARY to TERTIARY

Deposit Model	
GENERAL OREBODY MODEL	SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL	SEDIMENTARY CLAY DEPOSITS

Mineralisation Age	
ORE	TERTIARY

Comments

### Web Page

[www.boral.com.au](http://www.boral.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 479602 BOWEN SALTWORKS

### OPERATING MINE

Descriptive Location: ADJACENT TO BOWEN TOWNSHIP, 160KM SE TOWNSVILLE.

1:100 000 sheet Number and Name: 8557 BOWEN

Grid Reference: Zone 55 627875 mE 7785651 mN

Latitude -20.0216 Longitude 148.2225

Date Recorded: 14/January/2015

### Other Names for Deposit / Mine

Cheetham Salt Bowen

### Commodities

BRINE SALT

### Size

### Size Definition

### Production Details

Period: 1-Jul-1997 to 30-Jun-2000

BRINE SALT

20,000.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed
1925	

### Comments

The Bowen salt works began in 1925 and were originally operated by the Bowen Salt Company. In 1981 Cheetham Salt Ltd purchased the operation from Central Queensland Salt.

### Mining Operations

SURFACE MINING METHODS

### Comments

Series of evaporative ponds.

### Tenure Type/Number

### SHARE

### Company Name/Surname

Currently untenured mineral deposit

### Host Rock/Cover Sequences

*Structural Unit*

*Formation Name/Age*

### Deposit Model

### Mineralisation Age

### Comments

Sea water is pumped into a series of evaporative ponds, increasing in salinity as it is moved through the pond system. When the salinity is highest, the water is moved to the crystallisation pond where salt crystals form and are harvested.

Once harvested the salt is washed in a concentrated brine to remove the impurities. After about 1 year the salt is crushed to the correct grain size. The plant is classed as a 15000t field, but has harvested up to 29000t per year.

In 2012 RIDLEY stated that they are investigating feasibility of sale of Bowen site for redevelopment (BR9806, p.17)

### Web Page

[www.cheethamsalt.com.au](http://www.cheethamsalt.com.au); [www.ridley.com.au](http://www.ridley.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493894 BRIBIE ISLAND FOUNDRY MOULD SAND

### OPERATING MINE

Descriptive Location: SOUTHERN TIP OF BRIBIE ISLAND, NORTH OF BRISBANE.

1:100 000 sheet Number and Name: 9543 BRISBANE

Grid Reference: Zone 56 517955 mE 7007717 mN

Latitude -27.0526 Longitude 153.1811

Date Recorded: 14/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
FOUNDRY SAND	SMALL	1 000 - 1 000 000 tonnes SF

### Production Details

Period: 30-Jun-1997 to 30-Jun-1998

SILICA SAND

196.0 tonnes

Period: 1-Jul-1997 to 30-Jun-2011

FOUNDRY SAND

14,874.0 tonnes

### Published Reserves/Resources

#### FOUNDRY SAND INFERRED MINERAL RESOURCE

25,000 Tonnes FOUNDRY SAND

Comments/Cut Off Factor: Resource estimate, Phil Gregory, Toowoomba Metal Technologies (personal comment).

Reserve estimate given by Phil Gregory, Toowoomba Metal Technologies, CMI Operations Pty Ltd.

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

#### Comments

SURFACE MINING METHODS

Tenure Type/Number	SHARE	Company Name/Surname
ML 50067	100.00%	CMI INDUSTRIAL PTY LTD

### Host Rock/Cover Sequences

*Structural Unit*

*Formation Name/Age*

MODERN COASTAL DEPOSITS

Qhcd-QLD / HOLOCENE to HOLOCENE

### Deposit Model

GENERAL OREBODY MODEL

DUNE DEPOSIT

DETAILED OREBODY MODEL

DUNE DEPOSIT SILICA SAND

### Mineralisation Age

ORE

CENOZOIC

### Comments

The Bribie Island Foundry Mould Sands are owned by CMI Operations Pty Ltd and worked to produce foundry sands for the Toowoomba Foundry.

### Web Page

[www.cmilimited.com.au](http://www.cmilimited.com.au); [www.tmettec.com.au](http://www.tmettec.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 507510 BRITTAINS

### OPERATING MINE

Descriptive Location: 2.8KM W OF STRATHPINE, ON NORTHERN OUTSKIRTS OF BRISBANE.

1:100 000 sheet Number and Name: 9443 CABOOLTURE

Grid Reference: Zone 56 496076 mE 6978377 mN

Latitude -27.3176 Longitude 152.9603

Date Recorded: 14/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
BRICK CLAY	MEDIUM	200 000 - 20 000 000 tonnes BKC Y

### Production Details

Period: 1-Jul-1996 to 30-Jun-2014

BRICK CLAY 1,147,079.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

### Published Reference ID Year Author Title Source

### Major Mining Related Events

Year Commenced Year Completed Comments

### Mining Operations

### Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 1106	100.00%	BORAL BRICKS PTY LTD
ML 1171	100.00%	BORAL BRICKS PTY LTD
ML 50183	100.00%	BORAL BRICKS PTY LTD

### Host Rock/Cover Sequences

Structural Unit

Formation Name/Age

PETRIE BASIN

Petrie Formation / EOCENE to OLIGOCENE

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

SEDIMENTARY CLAY DEPOSITS

### Mineralisation Age

ORE

EOCENE to OLIGOCENE

### Comments

### Web Page

[www.boral.com.au](http://www.boral.com.au)



# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 489413 BROLGA

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 16 KM NORTH-WEST OF CANOONA, CENTRAL QUEENSLAND.

1:100 000 sheet Number and Name: 8951 RIDGELANDS

Grid Reference: Zone 56 224979 mE 7450625 mN

Latitude -23.0300 Longitude 150.3165

Date Recorded: 14/January/2015

### Other Names for Deposit / Mine

Brolga 1

Brolga 2

Commodities	Size	Size Definition
NICKEL	SMALL	250 - 25 000 tonnes NI
COBALT	SMALL	10 - 1 000 tonnes CO

### Production Details

Period: 1-Jul-1969 to 30-Jun-1970	20,727 tonnes HARD ROCK ORE (OR REEF)
NICKEL	8,382.0 tonnes
Period: 1-Jul-1993 to 30-Jun-1994	200,405 tonnes HARD ROCK ORE (OR REEF)
COBALT	275.0 tonnes
NICKEL	3,141.0 tonnes
Period: 1-Jul-1994 to 30-Jun-1995	222,249 tonnes HARD ROCK ORE (OR REEF)
COBALT	333.0 tonnes
NICKEL	3,707.0 tonnes
Period: 1-Jul-1995 to 30-Jun-1996	2,897 tonnes HARD ROCK ORE (OR REEF)
COBALT	5.0 tonnes
NICKEL	41.0 tonnes
Period: 1-Jul-2013 to 30-Jun-2014	4,293 tonnes HARD ROCK ORE (OR REEF)
NICKEL	41.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
1969	to 1970	Deposit first worked but mining ceased due to metallurgical difficulties.
1973	to 1973	Deposit re-evaluated but found to be uneconomic.
1992	to 1996	Deposit mined to supplement ore imported for the Yabulu refinery as a result of the closure of the Greenvale mine.
2012		Deposit re-opened to supplement imported ore for Palmer Nickel & Cobalt Refinery in Townsville

Mining Operations	Comments
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OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 2728	100.00%	STRATEGIC MINERALS CORPORATION N.L.
ML 5866	80.00%	QNI RESOURCES PTY LTD
ML 5866	20.00%	QNI METALS PTY LTD

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
MARLBOROUGH PROVINCE	Princhester Serpentinite / NEOPROTEROZOIC to EARLY PALAEOZOIC

### Deposit Model

GENERAL OREBODY MODEL	RESIDUAL DEPOSIT
DETAILED OREBODY MODEL	LATERITIC NICKEL

### Mineralisation Age

ORE	CENOZOIC
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### Comments

In 2012 QNI secured approval to mine 400000t annually and commenced mining in Nov 2012 with and estimated mine life of up to 12 years. In 2013 an Environmental Management Plan was prepared to progress a Stage 2 development of the site, to reflect the proposal to increase the scale of mining operations. Currently ore is hauled by B-double trucks to the nearby Glen Geddes rail siding and stockpiled, prior to transport to the Palmer Nickel and Cobalt Refinery in Townsville (BR10252).

The Brolga - Stage 2 development involves a significant expansion of mining activities at the site to increase nickel ore production to (maximum) 900000 TPA (Stage 1 was 400000 TPA (BR10252)).

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, [2014](#)

Web Page

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 489464 BRY LEASE

### OPERATING MINE

Descriptive Location: 82KM SW OF OPALTON, ADJACENT TO MAYNE RIVER.

1:100 000 sheet Number and Name: 7350 TONKORO

Grid Reference: Zone 54 610927 mE 7390288 mN Latitude -23.5940 Longitude 142.0872 Date Recorded: 15/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
GYPSUM	SMALL	5 000 - 5 000 000 tonnes GYP

### Production Details

Period: 1-Jul-1997 to 30-Jun-2014

GYPSUM 73,602.1 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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Mining Operations	Comments
OPEN CUT MINING	

Tenure Type/Number	SHARE	Company Name/Surname	Christian Name
ML 95209	100.00%	CONNOLLY	Brian Malcolm

Host Rock/Cover Sequences	Formation Name/Age
<i>Structural Unit</i> EROMANGA BASIN	Winton Formation / CRETACEOUS to CRETACEOUS

Deposit Model
GENERAL OREBODY MODEL RESIDUAL DEPOSIT
DETAILED OREBODY MODEL EVAPORITE DEPOSIT

Mineralisation Age
ORE CRETACEOUS

**Comments**  
Mined for gypsum by B.M. Connolly (Mayne River Gypsum Sales Pty Ltd). The gypsum is produced in Winton and sold for agricultural purposes.

**Web Page**

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 507515 BUCHANAN

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 24.2KM SSE OF HOME HILL, IN THE HEADWATERS OF WANGARATTA CREEK.

1:100 000 sheet Number and Name: 8358 AYR

Grid Reference: Zone 55 551070 mE 7802854 mN

Latitude -19.8697 Longitude 147.4878

Date Recorded: 15/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
EARTHY LIME / DOLOMITE (AGRICULTURAL)	SMALL	10 000 - 100 000 tonnes ELIM

### Production Details

Period: 1-Jan-1972 to 31-Dec-1978

EARTHY LIME / DOLOMITE (AGRICULTURAL) 14,164.0 tonnes

Period: 1-Jul-1997 to 30-Jun-2014

EARTHY LIME / DOLOMITE (AGRICULTURAL) 58,737.2 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
1972	to 1978	Mined by the Inkerman Lime Company.

### Mining Operations

OPEN CUT MINING

### Comments

Open cut is "T-shaped".

Tenure Type/Number	SHARE	Company Name/Surname	Christian Name
ML 1044	33.00%	TAMA	GIUSEPPE
ML 1044	33.00%	TAMA	ROSETTA
ML 1044	33.00%	TAMA	ROBERT ANDREW
ML 1045	33.00%	TAMA	GIUSEPPE
ML 1045	33.00%	TAMA	ROSETTA
ML 1045	33.00%	TAMA	ROBERT ANDREW

### Host Rock/Cover Sequences

Structural Unit

KENNEDY PROVINCE/IGNEOUS ASSOCIATION

Formation Name/Age

Cud-BUR / CARBONIFEROUS to CARBONIFEROUS

### Deposit Model

GENERAL OREBODY MODEL

RESIDUAL DEPOSIT

DETAILED OREBODY MODEL

ENRICHED LIME DEPOSIT

### Mineralisation Age

ORE

CARBONIFEROUS to CENOZOIC

### Comments

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 481276 CALCIUM NORTH

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 4.5KM WNW OF CALCIUM, 40KM S OF TOWNSVILLE

1:100 000 sheet Number and Name: 8258 MINGELA

Grid Reference: Zone 55 479046 mE 7826532 mN

Latitude -19.6563 Longitude 146.8001

Date Recorded: 15/January/2015

### Other Names for Deposit / Mine

Ryan Lime

Commodities	Size	Size Definition
LIMESTONE	SMALL	100 000 - 2 000 000 tonnes LST

### Production Details

Period: 1-Jan-1926 to 31-Dec-1969	LIMESTONE	OTHER	35,000.0 tonnes
Period: 1-Jan-1969 to 31-Dec-1994	LIMESTONE	OTHER	366,000.0 tonnes
Period: 1-Jun-2006 to 30-Jun-2011	LIME		38,967.6 tonnes
	LIMESTONE	OTHER	474.7 tonnes

### Published Reserves/Resources

**CALCIUM NORTH**  
**INFERRED MINERAL RESOURCE** 1,000,000 tonnes Ore @  
1,000,000 Tonnes LIMESTONE

Letter from Greg Cochrane, David Mitchell Ltd (28/06/1999) estimated resources as 1 to 2Mt.

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
1926	to 1994	Ryan Lime Company commenced mining operations in 1926 continuing until 1969 when Calcium Products P/L took over and continued mining until 1994.
1994	to 1995	David Mitchell (North Qld) Pty Ltd acquired the leases in 1994. Mining ceased in 1995 and the kilns burned limestone trucked from the Christmas Creek deposit near Greenvale.
2006		Mining recommenced.

Mining Operations	Comments
OPEN CUT MINING	

Tenure Type/Number	SHARE	Company Name/Surname
ML 5978	100.00%	HY-TEC INDUSTRIES (QUEENSLAND) PTY LTD
ML 5984	100.00%	HY-TEC INDUSTRIES (QUEENSLAND) PTY LTD
ML 10151	100.00%	HY-TEC INDUSTRIES (QUEENSLAND) PTY LTD

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
BURDEKIN BASIN	Burdekin Formation / MIDDLE DEVONIAN to MIDDLE DEVONIAN

### Deposit Model

GENERAL OREBODY MODEL	SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL	LIMESTONE DEPOSIT

### Mineralisation Age

ORE	Limestone.
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### Comments

These quarries, just to the north of the Calcium quarries, began operation in 1926 under the auspices of the Ryan Lime Company. From 1926 until 1969, over 35,000 tonnes of limestone was produced.

Calcium Products Pty Ltd took over operation of the quarries in 1969, and until 1994 had produced over 366,000 tonnes of limestone.

Unimin Australia held the leases for a while and rehabilitated the open cut workings.

BM Webb Quarries Pty Ltd now hold the leases.

The limestone forms a series of hills that have been worked extensively for agricultural and chemical grade limestone.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493633 CANNINGTON

### OPERATING MINE

Descriptive Location: 76 KM SOUTH-WEST OF MCKINLAY, 195KM SE OF MT ISA.

1:100 000 sheet Number and Name: 7054 SELWYN

Grid Reference: Zone 54 491720 mE 7582016 mN

Latitude -21.8658 Longitude 140.9199

Date Recorded: 23/December/2014

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
SILVER	GIANT	>10 000 tonnes AG
LEAD	LARGE	2 500 000 - 5 000 000 tonnes PB
ZINC	MEDIUM	200 000 - 2 000 000 tonnes ZN

### Production Details

Period: 1-Jul-1997 to 30-Jun-1998

SILVER		380,548.0 kilograms
LEAD	METAL	80,846.0 tonnes
ZINC	CONCENTRATE	41,932.0 tonnes

Period: 1-Jul-1998 to 30-Jun-2014

SILVER		17,133,809.1 kilograms
LEAD	METAL	3,756,846.8 tonnes
ZINC	METAL	1,041,217.7 tonnes

### Published Reserves/Resources

BR 10307 Published in 2014

#### CANNINGTON OC SULPHIDES

**INDICATED MINERAL RESOURCE** 1,200,000 tonnes Ore @  
 67.00 g/t SILVER **FOR** 80,400 Kilograms SILVER  
 2.64 % LEAD **FOR** 31,680 Tonnes LEAD  
 1.32 % ZINC **FOR** 15,840 Tonnes ZINC

Comments/Cut Off Factor: Mineralisation at A\$45/t averages 27g/tAg, 0.85%Pb and 0.90%Zn.

BR 10307 Published in 2014

#### CANNINGTON OC SULPHIDES

**MEASURED MINERAL RESOURCE** 15,000,000 tonnes Ore @  
 70.00 g/t SILVER **FOR** 1,050,000 Kilograms SILVER  
 3.04 % LEAD **FOR** 456,000 Tonnes LEAD  
 2.12 % ZINC **FOR** 318,000 Tonnes ZINC

Comments/Cut Off Factor: Mineralisation at A\$45/t averages 27g/tAg, 0.85%Pb and 0.90%Zn.

BR 10307 Published in 2014

#### CANNINGTON UG SULPHIDES

**INDICATED MINERAL RESOURCE** 11,000,000 tonnes Ore @  
 147.00 g/t SILVER **FOR** 1,617,000 Kilograms SILVER  
 4.51 % LEAD **FOR** 496,100 Tonnes LEAD  
 3.04 % ZINC **FOR** 334,400 Tonnes ZINC

Comments/Cut Off Factor: Mineralisation at A\$90/t averages 48g/tAg, 1.66%Pb and 2.15%Zn.

Probable 2.7Mt @ 240g/t Ag, 6.15% Pb & 4.01% Zn. Metal recovery Ag at 87%, Pb at 86%, Zn at 79%

BR 10307 Published in 2014

#### CANNINGTON UG SULPHIDES

**INFERRED MINERAL RESOURCE** 6,700,000 tonnes Ore @  
 98.00 g/t SILVER **FOR** 656,600 Kilograms SILVER  
 3.52 % LEAD **FOR** 235,840 Tonnes LEAD  
 2.00 % ZINC **FOR** 134,000 Tonnes ZINC

Comments/Cut Off Factor: Mineralisation at A\$90/t averages 48g/tAg, 1.66%Pb and 2.15%Zn.

BR 10307 Published in 2014

#### CANNINGTON UG SULPHIDES

**MEASURED MINERAL RESOURCE** 42,000,000 tonnes Ore @  
 226.00 g/t SILVER **FOR** 9,492,000 Kilograms SILVER  
 6.18 % LEAD **FOR** 2,595,600 Tonnes LEAD  
 3.86 % ZINC **FOR** 1,621,200 Tonnes ZINC

Comments/Cut Off Factor: Mineralisation at A\$90/t averages 48g/tAg, 1.66%Pb and 2.15%Zn.

Includes Proved 18Mt @ 239g/t Ag, 6.38% Pb & 3.92% Zn; Metal recovery Ag at 87%, Pb at 86%, Zn at 79%

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10307	2014	BHP BILLITON	BHP BILLITON ANNUAL REPORT 2014	REPORT TO THE AUSTRALIAN SECURITIES EXCHANGE, 25 SEPTEMBER 2014. BHP BILLITON; WWW.BHPBILLITON.COM

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Major Mining Related Events

Year Commenced	to	Year Completed	Comments
1990	to	1992	Discovered by BHP Minerals Pty Ltd in June 1990. Discovery not announced until December 1991.
1993	to	1994	Detailed feasibility study in early 1993. Excavation of exploration decline commenced in August 1993.
1995	to	1996	Development approved. Site works continued.

**Operating Mine Life: 1997 to 2026 First production ore trucked to the surface in May 1997. Full production commenced mid-1998. 20 year mine life as of March 2006.**

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## Mining Operations

## Comments

UNDERGROUND MINING METHODS  
DECLINED SHAFTS/DRIVES  
SHAFTS  
STOPPING

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Tenure Type/Number	SHARE	Company Name/Surname
ML 90059	100.00%	BHP BILLITON CANNINGTON PTY LTD

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## Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
KURIDALA-SELWYN DOMAIN	Mount Norna Quartzite? / PALAEOPROTEROZOIC to PALAEOPROTEROZOIC

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## Deposit Model

GENERAL OREBODY MODEL	SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL	SEDIMENT-HOSTED PB-ZN (BROKEN HILL TYPE)

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## Mineralisation Age

ORE	PALAEOPROTEROZOIC	<1677+/-9 Ma
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## Comments

The deposit occurs within a sequence of garnetiferous psammite within a migmatitic quartzo-feldspathic terrain beneath approximately 10-60m of overlying Cretaceous and Recent sediments. Currently the world's largest single mine producer of silver. The sequence strikes north and is cut by two major NW-trending structures. The Trepell Fault separates the low-grade Northern and deeper, high-grade Southern zones of the deposit. The Hamilton Fault forms the southern limb of the deposit. The "Cannington Growth Project" was approved in 2003, allowing for underground development into the Northern zone and improvements to be made to mine site facilities. BHP Billiton reported average Metallurgical recovery figures in Annual Report 2011: Ag 87%; Pb 89%; Zn 70% (BR9765). UG sulphide operation extent for proved ore reserves is 12.5m sectional x 15m vertical & probable ore reserves is 25m sect. x 2m vert. In 2011 BHP Billiton reported that at Cannington additional mineral resources were identified due to additional drilling and also as part of an open-pit project study currently undertaken (BR9765). As of July 2014, Cannington had a reserve life of 9 years, although Cannington is was scheduled to cease operations in 2020. Mine life is extended by means of an open cut mine over the shallower northern underground operations.

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## Web Page

[www.bhpbilliton.com](http://www.bhpbilliton.com)

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 38085 CAPE FLATTERY SILICA MINE

### OPERATING MINE

Descriptive Location: 30.2 KM ESE OF MUNBURRA, 200KM NNW OF CAIRNS.

1:100 000 sheet Number and Name: 7968 CAPE FLATTERY

Grid Reference: Zone 55 314215 mE 8342269 mN

Latitude -14.9880 Longitude 145.2722

Date Recorded: 15/January/2015

### Other Names for Deposit / Mine

Stanton  
Turner  
Spalenka

Commodities	Size	Size Definition
SILICA SAND	LARGE	>2 500 000 tonnes SIS

### Production Details

Period: 1-Jan-1968 to 31-Dec-1993		
SILICA SAND	14,800,000.0 tonnes	
Period: 1-Jul-1994 to 30-Jun-2014		
SILICA SAND	27,637,728.1 tonnes	
Period: 1-Jul-2001 to 30-Jun-2014		
FOUNDRY SAND	4,693,364.9 tonnes	
Period: 1-Jul-2007 to 30-Jun-2014		
SILICA SAND	818,459.6 tonnes	

### Published Reserves/Resources

BR 5696 Published in 1998

#### CAPE FLATTERY

##### PROVED ORE RESERVE

99.00 % SILICA SAND **FOR** 200,000,000 Tonnes SILICA SAND

This resource quoted on 2012 website (C-2001)

#### STANTON+TURNER+CAPE FLATTERY

##### INDICATED MINERAL RESOURCE

1,000,000,000 Tonnes SILICA SAND

Comments/Cut Off Factor: Indicated resource pers. comm. Alex Temperley 1999.

Indicated from drilling results. Pers.Comm. 16/2/1999 from Alex Temperley by phone 07 4051 5099. This figure of the indicated resource is an estimate only of silica sand.

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 5696	1998	DEPARTMENT OF MINES AND ENERGY, QUEENSLAND	QUEENSLAND MINERALS AND ENERGY REVIEW, 1997-98.	

### Major Mining Related Events

Year Commenced	Year Completed	Comments
1968	to 1991	

### Mining Operations

SURFACE MINING METHODS  
DREDGING

### Comments

Tenure Type/Number	SHARE	Company Name/Surname
ML 2806	100.00%	CAPE FLATTERY SILICA MINES PTY LTD
ML 2965	100.00%	CAPE FLATTERY SILICA MINES PTY LTD
ML 7069	100.00%	CAPE FLATTERY SILICA MINES PTY LTD
ML 40048	100.00%	CAPE FLATTERY SILICA MINES PTY LTD

### Host Rock/Cover Sequences

Structural Unit

MODERN COASTAL DEPOSITS

Formation Name/Age

### Deposit Model

GENERAL OREBODY MODEL	DUNE DEPOSIT
DETAILED OREBODY MODEL	DUNE DEPOSIT SILICA SAND

### Mineralisation Age

ORE PLEISTOCENE



# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, [2014](#)

## Comments

The Cape Flattery-Cape Bedford dunefield is ~580 square km in area and occupies a low-lying coastal plain, interspersed with numerous dune lakes and swamps.

The sand is devoid of vegetation, unconsolidated and consists of subangular to subrounded quartz grains of high chemical purity. Heavy mineral content ranges from a trace to ~ 0.75%.

The average analysis of the sand exported is 99.7% SiO<sub>2</sub>, 0.15% Al<sub>2</sub>O<sub>3</sub>, 0.012% Fe<sub>2</sub>O<sub>3</sub>, nil CaO, 0.04% MgO and 0.08% loss on ignition.

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## Web Page

<http://www.c fsm.com.au/>

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493442 CEDARS MINE

### OPERATING MINE

Descriptive Location: APPROX 10KM SW OF YARRAMAN, KINGAROY AREA, 130KM NW OF BRISBANE.

1:100 000 sheet Number and Name: 9244 KINGAROY

Grid Reference: Zone 56 389416 mE 7026257 mN Latitude -26.8809 Longitude 151.8866 Date Recorded: 15/January/2015

### Other Names for Deposit / Mine

Margries Lease  
Yarraman  
Lizzie

Commodities	Size	Size Definition
BENTONITE	MEDIUM	200 000 - 20 000 000 tonnes BENT

### Production Details

Period: 1-Jan-1937 to 31-Dec-1938	
BENTONITE	130.0 tonnes
Period: 1-Jan-1940 to 31-Dec-1942	
BENTONITE	442.0 tonnes
Period: 1-Jul-1996 to 30-Jun-2014	
BENTONITE	122,210.0 tonnes

### Published Reserves/Resources

**BENTONITE**  
**INFERRED MINERAL RESOURCE**  
200,000 Tonnes BENTONITE

Comments/Cut Off Factor: Estimated resource (pers. comm. David Douglas, March 1999).

Estimated resource at March 1999 by David Douglass (pers.com.).

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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**Operating Mine Life: 1985 to 2021 Mining lease holders reported in February 2001 that sufficient material existed for 20 years of mining.**

Mining Operations	Comments
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OPEN CUT MINING  
UNDERGROUND MINING METHODS

Tenure Type/Number	SHARE	Company Name/Surname
ML 6610	100.00%	PCP DOUGLASS PTY LTD

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
MAIN RANGE VOLCANIC SUBPROVINCE	Main Range Volcanics/s / TERTIARY to TERTIARY

### Deposit Model

GENERAL OREBODY MODEL	RESIDUAL DEPOSIT
DETAILED OREBODY MODEL	LATERITIC KAOLIN

### Mineralisation Age

ORE	TERTIARY
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### Comments

Clay minerals have formed through the weathering and alteration of acid volcanic sediments, probably deposited in a lacustrine environment.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 40335 CEMENT MILLS

### OPERATING MINE

Descriptive Location: 41.9KM ENE OF INGLEWOOD, 175KM SW OF BRISBANE.

1:100 000 sheet Number and Name: 9141 INGLEWOOD

Grid Reference: Zone 56 352805 mE 6864476 mN

Latitude -28.3376 Longitude 151.4983

Date Recorded: 15/January/2015

### Other Names for Deposit / Mine

Gore Quarry

Commodities	Size	Size Definition
LIMESTONE	MEDIUM	2 000 000 - 10 000 000 tonnes LST

### Production Details

Period: 1-Jan-1915 to 31-Dec-1969

LIMESTONE CRUSHED ROCK 1,140,000.0 tonnes

Period: 1-Jul-1998 to 30-Jun-2014

LIMESTONE CRUSHED ROCK 486,666.9 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
1915	to 1936	Mined by Queensland Cement & Lime Co.
1944	to 1969	Mined by A.C.F. & Shirley Fertilizers.
1998		Mined by Equipment & Machinery Sales Pty Ltd.

### Mining Operations

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 50143	100.00%	SOUTH QUEENSLAND LIME PTY. LTD.
ML 50224	100.00%	SOUTH QUEENSLAND LIME PTY. LTD.

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
TEXAS SUBPROVINCE	Texas beds / EARLY CARBONIFEROUS to EARLY CARBONIFEROUS

### Deposit Model

GENERAL OREBODY MODEL	SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL	LIMESTONE DEPOSIT

### Mineralisation Age

ORE	LATE DEVONIAN to EARLY CARBONIFEROUS
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### Comments

The limestone is grey to light grey and strongly jointed. Individual lenses are up to 450m long by 90m wide. It has been mined since 1915. The current operator is Equipment & Machinery Sales Pty Ltd.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493635 CENTURY

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 16KM SW OF LAWN HILL, 220KM NORTH OF MT ISA.

1:100 000 sheet Number and Name: 6660 LAWN HILL

Grid Reference: Zone 54 247121 mE 7927865 mN

Latitude -18.7253 Longitude 138.6018

Date Recorded: 15/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
ZINC	GIANT	>5 000 000 tonnes ZN
LEAD	MEDIUM	100 000 - 2 500 000 tonnes PB
SILVER	MEDIUM	500 - 5 000 tonnes AG

### Production Details

Period: 1-Jan-2000 to 31-Dec-2014

ZINC	METAL	6,930,475.0 tonnes
LEAD	METAL	924,821.0 tonnes
SILVER		2,129,342.5 kilograms

### Published Reserves/Resources

BR 10312 Published in 2014

#### CENTURY EASTERN FAULT BLOCK

**INDICATED MINERAL RESOURCE** 500,000 tonnes Ore @  
 11.60 % ZINC **FOR** 58,000 Tonnes ZINC  
 48.00 g/t SILVER **FOR** 24,000 Kilograms SILVER  
 1.10 % LEAD **FOR** 5,500 Tonnes LEAD

Comments/Cut Off Factor: 3.5% Zn.

BR 10312 Published in 2014

#### CENTURY OPEN CUT

**INDICATED MINERAL RESOURCE** 7,900,000 tonnes Ore @  
 9.30 % ZINC **FOR** 734,700 Tonnes ZINC  
 41.00 g/t SILVER **FOR** 323,900 Kilograms SILVER  
 1.70 % LEAD **FOR** 134,300 Tonnes LEAD

Comments/Cut Off Factor: 3.5% Zn.

Includes probable reserves of 7.2Mt at 8.3% Zn, 1.5% Pb and 37g/t Ag.

BR 10312 Published in 2014

#### CENTURY OPEN CUT

**INFERRED MINERAL RESOURCE** 500,000 tonnes Ore @  
 9.10 % ZINC **FOR** 45,500 Tonnes ZINC  
 38.00 g/t SILVER **FOR** 19,000 Kilograms SILVER  
 1.50 % LEAD **FOR** 7,500 Tonnes LEAD

Comments/Cut Off Factor: 3.5% Zn.

BR 10312 Published in 2014

#### CENTURY STOCKPILES

**MEASURED MINERAL RESOURCE** 1,100,000 tonnes Ore @  
 5.70 % ZINC **FOR** 62,700 Tonnes ZINC  
 51.00 g/t SILVER **FOR** 56,100 Kilograms SILVER  
 2.30 % LEAD **FOR** 25,300 Tonnes LEAD

Comments/Cut Off Factor: 3.5% Zn.

Including proved reserves of 0.8 Mt at 6.8%Zn, 2.6% Pb and 69g/t Ag

BR 10312 Published in 2014

#### SILVER KING

**INFERRED MINERAL RESOURCE** 2,700,000 tonnes Ore @  
 12.50 % LEAD **FOR** 337,500 Tonnes LEAD  
 121.00 g/t SILVER **FOR** 326,700 Kilograms SILVER  
 6.90 % ZINC **FOR** 186,300 Tonnes ZINC

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10312	2014	MMG LIMITED	MMG MINERAL RESOURCES AND ORE RESERVES STATEMENT, JUNE 2014	MMG LIMITED, MELBOURNE. HTTP://WWW.MMG.COM

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Major Mining Related Events

Year Commenced	Year Completed	Comments
1990		Discovered 4th April 1990 (CRA Exploration Pty Limited), 27m @ 6.3% Zn intersected.
1996	to 2005	Prospect sold to Pasmenco Ltd. Pasmenco went into receivership but was reconstituted as Zinifex Ltd.
1997		Mine development commenced October 1997 with first ore into zinc concentrator on 6 October.
1999		First shipment of zinc concentrate in December 1999 from port of Karumba.

## Operating Mine Life: 2000 to 2015 Mine officially opened 4th April 2000 ten years to the day after exploration drilling intersected the mineralisation. 11 year mine life from June 2005.

2006		Transition from Stage 4 to Stage 5 in September 2006.
2008	to 2009	Zinifex Ltd merged with Oxiana, with operations transferred to a subsidiary Oxiana Zinifex Holdings Ptd Ltd (renamed to OZ Minerals Ltd)
2009		MMG takes over operations from OZ Minerals in June 2009

Mining Operations		Comments
OPEN CUT MINING		As at June 2000, the pit was 1km long by 1km wide by 120m deep. There are seven stages to the pit design. In September 2006, mining progressed from Stage 4 to Stage 5.
Tenure Type/Number	SHARE	Company Name/Surname
ML 90045	100.00%	MMG CENTURY LIMITED
ML 90058	100.00%	MMG CENTURY LIMITED
Host Rock/Cover Sequences		Formation Name/Age
<i>Structural Unit</i>		
CENTURY DOMAIN		Lawn Hill Formation / PALAEOPROTEROZOIC to MESOPROTEROZOIC
Deposit Model		
GENERAL OREBODY MODEL		SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL		SEDIMENT-HOSTED PB-ZN (SEDEX ZN-PB, SHALE-HOSTED ZN-PB)
Mineralisation Age		
ORE	PALAEOPROTEROZOIC to MESOPROTEROZOIC	U-Pb zircon age = 1595+/-6Ma (Sun, Page & Carr 1994)
Comments		
<p>On 17 June 2009 OZ Minerals completed a transaction with China Minmetals Non Ferrous Metals Co. Ltd acquiring Century. As such the production figures reported in the OZ minerals June Quarterly report 2009 applies to the months April and May only.</p> <p>In June 2009 Minerals and Metals Group (MMG) was formed from the sale of assets by OZ Minerals to China Minmetals Non-ferrous Metals Co. Ltd, a division of China Minmetals Corporation. MMG operate Century since June 2009.</p> <p>The deposit is developed within shale and siltstone of the Lawn Hill Formation and differs from many of the other deposits in the region in that it is hosted by siliciclastic rather than carbonate-rich sediment.</p> <p>Economic grade mineralisation consists of fine grained sphalerite, galena and minor pyrite which occur as delicate, bedding parallel lamellae in carbonaceous shale units. Smelters in Australia, Japan, Korea and Europe purchase concentrate from this mine.</p> <p>Century has a mine life of 15 years, with production finishing in 2018, at a planned production rate of 5 Mt ore/year.</p> <p>Century is the second largest zinc mine in the world, based on zinc production. Treatment is by conventional grinding and froth flotation. The ore requires ultrafine grinding to maximise Zn recovery and achieve acceptable silica levels in concentrates.</p> <p>The concentrates are thickened before being pumped in separate batches to Karumba through a 304km long buried pipeline. The concentrates are dried and stored in Karumba before being loaded on ships via a self-unloading transfer vessel.</p> <p>In November 2008, Oz Minerals announced that it will cut annual zinc production by 20 000tpa in 2009.</p> <p>. The Century mine is currently in a transition period as it prepares for the end of open cut zinc production in the third quarter of 2015. MMG also continues to examine growth options to utilise Century's extensive infrastructure within a 50km radius.</p>		

## Web Page

[www.mmg.com](http://www.mmg.com)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493647 CHEETHAM SALT

### OPERATING MINE

Descriptive Location: PORT ALMA, 9 KM NORTH-EAST OF BAJOOL, 60KM NW OF GLADSTONE.

1:100 000 sheet Number and Name: 9050 BAJOOL

Grid Reference: Zone 56 267756 mE 7386990 mN

Latitude -23.6109 Longitude 150.7238

Date Recorded: 15/January/2015

### Other Names for Deposit / Mine

Abc

Cheetham Salt Port Alma

Port Alma

### Commodities

BRINE SALT

### Size

### Size Definition

### Production Details

Period: 1-Jul-1997 to 30-Jun-2014

BRINE SALT

2,547,222.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

### Comments

SURFACE MINING METHODS

Tenure Type/Number	SHARE	Company Name/Surname
ML 5783	100.00%	CHEETHAM SALT LIMITED
ML 5784	100.00%	CHEETHAM SALT LIMITED
ML 5787	100.00%	CHEETHAM SALT LIMITED
ML 5790	100.00%	CHEETHAM SALT LIMITED
ML 5796	100.00%	CHEETHAM SALT LIMITED
ML 5798	100.00%	CHEETHAM SALT LIMITED

### Host Rock/Cover Sequences

*Structural Unit*

*Formation Name/Age*

### Deposit Model

### Mineralisation Age

### Comments

Sea water is pumped into ponds and gravity fed through evaporation pads to concentrate salt. Saline borewater is used sparingly to adjust the salinity. Salt produced for ICI is shipped to Botany Bay in NSW for the manufacture of caustic soda and chlorine.

Cheetham Salt holds all the mining leases in the Port Alma area for salt production and operates an extensive series of evaporative salt ponds covering approximately 100 square kilometres.

Salt is also supplied to Orica Australia Pty Ltd in Gladstone for the production of chlorine.

### Web Page

<http://www.cheethamsalt.com.au>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 45523 CHRISTMAS CREEK LIMESTONE

### OPERATING MINE

Descriptive Location: 20.7 KM NNW OF CLARKE RIVER HOMESTEAD, 150KM WNW OF TOWNSVILLE.

1:100 000 sheet Number and Name: 7959 CLARKE RIVER

Grid Reference: Zone 55 324096 mE 7892072 mN Latitude -19.0565 Longitude 145.3283 Date Recorded: 15/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
LIMESTONE	SMALL	100 000 - 2 000 000 tonnes LST
LIME		
AGGREGATE		

### Production Details

Period: 1-Jul-1996 to 30-Jun-2014

LIMESTONE OTHER 680,294.6 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
1975	to 1975	Mined to supply ballast for the abandoned Greenvale railway line.
1996	to 2003	Mining by David Mitchell Ltd with primary crushed limestone trucked 265km to Calcium (near Woodstock) where it is burnt in kilns to produce quick lime.
2003	to 2005	David Mitchell Ltd acquired by Unimin Pty Ltd. Mining operations continued.
2005		Zinaback Pty Ltd acquired deposit and currently screening dumps to obtain material before restarting work in the open cut.

Mining Operations	Comments
OPEN CUT MINING	Open cut has been mined to southern boundary of the mining lease.

Tenure Type/Number	SHARE	Company Name/Surname
ML 1445	100.00%	ZINABACK PTY. LTD.

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
CAMEL CREEK SUBPROVINCE	Perry Creek Formation / ORDOVICIAN to SILURIAN

### Deposit Model

GENERAL OREBODY MODEL	SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL	LIMESTONE DEPOSIT

### Mineralisation Age

ORE	ORDOVICIAN to SILURIAN	Fossiliferous limestone dipping ~30deg east, several caves formed in limestone adjacent to current mining. Intruded by several andesitic dykes.
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### Comments

The limestone consists mainly of massive, recrystallised calcilitite with local development of bioclastic calcarenite and calcirudite. It has supplied ballast for the Greenvale railway line and limestone for lime production.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 477119 CLAYPAVE

### OPERATING MINE

Descriptive Location: 7 KM EAST OF IPSWICH, 25KM WEST OF BRISBANE.

1:100 000 sheet Number and Name: 9442 IPSWICH

Grid Reference: Zone 56 483110 mE 6946583 mN

Latitude -27.6045 Longitude 152.8288

Date Recorded: 15/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
BRICK CLAY	MEDIUM	200 000 - 20 000 000 tonnes BKCXY

### Production Details

Period: 1-Jul-1996 to 30-Jun-2014

BRICK CLAY

503,402.0 tonnes

### Published Reserves/Resources

#### CLAY-SHALE INFERRED MINERAL RESOURCE

7,000,000 Tonnes BRICK CLAY

Comments/Cut Off Factor: Resource estimate from Claypave Pty Ltd. (2004)

Resource estimate from Leon Burgess-Dean, Research and Development Manager, Claypave Pty Ltd

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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**Operating Mine Life: 2004 to 2104 Estimated 100 years of clay resource remaining in existing mining leases at current extraction rates of 70 000 tonnes clay per year (pers comm Claypave Pty Ltd).**

### Mining Operations

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 4553	100.00%	CLAYPAVE PTY LTD
ML 4556	100.00%	TRANSPACIFIC WASTE MANAGEMENT PTY LTD
ML 4559	100.00%	CLAYPAVE PTY LTD
ML 4642	100.00%	JAFFAS QLD PTY LTD
ML 4714	100.00%	CLAYPAVE PTY LTD
ML 50070	100.00%	CLAYPAVE PTY LTD
ML 50077	100.00%	CLAYPAVE PTY LTD

### Host Rock/Cover Sequences

Structural Unit

BOOVAL BASIN

Formation Name/Age

Redbank Plains Formation / TERTIARY to TERTIARY

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

SEDIMENTARY CLAY DEPOSITS

### Mineralisation Age

ORE

TERTIARY

### Comments

### Web Page

[www.claypave.com](http://www.claypave.com)



# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 504531 COMERFORD SANDSTONE

### OPERATING MINE

Descriptive Location: EAST OF AIR FORCE ROAD, SOUTH OF GOLD MINE RD, HELIDON

1:100 000 sheet Number and Name: 9342 HELIDON

Grid Reference: Zone 56 412022 mE 6956494 mN

Latitude -27.5123 Longitude 152.1092

Date Recorded: 14/January/2015

### Other Names for Deposit / Mine

Bexton Quarry

Paradise Bush Rocks Quarry

Sandstone 1

Commodities	Size	Size Definition
BUILDING STONE	VERY SMALL	<100 000 tonnes BLST
SANDSTONE	SMALL	10 000 - 100 000 tonnes SST

### Production Details

Period: 1-Jul-1996 to 30-Jun-2013

SANDSTONE

31,406.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

Tenure Type/Number	SHARE	Company Name/Surname
ML 7246	100.00%	BEXTON INVESTMENTS PTY LTD

### Host Rock/Cover Sequences

*Structural Unit*

CLARENCE-MORETON BASIN

*Formation Name/Age*

Woogaroo Subgroup / LATE TRIASSIC to EARLY JURASSIC

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

### Mineralisation Age

ORE

TRIASSIC to JURASSIC

### Comments

Comerford Sandstone Pty Ltd operates a large quarry from which blocks are cut by trenching and extracted for processing in the company's processing facility on site. The company markets its products both domestically and overseas.

A shipment of sandstone tiles was sent to Japan in 1990 and contracts have been supplied since for resort projects and housing estates.

Export destinations include Hong Kong, Indonesia, Malaysia, Korea, Taiwan, Canada and the United States of America.

It has also supplied contracts in Queensland for various projects including the Sheraton Mirage, Port Douglas; Quay West Hotel, Brisbane; and Arundel Hills Country Club, Gold Coast.

Ownership of quarry changed to Bexton Investments Pty Ltd in June 2009.

### Web Page

<http://www.comerfordsandstone.com.au/>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 42403 CORALIME

### OPERATING MINE

Descriptive Location: 4.5KM NE OF MT GARNET.

1:100 000 sheet Number and Name: 7962 RAVENSHOE

Grid Reference: Zone 55 303147 mE 8048054 mN

Latitude -17.6456 Longitude 145.1444

Date Recorded: 15/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
LIMESTONE	SMALL	100 000 - 2 000 000 tonnes LST
MARBLE	VERY SMALL	<10 000 tonnes MARB

### Production Details

Period: 1-Jul-2000 to 30-Jun-2014

LIMESTONE CRUSHED ROCK 229,100.8 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
<b>Major Mining Related Events</b>				
Year Commenced	Year Completed	Comments		
1971	to 1979	First mined by Adams Enterprises Pty Ltd.		

**Operating Mine Life: 1979 to 2026 Acquired by Miriwinni Pulverised Lime Pty Ltd which has operated the deposit continuously producing crushed lime for agricultural use. Expected 30 years remaining (March 2001)**

Mining Operations	Comments
OPEN CUT MINING	Two opencuts 250m apart. Main opencut is 150m diameter and ~20m deep. Second opencut is slightly smaller.

Tenure Type/Number	SHARE	Company Name/Surname	Christian Name
ML 4023	33.00%	WILKINS	Maxwell John
ML 4023	33.00%	WILKINS	Robert James
ML 4023	33.00%	WILKINS	Russell Ross
ML 20013	33.00%	WILKINS	Maxwell John
ML 20013	33.00%	WILKINS	Robert James
ML 20013	33.00%	WILKINS	Russell Ross
ML 20530	33.00%	WILKINS	Maxwell John
ML 20530	33.00%	WILKINS	Robert James
ML 20530	33.00%	WILKINS	Russell Ross

### Host Rock/Cover Sequences

Structural Unit

HODGKINSON PROVINCE

Formation Name/Age

Chillagoe Formation / EARLY SILURIAN to EARLY DEVONIAN

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

LIMESTONE DEPOSIT

### Mineralisation Age

ORE

SILURIAN to EARLY DEVONIAN

### Comments

The marble is structureless and extensively recrystallised, being in most places a fine-grained marble.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 507688 CORK NO 4

### OPERATING MINE

Descriptive Location: 110KM SW OF WINTON, 2 KM SW OF MAIN GYPSUM MINING OPERATION.

1:100 000 sheet Number and Name: 7352 TULMUR

Grid Reference: Zone 54 607011 mE 7463403 mN Latitude -22.9340 Longitude 142.0436 Date Recorded: 15/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
GYPSUM	SMALL	5 000 - 5 000 000 tonnes GYP

### Production Details

Period: 1-Jul-2006 to 30-Jun-2014

GYPSUM 141,263.6 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

### Comments

SURFACE MINING METHODS

Tenure Type/Number	SHARE	Company Name/Surname
ML 95261	100.00%	ZINABACK PTY. LTD.

### Host Rock/Cover Sequences

*Structural Unit*

TERTIARY SEDIMENTARY BASINS

*Formation Name/Age*

Old Cork beds / TERTIARY to TERTIARY

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

EVAPORITE DEPOSIT

### Mineralisation Age

ORE

TERTIARY

### Comments

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 501301 CRACOW GOLD MINE

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 3.21KM W OF CRACOW, 174.89KM SE OF GLADSTONE.

1:100 000 sheet Number and Name: 8947 CRACOW

Grid Reference: Zone 56 225128 mE 7200217 mN

Latitude -25.2892 Longitude 150.2703

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Klondyke  
Royal Standard  
Klondyke North  
Crown Shoot  
Royal Shoot

Commodities	Size	Size Definition
GOLD	MEDIUM	5 - 50 tonnes AU
SILVER	SMALL	5 - 500 tonnes AG

### Production Details

Period: 1-Jul-1932 to 30-Jun-1933		8 tonnes HARD ROCK ORE (OR REEF)
GOLD	BULLION	0.2 kilograms
Period: 1-Jan-1936 to 31-Dec-1942		6,916 tonnes HARD ROCK ORE (OR REEF)
GOLD	FINE	77.0 kilograms
SILVER		16.1 kilograms
Period: 1-Jan-1949 to 31-Dec-1952		4,353 tonnes HARD ROCK ORE (OR REEF)
SILVER		4.2 kilograms
GOLD	FINE	27.5 kilograms
Period: 1-Jul-2004 to 30-Jun-2014		
GOLD	FINE	23,755.7 kilograms
SILVER		19,014.4 kilograms

### Published Reserves/Resources

BR 10373 Published in 2014

#### CRACOW UNDERGROUND

**INDICATED MINERAL RESOURCE** 1,090,000 tonnes Ore @  
7.60 g/t GOLD **FOR** 8,284 Kilograms GOLD

Comments/Cut Off Factor: 2.8g/t Au cutoff.

Royal, Crown, Klondyke North, Sovereign, Kilkenny, Tipperary, Empire, Roses Pride, Phoenix, Stockpiles.  
Includes probable reserves of 1.0Mt at 5.5g/t Au at 3.5% cut-off.

BR 10373 Published in 2014

#### CRACOW UNDERGROUND

**INFERRED MINERAL RESOURCE** 2,010,000 tonnes Ore @  
5.50 g/t GOLD **FOR** 11,055 Kilograms GOLD

Comments/Cut Off Factor: 2.8g/t Au cutoff.

Royal, Crown, Klondyke North, Sovereign, Kilkenny, Tipperary, Empire, Roses Pride, Phoenix, Stockpiles.

BR 10373 Published in 2014

#### CRACOW UNDERGROUND

**MEASURED MINERAL RESOURCE** 330,000 tonnes Ore @  
9.60 g/t GOLD **FOR** 3,168 Kilograms GOLD

Comments/Cut Off Factor: 2.8g/t Au cutoff.

Royal, Crown, Klondyke North, Sovereign, Kilkenny, Tipperary, Empire, Roses Pride, Phoenix, Stockpiles.  
Includes proved reserves 0.36Mt @ 7.3g/t Au

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10373	2014	EVOLUTION MINING LIMITED	ANNUAL REPORT 2014	REPORT TO THE AUSTRALIAN SECURITIES EXCHANGE. 24 OCTOBER 2014. EVOLUTION MINING LIMITED, MELBOURNE.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Major Mining Related Events

Year Commenced	Year Completed	Comments
1875		Gold first discovered in the Cracow region.
1932	to 1933	First period of mining of the Klondyke veins.
1936	to 1942	
1949	to 1952	
1996	to 2000	Joint venture between Newcrest Mining Ltd and Sedimentary Holdings NL (now part of Lion Selection Group) commenced in 1996. Strategy of drilling >100m below old workings delineated major lode system beneath historical workings in 1999.
2001	to 2002	A comprehensive feasibility study was completed in July 2002.

**Operating Mine Life: 2003 to 2011 Decline commenced in October 2003 to access resources. Seven year mine life as of October 2004. The proposed mining method is uphole bench stoping with waste rock fill. Estimated cost of project ~A\$90m.**

Mining Operations	Comments
DECLINED SHAFTS/DRIVES	Exploration decline was constructed to better define resources. The Royal, Crown and Klondyke North shoots are mined from the decline access. The portal is to the east of the Royal shoot.
SHAFTS	Old workings shallow and generally less than 25m deep.
PITS	
UNDERGROUND MINING METHODS	

  

Tenure Type/Number	SHARE	Company Name/Surname
ML 3219	15.00%	SEDGOLD PTY LTD
ML 3219	15.00%	FERNYSIDE PTY LIMITED
ML 3219	70.00%	LION MINING PTY LTD
ML 80088	100.00%	LION MINING PTY LTD
ML 80089	100.00%	LION MINING PTY LTD

  

Host Rock/Cover Sequences	Formation Name/Age
<i>Structural Unit</i> AUBURN SUBPROVINCE	Camboon Volcanics / LATE CARBONIFEROUS to EARLY PERMIAN

  

Deposit Model	
GENERAL OREBODY MODEL	EPITHERMAL VEINS/PIPE/STOCKWORK
DETAILED OREBODY MODEL	EPITHERMAL PRECIOUS METAL LOW SULPHIDATION EPITHERMAL

  

Mineralisation Age	
ORE	EARLY PERMIAN Veins commonly bifurcate.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Comments

Sedimentary Holdings NL, in a joint venture with Newcrest Mining Ltd, discovered significant extensions to a lode system beneath historical workings 2km west of previous operations at Golden Plateau.

Mineralisation in the Klondyke lode, 150-400m below surface, is a low sulphidation epithermal system formed in and around a major fault zone. One or more multiphase quartz-adularia-chalcedony lodes are enclosed by stockwork veining in altered volcanics.

The core zone of the mineralisation (Royal Shoot and Crown Shoot) is currently being mined. The Royal orebody was the main ore source for the first two years of production.

The company gave development approval in August 2002. Mining commenced in 2005 with decline access for mining the high-grade Royal, Crown and Klondyke North shoots.

The mineralisation is amenable to conventional cyanide leach extraction after fine grinding, with average recoveries of 94.3% of the gold.

Drilling to the south of the Kilkenny resource in 2008 resulted in the discovery of a new zone of high-grade gold mineralisation.

Resource definition drilling produced encouraging results from the Roses Pride and Empire structures.

An exploration decline was commenced at Kilkenny in the first half of 2009. The mine is now held by Evolution Mining Limited (since 2011).

In 2011 Evolution Mining emerged as operator of the Cracow operations after a merger of Conquest and Catalpa. Evolution mining achieved increases at the Kilkenny, Roses Pride and Coronation ore bodies, but decreased the overall reserve estimates.

The ore reserves have been reported above cut-off grade of 3.0 g/t Au and based on a gold price of A\$1350 per ounce and a gold recovery of 93%. Mining depletion and a narrowing of some lode structures was also taken into account by Evolution (2012).

The individual Crown shoot resources (Jun 2012) include measured resource 73000t at 9.4g/t Au, inferred resource 380000t at 4.5g/t Au; including a proved reserve of 32000t at 12.2g/t Au and a probable reserve of 3000t at 1.0g/t Au (BR10019).

The individual Klondyke North resources (Jun 2012) include a combined (measured, indicated and inferred) resource 418000t at 4.7g/t Au, ; including a proved reserve of 400t at 5.7g/t Au and a probable reserve of 158000t at 4.4g/t Au (BR10019).

In Dec 2010 resource definition continued to validate Kilkenny, Phoenix, Tipperary & Empire shoots: Significant intercepts: KKKU051:

21.1m @ 3.8g/t Au from 340m; KKKU054: 10.6m @ 13g/t Au from 119m; KKKU062: 9.7m @ 11g/t Au from 278m

Dec2010 (cont): KKKU053: 2.0m @ 20g/t Au from 101m; KKKU060: 4.8m @ 7.7g/t from 179.7m (BR9605).

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## Web Page

[www.evolutionmining.com.au](http://www.evolutionmining.com.au)

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 42412 DALCOUTH

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 12KM NNE OF MT GARNET, 90KM SW OF CAIRNS.

1:100 000 sheet Number and Name: 7962 RAVENSHOE

Grid Reference: Zone 55 304114 mE 8055769 mN

Latitude -17.5759 Longitude 145.1543

Date Recorded: 15/January/2015

### Other Names for Deposit / Mine

Dalcoath  
Dividend  
Blue Jacket

Commodities	Size	Size Definition
TIN	SMALL	100 - 1 000 tonnes SN

### Production Details

Period: 1-Jan-1940 to 31-Dec-1973 52 tonnes HARD ROCK ORE (OR REEF)  
CASSITERITE 0.8 tonnes  
Period: 1-Jul-2012 to 30-Jun-2013  
TIN 5.1 tonnes

### Published Reserves/Resources

BR 10173 Published in 2012

**DALCOUTH**  
**INFERRED MINERAL RESOURCE** 102,400 tonnes Ore @  
0.34 % TIN **FOR** 348 Tonnes TIN

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10173	2012	MGT RESOURCES LIMITED	MGT RESOURCES PROSPECTUS	REPORT TO THE AUSTRALIAN STOCK EXCHANGE. 15 OCTOBER 2012, MGT RESOURCES LIMITED

### Major Mining Related Events

Year Commenced	Year Completed	Comments
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Mining Operations	Comments
UNDERGROUND MINING METHODS	
SHAFTS	
ADITS	
SURFACE MINING METHODS	

Tenure Type/Number	SHARE	Company Name/Surname
ML 4349	100.00%	MGT MINING LIMITED
ML 20547	100.00%	MGT MINING LIMITED

Host Rock/Cover Sequences	Formation Name/Age
<i>Structural Unit</i> HODGKINSON PROVINCE	Hodgkinson Formation / DEVONIAN to DEVONIAN

Deposit Model	
GENERAL OREBODY MODEL	INTRUSIVE-RELATED (PORPHYRY-RELATED)
DETAILED OREBODY MODEL	TIN VEINS (CORNISH-TYPE)

Mineralisation Age	
ORE	LATE CARBONIFEROUS

**Comments**  
Rich, tin-bearing chloritic lodes were worked close to a basic dyke.  
2013: The more outstanding hits included 4m grading 2.24% tin from 19m depth. 8m grading 1.1% tin from 11m depth. 8m at 0.56% tin from 38m depth. 6m at 1.2% tin from 42m depth. 3m at 1.78% tin from 16m depth. and 3m at 1.68% tin from 57m depth.

### Web Page

<http://www.mgt.net.au/>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 38223 DUCIE-WENLOCK

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 50KM NNE WEIPA AIRPORT, 595KM NW OF CAIRNS.

1:100 000 sheet Number and Name: 7373 AGNEW

Grid Reference: Zone 54 618686 mE 8648366 mN

Latitude -12.2246 Longitude 142.0911

Date Recorded: 15/January/2015

### Other Names for Deposit / Mine

Ducie  
Dulhunty

### Commodities

BAUXITE

### Size

LARGE

### Size Definition

>200 000 000 tonnes BX

### Production Details

#### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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#### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

Tenure Type/Number	SHARE	Company Name/Surname
ML 7031	100.00%	ALCAN SOUTH PACIFIC PTY LTD

#### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
KARUMBA BASIN	Bulimba Formation / TERTIARY to TERTIARY

#### Deposit Model

GENERAL OREBODY MODEL	RESIDUAL DEPOSIT
DETAILED OREBODY MODEL	LATERITIC BAUXITE

#### Mineralisation Age

ORE	CENOZOIC
-----	----------

#### Comments

In 1956, Aluminium Laboratories Ltd carried out exploration in EPM 53, between the Wenlock and Ducie Rivers, and determined an inferred resource of about 150Mt of bauxite grading 12.5% silica and 52% alumina in the crude state.

The bauxite was not considered to be of commercial grade and more drilling was required to delineate areas with a lower silica content, as well as beneficiation testing. The results of exploration carried out after ML 7031 was granted are confidential.

In 2004, Alcan carried out a drilling program to better define the bauxite resources in the area.

The Ducie-Wenlock resource was combined with the Weipa Resource reported by Rio Tinto from 2009 onwards (BR 9569).

#### Web Page

<http://www.riotintoalcan.com/>



# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 478664 EAST END

### OPERATING MINE

Descriptive Location: 6KM E OF BRACEWELL, BAJOOL AREA, 30KM NW OF GLADSTONE.

1:100 000 sheet Number and Name: 9050 BAJOOL

Grid Reference: Zone 56 291979 mE 7357939 mN

Latitude -23.8765 Longitude 150.9570

Date Recorded: 15/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
LIMESTONE	LARGE	>10 000 000 tonnes LST
CLAY	MEDIUM	200 000 - 20 000 000 tonnes CY

### Production Details

Period: 1-Jul-1996 to 30-Jun-2014

LIMESTONE CRUSHED ROCK 31,462,436.0 tonnes

CLAY 4,437,345.0 tonnes

### Published Reserves/Resources

#### EAST END INFERRED MINERAL RESOURCE

120,000,000 Tonnes LIMESTONE

Resource estimate 20th April, 1999, pers com. Mr Len Walker.

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
1964		Mining commenced at this location.
2003		Cement Australia (company formed from merger)

Mining Operations	Comments
OPEN CUT MINING	

Tenure Type/Number	SHARE	Company Name/Surname	
ML 3631	100.00%	CEMENT AUSTRALIA (EXPLORATION) PTY LTD	
ML 3659	100.00%	CEMENT AUSTRALIA (EXPLORATION) PTY LTD	
ML 7629	50.00%	CEMENT AUSTRALIA (EXPLORATION) PTY LTD	
ML 7629	50.00%	CEMENT AUSTRALIA (QUEENSLAND) PTY LIMITED	
ML 80002	100.00%	CEMENT AUSTRALIA (EXPLORATION) PTY LTD	
ML 80009	51.00%	POPENIA	William John
ML 80009	41.00%	POPENIA	Walter John
ML 80009	8.00%	ZAKARIAN	Gaguik
ML 80127	100.00%	CEMENT AUSTRALIA (EXPLORATION) PTY LTD	
ML 80156	100.00%	CEMENT AUSTRALIA (EXPLORATION) PTY LTD	

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
MOUNT HOLLY SUBPROVINCE	Erebus beds / SILURIAN to EARLY DEVONIAN

### Deposit Model

GENERAL OREBODY MODEL	SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL	LIMESTONE DEPOSIT

### Mineralisation Age

ORE	SILURIAN to EARLY DEVONIAN
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### Comments

Cement Australia has applied for ML 80156 to cover a planned south-east extension to the quarry. This lease covers an inferred resource of 80Mt limestone and mining is anticipated to commence by 2014.

East End is the largest limestone mining operation in Queensland. Limestone and clay are mined from the Lower Devonian Erebus beds from a large open cut and transported 12km by a Queensland Rail constructed rail link loop to the Fisherman's Landing Plant

The quarry supplies limestone for cement manufacture at Cement Australia (Queensland) Ltd's processing plant 12km north of Gladstone.

2012 existing mine infrastructure includes rail loops & railways to Gladstone, a rail loading plant.

### Web Page

<http://www.cemaust.com.au/>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 494046 ELOISE

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 157 KM EAST OF MT ISA, 56.4 KM ESE OF CLONCURRY

1:100 000 sheet Number and Name: 7056 CLONCURRY

Grid Reference: Zone 54 497980 mE 7683016 mN

Latitude -20.9533 Longitude 140.9806

Date Recorded: 15/January/2015

### Other Names for Deposit / Mine

Eloise Deeps - Lode B  
Levuka Lode - Lode B  
Lode A  
40 Lode  
42 Lode  
45 Lode

Commodities	Size	Size Definition
COPPER	MEDIUM	50 000 - 250 000 tonnes CU
GOLD	SMALL	0.5 - 5 tonnes AU
SILVER	SMALL	5 - 500 tonnes AG

### Production Details

Period: 1-Jul-1996 to 30-Jun-2001		2,353,692 tonnes SULPHIDE ORE
COPPER	METAL	95,106.0 tonnes 4.04 percent
SILVER		25,548.9 kilograms 10.85 grams per tonne
GOLD	FINE	1,636.8 kilograms 0.69 grams per tonne
Period: 1-Jul-2001 to 30-Jun-2002		551,590 tonnes SULPHIDE ORE
COPPER	METAL	16,173.0 tonnes
GOLD	BULLION	266.3 kilograms
Period: 1-Jul-2002 to 30-Jun-2005		
COPPER	CONCENTRATE	55,143.4 tonnes
SILVER		3.4 kilograms
GOLD	FINE	649.8 kilograms
Period: 1-Jul-2005 to 30-Jun-2014		
COPPER	METAL	85,845.0 tonnes
GOLD	FINE	1,624.6 kilograms
SILVER		15,089.7 kilograms

### Published Reserves/Resources

BR 9807 Published in 2009

#### ELOISE

**INDICATED MINERAL RESOURCE** 2,816,000 tonnes Ore @  
3.10 % COPPER **FOR** 87,296 Tonnes COPPER  
9.80 g/t SILVER **FOR** 27,596 Kilograms SILVER  
0.80 g/t GOLD **FOR** 2,252 Kilograms GOLD

Comments/Cut Off Factor: Includes probable reserves of 2.4Mt at 2.6% Cu, 9.3g/t Ag and 0.7g/t Au.

BR 9807 Published in 2009

#### ELOISE

**INFERRED MINERAL RESOURCE** 400,000 tonnes Ore @  
3.00 % COPPER **FOR** 12,000 Tonnes COPPER  
10.90 g/t SILVER **FOR** 4,360 Kilograms SILVER  
1.00 g/t GOLD **FOR** 400 Kilograms GOLD

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 9807	2009	BREAKAWAY RESOURCES LIMITED	ANNUAL REPORT 2009	ANNOUNCEMENT TO THE AUSTRALIAN SECURITIES EXCHANGE, 2009. BREAKAWAY RESOURCES LIMITED, PERTH.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Major Mining Related Events

Year Commenced	to	Year Completed	Comments
1986		1992	Discovery (BHP Minerals Ltd) from aeromagnetic anomaly. Eloise North (Maronan) discovered 4 years later in 1992.
1995		2003	Mined by Amalg Resources N.L. with production beginning in May 1996. Amalg merged with Breakaway Resources Ltd.
2004			Barmenco Investments Pty Ltd acquired the deposit in February 2004. Breakaway Resources retain a 30% net profit royalty.
2008		2010	Under care and maintenance
2011			restart of mining operations (Breakaway Resources)

## Mining Operations

DECLINED SHAFTS/DRIVES

UNDERGROUND MINING METHODS

STOPPING

## Comments

At 1072m depth in 2005/06.

## Tenure Type/Number

## SHARE

## Company Name/Surname

ML	90064	100.00%	FMR INVESTMENTS PTY LIMITED
ML	90080	100.00%	FMR INVESTMENTS PTY LIMITED
ML	90086	100.00%	FMR INVESTMENTS PTY LIMITED
ML	90155	100.00%	FMR INVESTMENTS PTY LIMITED

## Host Rock/Cover Sequences

Structural Unit

SOLDIERS CAP DOMAIN

Formation Name/Age

Toole Creek Volcanics / PALAEOPROTEROZOIC to PALAEOPROTEROZOIC

## Deposit Model

GENERAL OREBODY MODEL

HYDROTHERMAL VEINS/PIPE/STOCKWORK

DETAILED OREBODY MODEL

IRON-OXIDE CU-AU (-U-REE)

## Mineralisation Age

ORE

MESOPROTEROZOIC

Ar40/Ar39 age dating constrains mineralisation to ~1530 to 1514 Ma (EGRU newsletter 2000).

## Comments

Eloise is a blind deposit concealed by 60 to 70m of sediments of the Eromanga Basin, on the eastern margin of the Mount Isa Inlier.

The mineralisation comprises high-grade chalcopyrite + pyrrhotite hosted by mafic silicate alteration localised on a major shear zone (Levuka Shear Zone). Alteration and mineralisation are controlled by both ductile and brittle structures.

Recent drilling at Eloise Deeps has identified another mineralised body (the Eastern Lode) to the east of the B Lode. This has increased resources, extending the mine life.

Breakaway Resources Ltd sold the mine to Barmenco Investments Pty Ltd (now FMR Investments Pty Ltd) in February 2004, but retained a 30% net profit royalty interest in the mine and surrounding lease areas.

At the end of 2006, production was at 100m below the surface, with the deposit drilled to 200m below the production level. Exploration below the currently known mineralised extent is continuing.

Increased resource and reserve estimates announced in July 2008 provide a 4 to 5 year mine life. A A\$3M expansion has commenced to increase throughput to about 740,000tpa.

The mill was successfully recommissioned in May 2011 (BR9774).

Following a rock failure in a portion of the main production stope in late 2008, Breakaway Resources Ltd announced that it would take 2-3 months to carry out remedial action.

In view of low copper prices, the mine owner FMR Investments Pty Ltd decided to cease all mining operations and place the mine on temporary care and maintenance in late 2008. The mine reopened in January 2011.

## Web Page

<http://www.minotaurexploration.com.au/>; <http://www.fmrinvestments.com.au/>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

38227 **ELY**

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 24.9KM NORTH OF WEIPA AIRSTRIP, 590KM NW OF CAIRNS.

1:100 000 sheet Number and Name: 7273 PENNEFATHER RIVER

Grid Reference: Zone 54 596622 mE 8622566 mN

Latitude -12.4586 Longitude 141.8891

Date Recorded: 14/January/2015

## Other Names for Deposit / Mine

Alcan  
Ely South  
Stormont  
Egmont  
Ely North  
Ely East

Commodities	Size	Size Definition
BAUXITE	SMALL	100 000 - 100 000 000 tonnes BX

## Production Details

Period: 1-Jul-2006 to 30-Jun-2014

BAUXITE 36,441,343.0 tonnes

## Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
BR 9569	2009	RIO TINTO PLC	2009 ANNUAL REPORT.	RIO TINTO PLC, LONDON. HTTP://WWW.RIOTINTO.COM/SH AREHOLDERS/219_REPORTS.AS P

## Major Mining Related Events

Year Commenced	Year Completed	Comments
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## Mining Operations

Tenure Type/Number	SHARE	Company Name/Surname
ML 7031	100.00%	ALCAN SOUTH PACIFIC PTY LTD

## Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
KARUMBA BASIN	Bulimba Formation / TERTIARY to TERTIARY

## Deposit Model

GENERAL OREBODY MODEL	RESIDUAL DEPOSIT
DETAILED OREBODY MODEL	LATERITIC BAUXITE

## Mineralisation Age

ORE	CENOZOIC
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## Comments

Bauxite occurs as pisolites in a soft grained matrix. The pisolites range in diameter from 2 to 25mm and, in the better grade areas, are typically well rounded.

The bauxite varies in colour from light buff to brown in the high alumina material to a darker red brown in the more ferruginous and usually high silica material.

In 1998, Alcan entered into an exchange agreement with Comalco for the joint development of the Ely bauxite. The deposit was incorporated into Comalco's Weipa mine plan, with mining forecast for 2010.

However, Rio Tinto Aluminium Weipa (formally Comalco) commenced mining in January 2007 in order to meet Alcan's needs for bauxite at the Gladstone alumina refinery (with a 25 year mine life).

In October 2007 Rio Tinto took over Alcan Inc and formed a subsidiary called Rio Tinto Alcan, combining Alcan's and Rio Tinto Aluminium's operations and resources.

## Web Page

[www.riotinto.com/riotintoalcan/](http://www.riotinto.com/riotintoalcan/)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493673 **EMPIRE**

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: ~3KM W OF CRACOW, ~175KM SE OF GLADSTONE.

1:100 000 sheet Number and Name: 8947 CRACOW

Grid Reference: Zone 56 224300 mE 7202000 mN

Latitude -25.2730 Longitude 150.2625

Date Recorded: 15/January/2015

### Other Names for Deposit / Mine

Cracow Gold Mine Group

Commodities	Size	Size Definition
GOLD	SMALL	0.5 - 5 tonnes AU

### Production Details

#### Published Reserves/Resources

BR 10019 Published in 2012

#### **EMPIRE**

**INFERRED MINERAL RESOURCE** 474,000 tonnes Ore @  
6.10 g/t GOLD **FOR** 2,891 Kilograms GOLD

474000t at 6.1g/t Au ( recorded at main site 501301)

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10019	2012	EVOLUTION MINING LIMITED	EVOLUTION MINING MINERAL RESOURCE STATEMENT - JUNE 2012	REPORT TO THE AUSTRALIAN SECURITIES EXCHANGE. 25 SEPTEMBER 2012. EVOLUTION MINING LIMITED, MELBOURNE.

### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

Tenure Type/Number	SHARE	Company Name/Surname
ML 80089	100.00%	LION MINING PTY LTD

### Host Rock/Cover Sequences

Structural Unit

AUBURN SUBPROVINCE

Formation Name/Age

Camboon Volcanics / LATE CARBONIFEROUS to EARLY PERMIAN

### Deposit Model

### Mineralisation Age

ORE

EARLY PERMIAN

### Comments

The company gave development approval in August 2002. Mining commenced in 2005 with decline access for mining the high-grade Royal, Crown and Klondyke North shoots.

The mineralisation is amenable to conventional cyanide leach extraction after fine grinding, with average recoveries of 94.3% of the gold.

Drilling to the south of the Kilkenny resource in 2008 resulted in the discovery of a new zone of high-grade gold mineralisation.

Resource definition drilling produced encouraging results from the Roses Pride and Empire structures.

The mine is now held by Evolution Mining Limited (since 2011). Production figures are reported in the Cracow Gold Mine site.

Production from ML80089 reported against Cracow Gold Mine SI #501301

### Web Page

[www.evolutionmining.com.au](http://www.evolutionmining.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 486727 ENTERPRISE

### OPERATING MINE

Descriptive Location: WESTERN CENTRAL HIGH DUNES OF NTH STRADBROKE ISLAND, 45KM EAST OF BRISBANE.

1:100 000 sheet Number and Name: 9542 BEENLEIGH

Grid Reference: Zone 56 545236 mE 6949957 mN Latitude -27.5734 Longitude 153.4583 Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Herring-Enterprise

Commodities	Size	Size Definition
RUTILE	LARGE	>500 000 tonnes RUT
ZIRCON	LARGE	>1 000 000 tonnes ZIR
ILMENITE	MEDIUM	5 000 000 - 10 000 000 tonnes IM
MONAZITE	VERY SMALL	<200 tonnes MZ

### Production Details

Period: 1-Jul-1996 to 30-Jun-2014

RUTILE	693,754.0 tonnes
ZIRCON	679,031.0 tonnes
ILMENITE	1,916,639.0 tonnes
LEUCOXENE	3,581.0 tonnes

### Published Reserves/Resources

BR 8476 Published in 2006

#### ENTERPRISE - DREDGE

<b>INDICATED MINERAL RESOURCE</b> 205,200,000 tonnes Ore @	
0.33 % ILMENITE	<b>FOR</b> 685,368 Tonnes ILMENITE
0.09 % RUTILE	<b>FOR</b> 188,784 Tonnes RUTILE
0.08 % ZIRCON	<b>FOR</b> 160,056 Tonnes ZIRCON

Comments/Cut Off Factor: 0.8% heavy minerals cut off.

BR 8476 Published in 2006

#### ENTERPRISE - DREDGE

<b>MEASURED MINERAL RESOURCE</b> 761,800,000 tonnes Ore @	
0.46 % ILMENITE	<b>FOR</b> 3,473,808 Tonnes ILMENITE
0.12 % RUTILE	<b>FOR</b> 937,014 Tonnes RUTILE
0.10 % ZIRCON	<b>FOR</b> 792,272 Tonnes ZIRCON

Comments/Cut Off Factor: 0.8% heavy minerals cut off. Includes proved 355.8Mt at 0.96% & probable 190.5Mt at 0.8%.

BR 8476 Published in 2006

#### ENTERPRISE - DRY MINE

<b>INDICATED MINERAL RESOURCE</b> 31,800,000 tonnes Ore @	
0.52 % ILMENITE	<b>FOR</b> 166,632 Tonnes ILMENITE
0.16 % RUTILE	<b>FOR</b> 50,880 Tonnes RUTILE
0.13 % ZIRCON	<b>FOR</b> 39,750 Tonnes ZIRCON

Comments/Cut Off Factor: 0.9% heavy minerals cut off.

BR 8476 Published in 2006

#### ENTERPRISE - DRY MINE

<b>INFERRED MINERAL RESOURCE</b> 22,200,000 tonnes Ore @	
0.61 % ILMENITE	<b>FOR</b> 135,642 Tonnes ILMENITE
0.17 % RUTILE	<b>FOR</b> 37,518 Tonnes RUTILE
0.14 % ZIRCON	<b>FOR</b> 31,746 Tonnes ZIRCON

Comments/Cut Off Factor: 1.0% heavy minerals cut off.

BR 8476 Published in 2006

#### ENTERPRISE - DRY MINE

<b>MEASURED MINERAL RESOURCE</b> 45,800,000 tonnes Ore @	
0.62 % ILMENITE	<b>FOR</b> 282,128 Tonnes ILMENITE
0.17 % RUTILE	<b>FOR</b> 77,860 Tonnes RUTILE
0.14 % ZIRCON	<b>FOR</b> 65,952 Tonnes ZIRCON

Comments/Cut Off Factor: 0.9% heavy minerals cut off. Includes proved 26.3Mt at 1.41% and probable 11.6Mt at 1.33%.

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 8476	2006	CONSOLIDATED RUTILE LIMITED	ANNUAL REPORT 2006.	CONSOLIDATED RUTILE LIMITED, BRISBANE.

### Major Mining Related Events

Year Commenced	Year Completed	Comments

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Mining Operations

## Comments

OPEN CUT MINING

DREDGING

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<b>Tenure Type/Number</b>	<b>SHARE</b>	<b>Company Name/Surname</b>
ML 1103	100.00%	STRADBROKE RUTILE PTY LTD
ML 1105	100.00%	STRADBROKE RUTILE PTY LTD
ML 1117	100.00%	STRADBROKE RUTILE PTY LTD
ML 1119	100.00%	STRADBROKE RUTILE PTY LTD
ML 1120	100.00%	STRADBROKE RUTILE PTY LTD
ML 1130	100.00%	STRADBROKE RUTILE PTY LTD

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## Host Rock/Cover Sequences

*Structural Unit*

*Formation Name/Age*

MODERN COASTAL DEPOSITS

## Deposit Model

GENERAL OREBODY MODEL

DUNE DEPOSIT

DETAILED OREBODY MODEL

DUNE DEPOSIT HEAVY MINERALS

## Mineralisation Age

ORE

HOLOCENE to PLEISTOCENE

## Comments

Consolidated Rutile operates two heavy minerals sands mines on North Stradbroke Island. The sands are mined via a floating dredge on an artificial pond. The dredge uses a rotating cutter to loosen sands for processing and a floating concentrator.

The heavy minerals are then separated using a gravity separation process through a series of water-fed spirals. The ilmenite is then separated using wet high intensity magnetic separators.

An average of five 1800t loads of mineral concentrates are transported weekly by barge to the dry mill located at Pinkenba for final separation.

In 2009 Sibelco acquired all CRL assets.

## Web Page

<http://www.sibelco.com.au>

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493641 ERNEST HENRY

### OPERATING MINE

Descriptive Location: 38KM NE OF CLONCURRY IN NORTH-WEST, 125KM EAST OF MT ISA.

1:100 000 sheet Number and Name: 7057 CLONAGH

Grid Reference: Zone 54 469270 mE 7739476 mN

Latitude -20.4429 Longitude 140.7054

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
COPPER	GIANT	>2 000 000 tonnes CU
GOLD	LARGE	50 - 150 tonnes AU
MAGNETITE	LARGE	>1 000 000 tonnes MT
COBALT	VERY SMALL	<10 tonnes CO
MOLYBDENUM	VERY SMALL	<50 tonnes MO
URANIUM	VERY SMALL	<100 tonnes U
RARE EARTH ELEMENTS	VERY SMALL	<1 tonne REE

### Production Details

Period: 1-Jul-1997 to 30-Jun-2014	132,003,343 tonnes HARD ROCK ORE (OR REEF)
COPPER METAL	1,348,006.0 tonnes
GOLD BULLION	51,586.9 kilograms
Period: 1-Jan-2011 to 30-Dec-2014	
IRON	778,801.0 tonnes

### Published Reserves/Resources

BR 10304 Published in 2014

#### ERNEST HENRY UNDERGROUND

**INDICATED MINERAL RESOURCE** 72,600,000 tonnes Ore @

1.24 % COPPER **FOR** 900,240 Tonnes COPPER

0.65 g/t GOLD **FOR** 47,190 Kilograms GOLD

Comments/Cut Off Factor: not quoted in 2013

Includes probable reserve of 65.9Mt at 1.01% Cu, 0.51g/t Au. Probable reserve within combined meas and ind resource. As at 31 Dec 2013.

BR 9808 Published in 2011

#### ERNEST HENRY UNDERGROUND

**INDICATED MINERAL RESOURCE**

19,880,000 Tonnes MAGNETITE

Calculated from 71 Mt at 28% magnetite

BR 10304 Published in 2014

#### ERNEST HENRY UNDERGROUND

**INFERRED MINERAL RESOURCE** 9,000,000 tonnes Ore @

1.10 % COPPER **FOR** 99,000 Tonnes COPPER

0.60 g/t GOLD **FOR** 5,400 Kilograms GOLD

Comments/Cut Off Factor: not quoted in 2013

BR 9808 Published in 2011

#### ERNEST HENRY UNDERGROUND

**INFERRED MINERAL RESOURCE**

3,380,000 Tonnes MAGNETITE

Calculated from 13 Mt at 26% magnetite

BR 9808 Published in 2011

#### ERNEST HENRY UNDERGROUND

**MEASURED MINERAL RESOURCE**

1,280,000 Tonnes MAGNETITE

Calculated from 4 Mt at 32% magnetite

BR 10304 Published in 2014

#### ERNEST HENRY UNDERGROUND

**MEASURED MINERAL RESOURCE** 9,200,000 tonnes Ore @

1.34 % COPPER **FOR** 123,280 Tonnes COPPER

0.69 g/t GOLD **FOR** 6,348 Kilograms GOLD

Comments/Cut Off Factor: not quoted in 2013

Includes proved reserve of 8.3Mt at 1.21% Cu, 0.69g/t Au. Probable reserve within combined meas and ind resource. As at 31 Dec 2013.

Resource figures listed above are JORC compliant.



# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

Published Reference ID	Year	Author	Title	Source
BR 10304	2014	GLENCORE XSTRATA	GLENCOREXSTRATA RESOURCES & RESERVES AS AT 31 DECEMBER 2013.	HTTP://WWW.GLENCORE.COM/INVESTORS/REPORTS-AND-RESULTS/RESERVES-AND-RESOURCE/11-FEB-2014
BR 9808	2011	XSTRATA PLC	XSTRATA MINERAL RESOURCES AND ORE RESERVES AS AT 31 DECEMBER 2011.	WWW.XSTRATA.COM/CONTENT/ASSETS/PDF/X_RESERVES_RESOURCES

## Major Mining Related Events

Year Commenced	Year Completed	Comments
1991	to 1991	Ernest Henry copper-gold deposit discovered in 1991.

**Operating Mine Life: 1997 to 2012 First ore produced in 1997. Mining by Ernest Henry Mining Pty Ltd with commercial production commencing in May 1998. Mine life is 8 years as at December 2004. Mine life may extend with underground development.**

## Mining Operations

OPEN CUT MINING

## Comments

The processing facility for this mine is one of the largest mills and flotation cells in the world. Open cut was 180m deep in June 2000, planned to be 1,300m in diameter at 570m deep when mining completed. Open cut will become a lake.

Tenure Type/Number	SHARE	Company Name/Surname
ML 2671	100.00%	ERNEST HENRY MINING PTY LTD
ML 90041	100.00%	ERNEST HENRY MINING PTY LTD
ML 90072	100.00%	ERNEST HENRY MINING PTY LTD
ML 90075	100.00%	ERNEST HENRY MINING PTY LTD
ML 90085	100.00%	ERNEST HENRY MINING PTY LTD
ML 90100	100.00%	ERNEST HENRY MINING PTY LTD
ML 90107	100.00%	ERNEST HENRY MINING PTY LTD
ML 90116	100.00%	ERNEST HENRY MINING PTY LTD

## Host Rock/Cover Sequences

Structural Unit

CONSTANTINE DOMAIN

Formation Name/Age

Mount Fort Constantine Volcanics / PALAEOPROTEROZOIC to PALAEOPROTEROZOIC

## Deposit Model

GENERAL OREBODY MODEL

BRECCIA-HOSTED

DETAILED OREBODY MODEL

IRON-OXIDE CU-AU (-U-REE)

## Mineralisation Age

ORE

MESOPROTEROZOIC

~1510 to 1500 Ma. Ore is mainly hosted in an infill-supported hydrothermal breccia that grades to veining at the margins. Ore largely composed of magnetite, calcite, pyrite, biotite, K-feldspar, chalcopyrite, garnet, barite, fluorite, quartz & molybdenite

# Queensland Minerals

## A Summary of Major Mineral Resources, Mines and Projects, 2014

### Comments

The mineralisation at Ernest Henry is developed in a SE dipping, S to SSE plunging body of altered and variably brecciated felsic volcanic rocks. The ore assemblage of the primary zone is dominated by chalcopyrite within a magnetite-carbonate gangue. Copper and gold ratios are very consistent throughout the deposit. Gold occurs in the chalcopyrite crystal lattice. Supergene mineralisation is complex, with copper occurring as native copper, bornite, chalcocite and secondary chalcopyrite. Ernest Henry produces copper concentrates (containing gold) that are trucked to Mount Isa for smelting or sent to Townsville for export. In 2005/06, Cu and Au head grades were 24% lower, in line with the mine plan.

In November 2007, Barmenco was awarded the contract to develop a 3.2km decline at the mine as part of Xstrata's plan to convert the mine to an underground operation.

On 3 December 2009, Xstrata announced approvals for a total investment of US\$542 million to extend the life of the Ernest Henry mine until at least 2024. The open pit operations will be converted to underground and a magnetite extraction plant constructed

Construction of the underground mine commenced in the first half of 2010, with first production in late 2011 and full scale operation from early 2013. First underground ore mining from the access decline commenced Dec 2012

Construction of the magnetite plant commenced in the first half of 2010, with commissioning by the beginning of 2011. Magnetite was produced until a business review resulted in the suspension of magnetite production in July 2013.

First shipment of magnetite ore from Ernest Henry to the Asian steel industry was reported in the media (North West Star, 15 June 2011).

Stockpiles at Ernest Henry mine were set to produce 1.2Mt of magnetite concentrate per year

In 2012 Xstrata reported that Cu in concentrate production at Ernest Henry increased by 34% compared to 2010 to reach a total of 100300t. Production from the final high grade ore zone of the open pit operation and processing stockpiled ore boosted volumes

In 2012 project is ongoing to convert mining operations into an underground mine (BR9789). XSTRATA recognised improved ore grades at Ernest Henry largely offsetting lower head grades at other international operations.

In 2012 Xstrata reported that the open cut ore reserve was depleted by 17Mt of ore @ 1.0%Cu, 0.5g/t Au. Mining of the open cut fully depleted the reserves and resources by December 2011 (BR9808).

magnetite resources will be mined and probably end up on a stockpile.

In late 2013 Glencore reported a current expected mine life of 13 years (within the life of the current mining tenure, due to expire in 2026 (BR10304). Even though magnetite is no longer reported as a resource material containing some of the 2011

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### Web Page

<http://www.glencorexstrata.com/>

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 43683 FAIRCHANCE

### OPERATING MINE

Descriptive Location: 12.0 KM SE OF MOUNT MOLLOY.

1:100 000 sheet Number and Name: 7964 RUMULA

Grid Reference: Zone 55 329834 mE 8146350 mN

Latitude -16.7596 Longitude 145.4035

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Fair Chance  
The Bluff  
Yalkula  
Mount Molloy Lime

Commodities	Size	Size Definition
LIMESTONE	SMALL	100 000 - 2 000 000 tonnes LST

### Production Details

Period: 1-Jan-1900 to 31-Dec-1995  
LIMESTONE CRUSHED ROCK 60,800.0 tonnes  
Period: 1-Jul-2000 to 30-Jun-2014  
LIMESTONE CRUSHED ROCK 145,745.8 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
1900	to 1957	Intermittent quarrying for use as flux in the Mount Molloy copper smelter.
2000		Quarried for crushed limestone by MJ Wilkins.

### Mining Operations

OPEN CUT MINING

### Comments

Tenure Type/Number	SHARE	Company Name/Surname	Christian Name
ML 4828	33.00%	WILKINS	Maxwell John
ML 4828	33.00%	WILKINS	Robert James
ML 4828	33.00%	WILKINS	Russell Ross

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
HODGKINSON PROVINCE	Hodgkinson Formation/1 / DEVONIAN to DEVONIAN

### Deposit Model

GENERAL OREBODY MODEL	SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL	LIMESTONE DEPOSIT

### Mineralisation Age

ORE MIDDLE DEVONIAN

### Comments

This deposit has been sporadically quarried since the turn of the century, at which time the limestone was used in the Mount Molloy copper smelter. The deposit comprises a solitary bluff of pale grey recrystallised limestone. The limestone is pure, amorphous, and retains no evidence of bedding.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 483529 FLINDERS

### OPERATING MINE

Descriptive Location: IMMEDIATELY SOUTH OF FLINDERS RAIL STATION, 22.5KM S OF IPSWICH, 45KM WEST OF BRISBANE.

1:100 000 sheet Number and Name: 9442 IPSWICH

Grid Reference: Zone 56 472141 mE 6922137 mN

Latitude -27.8250 Longitude 152.7171

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Area 181 & 188

Commodities	Size	Size Definition
EARTHY LIME / DOLOMITE (AGRICULTURAL)	LARGE	>1 000 000 tonnes ELIM

### Production Details

Period: 1-Jan-1937 to 31-Dec-1960

EARTHY LIME / DOLOMITE (AGRICULTURAL) 91,834.0 tonnes

Period: 1-Jan-1961 to 31-Dec-1973

EARTHY LIME / DOLOMITE (AGRICULTURAL) 70,618.0 tonnes

Period: 1-Jul-1999 to 30-Jun-2014

EARTHY LIME / DOLOMITE (AGRICULTURAL) 51,643.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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Mining Operations	Comments
OPEN CUT MINING	Shallow opencuts into hillside.

Tenure Type/Number	SHARE	Company Name/Surname	Christian Name
ML 4548	100.00%	GILMOUR	Gordon Wallace
ML 50138	1.00%	GILMOUR	Gordon Wallace
ML 50138	1.00%	GILMOUR	Jessie Helen Mary
ML 50138	98.00%	FLINDERS TRADING PTY LTD	

### Host Rock/Cover Sequences

Structural Unit

Formation Name/Age

AMBERLEY BASIN

Flinders Dolomite / TERTIARY to TERTIARY

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

DOLOMITE DEPOSIT

### Mineralisation Age

ORE

EOCENE

### Comments

The dolomite is a medium-to coarse-grained mixture of carbonates containing 60% dolomite, 30% ankerite and a small amount of manganiferous siderite that overlies the Walloon Coal Measures.

Part of the Flinders dolomite deposit was mapped and tested with a program of 78 drillholes totalling 867m. The dolomite extends along a low meridional ridge over a length of about 5km and a width of 1km.

The average thickness of dolomitic material is 10m, under 0.9m of soil and clay. A bed of palygorskite clay underlies much of the dolomite.

### Web Page

[www.flinderstrading.com/product\\_description.htm](http://www.flinderstrading.com/product_description.htm)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 480042 FLYING COW

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 14.7 KM SE OF FORSAyth.

1:100 000 sheet Number and Name: 7660 FORSAyth

Grid Reference: Zone 54 785021 mE 7932366 mN

Latitude -18.6805 Longitude 143.7021

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
GOLD	SMALL	0.5 - 5 tonnes AU
SILVER	VERY SMALL	<5 tonnes AG
COPPER	VERY SMALL	<500 tonnes CU

### Production Details

#### Published Reserves/Resources

BR 9705 Published in 2011

**FLYING COW**  
**INFERRED MINERAL RESOURCE** 16,300 tonnes Ore @  
31.00 g/t GOLD FOR 505 Kilograms GOLD

Based on surface outcrop and interpreted continuity to 50m depth.

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 9705	2011	ALTIVS MINING LIMITED	PROSPECTUS FOR INITIAL PUBLIC OFFERING.	ALTIVS MINING LIMITED, MELBOURNE.

#### Major Mining Related Events

Year Commenced	Year Completed	Comments
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#### Mining Operations

#### Comments

SHAFTS

ADITS

UNDERGROUND MINING METHODS

Tenure Type/Number	SHARE	Company Name/Surname
ML 3418	100.00%	AUSTRALIA UNITED MINING LIMITED

#### Host Rock/Cover Sequences

*Structural Unit*

ETHERIDGE PROVINCE

*Formation Name/Age*

Lane Creek Formation / PALAEOPTEROZOIC to PALAEOPTEROZOIC

#### Deposit Model

#### Mineralisation Age

#### Comments

This prospect was not field checked. It was delineated from rock chip samples that gave an average assay of 18.6g/t Au.

Gold mineralisation was identified in two of seven costeans where a width of 1.53 m gave an average assay of 0.5 g/t Au and 3.72 g/t Ag and a width of 1m gave an average assay of 0.5g/t Au and 3.00g/t Ag.

Percussion drill samples taken from the 34 to 36 m level gave a best average assay of 24.9g/t Au and 84g/t Ag. Mineralisation in this drillhole comprises unoxidised pyritised pyrrhotite.

The mineralisation was thought to represent an inverted "u", suggesting a saddle reef. Samples from the best mineralised interval of the core hole (35.1 to 36.15 m) assayed 0.34% Cu, 1.2g/t Au and 17g/t Ag (CR 10874).

Six percussion holes (294 m) were drilled to test the palaeoplacer potential of Mesozoic sediments in the area; results were discouraging. A down-hole applied potential survey returned ambiguous results (CR 12020).

Altius Mining commenced underground mining of the Flying Cow lode in 2009. Raises were constructed in the upper level and are being extended to the surface. A lower level adit was under construction in early 2011.

Ore has been stockpiled to supply a nearby processing mill.

#### Web Page

[www.altiusmining.com.au](http://www.altiusmining.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 543331 FLYING HORSE

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: NORTH OF MOUNT ISA, 400M WEST OF MOUNT KELLY WORKINGS

1:100 000 sheet Number and Name: 6758 MAMMOTH MINES

Grid Reference: Zone 54 305450 mE 7799075 mN

Latitude -19.8948 Longitude 139.1416

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Flying Horse Deeps

Flying Horse Extended

Commodities	Size	Size Definition
COPPER	MEDIUM	50 000 - 250 000 tonnes CU

### Production Details

Period: 1-Jul-2007 to 30-Jun-2013

COPPER METAL 24,778.5 tonnes

### Published Reserves/Resources

BR 10367 Published in 2014

#### FLYING HORSE/ MK OXIDE ORE

**INDICATED MINERAL RESOURCE** 900,000 tonnes Ore @  
0.57 % COPPER **FOR** 5,130 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

Mount Kelly (MK) resource figures included here

BR 10367 Published in 2014

#### FLYING HORSE/ MK OXIDE ORE

**INFERRED MINERAL RESOURCE** 50,000 tonnes Ore @  
0.34 % COPPER **FOR** 170 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

Mount Kelly (MK) resource figures included here

BR 10367 Published in 2014

#### FLYING HORSE/ MK OXIDE ORE

**MEASURED MINERAL RESOURCE** 1,600,000 tonnes Ore @  
0.61 % COPPER **FOR** 9,760 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

Mount Kelly (MK) resource figures included here

BR 10367 Published in 2014

#### FLYING HORSE/ MK SULPHIDE ORE

**INDICATED MINERAL RESOURCE** 5,800,000 tonnes Ore @  
0.85 % COPPER **FOR** 49,300 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

Mount Kelly (MK) resource figures included here

BR 10367 Published in 2014

#### FLYING HORSE/ MK SULPHIDE ORE

**INFERRED MINERAL RESOURCE** 4,000,000 tonnes Ore @  
0.77 % COPPER **FOR** 30,800 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

Mount Kelly (MK) resource figures included here

BR 10367 Published in 2014

#### FLYING HORSE/ MK SULPHIDE ORE

**MEASURED MINERAL RESOURCE** 1,000,000 tonnes Ore @  
1.15 % COPPER **FOR** 11,500 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

Mount Kelly (MK) resource figures included here

BR 10367 Published in 2014

#### FLYING HORSE/MK TRANSITION ORE

**INDICATED MINERAL RESOURCE** 1,600,000 tonnes Ore @  
0.67 % COPPER **FOR** 10,720 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

Mount Kelly (MK) resource figures included here

BR 10367 Published in 2014

#### FLYING HORSE/MK TRANSITION ORE

**INFERRED MINERAL RESOURCE** 100,000 tonnes Ore @  
0.56 % COPPER **FOR** 560 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

Mount Kelly (MK) resource figures included here

BR 10367 Published in 2014

#### FLYING HORSE/MK TRANSITION ORE

**MEASURED MINERAL RESOURCE** 1,200,000 tonnes Ore @  
0.65 % COPPER **FOR** 7,800 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

Mount Kelly (MK) resource figures included here

Resource figures listed above are JORC compliant.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

Published Reference ID	Year	Author	Title	Source
BR 10367	2014	GOLDER ASSOCIATES	CST MINING GROUP LIMITED; LADY ANNIE RESOURCE STATEMENT FOR FEBRUARY 2014	ANNOUNCEMENT TO THE STOCK EXCHANGE OF HONG KONG LIMITED, 30 MAY 2014. CST MINING GROUP LIMITED, MELBOURNE.

## Major Mining Related Events

Year Commenced	Year Completed	Comments
2007	to 2010	Pre-mining stripping commenced in 2007 (CopperCo)
2010		CST Mining Ltd took over mining and exploration operations in 2010

## Mining Operations

### Comments

OPEN CUT MINING

## Tenure Type/Number

### SHARE

### Company Name/Surname

ML	5446	100.00%	CST MINERALS LADY ANNIE PTY LIMITED
ML	5448	100.00%	CST MINERALS LADY ANNIE PTY LIMITED

## Host Rock/Cover Sequences

### Structural Unit

### Formation Name/Age

MOUNT OXIDE DOMAIN

Paradise Creek Formation / PALAEOPROTEROZOIC to  
PALAEOPROTEROZOIC

## Deposit Model

GENERAL OREBODY MODEL

HYDROTHERMAL VEINS/PIPE/STOCKWORK

DETAILED OREBODY MODEL

PROTEROZOIC STRUCTURALLY-CONTROLLED  
COPPER-GOLD

## Mineralisation Age

ORE

MESOPROTEROZOIC

## Comments

Copper mineralisation is controlled by a series of subparallel, en echelon shear zones that trend west-north-west and are associated with a splay off the Mount Kelly Fault.

The Flying Horse and Flying Horse Extended oxide resource estimates have been combined and include proved and probable reserves of 1.741 Mt at 0.75% Cu.

Deeper drilling beneath the oxide copper resource in late 2007 returned intercepts of 11m at 3.57% Cu from 132m, 21m at 2.86% Cu from 77m, 15m at 1.86% Cu from 81m, 34m at 1.02% Cu from 254m, 6m at 1.37% Cu from 106m and 20m at 0.79% Cu from 127m.

Drill intersections announced in April 2008 included 48m at 1.31% Cu from 124m, 60m at 1% Cu from 122m, 24m at 2.57% Cu from 221m and 13m at 3.21% Cu from 203m (including 6m at 6.42% Cu from 204m).

Pre-mining stripping continued in late 2008.

CopperCo went into voluntary administration in November 2008. Cape Lambert Iron Ore Ltd purchased CopperCo's assets in June 2009.

An Initial Public Offering to form a new company to manage the Lady Annie project is planned.

The Flying Horse and Mt Kelly resource estimates have been combined in the 2010 CST mining Ltd resource estimates.

CST Mining resumed mining and exploration at Lady Annie project in September 2010 (CST is registered in the Hong Kong Exchanges: Code 985). New resources for Flying Horse and Mount Kelly reported together in this site.

## Web Page

<http://www.cstmining.com>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 494053 GEORGE FISHER NORTH

OPERATING MINE

Descriptive Location: 19.2KM N OF MT ISA.

1:100 000 sheet Number and Name: 6756 MOUNT ISA

Grid Reference: Zone 54 340820 mE 7726465 mN

Latitude -20.5539 Longitude 139.4730

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Hilton North  
George Fisher

Commodities	Size	Size Definition
ZINC	GIANT	>5 000 000 tonnes ZN
LEAD	GIANT	>5 000 000 tonnes PB
SILVER	LARGE	5 000 - 10 000 tonnes AG

### Production Details

#### Published Reserves/Resources

BR 10304 Published in 2014

#### GEORGE FISHER NORTH

**INDICATED MINERAL RESOURCE** 59,000,000 tonnes Ore @

8.30 % ZINC **FOR** 4,897,000 Tonnes ZINC

60.00 g/t SILVER **FOR** 3,540,000 Kilograms SILVER

3.70 % LEAD **FOR** 2,183,000 Tonnes LEAD

Comments/Cut Off Factor: A\$69/t net smelter return

Includes probable reserves of 37Mt at 6.9% Zn, 3.4% Pb and 56g/t Ag. As at 31 Dec 2013. Resource figures from Glencore Plc website.

BR 10304 Published in 2014

#### GEORGE FISHER NORTH

**INFERRED MINERAL RESOURCE** 57,000,000 tonnes Ore @

8.00 % ZINC **FOR** 4,560,000 Tonnes ZINC

60.00 g/t SILVER **FOR** 3,420,000 Kilograms SILVER

4.00 % LEAD **FOR** 2,280,000 Tonnes LEAD

Comments/Cut Off Factor: A\$69/t net smelter return

As at 31 Dec 2013. Resource figures from Glencore Plc website.

BR 10304 Published in 2014

#### GEORGE FISHER NORTH

**MEASURED MINERAL RESOURCE** 29,100,000 tonnes Ore @

9.11 % ZINC **FOR** 2,651,010 Tonnes ZINC

72.40 g/t SILVER **FOR** 2,106,840 Kilograms SILVER

4.26 % LEAD **FOR** 1,239,660 Tonnes LEAD

Comments/Cut Off Factor: A\$69/t net smelter return

Includes proved reserves of 21.5Mt at 7.44% Zn, 3.7% Pb and 64g/t Ag. As at 31 Dec 2013. Resource figures from Glencore Plc website.

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10304	2014	GLENCORE XSTRATA	GLENCOREXSTRATA RESOURCES & RESERVES AS AT 31 DECEMBER 2013.	HTTP://WWW.GLENCORE.COM/ NVESTORS/REPORTS-AND-RESU LTS/RESERVES-AND-RESOURCE S/ 11-FEB-2014

### Major Mining Related Events

Year Commenced	Year Completed	Comments
1996	to 1996	Underground drilling and development mining carried out as part of the first feasibility study.
1997	to 1997	Second stage feasibility study commenced.
1998	to 1998	MIM announced board approval to mine the deposit. Development of the underground mine commenced mid-1998.

**Operating Mine Life: 1999 to 2009 MIM commenced mining in 1999 after an investment of A\$243M. Currently a ten year mine plan (from 1999) that is likely to be extended with further exploration.**

Mining Operations	Comments
UNDERGROUND MINING METHODS	The ore will be hoisted up the Hilton mine shaft.

Tenure Type/Number	SHARE	Company Name/Surname
ML 8058	100.00%	MOUNT ISA MINES LIMITED

### Host Rock/Cover Sequences

Structural Unit

LEICHHARDT RIVER DOMAIN

Formation Name/Age

Urquhart Shale / PALAEOPROTEROZOIC to PALAEOPROTEROZOIC



# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, [2014](#)

## Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

SEDIMENT-HOSTED PB-ZN (SEDEX ZN-PB,  
SHALE-HOSTED ZN-PB)

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## Mineralisation Age

ORE

PALAEOPROTEROZOIC

1652+-7 Ma.

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## Comments

The George Fisher North mineralisation was discovered in 1948 following the recognition of jasper and ironstone gossans that overlie the mineralisation.

The deposit is similar to the Proterozoic shale-hosted style of deposits at Mount Isa and Hilton (George Fisher South). Orebodies occur as stacked stratiform lenses hosted by laminated, pyritic carbonaceous siltstones and separated by barren mudstones.

Production from George Fisher North is included with production for the Black Star (Mount Isa) mine.

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## Web Page

[www.glencore.com](http://www.glencore.com)

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

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**45325 GEORGE FISHER SOUTH**

OPERATING MINE

Descriptive Location: 17.3 KM N MOUNT ISA.

1:100 000 sheet Number and Name: 6756 MOUNT ISA

Grid Reference: Zone 54 340820 mE 7724565 mN

Latitude -20.5711 Longitude 139.4728

Date Recorded: 16/January/2015

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**Other Names for Deposit / Mine**

Hilton

Handlebar Hill

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**Commodities**

ZINC

**Size**

LARGE

**Size Definition**

2 000 000 - 5 000 000 tonnes ZN

LEAD

LARGE

2 500 000 - 5 000 000 tonnes PB

SILVER

LARGE

5 000 - 10 000 tonnes AG

COPPER

VERY SMALL

<500 tonnes CU

ANTIMONY

SMALL

50 - 5 000 tonnes SB

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**Production Details**

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Published Reserves/Resources

BR 10304 Published in 2014

### GEORGE FISHER SOUTH (HILTON)

**INDICATED MINERAL RESOURCE** 12,000,000 tonnes Ore @  
100.00 g/t SILVER **FOR** 1,200,000 Kilograms SILVER  
8.00 % ZINC **FOR** 960,000 Tonnes ZINC  
5.10 % LEAD **FOR** 612,000 Tonnes LEAD

Comments/Cut Off Factor: A\$69/t net smelter return

Includes probable reserves of 6.3 Mt at 6.3% Zn, 4.3% Pb and 85g/t Ag. As at 31 Dec 2013. Resource figures from Glencore Plc website.

BR 10304 Published in 2014

### GEORGE FISHER SOUTH (HILTON)

**INFERRED MINERAL RESOURCE** 17,000,000 tonnes Ore @  
100.00 g/t SILVER **FOR** 1,700,000 Kilograms SILVER  
7.00 % ZINC **FOR** 1,190,000 Tonnes ZINC  
5.00 % LEAD **FOR** 850,000 Tonnes LEAD

Comments/Cut Off Factor: A\$69/t net smelter return

As at 31 Dec 2013. Resource figures from Glencore Plc website.

BR 10304 Published in 2014

### GEORGE FISHER SOUTH (HILTON)

**MEASURED MINERAL RESOURCE** 27,000,000 tonnes Ore @  
113.00 g/t SILVER **FOR** 3,051,000 Kilograms SILVER  
8.26 % ZINC **FOR** 2,230,200 Tonnes ZINC  
5.60 % LEAD **FOR** 1,512,000 Tonnes LEAD

Comments/Cut Off Factor: A\$69/t net smelter return

Includes proved reserves of 13.8 Mt at 6.26% Zn, 4.55% Pb and 93.4g/t Ag. As at 31 Dec 2013. Resource figures from Glencore Plc website.

BR 10304 Published in 2014

### HANDLEBAR HILL O/C (OXIDE)

**INDICATED MINERAL RESOURCE** 100,000 tonnes Ore @  
60.00 g/t SILVER **FOR** 6,000 Kilograms SILVER  
3.70 % LEAD **FOR** 3,700 Tonnes LEAD  
0.40 % ZINC **FOR** 400 Tonnes ZINC

Comments/Cut Off Factor: A\$25/t net smelter return.

As at 31 Dec 2013. Resource figures from Glencoe Plc website.

BR 10304 Published in 2014

### HANDLEBAR HILL O/C (OXIDE)

**MEASURED MINERAL RESOURCE** 490,000 tonnes Ore @  
88.80 g/t SILVER **FOR** 43,512 Kilograms SILVER  
8.52 % LEAD **FOR** 41,748 Tonnes LEAD  
0.37 % ZINC **FOR** 1,813 Tonnes ZINC

Comments/Cut Off Factor: A\$25/t net smelter return.

Includes proved reserves of 0.49Mt at 0.37% Zn, 8.52% Pb and 88.8g/t Ag. As at 31 Dec 2013. Resource figures from Glencore Plc website.

BR 10304 Published in 2014

### HANDLEBAR HILL O/C (PRIMARY)

**INDICATED MINERAL RESOURCE** 4,700,000 tonnes Ore @  
5.90 % ZINC **FOR** 277,300 Tonnes ZINC  
33.00 g/t SILVER **FOR** 155,100 Kilograms SILVER  
1.90 % LEAD **FOR** 89,300 Tonnes LEAD

Comments/Cut Off Factor: A\$25/t net smelter return.

Includes probable reserves of 0.8Mt at 7.4% Zn, 2.3% Pb and 38g/t Ag. As at 31 Dec 2013. Resource figures from Glencore Plc website.

BR 10304 Published in 2014

### HANDLEBAR HILL O/C (PRIMARY)

**INFERRED MINERAL RESOURCE** 1,200,000 tonnes Ore @  
5.00 % ZINC **FOR** 60,000 Tonnes ZINC  
20.00 g/t SILVER **FOR** 24,000 Kilograms SILVER  
2.00 % LEAD **FOR** 24,000 Tonnes LEAD

Comments/Cut Off Factor: A\$25/t net smelter return.

As at 31 Dec 2013. Resource figures from Glencore Plc website.

BR 10304 Published in 2014

### HANDLEBAR HILL O/C (PRIMARY)

**MEASURED MINERAL RESOURCE** 1,780,000 tonnes Ore @  
7.40 % ZINC **FOR** 131,720 Tonnes ZINC  
36.70 g/t SILVER **FOR** 65,326 Kilograms SILVER  
2.33 % LEAD **FOR** 41,474 Tonnes LEAD

Comments/Cut Off Factor: A\$25/t net smelter return.

Includes proved reserves of 0.22Mt at 9.5% Zn, 2.36% Pb and 31.4g/t Ag. As at 31 Dec 2013. Resource figures from Glencore Plc website.

Resource figures listed above are JORC compliant.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

Published Reference ID	Year	Author	Title	Source
BR 10304	2014	GLENCORE XSTRATA	GLENCOREXSTRATA RESOURCES & RESERVES AS AT 31 DECEMBER 2013.	HTTP://WWW.GLENCORE.COM/ INVESTORS/REPORTS-AND-RESU LTS/RESERVES-AND-RESOURCE S/ 11-FEB-2014

## Major Mining Related Events

Year Commenced	to	Year Completed	Comments
1947		1947	Outcropping mineralisation found by S.R. Carter.
1966		1975	Shaft excavation.
1987		1989	Trial production commenced in June 1987 and 100000t of ore was raised by December 1987. Trial bench stoping commenced in March 1989. The first sublevel open stope began production in November 1989.
1989		2003	Mining by Mount Isa Mines Limited. Most ore was treated at the Hilton concentrator and the concentrates sent to Mount Isa for treatment.
2003			Mount Isa Mines Ltd was taken over by Xstrata Plc.

## Mining Operations

## Comments

UNDERGROUND MINING METHODS  
SHAFTS  
STOPING  
OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 8058	100.00%	MOUNT ISA MINES LIMITED

## Host Rock/Cover Sequences

*Structural Unit*

*Formation Name/Age*

LEICHHARDT RIVER DOMAIN

Urquhart Shale / PALAEOPROTEROZOIC to PALAEOPROTEROZOIC

## Deposit Model

GENERAL OREBODY MODEL SEDIMENT-HOSTED DEPOSIT  
DETAILED OREBODY MODEL SEDIMENT-HOSTED PB-ZN (SEDEX ZN-PB,  
SHALE-HOSTED ZN-PB)

## Mineralisation Age

ORE PALAEOPROTEROZOIC 1652+-7 Ma.

## Comments

Production from Hilton (George Fisher South) began in 1987. The ore is processed at Mount Isa and production figures are included in those from the Black Star (Mount Isa) Mine.

The Hilton orebodies occur in the same rock-type as Mount Isa but are more faulted, jointed, and cross-cut by intrusive dykes.

In June 2007, Xstrata announced that it will open cut the Handlebar Hill deposit after drilling confirmed a 4.3Mt reserve. Development was placed on care and maintenance in February 2009.

In 2012 Xstrata reported commissioning of 40000t/a Zn-Pb deposit during the second half of 2011 (BR9789).

## Web Page

www.xstrata.com

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 588517 GOSFORD QUARRY

### OPERATING MINE

Descriptive Location: EAST OF AIR FORCE ROAD, NORTH OF GOLD MINE RD, HELIDON.

1:100 000 sheet Number and Name: 9342 HELIDON

Grid Reference: Zone 56 412040 mE 6956903 mN

Latitude -27.5086 Longitude 152.1094

Date Recorded: 14/January/2015

### Other Names for Deposit / Mine

Ablatio Sandstone 2

Cathedral Quarry

Commodities	Size	Size Definition
BUILDING STONE	VERY SMALL	<100 000 tonnes BLST
SANDSTONE	SMALL	10 000 - 100 000 tonnes SST

### Production Details

Period: 1-Jul-1997 to 30-Jun-2014

SANDSTONE

31,260.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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Mining Operations	Comments
OPEN CUT MINING	

Tenure Type/Number	SHARE	Company Name/Surname
ML 50199	100.00%	GOSFORD QUARRIES (PROPERTIES) PTY LIMITED

### Host Rock/Cover Sequences

*Structural Unit*

CLARENCE-MORETON BASIN

*Formation Name/Age*

Helidon Sandstone / TRIASSIC to TRIASSIC

### Deposit Model

### Mineralisation Age

ORE

### Comments

Albatro Pty Ltd was set up by the Anglican Church to secure a source of sandstone for restoration of St Johns Cathedral in Brisbane. The company also produces sandstone for the domestic and overseas markets.

In 2011 Gosford Pty bought the the northern portion of Ablatio quarry from Ablatio Pty Ltd and the Anglican Church.

### Web Page

<http://www.gosfordquarries.com.au/>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 512806 GREAT AUSTRALIA MINE

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 106 KM E OF MOUNT ISA, 1.8 KM S OF CLONCURRY

1:100 000 sheet Number and Name: 7056 CLONCURRY

Grid Reference: Zone 54 449036 mE 7708687 mN

Latitude -20.7206 Longitude 140.5105

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Great Australian  
Great Australia Lode  
Great Australia  
Main Lode

Commodities	Size	Size Definition
COPPER	SMALL	500 - 50 000 tonnes CU
GOLD	VERY SMALL	<0.5 tonnes AU

### Production Details

Period: 1-Jan-1868 to 31-Dec-1946		34,510 tonnes HARD ROCK ORE (OR REEF)
COPPER	METAL	2,736.5 tonnes 7.90 percent
Period: 1-Jan-1938 to 31-Dec-1942		284 tonnes HARD ROCK ORE (OR REEF)
GOLD	BULLION	0.5 kilograms 1.70 grams per tonne
Period: 1-Jan-1953 to 31-Dec-1968		2,448 tonnes HARD ROCK ORE (OR REEF)
COPPER	METAL	118.9 tonnes 4.90 percent
Period: 1-Jul-1996 to 30-Jun-2002		
COPPER	PLATE	10,097.9 tonnes
Period: 1-Jul-2010 to 1-Jun-2014		
GOLD	METAL	5.6 kilograms
COPPER	METAL	9,107.7 tonnes

### Published Reserves/Resources

BR 10184 Published in 2012

#### GREAT AUSTRALIA

**INDICATED MINERAL RESOURCE** 1,400,000 tonnes Ore @  
1.53 % COPPER **FOR** 21,420 Tonnes COPPER  
0.13 g/t GOLD **FOR** 182 Kilograms GOLD

Comments/Cut Off Factor: 0.5% Cu cutoff

BR 10184 Published in 2012

#### GREAT AUSTRALIA

**INFERRED MINERAL RESOURCE** 800,000 tonnes Ore @  
1.57 % COPPER **FOR** 12,560 Tonnes COPPER  
0.14 g/t GOLD **FOR** 112 Kilograms GOLD

Comments/Cut Off Factor: 0.5% Cu cutoff.

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10184	2012	EXCO RESOURCES LTD	MARKET RELEASE: QUEENSLAND EXPLORATION UPDATE; 2012 FIELD PROGRAMME HAS COMMENCED	ANNOUNCEMENT TO THE AUSTRALIAN SECURITIES EXCHANGE, 20 APRIL 2012. EXCO RESOURCES LTD, PERTH.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Major Mining Related Events

Year Commenced	to	Year Completed	Comments
1867	to	1868	The deposit was discovered by Ernest Henry in 1867 and was first worked in 1868, resulting in the establishment of Cloncurry. Henry engaged a Cornish captain and 30 miners to work the mine, but these soon departed.
1869	to	1884	The mine was worked spasmodically.
1884	to	1884	The Cloncurry Copper Mining and Smelting Company was floated in 1884 and purchased the mine from Ernest Henry. Two charcoal-fired water jacket furnaces were erected in 1884 and 200 to 300 men were initially employed.
1885	to	1889	The workforce employed declined and only 3700t of ore was treated before operations ceased in 1889 due to the low copper price.
1889	to	1906	The mine was idle.
1906	to	1908	The Queensland Exploration Company commenced cleaning out the old workings in 1906 and carried out exploratory work in 1907. Two reverberatory furnaces were erected and the old water jacket furnaces were refurbished.
1909	to	1913	The company had overcapitalised and had to close the mine in 1909. However, it kept the pumps running.
1914	to	1918	The Mount Elliott Company purchased the mine in 1914. Its subsidiary, the Dobbin and Cloncurry Copper Mines Ltd, carried out development and produced cupriferos limestone flux for the Mount Elliott smelters. The mine was abandoned in 1918.
1920	to	1923	Worked by tributers.
1937	to	1946	Worked by tributers.
1996	to	2000	Open cut mining and SX-EW treatment by Great Australia Copper Mining Company (Cloncurry Mining Company NL).
2000	to	2006	Operations by Nullabor Mining.
2006	to	2011	Acquired by Exco Resources NL.
2011			Property was acquired by CopperChem and mining commenced, under a royalty agreement with Exco Resources NL.

## Mining Operations

## Comments

SHAFTS

UNDERGROUND MINING METHODS

OPEN CUT MINING

## Tenure Type/Number

## SHARE

## Company Name/Surname

ML

90065

100.00%

COPPERCHEM LIMITED

## Host Rock/Cover Sequences

*Structural Unit*

CONSTANTINE DOMAIN

SOLDIERS CAP DOMAIN

*Formation Name/Age*

Corella Formation / PALAEOPROTEROZOIC to  
PALAEOPROTEROZOIC

Staveley Formation/2br / PALAEOPROTEROZOIC to  
PALAEOPROTEROZOIC

## Deposit Model

GENERAL OREBODY MODEL

DETAILED OREBODY MODEL

HYDROTHERMAL VEINS/PIPE/STOCKWORK

PROTEROZOIC STRUCTURALLY-CONTROLLED  
COPPER-GOLD

## Mineralisation Age

ORE

MESOPROTEROZOIC

sulphide and oxide zone minerals listed

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Comments

Mineralisation occurs at the intersection of north and north-east trending structures. Ore occurs in two, structurally discrete bodies, ~900m apart, referred to as the Main and Paddock Lodes. The Orphan Shear deposit occurs 150m NE of the Main Lode. Both structures are mineralised to widths of 5 to 6m. The mineralised zone is >20m wide at the intersection and extends for 150 to 200m northerly. Two main ore types recorded - oxidised ore; and chalcopyrite-pyrite-dolomite ore below 60m depth. The Great Australia copper deposit was discovered in 1867 and worked intermittently up to 1946. From 1996 to 2002, Cloncurry Mining Company and later Nullabor Mining produced cathode copper plate via a SX-EW plant near the Great Australia open cut. This treatment plant and associated mining leases were acquired by Exco Resources NL in 2006. A scoping study was completed in March 2007 over the Great Australian Mine and surrounding prospects. In 2012 Exco Resources was taken over by Washington H Soul Pattinson & Co Ltd. A copper concentrate plant to treat the sulphide ore commenced operation in the third quarter of 2011. In 2012 the levels of native copper present in the ore have impacted the plants performance and the company has commenced mining the Orphan Shear, located 150m along strike to the NE of the Great Australia open pit to improve Cu-sulphide production. CopperChem Ltd commenced mining of oxide ore (under a royalty arrangement with Exco Resources Ltd) in the first half of 2011. In May 2013 CopperChem announced a non-JORC reserve and resource on their webpage: the uncatagorised reserves for GAM are 60000 t at 1.4% Cu and 0.1 g/t Au and the uncatagorised resources are 3 Mt at 1.06% Cu and 0.08 g/t Au (BR10368).

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## Web Page

[www.excoresources.com.au](http://www.excoresources.com.au), [www.copperchem.com.au/](http://www.copperchem.com.au/)

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 37975 GREENWOOD

### OPERATING MINE

Descriptive Location: 51.2KM EAST OF CLONCURRY, 169.2KM EAST OF MOUNT ISA.

1:100 000 sheet Number and Name: 7156 OORINDI

Grid Reference: Zone 54 500270 mE 7715166 mN

Latitude -20.6628 Longitude 141.0026

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
LIMESTONE	MEDIUM	2 000 000 - 10 000 000 tonnes LST

### Production Details

Period: 1-Jul-2003 to 30-Jun-2014

LIMESTONE METALLURGICAL ORE 684,470.8 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
2003	to 2006	Limestone produced from ML 2722 for use as flux in Mount Isa smelters.
	2003	Limestone mainly produced from ML 2721. No production figures available.

### Mining Operations

### Comments

PITS

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 2721	100.00%	MOUNT ISA MINES LIMITED
ML 2722	100.00%	MOUNT ISA MINES LIMITED
ML 2723	100.00%	MOUNT ISA MINES LIMITED
ML 2724	100.00%	MOUNT ISA MINES LIMITED

### Host Rock/Cover Sequences

*Structural Unit*

*Formation Name/Age*

EROMANGA BASIN

Toolebuc Formation / EARLY CRETACEOUS to EARLY CRETACEOUS

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

LIMESTONE DEPOSIT

### Mineralisation Age

ORE

CRETACEOUS

### Comments

MLs 2721, 2722, 2723 and 2724 (Greenwood Nos 1 to 4, respectively) are held by Mount Isa Mines Ltd. Limestone is quarried for use as a flux in the Mount Isa smelters.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 45114 GRO-FAST

### OPERATING MINE

Descriptive Location: 8.7 KM WSW OF MALANDA, ATHERTON TABLELAND, SOUTH OF CAIRNS.

1:100 000 sheet Number and Name: 8063 BARTLE FRERE

Grid Reference: Zone 55 342614 mE 8077169 mN Latitude -17.3856 Longitude 145.5185 Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
PEAT		

### Production Details

Period: 1-Jul-1996 to 30-Jun-2014

PEAT 25,564.5 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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Mining Operations	Comments
SURFACE MINING METHODS	

Tenure Type/Number	SHARE	Company Name/Surname
ML 4317	100.00%	TABLELAND PEAT PTY LTD

### Host Rock/Cover Sequences

*Structural Unit*

ATHERTON BASALT PROVINCE

*Formation Name/Age*

Atherton Basalt / TERTIARY to QUATERNARY

### Deposit Model

GENERAL OREBODY MODEL SEDIMENT-HOSTED DEPOSIT

### Mineralisation Age

ORE CENOZOIC

### Comments

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493994 GURULMUNDI

### OPERATING MINE

Descriptive Location: 4 KM SOUTH EAST OF GURULMUNDI, 30KM NORTH OF MILES, 315KM WEST OF BRISBANE.

1:100 000 sheet Number and Name: 8945 GULUGUBA

Grid Reference: Zone 56 207673 mE 7071434 mN

Latitude -26.4473 Longitude 150.0686

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Australian Bentonite Mine

Ausben No.1

Commodities	Size	Size Definition
BENTONITE	MEDIUM	200 000 - 20 000 000 tonnes BENT

### Production Details

Period: 1-Jul-1996 to 30-Jun-2012

BENTONITE 1,035,038.0 tonnes

### Published Reserves/Resources

#### *INFERRED MINERAL RESOURCE*

12,000,000 Tonnes BENTONITE

Of this resource there is 3 Mt of premium grade sodium bentonite. pers comm D Carmichael.

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced Year Completed Comments

### Mining Operations

OPEN CUT MINING

### Comments

Tenure Type/Number	SHARE	Company Name/Surname
ML 5907	100.00%	SIBELCO AUSTRALIA LIMITED
ML 5909	100.00%	SIBELCO AUSTRALIA LIMITED
ML 50058	100.00%	SIBELCO AUSTRALIA LIMITED

### Host Rock/Cover Sequences

Structural Unit

Formation Name/Age

SURAT BASIN

Orallo Formation / JURASSIC to JURASSIC

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

SEDIMENTARY CLAY DEPOSITS

### Mineralisation Age

ORE

JURASSIC

### Comments

Three bentonite seams occur with a combined thickness of 6m. Production averages 40,000 to 100,000tpa. Unimin Australia Ltd produce sodium bentonite for local and export industrial and feedstock markets.

### Web Page

<http://www.sibelco.com.au/>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 504553 HUGHENDEN GYPSUM

### OPERATING MINE

Descriptive Location: 8 KM WEST OF HUGHENDEN, 310KM WEST OF TOWNSVILLE.

1:100 000 sheet Number and Name: 7756 HUGHENDEN

Grid Reference: Zone 55 196505 mE 7694799 mN

Latitude -20.8220 Longitude 144.0842

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Burdekin Lime Company Gypsum

Dino 4

Dino 5

Dino 1

Dino 2

Dino 3

### Commodities

GYPSUM

Size  
SMALL

### Size Definition

5 000 - 5 000 000 tonnes GYP

### Production Details

Period: 1-Jul-1996 to 30-Jun-2014

GYPSUM

248,237.0 tonnes

### Published Reserves/Resources

BR 6194 Published in 1999

### INFERRED MINERAL RESOURCE

400,000 Tonnes GYPSUM

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 6194	1999	SMART J V	GYPSUM	MINERAL INFORMATION LEAFLET NO 26 QUEENSLAND DEPARTMENT OF MINES AND ENERGY

### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

SURFACE MINING METHODS

### Comments

Two small areas have been scraped for material to <1m depth.

Tenure Type/Number	SHARE	Company Name/Surname	Christian Name
ML 10238	100.00%	WIEBEN	Sydney
ML 10239	100.00%	WIEBEN	Sydney
ML 90089	100.00%	WIEBEN	Sydney

### Host Rock/Cover Sequences

Structural Unit

EROMANGA BASIN

Formation Name/Age

Toolebuc Formation / EARLY CRETACEOUS to EARLY CRETACEOUS

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

EVAPORITE DEPOSIT

DETAILED OREBODY MODEL

ENRICHED LIME DEPOSIT

### Mineralisation Age

ORE

QUATERNARY

### Comments

The Burdekin Lime Company Pty Ltd is mining a series of gypsum-veined earthy lime deposits occurring in a 10km long, narrow corridor of Cretaceous Toolebuc Formation.

The material is used as a soil conditioner in agriculture, mainly for cane growing and peanuts.

This is not a pure gypsum deposit but rather an earthy lime deposit with gypsum veining. Screening of the material allows a higher grade gypsum product to be produced.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 486374 IVERAGH

### OPERATING MINE

Descriptive Location: 2.4KM SE OF TANNUM SANDS, 20KM SE OF GLADSTONE.

1:100 000 sheet Number and Name: 9150 GLADSTONE

Grid Reference: Zone 56 335764 mE 7347980 mN

Latitude -23.9715 Longitude 151.3858

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Tannum Sands

Tannum Silica Sand

### Commodities

SILICA SAND

### Size

LARGE

### Size Definition

>2 500 000 tonnes SIS

### Production Details

Period: 1-Jul-1991 to 30-Jun-2014

SILICA SAND

2,417,359.0 tonnes

### Published Reserves/Resources

BR 5696 Published in 1998

### IVERAGH

#### PROVED ORE RESERVE

4,000,000 Tonnes SILICA SAND

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 5696	1998	DEPARTMENT OF MINES AND ENERGY, QUEENSLAND	QUEENSLAND MINERALS AND ENERGY REVIEW, 1997-98.	

### Major Mining Related Events

Year Commenced	Year Completed	Comments
1991		Mining by Queensland Cement Ltd commenced in 1991.

### Mining Operations

### Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 3664	100.00%	CEMENT AUSTRALIA (EXPLORATION) PTY LTD

### Host Rock/Cover Sequences

Structural Unit

MODERN COASTAL DEPOSITS

Formation Name/Age

Qhcb-YARROL/SCAG / QUATERNARY to QUATERNARY

### Deposit Model

GENERAL OREBODY MODEL

DUNE DEPOSIT

DETAILED OREBODY MODEL

DUNE DEPOSIT SILICA SAND

### Mineralisation Age

ORE

CENOZOIC

### Comments

Silica sand for the manufacture of cement clinker. Mining from a large pit in an old beachridge barrier system.

### Web Page

<http://www.cemaust.com.au>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 503698 JEEBROPILLY BENTONITE

### OPERATING MINE

Descriptive Location: 7KM SW OF IPSWICH

1:100 000 sheet Number and Name: 9442 IPSWICH

Grid Reference: Zone 56 464405 mE 6941004 mN

Latitude -27.6545 Longitude 152.6391

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
BENTONITE	SMALL	2 000 - 200 000 tonnes BENT

### Production Details

Period: 1-Jul-1998 to 30-Jun-2010	
BENTONITE	68,268.0 tonnes
Period: 1-Jul-2000 to 30-Jun-2004	
GRAVEL	2,146.0 tonnes
Period: 1-Jul-2004 to 30-Jun-2005	
CLAY	938.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

### Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 4677	100.00%	JEEBROPILLY COLLIERIES PTY LTD
ML 4689	100.00%	JEEBROPILLY COLLIERIES PTY LTD
ML 4710	100.00%	JEEBROPILLY COLLIERIES PTY LTD
ML 50132	100.00%	JEEBROPILLY COLLIERIES PTY LTD
ML 50133	100.00%	JEEBROPILLY COLLIERIES PTY LTD

### Host Rock/Cover Sequences

Structural Unit

Formation Name/Age

CLARENCE-MORETON BASIN

Walloon Subgroup / JURASSIC to JURASSIC

### Deposit Model

GENERAL OREBODY MODEL	SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL	SEDIMENTARY CLAY DEPOSITS

### Mineralisation Age

ORE	JURASSIC
-----	----------

### Comments

Calcium magnesium bentonite was recovered as a byproduct from the Jeebropilly open-cut coal mine and has been stockpiled for processing and sale.

### Web Page

<http://www.newhopecoal.com.au>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 486400 KENNEDY CREEK

### OPERATING MINE

Descriptive Location: 70 KM SW OF SARINA, 295KM NW OF GLADSTONE.

1:100 000 sheet Number and Name: 8654 NEBO

Grid Reference: Zone 55 701674 mE 7566935 mN Latitude -21.9904 Longitude 148.9534 Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
EARTHY LIME / DOLOMITE (AGRICULTURAL)	LARGE	>1 000 000 tonnes ELIM

### Production Details

Period: 1-Jul-2008 to 30-Jun-2014

EARTHY LIME / DOLOMITE (AGRICULTURAL) 6,230.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
----------------	----------------	----------

### Mining Operations

Tenure Type/Number	SHARE	Company Name/Surname
ML 70293	75.00%	CQ DOLOMITE PTY LTD
ML 70293	25.00%	MACEGATE PTY LIMITED

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
CONNORS SUBPROVINCE	Lizzie Creek Volcanics / EARLY PERMIAN to EARLY PERMIAN

### Deposit Model

GENERAL OREBODY MODEL	RESIDUAL DEPOSIT
DETAILED OREBODY MODEL	ENRICHED LIME DEPOSIT

### Mineralisation Age

ORE	CENOZOIC
-----	----------

### Comments

Earthy lime formed by in-situ weathering of andesites.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 588110 KILKENNY NORTH

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: ~3KM W OF CRACOW, ~175KM SE OF GLADSTONE.

1:100 000 sheet Number and Name: 8947 CRACOW

Grid Reference: Zone 56 224250 mE 7200840 mN

Latitude -25.2835 Longitude 150.2617

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Crocow Gold Mine Group

Commodities	Size	Size Definition
GOLD	SMALL	0.5 - 5 tonnes AU

### Production Details

#### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
BR 10019	2012	EVOLUTION MINING LIMITED	EVOLUTION MINING MINERAL RESOURCE STATEMENT - JUNE 2012	REPORT TO THE AUSTRALIAN SECURITIES EXCHANGE. 25 SEPTEMBER 2012. EVOLUTION MINING LIMITED, MELBOURNE.

### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

Tenure Type/Number	SHARE	Company Name/Surname
ML 80089	100.00%	LION MINING PTY LTD

### Host Rock/Cover Sequences

Structural Unit

AUBURN SUBPROVINCE

Formation Name/Age

Camboon Volcanics / LATE CARBONIFEROUS to EARLY PERMIAN

### Deposit Model

### Mineralisation Age

ORE

EARLY PERMIAN

### Comments

The ore reserves have been reported above cut-off grade of 3.0 g/t Au and based on a gold price of A\$1350 per ounce and a gold recovery of 93%. Mining depletion and a narrowing of some lode structures was also taken into account by Evolution (2012).

The mineralisation is amenable to conventional cyanide leach extraction after fine grinding, with average recoveries of 94.3% of the gold.

An exploration decline was commenced at Kilkenny in the first half of 2009. The mine is now held by Evolution Mining Limited (since 2011).

In Dec 2010 resource definition continued to validate Kilkenny, Phoenix, Tipperary & Empire shoots: Significant intercepts: KKU051:

21.1m @ 3.8g/t Au from 340m; KKU054: 10.6m @ 13g/t Au from 119m; KKU062: 9.7m @ 11g/t Au from 278m

Dec2010 (cont): KKU053: 2.0m @ 20g/t Au from 101m; KKU060: 4.8m @ 7.7g/t from 179.7m (BR9605).

The ore reserves have been reported above cut-off grade of 3.0 g/t Au and based on a gold price of A\$1350 per ounce and a gold recovery of 93%. Mining depletion and a narrowing of some lode structures was also taken into account by Evolution (2012).

### Web Page

[www.evolutionmining.com.au](http://www.evolutionmining.com.au)



# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 588056 KULTHOR

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: ~30 KM ESE OF CHATSWORTH HS, ~195KM SE OF MT ISA.

1:100 000 sheet Number and Name: 7053 TOOLEBUC

Grid Reference: Zone 54 453900 mE 7556400 mN

Latitude -22.0966 Longitude 140.5531

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Osborne Project

Commodities	Size	Size Definition
COPPER	MEDIUM	50 000 - 250 000 tonnes CU
GOLD	MEDIUM	5 - 50 tonnes AU

### Production Details

#### Published Reserves/Resources

BR 9977 Published in 2012

#### KULTHOR UNDERGROUND

**INDICATED MINERAL RESOURCE** 4,500,000 tonnes Ore @

1.50 % COPPER **FOR** 67,500 Tonnes COPPER

1.00 g/t GOLD **FOR** 4,500 Kilograms GOLD

Comments/Cut Off Factor: 1.2% equiv Cu cut-off

BR 9977 Published in 2012

#### KULTHOR UNDERGROUND

**INFERRED MINERAL RESOURCE** 5,400,000 tonnes Ore @

1.30 % COPPER **FOR** 70,200 Tonnes COPPER

0.90 g/t GOLD **FOR** 4,860 Kilograms GOLD

Comments/Cut Off Factor: 1.2% equiv Cu cut-off

BR 9977 Published in 2012

#### KULTHOR UNDERGROUND

**MEASURED MINERAL RESOURCE** 2,900,000 tonnes Ore @

1.70 % COPPER **FOR** 49,300 Tonnes COPPER

1.00 g/t GOLD **FOR** 2,900 Kilograms GOLD

Comments/Cut Off Factor: 1.2% equiv Cu cut-off

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 9977	2012	IVANHOE AUSTRALIA LIMITED	MARKET RELEASE: IVANHOE AUSTRALIA - UPGRADE TO MINERAL RESOURCE OVER 60% INCREASE IN CONTAINED METAL AT KULTHOR RESULTS ARE EXPECTED TO EXTEND OSBORNE MINE LIFE	ANNOUNCEMENT TO THE AUSTRALIAN SECURITIES EXCHANGE, 19 SEPTEMBER 2012. IVANHOE AUSTRALIA LIMITED, MELBOURNE.

### Major Mining Related Events

Year Commenced	Year Completed	Comments
2012		Ivanhoe Australia commenced production late 2012

### Mining Operations

UNDERGROUND MINING METHODS  
DECLINED SHAFTS/DRIVES

### Comments

Tenure Type/Number	SHARE	Company Name/Surname
ML 90158	100.00%	CHINOVA RESOURCES OSBORNE PTY LTD

### Host Rock/Cover Sequences

Structural Unit

KURIDALA-SELWYN DOMAIN

Formation Name/Age

Starcross Formation / PALAEOPROTEROZOIC to PALAEOPROTEROZOIC

### Deposit Model

#### Mineralisation Age

ORE

MESOPROTEROZOIC

dating at Osborne believed to be valid for this deposit too

### Comments

kulthor is a blind deposit beneath +100 m of Mesozoic sediments. Much of the mineralisation is hosted by and overprints banded quartz-magnetite-apatite ironstones developed within the host sequence of metamorphic, igneous and metasomatic rocks.

### Web Page

[www.chinovaresources.com/](http://www.chinovaresources.com/)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493528 KUNWARARA

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 60 KM NORTH-WEST OF ROCKHAMPTON.

1:100 000 sheet Number and Name: 8952 PRINCHESTER

Grid Reference: Zone 56 211246 mE 7466216 mN

Latitude -22.8870 Longitude 150.1855

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Oldman North

Commodities	Size	Size Definition
MAGNESITE	LARGE	>10 000 000 tonnes MS

### Production Details

Period: 1-Jul-1992 to 30-Jun-1993	1,951,677 cubic metres SOIL/REGOLITH
MAGNESITE	224,638.0 tonnes
Period: 1-Jul-1993 to 30-Jun-1994	2,475,725 cubic metres SOIL/REGOLITH
MAGNESITE	278,409.0 tonnes
Period: 1-Jul-1994 to 30-Jun-1995	2,500,000 cubic metres SOIL/REGOLITH
MAGNESITE	260,000.0 tonnes
Period: 1-Jul-1995 to 30-Jun-1996	MAGNESITE
	287,251.0 tonnes
Period: 1-Jul-1996 to 30-Jun-1997	2,400,000 cubic metres SOIL/REGOLITH
MAGNESITE	209,040.0 tonnes
Period: 1-Jul-1997 to 30-Jun-1998	2,310,000 cubic metres SOIL/REGOLITH
MAGNESITE	317,000.0 tonnes
Period: 1-Jul-1998 to 30-Jun-1999	2,290,000 cubic metres SOIL/REGOLITH
MAGNESITE	278,000.0 tonnes
Period: 1-Jul-1999 to 30-Jun-2000	MAGNESITE
	398,001.0 tonnes
Period: 1-Jul-2000 to 30-Jun-2001	MAGNESITE
	495,082.0 tonnes
Period: 1-Jul-2001 to 30-Jun-2002	2,169,950 cubic metres SOIL/REGOLITH
MAGNESITE	601,233.0 tonnes
Period: 1-Jul-2002 to 30-Jun-2003	2,730,895 cubic metres SOIL/REGOLITH
MAGNESITE	447,261.0 tonnes
Period: 1-Jul-2003 to 30-Jun-2014	MAGNESITE
	5,117,567.0 tonnes

### Published Reserves/Resources

BR 9837 Published in 2004

#### KG1

**MEASURED MINERAL RESOURCE** 18,500,000 tonnes Ore @  
6,200,000 Tonnes MAGNESITE

Includes proved reserves of 4.2Mt for 1.3Mt magnesite.

BR 9837 Published in 2004

#### KG2

**MEASURED MINERAL RESOURCE** 15,000,000 tonnes Ore @  
5,300,000 Tonnes MAGNESITE

Includes proved reserves of 5.8Mt for 2.3Mt magnesite and probable reserves of 6.4Mt for 2.0Mt magnesite.

BR 9837 Published in 2004

#### KG3

**INDICATED MINERAL RESOURCE** 1,700,000 tonnes Ore @  
600,000 Tonnes MAGNESITE

BR 9837 Published in 2004

#### KG3

**MEASURED MINERAL RESOURCE** 5,200,000 tonnes Ore @  
1,600,000 Tonnes MAGNESITE

Includes proved reserves of 5.0Mt for 1.6Mt magnesite.

BR 9837 Published in 2004

#### OLDMAN NORTH

**INDICATED MINERAL RESOURCE** 11,400,000 tonnes Ore @  
3,600,000 Tonnes MAGNESITE

Includes probable reserves of 10.9Mt for 3.4Mt magnesite.

Resource figures listed above are JORC compliant.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

Published Reference ID	Year	Author	Title	Source
BR 9837	2004	AUSTRALIAN MAGNESIUM CORPORATION LIMITED	AUSTRALIAN MAGNESIUM CORPORATION LIMITED ANNUAL REPORT JUNE 2004	AUSTRALIAN MAGNESIUM CORPORATION LIMITED

## Major Mining Related Events

Year Commenced	Year Completed	Comments
1985 to	1985	The presence and commercial potential of the magnesite nodules was discovered by Queensland Metals in 1985.
<b>Operating Mine Life: 1991 to 2097 Mining by Queensland Magnesia (Operations) Pty Ltd.</b>		
1997 to	1997	Major investment in mine and plant to expand capacity and reduce costs; Entry into the calcined magnesia markets - magnesia sales reach 200000tpa
2003 to	2003	Completed construction of an air pulsed gravity separator, which produces a final magnesite product without additional processing at KG1.
2004		A new company, QMAG Ltd, was formed to be the holding company of magnesite and magnesia assets.

## Mining Operations

OPEN CUT MINING

## Comments

Ore is mined on four 3m benches by conventional earth moving equipment.

SURFACE MINING METHODS

Tenure Type/Number	SHARE	Company Name/Surname
MDL 344	40.00%	QMC (KUNWARARA) PTY LIMITED
MDL 344	10.00%	QMC REFMAG PTY LTD
MDL 344	50.00%	QMCH PTY LTD
ML 5868	40.00%	QMC (KUNWARARA) PTY LIMITED
ML 5868	10.00%	QMC REFMAG PTY LTD
ML 5868	50.00%	QMCH PTY LTD
ML 5869	40.00%	QMC (KUNWARARA) PTY LIMITED
ML 5869	10.00%	QMC REFMAG PTY LTD
ML 5869	50.00%	QMCH PTY LTD
ML 80067	40.00%	QMC (KUNWARARA) PTY LIMITED
ML 80067	10.00%	QMC REFMAG PTY LTD
ML 80067	50.00%	QMCH PTY LTD

## Host Rock/Cover Sequences

*Structural Unit*

HERBERT CREEK BASIN

*Formation Name/Age*

Kunwarara Magnesite / TERTIARY to TERTIARY

## Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

NODULAR MAGNESITE

## Mineralisation Age

ORE

TERTIARY to QUATERNARY

## Comments

The deposit is considered to be the world's largest cryptocrystalline magnesite deposit.

Kunwarara is situated in a shallow freshwater sedimentary basin in which extensive flat lying sheets of loosely consolidated freshwater sediments were deposited during the Tertiary and Quaternary.

Sheet-like magnesite deposits were developed within the upper portions of these sediments due to weathering and erosion of nearby serpentinite and subsequent enrichment through diagenesis.

In February 2009, QMAG announced major production cuts at Kunwarara to reduce inventories and conserve cash. Contract mining ceased at Kunwarara and the Parkhurst processing plant was reduced to 30% of its capacity.

Production is expected to remain at these levels until the middle of 2009.

In September 2010 QMAG commenced mining at the Yaamba magnesite deposit. Initial open-cut mining involves partial processing (screening) of the ore before transporting to the KG1 plant for beneficiation.

## Web Page

[www.qmag.com.au](http://www.qmag.com.au); [www.am-technologies.com.au](http://www.am-technologies.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 494251 LADY ANNIE COPPER MINE

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 34 KM WEST-SOUTH-WEST OF GUNPOWDER, 105KM NNW OF MT ISA, 2.5 KM W OF LADY LORETTA

1:100 000 sheet Number and Name: 6758 MAMMOTH MINES

Grid Reference: Zone 54 295193 mE 7812442 mN Latitude -19.7731 Longitude 139.0452 Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Lady Annie  
Lady Annie East  
La7

Commodities	Size	Size Definition
COPPER	MEDIUM	50 000 - 250 000 tonnes CU

### Production Details

Period: 1-Jan-1937 to 31-Dec-1962		12,207 tonnes OXIDE ORE	
COPPER	OTHER	1,444.5 tonnes	11.80 percent
Period: 1-Jan-1963 to 31-Dec-1963		445 tonnes OXIDE ORE	
COPPER	OTHER	88.3 tonnes	20.20 percent
Period: 1-Jan-1964 to 31-Dec-1964		145 tonnes OXIDE ORE	
COPPER	OTHER	36.7 tonnes	25.30 percent
Period: 1-Jul-2007 to 30-Jun-2013			
COPPER	PLATE	56,736.8 tonnes	

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Published Reserves/Resources

BR 10367 Published in 2014

### LADY ANNIE OXIDE ORE

**INDICATED MINERAL RESOURCE** 1,600,000 tonnes Ore @  
0.53 % COPPER **FOR** 8,480 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff.

BR 10367 Published in 2014

### LADY ANNIE OXIDE ORE

**INFERRED MINERAL RESOURCE** 50,000 tonnes Ore @  
0.40 % COPPER **FOR** 200 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff.

BR 10367 Published in 2014

### LADY ANNIE OXIDE ORE

**MEASURED MINERAL RESOURCE** 800,000 tonnes Ore @  
0.71 % COPPER **FOR** 5,680 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff.

BR 10367 Published in 2014

### LADY ANNIE SULPHIDE ORE

**INDICATED MINERAL RESOURCE** 4,000,000 tonnes Ore @  
0.89 % COPPER **FOR** 35,600 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff.

BR 10367 Published in 2014

### LADY ANNIE SULPHIDE ORE

**INFERRED MINERAL RESOURCE** 500,000 tonnes Ore @  
0.58 % COPPER **FOR** 2,900 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff.

BR 10367 Published in 2014

### LADY ANNIE SULPHIDE ORE

**MEASURED MINERAL RESOURCE** 600,000 tonnes Ore @  
0.92 % COPPER **FOR** 5,520 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff.

BR 10367 Published in 2014

### LADY ANNIE TRANSITION ORE

**INDICATED MINERAL RESOURCE** 3,800,000 tonnes Ore @  
0.84 % COPPER **FOR** 32,760 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff.

BR 10367 Published in 2014

### LADY ANNIE TRANSITION ORE

**INFERRED MINERAL RESOURCE** 100,000 tonnes Ore @  
0.57 % COPPER **FOR** 570 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff.

BR 10367 Published in 2014

### LADY ANNIE TRANSITION ORE

**MEASURED MINERAL RESOURCE** 2,500,000 tonnes Ore @  
0.71 % COPPER **FOR** 17,750 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff.

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10367	2014	GOLDER ASSOCIATES	CST MINING GROUP LIMITED; LADY ANNIE RESOURCE STATEMENT FOR FEBRUARY 2014	ANNOUNCEMENT TO THE STOCK EXCHANGE OF HONG KONG LIMITED, 30 MAY 2014. CST MINING GROUP LIMITED, MELBOURNE.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Major Mining Related Events

Year Commenced	Year Completed	Comments
1937		Initial discovery of copper at Paradise Valley.
1953	to 1959	Worked by Sanderson and party
1959	to 1959	Copper Corporation of Australia Pty Ltd worked the mine
1996	to 2003	Buka minerals Ltd have completed mine feasibility study. Completed open pit design in 2003.
2005	to 2007	CopperCo began feasibility study on the area, for production to begin in late 2007.
2007	to 2010	Mining commenced at Mount Clarke in September 2007 quarter. Central SX-EW plant is at Lady Annie.
2010		CST Mining Ltd took over operations at Lady Annie, and started producing copper cathode in Nov 2010.

Mining Operations	Comments	
OPEN CUT MINING	BFP Consultants completed a resource estimate pit based on 2003 resource figures and 2002 resource definition drilling. Waste to ore ratio of 3.65:1.	
UNDERGROUND MINING METHODS		
SHAFTS		
Tenure Type/Number	SHARE	Company Name/Surname
ML 90179	100.00%	CST MINERALS LADY ANNIE PTY LIMITED
Host Rock/Cover Sequences	Formation Name/Age	
Structural Unit		
MOUNT OXIDE DOMAIN	Paradise Creek Formation / PALAEOPROTEROZOIC to PALAEOPROTEROZOIC	
Deposit Model		
GENERAL OREBODY MODEL	BRECCIA-HOSTED	
DETAILED OREBODY MODEL	BRECCIATED SEDIMENT-HOSTED COPPER	
Mineralisation Age		
ORE	MESOPROTEROZOIC	Supergene malachite, covellite-bornite, and primary chalcopyrite mineralisation associated with syntectonic quartz-dolomite breccia.

## Comments

Copper mineralisation is hosted within the lower part of the Paradise Creek Formation. The mineralisation is thought to be confined to a SW-dipping structure with mineralisation varying from 1-2m wide zones to greater than 20m.

The solvent extraction-electrowinning plant was progressively commissioned in August and September 2007 and copper plating commenced in September.

As at January 2007, the global resource for the Lady Annie Project stands at 22.2Mt at 0.9% Cu, including total proved and probable ore reserves of 16.4Mt at 1.0% Cu.

Mining Leases were granted in January 2007. CopperCo commenced open cut mining of the Mount Clarke orebody in June 2007.

In April 2007, CopperCo announced near-mine drilling results. The LA7 prospect, on the northern side of the resource outline, returned 20m at 0.57% Cu from 1m. Lady Annie East returned 23m at 0.53% Cu from 65m.

A new high-grade sulphide copper zone discovered immediately beneath the proposed copper oxide pit floor at Lady Annie East returned intersections including 55m @ 3.3% Cu from 134m (including 27m @ 5.93% Cu from 143m and 8m @ 10.62% Cu from 155m).

Production in 2007/08 came from ore from Mount Clarke. 2.2Mt of ore grading 0.97% Cu was mined. 2Mt grading 0.96% Cu was stacked and 11,082t of copper cathode was produced (see Mount Clarke).

Mining operations commenced at Lady Annie and Flying Horse in late 2008. A new EW section was commissioned in August 2008 and the new SX plant was completed in September 2008.

CST Mining production target: Lady Annie will produce 25000 to 30000 tpa of LME grade a Cu cathode and will employ approx 200 people (BR9811&BR9813). For 2012 CST expects production of 28000 to 30000tpa of Cu cathode.

CST invested in additional leach pads, an additional agglomerator drum and an additional acid tank for the Lady Annie plant (BR9812).

CST Mining resumed mining at Lady Annie in September 2010, with first copper cathode production in November 2010. (CST is registered in the Hong Kong Exchanges: Code 985). New resources for Lady Annie and Lady Brenda reported together.

CopperCo went into voluntary administration in November 2008. Cape Lambert Iron Ore Ltd purchased CopperCo's assets in June 2009 and later sold them to CST Mining.

## Web Page

<http://www.cstmining.com>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 494252 LADY BRENDA

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 9.6KM SW OF THE LADY ANNIE EAST LANDING GROUND

1:100 000 sheet Number and Name: 6758 MAMMOTH MINES

Grid Reference: Zone 54 294750 mE 7811750 mN

Latitude -19.7793 Longitude 139.0409

Date Recorded: 13/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
COPPER	SMALL	500 - 50 000 tonnes CU

### Production Details

#### Published Reserves/Resources

BR 10367 Published in 2014

#### LADY BRENDA OXIDE

**INDICATED MINERAL RESOURCE** 3,350,000 tonnes Ore @  
0.43 % COPPER **FOR** 14,405 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cut-off

BR 10367 Published in 2014

#### LADY BRENDA OXIDE

**INFERRED MINERAL RESOURCE** 200,000 tonnes Ore @  
0.35 % COPPER **FOR** 560 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cut-off

BR 10367 Published in 2014

#### LADY BRENDA OXIDE

**MEASURED MINERAL RESOURCE** 710,000 tonnes Ore @  
0.50 % COPPER **FOR** 3,550 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cut-off

BR 10367 Published in 2014

#### LADY BRENDA SULPHIDE

**INDICATED MINERAL RESOURCE** 400,000 tonnes Ore @  
0.56 % COPPER **FOR** 2,520 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cut-off

BR 10367 Published in 2014

#### LADY BRENDA SULPHIDE

**INFERRED MINERAL RESOURCE** 400,000 tonnes Ore @  
0.45 % COPPER **FOR** 1,665 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cut-off

BR 10367 Published in 2014

#### LADY BRENDA SULPHIDE

**MEASURED MINERAL RESOURCE** 20,000 tonnes Ore @  
0.42 % COPPER **FOR** 84 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cut-off

BR 10367 Published in 2014

#### LADY BRENDA TRANSITION

**INDICATED MINERAL RESOURCE** 3,100,000 tonnes Ore @  
0.53 % COPPER **FOR** 16,377 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cut-off

BR 10367 Published in 2014

#### LADY BRENDA TRANSITION

**INFERRED MINERAL RESOURCE** 700,000 tonnes Ore @  
0.46 % COPPER **FOR** 2,990 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cut-off

BR 10367 Published in 2014

#### LADY BRENDA TRANSITION

**MEASURED MINERAL RESOURCE** 400,000 tonnes Ore @  
0.60 % COPPER **FOR** 2,340 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cut-off

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10367	2014	GOLDER ASSOCIATES	CST MINING GROUP LIMITED; LADY ANNIE RESOURCE STATEMENT FOR FEBRUARY 2014	ANNOUNCEMENT TO THE STOCK EXCHANGE OF HONG KONG LIMITED, 30 MAY 2014. CST MINING GROUP LIMITED, MELBOURNE.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Major Mining Related Events

Year Commenced	Year Completed	Comments
2010		CST Mining Ltd took over mining and exploration operations in 2010. Resource added to Lady Annie

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## Mining Operations

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Tenure Type/Number	SHARE	Company Name/Surname
ML 90179	100.00%	CST MINERALS LADY ANNIE PTY LIMITED

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## Host Rock/Cover Sequences

<i>Structural Unit</i>	<i>Formation Name/Age</i>
MOUNT OXIDE DOMAIN	Lady Loretta Formation / PALAEOPROTEROZOIC to PALAEOPROTEROZOIC

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## Deposit Model

GENERAL OREBODY MODEL	BRECCIA-HOSTED
DETAILED OREBODY MODEL	BRECCIATED SEDIMENT-HOSTED COPPER

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## Mineralisation Age

ORE	PALAEOPROTEROZOIC to MESOPROTEROZOIC
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## Comments

Drilling by CopperCo Ltd in 2007 returned 15m at 0.44% Cu from 19m. Drill results for 2008 included 26m at 1.38% Cu from 35m, 4m at 3.91% Cu from 45m, 15m at 1.43% Cu from 75m and 30m at 0.99% Cu from 16m.

CST Mining resumed mining at Lady Annie in September 2010, with first copper cathode production in November 2010. (CST is registered in the Hong Kong Exchanges: Code 985). New resources for Lady Annie and Lady Brenda reported together in Lady Annie site.

CST Mining resumed mining at Lady Annie in September 2010, with first copper cathode production in November 2010. (CST is registered in the Hong Kong Exchanges: Code 985).

CopperCo went into voluntary administration in November 2008. Cape Lambert Iron Ore Ltd purchased CopperCo's assets in June 2009.

An Initial Public Offering to form a new company to manage the Lady Annie project is planned.

In 2012 CST mining defined new resources separate from the Lady Annie resources (BR9959)

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## Web Page

<http://www.cstmining.com>

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493656 LADY LORETTA

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 32 KM WEST-SOUTH-WEST OF GUNPOWDER, 105KM NNW OF MT ISA.

1:100 000 sheet Number and Name: 6758 MAMMOTH MINES

Grid Reference: Zone 54 297365 mE 7812917 mN

Latitude -19.7690 Longitude 139.0660

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
ZINC	LARGE	2 000 000 - 5 000 000 tonnes ZN
LEAD	MEDIUM	100 000 - 2 500 000 tonnes PB
SILVER	MEDIUM	500 - 5 000 tonnes AG

### Production Details

Period: 1-Jul-1996 to 30-Jun-1997

LEAD	METAL	31.9 tonnes
SILVER		41.4 kilograms
ZINC	METAL	90.4 tonnes

Period: 1-Jul-2012 to 30-Jun-2013

LEAD	METAL	11,908.0 tonnes
SILVER		18,708.0 kilograms
ZINC	METAL	20,406.0 tonnes

### Published Reserves/Resources

BR 10304 Published in 2014

#### LADY LORETTA

**INDICATED MINERAL RESOURCE** 5,900,000 tonnes Ore @  
 16.00 % ZINC **FOR** 944,000 Tonnes ZINC  
 93.00 g/t SILVER **FOR** 548,700 Kilograms SILVER  
 4.60 % LEAD **FOR** 271,400 Tonnes LEAD

Comments/Cut Off Factor: US\$35/t net smelter return

As at 31 Dec 2013. Resource figures from Glencore Plc website. Includes proved ore reserves of 5.5Mt at 14%Zn, 4.0%Pb and 84g/t Ag.

BR 10304 Published in 2014

#### LADY LORETTA

**INFERRED MINERAL RESOURCE** 1,500,000 tonnes Ore @  
 13.00 % ZINC **FOR** 195,000 Tonnes ZINC  
 90.00 g/t SILVER **FOR** 135,000 Kilograms SILVER  
 5.00 % LEAD **FOR** 75,000 Tonnes LEAD

Comments/Cut Off Factor: US\$35/t net smelter return

As at 31 Dec 2013. Resource figures from Glencore Plc website.

BR 10304 Published in 2014

#### LADY LORETTA

**MEASURED MINERAL RESOURCE** 6,870,000 tonnes Ore @  
 16.80 % ZINC **FOR** 1,154,160 Tonnes ZINC  
 103.00 g/t SILVER **FOR** 707,610 Kilograms SILVER  
 6.68 % LEAD **FOR** 458,916 Tonnes LEAD

Comments/Cut Off Factor: US\$35/t net smelter return

As at 31 Dec 2013. Resource figures from Glencore Plc website. Includes proved ore reserves of 6.91Mt at 15.4%Zn, 6.14%Pb and 98.8g/t Ag.

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10304	2014	GLENORE XSTRATA	GLENOREXSTRATA RESOURCES & RESERVES AS AT 31 DECEMBER 2013.	HTTP://WWW.GLENORE.COM/INVESTORS/REPORTS-AND-RESULTS/RESERVES-AND-RESOURCE S/ 11-FEB-2014

### Major Mining Related Events

Year Commenced	Year Completed	Comments

Mining Operations	Comments
SHAFTS	Pancontinental conducted a feasibility study and sank an exploration shaft to greater than 400m depth.
UNDERGROUND MINING METHODS	

Tenure Type/Number	SHARE	Company Name/Surname
ML 5568	100.00%	NORANDA PACIFIC PTY LIMITED

### Host Rock/Cover Sequences

Structural Unit

MOUNT OXIDE DOMAIN

Formation Name/Age

Lady Loretta Formation / PALAEOPROTEROZOIC to PALAEOPROTEROZOIC

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Deposit Model

GENERAL OREBODY MODEL	SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL	SEDIMENT-HOSTED PB-ZN (SEDEX ZN-PB, SHALE-HOSTED ZN-PB)

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## Mineralisation Age

ORE	PALAEOPROTEROZOIC to MESOPROTEROZOIC	Sphalerite-galena-barite mineralisation associated with laminated pyrite beds. 1647 +/- 4 Ma. derived by Page (1997) from putative tuffs within the ore host sedimentary sequence.
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## Comments

The Lady Loretta mineralisation occurs as a stratiform, massive sulphide lens within carbonate-rich silts and shales, tightly folded into a basinal structure. Three main ore types are recognised: stratiform ore comprising laminated pyrite-sphalerite-galena mineralisation, high-grade ore comprising banded, recrystallised sphalerite-galena sulphides, and barite-chert sulphide comprising low-grade iron sphalerite within recrystallised bands with pyrite.

Metallurgical testing has indicated that the ore responds favourably to conventional flotation separation techniques at a grind size of 35 microns.

The project is held 75% by Xstrata Plc (following its takeover over of the merged Noranda and Falconbridge) and 25% by Cape Lambert Iron Ore Ltd (following its acquisition of CopperCo Ltd).

The Lady Loretta mine was commissioned in September 2012. Commercial-scale mining commenced in mid-2013 and the full production rate of 1.6 Mtpa is expected to be reached by the end of March 2015.

Ore is transported to Glencore's Mount Isa complex for processing where it is blended with ore from the George Fisher, Black Star and Handlebar Hill mines. The high-grade Lady Loretta ore lifts average grades and metal production.

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## Web Page

[www.glencore.com](http://www.glencore.com)

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 547365 LAS MINERALE

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 15KM W OF CLONCURRY

1:100 000 sheet Number and Name: 6956 MARRABA

Grid Reference: Zone 54 433720 mE 7713966 mN

Latitude -20.6724 Longitude 140.3636

Date Recorded: 8/January/2015

### Other Names for Deposit / Mine

Las Minerale Central  
Las Minerale East  
Las Minerale North Offset  
Las Minerale West  
Southern Siltstone

Commodities	Size	Size Definition
COPPER	LARGE	250 000 - 2 000 000 tonnes CU
COBALT	MEDIUM	1 000 - 20 000 tonnes CO
GOLD	SMALL	0.5 - 5 tonnes AU
MAGNETITE	SMALL	50 000 - 500 000 tonnes MT

### Production Details

#### Published Reserves/Resources

BR 10334 Published in 2014

#### MAGNETITE ONLY RESOURCE ROCKLA

**INFERRED MINERAL RESOURCE** 26,000,000 tonnes Ore @  
26.60 % MAGNETITE **FOR** 6,916,000 Tonnes MAGNETITE  
0.01 % COPPER **FOR** 2,600 Tonnes COPPER  
0.01 % COBALT **FOR** 2,002 Tonnes COBALT  
0.00 g/t GOLD

Comments/Cut Off Factor: cut off at 20% magnetite

At cut off grade 10% magnetite: 328 Mt at 0.02% Cu, 70 ppm Co, 0.01g/t Au and 14.3% Magnetite

BR 10334 Published in 2014

#### ROCKLANDS PROJECT

**INDICATED MINERAL RESOURCE** 11,000,000 tonnes Ore @  
3.00 % MAGNETITE **FOR** 330,000 Tonnes MAGNETITE  
0.68 % COPPER **FOR** 74,800 Tonnes COPPER  
0.04 % COBALT **FOR** 4,455 Tonnes COBALT  
0.19 g/t GOLD **FOR** 2,090 Kilograms GOLD

Comments/Cut Off Factor: 0.8% Cu equivalent cutoff

Indicated 98Mt at 0.16% Cu, 0.07g/t Au, 6.5% Mag and 226ppm Co using a 0.2% Cu equivalent cutoff.

BR 10334 Published in 2014

#### ROCKLANDS PROJECT

**INFERRED MINERAL RESOURCE** 500,000 tonnes Ore @  
3.20 % MAGNETITE **FOR** 16,000 Tonnes MAGNETITE  
0.54 % COPPER **FOR** 2,700 Tonnes COPPER  
0.04 % COBALT **FOR** 206 Tonnes COBALT  
0.12 g/t GOLD **FOR** 60 Kilograms GOLD

Comments/Cut Off Factor: 0.8% Cu equivalent cutoff

Inferred 91Mt at 0.06% Cu, 0.09g/t Au, 4.6% Mag and 146ppm Co using a 0.20% Cu equivalent cutoff.

BR 10334 Published in 2014

#### ROCKLANDS PROJECT

**MEASURED MINERAL RESOURCE** 19,000,000 tonnes Ore @  
5.80 % MAGNETITE **FOR** 1,102,000 Tonnes MAGNETITE  
1.23 % COPPER **FOR** 233,700 Tonnes COPPER  
0.05 % COBALT **FOR** 9,576 Tonnes COBALT  
0.22 g/t GOLD **FOR** 4,180 Kilograms GOLD

Comments/Cut Off Factor: 0.8% Cu equivalent cutoff

Measured 83Mt at 0.36% Cu, 0.09g/t Au and 273ppm Co using a 0.20% Cu equivalent cutoff.

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10334	2014	CUDECO LIMITED	MARKET RELEASE; ROCKLANDS COPPER PROJECT (CDU 100%); WIDE ZONES OF DIRECT SHIPPING ORE (DSO)	ANNOUNCEMENT TO THE AUSTRALIAN SECURITIES EXCHANGE, 25 FEBRUARY 2014. CUDECO LIMITED, GOLD COAST.

### Major Mining Related Events

Year Commenced	Year Completed	Comments

### Mining Operations

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

Tenure Type/Number	SHARE	Company Name/Surname
ML 90177	100.00%	CUDECO LIMITED

## Host Rock/Cover Sequences

Structural Unit

MITAKOODI DOMAIN

Formation Name/Age

Overhang Jaspilite / PALAEOPROTEROZOIC to  
PALAEOPROTEROZOIC

## Deposit Model

GENERAL OREBODY MODEL

HYDROTHERMAL VEINS/PIPE/STOCKWORK

DETAILED OREBODY MODEL

IRON-OXIDE CU-AU (-U-REE)

## Mineralisation Age

ORE

MESOPROTEROZOIC

## Comments

Cudeco now plans to drill out the high-grade bonanza zones down to 250m depth at Las Minerale and Rocklands South.

In August 2006, CuDeco announced that drilling results had extended the total known length of the mineralised zone at Las Minerale to 850m. Drillhole DORC 111 intersected 38m at 1.82% Cu from 47m and 42m at 1.10% Cu from 196m.

In September 2006, CuDeco announced that drillhole DORC 123 had intersected 57m at 2.02% Cu from 69m, including 29m at 3.13% Cu from 75m and 27m at 0.4g/t Au from 77m. Hold DORC 124 intersected 17m at 2.15% Cu from 32m and 11m at 0.6g/t Au from 34m. A Sub Audio Magnetic survey indicated a total interpreted mineralised trend length of 3600m for the Las Minerale prospect.

Significant native copper mineralisation has been intersected in altered dolerite and clays and in massive quartz-carbonate breccias.

On 17 July 2006, CuDeco (the renamed Australian Mining Investments) reannounced the inferred resource as 25Mt at 1.57% Cu, 818ppm Co and 0.2g/t Au, with an "exploration target" of 40 to 50Mt at similar grades outside of and below the resource zone.

Copper-cobalt-gold mineralisation occurs associated with magnetite alteration in a shear zone along the contact of a metavolcanic unit and a metavolcanic-metapelite unit.

In November 2006, CuDeco announced that drilling had identified new zones of copper mineralisation, with the discovery of zones subparallel to Las Minerale. The main Las Minerale zone appears to be dipping 80 to 85 degrees to the west at 150m depth.

Visual sulphide mineralisation in core includes pyrrhotite, pyrite, chalcopyrite and chalcocite associated with quartz and carbonates in K-feldspar-magnetite altered dolerite and massive quartz-carbonate-actinolite rock.

Drill intersections included 47m at 0.92% Cu from 65m, 19m at 1.37% Cu from 117m and 23m at 5.17% Cu from 137m (including 17m at 6.78% Cu).

Resource infill drilling continued in 2008. Intersections included 133m at 6.13% Cu from 3m, including 118m at 6.84% Cu from 18m and 28m at 15.31% Cu from 34m. Wide zones of cobalt mineralisation have also been intersected.

Drilling continued in 2009. Results announced for the June 2009 quarter included 59m at 8.32% Cu, 146m at 7.02% Cu, 117m at 5.35% Cu, 71m at 4.88% Cu, 14m at 7.19% Cu, 20m at 5.11% Cu, 82m at 4.99% Cu and 11m at 8.78% Cu.

Deep core drilling along strike and under Las Minerale confirmed the existence of a significant mineralised structure running subparallel to and south of Las Minerale. A 75m mineralised intersection included 50m with chalcopyrite.

Deep drilling has confirmed that the Las Minerale zone extends for >470m down dip.

Cudeco in 2011 reported updated resource figures of a combined measured and indicated resource of 30.3Mt @ 1.70% CuEq. Estimates are based on all 3793 drill holes (306671.2m) including 305 diamond holes (69521.0m) and 1458 Rc holes (225207.5m) (BR9701).

In September 2010 CuDeCo reports a mining and processing costs assessment by independent metallurgical and mining consultants completed, based on processing of initial 30.9Mt @ 1.24% Cu Eq resource (389,000 t Cu) for 3MtPa process facility (BR9581)

September 2010: Total resource for Rocklands of 1029 Mt copper equivalent (see resource figures (BR9581).

In 2014 CuDeco has arranged with Glencore Plc to supply 20,000 t of ore from Rocklands for toll-treatment at its Ernest Henry processing plant, and the results reported as surpassing expectations (BR10330).

2014 CuDeco mined wide zones of direct shipping ore in Las Minerale from high grade oxide and sulphide ore which was crushed and stockpiled for shipping to China smelters (BR10334).

In Dec 2014 CuDeco received assay results from selected sample of copper/gold concentrate produced from recently completed 22000 tonne bulk ore processing trail. Copper in concentrate = 37.6% Cu. Gold in concentrate = 8.5 g/t Au (BR10332).

In addition to the mining at Las Minerale in 2014, preliminary mining has been carried out at the Rocklands South orebody that displays similar mineralisation characteristics to Las Minerale (previously known as Double Oxide)

In 2014 open cut mining commenced at Las Minerale. The excavation is designed to access 5000 t of coarse native copper to be used for the commissioning of the Rocklands three stage crushing circuit and the ore stockpiled pending completion of the plant.

## Web Page

[www.cudeco.com.au](http://www.cudeco.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 482234 LAVA PLAINS

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 26.9 KM N OF CONJUBOY HOMESTEAD.

1:100 000 sheet Number and Name: 7861 SAINT RONANS

Grid Reference: Zone 55 263014 mE 7960070 mN

Latitude -18.4363 Longitude 144.7563

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Thai Mine  
Scott'S Mine

Commodities	Size	Size Definition
SAPPHIRE	MEDIUM	1 - 10 tonnes SAPP

### Production Details

Period: 1-Jan-1985 to 31-Dec-1993

SAPPHIRE 393,000.0 australian dollars

Period: 1-Jul-2004 to 30-Jun-2013

SAPPHIRE 66,252.0 australian dollars

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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Mining Operations	Comments
SURFACE MINING METHODS	

Tenure Type/Number	SHARE	Company Name/Surname
ML 10314	100.00%	MT ROSEY MINING COMPANY PTY LTD

### Host Rock/Cover Sequences

*Structural Unit*

CAINOZOIC ALLUVIAL & COLLUVIAL DEPOSITS

*Formation Name/Age*

Qa-QLD / QUATERNARY to QUATERNARY

### Deposit Model

GENERAL OREBODY MODEL

ALLUVIAL PLACER

DETAILED OREBODY MODEL

ALLUVIAL/ELUVIAL GEMSTONES

### Mineralisation Age

ORE

CENOZOIC

### Comments

Gem quality sapphires have been mined for more than 20 years from the Wyandotte Creek area. Sapphires have been recovered from alluvial wash and from colluvium on adjacent hill slopes. The sapphires are derived from Cainozoic basalt and pyroclastic units.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 481369 LIGHTHOUSE

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: ~15 KM NNE OF EINASLEIGH. LIGHTHOUSE QUARTZ BLUFFS, NEAR GRANITE KNOBS

1:100 000 sheet Number and Name: 7761 MOUNT SURPRISE

Grid Reference: Zone 55 201335 mE 7963841 mN

Latitude -18.3944 Longitude 144.1733

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Lighthouse Extended

Lighthouse Bluffs

### Commodities

LUMP SILICA

### Size

LARGE

### Size Definition

>1 000 000 tonnes SIL

### Production Details

#### Published Reserves/Resources

BR 9836 Published in 2012

#### LIGHTHOUSE

**INFERRED MINERAL RESOURCE** 1,830,000 tonnes Ore @  
1,830,000 Tonnes SILICA

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 9836	2012	SOLAR SILICON RESOURCES GROUP PTE LTD	LIGHTHOUSE SILICA QUARTZ (VIDEO ON WEBPAGE - FEBRUARY 2012)	HTTP://WWW.SSRG.COM.SG/LIG HTHOUSE

### Major Mining Related Events

Year Commenced    Year Completed    Comments

### Mining Operations

Tenure Type/Number	SHARE	Company Name/Surname
ML 30209	100.00%	SOLAR SILICON RESOURCES GROUP PTE. LTD.

### Host Rock/Cover Sequences

*Structural Unit*

ETHERIDGE PROVINCE

*Formation Name/Age*

Einasleigh Metamorphics / PALAEOPROTEROZOIC to  
PALAEOPROTEROZOIC

### Deposit Model

GENERAL OREBODY MODEL	MESOTHERMAL VEINS/PIPE/STOCKWORK	VEIN
DETAILED OREBODY MODEL	ROCK SILICA	

### Mineralisation Age

#### Comments

2011: The Singapore based company Solar Silicon Resources Group Pte have taken over ownership and commenced mining in 2011 and the current mining capacity is 1000 tonnes a day. Processing is a simple acid wash to clean the surface. the crushed lump silica 2011 (cont): is trucked to Townsville for export. The quartz is suitable for use as feedstock for silicon smelters, epoxy molding components, industrial fillers, fused quartz glass and LCD glass substrates.

201(2): Solar Silicon is currently involved in a joint venture collaboration agreement to commercialise its new "one pass direct conversion" of the high-grade quartz to solar-grade silicon with one a major manufacturer of photovoltaic solar panels in China In 2012 a JORC resource was displayed in a video on <http://www.ssr.com.sg/lighthouse>: The two prominent hills contain quartz of 99.8% SiO<sub>2</sub> with a JORC resource (unspecified lvl -> inferred) of 1.83Mt; with an estimate of further resources of 3-5Mt .

Calcifer Industrial Minerals were granted a ML in 2009 and carried out a feasibility study, geochemical tests and preparations for plant construction on site; Loose qtz was screened, washed and stockpiled, a tailings dam was built; An ML extension is appl

### Web Page

<http://www.ssr.com.sg/lighthouse>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 504551 LOCKYER SANDSTONE QUARRY

### OPERATING MINE

Descriptive Location: SEVENTEEN MILE RD, HELIDON

1:100 000 sheet Number and Name: 9342 HELIDON

Grid Reference: Zone 56 415699 mE 6955258 mN

Latitude -27.5237 Longitude 152.1464

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Regent

Commodities	Size	Size Definition
BUILDING STONE	SMALL	100 000 - 2 000 000 tonnes BLST
SANDSTONE	MEDIUM	100 000 - 1 000 000 tonnes SST

### Production Details

Period: 1-Jul-2004 to 30-Jun-2014

SANDSTONE

336,481.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

### Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 50182	100.00%	HELIDON SANDSTONE INDUSTRIES PTY LTD

### Host Rock/Cover Sequences

Structural Unit

Formation Name/Age

CLARENCE-MORETON BASIN

Woogaroo Subgroup / LATE TRIASSIC to EARLY JURASSIC

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

### Mineralisation Age

ORE

LATE TRIASSIC to EARLY JURASSIC

### Comments

The quarry has small to moderate resources, with suitable fine to medium-grained sandstone of good colour limited to a single bed ~2-3m thick sandwiched between 3-4m of weathered coarse sandstone and unsuitable coarse sandstone.

The lease is now held and operated by Helidon Sandstone Industries Pty Ltd.

This quarry was developed in 1986/87 by Lockyer Sandstone Pty Ltd, part of a consortium of companies (Australian Stone Consultants Pty Ltd and Resort Development Consultants Pty Ltd) that based their operations in Gatton.

In 1989, the Gatton processing plant was relocated to Lot 92, near Seventeen Mile Road, north-east of Helidon following a restructure of the company. Sandstone blocks were extracted from two separate faces developed on opposite sides of a gully.

Cut blocks were processed into tiles, thin slabs, blocks (split face), crazy paving and monumental stone.

### Web Page

[www.sandstoneathelidon.com](http://www.sandstoneathelidon.com)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 43621 LORENA

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 14.8 KM EAST OF CLONCURRY, 115KM EAST OF MT ISA.

1:100 000 sheet Number and Name: 7056 CLONCURRY

Grid Reference: Zone 54 463421 mE 7708936 mN

Latitude -20.7187 Longitude 140.6487

Date Recorded: 19/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
GOLD	SMALL	0.5 - 5 tonnes AU
COBALT	VERY SMALL	<10 tonnes CO
COPPER	VERY SMALL	<500 tonnes CU

### Production Details

Period: 1-Jan-1990 to 31-Dec-1990	4,880 tonnes HARD ROCK ORE (OR REEF)
GOLD BULLION 168.8 kilograms	34.60 grams per tonne
Period: 1-Jul-1996 to 30-Jun-2000	
GOLD BULLION 76.6 kilograms	

### Published Reserves/Resources

BR 10379 Published in 2014

#### LORENA - A LODE

**INDICATED MINERAL RESOURCE** 110,800 tonnes Ore @  
9.50 g/t GOLD **FOR** 1,052 Kilograms GOLD

Comments/Cut Off Factor: 2.0g/t Au cut off

BR 10379 Published in 2014

#### LORENA - A LODE

**MEASURED MINERAL RESOURCE** 68,700 tonnes Ore @  
7.60 g/t GOLD **FOR** 522 Kilograms GOLD

Comments/Cut Off Factor: 2.0g/t Au cut off

BR 10379 Published in 2014

#### LORENA - B LODE

**INDICATED MINERAL RESOURCE** 3,100 tonnes Ore @  
8.30 g/t GOLD **FOR** 25 Kilograms GOLD

Comments/Cut Off Factor: 2.0g/t Au cut off

BR 10379 Published in 2014

#### LORENA - B LODE

**INFERRED MINERAL RESOURCE** 20,600 tonnes Ore @  
7.70 g/t GOLD **FOR** 158 Kilograms GOLD

Comments/Cut Off Factor: 2.0g/t Au cut off

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10379	2014	MALACHITE RESOURCES	ANNUAL REPORT 2014	ANNOUNCEMENT TO THE AUSTRALIAN STOCK EXCHANGE OCTOBER 2014. MALACHITE RESOURCES LTD

### Major Mining Related Events

Year Commenced	Year Completed	Comments
1990 to 2000		Mined by Lorena Mines Pty Ltd.
2000 to 2001		Placed on care and maintenance.

Mining Operations	Comments
OPEN CUT MINING	Excavated by Lorena Mines Pty Ltd
UNDERGROUND MINING METHODS	Old workings

Tenure Type/Number	SHARE	Company Name/Surname
ML 7147	100.00%	VOLGA ELDERBERRY PTY LTD
ML 90192	100.00%	VOLGA ELDERBERRY PTY LTD
ML 90193	100.00%	VOLGA ELDERBERRY PTY LTD
ML 90194	100.00%	VOLGA ELDERBERRY PTY LTD
ML 90195	100.00%	VOLGA ELDERBERRY PTY LTD
ML 90196	100.00%	VOLGA ELDERBERRY PTY LTD

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
SOLDIERS CAP DOMAIN	Staveley Formation / PALAEOPROTEROZOIC to PALAEOPROTEROZOIC



# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, [2014](#)

## Deposit Model

GENERAL OREBODY MODEL

HYDROTHERMAL VEINS/PIPE/STOCKWORK

DETAILED OREBODY MODEL

PROTEROZOIC STRUCTURALLY-CONTROLLED  
COPPER-GOLD

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## Mineralisation Age

ORE

MESOPROTEROZOIC

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## Comments

Gold mineralisation occurs within strongly quartz-calcite veined and silicified dolomitic shales of the Toole Creek Volcanics near the contact with the overlying Corella Formation.

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## Web Page

<http://www.malachite.com.au>

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 587965 MALCOLM GUY YANGAN QUARRY

### OPERATING MINE

Descriptive Location: 16.5KM E OF WARWICK

1:100 000 sheet Number and Name: 9341 WARWICK

Grid Reference: Zone 56 422387 mE 6880224 mN

Latitude -28.2014 Longitude 152.2092

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
SANDSTONE	SMALL	10 000 - 100 000 tonnes SST
BUILDING STONE	VERY SMALL	<100 000 tonnes BLST

### Production Details

Period: 1-Jul-2007 to 30-Jun-2012

SANDSTONE 59,097.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

### Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 50163	50.00%	FREESPORT PTY LIMITED
ML 50163	50.00%	DENSYL SANDSTONE PTY LTD

### Host Rock/Cover Sequences

Structural Unit

Formation Name/Age

CLARENCE-MORETON BASIN

Marburg Subgroup / JURASSIC to JURASSIC

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

### Mineralisation Age

### Comments

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 494258 MAMMOTH

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 1.9 KM NORTH-WEST OF GUNPOWDER, 105KM NORTH OF MT ISA.

1:100 000 sheet Number and Name: 6758 MAMMOTH MINES

Grid Reference: Zone 54 328721 mE 7821166 mN

Latitude -19.6975 Longitude 139.3659

Date Recorded: 8/January/2015

### Other Names for Deposit / Mine

Mount Gordon Mine  
Mammoth Extended  
Kabunga  
Kangaroo  
Wallaroo

Commodities	Size	Size Definition
COPPER	LARGE	250 000 - 2 000 000 tonnes CU
COBALT	LARGE	>20 000 tonnes CO

### Production Details

Period: 1-Jan-1927 to 31-Dec-1959		745 tonnes HARD ROCK ORE (OR REEF)
COPPER	METAL	10.4 tonnes 14.60 percent
Period: 1-Jan-1959 to 31-Dec-1959		5,974 tonnes HARD ROCK ORE (OR REEF)
COPPER	METAL	585.5 tonnes 9.80 percent
Period: 1-Jan-1969 to 31-Dec-1972		171,307 tonnes HARD ROCK ORE (OR REEF)
COPPER	METAL	3,940.1 tonnes 2.30 percent
Period: 1-Jan-1972 to 31-Dec-1977		1,900,000 tonnes HARD ROCK ORE (OR REEF)
COPPER	METAL	51,300.0 tonnes 2.70 percent
Period: 1-Jan-1978 to 31-Dec-1982		
COPPER	METAL	3,750.0 tonnes
Period: 1-Jan-1989 to 31-Dec-1996		
COPPER	METAL	35,654.0 tonnes
Period: 1-Jul-1996 to 30-Jun-1997		
COPPER	PLATE	7,831.0 tonnes
Period: 1-Jul-1997 to 30-Jun-1998		
COPPER	PLATE	5,037.0 tonnes
Period: 1-Jul-2003 to 30-Jun-2004		
COPPER	METAL	10,608.0 tonnes
Period: 1-Jul-2005 to 30-Jun-2006		
COPPER	METAL	25,576.0 tonnes
SILVER		2,914.0 kilograms
Period: 1-Jul-2006 to 30-Jun-2007		
COPPER	METAL	23,082.0 tonnes
SILVER		2,547.2 kilograms
Period: 1-Jul-2007 to 30-Jun-2008		1,240,000 tonnes HARD ROCK ORE (OR REEF)
COPPER	METAL	25,978.0 tonnes
Period: 1-Jul-2008 to 30-Jun-2009		1,020,000 tonnes HARD ROCK ORE (OR REEF)
COPPER	METAL	17,815.0 tonnes
Period: 1-Jul-2009 to 30-Jun-2010		
COPPER	CONCENTRATE	2,270.0 tonnes

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Published Reserves/Resources

BR 10336 Published in 2014

### MAMMOTH / MOUNT GORDON

**INDICATED MINERAL RESOURCE** 24,450,000 tonnes Ore @  
1.29 % COPPER **FOR** 315,405 Tonnes COPPER

Comments/Cut Off Factor: 0.5% Cu cutoff

BR 10336 Published in 2014

### MAMMOTH / MOUNT GORDON

**INFERRED MINERAL RESOURCE** 17,220,000 tonnes Ore @  
1.34 % COPPER **FOR** 230,748 Tonnes COPPER

Comments/Cut Off Factor: 0.5% Cu cutoff

BR 10336 Published in 2014

### MAMMOTH / MOUNT GORDON

**MEASURED MINERAL RESOURCE** 12,340,000 tonnes Ore @  
1.49 % COPPER **FOR** 183,866 Tonnes COPPER

Comments/Cut Off Factor: 0.5% Cu cutoff.

BR 10336 Published in 2014

### MAMMOTH DEEPS

**INFERRED MINERAL RESOURCE** 1,330,000 tonnes Ore @  
1.09 % COPPER **FOR** 14,497 Tonnes COPPER

Comments/Cut Off Factor: 0.5% Cu cutoff

BR 10336 Published in 2014

### MAMMOTH NORTH

**INFERRED MINERAL RESOURCE** 10,100,000 tonnes Ore @  
1.06 % COPPER **FOR** 107,272 Tonnes COPPER

Comments/Cut Off Factor: 0.5% Cu cutoff

BR 10336 Published in 2014

### MAMMOTH SOUTH

**INFERRED MINERAL RESOURCE** 70,000 tonnes Ore @  
0.72 % COPPER **FOR** 504 Tonnes COPPER

Comments/Cut Off Factor: 0.5% Cu cutoff

BR 10336 Published in 2014

### MAMMOTH SURROUNDS

**INDICATED MINERAL RESOURCE** 5,520,000 tonnes Ore @  
1.30 % COPPER **FOR** 71,760 Tonnes COPPER

Comments/Cut Off Factor: 0.5% Cu cutoff

BR 10336 Published in 2014

### MAMMOTH SURROUNDS

**INFERRED MINERAL RESOURCE** 45,990,000 tonnes Ore @  
1.14 % COPPER **FOR** 524,286 Tonnes COPPER

Comments/Cut Off Factor: 0.5% Cu cutoff

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10336	2014	ADITYA BIRLA MINERALS LIMITED	ASX RELEASE MINERAL RESOURCE AT 31ST MARCH 2014	ANNOUNCEMENT TO THE AUSTRALIAN SECURITIES EXCHANGE, 30 APRIL 2014. ADITYA BIRLA MINERALS LIMITED, PERTH.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Major Mining Related Events

Year Commenced	Year Completed	Comments
1923		Discovery (Shah brothers).
1927	to 1959	Small open cut mining.
1959	to 1968	Open cut mining by Foschi and Angelo.
1968	to 1971	Large scale open cut mining by Surveys & Mining Ltd.
1971	to 1971	Exploration decline excavated.
1971	to 1977	Underground mining by Gunpowder Copper Ltd with ore treated by conventional froth flotation.
1978	to 1982	In-situ leaching and copper precipitation carried out.
1984	to 1984	Plant facilities auctioned.
1990	to 1996	In situ-leaching carried out by Adelaide Brighton Cement Ltd.
1996	to 1998	Mine sold to Aberfoyle Resources Ltd in 1996. This company used solvent extraction electrowinning in a 4500tpa plant. Acquired by Western Metals Ltd in 1998.
1997	to 1997	Underground production ceased.

## Operating Mine Life: 2003 to 2009 Aditya Birla Group purchased Mount Gordon from for Western Metals Ltd in November 2003. Currently mining remnants of 2, D, 4 and B lenses.

2011 Mammoth underground operations recommenced in March 2011, after stage 1 approval of underground and processing plant commission. Full scale unrestricted mining (Stage 2) approved in May 2011.

Mining Operations	Comments	
OPEN CUT MINING		
UNDERGROUND MINING METHODS		
SHAFTS		
DECLINED SHAFTS/DRIVES		
Tenure Type/Number	SHARE	Company Name/Surname
ML 5407	100.00%	BIRLA MT GORDON PTY LTD
ML 5413	100.00%	BIRLA MT GORDON PTY LTD
ML 5419	100.00%	BIRLA MT GORDON PTY LTD
ML 5451	100.00%	BIRLA MT GORDON PTY LTD
Host Rock/Cover Sequences	Formation Name/Age	
<i>Structural Unit</i> LEICHHARDT RIVER DOMAIN	Whitworth Quartzite / PALAEOPROTEROZOIC to PALAEOPROTEROZOIC	
Deposit Model		
GENERAL OREBODY MODEL	BRECCIA-HOSTED	
DETAILED OREBODY MODEL	BRECCIATED SEDIMENT-HOSTED COPPER	
Mineralisation Age		
ORE	MESOPROTEROZOIC	

## Comments

Mineralisation at Mammoth consists of a number of steeply dipping sulphide matrix breccia lodes or lenses within a largely fault bounded block of quartzites and breccias of the Whitworth Quartzite.

In January 2009, Aditya announced that the underground mine was being placed on care and maintenance due to copper prices and market conditions. The mill will continue to run on stockpiled ore and Esperanza low-grade waste dump material.

The major mineralised lenses (B, C, D, E, 1, 2 and 4 lenses) occur as an echelon set in the footwall of the Mammoth Fault. All occur in the hanging wall of the Portal Fault and are truncated by it at depth.

The mineralised lenses comprise irregular zones of hydrothermal breccia with dominant chalcocite and lesser chalcopyrite and bornite as vein filling. Aditya Birla reopened the Mammoth underground mine in late 2002.

Ore resource figures include all resources for Mammoth, Esperanza, Esperanza North and Esperanza South.

In February 2010, a trial for processing of Esperanza Low Grade (ELG) ore commenced and is ongoing.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, [2014](#)

**Web Page**

[www.adityabirlaminerals.com.au](http://www.adityabirlaminerals.com.au)

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 41019 MARULE LIME

### OPERATING MINE

Descriptive Location: 22KM WNW OF CHILDERS

1:100 000 sheet Number and Name: 9347 CHILDERS

Grid Reference: Zone 56 407812 mE 7218997 mN

Latitude -25.1421 Longitude 152.0854

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Scarlett

### Commodities

LIMESTONE

### Size

SMALL

### Size Definition

100 000 - 2 000 000 tonnes LST

### Production Details

Period: 1-Jul-1997 to 30-Jun-2014

LIMESTONE

CRUSHED ROCK

52,962.0 tonnes

### Published Reserves/Resources

BR 3333 Published in 1990

### MARULE LIME

**INFERRED MINERAL RESOURCE** 400,000 tonnes Ore @

400,000 Tonnes LIMESTONE

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 3333	1990	KROSCH, N.J.	QUEENSLAND MINERAL COMMODITY REPORT-LIMESTONE.	QUEENSLAND GOVERNMENT MINING JOURNAL, 91, 93-102.

### Major Mining Related Events

Year Commenced	Year Completed	Comments
1928	to 1928	LEASE APPLIED FOR IN 1928
1984	to 1984	OPERATED BY HOWARD PORTLAND CEMENT CO PTY LTD TO PRODUCE LIMESTONE FOR AGRICULTURAL USE.
1997		Operated by KD Scarlett.

### Mining Operations

### Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname	Christian Name
ML 1248	100.00%	SCARLETT	Kevin Donn

### Host Rock/Cover Sequences

*Structural Unit*

GYMPIE PROVINCE

*Formation Name/Age*

Gympie Group/1 / PERMIAN to PERMIAN

### Deposit Model

GENERAL OREBODY MODEL

RESIDUAL DEPOSIT

DETAILED OREBODY MODEL

ENRICHED LIME DEPOSIT

### Mineralisation Age

ORE

PERMIAN to CARBONIFEROUS

### Comments

Limestone grades 43.1-47.2% CaO, 0.5% MgO and 37.2% loss on ignition. The mine produces pulverised limestone for the local sugar cane farm market.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 504554 MAYNE RIVER GYPSUM

### OPERATING MINE

Descriptive Location: 85KM S OF CORK GYPSUM

1:100 000 sheet Number and Name: 7350 TONKORO

Grid Reference: Zone 54 611434 mE 7392190 mN

Latitude -23.5768 Longitude 142.0920

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Eden Valley

Mayne River Gypsum Sales

Mount Windsor Gypsum

Commodities	Size	Size Definition
GYPSUM	SMALL	5 000 - 5 000 000 tonnes GYP

### Production Details

Period: 1-Jul-1997 to 30-Jun-2014

GYPSUM

88,100.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

### Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname	Christian Name
ML 95239	50.00%	COUPE	Geoffrey Ivan
ML 95239	50.00%	COUPE	Betty Marleen

### Host Rock/Cover Sequences

*Structural Unit*

*Formation Name/Age*

CAINOZOIC SEDIMENTARY COVER

### Deposit Model

GENERAL OREBODY MODEL

ALLUVIAL PLACER

### Mineralisation Age

ORE

CENOZOIC

### Comments

The Mayne River gypsum deposits occur in alluvium overlying the Winton Formation and have been worked in recent years. Mayne River Gypsum Sales Pty Ltd have worked deposits in the Winton Formation a further 80km to the SSW. - BR 6194.

The gypsum is produced in Winton and sold for agricultural purposes.

### Web Page



# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493993 MILES

### OPERATING MINE

Descriptive Location: 5KM SW OF MILES, 300KM WEST OF BRISBANE.

1:100 000 sheet Number and Name: 8944 MILES

Grid Reference: Zone 56 216430 mE 7044278 mN

Latitude -26.6940 Longitude 150.1503

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
BENTONITE	MEDIUM	200 000 - 20 000 000 tonnes BENT

### Production Details

Period: 1-Jul-1995 to 30-Jun-2013

BENTONITE 135,677.9 tonnes

### Published Reserves/Resources

BR 5762 Published in 1998

#### *INFERRED MINERAL RESOURCE*

3,300,000 Tonnes BENTONITE

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 5762	1998	NEDLANDS, W.A.		REGISTER OF AUSTRALIAN MINING 1998/99.

### Major Mining Related Events

Year Commenced	Year Completed	Comments
1994		Mining operations started in 1994.

Mining Operations	Comments
OPEN CUT MINING	

Tenure Type/Number	SHARE	Company Name/Surname
ML 5910	100.00%	BIOCLAY PTY LTD
ML 5911	100.00%	BIOCLAY PTY LTD
ML 6960	100.00%	BIOCLAY PTY LTD

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
SURAT BASIN	Orallo Formation / JURASSIC to JURASSIC

### Deposit Model

GENERAL OREBODY MODEL	RESIDUAL DEPOSIT
DETAILED OREBODY MODEL	SEDIMENTARY CLAY DEPOSITS

### Mineralisation Age

ORE	JURASSIC
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### Comments

Bentonite quarry owned by Bioclay Pty Ltd. Sodium bentonite is produced for local and export industrial and feedstock markets. (2011) This bentonite is used primarily for stock feed and pet litter and is processed in a plant with a 20 000tpa capacity. Resources are claimed to be sufficient for next 20 years at current production rates.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 507505 MONIER DARRA

### OPERATING MINE

Descriptive Location: ADJACENT TO IPSWICH MOTOR WAY AT DARRA.

1:100 000 sheet Number and Name: 9442 IPSWICH

Grid Reference: Zone 56 496873 mE 6950210 mN Latitude -27.5719 Longitude 152.9683 Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
BRICK CLAY	MEDIUM	200 000 - 20 000 000 tonnes BKCY

### Production Details

Period: 1-Jul-1998 to 30-Jun-2012

BRICK CLAY 1,373,491.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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Mining Operations	Comments
OPEN CUT MINING	

Tenure Type/Number	SHARE	Company Name/Surname
ML 1102	100.00%	CSR BUILDING PRODUCTS LIMITED

Host Rock/Cover Sequences	Formation Name/Age
<i>Structural Unit</i> OXLEY BASIN	Darra Formation / TERTIARY to TERTIARY

Deposit Model	
GENERAL OREBODY MODEL	SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL	SEDIMENTARY CLAY DEPOSITS

Mineralisation Age	
ORE	TERTIARY

Comments

### Web Page

[www.csr.com.au](http://www.csr.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 507503 MONIER IPSWICH

### OPERATING MINE

Descriptive Location: 7.5KM E OF IPSWICH, 1.3KM S OF DINMORE.

1:100 000 sheet Number and Name: 9442 IPSWICH

Grid Reference: Zone 56 484112 mE 6946687 mN

Latitude -27.6036 Longitude 152.8390

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Dinmore

### Commodities

BRICK CLAY

### Size

MEDIUM

### Size Definition

200 000 - 20 000 000 tonnes BKCY

### Production Details

Period: 1-Jul-1996 to 30-Jun-2012

BRICK CLAY

1,322,297.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

### Published Reference ID Year Author Title Source

### Major Mining Related Events

Year Commenced Year Completed Comments

### Mining Operations

### Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 4552	100.00%	CSR BUILDING PRODUCTS LIMITED
ML 4604	100.00%	CSR BUILDING PRODUCTS LIMITED
ML 4639	100.00%	CSR BUILDING PRODUCTS LIMITED
ML 4640	100.00%	CSR BUILDING PRODUCTS LIMITED
ML 4706	100.00%	CSR BUILDING PRODUCTS LIMITED
ML 50028	100.00%	CSR BUILDING PRODUCTS LIMITED
ML 50144	100.00%	CSR BUILDING PRODUCTS LIMITED

### Host Rock/Cover Sequences

Structural Unit

Formation Name/Age

BOOVAL BASIN

Redbank Plains Formation / TERTIARY to TERTIARY

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

SEDIMENTARY CLAY DEPOSITS

### Mineralisation Age

ORE

TERTIARY

### Comments

### Web Page

[www.csr.com.au](http://www.csr.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 504526 MONTGOMERY SANDSTONE QUARRY

### OPERATING MINE

Descriptive Location: 5.6 KM NORTH-WEST OF HELIDON, 90KM WEST OF BRISBANE.

1:100 000 sheet Number and Name: 9342 HELIDON

Grid Reference: Zone 56 411236 mE 6957780 mN

Latitude -27.5006 Longitude 152.1014

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
BUILDING STONE	SMALL	100 000 - 2 000 000 tonnes BLST
SANDSTONE	MEDIUM	100 000 - 1 000 000 tonnes SST

### Production Details

Period: 1-Jul-1996 to 30-Jun-2013

SANDSTONE 143,517.0 tonnes

### Published Reserves/Resources

BR 6192 Published in 2000

**MONTGOMERY SANDSTONE**  
**INDICATED MINERAL RESOURCE**  
95,600 Tonnes SANDSTONE

Probable reserves and Indicated resources of sandstone as at December 1992.

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 6192	2000	NEVILLE BJ, WILLMOTT WF, O'FLYNN ML, POTTER R	KEY RESOURCE AREAS FOR SANDSTONE BUILDING STONE, EXTRACTIVE MATERIALS AND EXPLOSIVES INDUSTRY HELIDON AREA (DRAFT).	DEPARTMENT OF MINES AND ENERGY KEY RESOURCE AREA REPORT NO.3

### Major Mining Related Events

Year Commenced	Year Completed	Comments
1992		Australian Sandstone Industries Limited commenced operations around several old workings.

### Mining Operations

#### Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 50016	100.00%	CHONGHERR INVESTMENTS LTD
ML 50213	100.00%	CHONGHERR INVESTMENTS LTD

### Host Rock/Cover Sequences

Structural Unit

CLARENCE-MORETON BASIN

Formation Name/Age

Helidon Sandstone / TRIASSIC to TRIASSIC

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

### Mineralisation Age

ORE

LATE TRIASSIC to EARLY JURASSIC

### Comments

The company is now called ChongHerr Investments Ltd. Blocks of about 10 tonnes each are cut and extracted from the quarry and transported by road to the company's processing facility at Archerfield in Brisbane or directly to the wharf for export.

Products include tiles, wall cladding and other architectural and decorative pieces as well as furniture and sculptures. Waste stone from quarrying is used for wall construction and landscaping purposes. Some stone is sold for monumental use also.

The company supplies stone and finished products to both domestic and export markets.

In early 1992, Australian Sandstone Industries Ltd moved its quarrying operations from ML 50013 to ML 50016 (Montgomery Quarry) and developed its operations around several old workings in a worked out section of Montgomery's gravel scrapings.

### Web Page

[www.asisandstone.com.au](http://www.asisandstone.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 507797 MORETON DOLOMITE

### OPERATING MINE

Descriptive Location: 24.6KM SOUTH OF IPSWICH, ACCESS FROM VERALLS RD OFF LIMESTONE HILL RD.

1:100 000 sheet Number and Name: 9442 IPSWICH

Grid Reference: Zone 56 472523 mE 6921061 mN Latitude -27.8348 Longitude 152.7210 Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Area 101 & 100  
Peak Crossing No.2 Lease

Commodities	Size	Size Definition
EARTHY LIME / DOLOMITE (AGRICULTURAL)	SMALL	10 000 - 100 000 tonnes ELIM
BRICK CLAY	SMALL	2 000 - 200 000 tonnes BKCY
PALYGORSKITE		

### Production Details

Period: 1-Jul-1998 to 30-Jun-2014	
EARTHY LIME / DOLOMITE (AGRICULTURAL)	31,557.0 tonnes
Period: 1-Jul-2003 to 30-Jun-2008	
CLAY	147,035.0 tonnes
Period: 1-Jul-2010 to 30-Jun-2014	
PALYGORSKITE	2,798.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

Mining Operations	Comments
OPEN CUT MINING	Shallow open cut pit

Tenure Type/Number	SHARE	Company Name/Surname
ML 50015	50.00%	TREVALLYN ENTERPRISES PTY. LIMITED
ML 50015	50.00%	MORETON DOLOMITE PTY LTD
ML 50036	50.00%	TREVALLYN ENTERPRISES PTY. LIMITED
ML 50036	50.00%	MORETON DOLOMITE PTY LTD
ML 50038	50.00%	TREVALLYN ENTERPRISES PTY. LIMITED
ML 50038	50.00%	MORETON DOLOMITE PTY LTD

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
AMBERLEY BASIN	Flinders Dolomite / TERTIARY to TERTIARY

### Deposit Model

GENERAL OREBODY MODEL	SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL	DOLOMITE DEPOSIT

### Mineralisation Age

ORE	TERTIARY
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### Comments

At area B (portion 101) Newage carried out mapping and gridding (Nov 1990). 3 costeans were excavated across outcropping dolomite. By Jan 1991 22 RC and hammer holes (RC01-22) totalling 286m were drilled, which outlined a resource of agricultural-grade (cont.) dolomite, which was covered with a mining lease (ML50015). Mining started following granting of ML on 20 August 1991.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 41031 MOUNT BIGGENDEN

### OPERATING MINE

Descriptive Location: 38.4KM ENE OF GAYNDAH; MOUNT BIGGENDEN MINE

1:100 000 sheet Number and Name: 9246 GAYNDAH

Grid Reference: Zone 56 397383 mE 7175130 mN

Latitude -25.5375 Longitude 151.9786

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Biggenden Quarry  
 Mount Biggenden Magnetite Mine  
 Biggenden Bismuth And Gold Mine  
 Biggenden Bismuth Mine  
 Mount Biggenden Mine  
 Biggenden Gold And Bismuth Mine  
 Mount Biggenden Bismuth Mine

Commodities	Size	Size Definition
MAGNETITE	MEDIUM	500 000 - 1 000 000 tonnes MT
GOLD	SMALL	0.5 - 5 tonnes AU
BISMUTH	SMALL	50 - 5 000 tonnes BI
AGGREGATE		
LIMESTONE	VERY SMALL	<100 000 tonnes LST
SILVER	VERY SMALL	<5 tonnes AG
COPPER	VERY SMALL	<500 tonnes CU
COBALT	VERY SMALL	<10 tonnes CO
MOLYBDENUM	VERY SMALL	<50 tonnes MO

### Production Details

Period: 1-Jan-1890 to 31-Dec-1895			
GOLD	BULLION	224.4 kilograms	
BISMUTHINITE		309.7 tonnes	
Period: 1-Jan-1894 to 31-Dec-1894			
GOLD	BULLION	12.3 kilograms	
Period: 1-Jan-1901 to 31-Dec-1904			
BISMUTHINITE		18.8 tonnes	
Period: 1-Jan-1902 to 31-Dec-1902			
LIMESTONE	CRUSHED ROCK	203.2 tonnes	
Period: 1-Jan-1903 to 31-Dec-1903			
GOLD	BULLION	8.7 kilograms	
Period: 1-Jan-1909 to 31-Dec-1912			
BISMUTHINITE		224.9 tonnes	
GOLD	BULLION	1,251.6 kilograms	
COPPER	METAL	5.9 tonnes	
Period: 1-Jan-1931 to 31-Dec-1931			
GOLD	BULLION	0.0 kilograms	
Period: 1-Jan-1934 to 31-Dec-1938			
BISMUTHINITE		59.2 tonnes	
GOLD	BULLION	14.4 kilograms	0.60 grams per tonne
Period: 1-Jan-1942 to 31-Dec-1954			
MAGNETITE		18,622.3 tonnes	
Period: 1-Jan-1967 to 30-Jun-1999			
MAGNETITE		721,840.0 tonnes	
BISMUTHINITE		1,000.0 tonnes	
Period: 1-Jan-1975 to 31-Dec-1985			
AGGREGATE		500,000.0 tonnes	
Period: 1-Jul-1996 to 30-Jun-1999			
AGGREGATE		43,746.0 tonnes	

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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# Queensland Minerals

## A Summary of Major Mineral Resources, Mines and Projects, 2014

### Major Mining Related Events

Year Commenced		Year Completed	Comments
1888	to	1896	MacTaggart and party discovered bismuth mineralisation in 1888. The Biggenden Bismuth Company commenced mining in 1889. Treatment was by wet and dry magnetic separation. The mine closed in 1895 due to the lack of a market for the bismuth.
1897	to	1899	The Biggenden Mining Company commenced operations in 1898, with a focus on gold, due to the low bismuth prices. No production was reported.
1900	to	1907	Mining restarted under new management. Lack of water for the mill disrupted operations. Tailings were treated in 1903.
1908	to	1914	Purchased by International Mines Ltd. Ore concentrated on site; concentrates sent to Elliott Bros chemical works in Sydney. The mill was improved in 1909 but the mine closed in 1913. The mill was almost completely destroyed by fire in 1914.
1915	to	1931	Purchased by TJ Brady. The State Government investigated the deposit as a source of iron ore for pig iron production and carried out drilling in 1919; reserves were insufficient. The lease was under exemption up until 1931.
1931	to	1932	E Kimmerfeld reached an agreement with the lease holder and installed a plant to treat soil from below the lode outcrops for gold.
1933	to	1935	Bismuth Products Ltd acquired the leases at the end of 1933. A new mill and machinery were erected in 1934 and mining resumed. Bi-Au concentrates were shipped to OT Lempriere and Company in Sydney to produce refined Bi for medical purposes.
1936	to	1940	Operations were suspended in 1936 due to an overproduction of bismuth. Mining resumed in July 1937, but the mine closed again in 1938 due to low Bi prices. The mine was completely closed down and the machinery sold or removed in 1940.
1942	to	1959	Queensland Cement and Lime Company produced ironstone from the mill tailings and dumps. The material was trucked to Biggenden and railed to the Darra Cement Works in Brisbane for cement manufacture. Production ceased in 1955.
1951	to	1961	HB Trigger acquired some leases from Queensland Cement and Lime. Some testing was done with a view to producing magnetite for uranium ore processing at Rum Jungle. These leases were under exemption.
1961	to	1962	Leases held by Bonel brothers and Sanders brothers. Exploratory work only.
1965	to	1971	Commercial Minerals Pty Ltd installed plant and machinery in 1966 and commenced magnetite and by-product Bi production in 1967 from the open cut. Finely powdered magnetite was supplied to heavy media coal washing plants in Qld and NSW.
1972	to	1999	Commercial Minerals became a wholly-owned subsidiary of Steetley Industries Ltd. In 1976, a decline was excavated to provide access for underground mining on 9 levels. In 1999, mining ceased and the mine was closed.
1999			The mine was sold to a Maryborough firm (JS McIntyre) as a hard rock quarry. Biggenden Quarry crushes waste dump material to produce aggregate, road base, screenings, cement products and crusher dust.

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### Mining Operations

OPEN CUT MINING

### Comments

Large open cut with two deeper zones of stoping/glory holes.

UNDERGROUND MINING METHODS

SHAFTS

DECLINED SHAFTS/DRIVES

Entrance sealed for safety.

ADITS

STOPING

Large block cave stopes exposed under walls of open cut.

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

Tenure Type/Number	SHARE	Company Name/Surname	Christian Name
ML 3679	50.00%	MCINTYRE	John Stewart
ML 3679	50.00%	MCINTYRE	Mary Josephine
ML 3683	50.00%	MCINTYRE	John Stewart
ML 3683	50.00%	MCINTYRE	Mary Josephine
ML 3684	50.00%	MCINTYRE	John Stewart
ML 3684	50.00%	MCINTYRE	Mary Josephine
ML 3685	50.00%	MCINTYRE	John Stewart
ML 3685	50.00%	MCINTYRE	Mary Josephine
ML 3688	50.00%	MCINTYRE	John Stewart
ML 3688	50.00%	MCINTYRE	Mary Josephine
ML 3692	50.00%	MCINTYRE	John Stewart
ML 3692	50.00%	MCINTYRE	Mary Josephine
ML 6604	50.00%	MCINTYRE	John Stewart
ML 6604	50.00%	MCINTYRE	Mary Josephine
ML 50039	50.00%	MCINTYRE	John Stewart
ML 50039	50.00%	MCINTYRE	Mary Josephine

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## Host Rock/Cover Sequences

*Structural Unit*

*Formation Name/Age*

GYMPIE PROVINCE

Gympie Group / PERMIAN to PERMIAN

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## Deposit Model

GENERAL OREBODY MODEL

SKARN

DETAILED OREBODY MODEL

IRON SKARN

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## Mineralisation Age

ORE

LATE TRIASSIC

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## Comments

Small-scale Au and Bi mining has taken place at Mount Biggenden since the late 1880s. From 1967 to 1999, Commercial Minerals Pty Ltd produced magnetite for coal washing. J.S. McIntyre currently produces crushed aggregate from the waste dumps.

Magnetite skarn occurs in hornfelsed mafic volcanics and metasediments of the Gympie Group close to the contact with the Degilbo Granite. Bismuth, gold and molybdenite mineralisation occur in the skarn.

Fluid inclusions in prograde calcite and garnet have high homogenisation temperatures (500-550 degrees C) and high salinities (~30 wt% NaCl eq.) (BR 7110).

Fluid inclusions in sulphide-stage quartz and calcite have 300-400 degrees C homogenisation temperatures and lower salinities. Delta 18O and delta 13C of carbonates show depletion trends characteristic of skarn deposits (BR 7110).

Skarn paragenesis: 1) prograde garnet-clinopyroxene-magnetite-scapolite; 2) early retrograde epidote-hastingsite, followed by chlorite-calcite-actinolite-quartz-sulphides; 3) late-stage retrograde nontronite-calcite-quartz.

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 43750 MOUNT CARBINE

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 0.9 KM NORTH-NORTH-WEST OF MOUNT CARBINE, 75KM NW OF CAIRNS.

1:100 000 sheet Number and Name: 7964 RUMULA

Grid Reference: Zone 55 300614 mE 8172469 mN

Latitude -16.5213 Longitude 145.1318

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Mount Carbine Quarries

Commodities	Size	Size Definition
TUNGSTEN	LARGE	>10 000 tonnes W
TIN	VERY SMALL	<100 tonnes SN
AGGREGATE		
SILICA	SMALL	1 000 - 1 000 000 t SIO

### Production Details

Period: 1-Jan-1972 to 31-Dec-1986	19,000,000 tonnes HARD ROCK ORE (OR REEF)
WOLFRAMITE	16,400.0 tonnes
CASSITERITE	7.8 tonnes
Period: 1-Jul-1997 to 30-Jun-2004	
AGGREGATE	239,082.0 tonnes
Period: 1-Jul-2000 to 30-Jun-2006	
AGGREGATE	243,320.0 tonnes
Period: 1-Jul-2007 to 30-Jun-2014	
SILICA	688,941.0 tonnes

### Published Reserves/Resources

BR 9905 Published in 2012

#### MT CARBINE HARD ROCK

**INDICATED MINERAL RESOURCE** 18,100,000 tonnes Ore @

0.14 % WOLFRAMITE **FOR** 25,340 Tonnes WOLFRAMITE

Comments/Cut Off Factor: 0.14% WO3  
in insitu hard rock

BR 9905 Published in 2012

#### MT CARBINE HARD ROCK

**INFERRED MINERAL RESOURCE** 29,300,000 tonnes Ore @

0.12 % TUNGSTIC OXIDE **FOR** 35,160 Tonnes TUNGSTIC OXIDE

Comments/Cut Off Factor: 0.12% WO3.

BR 9905 Published in 2012

#### MT CARBINE MAIN STOCKPILE

**INDICATED MINERAL RESOURCE** 12,000,000 tonnes Ore @

0.07 % WOLFRAMITE **FOR** 8,400 Tonnes WOLFRAMITE

Comments/Cut Off Factor: 0.07% WO3  
in low grade stockpile (mineralised rock from previous mining operations)

BR 8902 Published in 2008

#### MT CARBINE TAILINGS DAM NO 4

**INFERRED MINERAL RESOURCE** 1,600,000 tonnes Ore @

0.11 % WOLFRAMITE **FOR** 1,760 Tonnes WOLFRAMITE

The resource includes around 400,000t of minus 75 micron material with an estimated grade of 0.3% WO3.

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 8902	2008	ICON RESOURCES LTD	ICON RESOURCES LTD ANNUAL REPORT 2008	ANNOUNCEMENT TO THE AUSTRALIAN SECURITIES EXCHANGE, 15 OCTOBER 2008. ICON RESOURCES LTD, SYDNEY.
BR 9905	2012	CARBINE TUNGSTEN LIMITED	CARBINE TUNGSTEN LIMITED ANNUAL REPORT 2012	ANNOUNCEMENT TO THE AUSTRALIAN SECURITIES EXCHANGE, 01 OCTOBER 2012. CARBINE TUNGSTEN LIMITED, SYDNEY

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## Major Mining Related Events

Year Commenced 1883	Year Completed	Comments Discovery.
1894	to 1906	Small scale mining.
1906	to 1917	Major underground mining by the Irvinebank Mining Co. Ten head stamper and jigs installed in June 1910. Mill expanded to 20 stamps in 1913.
1937	to 1942	Mining production related to World War II.
1950	to 1952	Mining production related to World War II.
1972	to 1986	Large scale open cut mining by Queensland Wolfram Pty Ltd ending in 1986.
2009		Icon Resources acquired rights to mine Mt Carbine. Test sampling of tailings & stockpile material completed and recovery circuit based around on X-ray sorter, Kelsey jigs and shaker tables established in 2011.

## Mining Operations

## Comments

OPEN CUT MINING

UNDERGROUND MINING METHODS

SHAFTS

ADITS

SURFACE MINING METHODS

DECLINED SHAFTS/DRIVES

~400m long

## Tenure Type/Number

## SHARE

## Company Name/Surname

ML 4867	100.00%	MT CARBINE QUARRIES PTY LTD
ML 4919	100.00%	MT CARBINE QUARRIES PTY LTD

## Host Rock/Cover Sequences

*Structural Unit*

*Formation Name/Age*

HODGKINSON PROVINCE

Hodgkinson Formation / DEVONIAN to DEVONIAN

## Deposit Model

GENERAL OREBODY MODEL

INTRUSIVE-RELATED (PORPHYRY-RELATED)

DETAILED OREBODY MODEL

WOLFRAM VEINS

## Mineralisation Age

ORE

EARLY PERMIAN

Stage 1

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### Comments

By the end of 2008, Icon Resources had carried out metallurgical testwork on composite tailings samples that indicated good recoveries with low levels of impurities.

High-grade scheelite and wolframite concentrates were sent to tungsten consumers for evaluation. Re-interpretation and evaluation of historical drill core confirmed zones of high-grade mineralisation beneath the current open cut and extensions to the NW.

The original resource before open cut mining was 28Mt at 0.1% wolframite, using a 0.03% cutoff (BR 937 - de Roo, 1988).

The old waste stockpiles are being used to produce construction aggregate by Mt Carbine Quarries Pty Ltd from 1987 to about 2010.

In June 2007, Republic Gold Ltd announced that it had signed a 3-month option to review the Mount Carbine leases with a view to making an offer to purchase. Republic did not proceed with the option.

In March 2008, Icon Resources Ltd announced that it had secured the rights to explore for and mine tungsten at Mount Carbine. The current quarry business will continue to operate.

Icon Resources acquired rights to mine Mt Carbine open cut, stockpiles and tailings dams in 2009. A maiden JORC Inferred resource was announced in October 2010: 113.6Mt at 0.06% WO<sub>3</sub> containing 68 800t of WO<sub>3</sub> for the primary hard rock res (BR9520).

In late March 2009, Icon Resources signed a non-binding MoU with Polymetals Group Pty Ltd whereby Polymetals can elect to develop and operate the Mt Carbine Tailings Project. Polymetals is also reviewing participating in the open pit project.

Resource modelling in the June 2009 quarter increased the target tonnage/grade at Mt Carbine to 55-60Mt at 0.07 to 0.09% WO<sub>3</sub> using uncut values. This excludes the potential of the extensive old workings in the hill abutting the north wall of the pit.

A scoping study commenced in August 2009. The main focus is firming the economics of deepening the existing pit to extract higher grade ore prior to a major cut back in the north pit wall.

In 2011 Icon Resources confirmed data for a 2010 resource estimate for the mineral deposit and a Inferred mineral Resource estimate of 39Mt at 0.14% WO<sub>3</sub>. Additionally an approx 2Mt resource of fine-grained (sand-sized) material with 0.1% WO<sub>3</sub> from the (2011 cont); tailings dams was reported and a fines gravity circuit designed to recover 5000 mtu WO<sub>3</sub> per month from the tailings proceeded to be operational at the end of 2011. The main stockpile of 12Mt and the reject stockpile of over 4Mt were tested.

(2011 cont2): by bulk sampling (20000t) to yield an average grade of 0.075% WO<sub>3</sub>. An X-Ray sorting facility has been tested in 2011 to separate barren rock from mineralised rock greatly reducing the feed of ore into the mills (BR9715)

(2011 cont3): Stockpile: Sorter feed 2Mt per year @ 0.075% WO<sub>3</sub> -> Mill feed reduced to 250kt/yr to produce ~10000mtu in WO<sub>3</sub> concentrate/per month. Hard rock reserve: Sorter feed @ 0.14% WO<sub>3</sub> -> Mill feed 250kt/pa at 1.1%WO<sub>3</sub> to produce 20000mtu/pm (BR9715).

In 2012 Carbine Tungsten Ltd was renamed from Icon Resources. They reported their first delivery of wolframite concentrate to Mitsubishi Unimetals Corp on the 28th June 2012 (BR9905).

Several zones of sheeted wolframite-, scheelite-, cassiterite- and molybdenite-bearing quartz and quartz-feldspar veins occur in a N-trending belt in an outlier of the thermal aureole of the S-type Mount Carbine Granite, which crops out 500m to the east.

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<http://www.carbinetungsten.com.au/>

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# Queensland Minerals

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## 41623 MOUNT CARLTON

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 13.3KM S OF STRATHBOGIE HOMESTEAD; 44.3KM NW OF COLLINSVILLE

1:100 000 sheet Number and Name: 8457 BOGIE

Grid Reference: Zone 55 559087 mE 7758276 mN

Latitude -20.2723 Longitude 147.5658

Date Recorded: 19/January/2015

### Other Names for Deposit / Mine

V2 East  
V2 Far East  
Mount Carlton Project  
Silver Hill  
A39  
Mount Carlton - Main Hill  
Mount Carlton - Western Lodes  
Area 39  
V2 Hill

Commodities	Size	Size Definition
GOLD	MEDIUM	5 - 50 tonnes AU
SILVER	MEDIUM	500 - 5 000 tonnes AG
COPPER	MEDIUM	50 000 - 250 000 tonnes CU
ZINC	SMALL	200 - 200 000 tonnes ZN

### Production Details

Period: 1-Jul-2013 to 30-Jun-2014

GOLD	METAL	1,404.7 kilograms
COPPER	METAL	2,050.0 tonnes
SILVER		124,267.2 kilograms

### Published Reserves/Resources

BR 10373 Published in 2014

#### MT CARLTON - OC A39 (SILVER)

**INFERRED MINERAL RESOURCE** 550,000 tonnes Ore @  
260.00 g/t SILVER **FOR** 143,000 Kilograms SILVER  
0.26 % COPPER **FOR** 1,430 Tonnes COPPER

Comments/Cut Off Factor: 53 g/t Ag cut-off

BR 10373 Published in 2014

#### MT CARLTON - OC V2 (AU-AG)

**INDICATED MINERAL RESOURCE** 10,400,000 tonnes Ore @  
23.00 g/t SILVER **FOR** 239,200 Kilograms SILVER  
0.30 % COPPER **FOR** 31,200 Tonnes COPPER  
2.40 g/t GOLD **FOR** 24,960 Kilograms GOLD

Comments/Cut Off Factor: 0.35g/t Au cut-off

Includes proven ore reserves of 0.45 Mt at 50 g/t Ag and 0.3% Cu and probable ore reserves of 7.52Mt at 37g/t Ag and 0.28% Cu; total gold reserve of 7.3Mt at 3.0g/t Au are also included.

BR 10373 Published in 2014

#### MT CARLTON - STOCKPILE (AG-CU)

**MEASURED MINERAL RESOURCE** 450,000 tonnes Ore @  
50.00 g/t SILVER **FOR** 22,500 Kilograms SILVER  
0.30 % COPPER **FOR** 1,350 Tonnes COPPER

BR 10373 Published in 2014

#### MT CARLTON - STOCKPILE (GOLD)

**MEASURED MINERAL RESOURCE** 190,000 tonnes Ore @  
1.60 g/t GOLD **FOR** 304 Kilograms GOLD

BR 10373 Published in 2014

#### MT CARLTON - UG V2 (AU-AG)

**INFERRED MINERAL RESOURCE** 770,000 tonnes Ore @  
15.00 g/t SILVER **FOR** 11,550 Kilograms SILVER  
4.70 g/t GOLD **FOR** 3,619 Kilograms GOLD  
0.30 % COPPER **FOR** 2,310 Tonnes COPPER

Comments/Cut Off Factor: 2.5g/t Au cut-off

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10373	2014	EVOLUTION MINING LIMITED	ANNUAL REPORT 2014	REPORT TO THE AUSTRALIAN SECURITIES EXCHANGE. 24 OCTOBER 2014. EVOLUTION MINING LIMITED, MELBOURNE.

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## Major Mining Related Events

Year Commenced	to	Year Completed	Comments
2003	to	2012	Conquest acquired the Mount Carlton area from Xstrata in Oct 2003.
2012	to	2012	Evolution Mining acquired Mount Carlton; Development of Mount Carlton mine completed by 2012

## Mining Operations

Tenure Type/Number	SHARE	Company Name/Surname
ML 10343	100.00%	CONQUEST MINING PTY LIMITED

## Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
BOWEN BASIN	Lizzie Creek Volcanics / EARLY PERMIAN to EARLY PERMIAN

## Deposit Model

GENERAL OREBODY MODEL	EPITHERMAL VEINS/PIPE/STOCKWORK	VEIN
DETAILED OREBODY MODEL	EPITHERMAL PRECIOUS METAL	HIGH SULPHIDATION EPITHERMAL

## Mineralisation Age

ORE	PERMIAN
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## Comments

In February 2010, Conquest announced that the definitive feasibility study had identified lower than expected commercial returns for the project.

The project would still be profitable but is not sufficiently robust to develop before offtake arrangements are finalised. A strategic review has commenced to consider alternative routes to production.

Part of the Mount Carlton Project. In October 2006, Conquest Mining announced that drilling had extended the strike length of the mineralised zone to 750m.

In January 2007, Conquest announced that drilling had located high-grade gold intersections that add significantly to the depth extent of the deposit, including 30m at 4.13g/t Au from 80m, 109m at 78.16g/t Au from 68m, and 44.7m at 4.8g/t Au from 98.3m.

In December 2006, Conquest announced that drilling results had continued to extend the zone of "significant mineralisation".

Intersections included 85m at 3.39g/t Au from 79m, indicating substantial depth potential.

Infill and extension drilling continued through the first half of 2007.

The deposit consists of 20 to 40m of relatively flat-lying dacite and andesite, with 5 to 60m of rhyodacite with gypsum veins and jarosite at the base. Dacitic volcanic breccias underlie the rhyodacite.

The definitive feasibility study confirmed a potential discrete high-grade silver pit at Area 39.

The study indicated two distinct mining areas, each with its own very different metal characteristics. The Main Pit will encompass a high Au-Cu mineral composition, whereas Area 39 (Silver Pit) is much lower in Au and Cu but has a very high Ag grade.

Drilling in 2008 extended the resource south and west. Intersections included 30m at 1222g/t Ag (including 12m at 2615g/t Ag), 23m at 188g/t Ag, 46m at 121g/t Ag, 21m at 5.25g/t Au, 40g/t Ag and 0.87% Cu, 5m at 9.01g/t Au, and 14m at 6.96g/t Au.

In April 2009, Conquest announced that its pre-feasibility study had demonstrated the economics of Silver Hill. A definitive feasibility study has been commissioned prior to a final decision to commence production and is on track for completion by November.

Production is likely to commence by 2011.

Deep drilling (400 to 700m) to explore for a possible porphyry host and/or second occurrence of mineralisation in the rhyodacite host beneath Silver Hill commenced in May 2009.

Trial grade control drilling in August 2009 returned intersections including 24m at 13.1g/t Au (including 4m at 62.9g/t Au), 44m at 10.1g/t Au (including 28m at 14.2g/t Au) and 40m at 11.7g/t Au (including 8m at 47.3g/t Au).

The main silicified zone crops out at a prominent ridge and disappears under a scree-covered slope to the east and west of the known resource area. The deposit comprises two zones - Main Hill and the Western Lodes.

Evolution has advanced construction of mine plant at the end of 2012.

In Nov 2010 Conquest mining reported significant new high-grade results from the V2 East area including: HC10RCD963 11.38m @ 6.77g/t Au, 9.2g/t Ag and 0.65% Cu; HC10RCD971 25.0m @ 3.29g/t Au, 10g/t Ag and 0.21% Cu.

In Dec 2010 new reserve figures for V2 pit and A39 pit were released on ASX (BR9540); Conquest Mining completed the Optimisation Study and approved the Mount Carlton mine development.

(Nov 2010 continued): HC10RCD973 5.73m @ 18.7g/t Au, 46.5g/t Ag and 4.62% Cu (BR9539).

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[www.evolutionmining.com.au](http://www.evolutionmining.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 43465 MOUNT CLARKE

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: NORTHWEST OF THE MT KELLY MINE

1:100 000 sheet Number and Name: 6758 MAMMOTH MINES

Grid Reference: Zone 54 305461 mE 7799521 mN

Latitude -19.8908 Longitude 139.1418

Date Recorded: 13/January/2015

### Other Names for Deposit / Mine

Mount Clarke Extended

Mount Clark

Mount Betty

Lady Betty

Commodities	Size	Size Definition
COPPER	SMALL	500 - 50 000 tonnes CU

### Production Details

Period: 31-Dec-1967 89 tonnes OXIDE ORE

COPPER OTHER 5.7 tonnes

Period: 1-Jul-2007 to 30-Jun-2013

COPPER PLATE 18,164.7 tonnes

### Published Reserves/Resources

BR 10367 Published in 2014

#### MOUNT CLARKE OXIDE ORE

**INDICATED MINERAL RESOURCE** 400,000 tonnes Ore @

0.45 % COPPER **FOR** 1,800 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

BR 10367 Published in 2014

#### MOUNT CLARKE OXIDE ORE

**INFERRED MINERAL RESOURCE** 20,000 tonnes Ore @

0.48 % COPPER **FOR** 96 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

BR 10367 Published in 2014

#### MOUNT CLARKE OXIDE ORE

**MEASURED MINERAL RESOURCE** 700,000 tonnes Ore @

0.54 % COPPER **FOR** 3,780 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff.

BR 10367 Published in 2014

#### MOUNT CLARKE SULPHIDE ORE

**INDICATED MINERAL RESOURCE** 700,000 tonnes Ore @

0.57 % COPPER **FOR** 3,990 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

BR 10367 Published in 2014

#### MOUNT CLARKE SULPHIDE ORE

**INFERRED MINERAL RESOURCE** 500,000 tonnes Ore @

0.55 % COPPER **FOR** 2,750 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

BR 10367 Published in 2014

#### MOUNT CLARKE SULPHIDE ORE

**MEASURED MINERAL RESOURCE** 500,000 tonnes Ore @

0.62 % COPPER **FOR** 3,100 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

BR 10367 Published in 2014

#### MOUNT CLARKE TRANSITION ORE

**INDICATED MINERAL RESOURCE** 200,000 tonnes Ore @

0.50 % COPPER **FOR** 1,000 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

BR 9957 Published in 2012

#### MOUNT CLARKE TRANSITION ORE

**INFERRED MINERAL RESOURCE** 20,000 tonnes Ore @

0.46 % COPPER **FOR** 92 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

BR 10367 Published in 2014

#### MOUNT CLARKE TRANSITION ORE

**MEASURED MINERAL RESOURCE** 1,100,000 tonnes Ore @

0.54 % COPPER **FOR** 5,940 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

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Published Reference ID	Year	Author	Title	Source
BR 10367	2014	GOLDER ASSOCIATES	CST MINING GROUP LIMITED; LADY ANNIE RESOURCE STATEMENT FOR FEBRUARY 2014	ANNOUNCEMENT TO THE STOCK EXCHANGE OF HONG KONG LIMITED, 30 MAY 2014. CST MINING GROUP LIMITED, MELBOURNE.
BR 9957	2012	CST MINING GROUP LIMITED	ANNOUNCEMENT CST MINING - LADY ANNIE OPERATIONS - UPDATED GLOBAL MINERAL RESOURCE AND RESERVE ESTIMATE	ANNOUNCEMENT TO THE STOCK EXCHANGE OF HONG KONG LIMITED, 02 AUGUST 2012. CST MINING GROUP LIMITED, MELBOURNE.

## Major Mining Related Events

Year Commenced	Year Completed	Comments
2007	to 2010	CopperCo Ltd commenced open cut mining at Mount Clarke.
2010		CST Mining Ltd took over mining and exploration operations in 2010
	1956	Lease owned by J J Spreadborough but worked under tribute by M Kucsera and party.

## Mining Operations

Mining Operations	Comments
PITS	Historical workings
TRENCHES	Historical workings
OPEN CUT MINING	Current mining operation

Tenure Type/Number	SHARE	Company Name/Surname
ML 5447	100.00%	CST MINERALS LADY ANNIE PTY LIMITED
ML 5476	100.00%	CST MINERALS LADY ANNIE PTY LIMITED
ML 90168	100.00%	CST MINERALS LADY ANNIE PTY LIMITED

## Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
MOUNT OXIDE DOMAIN	Paradise Creek Formation / PALAEOPROTEROZOIC to PALAEOPROTEROZOIC

## Deposit Model

GENERAL OREBODY MODEL	BRECCIA-HOSTED
DETAILED OREBODY MODEL	BRECCIATED SEDIMENT-HOSTED COPPER

## Mineralisation Age

ORE	PROTEROZOIC
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## Comments

The Mount Clarke copper oxide deposit is a subhorizontal blanket up to 80m thick, extending from the surface to a depth of around 80m over a strike length of 450m. The deposit is on a splay fault of the Mount Clarke Fault.

The Mount Clarke oxide resource is a combined figure for Mount Clarke and Mount Clarke Extended and includes proved and probable reserves of 5.749Mt at 0.8% Cu.

CopperCo commenced open cut mining at Mount Clarke in June 2007. Initial grade control tests indicated that ore grades are in line with the ore reserves and block model.

In September 2006, CopperCo announced infill RC drilling results for Mount Clarke Extended, including 27m at 3.05% Cu from 15m (including 2m at 11.8% Cu from 25m), 31m at 1.3% Cu from 35m, 47m at 1.1% Cu from 26m, and 19m at 3.1% Cu from 29m.

Drilling results also included 17m at 1.81% Cu from 25m, 23m at 1.76% Cu from 70m and 21m at 1% Cu from 58m. These high grade intersections may form the focal point for the starter pit at Mount Clarke.

CopperCo went into voluntary administration in November 2008. Cape Lambert Iron Ore Ltd purchased CopperCo's assets in June 2009. An Initial Public Offering to form a new company to manage the Lady Annie project is planned.

Dec 2011 CST Mining reported new intersects: MTKCD010 with 15m @ 1.09% Cu and 9m @ 2.26% Cu; MTKCD017 with 34.6m @ 5100ppm Co (BR9819). MTKCD040 20m @ 2100ppm Co & 6m @ 0.51% Cu. MTKCD012 with 13m @ 0.52% Cu; 5m @ 0.59% Cu; 6m @ 0.59% Cu

CST Mining took control of Lady Annie Project in September 2010. (CST is registered in the Hong Kong Exchanges: Code 985). New resources reported. Mining and exploration operations commenced in Nov 2010.

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# Queensland Minerals

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## 43548 MOUNT COLIN

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 48.5 KM W OF CLONCURRY

1:100 000 sheet Number and Name: 6956 MARRABA

Grid Reference: Zone 54 400544 mE 7702356 mN

Latitude -20.7759 Longitude 140.0445

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
COPPER	SMALL	500 - 50 000 tonnes CU
GOLD	SMALL	0.5 - 5 tonnes AU

### Production Details

Period: 1-Jan-1963 to 31-Dec-1966		308 tonnes HARD ROCK ORE (OR REEF)
COPPER	OTHER	24.4 tonnes
		7.90 percent
Period: 1-Jul-2013 to 30-Jun-2014		
COPPER	METAL	138.0 tonnes
GOLD	METAL	0.2 kilograms

### Published Reserves/Resources

BR 10184 Published in 2012

#### MOUNT COLIN

**INDICATED MINERAL RESOURCE** 1,042,000 tonnes Ore @  
 3.04 % COPPER **FOR** 31,676 Tonnes COPPER  
 0.42 g/t GOLD **FOR** 437 Kilograms GOLD

Comments/Cut Off Factor: 1.25% Cu cutoff

BR 10184 Published in 2012

#### MOUNT COLIN

**INFERRED MINERAL RESOURCE** 880,000 tonnes Ore @  
 2.09 % COPPER **FOR** 18,392 Tonnes COPPER  
 0.41 g/t GOLD **FOR** 360 Kilograms GOLD

Comments/Cut Off Factor: 1.25% Cu cutoff

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10184	2012	EXCO RESOURCES LTD	MARKET RELEASE: QUEENSLAND EXPLORATION UPDATE; 2012 FIELD PROGRAMME HAS COMMENCED	ANNOUNCEMENT TO THE AUSTRALIAN SECURITIES EXCHANGE, 20 APRIL 2012. EXCO RESOURCES LTD, PERTH.

### Major Mining Related Events

Year Commenced	Year Completed	Comments

### Mining Operations

DECLINED SHAFTS/DRIVES

### Comments

Main shaft underlies at 70 degrees towards 010 degrees, open to >15m depth x 2m wide x 2.5m long. A second underlie shaft is ~8m west of the main shaft, it is fenced off, has a steel ladder in the opening. Old wire mesh partially covers the opening.

UNDERGROUND MINING METHODS

Short drives at 17m, 23m and 34m levels

STOPPING

Stoping carried out between the upper two levels.

Tenure Type/Number	SHARE	Company Name/Surname
ML 2640	100.00%	EXCO RESOURCES LIMITED

### Host Rock/Cover Sequences

Structural Unit

MARY KATHLEEN DOMAIN

Formation Name/Age

Corella Formation / PALAEOPROTEROZOIC to  
PALAEOPROTEROZOIC

### Deposit Model

GENERAL OREBODY MODEL

HYDROTHERMAL VEINS/PIPE/STOCKWORK

DETAILED OREBODY MODEL

SHEAR ZONE-HOSTED HYDROTHERMAL

### Mineralisation Age

ORE

PROTEROZOIC



# Queensland Minerals

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## Comments

A small-scale mining operation of the oxide resources was being run by Tennant, with a royalty payment being made to Matrix Metals Ltd. The lease is being transferred to Exco Resources NL under a tenement swap agreement. Exco plans further exploration.

The lode consists of a footwall calcsilicate, a clay seam, breccia and a hanging wall of silicified calcsilicate.

RC drilling results in early 2007 confirmed the presence of significant gold grades. Intersections included 11m at 3.45% Cu and 6.31g/t Au from 7m, 16m at 3.47% Cu and 0.45g/t Au from 74m, and 36m at 4.03% Cu and 0.62g/t Au from 151m.

In Sept 2010 Exco reported best drill intersection from resource drilling: EMCDD034 17m @ 4.6% Cu & 1.34g/t Au. Geological interpretation and resource estimation is underway (BR9543).

Mining of oxide ore by CopperChem Ltd was completed in early 2011. In 2012 Exco Resources was taken over by Washington H Soul Pattinson & Co Ltd.

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## Web Page

[www.excoresources.com.au](http://www.excoresources.com.au); [www.copperchem.com.au/](http://www.copperchem.com.au/)

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 42563 MOUNT GARNET

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 1 KM SSW OF MOUNT GARNET, 100KM SW OF CAIRNS.

1:100 000 sheet Number and Name: 7962 RAVENSHOE

Grid Reference: Zone 55 299814 mE 8043669 mN

Latitude -17.6849 Longitude 145.1126

Date Recorded: 16/January/2015

### Other Names for Deposit / Mine

Mount Garnet Freehold

Commodities	Size	Size Definition
ZINC	SMALL	200 - 200 000 tonnes ZN
COPPER	SMALL	500 - 50 000 tonnes CU
SILVER	SMALL	5 - 500 tonnes AG
LEAD	VERY SMALL	<1000 tonnes PB

### Production Details

Period: 1-Jan-1901 to 31-Dec-1903		100,000 tonnes HARD ROCK ORE (OR REEF)
COPPER	METAL	4,415.0 tonnes
SILVER		29,500.0 kilograms
Period: 1-Jan-2003 to 31-Dec-2003		209,598 tonnes HARD ROCK ORE (OR REEF)
ZINC	METAL	13,623.9 tonnes 6.50 percent
COPPER	METAL	8,383.9 tonnes 0.40 percent

### Published Reserves/Resources

BR 10071 Published in 2012

#### MT GARNET UNDERGROUND

**INDICATED MINERAL RESOURCE** 537,000 tonnes Ore @  
 5.20 % ZINC **FOR** 27,924 Tonnes ZINC  
 14.00 g/t SILVER **FOR** 7,518 Kilograms SILVER  
 0.40 % COPPER **FOR** 2,176 Tonnes COPPER

BR 10071 Published in 2012

#### MT GARNET UNDERGROUND

**INFERRED MINERAL RESOURCE** 31,000 tonnes Ore @  
 6.60 % ZINC **FOR** 2,046 Tonnes ZINC  
 46.00 g/t SILVER **FOR** 1,426 Kilograms SILVER  
 0.30 % COPPER **FOR** 93 Tonnes COPPER

BR 10071 Published in 2012

#### MT GARNET

**MEASURED MINERAL RESOURCE** 100,000 tonnes Ore @  
 10.10 % ZINC **FOR** 10,100 Tonnes ZINC  
 22.00 g/t SILVER **FOR** 2,200 Kilograms SILVER  
 0.60 % COPPER **FOR** 600 Tonnes COPPER

previously labeled "Underground"

Resource figures listed above are JORC compliant.

Published Reference ID	Year Author	Title	Source
BR 10071	2012 KAGARA MINING	OPPORTUNITY TO ACQUIRE KAGARA LIMITED'S NORTH QUEENSLAND ASSETS	REPORT TO THE AUSTRALIAN SECURITIES EXCHANGE. 14 SEPTEMBER 2012 KAGARA MINING, PERTH.

### Major Mining Related Events

Year Commenced	Year Completed	Comments
1882		Mount Garnet deposit discovered.
1898	to 1902	Main period of mining. Mining and smelter commenced operation in 1898.
1915	to 1917	Attempt to reopen mine as a zinc producer but failed.
2002	to 2003	Construction of treatment plant commenced in June 2002. Plant commissioned in February 2003. Mount Garnet deposit open cut between February and September 2003.
2003		Mount Garnet treatment plant continued to process ores from Balcooma, Surveyor and Dry River South.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Mining Operations

OPEN CUT MINING

UNDERGROUND MINING METHODS

SHAFTS

ADITS

## Comments

Mining in 2003 extended the historic opencut workings. Stage 2 extension of pit to the north planned for 2006.

Underground mining planned from base of new open cut.

Removed by opencut mining.

Removed by opencut mining.

Tenure Type/Number	SHARE	Company Name/Surname
ML 4042	100.00%	SNOW PEAK MINING PTY LTD
ML 4043	100.00%	SNOW PEAK MINING PTY LTD
ML 4044	100.00%	SNOW PEAK MINING PTY LTD
ML 4130	100.00%	SNOW PEAK MINING PTY LTD
ML 20005	100.00%	SNOW PEAK MINING PTY LTD
ML 20016	100.00%	SNOW PEAK MINING PTY LTD
ML 20105	100.00%	SNOW PEAK MINING PTY LTD

## Host Rock/Cover Sequences

*Structural Unit*

HODGKINSON PROVINCE

*Formation Name/Age*

Chillagoe Formation / EARLY SILURIAN to EARLY DEVONIAN

## Deposit Model

GENERAL OREBODY MODEL

REPLACEMENT DEPOSIT

DETAILED OREBODY MODEL

LEAD-ZINC SKARN

## Mineralisation Age

ORE

LATE CARBONIFEROUS

Early garnet-pyroxene skarn, retrograde phase brought mineralisation. Four main ore types - vein style (late overprint), disseminated (garnet or pyrrhotite skarn), pyrrhotite ore (brecciation associated), and magnetite associated ore.

## Comments

Kagara Zinc Ltd completed expensive drilling and metallurgical studies and delineated a coherent zone of very high grade zinc sulphide mineralisation ~150m below the surface. Open cut mining was carried out in 2003.

Additional exploration was carried out in 2006. Drill intersections announced in June included 27.2m at 24.0% Zn, 0.4% Cu and 14g/t Ag from 147.25m. A tailings dam lift resulted in a cut back of the current open cut.

This will expose ~70 000t at 8.5% Zn, 0.5% Cu and 20g/t Ag and will be the last ore mined from the open cut. All future production is planned to come from underground development.

The processing plant at Mount Garnet is a central plant used to treat ore from Mount Garnet, Balcooma, Surveyor and Dry River South. It was upgraded in September 2004 and May 2005. A 30 000 tonnes per annum copper circuit was commissioned in March 2006.

In the June 2007 quarter, 425 000t of waste was removed from the open cut and 2000t of ore was stockpiled. Material from the Mount Garnet open cut will be processed in January to March 2008, from a stockpile of ~200,000t @ 6% Zn and .4% Cu.

The ore from the Mount Garnet open cut was being blended with Balcooma and Dry River South ores. From late 2008, it was blended with high-grade Mungana ore.

The Mt Garnet underground mine commenced stoping in Feb 2009 and to date has produced 71000 tonnes grading 9.5% zinc and 0.5% copper (BR 9353).

The ore zone is directly related with a garnetised limestone-argillite bed. Drilling has shown primary marmatitic ore associated with calcite-garnet hornfels containing magnetite, sphalerite, pyrrhotite and minor chalcopyrite and galena.

## Web Page

[www.kagara.com.au](http://www.kagara.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 580171 MOUNT GARNET PLANT

### OPERATING MINE

Descriptive Location: 1KM SSW OF MOUNT GARNET

1:100 000 sheet Number and Name: 7962 RAVENSHOE

Grid Reference: Zone 55 299758 mE 8043854 mN

Latitude -17.6832 Longitude 145.1121

Date Recorded: 19/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
ZINC	SMALL	200 - 200 000 tonnes ZN
LEAD	SMALL	1000 - 100 000 tonnes PB
COPPER	SMALL	500 - 50 000 tonnes CU
SILVER	SMALL	5 - 500 tonnes AG
GOLD	VERY SMALL	<0.5 tonnes AU

### Production Details

Period: 1-Jul-2005 to 30-Jun-2010		1,354,427 tonnes HARD ROCK ORE (OR REEF)
COPPER	METAL	42,185.0 tonnes
SILVER		13,600.0 kilograms
GOLD	FINE	192.8 kilograms
Period: 2-Jul-2005 to 30-Jun-2010		2,221,901 tonnes HARD ROCK ORE (OR REEF)
ZINC	METAL	185,125.0 tonnes
LEAD	METAL	33,525.0 tonnes
COPPER	METAL	19,425.0 tonnes
SILVER		67,120.0 kilograms
GOLD	FINE	514.4 kilograms
Period: 1-Jul-2010 to 30-Jun-2011		
COPPER	METAL	6,740.0 tonnes
ZINC	METAL	40,125.0 tonnes
LEAD	METAL	1,040.0 tonnes
Period: 2-Jul-2010 to 30-Jun-2011		
COPPER	METAL	15,790.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
<b>Major Mining Related Events</b>				
Year Commenced	Year Completed		Comments	
2003	to 2003		Treated Mount Garnet ore	
2005	to 2008		Treated ore from Balcooma, Surveyor and Dry River South	
2008	to 2009		Treated ore predominantly from Balcoma; blending of Mount Garnet underground ore with high grade Munguna ore (commenced September 2008)	

### Mining Operations

Tenure Type/Number	SHARE	Company Name/Surname
ML 4042	100.00%	SNOW PEAK MINING PTY LTD
ML 4043	100.00%	SNOW PEAK MINING PTY LTD
ML 4044	100.00%	SNOW PEAK MINING PTY LTD
ML 4130	100.00%	SNOW PEAK MINING PTY LTD
ML 20005	100.00%	SNOW PEAK MINING PTY LTD
ML 20016	100.00%	SNOW PEAK MINING PTY LTD
ML 20105	100.00%	SNOW PEAK MINING PTY LTD

### Host Rock/Cover Sequences

Structural Unit

Formation Name/Age

### Deposit Model

### Mineralisation Age

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, [2014](#)

## Comments

Remark for "production details": 2 sets of production figures reported: Production including Pb and Zn values were processed in the polymetallic plant, the other set of values originates from the copper plant circuit.

The copper and polymetallic processing plants at Mount Garnet are central plants used by Kagara Ltd to process ore from Mount Garnet, Balcooma, Surveyor and Dry River South.

The polymetallic plant was upgraded in September 2004 and May 2005. A 30,000tpa copper circuit was commissioned in March 2006. Production data from 2005 to 2010 is recorded at this site since the ore amounts were sourced from multiple locations and could not be separated easily. Individual records for production at Balcooma, Surveyor, Mount Garnet, Baal Gammon etc have been (cont.) quoted where identified, but were not added to the database to avoid duplication.

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## Web Page

[www.kagara.com.au](http://www.kagara.com.au)

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 486900 MOUNT HAY

### OPERATING MINE

Descriptive Location: 8.5 KM NE OF WESTWOOD

1:100 000 sheet Number and Name: 8950 MOUNT MORGAN

Grid Reference: Zone 56 215558 mE 7392074 mN

Latitude -23.5567 Longitude 150.2137

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
THUNDER EGG	LARGE	>100 tonnes THEG

### Production Details

Period: 1-Jan-1965 to 31-Dec-1978

THUNDER EGG 147,904.0 kilograms  
RHYOLITE 53.8 tonnes

Period: 1-Jul-1996 to 30-Jun-2014

AGATE 1,513,496.0 australian dollars

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
1964	to 1968	DIGGING OF GEMSTONES BY HAND.
1968		HEAVY MACHINERY PUT IN OPERATION AND QUARRYING BEGAN IN 1971 IN ML491.
1971		

Mining Operations	Comments
OPEN CUT MINING	
SURFACE MINING METHODS	
PITS	At least 6 areas of pitting.

Tenure Type/Number	SHARE	Company Name/Surname
ML 5817	100.00%	ARADON PTY LTD
ML 80090	100.00%	ARADON PTY LTD

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
UNDIFFERENTIATED MESOZOIC VOLCANICS	Mount Salmon Volcanics/t / LATE CRETACEOUS to LATE CRETACEOUS

### Deposit Model

GENERAL OREBODY MODEL	DIATREME OR PYROCLASTIC-RELATED DEPOSITS
DETAILED OREBODY MODEL	ALLUVIAL/ELUVIAL GEMSTONES
GENERAL OREBODY MODEL	RESIDUAL DEPOSIT

### Mineralisation Age

ORE	LATE CRETACEOUS
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### Comments

Thunder egg deposits are confined to a single spherulitic rhyolite flow within a complex of acid volcanic plugs, flows and pyroclastics.  
The Mount Hay Gemstone Tourist Park diggings are within ML 926.

### Web Page

[www.aradon.com.au](http://www.aradon.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 494086 MOUNT ISA COPPER MINE

OPERATING MINE

Descriptive Location: 1.3 KM WEST OF MOUNT ISA.

1:100 000 sheet Number and Name: 6756 MOUNT ISA

Grid Reference: Zone 54 341520 mE 7707565 mN

Latitude -20.7247 Longitude 139.4780

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Mount Isa  
Enterprise  
Black Rock  
Mount Isa Deep Copper Mine  
X41 Mine

Commodities	Size	Size Definition
COPPER	GIANT	>2 000 000 tonnes CU
COBALT	MEDIUM	1 000 - 20 000 tonnes CO
SILVER	SMALL	5 - 500 tonnes AG
ANTIMONY	VERY SMALL	<50 tonnes SB
GALLIUM		

### Production Details

Period: 1-Jan-1942 to 31-Dec-1996		
COPPER	OTHER	4,824,742.0 tonnes
Period: 1-Jul-1996 to 30-Jun-2001		14,030,698 tonnes HARD ROCK ORE (OR REEF)
COPPER	METAL	854,664.0 tonnes
SILVER		90,141.0 kilograms
COBALT		3,613.0 tonnes
ANTIMONY		59.0 tonnes
Period: 1-Jul-2001 to 30-Jun-2013		63,602,394 tonnes HARD ROCK ORE (OR REEF)
COPPER	METAL	1,968,379.0 tonnes
ANTIMONY		42.0 tonnes
COBALT		2,700.0 tonnes
SILVER		184,137.5 kilograms

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Published Reserves/Resources

BR 10304 Published in 2014

### ENTERPRISE MINE 3000 & 3500

**INDICATED MINERAL RESOURCE** 3,600,000 tonnes Ore @  
2.52 % COPPER **FOR** 90,720 Tonnes COPPER

As at 31 Dec 2013. Resource figure from Glencore Plc website.

BR 10304 Published in 2014

### ENTERPRISE MINE 3000 & 3500

**INFERRED MINERAL RESOURCE** 700,000 tonnes Ore @  
2.23 % COPPER **FOR** 15,610 Tonnes COPPER

As at 31 Dec 2013. Resource figure from Glencore Plc website.

BR 10304 Published in 2014

### ENTERPRISE MINE 3000 & 3500

**MEASURED MINERAL RESOURCE** 33,300,000 tonnes Ore @  
2.90 % COPPER **FOR** 965,700 Tonnes COPPER

Includes proved reserves of 16.6Mt at 3.08% Cu and probable reserves of 3.1Mt at 2.5% Cu. As at 31 Dec 2013. Resource figure from Glencore Plc website.

BR 10304 Published in 2014

### OPEN PIT

**INDICATED MINERAL RESOURCE** 82,000,000 tonnes Ore @  
1.32 % COPPER **FOR** 1,082,400 Tonnes COPPER

Comments/Cut Off Factor: 0.5% Cu.

As at 31 Dec 2013. Resource figure from Glencore Plc website.

BR 10304 Published in 2014

### OPEN PIT

**INFERRED MINERAL RESOURCE** 138,000,000 tonnes Ore @  
0.89 % COPPER **FOR** 1,228,200 Tonnes COPPER

Comments/Cut Off Factor: 0.5% Cu.

As at 31 Dec 2013. Resource figure from Glencore Plc website.

BR 10304 Published in 2014

### OPEN PIT

**MEASURED MINERAL RESOURCE** 48,000,000 tonnes Ore @  
1.46 % COPPER **FOR** 700,800 Tonnes COPPER

Comments/Cut Off Factor: 0.5% Cu.

As at 31 Dec 2013. Resource figure from Glencore Plc website.

BR 10304 Published in 2014

### X41 MINE 1100 & 1900 OREBODIES

**INDICATED MINERAL RESOURCE** 13,100,000 tonnes Ore @  
1.78 % COPPER **FOR** 233,180 Tonnes COPPER

Includes probable reserves of 12Mt at 1.83% Cu. As at 31 Dec 2013. Resource figure from Glencore Plc website.

BR 10304 Published in 2014

### X41 MINE 1100 & 1900 OREBODIES

**INFERRED MINERAL RESOURCE** 6,700,000 tonnes Ore @  
1.66 % COPPER **FOR** 111,220 Tonnes COPPER

As at 31 Dec 2013. Resource figure from Glencore Plc website.

BR 10304 Published in 2014

### X41 MINE 1100 & 1900 OREBODIES

**MEASURED MINERAL RESOURCE** 32,200,000 tonnes Ore @  
1.93 % COPPER **FOR** 621,460 Tonnes COPPER

Includes proved reserves of 8.6Mt at 2.0% Cu. As at 31 Dec 2013. Resource figure from Glencore website.

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10304	2014	GLENCORE XSTRATA	GLENCOREXSTRATA RESOURCES & RESERVES AS AT 31 DECEMBER 2013.	HTTP://WWW.GLENCORE.COM/ NVESTORS/REPORTS-AND-RESU LTS/RESERVES-AND-RESOURCE S/ 11-FEB-2014



# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Major Mining Related Events

Year Commenced	to	Year Completed	Comments
1927	to	1927	Surface drilling intersected 15m at 17% Cu in the Black Rock area.
1930	to	1930	Primary Cu first noted.
1941	to	1962	Black Rock secondary orebody mined intermittently for flux from underground.
1950	to	1950	500 orebody discovered.
1954	to	1954	1100/1900 orebodies discovered.
1957	to	1967	Black Rock mined by open cut. Produced 2.26 Mt at 3.9% Cu.
1962	to	1962	3000 orebody intersected by drilling.
1965	to	1965	3500 orebody intersected by drilling.
1987	to	1993	Development of 3000 orebody commenced in 1987 and mining started in 1993.
1997	to	1999	Mining of 3500 orebody commenced in 1997.
2000			The Enterprise (Mount Isa Deep Copper) Mine commenced production after an investment of A\$370M. It was Australia's deepest mine following the construction of a new internal shaft to a depth of 1800m.
2004			Development of the northern 3500 underground commenced. Expected \$36m investment. Ore production scheduled for 2006. Expected to extend copper orebody for 11 years.

## Mining Operations

SHAFTS

UNDERGROUND MINING METHODS

OPEN CUT MINING

STOPING

## Comments

Tenure Type/Number	SHARE	Company Name/Surname
ML 8058	100.00%	MOUNT ISA MINES LIMITED

## Host Rock/Cover Sequences

*Structural Unit*

LEICHHARDT RIVER DOMAIN

*Formation Name/Age*

Urquhart Shale / PALAEOPROTEROZOIC to PALAEOPROTEROZOIC

## Deposit Model

GENERAL OREBODY MODEL

BRECCIA-HOSTED

DETAILED OREBODY MODEL

BRECCIATED SEDIMENT-HOSTED COPPER

## Mineralisation Age

ORE

MESOPROTEROZOIC

Mineralisation associated with peak to retrograde metamorphism of the Isan Orogeny (1550-1500Ma). Wilde & others (2007) suggest mineralisation was after initiation of the South Nicholson Basin.

## Comments

The Mount Isa Cu orebodies are among the world's largest sediment-hosted Cu deposits. They occur exclusively in brecciated silica-dolomite host rocks adjacent to the Basement Contact Fault and give way to multiple Pb-Zn-Ag lodes away from the fault.

Mining is currently carried out on two orebodies - Enterprise and X41.

Wilde & others (2007 - BR 8258) have proposed a model whereby the copper ore formed by the reduction of oxidised basinal brines by the carbonaceous Urquhart Shale.

Wilde & others (2007) suggested that various radiometric ages are consistent with formation of the copper orebodies after initiation of the South Nicholson Basin.

## Web Page

[www.glencore.com](http://www.glencore.com)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 45327 MOUNT ISA SILVER-LEAD MINE

### OPERATING MINE

Descriptive Location: 1.3 KM W MOUNT ISA.

1:100 000 sheet Number and Name: 6756 MOUNT ISA

Grid Reference: Zone 54 341520 mE 7707565 mN

Latitude -20.7247 Longitude 139.4780

Date Recorded: 22/December/2014

### Other Names for Deposit / Mine

Black Star  
Racecourse  
Isa Mine  
Mount Isa

Commodities	Size	Size Definition
SILVER	GIANT	>10 000 tonnes AG
ZINC	GIANT	>5 000 000 tonnes ZN
LEAD	GIANT	>5 000 000 tonnes PB
COPPER	SMALL	500 - 50 000 tonnes CU
CADMIUM	SMALL	50 - 5 000 tonnes CD
ANTIMONY	SMALL	50 - 5 000 tonnes SB
COBALT	SMALL	10 - 1 000 tonnes CO
SULPHUR		

### Production Details

Period: 1-Jan-1931 to 31-Dec-1996

SILVER 13,941,000.0 kilograms  
ZINC METAL 5,007,664.0 tonnes  
LEAD METAL 5,738,407.0 tonnes

Period: 1-Jul-1996 to 30-Jun-2001

8,799,387 tonnes SULPHIDE ORE  
SILVER 1,883,793.0 kilograms  
ZINC METAL 895,282.0 tonnes  
LEAD METAL 772,195.0 tonnes  
COPPER METAL 5,191.0 tonnes  
CADMIUM 3,000.0 tonnes  
ANTIMONY 1,819.0 tonnes  
COBALT 212.0 tonnes  
SULPHUR 486,316.0 tonnes

Period: 1-Jul-1999 to 1-Jul-2000

2,986,462 tonnes HARD ROCK ORE (OR REEF)

LIMESTONE UNKNOWN 15,393.0 tonnes

Period: 1-Jul-2001 to 30-Jun-2013

59,254,499 tonnes SULPHIDE ORE  
SILVER 3,673,582.6 kilograms  
LEAD METAL 1,647,284.0 tonnes  
ZINC METAL 3,281,500.0 tonnes  
COPPER METAL 4,248.0 tonnes  
COBALT 116.0 tonnes  
CADMIUM 2,087.0 tonnes  
ANTIMONY 747.0 tonnes  
SULPHUR 353,278.0 tonnes

Period: 1-Jul-2008 to 30-Jun-2009

6,733,482 tonnes HARD ROCK ORE (OR REEF)

LIMESTONE UNKNOWN 120,828.0 tonnes

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Published Reserves/Resources

BR 10304 Published in 2014

### BLACK STAR OPEN CUT

**INDICATED MINERAL RESOURCE** 4,800,000 tonnes Ore @  
 45.00 g/t SILVER **FOR** 216,000 Kilograms SILVER  
 3.60 % ZINC **FOR** 172,800 Tonnes ZINC  
 2.20 % LEAD **FOR** 105,600 Tonnes LEAD

Comments/Cut Off Factor: A\$23/t net smelter return.

As at 31 Dec 2013. Resource figures from Glencore Plc website.

BR 10304 Published in 2014

### BLACK STAR OPEN CUT

**INFERRED MINERAL RESOURCE** 1,300,000 tonnes Ore @  
 60.00 g/t SILVER **FOR** 78,000 Kilograms SILVER  
 5.00 % ZINC **FOR** 65,000 Tonnes ZINC  
 3.00 % LEAD **FOR** 39,000 Tonnes LEAD

Comments/Cut Off Factor: A\$23/t net smelter return.

As at 31 Dec 2013. Resource figures from Glencore Plc website.

BR 10304 Published in 2014

### BLACK STAR OPEN CUT

**MEASURED MINERAL RESOURCE** 18,300,000 tonnes Ore @  
 65.50 g/t SILVER **FOR** 1,198,650 Kilograms SILVER  
 4.83 % ZINC **FOR** 883,890 Tonnes ZINC  
 3.36 % LEAD **FOR** 614,880 Tonnes LEAD

Comments/Cut Off Factor: A\$23/t net smelter return.

Measured and indicated resources include proved reserves of 9.9Mt at 4.51% Zn, 2.29% Pb and 52.5g/t Ag and probable reserves of 13Mt at 4.4% Zn, 3.5% Pb and 62g/t Ag. As at 31 Dec 2013. Resource figures from Glencore Plc website.

BR 10304 Published in 2014

### ISA OPEN PIT

**INDICATED MINERAL RESOURCE** 210,000,000 tonnes Ore @  
 55.00 g/t SILVER **FOR** 11,550,000 Kilograms SILVER  
 3.50 % ZINC **FOR** 7,350,000 Tonnes ZINC  
 2.60 % LEAD **FOR** 5,460,000 Tonnes LEAD

Comments/Cut Off Factor: A\$23/t net smelter return.

As at 31 Dec 2013. Resource figures from Glencore Plc website.

BR 10304 Published in 2014

### ISA OPEN PIT

**INFERRED MINERAL RESOURCE** 170,000,000 tonnes Ore @  
 40.00 g/t SILVER **FOR** 6,800,000 Kilograms SILVER  
 3.00 % ZINC **FOR** 5,100,000 Tonnes ZINC  
 2.00 % LEAD **FOR** 3,400,000 Tonnes LEAD

Comments/Cut Off Factor: A\$23/t net smelter return.

As at 31 Dec 2013. Resource figures from Glencore Plc website.

BR 10304 Published in 2014

### ISA OPEN PIT

**MEASURED MINERAL RESOURCE** 47,800,000 tonnes Ore @  
 72.00 g/t SILVER **FOR** 7,624,800 Kilograms SILVER  
 3.20 % LEAD **FOR** 3,388,800 Tonnes LEAD  
 4.14 % ZINC **FOR** 1,978,920 Tonnes ZINC

Comments/Cut Off Factor: A\$23/t net smelter return.

As at 31 Dec 2013. Resource figures from Glencore Plc website.

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10304	2014	GLENCORE XSTRATA	GLENCOREXSTRATA RESOURCES & RESERVES AS AT 31 DECEMBER 2013.	HTTP://WWW.GLENCORE.COM/INVESTORS/REPORTS-AND-RESULTS/RESERVES-AND-RESOURCE/11-FEB-2014

## Major Mining Related Events

Year Commenced	Year Completed	Comments
1923	to 1923	John Campbell Miles discovered Ag-Pb mineralisation in outcrop. More than 100 lease applications were registered by the end of 1923.
1924	to 1924	Most of the leases were amalgamated under the control of Mount Isa Mines Ltd.
1931	to 2005	Production by Mount Isa Mines Ltd commenced in May 1931. Underground zinc-lead mining operations at Mount Isa ceased at the end of 2005.
2004		Black Star open cut waste material removal commenced in October 2004. Mining began in 2005 and will run for at least five years. The opencut will eventually be 350m deep, almost 1km long and 900m wide.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Mining Operations

## Comments

UNDERGROUND MINING METHODS

SHAFTS

STOPING

OPEN CUT MINING

Opencut workings (called Black Star) restarted in February 2005.

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Tenure Type/Number	SHARE	Company Name/Surname
ML 8058	100.00%	MOUNT ISA MINES LIMITED

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## Host Rock/Cover Sequences

*Structural Unit*

LEICHHARDT RIVER DOMAIN

*Formation Name/Age*

Urquhart Shale / PALAEOPROTEROZOIC to PALAEOPROTEROZOIC

## Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

SEDIMENT-HOSTED PB-ZN (SEDEX ZN-PB,  
SHALE-HOSTED ZN-PB)

## Mineralisation Age

ORE

PALAEOPROTEROZOIC

Mineralisation dated at 1652 +/- 7Ma.

## Comments

Tabular, bedding-parallel Ag-Pb-Zn orebodies occur in close proximity to but geologically distinct from the breccia-hosted massive to disseminated copper mineralisation.

The mineralisation occurs within fine to coarse (1mm to 1m) bedding-parallel sulphide- rich bands within shales and siltstones of the Urquhart Shale.

The sulphide bands constitute an orebody where they are grouped together in sufficient concentrations to meet criteria for an economic orebody.

Post-1987 production includes that from the George Fisher/Hilton Mines to the north.

In June 2004, Xstrata announced that it will go ahead with development of the Black Star open cut, with pre-strip mining expected to commence in the second half of the year. Planned pit depth is 200m.

Production from the Black Star orebody commenced in early 2005 at a rate of 1.5Mtpa for 5 years, based on a resource of 24.2Mt at 5.1% Zn, 2.7% Pb and 54g/t Ag, including a reserve of 8.4Mt at 5.2% Zn, 3.5% Pb and 60g/t Ag.

Mining ceased in the Mount Isa underground lead-zinc mine at the end of 2005. In late 2006, the first stage of an update and expansion of the Mount Isa zinc concentrator was completed, as well as a new zinc filter plant.

## Web Page

[www.glencore.com](http://www.glencore.com)

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 43470 MOUNT KELLY

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 90KM NORTH OF MOUNT ISA.

1:100 000 sheet Number and Name: 6758 MAMMOTH MINES

Grid Reference: Zone 54 305784 mE 7798925 mN

Latitude -19.8962 Longitude 139.1448

Date Recorded: 13/January/2015

### Other Names for Deposit / Mine

Mount Kelly Workings

Commodities	Size	Size Definition
COPPER	SMALL	500 - 50 000 tonnes CU
GOLD	VERY SMALL	<0.5 tonnes AU

### Production Details

Period: 1-Jan-1930 to 31-Dec-1958		2,520 tonnes OXIDE ORE	
COPPER	OTHER	164.7 tonnes	6.65 percent
Period: 1-Jul-1967 to 30-Jun-1968		107 tonnes OXIDE ORE	
COPPER	OTHER	4.6 tonnes	4.30 percent
Period: 1-Jul-2011 to 30-Jun-2013			
COPPER	PLATE	1,163.0 tonnes	

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
1930 to 1939		Outcropping copper carbonates were discovered.
2010		CST mining commenced mining and exploration operations in September 2010.

Mining Operations	Comments
ADITS	
OPEN CUT MINING	
UNDERGROUND MINING METHODS	
DECLINED SHAFTS/DRIVES	
SHAFTS	
STOPING	

Tenure Type/Number	SHARE	Company Name/Surname
ML 5435	100.00%	CST MINERALS LADY ANNIE PTY LIMITED
ML 5478	100.00%	CST MINERALS LADY ANNIE PTY LIMITED

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
MOUNT OXIDE DOMAIN	Paradise Creek Formation / PALAEOPROTEROZOIC to PALAEOPROTEROZOIC

### Deposit Model

GENERAL OREBODY MODEL	BRECCIA-HOSTED
DETAILED OREBODY MODEL	BRECCIATED SEDIMENT-HOSTED COPPER

### Mineralisation Age

ORE	MESOPROTEROZOIC
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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Comments

Oxide copper mineralisation is focused within the axial zone of a shallow plunging anticline where it is intersected by the NNW-trending Mount Kelly Fault and WNW-trending Spinifex thrust.

Remobilisation of minerals is evident away from the controlling structures along bedding planes and axial cleavage planes. Lower grade ore occurs as bedding-controlled disseminations but the higher grade ore occurs within breccias.

The oxide copper resource includes probable reserves of 85,000t at 0.7% Cu.

CopperCo went into voluntary administration in November 2008. Cape Lambert Iron Ore Ltd purchased CopperCo's assets in June 2009.

An Initial Public Offering to form a new company to manage the Lady Annie project is planned.

CST Mining resumed mining at Lady Annie in September 2010, with first copper cathode production in November 2010. (CST is registered in the Hong Kong Exchanges: Code 985). New resources for Flying Horse and Mount Kelly reported together.

Significant drilling results (Cu) announced by CST mining Ltd in Nov 2010 include: MTKC001 with 30m @ 1.26% Cu; MTKC169 with 40m @ 1.01% Cu; MTKC264 with 33m @ 1.33% Cu; MTKC270 with 29m @ 1.24% Cu; and MTKC299 with 18m @ 1.37% Cu (BR9536).

Significant drilling results (Au) announced by CST mining Ltd in Nov 2010 include: MTKC002 with 8m @ 1.63g/t Au; MTKC006 with 7m @ 1.19g/t Au; MTKC258 with 6m @ 1.44g/t Au; MTKC261 with 8m @ 5.58g/t Au; and MTKC293 with 23m @ 2.31g/t Au (BR9536).

Nov 2010 CST carried out diamond drilling to collect samples (560m) for metallurgical testwork to strengthen understanding of the amenability of the oxide mineralisation to be treated at the Mt Kelly SX-EW process plant. Results are expected in Q2 2011.

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## Web Page

<http://www.cstmining.com>

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 40502 MOUNT MOSS

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 4.2 KM N OF EWAN, 100KM WEST OF TOWNSVILLE.

1:100 000 sheet Number and Name: 8059 EWAN

Grid Reference: Zone 55 378715 mE 7889270 mN

Latitude -19.0858 Longitude 145.8471

Date Recorded: 11/February/2015

### Other Names for Deposit / Mine

Iron Mountain Shaft  
Titan Shaft  
Willets Pit

Commodities	Size	Size Definition
MAGNETITE	LARGE	>1 000 000 tonnes MT
LIMESTONE	SMALL	100 000 - 2 000 000 tonnes LST
COPPER	MEDIUM	50 000 - 250 000 tonnes CU
ZINC	SMALL	200 - 200 000 tonnes ZN
SILVER	VERY SMALL	<5 tonnes AG
LEAD	VERY SMALL	<1000 tonnes PB
SCANDIUM		

### Production Details

Period: 1-Jul-2008 to 30-Jun-2014

MAGNETITE 993,844.8 tonnes

LIMESTONE CRUSHED ROCK 7,299.2 tonnes

Period: 1-Jul-2011 to 30-Jun-2012

MAGNETITE 39,081.0 tonnes

### Published Reserves/Resources

BR 9656 Published in 2011

#### MOUNT MOSS

**INFERRED MINERAL RESOURCE** 20,000,000 tonnes Ore @

41.00 % IRON **FOR** 8,200,000 Tonnes IRON

0.35 % COPPER **FOR** 70,000 Tonnes COPPER

0.35 % ZINC **FOR** 70,000 Tonnes ZINC

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 9656	2011	GEOLOGICAL SURVEY OF QUEENSLAND	QUEENSLAND'S METALLIFEROUS AND INDUSTRIAL MINERALS 2010.	GEOLOGICAL SURVEY OF QUEENSLAND, DEPARTMENT OF EMPLOYMENT, ECONOMIC DEVELOPMENT AND INNOVATION, BRISBANE.

### Major Mining Related Events

Year Commenced	Year Completed	Comments

### Mining Operations

UNDERGROUND MINING METHODS

PITS

SHAFTS

ADITS

OPEN CUT MINING

### Comments

Tenure Type/Number	SHARE	Company Name/Surname
ML 10171	100.00%	MT MOSS MINING PTY LTD

### Host Rock/Cover Sequences

Structural Unit

CAMEL CREEK SUBPROVINCE

Formation Name/Age

Perry Creek Formation / ORDOVICIAN to SILURIAN

### Deposit Model

GENERAL OREBODY MODEL

SKARN

DETAILED OREBODY MODEL

BASE METAL SKARN

### Mineralisation Age

ORE

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, [2014](#)

## Comments

The Mount Moss area was explored by Jervois Mining NL for a zinc oxide resource. Drilling in 1990 returned a best intersection of 12m @ 19.1% Zn & 0.52% Cu from 78-90m depth. The weathered zone returned 78m @ 20.7g/t Sc, 0.24% Cu and 2.03% Zn from 36m.

The orebody has a zinc oxide and magnetite cap overlying a possible 1Mt sulphide resource.

Fourteen RAB holes were drilled into Willetts Knob to evaluate magnetite potential. It was concluded that the grade of iron intersected was not high enough for direct shipping without upgrading, probably by magnetic separation.

Curtain Bros (Qld) Pty Ltd has proposed an open cut mine at Mount Moss to export ~1Mt per annum of magnetite for processing at a steel mill in China. Lump magnetite could also be produced for coal washing.

The magnetite resource has been unofficially reported as 3.5Mt of magnetite ore (Courier Mail, March 25, 2007).

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## Web Page

[www.mtmoss.com](http://www.mtmoss.com)

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 41044 MOUNT RAWDON

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 16.5KM SE OF MOUNT PERRY

1:100 000 sheet Number and Name: 9247 MOUNT PERRY

Grid Reference: Zone 56 375555 mE 7204425 mN

Latitude -25.2713 Longitude 151.7641

Date Recorded: 9/February/2015

### Other Names for Deposit / Mine

Swindon  
Dawn  
Sunrise  
David  
Locknager  
Falcon  
O.K.  
Rainbow  
Superman  
The Summit  
Day Dawn  
Delia  
Blind Man  
Rio  
Tail End  
John'S Chance  
Whitburn  
St Johns Gully  
Surveyor Gully  
Fox Junior  
Nuggety Gully

Commodities	Size	Size Definition
GOLD	LARGE	50 - 150 tonnes AU
SILVER	SMALL	5 - 500 tonnes AG
COPPER	VERY SMALL	<500 tonnes CU
ZINC	VERY SMALL	<200 tonnes ZN
LEAD	VERY SMALL	<1000 tonnes PB
BISMUTH	VERY SMALL	<50 tonnes BI

### Production Details

Period: 1-Jan-1949 to 31-Dec-1953		763 tonnes HARD ROCK ORE (OR REEF)
GOLD	BULLION	6.1 kilograms
		7.94 grams per tonne
Period: 2-Jan-1949 to 31-Dec-1950		
GOLD	BULLION	2.0 kilograms
Period: 1-Jul-2000 to 30-Jun-2007		18,605,546 tonnes HARD ROCK ORE (OR REEF)
GOLD	FINE	17,037.1 kilograms
SILVER		36,523.8 kilograms
Period: 1-Jul-2007 to 30-Jun-2014		
GOLD	FINE	21,906.7 kilograms
SILVER		30,316.3 kilograms

### Published Reserves/Resources

BR 10373 Published in 2014

#### MOUNT RAWDON

**INDICATED MINERAL RESOURCE** 42,400,000 tonnes Ore @  
0.80 g/t GOLD **FOR** 33,920 Kilograms GOLD

Comments/Cut Off Factor: 0.23 g/t Au cut-off

Includes probable reserves of 28.80Mt at 0.9g/t Au at 0.3g/t Au cut-off.

BR 10373 Published in 2014

#### MOUNT RAWDON

**INFERRED MINERAL RESOURCE** 7,940,000 tonnes Ore @  
0.60 g/t GOLD **FOR** 4,764 Kilograms GOLD

Comments/Cut Off Factor: 0.23g/t Au cut-off

BR 10373 Published in 2014

#### MOUNT RAWDON

**MEASURED MINERAL RESOURCE** 760,000 tonnes Ore @  
0.50 g/t GOLD **FOR** 380 Kilograms GOLD

Comments/Cut Off Factor: 0.23g/t Au cut-off

Includes proved reserves of 0.76Mt at 0.5g/t Au at 0.3g/t Au cut-off.

Resource figures listed above are JORC compliant.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

Published Reference ID	Year	Author	Title	Source
BR 10373	2014	EVOLUTION MINING LIMITED	ANNUAL REPORT 2014	REPORT TO THE AUSTRALIAN SECURITIES EXCHANGE. 24 OCTOBER 2014. EVOLUTION MINING LIMITED, MELBOURNE.

## Major Mining Related Events

Year Commenced	Year Completed	Comments
1946	to 1948	Alluvial gold was discovered at Mount Rawdon by F.E. St John in 1946. A small gold rush followed.
1948	to 1949	Reef deposits were located in 1948 and several GMLs were taken up. WJ Johns erected a 3-head battery at the Rainbow mine in 1949 and crushed small ore parcels from the Rainbow, Dawn and Falcon. A 5-head battery was erected at the Sunrise.
1950	to 1950	Several lease holders combined to form the Mount Rawdon Gold Mining Syndicate, with F.C. Johns as manager. Ore from the Dawn and Sunrise was treated at the 3-head battery. The O.K. Mining Syndicate drill tested the O.K. lease.
1951	to 1953	The O.K. Mining Syndicate erected a 3-head battery in 1951 but did little work.
1951	to 1953	The Mount Rawdon Syndicate erected a 10-head battery on the Falcon lease, with tramlines to the Dawn and Sunrise mines. The old 3-head battery was dismantled for sale. Problems with the new battery led to disbanding of the Syndicate in 1953
1955	to 1955	Prospecting was carried out at the Dawn, Locknager and Sunrise but no gold was produced.
1978	to 1982	CB St John & R Briggs applied for mining leases and Departmental assistance. GSQ commenced investigations in 1978 but suspended all work after the lessees let an option to purchase to Samantha Exploration, which purchased the leases in 1982
1983	to 1997	Feasibility study carried out by Samantha Exploration NL and Placer Pacific Ltd.
1998	to 2001	Equigold NL purchased the leases 1998. A mine plan was completed in 1999 and the treatment plant constructed in 2000. Production commenced in 2001. Drilling of untested areas led to a redesign of the pit and an 80% increase in reserves.
2001	to 2016	11 year mine life as of Nov 2005. A second stage of ore crushing was added in 2002. A redesign of the open cut was completed in 2005, based on a cut-off grade of 0.5g/t Au.
2010	to 2017	Estimated mine life of ~8 years at ~100koz pa, with operation scheduled to continue until 2017 at current estimates
2010	to 2011	In September 2010 Newcrest assumed ownership of mine from Lihir Gold Ltd through merger.
2011		Evolution assumes 100% ownership in 2011 from Newcrest

## Mining Operations

Mining Operations	Comments
OPEN CUT MINING	Now worked from one large opencut.
SHAFTS	Obliterated by recent mining.
ADITS	Obliterated by recent mining.
TRENCHES	Obliterated by recent mining.
PITS	Obliterated by recent mining.
UNDERGROUND MINING METHODS	Obliterated by recent mining.
STOPING	Obliterated by recent mining.

Tenure Type/Number	SHARE	Company Name/Surname
ML 1192	100.00%	MT RAWDON OPERATIONS PTY LTD
ML 1203	100.00%	MT RAWDON OPERATIONS PTY LTD
ML 1204	100.00%	MT RAWDON OPERATIONS PTY LTD
ML 1206	100.00%	MT RAWDON OPERATIONS PTY LTD
ML 1210	100.00%	MT RAWDON OPERATIONS PTY LTD
ML 1231	100.00%	MT RAWDON OPERATIONS PTY LTD
ML 1259	100.00%	MT RAWDON OPERATIONS PTY LTD
ML 50119	100.00%	MT RAWDON OPERATIONS PTY LTD
ML 80095	100.00%	MT RAWDON OPERATIONS PTY LTD

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Host Rock/Cover Sequences

*Structural Unit*

SOUTH EAST QLD VOLCANIC & PLUTONIC PROVINCE

*Formation Name/Age*

Aranbanga Volcanic Group / TRIASSIC to TRIASSIC

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## Deposit Model

GENERAL OREBODY MODEL

INTRUSIVE-RELATED (PORPHYRY-RELATED)

DETAILED OREBODY MODEL

PORPHYRY-RELATED AURIFEROUS SUBVOLCANIC BRECCIAS AND VEINS

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## Mineralisation Age

ORE

LATE TRIASSIC

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## Comments

Gold mineralisation at Mount Rawdon is hosted by a sequence of interbedded subaerial pyroclastic flow, surge and ashfall deposits, intruded by coeval dacite bodies and irregular dacite, trachyandesite and trachyte dykes.

The bulk of the sequence consists of massive lapillistone. The gold occurs as microscopic fine grains within pyrite and sphalerite, which occur as disseminations and in irregular veinlets within the lapillistone and dacite intrusives.

The gold is coincident with a zone of phyllic alteration that has overprinted a more widespread, pervasive zone of chlorite-carbonate alteration. Three times more silver than gold is recovered from the ore.

The Mount Rawdon gold mine commenced production in 2001, based on a resource of 37.9Mt at 1.0g/t Au and 4.0g/t Ag. Capital cost was \$34.8 million. Mining is by open cut, with a strip ratio of 1.2:1.

Treatment is by fine grinding and carbon-in-leach in a 3.2Mt per annum plant. Cash costs are \$361 per ounce. The current pit will be extended to the north-east. Equigold NL is the owner and operator.

In 2008, Equigold merged with Lihir Gold Limited. Mining in the second half of 2008 concentrated on expanding the floor of the pit and making progress on a major cut back to enable access to additional ore.

Deep diamond drilling was carried out in the March 2008 quarter to test for higher grade feeder zones below the open cut. Intersections included 29m at 3.24g/t Au from 283m and 21.5m at 1.94g/t Au from 248m.

Volcaniclastics, dacite and trachyandesite in an inverted cone shaped orebody.

In Sept 2010 Newcrest took over operations after merger with Lihir Gold Ltd. The mine to date has produced 830000 ounces of gold since operations began in 2001 (by Equigold).

2010 Processing: The process plant consists of primary and secondary crushing, SAG and ball milling, followed by conventional CIL circuit. A total of 3.4Mt were milled in 2009. Grade of ore treated increased to 1.11g/t, with ore recovery at 91% (BR9608).

Mineralisation comprises electrum, pyrite, galena, sphalerite, chalcocopyrite, bornite, pyrrotite, bismuth, bismuthinite, mathildite, hessite, limonite, chalcocite, hematite and malachite in a quartz gangue

In the March 2009 quarter, ore was sourced from the southern cut-back zone and the starter pit. Mill throughputs reduced marginally in the June 2009 quarter due to harder ores being treated. Material movements were lower due to difficult mining conditions

In 2011 Evolution acquired 100% of Mt Rawdon via Catalpa Resources and Conquest Mining merging and the concurrent acquisition of Newcrest Mining's Cracow and Mt Rawdon gold mines. 1Moz gold produced since commissioning.

In 2012 Evolution reported extension drilling results MRRC203815-3: 35.38m @ 1.19g/t Au & 3.21g/t Ag from 48m; MRRC203815-4: 37.14m @ 1.05g/t Au & 1.89g/t Ag from 48m; MRRC203815-4: 17.14m @ 1.89g/t Au & 3.48g/t Ag from 226m

2012 (cont.) MRRC203815-5: 12.86m @ 2.09g/t Au & 5.04g/t Ag from 8m; MRRC203815-5: 89.29m @ 0.98g/t Au & 2.18g/t Ag from 30m;

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## Web Page

<http://www.evolutionmining.com.au/projectsMtRawdon.html>

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 507521 MOUNT SYLVIA

### OPERATING MINE

Descriptive Location: 35KM SE OF TOOWOOMBA, NEAR GATTON.

1:100 000 sheet Number and Name: 9342 HELIDON

Grid Reference: Zone 56 417528 mE 6921861 mN

Latitude -27.8253 Longitude 152.1626

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Black Duck

Boot Hill

### Commodities

DIATOMITE

### Size

MEDIUM

### Size Definition

200 000 - 2 000 000 tonnes DIAT

### Production Details

Period: 1-Jul-1996 to 30-Jun-2014

DIATOMITE 17,356.0 tonnes

BUILDING STONE 297.0 tonnes

AGGREGATE 29,087.0 tonnes

### Published Reserves/Resources

#### MOUNT SYLVIA DIATOMITE INFERRED MINERAL RESOURCE

600,000 Tonnes DIATOMITE

Comments/Cut Off Factor: Estimated reserves from Mount Sylvia Diatomite Pty Ltd website.

Resource figures listed above are NOT JORC compliant.

### Published Reference ID Year Author Title Source

#### Major Mining Related Events

Year Commenced	Year Completed	Comments
1996		Mined by Mount Sylvia Diatomite Pty Ltd

### Mining Operations

#### Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 5954	100.00%	MOUNT SYLVIA DIATOMITE PTY LTD
ML 5955	100.00%	MOUNT SYLVIA DIATOMITE PTY LTD
ML 5956	100.00%	MOUNT SYLVIA DIATOMITE PTY LTD
ML 5957	100.00%	MOUNT SYLVIA DIATOMITE PTY LTD
ML 5966	100.00%	MOUNT SYLVIA DIATOMITE PTY LTD
ML 50225	100.00%	MOUNT SYLVIA DIATOMITE PTY LTD

### Host Rock/Cover Sequences

Structural Unit

Formation Name/Age

MAIN RANGE VOLCANIC SUBPROVINCE

Main Range Volcanics / TERTIARY to TERTIARY

### Deposit Model

GENERAL OREBODY MODEL SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL DIATOMITE DEPOSIT

### Mineralisation Age

ORE

TERTIARY

### Comments

Mount Sylvia Diatomite Pty Ltd operates the Mount Sylvia (Black Duck) mine. Diatomite crops out on both sides of a spur. The product is a massive, near white, relatively pure diatomite. It has a chalky appearance and is generally soft and friable.

Products include various grades of diatomite for soil conditioning, pet litter, potting mix, oil and beverage clarifying, industrial and domestic spillage absorbants, fillers, abrasives, insecticides and stock feeds.

The diatomite is overlain by basalt flows. Mount Sylvia Diatomite has been stockpiling overburden for use as road base, road aggregate and a source of basalt boulders. The basalt fines (palagonite) are a potential source of soil conditioner/fertiliser.

In 2012 the Mount Sylvia Diatomite website states a basalt resource of greater than 15Mt of "palagonite". The unique combination of smectite clays from the palagonite and fresh basalt has produced as a very effective road base (Unbound paving material)

### Web Page

[www.mtsylviadiatomite.com.au](http://www.mtsylviadiatomite.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 42562 MOUNT VETERAN

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 13 KM NE OF MT GARNET, 90KM SW OF CAIRNS.

1:100 000 sheet Number and Name: 7962 RAVENSHOE

Grid Reference: Zone 55 305114 mE 8056669 mN

Latitude -17.5679 Longitude 145.1638

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Mount Fraser  
Frazers  
Summer Hills

### Commodities

TIN

### Size

MEDIUM

### Size Definition

1 000 - 100 000 tonnes SN

### Production Details

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
BR 10173	2012	MGT RESOURCES LIMITED	MGT RESOURCES PROSPECTUS	REPORT TO THE AUSTRALIAN STOCK EXCHANGE. 15 OCTOBER 2012, MGT RESOURCES LIMITED

### Major Mining Related Events

Year Commenced	Year Completed	Comments
1906	to 1907	
1922	to 1922	

### Mining Operations

OPEN CUT MINING  
SHAFTS

### Comments

Old workings now part of the open cut.

### Tenure Type/Number

SHARE	Company Name/Surname
ML 4349 100.00%	MGT MINING LIMITED
ML 20547 100.00%	MGT MINING LIMITED

### Host Rock/Cover Sequences

Structural Unit

HODGKINSON PROVINCE

Formation Name/Age

Hodgkinson Formation / DEVONIAN to DEVONIAN

### Deposit Model

GENERAL OREBODY MODEL	INTRUSIVE-RELATED (PORPHYRY-RELATED)
DETAILED OREBODY MODEL	TIN VEINS (CORNISH-TYPE)

### Mineralisation Age

ORE LATE CARBONIFEROUS

### Comments

The Mount Veteran mill was constructed in 1980 to treat hard-rock tin ores in the region. MGT Resources has upgraded the Mount Veteran plant to process hard rock ore at a rate of 70,000 t/a and re-commenced production from stockpiled ore in early 2013. 2013 after granting of ML20547, MGT Resources state a tin resource to support a 10 year mine life. Commissioning of stage 1 of the Mount Veteran tin Mill is complete and full production to commence by June 2013.

### Web Page

<http://www.mgt.net.au/>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 481872 MOUNT WRIGHT

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 9.0KM NW OF RAVENSWOOD, 80KM SOUTH OF TOWNSVILLE.

1:100 000 sheet Number and Name: 8257 RAVENSWOOD

Grid Reference: Zone 55 482430 mE 7784035 mN

Latitude -20.0404 Longitude 146.8320

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Mother Lode  
Mount Right  
Mount Wright Extended  
The Mother Lode

Commodities	Size	Size Definition
GOLD	MEDIUM	5 - 50 tonnes AU
SILVER	VERY SMALL	<5 tonnes AG
COPPER	VERY SMALL	<500 tonnes CU

### Production Details

Period: 1-Jan-1917 to 31-Dec-1942		6,078 tonnes HARD ROCK ORE (OR REEF)
GOLD	BULLION	48.0 kilograms 7.50 grams per tonne
COPPER	MATTE	1.1 tonnes
Period: 1-Jul-1992 to 30-Jun-1993		104,000 tonnes HARD ROCK ORE (OR REEF)
GOLD	BULLION	521.6 kilograms 4.60 grams per tonne
Period: 1-Jul-2009 to 30-Jun-2014		
GOLD	FINE	10,225.9 kilograms
SILVER		3,349.3 kilograms
Period: 1-Jul-2012 to 30-Jun-2014		
GOLD	METAL	2,686.9 kilograms
SILVER		8,680.9 kilograms

### Published Reserves/Resources

BR 10374 Published in 2014

#### MOUNT WRIGHT INSITU

**PROBABLE ORE RESERVE** 626,000 tonnes Ore @

2.50 g/t GOLD FOR 1,565 Kilograms GOLD

Comments/Cut Off Factor: 2.3 g/t Au cut-off

BR 10374 Published in 2014

#### MOUNT WRIGHT INSITU

**PROVED ORE RESERVE** 2,665,000 tonnes Ore @

2.70 g/t GOLD FOR 7,195 Kilograms GOLD

Comments/Cut Off Factor: 2.3 g/t Au cut-off

BR 10374 Published in 2014

#### MOUNT WRIGHT STOCKPILES

**MEASURED MINERAL RESOURCE** 42,000 tonnes Ore @

2.10 g/t GOLD FOR 88 Kilograms GOLD

Comments/Cut Off Factor: 1.8 g/t Au cut-off

BR 10374 Published in 2014

#### MOUNT WRIGHT STOCKPILES

**PROBABLE ORE RESERVE** 9,000 tonnes Ore @

2.50 g/t GOLD FOR 22 Kilograms GOLD

Comments/Cut Off Factor: 2.3 g/t Au cut-off

BR 10374 Published in 2014

#### MOUNT WRIGHT

**INDICATED MINERAL RESOURCE** 290,000 tonnes Ore @

2.80 g/t GOLD FOR 812 Kilograms GOLD

Comments/Cut Off Factor: 1.8 g/t Au cut-off

BR 10374 Published in 2014

#### MOUNT WRIGHT

**INFERRED MINERAL RESOURCE** 967,000 tonnes Ore @

3.10 g/t GOLD FOR 2,997 Kilograms GOLD

Comments/Cut Off Factor: 1.8 g/t Au cut-off

BR 10302 Published in 2014

#### MOUNT WRIGHT

**MEASURED MINERAL RESOURCE** 281,000 tonnes Ore @

2.90 g/t GOLD FOR 814 Kilograms GOLD

Comments/Cut Off Factor: 1.8 g/t Au cut-off

Resource figures listed above are NOT JORC compliant.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

Published Reference ID	Year	Author	Title	Source
BR 10302	2014	RESOLUTE MINING LIMITED	MOUNT WRIGHT INCREASES ORE RESERVES AND EXTENDS MINE LIFE	ANNOUNCEMENT TO THE AUSTRALIAN SECURITIES EXCHANGE, 20 FEBRUARY 2014. RESOLUTE MINING LIMITED, PERTH.
BR 10374	2014	RESOLUTE MINING LIMITED	ASX ANNOUNCEMENT; RESERVES AND RESOURCE STATEMENT AT 30 JUNE 2014	RESOLUTE MINING LIMITED, PERTH. 15TH AUGUST 2014 HTTP://WWW.RESOLUTE-LTD.COM.AU/

## Major Mining Related Events

Year Commenced	Year Completed	Comments
1917	to 1929	
1938	to 1942	
1992	to 1993	Open cut mining and block caving from adit by Carpentaria Gold Ltd. Ore mined from mineralised granite breccia.
1996	to 1997	Discovery of major mineralised system at 500m depth by Carpentaria Gold Ltd in December 1996.

**Operating Mine Life: 2006 to 2015 Decision made to proceed with development of an underground mine accessed from a decline. Mining planned to occur in 2 stages with production from mid-2007 and an 8 year minelife.**

## Mining Operations

OPEN CUT MINING

UNDERGROUND MINING METHODS

ADITS

DECLINED SHAFTS/DRIVES

## Comments

Adit allowed access below the open cut workings and block cave extraction of the orebody. The adit trends 338 degrees.

Tenure Type/Number	SHARE	Company Name/Surname
ML 1338	100.00%	CARPENTARIA GOLD PTY. LTD.
ML 1435	100.00%	CARPENTARIA GOLD PTY. LTD.

## Host Rock/Cover Sequences

*Structural Unit*

MACROSSAN PROVINCE/IGNEOUS ASSOCIATION

KENNEDY PROVINCE/IGNEOUS ASSOCIATION

*Formation Name/Age*

Millaroo Granite / ORDOVICIAN to ORDOVICIAN

CPr-8257 / CARBONIFEROUS to PERMIAN

## Deposit Model

GENERAL OREBODY MODEL

DETAILED OREBODY MODEL

INTRUSIVE-RELATED (PORPHYRY-RELATED)

PORPHYRY-RELATED AURIFEROUS SUBVOLCANIC BRECCIAS AND VEINS

## Mineralisation Age

ORE

LATE CARBONIFEROUS to LATE CARBONIFEROUS

Mother Lode & Main Lode. 40Ar/39Ar date on sericite alteration of ~306 Ma (Perkins & Kennedy, 1998).

## Comments

The Mother Lode deposit was first mined in 1917-1929. It consisted of disseminated sulphides and minor quartz-siderite-sulphide veins in altered and brecciated Millaroo Granite. Workings comprised 2 connected open cuts, 2 adits and a vertical shaft.

The mine was reopened in 1938. Problems with the nature of the ore and a lack of available mineable ore led to the closure of the mine in 1942. Departmental drilling was carried out at Mount Wtigh in 1955-1956. Four diamond core holes were completed.

Drilling focused on extensions of the Mother Lode. Only low-grade mineralisation averaging ~7.89g/t Au was intersected. Carpentaria Gold Pty Ltd mined the Mother Lode in 1992 and 1993 via its "Glory Hole" workings.

The Mount Wright orebody is west of the Mother Lode and was discovered by Carpentaria Gold Pty Ltd in December 1996. It is a blind orebody occurring between 200 and 500 depth.

It consists of gold-sulphides-sericite-siderite mineralisation hosted by brecciated and flow-banded rhyolite.

The gold mineralisation at Mount Wright is associated with a Permo-Carboniferous rhyolite that intrudes the Early to Middle Ordovician Millaroo Granite in the eastern portion of the Ravenswood Batholith.

The bulk of the mineralisation is hosted by altered and brecciated rhyolite with a small amount hosted by granite breccia. This mineralisation is thought to be a mineralised diatreme breccia lying above an originally volatile-charged rhyolite intrusive.

Development work at Mount Wright began in June 2006. 67731t of ore @ 1.48g/t Au was mined in the 2006/07 financial year. Mount Wright began full scale production in June 2007. 474282t of ore @ 2.24g/t Au in 2007/08 (BR 8908).

547724t of ore @2.43g/t Au was mined in 2008/09 (BR 9413). Production from Mount Wright is included in the production from the Sarsfield open cut mine until Sarsfield stockpiles are depleted.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, [2014](#)

**Web Page**

<http://www.resolute-ltd.com.au/>

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493348 MURGON

### OPERATING MINE

Descriptive Location: 6 KM SOUTH-EAST OF MURGON

1:100 000 sheet Number and Name: 9245 MURGON

Grid Reference: Zone 56 397725 mE 7091975 mN

Latitude -26.2883 Longitude 151.9756

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Barambah Quarry  
Moffatdale Limestone Deposit

Commodities	Size	Size Definition
LIMESTONE	MEDIUM	2 000 000 - 10 000 000 tonnes LST

### Production Details

Period: 1-Jul-1954 to 30-Jun-1955  
LIMESTONE OTHER 12.0 tonnes  
Period: 1-Jul-1996 to 30-Jun-2014  
LIMESTONE OTHER 1,323,073.4 tonnes

### Published Reserves/Resources

**BARAMBAH LIMESTONE QUARRY**  
**INDICATED MINERAL RESOURCE**  
3,000,000 Tonnes LIMESTONE

Resource from correspondence from Greg Cochrane (David Mitchell Ltd) dated 28/6/99

BR 5767 Published in 1977

**BARAMBAH LIMESTONE**  
**INFERRED MINERAL RESOURCE** 110,000 tonnes Ore @  
110,000 Tonnes LIMESTONE

Martin (1977) estimated reserves of 110,000t.

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 5767	1977	MARTIN,J.E.	PART B - BARAMBAH LIMESTONE DEPOSITS, MURGON	GEOLOGICAL SURVEY OF QUEENSLAND, REPORT NO. 97.

### Major Mining Related Events

Year Commenced	Year Completed	Comments
1954	to 1959	3 shallow pits excavated by T.R. Lowth
1996		Operated by Unimin Lime (NSW) Pty Ltd

Mining Operations	Comments
OPEN CUT MINING	

Tenure Type/Number	SHARE	Company Name/Surname
ML 50111	100.00%	SIBELCO LIME (NSW) PTY LTD

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
YARRAMAN SUBPROVINCE	Maronghi Creek beds / DEVONIAN to CARBONIFEROUS

Deposit Model	
GENERAL OREBODY MODEL	SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL	LIMESTONE DEPOSIT

Mineralisation Age	
ORE	DEVONIAN

### Comments

Massive medium grey limestone.  
Unimin Australia Ltd's Murgon limestone and aggregate quarry averages some 80,000t of limestone production annually. In 2011 Unimin Australia and New Zealand adopt parent company name 'Sibelco'

### Web Page

<http://www.sibelco.com.au/>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 518220 NUBRIK NO 1

### OPERATING MINE

Descriptive Location: 5.9KM EAST OF IPSWICH.

1:100 000 sheet Number and Name: 9442 IPSWICH

Grid Reference: Zone 56 482219 mE 6944128 mN Latitude -27.6267 Longitude 152.8198 Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
BRICK CLAY	MEDIUM	200 000 - 20 000 000 tonnes BKCY

### Production Details

Period: 1-Jul-1996 to 30-Jun-2010

BRICK CLAY 588,564.6 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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Mining Operations	Comments
OPEN CUT MINING	

Tenure Type/Number	SHARE	Company Name/Surname
ML 50115	100.00%	BOGSIDE MINING INDUSTRIES PTY LTD

Host Rock/Cover Sequences	Formation Name/Age
<i>Structural Unit</i> IPSWICH BASIN	Tivoli Formation / CARNIAN to CARNIAN

Deposit Model	
GENERAL OREBODY MODEL	SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL	SEDIMENTARY CLAY DEPOSITS

Mineralisation Age	
ORE	MESOZOIC

Comments
Clay pit for Austral Bricks.

Web Page
<a href="http://www.australbrick.com.au">www.australbrick.com.au</a>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 495594 NUMINBAH PERLITE

### OPERATING MINE

Descriptive Location: MCPHERSON RANGE, 11 KM SOUTH-EAST OF BEECHMONT, 75KM SOUTH OF BRISBANE.

1:100 000 sheet Number and Name: 9541 MURWILLUMBAH

Grid Reference: Zone 56 524124 mE 6880239 mN Latitude -28.2033 Longitude 153.2458 Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Agee

Commodities	Size	Size Definition
PERLITE	MEDIUM	200 000 - 2 000 000 tonnes PERL

### Production Details

Period: 1-Jul-1993 to 30-Jun-2012

PERLITE 81,585.3 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

OPEN CUT MINING

### Comments

180m long x 50m wide and cut into side of step ridge. Adit at base of cut.

ADITS

Small adit accessing perlite below open cut.

Tenure Type/Number	SHARE	Company Name/Surname
ML 5915	100.00%	X-CUT TUNNELLING PTY LTD

### Host Rock/Cover Sequences

*Structural Unit*

*Formation Name/Age*

LAMINGTON VOLCANIC SUBPROVINCE

Lamington Group / TERTIARY to TERTIARY

### Deposit Model

GENERAL OREBODY MODEL

MAFIC VOLCANIC RELATED DEPOSIT

DETAILED OREBODY MODEL

VOLCANIC GLASS

### Mineralisation Age

ORE

TERTIARY

### Comments

The site has been mined periodically for around 30 years, with Australian Perlite holding the lease since the early 1980s. The perlite occurs at the margin of a rhyolite dome. Approximately 15-20 000t is kept proved ahead of mining.

The mine is currently owned by X-Cut Tunnelling Pty Ltd, which supplies perlite to Orica Chemnet's Banksmeadow plant in Sydney.

Expanded perlite is produced for filtration and the hydroponic and agricultural industries.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493676 NYCHUM PERLITE

### OPERATING MINE

Descriptive Location: 50KM NW OF CHILLAGOE, 145KM WEST OF CAIRNS.

1:100 000 sheet Number and Name: 7764 BELLEVUE

Grid Reference: Zone 55 213056 mE 8143076 mN

Latitude -16.7778 Longitude 144.3082

Date Recorded: 9/July/2013

### Other Names for Deposit / Mine

Wrotham Perlite  
Chillagoe Perlite  
Wrotham Central

Commodities	Size	Size Definition
PERLITE	LARGE	>2 000 000 tonnes PERL

### Production Details

Period: 1-Jul-1996 to 30-Jun-2012

PERLITE 45,132.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
1986	to 1986	The perlite deposit was discovered by Eddie James in 1986 during a regional geochemistry survey but its presence had been noted previously by several geologists carrying out mapping in the region.
1998		Mining commenced in 1998 with a perlite expansion plant designed and built near Mareeba.

Mining Operations	Comments
OPEN CUT MINING	60 x 50 metres

Tenure Type/Number	SHARE	Company Name/Surname	Christian Name
ML 20152	100.00%	MEYER	Ian Derek
ML 20369	100.00%	PERLCO PTY LIMITED	
ML 20370	100.00%	PERLCO PTY LIMITED	

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
KENNEDY PROVINCE/IGNEOUS ASSOCIATION	Nychum Volcanics / EARLY PERMIAN to EARLY PERMIAN

### Deposit Model

DETAILED OREBODY MODEL	VOLCANIC GLASS
GENERAL OREBODY MODEL	MAFIC VOLCANIC RELATED DEPOSIT

### Mineralisation Age

ORE	EARLY PERMIAN
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### Comments

The perlite is fairly homogenous and formed as a crust on the rhyolite flow of the Nychum Volcanics. The perlite has a lower fusion point than most other perlite deposits in the world.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493623 NYORA

### OPERATING MINE

Descriptive Location: APPROX 15KM S OF KINGAROY, 140KM NW OF BRISBANE.

1:100 000 sheet Number and Name: 9244 KINGAROY

Grid Reference: Zone 56 385355 mE 7049115 mN

Latitude -26.6743 Longitude 151.8478

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Nyora 2

Nyora 4

Nyora 5

Commodities	Size	Size Definition
KAOLIN / KAOLINITE	MEDIUM	200 000 - 20 000 000 tonnes KAO

### Production Details

Period: 1-Jul-1996 to 30-Jun-2011

KAOLIN / KAOLINITE

85,431.3 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced    Year Completed    Comments

**Operating Mine Life: 1992 to 2012 Mining commenced 1992 with export sales achieved in 1995.**

Mining Operations	Comments
OPEN CUT MINING	

Tenure Type/Number	SHARE	Company Name/Surname
ML 5684	100.00%	SIBELCO AUSTRALIA LIMITED
ML 6621	100.00%	SIBELCO AUSTRALIA LIMITED
ML 50130	100.00%	SIBELCO AUSTRALIA LIMITED

### Host Rock/Cover Sequences

*Structural Unit*

*Formation Name/Age*

TARONG BASIN

Tarong beds/k / TRIASSIC to TRIASSIC

### Deposit Model

GENERAL OREBODY MODEL

RESIDUAL DEPOSIT

DETAILED OREBODY MODEL

LATERITIC KAOLIN

### Mineralisation Age

ORE

TERTIARY

### Comments

Seventy percent of the kaolin produced from the Kingaroy kaolin deposits is used in the paper industry, mostly as coating clay. The remaining 30% is used in the paint and plastics industries.

Nyora kaolin has lower grit and higher brightness than kaolin from Winter's pit and is used as a filler grade. Nyora pit kaolin is overlain by silcrete, overlain by basalt. The kaolin is underlain by Tarong beds and coal.

This is one of several mines operated by Unimin Australia Ltd to supply kaolin for its Kingaroy processing plant. In 2011 Unimin Australia and New Zealand adopt parent company name 'Sibelco'

### Web Page

<http://www.sibelco.com.au>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 497864 O'DEA EXTENDED

### OPERATING MINE

Descriptive Location: 30KM NE STANTHORPE, 130KM SW OF BRISBANE.

1:100 000 sheet Number and Name: 9341 WARWICK

Grid Reference: Zone 56 412674 mE 6858574 mN

Latitude -28.3962 Longitude 152.1086

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Warwick

O'Dea

Commodities	Size	Size Definition
LIMESTONE	SMALL	100 000 - 2 000 000 tonnes LST
MARBLE	SMALL	10 000 - 100 000 tonnes MARB
BUILDING STONE	VERY SMALL	<100 000 tonnes BLST

### Production Details

Period: 1-Jul-1998 to 30-Jun-2014

LIMESTONE CRUSHED ROCK 1,400,358.0 tonnes

MARBLE 14,944.0 tonnes

LIMESTONE AGGREGATE / 168,252.0 tonnes

DECORATIVE AGGREGATE

### Published Reserves/Resources

BR 6096 Published in 1999

#### *INFERRED MINERAL RESOURCE*

850,000 Tonnes LIMESTONE

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 6096	1999	GREG COCHRANE		CORRESPONDANCE FROM DAVID MITCHELL LIMITED ON THE 28/06/1999.

### Major Mining Related Events

Year Commenced Year Completed Comments

Mining Operations	Comments
OPEN CUT MINING	

Tenure Type/Number	SHARE	Company Name/Surname
ML 50083	100.00%	SIBELCO LIME (NSW) PTY LTD

### Host Rock/Cover Sequences

*Structural Unit*

SILVERWOOD PROVINCE

*Formation Name/Age*

Rosenthal Creek Formation / DEVONIAN to DEVONIAN

### Deposit Model

GENERAL OREBODY MODEL SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL LIMESTONE DEPOSIT

### Mineralisation Age

ORE DEVONIAN

### Comments

In 2011 Unimin Australia and New Zealand adopt parent company name 'Sibelco'

### Web Page

<http://www.sibelco.com.au>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 38470 OOTANN

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 11KM SSW OF ALMADEN, 125KM WSW OF CAIRNS.

1:100 000 sheet Number and Name: 7863 CHILLAGOE

Grid Reference: Zone 55 249516 mE 8070765 mN

Latitude -17.4350 Longitude 144.6418

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Crotty Lime

Dml Lime Works

### Commodities

LIMESTONE

#### Size

LARGE

#### Size Definition

>10 000 000 tonnes LST

LIME

SMALL

10 000 - 100 000 tonnes LIME

AGGREGATE

ROAD PAVEMENT GRAVEL

### Production Details

Period: 1-Jan-1972 to 31-Dec-1975 17,896 tonnes HARD ROCK ORE (OR REEF)

BURNT LIME 32,575.0 tonnes

PULVERISED LIME 470.0 tonnes

Period: 1-Jul-1996 to 30-Jun-2000

LIME 91,023.0 tonnes

AGGREGATE 3,178.0 tonnes

LIMESTONE CRUSHED ROCK 8,169.0 tonnes

Period: 1-Jul-1997 to 30-Jun-2000

AGGREGATE 907.0 tonnes

Period: 1-Jul-2000 to 30-Jun-2001

AGGREGATE 372.0 tonnes

LIMESTONE CRUSHED ROCK 30,322.0 tonnes

Period: 1-Jul-2002 to 30-Jun-2003

LIMESTONE CRUSHED ROCK 7,142.0 tonnes

ROAD PAVEMENT GRAVEL 4,238.0 tonnes

Period: 1-Jul-2003 to 30-Jun-2014

LIMESTONE OTHER 31,793.4 tonnes

### Published Reserves/Resources

#### OOTANN

**INFERRED MINERAL RESOURCE** 35,000,000 tonnes Ore @  
35,000,000 Tonnes LIMESTONE

Sourced from Phoenix Lime website - www.phoenixlime.com.au (in 2010)

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
1927	to 1981	Limestone mined to produce burnt lime.
1996	to 2001	Mined by David Mitchell Pty Ltd with most burnt lime supplying gold treatment operations at Kidston.

### Mining Operations

#### Comments

OPEN CUT MINING

SURFACE MINING METHODS

PITS

Tenure Type/Number	SHARE	Company Name/Surname
ML 4788	100.00%	PHOENIX LIME PTY LTD
ML 4789	100.00%	PHOENIX LIME PTY LTD
ML 5079	100.00%	PHOENIX LIME PTY LTD
ML 5372	100.00%	PHOENIX LIME PTY LTD

### Host Rock/Cover Sequences

Structural Unit

Formation Name/Age

HODGKINSON PROVINCE

Chillagoe Formation / EARLY SILURIAN to EARLY DEVONIAN

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

LIMESTONE DEPOSIT

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## Mineralisation Age

ORE

SILURIAN

Material mined is a medium to coarse grained marble ranging to limestone.

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## Comments

This is part of a 4km long by 2km wide belt of massive, partly recrystallised limestone. The limestone is mined selectively to avoid mudstone lenses and fractured infill. It is held by Phoenix Lime Pty Ltd (a wholly owned subsidiary of Metallica Minerals).

Phoenix Lime Pty Ltd is investigating the construction of a new lime kiln at the Ootann operation for the life span of the NORNICCO nickel project. A comprehensive drilling program has been completed to establish a 10 year plus production plan.

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## Web Page

[www.metallicaminerals.com.au](http://www.metallicaminerals.com.au)

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493678 OSBORNE

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 32 KM ESE OF CHATSWORTH HS, 195KM SE OF MT ISA.

1:100 000 sheet Number and Name: 7053 TOOLEBUC

Grid Reference: Zone 54 457100 mE 7558086 mN

Latitude -22.0815 Longitude 140.5842

Date Recorded: 5/January/2015

### Other Names for Deposit / Mine

Osborne Project  
Trough Tank

Commodities	Size	Size Definition
COPPER	LARGE	250 000 - 2 000 000 tonnes CU
GOLD	MEDIUM	5 - 50 tonnes AU
MAGNETITE	LARGE	>1 000 000 tonnes MT

### Production Details

Period: 1-Jul-1995 to 30-Jun-1999		6,218,000 tonnes HARD ROCK ORE (OR REEF)
GOLD	BULLION	4,045.4 kilograms
COPPER	METAL	157,590.0 tonnes
Period: 1-Jul-1999 to 30-Jun-2001		
GOLD	BULLION	2,393.9 kilograms
COPPER	METAL	93,745.0 tonnes
Period: 1-Jul-2001 to 30-Jun-2003		3,676,000 tonnes HARD ROCK ORE (OR REEF)
COPPER	METAL	93,256.0 tonnes
GOLD	BULLION	6,616.5 kilograms
Period: 1-Jul-2003 to 30-Jun-2014		
SILVER		77.2 kilograms
COPPER	METAL	233,890.0 tonnes
GOLD	METAL	6,540.7 kilograms

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Published Reserves/Resources

BR 9984 Published in 2012

### OSBORNE OPEN CUT

**INDICATED MINERAL RESOURCE** 200,000 tonnes Ore @

0.70 % COPPER **FOR** 1,400 Tonnes COPPER

0.60 g/t GOLD **FOR** 120 Kilograms GOLD

Comments/Cut Off Factor: 0.5% equiv Cu cut-off

BR 9984 Published in 2012

### OSBORNE OPEN CUT

**INFERRED MINERAL RESOURCE** 100,000 tonnes Ore @

0.60 % COPPER **FOR** 600 Tonnes COPPER

0.60 g/t GOLD **FOR** 60 Kilograms GOLD

Comments/Cut Off Factor: 0.5% equiv Cu cut-off

BR 9984 Published in 2012

### OSBORNE OPEN CUT

**MEASURED MINERAL RESOURCE** 2,200,000 tonnes Ore @

0.70 % COPPER **FOR** 15,400 Tonnes COPPER

0.60 g/t GOLD **FOR** 1,320 Kilograms GOLD

Comments/Cut Off Factor: 0.5% equiv Cu cut-off

These figures have not been updated since Chinova took over this tenement. The resource will be mined out by August 2015.

BR 9984 Published in 2012

### OSBORNE UNDERGROUND

**INDICATED MINERAL RESOURCE** 800,000 tonnes Ore @

1.20 % COPPER **FOR** 9,600 Tonnes COPPER

0.90 g/t GOLD **FOR** 720 Kilograms GOLD

Comments/Cut Off Factor: 1.2% equiv Cu cut-off

BR 9984 Published in 2012

### OSBORNE UNDERGROUND

**INFERRED MINERAL RESOURCE** 500,000 tonnes Ore @

1.20 % COPPER **FOR** 6,000 Tonnes COPPER

0.90 g/t GOLD **FOR** 450 Kilograms GOLD

Comments/Cut Off Factor: 1.2% equiv Cu cut-off

BR 9984 Published in 2012

### OSBORNE UNDERGROUND

**MEASURED MINERAL RESOURCE** 2,100,000 tonnes Ore @

1.50 % COPPER **FOR** 31,500 Tonnes COPPER

0.90 g/t GOLD **FOR** 1,890 Kilograms GOLD

Comments/Cut Off Factor: 1.2% equiv Cu cut-off

BR 8653 Published in 2008

### TAILINGS

**INFERRED MINERAL RESOURCE** 15,550,000 tonnes Ore @

35.00 % MAGNETITE **FOR** 5,442,500 Tonnes MAGNETITE

Comments/Cut Off Factor: Tailings grade 35-56% magnetite

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 8653	2008	COE, R. & EVANS, C.	BARRICK (OSBORNE) PTY LIMITED MAGNETITE PROJECT. INITIAL ADVICE STATEMENT FOR DEPARTMENT OF INFRASTRUCTURE AND PLANNING.	UNPUBLISHED REPORT, BARRICK (OSBORNE) PTY LIMITED, TOWNSVILLE.
BR 9984	2012	SRK CONSULTING	OSBORNE NI 43-101 TECHNICAL REPORT FOR OSBORNE COPPER-GOLD PROJECT LOCATED IN NORTHWEST QUEENSLAND REGION OF AUSTRALIA	HTTP://WWW.IVANHOEAUSTRALIA.COM/S/TECHNICALREPORTS.ASP, 2 NOVEMBER 2012. IVANHOE AUSTRALIA LIMITED, MELBOURNE.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Major Mining Related Events

Year Commenced	to	Year Completed	Comments
1974	to	1974	Newmont first located a magnetic high geophysical feature.
1985	to	1988	CSR Limited entered into a joint venture with Shell Company of Australia.
1988	to	1993	Placer Exploration Ltd acquired the CSR Limited Mineral Exploration and Development Group. By mid 1993 Placer had undertaken >100km of exploration drilling and spent >\$15 million on resource evaluation.
1989	to	1989	Discovery (Placer Pacific Exploration Limited): 32m @ 5.8% Cu & 3.2g/t Au.
1994	to	1994	Development of the project commenced following feasibility study. Open pit mining commenced in August 1994, production commenced 1995.
1995	to	1995	Underground mining commenced in August 1995.
1996	to	1996	Open pit mining was completed in February 1996 and continued to supplement the mill from stockpiles. Underground production began in April 1996.
2004	to	2009	Projected mine life of 5 years underground. Mine acquired by Barrick Gold Corporation in March 2006.
2010	to	2010	Ivanhoe acquired Osborne and developed access to underground Kulthor through Osborne pit
2011			Refurbishment of Osborne plant facilities and underground access to Kulthor, Mining to commence in Q2 2012

## Mining Operations

	Comments
OPEN CUT MINING	Open cut 140m deep.
UNDERGROUND MINING METHODS	Panel stoping used in the upper part of the orebody and uphole bench stoping used at depth.
DECLINED SHAFTS/DRIVES	5m by 5.5m decline. Portal located in the wall of the open cut 80m below surface. The main decline has been developed to a depth of 880m below surface.
SHAFTS	Hoisting shaft 700m deep used to raise ore after primary crushing underground.
STOPING	

Tenure Type/Number	SHARE	Company Name/Surname
ML 90040	100.00%	CHINOVA RESOURCES OSBORNE PTY LTD
ML 90158	100.00%	CHINOVA RESOURCES OSBORNE PTY LTD

## Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
KURIDALA-SELWYN DOMAIN	Starcross Formation / PALAEOPROTEROZOIC to PALAEOPROTEROZOIC

## Deposit Model

GENERAL OREBODY MODEL	HYDROTHERMAL VEINS/PIPE/STOCKWORK
DETAILED OREBODY MODEL	IRON-OXIDE CU-AU (-U-REE)

## Mineralisation Age

ORE	MESOPROTEROZOIC	Ore formation at 1595Ma fro U-Pb and Re-Os age dates. Closure temperature for mineralisation was 700 degrees centegrade.
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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Comments

Osborne is a blind deposit beneath 20 to 40 m of Mesozoic sediments. Much of the mineralisation is hosted by and overprints banded quartz-magnetite-apatite ironstones developed within the host sequence of metamorphic, igneous and metasomatic rocks. Mineralisation is zoned from hematite to pyrrhotite bearing, and sulphides are commonly accompanied by a late generation of magnetite. Osborne is run by Barrick Gold Corporation after it acquired Placer Dome in March 2006. In 2010, Ivanhoe Australia Limited announced that it had reached an agreement to acquire the Osborne mine, processing plant and tenements from Barrick. Proposed production is ~770,000 tpa of magnetite concentrate (66-69% Fe). Osborne ore contains 30-55% magnetite. Osborne also has 15.55Mt of tailings grading 28-45% magnetite ready for reprocessing and an unqualified unmineralised ironstone resource. Osborne has letters of intent to purchase the magnetite from a range of organisations, including steel mills in Japan and China. Magnetite will also be supplied for coal washing. An additional water allocation is required from the Great Artesian Basin. In April 2008, the Coordinator-General declared the Osborne Magnetite Project a "significant project for which an Environmental Impact Statement is not required". Barrick proposes to recover magnetite as a by-product from Cu-Au ore mined at Osborne. 2012: All major refurbishment work at Osborne processing facility completed in DEC11. Underground development at Osborne & Kulthor is on schedule for Q1 2012. Sufficient ore is stockpiled (Feb 2012) to sustain mill throughput on production commencement. Chinova Resources Limited took over the operation of the mine. The mine is expected to cease operations in about August 2015, depleting all measured resources by then. The processing of ore from Starra 276 was finalised in August 2014.

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## Web Page

[www.chinovaresources.com/](http://www.chinovaresources.com/)

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 490997 PAJINGO GOLD MINE - VERA-NANCY

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 72 KM SOUTH OF CHARTERS TOWERS, 38.6KM NE OF PAJINGO HOMESTEAD

1:100 000 sheet Number and Name: 8156 PAJINGO

Grid Reference: Zone 55 444065 mE 7727770 mN

Latitude -20.5480 Longitude 146.4634

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Vera-Nancy  
Vera  
Nancy  
Vera North  
Nancy North  
Vera South  
Venue  
Anne  
Zed  
Jandam  
Moonstar  
Sonia  
Bunty  
Bell Vein  
Anne West  
Jandam East

Commodities	Size	Size Definition
GOLD	MEDIUM	5 - 50 tonnes AU
SILVER	SMALL	5 - 500 tonnes AG

### Production Details

Period: 1-Jul-1996 to 30-Jun-2013

GOLD	FINE	708,870.8 kilograms
SILVER		66,236.5 kilograms

### Published Reserves/Resources

BR 10373 Published in 2014

#### PAJINGO - OPEN PIT

**INFERRED MINERAL RESOURCE** 320,000 tonnes Ore @  
1.20 g/t GOLD **FOR** 384 Kilograms GOLD

Comments/Cut Off Factor: 0.5 g/t open pit

Incorporates Vera North Upper and Venue orebodies. Includes probable reserves 0.214Mt @ 3.3g/t Au

BR 10373 Published in 2014

#### PAJINGO - UNDERGROUND

**INDICATED MINERAL RESOURCE** 2,680,000 tonnes Ore @  
6.60 g/t GOLD **FOR** 17,688 Kilograms GOLD

Comments/Cut Off Factor: 2.5g/t for UG reserves

Resource fig incorporates the Faith, Jandam, Sonia, Veracity, Zed East and Zed West orebodies. It excludes the Cindy orebody (subtracted from quoted fig) Includes probable reserves 0.6Mt @ 6.0g/t Au

BR 10373 Published in 2014

#### PAJINGO - UNDERGROUND

**INFERRED MINERAL RESOURCE** 1,740,000 tonnes Ore @  
5.40 g/t GOLD **FOR** 9,396 Kilograms GOLD

Comments/Cut Off Factor: 2.5 g/t for UG reserves

Resource fig incorporates the Faith, Jandam, Sonia, Veracity, Zed East and Zed West orebodies. It excludes the Cindy orebody (subtracted from quoted fig).

BR 10373 Published in 2014

#### PAJINGO - UNDERGROUND

**MEASURED MINERAL RESOURCE** 110,000 tonnes Ore @  
13.10 g/t GOLD **FOR** 1,441 Kilograms GOLD

Comments/Cut Off Factor: 2.5g/t for UG reserves

Resource fig incorporates the Faith, Sonia and Zed West orebodies; Includes proved reserves 0.18Mt @ 7.1g/t Au

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10373	2014	EVOLUTION MINING LIMITED	ANNUAL REPORT 2014	REPORT TO THE AUSTRALIAN SECURITIES EXCHANGE. 24 OCTOBER 2014. EVOLUTION MINING LIMITED, MELBOURNE.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Major Mining Related Events

Year Commenced	Year Completed	Comments
1995 to 1996		Vera North and Nancy orebodies discovered in 1995. A decline was constructed from the Cindy pit to Nancy and then along strike to Vera North in 1996. Second decline from Vera open cut connected to first. Discovery cost \$21.50 per ounce.
<b>Operating Mine Life: 1995 to 2008 Mining commenced in 1995. As at June 2004, anticipated mine life was until 2008.</b>		
1997 to 1997		Plant refurbished and recommissioned. Production commenced. Normandy Pajingo Pty Ltd formed as management company for Pajingo operations.
1998 to 1998		Discovery of Vera South orebody.
1999 to 2001		Major expansion of mill from 216 000tpa to 582 000tpa.
2002		Following takeover of Normandy Mining Ltd, project became fully owned by Newmont Mining Corporation. Mill throughput improved to 690 000tpa.
2010		Conquest takeover of North Queensland Metals in Oct 2010. Conquest assets incorporated in Evolution Mining in 2011

Mining Operations		Comments
OPEN CUT MINING		
STOPING		Bench mining has been used exclusively to develop to the bottom of the orebodies. Mining up has used the decline access.
UNDERGROUND MINING METHODS		Declines from Cindy and Vera open cuts and from Vera South.
Tenure Type/Number	SHARE	Company Name/Surname
ML 1575	40.00%	NQM GOLD 2 PTY LTD
ML 1575	60.00%	CQT GOLD AUSTRALIA PTY LTD
ML 10215	60.00%	NQM GOLD 2 PTY LTD
ML 10215	40.00%	CQT GOLD AUSTRALIA PTY LTD
ML 10246	60.00%	NQM GOLD 2 PTY LTD
ML 10246	40.00%	CQT GOLD AUSTRALIA PTY LTD
Host Rock/Cover Sequences		Formation Name/Age
<i>Structural Unit</i>		
DRUMMOND BASIN		Vera-Nancy Volcanics / LATE DEVONIAN to EARLY CARBONIFEROUS
Deposit Model		
GENERAL OREBODY MODEL		EPITHERMAL VEINS/PIPE/STOCKWORK
DETAILED OREBODY MODEL		EPITHERMAL PRECIOUS METAL
		LOW SULPHIDATION EPITHERMAL
Mineralisation Age		
ORE		CARBONIFEROUS
		K-Ar dating of alteration sericite from the nearby Scott Lode gave 342+/-5Ma (BR 6100), slightly younger than the host rocks.

# Queensland Minerals

## A Summary of Major Mineral Resources, Mines and Projects, 2014

### Comments

Exploration has defined extensions to the mineralisation at Anne, Zed, Sonia, Bunty and Moonstar.

The regional geology of the Pajingo area is poorly understood due to limited work and extensive cover. Vera-Nancy is hosted by a major structure striking south-east and dipping steeply to the south-west.

Fine gold and electrum occur in quartz and chalcedony veins enclosed by a halo of silicification and brecciation that is commonly strongly pyritic.

The Vera-Nancy structure hosts a number of orebodies. Mining has been carried out on the Nancy North, Nancy, Vera North, Venue, Vera, Vera South and Jandam orebodies.

The mine switched from contractor mining to owner mining in the December 2008 quarter.

North Queensland Metals Limited (60%) and Heemskirk Consolidated (40%) executed a Sale Purchase Agreement for the Pajingo Gold Mine and took control of the mine from 30 December 2007. Underground mining recommenced on 7 January 2008.

The first gold pour of 119kg of dore (~50% Au/50% Ag) was completed under the new operators at the end of January 2008. Upgraded resource figures were announced in March 2008, based on the Zed, Sonia and Bunty orebodies and the Bell Vein.

In the second quarter of July 2009, gold production was constrained by increased dilution on the current sequence of underground stopes.

This is being addressed by the introduction of more appropriate equipment and revised mining methods.

Oxide ore from NQM's Dotswood mine was introduced in the second quarter of 2009 to test the ability of the processing plant to handle higher throughput. Up to 200,000tpa could be brought in from new sources while maintaining annual throughput of >500,000t.

Sept 2010 Conquest Mining Ltd announced acquiring 40% interest in the Pajingo JV from Heemskirk Cons Ltd. (NQM, a subsidiary of Conquest holds 60% and manages the Pajingo operations)

Sept 2010 exploration on underground drilling on "Faith" and "Zed" orebodies continues to deliver impressive results: Average width and grade of Faith development channel samples to date is 2.3m @ 16.8g/t Au (BR9609).

Sept 2010: Start of open pit work delayed by environmental licence approval but is now ready to commence in mid-October. The pit is designed to extract a Probable Reserve of 118000t @ 2.75g/t for 10400oz Au (BR9609).

Drilling in 2010 confirmed the eastern extension of the current mining area at Jandam along strike. Potential also exists for the development of a new orebody below and to the west of the mined out Anne orebody.

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### Web Page

[www.nqm.com.au](http://www.nqm.com.au)

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 588115 PHOENIX

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: ~3KM W OF CRACOW, ~175KM SE OF GLADSTONE.

1:100 000 sheet Number and Name: 8947 CRACOW

Grid Reference: Zone 56 224580 mE 7200400 mN

Latitude -25.2875 Longitude 150.2649

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Cracow Gold Mine Group

Commodities	Size	Size Definition
GOLD	SMALL	0.5 - 5 tonnes AU

### Production Details

#### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
BR 10019	2012	EVOLUTION MINING LIMITED	EVOLUTION MINING MINERAL RESOURCE STATEMENT - JUNE 2012	REPORT TO THE AUSTRALIAN SECURITIES EXCHANGE. 25 SEPTEMBER 2012. EVOLUTION MINING LIMITED, MELBOURNE.

### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

Tenure Type/Number	SHARE	Company Name/Surname
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Currently untenured mineral deposit

### Host Rock/Cover Sequences

*Structural Unit*

AUBURN SUBPROVINCE

*Formation Name/Age*

Camboon Volcanics / LATE CARBONIFEROUS to EARLY PERMIAN

### Deposit Model

### Mineralisation Age

ORE

EARLY PERMIAN

### Comments

### Web Page



# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493683 PHOSPHATE HILL

### OPERATING MINE

Descriptive Location: 51KM ESE OF DAJARRA, 138 KM SSE OF MOUNT ISA.

1:100 000 sheet Number and Name: 6854 DAJARRA

Grid Reference: Zone 54 392720 mE 7578666 mN

Latitude -21.8928 Longitude 139.9615

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Duchess

Commodities	Size	Size Definition
PHOSPHATE ROCK (PHOSPHORITE)	MEDIUM	200 000 - 200 000 000 tonnes PHR
GYPSUM	SMALL	5 000 - 5 000 000 tonnes GYP

### Production Details

Period: 1-Jan-1975 to 31-Dec-1978	
PHOSPHATE ROCK (PHOSPHORITE)	1,100,000.0 tonnes
Period: 1-Jul-1981 to 30-Jun-1982	
PHOSPHATE ROCK (PHOSPHORITE)	200,000.0 tonnes
Period: 1-Jul-2000 to 30-Jun-2014	
PHOSPHATE ROCK (PHOSPHORITE)	24,999,256.7 tonnes

### Published Reserves/Resources

BR 7966 Published in 2006

#### PHOSPHATE HILL OPEN CUT

**INDICATED MINERAL RESOURCE** 26,000,000 tonnes Ore @  
23.00 % PHOSPHATE **FOR** 5,980,000 Tonnes PHOSPHATE

BR 7966 Published in 2006

#### PHOSPHATE HILL OPEN CUT

**INFERRED MINERAL RESOURCE** 40,000,000 tonnes Ore @  
20.10 % PHOSPHATE **FOR** 8,040,000 Tonnes PHOSPHATE

BR 7966 Published in 2006

#### PHOSPHATE HILL OPEN CUT

**MEASURED MINERAL RESOURCE** 61,000,000 tonnes Ore @  
25.40 % PHOSPHATE **FOR** 15,494,000 Tonnes PHOSPHATE

Proved and probable reserves are 82Mt at 24.4% P2O5.

BR 7966 Published in 2006

#### PHOSPHATE HILL STOCKPILE

**MEASURED MINERAL RESOURCE** 600,000 tonnes Ore @  
22.30 % PHOSPHATE **FOR** 133,800 Tonnes PHOSPHATE

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 7966	2006	BHP BILLITON PLC	BHP BILLITON PLC, ANNUAL REPORT 2006.	BHP BILLITON PLC, MELBOURNE.

### Major Mining Related Events

Year Commenced	Year Completed	Comments
1966	to 1966	Phosphate deposits discovered by Broken Hill South and mined unsuccessfully.
1975	to 1978	First phase of phosphate mining by Queensland Phosphate Ltd (a WMC Ltd subsidiary).
1980	to 1983	WMC acquired the deposits through its acquisition of Broken Hill South. Mining resumed in 1981 but ceased in 1983 due to economic reasons.
1996	to 1998	Queensland Phosphate Ltd changed its name to WMC Fertilizers and announced decision to construct a major fertiliser project at Phosphate Hill. Construction commenced in 1997.
1999	to 2006	First di-ammonium fertiliser produced in December 1999. Ownership passed to BHP Billiton upon its acquisition of WMC.
2006		Incitec Pivot purchased Southern Cross Fertilizers (and the Phosphate Hill operation) from BHP Billiton in August 2006.

Mining Operations	Comments
OPEN CUT MINING	

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

Tenure Type/Number	SHARE	Company Name/Surname
ML 5543	100.00%	SOUTHERN CROSS FERTILISERS PTY LTD
ML 5551	100.00%	SOUTHERN CROSS FERTILISERS PTY LTD

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## Host Rock/Cover Sequences

*Structural Unit*

GEORGINA BASIN

*Formation Name/Age*

Monastery Creek Phosphorite Member / MIDDLE CAMBRIAN to  
MIDDLE CAMBRIAN

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## Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

UPWELLING TYPE PHOSPHATE

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## Mineralisation Age

ORE

MIDDLE CAMBRIAN

Phosphorite lithologies are mainly detrital in character; consisting of sand-sized, peloidal and bioclastic, carbonate fluorapatite (francolite) framework grains within a siliceous or calcareous matrix, to form phosphatic grainstone or packstone.

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## Comments

Phosphatic marine sediment occurs in the Middle Cambrian and Middle Ordovician rocks of the Georgina Basin. The Middle Cambrian rocks host significant resources of phosphate rock, including that at Phosphate Hill.

Phosphate rock is mined and combined with sulphuric acid (supplied from Mount Isa) to produce phosphoric acid (with gypsum as a byproduct). Ammonia (produced from natural gas) is added to the phosphoric acid to form ammonium phosphate fertilisers.

Phosphate Hill is run by Southern Cross Fertilizers Pty Ltd, which was initially owned by WMC. Ownership passed to BHP Billiton when it acquired WMC. Incitec Pivot purchased Southern Cross Fertilizers in August 2006.

2012 (Southern Cross Fertilizers website) At this location there are two billion tonnes of phosphate rock including mining reserves of 103 million tonnes with an average grade of more than 23 per cent P<sub>2</sub>O<sub>5</sub>. Some 2.2 million tonnes rock is mined per year.

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## Web Page

[www.pivot.com.au](http://www.pivot.com.au); [www.chemicals-technology.com/projects/phosphatehill/](http://www.chemicals-technology.com/projects/phosphatehill/); [www.chemlink.com.au/phosphat.htm](http://www.chemlink.com.au/phosphat.htm)

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493995 QUEENSLAND BENTONITE

### OPERATING MINE

Descriptive Location: 36KM NW OF MILES AND 6KM WEST OF GURULMUNDI, 320 KM WEST OF BRISBANE.

1:100 000 sheet Number and Name: 8845 WANDOAN

Grid Reference: Zone 55 798945 mE 7075964 mN Latitude -26.4051 Longitude 149.9966 Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Imto401

Commodities	Size	Size Definition
BENTONITE	MEDIUM	200 000 - 20 000 000 tonnes BENT

### Production Details

Period: 1-Jul-1996 to 30-Jun-2011

BENTONITE 108,924.8 tonnes

### Published Reserves/Resources

#### **PROBABLE ORE RESERVE**

10,000,000 Tonnes BENTONITE

Comments/Cut Off Factor: Estimate only. D Carmichael, personal comment, 2000.

Pers Comm D. Carmichael, 2000

#### **PROVED ORE RESERVE**

2,000,000 Tonnes BENTONITE

Comments/Cut Off Factor: Estimate only. D Carmichael, personal comment, 2000.

Pers Comm D. Carmichael, 2000.

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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Mining Operations	Comments
OPEN CUT MINING	

Tenure Type/Number	SHARE	Company Name/Surname
Currently untenured mineral deposit		

Host Rock/Cover Sequences	Formation Name/Age
<i>Structural Unit</i> SURAT BASIN	Orallo Formation / JURASSIC to JURASSIC

Deposit Model
GENERAL OREBODY MODEL SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL SEDIMENTARY CLAY DEPOSITS

Mineralisation Age
ORE JURASSIC

**Comments**  
Sodium bentonite is sold into a broad range of domestic and international markets that include exploration drilling, construction/civil, foundry, cat litter, stock feed, dam sealing, wine clarification plus other niche markets.  
(2012) Amcol Australia Pty Ltd operates the Queensland Bentonite mine, which produces a high swelling sodium bentonite through its 80 000tpa processing plant.

**Web Page**  
<http://www.amcolminerals.com.au/>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 36003 RIVERTON QUARRY

### OPERATING MINE

Descriptive Location: 19.3KM E OF BONSHAW, 220KM SW OF BRISBANE.

1:100 000 sheet Number and Name: 9139 ASHFORD

Grid Reference: Zone 56 351305 mE 6788576 mN

Latitude -29.0223 Longitude 151.4731

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
LIMESTONE	LARGE	>10 000 000 tonnes LST

### Production Details

Period: 1-Jul-1988 to 30-Jun-1988		
LIMESTONE	CRUSHED ROCK	206,377.0 tonnes
Period: 1-Jul-1998 to 30-Jun-1999		
LIMESTONE	CRUSHED ROCK	84,227.0 tonnes
LIMESTONE	AGGREGATE / DECORATIVE AGGREGATE	426.0 tonnes
Period: 30-Jun-2000 to 30-Jun-2001		
AGGREGATE		4,232.0 tonnes
Period: 1-Jul-2000 to 30-Jun-2014		
LIMESTONE	CRUSHED ROCK	1,160,608.0 tonnes
Period: 2-Jul-2000 to 30-Jun-2002		
MARBLE		71.0 tonnes
Period: 1-Jul-2001 to 30-Jun-2003		
LIMESTONE	AGGREGATE / DECORATIVE AGGREGATE	8,061.0 tonnes
Period: 1-Jul-2004 to 30-Jun-2007		
AGGREGATE		66,566.0 tonnes
Period: 1-Jul-2006 to 30-Jun-2007		
MARBLE		336.0 tonnes

### Published Reserves/Resources

Company Report 7065 Published in 1979

#### INDICATED MINERAL RESOURCE

400,000,000 Tonnes LIMESTONE

Comments/Cut Off Factor: To 80m depth  
to 80m depth.

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
1982 to 1988		Mining during this period produced limestone flux, agricultural limestone and other limestone products.
1997 to 2001		Quarried by Australian Limestone Pty Ltd
2001 to 2002		Quarried by David Mitchell (NSW) Pty Ltd
2002		Quarried by Unimin Lime (NSW) Pty Ltd

Mining Operations	Comments
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OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 50142	100.00%	SIBELCO LIME (NSW) PTY LTD
ML 50220	100.00%	SIBELCO LIME (NSW) PTY LTD

### Host Rock/Cover Sequences

Structural Unit

Formation Name/Age

TEXAS SUBPROVINCE

Texas beds / EARLY CARBONIFEROUS to EARLY CARBONIFEROUS

### Deposit Model

GENERAL OREBODY MODEL	SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL	LIMESTONE DEPOSIT

### Mineralisation Age

ORE DEVONIAN to CARBONIFEROUS

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, [2014](#)

## Comments

Three connected outcrops form this deposit. The limestone is light to dark grey in colour. Bulk surface samples gave average assays of 55.7% CaO, 0.2% MgO, 0.17% SiO<sub>2</sub>, 0.01% Al<sub>2</sub>O<sub>3</sub> and 0.01% Fe<sub>2</sub>O<sub>3</sub>.

Operated by Unimin Lime (NSW) Pty Ltd. In 2011 Unimin Australia and New Zealand adopted parent company name 'Sibelco'.

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## Web Page

<http://www.sibelco.com.au>

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 485899 ROCHDALE BRICKWORKS

### OPERATING MINE

Descriptive Location: ADJACENT TO GATEWAY MOTORWAY, ROCHDALE, BRISBANE CITY.

1:100 000 sheet Number and Name: 9542 BEENLEIGH

Grid Reference: Zone 56 511238 mE 6951727 mN

Latitude -27.5581 Longitude 153.1138

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Prebble  
Red Stone  
Bulimba Brickworks  
The Austral Brick Company

Commodities	Size	Size Definition
BRICK CLAY	MEDIUM	200 000 - 20 000 000 tonnes BKC Y

### Production Details

Period: 1-Jul-1996 to 30-Jun-2013

BRICK CLAY 5,253,295.3 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 1151	100.00%	THE AUSTRAL BRICK CO. PTY LTD
ML 1152	100.00%	THE AUSTRAL BRICK CO. PTY LTD
ML 1156	100.00%	THE AUSTRAL BRICK CO. PTY LTD
ML 1165	100.00%	THE AUSTRAL BRICK CO. PTY LTD
ML 50165	100.00%	THE AUSTRAL BRICK CO. PTY LTD
ML 50189	100.00%	THE AUSTRAL BRICK CO. PTY LTD

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
IPSWICH BASIN	Tingalpa Formation / TRIASSIC to TRIASSIC

### Deposit Model

GENERAL OREBODY MODEL	SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL	SEDIMENTARY CLAY DEPOSITS

### Mineralisation Age

ORE TRIASSIC

### Comments

In 1958, Austral Brick Company Pty Ltd purchased and upgraded the Rochedale Brickworks, installing high capacity kilns in 1968, 1970 and 1972 as part of Rochedale's progressive upgrading, culminating in a \$16 million investment in 1984.

The new facilities gave the plant a capacity of 75 million bricks a year. In 1993 an additional \$20 million was invested, doubling its capacity and upgrading the plant to incorporate specialised paver production facilities.

### Web Page

<http://www.australbrick.com.au>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 504499 ROSES PRIDE

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 4.89KM NW OF CRACOW, 173.49KM SE OF GLADSTONE.

1:100 000 sheet Number and Name: 8947 CRACOW

Grid Reference: Zone 56 224305 mE 7202676 mN

Latitude -25.2669 Longitude 150.2626

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Rose Pride  
Rose'S Pride

Commodities	Size	Size Definition
GOLD	SMALL	0.5 - 5 tonnes AU
SILVER	VERY SMALL	<5 tonnes AG

### Production Details

Period: 1-Jul-2013 to 30-Jun-2014

GOLD	METAL	995.3 kilograms
SILVER		517.1 kilograms

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
BR 10019	2012	EVOLUTION MINING LIMITED	EVOLUTION MINING MINERAL RESOURCE STATEMENT - JUNE 2012	REPORT TO THE AUSTRALIAN SECURITIES EXCHANGE. 25 SEPTEMBER 2012. EVOLUTION MINING LIMITED, MELBOURNE.

### Major Mining Related Events

Year Commenced	Year Completed	Comments
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Mining Operations	Comments
SHAFTS	
PITS	
TRENCHES	
UNDERGROUND MINING METHODS	Two levels at 15.5m and 39.5m. Ore won by stoping between levels and later on through to surface

Tenure Type/Number	SHARE	Company Name/Surname
ML 3229	15.00%	SEDGOLD PTY LTD
ML 3229	15.00%	FERNYSIDE PTY LIMITED
ML 3229	70.00%	LION MINING PTY LTD

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
AUBURN SUBPROVINCE	Camboon Volcanics? / LATE CARBONIFEROUS to EARLY PERMIAN

### Deposit Model

GENERAL OREBODY MODEL	BRECCIA-HOSTED
GENERAL OREBODY MODEL	EPITHERMAL VEINS/PIPE/STOCKWORK
GENERAL OREBODY MODEL	REPLACEMENT DEPOSIT

### Mineralisation Age

ORE

### Comments

Development of decline, operated by Evolution in 2012

### Web Page

[www.evolutionmining.com.au](http://www.evolutionmining.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 512586 SARFIELD

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 0.9 KM ESE OF RAVENSWOOD.

1:100 000 sheet Number and Name: 8257 RAVENSWOOD

Grid Reference: Zone 55 489329 mE 7776932 mN

Latitude -20.1046 Longitude 146.8979

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Sarsfield Extended  
Oca  
Syc  
Area 4  
Area 5  
Prince Of Wales Reef  
Who'D A Thought It  
Louisa Reef  
Minnie Reef  
Nelson Reef  
Leader Reef  
Ajax Reef  
Argua Reef  
Buck Reef  
Big Reef  
Sarsfield (Historical)  
Satisfaction  
Sarsfield And Streak

Commodities	Size	Size Definition
GOLD	MEDIUM	5 - 50 tonnes AU

### Production Details

Period: 1-Jan-1900 to 31-Dec-1909 536 tonnes KNOWN HISTORIC PRODUCTION  
GOLD BULLION 19.4 kilograms  
Period: 1-Jul-1996 to 30-Jun-2012  
GOLD FINE 52,921.3 kilograms  
SILVER 14,314.3 kilograms  
Period: 1-Jul-2000 to 30-Jun-2001  
GOLD BULLION 164.0 kilograms  
Period: 1-Jul-2001 to 30-Jun-2002  
GOLD BULLION 1,623.9 kilograms

### Published Reserves/Resources

BR 10374 Published in 2014

#### SARFIELD - IN SITU

**INDICATED MINERAL RESOURCE** 20,384,000 tonnes Ore @  
0.70 g/t GOLD FOR 14,268 Kilograms GOLD

Comments/Cut Off Factor: 0.4 g/t Au cut-off

BR 10374 Published in 2014

#### SARFIELD - IN SITU

**INFERRED MINERAL RESOURCE** 22,192,000 tonnes Ore @  
0.70 g/t GOLD FOR 15,534 Kilograms GOLD

Comments/Cut Off Factor: 0.4 g/t Au cut-off

BR 10374 Published in 2014

#### SARFIELD - IN SITU

**MEASURED MINERAL RESOURCE** 16,185,000 tonnes Ore @  
0.80 g/t GOLD FOR 12,948 Kilograms GOLD

Comments/Cut Off Factor: 0.4 g/t Au cut-off

BR 10374 Published in 2014

#### SARFIELD - IN SITU

**PROBABLE ORE RESERVE** 18,640,000 tonnes Ore @  
0.70 g/t GOLD FOR 13,048 Kilograms GOLD

Comments/Cut Off Factor: 0.4 g/t Au cut-off

Reported as exclusive from resources

BR 10374 Published in 2014

#### SARFIELD - IN SITU

**PROVED ORE RESERVE** 28,450,000 tonnes Ore @  
0.80 g/t GOLD FOR 22,760 Kilograms GOLD

Comments/Cut Off Factor: 0.4 g/t Au cut-off

Includes stockpiles from both Mount Wright and Sarsfield. Reported as exclusive in resources

Resource figures listed above are JORC compliant.



# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

Published Reference ID	Year	Author	Title	Source
BR 10374	2014	RESOLUTE MINING LIMITED	ASX ANNOUNCEMENT; RESERVES AND RESOURCE STATEMENT AT 30 JUNE 2014	RESOLUTE MINING LIMITED, PERTH. 15TH AUGUST 2014 HTTP://WWW.RESOLUTE-LTD.COM.AU/

## Major Mining Related Events

Year Commenced	Year Completed	Comments
1996		Discovered by Carpentaria Gold adjacent to Nolans-Sarsfield mining operations.

## Operating Mine Life: 2000 to 2010 Deposit acquired by Resolute in 2004 from Xstrata. Current mine plan has a 3 to 4 year mine life as at Jan 2006.

2001	The Nolan's Mining joint venture concluded in 2001.
2002	Sarsfield crushing and beneficiation plant and processing plant expansion was completed in August 2002, with commissioning work continuing.

## Mining Operations

Mining Operations	Comments
OPEN CUT MINING	Opencut was developed as a pushback of the western wall of the Nolans-Sarfield pit.

Tenure Type/Number	SHARE	Company Name/Surname
ML 1337	100.00%	CARPENTARIA GOLD PTY. LTD.
ML 1379	100.00%	CARPENTARIA GOLD PTY. LTD.
ML 1380	100.00%	CARPENTARIA GOLD PTY. LTD.
ML 1394	100.00%	CARPENTARIA GOLD PTY. LTD.
ML 1417	100.00%	CARPENTARIA GOLD PTY. LTD.
ML 1418	100.00%	CARPENTARIA GOLD PTY. LTD.
ML 1574	100.00%	CARPENTARIA GOLD PTY. LTD.
ML 1682	100.00%	CARPENTARIA GOLD PTY. LTD.

## Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
PAMA PROVINCE/IGNEOUS ASSOCIATION	Jessop Creek Granite / SILURIAN to DEVONIAN

## Deposit Model

GENERAL OREBODY MODEL	MESOTHERMAL VEINS/PIPE/STOCKWORK
DETAILED OREBODY MODEL	MESOTHERMAL VEINS, MAGMATIC-RELATED

## Mineralisation Age

ORE	CARBONIFEROUS
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## Comments

The mineralisation is similar to the adjacent Nolan's deposit. Rock alteration and vein filling consists of multiple overprinting phases hosted by the Jessop Creek Tonalite.

Mining in the Sarsfield open cut completed by the end of Febuary 2009. Mill feed is being sourced from low-grade stockpiles and treated with Mount Wright ore until stockpiles are depleted.

Resolute Mining Ltd is undertaking a feasibility study into reopening the Sarsfield mine, based on an expansion of the open pit to extract newly defined resources based on a lower cut-off grade.

## Web Page

<http://www.resolute-ltd.com.au/>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 507499 SCOTSMAN'S FOLLY

### OPERATING MINE

Descriptive Location: 2.7KM SE OF STANWELL.

1:100 000 sheet Number and Name: 8950 MOUNT MORGAN

Grid Reference: Zone 56 229119 mE 7398361 mN

Latitude -23.5023 Longitude 150.3475

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
BUILDING STONE	VERY SMALL	<100 000 tonnes BLST
SANDSTONE	SMALL	10 000 - 100 000 tonnes SST

### Production Details

Period: 1-Jul-1996 to 30-Jun-2014

SANDSTONE 165,881.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

### Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 7341	100.00%	CAPRICORN STONE PRODUCTS PTY LTD
ML 80102	100.00%	CAPRICORN STONE PRODUCTS PTY LTD

### Host Rock/Cover Sequences

*Structural Unit*

UNDIFFERENTIATED MESOZOIC

VOLCANICS

*Formation Name/Age*

Alton Downs Basalt / LATE CRETACEOUS to LATE CRETACEOUS

### Deposit Model

### Mineralisation Age

### Comments

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 38268 SKARDON RIVER

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 83KM NORTH OF WEIPA, 630KM NW OF CAIRNS.

1:100 000 sheet Number and Name: 7274 MAPOON

Grid Reference: Zone 54 607421 mE 8686664 mN

Latitude -11.8787 Longitude 141.9863

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
KAOLIN / KAOLINITE	MEDIUM	200 000 - 20 000 000 tonnes KAO
BAUXITE	SMALL	100 000 - 100 000 000 tonnes BX

### Production Details

Period: 1-Jul-1998 to 30-Jun-1999	KAOLIN / KAOLINITE	150.0 tonnes
Period: 1-Jul-2002 to 30-Jun-2008	KAOLIN / KAOLINITE	5,616.0 tonnes

### Published Reserves/Resources

BR 10169 Published in 2013

#### SKARDON RIVER BAUXITE

**INDICATED MINERAL RESOURCE** 32,100,000 tonnes Ore @  
32,100,000 Tonnes BAUXITE

Comments/Cut Off Factor: 17%SiO2 cut-off

BR 10169 Published in 2013

#### SKARDON RIVER BAUXITE

**INFERRED MINERAL RESOURCE** 8,100,000 tonnes Ore @  
8,100,000 Tonnes BAUXITE

Comments/Cut Off Factor: 17%SiO2 cut-off

BR 10169 Published in 2013

#### SKARDON RIVER BAUXITE

**MEASURED MINERAL RESOURCE** 29,900,000 tonnes Ore @  
29,900,000 Tonnes BAUXITE

Comments/Cut Off Factor: 17%SiO2 cut-off

BR 9219 Published in 2009

#### SKARDON RIVER KAOLIN

**INDICATED MINERAL RESOURCE** 900,000 tonnes Ore @  
78.00 % KAOLIN / KAOLINITE **FOR** 702,000 Tonnes KAOLIN / KAOLINITE

Comments/Cut Off Factor: Additional to reserves. 78% <45 micron in situ grade. Recovered grade not yet determined.  
78% <45 micron in situ grade. Recovered grade not yet defined.

BR 9219 Published in 2009

#### SKARDON RIVER KAOLIN

**INFERRED MINERAL RESOURCE** 10,400,000 tonnes Ore @  
65.00 % KAOLIN / KAOLINITE **FOR** 6,760,000 Tonnes KAOLIN / KAOLINITE

Comments/Cut Off Factor: Additional to reserves. >65% <45 micron in situ grade. Recovered grade not yet determined.  
>65% <45 micron in situ grade. Recovered grade not yet defined.

BR 9219 Published in 2009

#### SKARDON RIVER KAOLIN

**PROBABLE ORE RESERVE** 2,100,000 tonnes Ore @  
63.00 % KAOLIN / KAOLINITE **FOR** 1,323,000 Tonnes KAOLIN / KAOLINITE

Comments/Cut Off Factor: Reserve to 25m depth. 92% <45 micron in situ grade. 63% recovered grade.  
Reserve to 25m depth. 92% <45 micron in situ grade. 63% recovered grade.

BR 9219 Published in 2009

#### SKARDON RIVER KAOLIN

**PROVED ORE RESERVE** 700,000 tonnes Ore @  
65.00 % KAOLIN / KAOLINITE **FOR** 455,000 Tonnes KAOLIN / KAOLINITE

Comments/Cut Off Factor: Reserve to 25m depth. 95% <45 micron in situ grade. 65% recovered grade.  
Reserve to 25m depth. 95% <45 micron in situ grade. 65% recovered grade.

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10169	2013	GULF ALUMINA LIMITED	RESOURCE STATEMENT UPDATE; LETTER DATED 08 MARCH 2013	WWW.GULFALUMINA.COM.AU
BR 9219	2009	MINERALS CORPORATION LIMITED	ANNUAL REPORT 2009.	MINERALS CORPORATION LIMITED, SYDNEY.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Major Mining Related Events

Year Commenced	Year Completed	Comments
2000	to 2003	Assets acquired by Queensland Kaolin Ltd (subsidiary of Minerals Corporation Ltd) from Australian Kaolin Ltd on 29th June 2000 for \$6.5 million. Recommissioning of plant completed in May 2003.
2003		The first bulk shipment of kaolin came from the mine in April 2004. By June 2006, the company had more than 70 active customers.

## Mining Operations

## Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
EPM 4068	20.00%	MINERALS CORPORATION LIMITED
EPM 4068	80.00%	GULF ALUMINA LIMITED
ML 6025	100.00%	GULF ALUMINA LIMITED
ML 40069	100.00%	GULF ALUMINA LIMITED
ML 40082	100.00%	GULF ALUMINA LIMITED

## Host Rock/Cover Sequences

*Structural Unit*

*Formation Name/Age*

KARUMBA BASIN

Bulimba Formation / TERTIARY to TERTIARY

## Deposit Model

GENERAL OREBODY MODEL	RESIDUAL DEPOSIT
DETAILED OREBODY MODEL	LATERITIC KAOLIN

## Mineralisation Age

ORE CENOZOIC

## Comments

This deposit comprises lenses of sandy kaolin within the pallid zone of a laterite weathering profile and are underlain by a weakly kaolinitic aquifer. The aluminium and iron contents are reportedly lower than in the Weipa deposits.

In September 2006, the project was independently valued at \$143.3 million. The resource base in ML 6025 is sufficient for a mine life of 100 years at a production rate of 150 000t per annum of kaolin product.

Production of bulk samples of 'Kaocem' (low carbon kaolin base cementitious products) commenced in June 2009. The first major sales order (\$1.6M) was received in July 2009.

Kaolin plant removed and construction of alumina plant and barge facilities commenced in 2013.

2013 resource update: The results show a JORC 62 mt at a higher grade and a JORC 84 mt with a lower but marketable grade product. Furthermore, exploration targets of 5-12 mt additional resources have also been identified at Skardon River.

2013 resource: Total Al<sub>2</sub>O<sub>3</sub> recovery 50.3%; total SiO<sub>2</sub> 11.2% -> recovery 61.7%

The drilling program completed (Oct 2012) all planned 128 holes for a total of 484 metres. About 111 holes were drilled through bauxite & terminated in clays just beneath the bauxite. A total of 1,602 drill samples that are deemed 'bauxitic' were analysed

An unincorporated joint venture agreement signed with ACC EcoMinerals Limited during 2009 recognised Gulf Alumina as the joint holder of the Skardon River mining and exploration tenements with rights to explore for and develop all bauxite in the area.

(cont.) Operating quite independently, the objectives of the joint venture allow the sharing of common expenditure and to use the existing infrastructure. However, this joint venture arrangement was terminated in September 2011 when Gulf Alumina became

(cont.2) the sole holder of the mining and exploration tenements including the associated site infrastructure and improvements at Skardon River.

2012: JORC compliant resources estimation in excess of 50 million tonnes on Skardon River leases with potential for over 200 million tonnes of bauxite in total on all tenements

## Web Page

[www.gulfalumina.com.au](http://www.gulfalumina.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 483642 SOUTHERN PACIFIC SANDS

### OPERATING MINE

Descriptive Location: NE OF BEACHMERE, EAST OF CABOULTURE NEAR DECEPTION BAY, 42KM N OF BRISBANE.

1:100 000 sheet Number and Name: 9543 BRISBANE

Grid Reference: Zone 56 507816 mE 7003851 mN

Latitude -27.0876 Longitude 153.0788

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Ningi Silica Sand

Commodities	Size	Size Definition
SILICA SAND	LARGE	>2 500 000 tonnes SIS

### Production Details

Period: 1-Jul-1996 to 30-Jun-1997	
FOUNDRY SAND	4,323.0 tonnes
Period: 1-Jul-2000 to 30-Jun-2014	
SILICA SAND	188,711.7 tonnes
FOUNDRY SAND	231,585.3 tonnes

### Published Reserves/Resources

BR 6110 Published in 1996

**ML 50064**  
**INFERRED MINERAL RESOURCE**  
750,000 Tonnes SILICA SAND

BR 6110 Published in 1996

**ML 50088**  
**INFERRED MINERAL RESOURCE**  
9,000,000 Tonnes SILICA SAND

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 6110	1996	WOODWARD-CLYDE	BEACHMERE SAND EXTRACTION ENVIRONMENTAL MANAGEMENT OVERVIEW STRATEGY FOR ML 50088 AND ML 50064	PACIFIC SILICA PTY LTD

### Major Mining Related Events

Year Commenced	Year Completed	Comments
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Mining Operations	Comments
SURFACE MINING METHODS	

Tenure Type/Number	SHARE	Company Name/Surname
MDL 260	100.00%	PACIFIC SILICA PTY LTD
MDL 261	100.00%	PACIFIC SILICA PTY LTD
ML 50064	100.00%	PACIFIC SILICA PTY LTD
ML 50088	100.00%	PACIFIC SILICA PTY LTD
ML 50140	100.00%	PACIFIC SILICA PTY LTD

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
MODERN COASTAL DEPOSITS	Qhcb/4-QLD / QUATERNARY to QUATERNARY

### Deposit Model

GENERAL OREBODY MODEL	DUNE DEPOSIT
DETAILED OREBODY MODEL	DUNE DEPOSIT SILICA SAND

### Mineralisation Age

ORE	HOLOCENE	Dated at between 6 and 10,000 years old.
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### Comments

Pacific Silica is a joint venture company between Wearnes International Ltd and two Brisbane families trading as Southern Pacific Sands. The company produces a range of processed sands. These sands are suitable for the foundry, construction, glass, specialty sands, filtration and golf course construction industries. The processing plant was expanded in 1999 to incorporate substantial wet and drying plants.

### Web Page

www.southern-pacific-sands.com.au; www.wearnes.com

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 588114 SOVEREIGN

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: ~3KM W OF CRACOW, ~175KM SE OF GLADSTONE.

1:100 000 sheet Number and Name: 8947 CRACOW

Grid Reference: Zone 56 224600 mE 7201600 mN

Latitude -25.2767 Longitude 150.2653

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Cracow Gold Mine Group

Commodities	Size	Size Definition
GOLD	SMALL	0.5 - 5 tonnes AU

### Production Details

#### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
BR 10019	2012	EVOLUTION MINING LIMITED	EVOLUTION MINING MINERAL RESOURCE STATEMENT - JUNE 2012	REPORT TO THE AUSTRALIAN SECURITIES EXCHANGE. 25 SEPTEMBER 2012. EVOLUTION MINING LIMITED, MELBOURNE.

### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

Tenure Type/Number	SHARE	Company Name/Surname
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Currently untenured mineral deposit

### Host Rock/Cover Sequences

*Structural Unit*

AUBURN SUBPROVINCE

*Formation Name/Age*

Camboon Volcanics / LATE CARBONIFEROUS to EARLY PERMIAN

### Deposit Model

### Mineralisation Age

ORE

EARLY PERMIAN

### Comments

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 481465 STRATHPINE

### OPERATING MINE

Descriptive Location: STRATHPINE

1:100 000 sheet Number and Name: 9443 CABOOLTURE

Grid Reference: Zone 56 496221 mE 6978885 mN

Latitude -27.3130 Longitude 152.9618

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Strathpine 3

Strathpine 4

### Commodities

BRICK CLAY

### Size

SMALL

### Size Definition

2 000 - 200 000 tonnes BKCY

### Production Details

Period: 1-Jul-2005 to 30-Jun-2009

BRICK CLAY

65,685.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

### Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
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Currently untenured mineral deposit

### Host Rock/Cover Sequences

*Structural Unit*

PETRIE BASIN

*Formation Name/Age*

Petrie Formation / EOCENE to OLIGOCENE

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

SEDIMENTARY CLAY DEPOSITS

### Mineralisation Age

ORE

EOCENE to OLIGOCENE

### Comments

### Web Page

[www.csr.com.au](http://www.csr.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493895 SUNSTATE SAND LEASES

### OPERATING MINE

Descriptive Location: 62.2KM NNW OF MARYBOROUGH, SOUTH-EAST OF COONARR CREEK

1:100 000 sheet Number and Name: 9347 CHILDERS

Grid Reference: Zone 56 449514 mE 7234328 mN

Latitude -25.0056 Longitude 152.4997

Date Recorded: 15/January/2015

### Other Names for Deposit / Mine

Coonarr Creek 2

Coonarr Creek 3

Commodities	Size	Size Definition
SILICA SAND	MEDIUM	1 000 000 - 2 500 000 tonnes SIS
FOUNDRY SAND	MEDIUM	1 000 000 - 2 500 000 tonnes SF

### Production Details

Period: 1-Jul-1996 to 30-Jun-2014

SILICA SAND 145,823.9 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
1996		Silica sand produced by Sunstate Sands Pty Ltd.

### Mining Operations

#### Comments

SURFACE MINING METHODS

PITS

Tenure Type/Number	SHARE	Company Name/Surname
ML 1228	100.00%	EARTH COMMODITIES BUNDABERG PTY LTD
ML 1229	100.00%	EARTH COMMODITIES BUNDABERG PTY LTD

### Host Rock/Cover Sequences

Structural Unit

Formation Name/Age

MODERN COASTAL DEPOSITS

Qpcb-QLD / PLEISTOCENE to PLEISTOCENE

### Deposit Model

GENERAL OREBODY MODEL

DUNE DEPOSIT

DETAILED OREBODY MODEL

DUNE DEPOSIT SILICA SAND

### Mineralisation Age

ORE

### Comments

High grade silica sand grading 99.5% SiO<sub>2</sub>. The major contaminants are heavy minerals, principally leucoxene, rutile, zircon, tourmaline and andalusite. This resource is unusual because it can deliver material from below 250 microns up to 5mm.

Pleistocene beach ridge sands flanked by Holocene beach ridge barrier dunes on the seaward side. The eolian sands have been strongly leached producing a well developed podzolic soil profile with a A2 horizon 5m deep of clean white high purity silica sand.

Sunstate commenced mining in late 1996 to feed a pilot plant, which produced approximately 12,000 tonnes per annum of washed and dried sand, principally used in foundry and epoxy industries, architectural coatings, pool, and decorative finishes.

In 2006, Earth Commodities Pty. Ltd acquired Sunstate Sands (Aust) P/L as one of many mine and quarry sites, holding a number of Mining Leases and Mineral Development Leases at Coonarr Creek

Uses for silica sand: Swimming pool pebble, foundry sand, filter Sand, Specialised Dried Sands

### Web Page

<http://www.ecbundaberg.com.au>; <http://www.earthcommodities.com.au>



# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 43486 SWAGMAN

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 32.8KM SW OF GUNPOWDER

1:100 000 sheet Number and Name: 6758 MAMMOTH MINES

Grid Reference: Zone 54 305590 mE 7797935 mN

Latitude -19.9051 Longitude 139.1429

Date Recorded: 13/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
COPPER	SMALL	500 - 50 000 tonnes CU

### Production Details

Period: 1-Jul-2011 to 30-Jun-2013

COPPER PLATE 4,846.0 tonnes

### Published Reserves/Resources

BR 10367 Published in 2014

#### SWAGMAN OXIDE ORE

**INDICATED MINERAL RESOURCE** 30,000 tonnes Ore @  
0.62 % COPPER **FOR** 186 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

BR 10367 Published in 2014

#### SWAGMAN OXIDE ORE

**INFERRED MINERAL RESOURCE** 20,000 tonnes Ore @  
0.53 % COPPER **FOR** 106 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

BR 10367 Published in 2014

#### SWAGMAN OXIDE ORE

**MEASURED MINERAL RESOURCE** 140,000 tonnes Ore @  
0.67 % COPPER **FOR** 938 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff.

BR 10367 Published in 2014

#### SWAGMAN SULPHIDE ORE

**INFERRED MINERAL RESOURCE** 30,000 tonnes Ore @  
0.45 % COPPER **FOR** 135 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

BR 10367 Published in 2014

#### SWAGMAN TRANSITION ORE

**INDICATED MINERAL RESOURCE** 70,000 tonnes Ore @  
0.60 % COPPER **FOR** 420 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

BR 10367 Published in 2014

#### SWAGMAN TRANSITION ORE

**INFERRED MINERAL RESOURCE** 40,000 tonnes Ore @  
0.45 % COPPER **FOR** 180 Tonnes COPPER

Comments/Cut Off Factor: 0.3% Cu cutoff

BR9957 gives this as 0Mt (but quotes that old resource remained the same BR 9815)

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10367	2014	GOLDER ASSOCIATES	CST MINING GROUP LIMITED; LADY ANNIE RESOURCE STATEMENT FOR FEBRUARY 2014	ANNOUNCEMENT TO THE STOCK EXCHANGE OF HONG KONG LIMITED, 30 MAY 2014. CST MINING GROUP LIMITED, MELBOURNE.

### Major Mining Related Events

Year Commenced	Year Completed	Comments

Mining Operations	Comments
PITS	

Tenure Type/Number	SHARE	Company Name/Surname
ML 90170	100.00%	CST MINERALS LADY ANNIE PTY LIMITED

### Host Rock/Cover Sequences

Structural Unit

MOUNT OXIDE DOMAIN

Formation Name/Age

Paradise Creek Formation / PALAEOPROTEROZOIC to  
PALAEOPROTEROZOIC

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Deposit Model

GENERAL OREBODY MODEL

BRECCIA-HOSTED

DETAILED OREBODY MODEL

BRECCIATED SEDIMENT-HOSTED COPPER

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## Mineralisation Age

ORE

PALAEOPROTEROZOIC to  
MESOPROTEROZOIC

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## Comments

Zone of outcropping oxide copper mineralisation. The oxide resources include proved and probable reserves of 274,000t at 0.61% Cu.

CopperCo went into voluntary administration in November 2008. Cape Lambert Iron Ore Ltd purchased CopperCo's assets in June 2009.

An Initial Public Offering to form a new company to manage the Lady Annie project is planned.

In 2010 CST mining Ltd commenced exploration operations at this site. Resource figures were updated (BR9537).

CST Mining reported significant drilling intercept: MTKC0112 8m @ 0.68% Cu (BR9536)

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## Web Page

<http://www.cstmining.com>

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 578043 TAIPAN

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 2.2KM SSW OF CLONCURRY

1:100 000 sheet Number and Name: 7056 CLONCURRY

Grid Reference: Zone 54 448168 mE 7708542 mN

Latitude -20.7219 Longitude 140.5022

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
COPPER	SMALL	500 - 50 000 tonnes CU
GOLD	VERY SMALL	<0.5 tonnes AU

### Production Details

Period: 1-Jul-2010 to 30-Jun-2014

COPPER	METAL	6,303.5 tonnes
GOLD	METAL	5.6 kilograms

### Published Reserves/Resources

BR 10184 Published in 2012

#### TAIPAN

**INFERRED MINERAL RESOURCE** 1,460,000 tonnes Ore @

0.80 % COPPER **FOR** 11,680 Tonnes COPPER

0.10 g/t GOLD **FOR** 146 Kilograms GOLD

Comments/Cut Off Factor: 0.5% Cu cutoff.

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10184	2012	EXCO RESOURCES LTD	MARKET RELEASE: QUEENSLAND EXPLORATION UPDATE; 2012 FIELD PROGRAMME HAS COMMENCED	ANNOUNCEMENT TO THE AUSTRALIAN SECURITIES EXCHANGE, 20 APRIL 2012. EXCO RESOURCES LTD, PERTH.

### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

Tenure Type/Number	SHARE	Company Name/Surname
ML 90065	100.00%	COPPERCHEM LIMITED

### Host Rock/Cover Sequences

Structural Unit

CONSTANTINE DOMAIN

Formation Name/Age

Wiggle Waterhole Metagabbro / MESOPROTEROZOIC to  
MESOPROTEROZOIC

### Deposit Model

GENERAL OREBODY MODEL	HYDROTHERMAL VEINS/PIPE/STOCKWORK
DETAILED OREBODY MODEL	IRON-OXIDE CU-AU (-U-REE)

### Mineralisation Age

ORE MESOPROTEROZOIC

### Comments

Mineralisation comprises a chalcopyrite-dominated sulphide vein stockwork in coarse to medium-grained magnetite-altered gabbroic volcanic rocks. Some occurs as semi-massive zones over several metres thickness within a broad, low-grade stockwork.

In 2012 Exco Resources was taken over by Washington H Soul Pattinson & Co Ltd.

In May 2013 CopperChem announced a non-JORC reserve and resource on their webpage: the uncatagorised reserves for Taipan are 72000 t at 1.51% Cu and 0.11 g/t Au and the uncatagorised resources are 2.22 Mt at 0.74% Cu and 0.11 g/t Au (BR10368).

### Web Page

[www.excoresources.com.au](http://www.excoresources.com.au); <http://www.copperchem.com.au/cloncurry.htm>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 487699 TARAGOOLA

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 10.5 KM SSE OF CALLIOPE, 25KM SW OF GLADSTONE.

1:100 000 sheet Number and Name: 9149 CALLIOPE

Grid Reference: Zone 56 321093 mE 7332730 mN

Latitude -24.1076 Longitude 151.2398

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Calliope

Commodities	Size	Size Definition
LIMESTONE	MEDIUM	2 000 000 - 10 000 000 tonnes LST
QUARRY ROCK		

### Production Details

Period: 1-Jul-1996 to 30-Jun-2014

LIMESTONE OTHER 7,899,979.8 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

### Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 3594	100.00%	FROST ENTERPRISES PTY LTD
ML 3595	100.00%	FROST ENTERPRISES PTY LTD
ML 3596	100.00%	FROST ENTERPRISES PTY LTD
ML 3597	100.00%	FROST ENTERPRISES PTY LTD
ML 3598	100.00%	FROST ENTERPRISES PTY LTD
ML 3599	100.00%	FROST ENTERPRISES PTY LTD
ML 3600	100.00%	FROST ENTERPRISES PTY LTD
ML 3602	100.00%	FROST ENTERPRISES PTY LTD
ML 3603	100.00%	FROST ENTERPRISES PTY LTD
ML 3604	100.00%	FROST ENTERPRISES PTY LTD
ML 3605	100.00%	FROST ENTERPRISES PTY LTD
ML 3606	100.00%	FROST ENTERPRISES PTY LTD
ML 3608	100.00%	FROST ENTERPRISES PTY LTD
ML 3609	100.00%	FROST ENTERPRISES PTY LTD
ML 80036	100.00%	FROST ENTERPRISES PTY LTD

### Host Rock/Cover Sequences

Structural Unit

Formation Name/Age

CALLIOPE SUBPROVINCE

Calliope beds/1 / SILURIAN to EARLY DEVONIAN

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

LIMESTONE DEPOSIT

### Mineralisation Age

ORE

EARLY DEVONIAN

### Comments

Taragoola produces lime for cement, agriculture and other uses from an open cut operation run by Frost Enterprises Pty Ltd, a family-owned company established in Gladstone in 1966 to supply Queensland Alumina Ltd with raw limestone.

The Taragoola quarry supplies varying grades of crushed limestone to state and local government departments and the construction, industrial and agricultural industries.

The limestone is extracted by open cut and transported by off-highway 50t dump trucks to a 350t per hour crushing plant. The finished product is dispatched by road and rail to customers from Proserpine to Brisbane.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 37821 TARTANA

### OPERATING MINE

Descriptive Location: 40KM NW OF CHILLAGOE

1:100 000 sheet Number and Name: 7764 BELLEVUE

Grid Reference: Zone 55 208564 mE 8125619 mN

Latitude -16.9348 Longitude 144.2639

Date Recorded: 14/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
COPPER	SMALL	500 - 50 000 tonnes CU
LEAD	VERY SMALL	<1000 tonnes PB
ZINC	VERY SMALL	<200 tonnes ZN
SILVER	VERY SMALL	<5 tonnes AG

### Production Details

Period: 1-Jul-2004 to 30-Jun-2014

COPPER PRECIPITATE 5,988.0 tonnes

### Published Reserves/Resources

BR 7739 Published in 2006

**TARTANA**  
**INFERRED MINERAL RESOURCE** 1,700,000 tonnes Ore @  
1.10 % COPPER **FOR** 18,700 Tonnes COPPER

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 7739	2006	S. MARTINSON	SOLOMONS PRODUCE HIGH-PURITY COPPER SULPHATE PENTAHYDRATE	QUEENSLAND GOVERNMENT MINING JOURNAL, JUNE 2006, 37-38.

### Major Mining Related Events

Year Commenced	Year Completed	Comments
1894	to 1894	Discovery.
2004		Mining commenced by Solomons Mines to produce copper sulphate. Plant commissioned in April 2004.

### Mining Operations

#### Comments

OPEN CUT MINING  
UNDERGROUND MINING METHODS  
PITS  
SHAFTS  
TRENCHES  
ADITS

Tenure Type/Number	SHARE	Company Name/Surname	Christian Name
ML 4819	100.00%	MEYER	Martin Edward
ML 4820	100.00%	MEYER	Martin Edward
ML 5312	100.00%	MEYER	Martin Edward
ML 20489	100.00%	MEYER	Martin Edward

### Host Rock/Cover Sequences

*Structural Unit* HODGKINSON PROVINCE  
*Formation Name/Age* Chillagoe Formation / EARLY SILURIAN to EARLY DEVONIAN

### Deposit Model

GENERAL OREBODY MODEL HYDROTHERMAL VEINS/PIPE/STOCKWORK  
DETAILED OREBODY MODEL SHEAR ZONE-HOSTED HYDROTHERMAL

### Mineralisation Age

ORE PALAEOZOIC

### Comments

In 2005, Solomons Mines Pty Ltd commenced mining operations to produce copper sulphate pentahydrate via a heap leach operation from the oxide part of the orebody. The plant has a capacity of up to 25t per day.  
The product is used in the mining and agricultural industries and in animal feed supplements.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 493669 TESTAROSA CLAY

### OPERATING MINE

Descriptive Location: SOUTH BRISBANE AREA

1:100 000 sheet Number and Name: 9542 BEENLEIGH

Grid Reference: Zone 56 526385 mE 6943550 mN

Latitude -27.6318 Longitude 153.2674

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
BRICK CLAY	MEDIUM	200 000 - 20 000 000 tonnes BKC
AGGREGATE		

### Production Details

Period: 1-Jul-1998 to 30-Jun-2013

BRICK CLAY 1,201,720.9 tonnes

### Published Reserves/Resources

Company Report 23040 Published in 1991

#### *INFERRED MINERAL RESOURCE*

2,000,000 Tonnes CLAY

Brick clay, shale.

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

#### Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 50035	100.00%	THE AUSTRAL BRICK CO. PTY LTD

### Host Rock/Cover Sequences

*Structural Unit*

BEENLEIGH SUBPROVINCE (BLOCK)

*Formation Name/Age*

Neranleigh-Fernvale beds / DEVONIAN to CARBONIFEROUS

### Deposit Model

GENERAL OREBODY MODEL RESIDUAL DEPOSIT

DETAILED OREBODY MODEL SEDIMENTARY CLAY DEPOSITS

### Mineralisation Age

ORE CENOZOIC

### Comments

### Web Page

<http://www.australbrick.com.au>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 507511 THUNDERBIRD PARK

### OPERATING MINE

Descriptive Location: 3.5KM NORTH OF MOUNT TAMBORINE.

1:100 000 sheet Number and Name: 9542 BEENLEIGH

Grid Reference: Zone 56 518094 mE 6913620 mN

Latitude -27.9021 Longitude 153.1839

Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Mount Tamborine Thunder Egg Park

Cedar Creek Thunder Egg Park

Commodities	Size	Size Definition
THUNDER EGG	MEDIUM	10 - 100 tonnes THEG

### Production Details

Period: 1-Jul-1997 to 30-Jun-2004

THUNDER EGG 86,000.0 australian dollars

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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Mining Operations	Comments
OPEN CUT MINING	

Tenure Type/Number	SHARE	Company Name/Surname
ML 5914	100.00%	FRETWOOD PTY LTD

### Host Rock/Cover Sequences

*Structural Unit*

IPSWICH BASIN

*Formation Name/Age*

Chillingham Volcanics / TRIASSIC to TRIASSIC

### Deposit Model

GENERAL OREBODY MODEL

DIATREME OR PYROCLASTIC-RELATED DEPOSITS

DETAILED OREBODY MODEL

GEMSTONES IN DECOMPOSED/WEATHERED ROCK

### Mineralisation Age

ORE

TRIASSIC

### Comments

Thunder eggs were discovered at Mount Tamborine in 1967. Thunderbird Park is a privately run fossicking and camping ground, with gem cutting and sale facilities on site. Resort accommodation, conference facilities and a restaurant are attached.

### Web Page

[www.thunderbirdpark.com](http://www.thunderbirdpark.com)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 486592 ULAM MARBLE

### OPERATING MINE

Descriptive Location: SOUTH WESTERN SLOPE OF MT MCCAMLEY, 15 KM SSW OF MARMOR, 60KM NW OF GLADSTONE.

1:100 000 sheet Number and Name: 9050 BAJOOL

Grid Reference: Zone 56 261318 mE 7364721 mN Latitude -23.8110 Longitude 150.6572 Date Recorded: 20/January/2015

### Other Names for Deposit / Mine

Unnamed 612645  
Bajool

Commodities	Size	Size Definition
LIMESTONE	MEDIUM	2 000 000 - 10 000 000 tonnes LST
MARBLE	SMALL	10 000 - 100 000 tonnes MARB
MAGNESITE	VERY SMALL	<10 000 tonnes MS

### Production Details

Period: 1-Jul-1996 to 30-Jun-2014		
LIMESTONE	OTHER	2,414,167.3 tonnes
Period: 1-Jul-1999 to 30-Jun-2000		
MAGNESITE		262.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

### Comments

OPEN CUT MINING  
ADITS  
SHAFTS

Tenure Type/Number	SHARE	Company Name/Surname	
ML 3638	100.00%	OMYA AUSTRALIA PTY LIMITED	
ML 3662	100.00%	OMYA AUSTRALIA PTY LIMITED	
ML 3663	100.00%	OMYA AUSTRALIA PTY LIMITED	
ML 3666	100.00%	OMYA AUSTRALIA PTY LIMITED	
ML 80014	100.00%	HOLLIER	William Edward
ML 80028	100.00%	OMYA AUSTRALIA PTY LIMITED	
ML 80167	100.00%	OMYA AUSTRALIA PTY LIMITED	

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
MOUNT MORGAN SUBPROVINCE	Ginger Creek Member / MIDDLE DEVONIAN to MIDDLE DEVONIAN

### Deposit Model

GENERAL OREBODY MODEL	SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL	LIMESTONE DEPOSIT

### Mineralisation Age

ORE	MIDDLE DEVONIAN
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### Comments

Marble is mined by Omya Australia Pty Ltd. It is sugary in texture and used as an industrial filler in plastics, paper and rubber. The beneficiated product must meet strict criteria relating to colour, particle size and acid insolubles.

The Bajool plant also produces stone dust for coal mines and agricultural lime.

### Web Page

www.omya.com.au



# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 501300 VANCE

### OPERATING MINE

Descriptive Location: CENTRE OF NORTH STRADBROKE ISLAND, 45KM EAST OF BRISBANE.

1:100 000 sheet Number and Name: 9543 BRISBANE

Grid Reference: Zone 56 544913 mE 6959066 mN

Latitude -27.4912 Longitude 153.4547

Date Recorded: 21/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
SILICA SAND	SMALL	1 000 - 1 000 000 tonnes SIS
RUTILE	SMALL	2 000 - 200 000 tonnes RUT
ZIRCON	SMALL	500 - 500 000 tonnes ZIR
ILMENITE	SMALL	5 000 - 5 000 000 tonnes IM
MONAZITE	VERY SMALL	<200 tonnes MZ

### Production Details

Period: 1-Jul-2004	to	30-Jun-2014	
SILICA SAND			1,644,386.0 tonnes
Period: 2-Jul-2004	to	30-Jun-2005	
ILMENITE			899.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
2004		Consolidated Rutile Limited (CRL) transferred ML 1108 to Unimin to enable it to mine silica sand.

### Mining Operations

SURFACE MINING METHODS

### Comments

Tenure Type/Number	SHARE	Company Name/Surname
ML 1108	100.00%	SIBELCO AUSTRALIA LIMITED

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
MODERN COASTAL DEPOSITS	Qpcb-QLD / PLEISTOCENE to PLEISTOCENE

### Deposit Model

GENERAL OREBODY MODEL	DUNE DEPOSIT
DETAILED OREBODY MODEL	DUNE DEPOSIT SILICA SAND

### Mineralisation Age

ORE	PLEISTOCENE
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### Comments

### Web Page

<http://www.unimin.com.au>

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 588041 WADLEY LEASE

### OPERATING MINE

Descriptive Location: 24.6KM SOUTH OF IPSWICH, ACCESS FROM VERALLS RD OFF LIMESTONE HILL RD.

1:100 000 sheet Number and Name: 9442 IPSWICH

Grid Reference: Zone 56 472290 mE 6921085 mN Latitude -27.8345 Longitude 152.7186 Date Recorded: 21/January/2015

### Other Names for Deposit / Mine

Area 103 & 104  
Moreton Dolomite Extension  
Jackson South Grid  
Wadley Grid

Commodities	Size	Size Definition
EARTHY LIME / DOLOMITE (AGRICULTURAL)	SMALL	10 000 - 100 000 tonnes ELIM
BRICK CLAY	SMALL	2 000 - 200 000 tonnes BKCY
PALYGORSKITE		

### Production Details

Period: 1-Jul-2001 to 30-Jun-2014  
EARTHY LIME / DOLOMITE (AGRICULTURAL) 7,299.5 tonnes  
Period: 1-Jul-2010 to 30-Jun-2014  
PALYGORSKITE 2,987.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

Mining Operations	Comments
OPEN CUT MINING	Shallow open cut pit

Tenure Type/Number	SHARE	Company Name/Surname
ML 50072	50.00%	TREVALLYN ENTERPRISES PTY. LIMITED
ML 50072	50.00%	MORETON DOLOMITE PTY LTD

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
AMBERLEY BASIN	Flinders Dolomite / TERTIARY to TERTIARY

### Deposit Model

### Mineralisation Age

ORE	TERTIARY
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### Comments

In 1992-93 the Wadley and Jackson South Grids were gridded and mapped by Newage. At Wadley 43 holes totalling 252m were drilled and Jackson 37 holes totalling 249m. Average depth 9 - 12m, with many holes ending in dolomite, suggesting extra potential. (cont.) Subsequently two MLs were applied for ML50072 & ML50073. ML50072 was ammended and granted covering both areas. According to Tucker (1996) the palygorskite resource potential is more difficult to evaluate: The 1994 drilling showed the palygorskite zone to have variable thickness, including being absent in places. Best intersections of palygorskite were in holes (Cont.) LR037 (12m thick) and LR049 (10m thick) (ERMS27583)

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 504528 WAGNERS SANDSTONE QUARRY

### OPERATING MINE

Descriptive Location: SEVENTEEN MILE ROAD, HELIDON

1:100 000 sheet Number and Name: 9342 HELIDON

Grid Reference: Zone 56 417011 mE 6956036 mN

Latitude -27.5168 Longitude 152.1597

Date Recorded: 21/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
BUILDING STONE	VERY SMALL	<100 000 tonnes BLST
SANDSTONE	SMALL	10 000 - 100 000 tonnes SST

### Production Details

Period: 1-Jul-1996 to 30-Jun-2011

SANDSTONE 50,421.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

### Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 50006	100.00%	J H WAGNER & SONS PTY LTD

### Host Rock/Cover Sequences

Structural Unit

Formation Name/Age

CLARENCE-MORETON BASIN

Woogaroo Subgroup / LATE TRIASSIC to EARLY JURASSIC

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

### Mineralisation Age

ORE

LATE TRIASSIC to EARLY JURASSIC

### Comments

The company has progressively upgraded machinery and equipment at the quarry and its Toowoomba processing plant since 1988 to increase production of raw blocks and finished products.

Large blocks (each about 8 to 12t) are cut from benches using custom-made trenching machines. Blocks are separated from the quarry floor by more traditional methods using feathers and wedges and are transported to Toowoomba by truck for processing.

The company markets a range of products both domestically and overseas that includes, tiles, walling, pavers, masonry blocks, furniture, benchtops, landscaping rocks and monuments. Decorative items and special architectural pieces and other custom made Decorative items, special architectural pieces and custom-made items are also produced. The company has supplied sandstone for Jupiters Casino and Bond University on the Gold Coast, Hayman Island Resort, and for various restoration projects in Brisbane.

Export sales have been made to Japan and other countries.

This is probably one of the largest quarries in the Helidon area. JH Wagner and Sons Pty Ltd has been operating for >100 years, producing quality sandstone for the local market and has been exporting products since 1989.

### Web Page

[www.jhwagner.com.au](http://www.jhwagner.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 507720 WARBRICK

### OPERATING MINE

Descriptive Location: 8 KM SOUTHWEST OF WARWICK, ALLORA

1:100 000 sheet Number and Name: 9241 ALLORA

Grid Reference: Zone 56 400235 mE 6870810 mN

Latitude -28.2849 Longitude 151.9827

Date Recorded: 21/January/2015

### Other Names for Deposit / Mine

Desert Extended  
Desert

### Commodities

BRICK CLAY

Size  
SMALL

### Size Definition

2 000 - 200 000 tonnes BKCY

### Production Details

Period: 1-Jul-1996 to 30-Jun-2012

BRICK CLAY

38,200.0 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

OPEN CUT MINING

### Comments

A series of open pit mining to extract clay. New and old workings lined up along a NW trend for about 600 metres.

### Tenure Type/Number

ML 50065

### SHARE

100.00%

### Company Name/Surname

WARWICK BRICK WORKS PTY LTD

### Host Rock/Cover Sequences

*Structural Unit*

CLARENCE-MORETON BASIN

*Formation Name/Age*

Marburg Subgroup / JURASSIC to JURASSIC

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

SEDIMENTARY CLAY DEPOSITS

### Mineralisation Age

ORE

JURASSIC

### Comments

Open pit mining of clay, exposing a quarry face approximately 7 metres high and 600 metres long.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 38244 WEIPA BAUXITE MINE

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 5.7KM WNW OF WEIPA AIRSTRIP, 575KM NW OF CAIRNS.

1:100 000 sheet Number and Name: 7272 WEIPA

Grid Reference: Zone 54 594822 mE 8599567 mN

Latitude -12.6666 Longitude 141.8732

Date Recorded: 5/February/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
BAUXITE	LARGE	>200 000 000 tonnes BX
KAOLIN / KAOLINITE	LARGE	>20 000 000 tonnes KAO

### Production Details

Period: 1-Jan-1960 to 30-Jun-1996	
BAUXITE	223,115,000.0 tonnes
Period: 1-Jul-1986 to 30-Jun-1996	
KAOLIN / KAOLINITE	971,200.0 tonnes
Period: 1-Jul-1996 to 30-Jun-2014	
BAUXITE	264,269,188.0 tonnes
BAUXITE	2,392,676.0 tonnes

### Published Reserves/Resources

BR 10406 Published in 2013

#### WEIPA BAUXITE

**INDICATED MINERAL RESOURCE** 1,401,000,000 tonnes Ore @  
1,401,000,000 Tonnes BAUXITE

Comments/Cut Off Factor: At 51.3% alumina  
Includes Weipa, Ely and Andoom.

BR 10406 Published in 2013

#### WEIPA BAUXITE

**INFERRED MINERAL RESOURCE** 455,000,000 tonnes Ore @  
455,000,000 Tonnes BAUXITE

Comments/Cut Off Factor: At 51.9% alumina.  
Includes Weipa, Ely and Andoom.

BR 10406 Published in 2013

#### WEIPA BAUXITE

**MEASURED MINERAL RESOURCE** 109,000,000 tonnes Ore @  
109,000,000 Tonnes BAUXITE

Comments/Cut Off Factor: At 49.6% alumina  
Includes Weipa, Ely and Andoom.

BR 10406 Published in 2013

#### WEIPA BAUXITE

**PROBABLE ORE RESERVE** 989,000,000 tonnes Ore @  
98,900,000 Tonnes BAUXITE

Comments/Cut Off Factor: At 52.7% alumina  
Includes Weipa, Ely and Andoom.

BR 10406 Published in 2013

#### WEIPA BAUXITE

**PROVED ORE RESERVE** 521,000,000 tonnes Ore @  
521,000,000 Tonnes BAUXITE

Comments/Cut Off Factor: At 52.1% alumina  
Includes Weipa, Ely and Andoom.

BR 5921 Published in 1998

#### WEIPA KAOLIN

**PROBABLE ORE RESERVE** 36,000,000 tonnes Ore @  
36,000,000 Tonnes KAOLIN / KAOLINITE

BR 5921 Published in 1998

#### WEIPA KAOLIN

**PROVED ORE RESERVE** 12,000,000 tonnes Ore @  
12,000,000 Tonnes KAOLIN / KAOLINITE

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 10406	2013	RIO TINTO PLC	2013 ANNUAL REPORT.	RIO TINTO PLC, LONDON. REPORTED TO AUSTRALIAN STOCK EXCHANGE, MARCH 2014; RIO TINTO LTD, MELBOURNE
BR 5921	1998	GILLIAN BESTER (EDITOR)		REGISTER OF AUSTRALIAN MINING 1998/99. RESOURCE INFORMATION UNIT.

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Major Mining Related Events

Year Commenced	Year Completed	Comments
1955	to 1960	The extent and economic potential of the Weipa bauxite deposits were first recognised by HJ Evans in 1955. Commonwealth Aluminium Corporation Pty Ltd explored the deposits and SBML 1 was granted in 1958.

**Operating Mine Life: 1961 to 2041 Mining and trial shipments began in 1961. The first commercial shipment of bauxite was made in 1963 and mining has been carried out continuously since then. Major upgrades of the mine were completed in 1998 and 2004.**

1985	to	1996	Kaolin was mined as part of the Weipa operation.
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## Mining Operations

## Comments

SURFACE MINING METHODS

OPEN CUT MINING

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Tenure Type/Number	SHARE	Company Name/Surname
ML 6024	100.00%	RTA WEIPA PTY LTD
ML 7024	100.00%	RTA WEIPA PTY LTD

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## Host Rock/Cover Sequences

*Structural Unit*

KARUMBA BASIN

*Formation Name/Age*

Bulimba Formation / TERTIARY to TERTIARY

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## Deposit Model

GENERAL OREBODY MODEL	RESIDUAL DEPOSIT
DETAILED OREBODY MODEL	LATERITIC BAUXITE
DETAILED OREBODY MODEL	LATERITIC KAOLIN

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## Mineralisation Age

ORE

CENOZOIC

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## Comments

operations. Production and resource figures provided by Comalco for Mining Lease 7024 and include both Weipa and Andoom. The kaolin mining operation closed down in 1996. In 2003 and 2004, Comalco erected a new beneficiation plant and power station at Andoom as part of its NE Weipa expansion project. Bauxite is now mined from Weipa East and Andoom as separate mining. By the end of 1956, it was established that the bauxite deposits in Weipa are very substantial and are of a grade suitable for the manufacture of alumina. Bauxite occurs within the topmost of four zones (laterite, mottled, pallid and "saprolite") recognised in the 20 - 30m thick weathering profile. The laterite zone comprises iron-cemented soil overburden about 0.5m thick (which is removed by ripping), and a 1 to 5m thick bauxite layer underlain by 1 to 2m of ironstone. The bauxite comprises loose pisolites that consist of gibbsite and boehmite with small amounts of kaolinite and quartz. Generally, the bauxite is poorly cemented or uncemented and mining is relatively easy. The matrix between the pisolites, although bauxitic, has a high silica content (up to 12% total silica) in the form of sand and silt size quartz grains. This is removed by wet screening to beneficiate the product. The ironstone layer consists of goethite and hematite nodules with varying amounts of kaolinite and quartz. It is much harder and is the cut-off for mining. Kaolin occurs in the pallid zone of the weathering profile and was mined from areas from which the overlying bauxite has been removed. The deposits are discontinuous clay lenses approximately 2 to 3km long, 300m wide and 4.5m in average thickness. They overlie a shallow quartz aquifer. Kaolin was mined for the production of premium quality coating clays. The crude kaolin ore contained 80 to 90% kaolinite, 5 to 20% quartz, 0.1 to 0.3% hematite, 1 to 2% anatase and 1 to 3% muscovite. Accessory minerals include zircon, tourmaline, leucosene, rutile, ilmenite, goethite, sphene, siderite, magnetite, apatite, monazite, andalusite, staurolite, spinel and halloysite (Schaap, 1990).

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## Web Page

[www.riotinto.com/riotintoalcan/](http://www.riotinto.com/riotintoalcan/)

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 501297 WILLOWS ZEOLITE MINE

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: 2 KM SOUTH OF WILLOWS, WEST OF EMERALD, CENTRAL QLD.

1:100 000 sheet Number and Name: 8350 BOGANTUNGAN

Grid Reference: Zone 55 547272 mE 7381502 mN

Latitude -23.6765 Longitude 147.4636

Date Recorded: 21/January/2015

### Other Names for Deposit / Mine

Robert One  
Robert Two  
Robert Three  
Robert Four  
Robert Five  
Robert Six

Commodities	Size	Size Definition
ZEOLITE	MEDIUM	200 000 - 2 000 000 tonnes ZEOL

### Production Details

Period: 1-Jul-1995 to 30-Jun-2014

ZEOLITE 19,165.4 tonnes

### Published Reserves/Resources

Resource figures listed above have been extracted from Company Annual reports or published literature.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

#### Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
MDL 337	100.00%	CURRUMBIN SAND AND GRAVEL PTY LTD
MDL 338	100.00%	CURRUMBIN SAND AND GRAVEL PTY LTD
ML 70214	100.00%	QLD ZEOLITE PTY LTD
ML 80078	100.00%	QLD ZEOLITE PTY LTD

### Host Rock/Cover Sequences

*Structural Unit*

DRUMMOND BASIN

*Formation Name/Age*

Ducabrook Formation / EARLY CARBONIFEROUS to EARLY CARBONIFEROUS

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

### Mineralisation Age

ORE

EARLY CARBONIFEROUS

### Comments

Zeolite has formed in altered, water-lain, ash-fall tuffs of the Early Carboniferous Ducabrook Formation. The sequence is gently folded, with no evident metamorphism.

In April 2000, Supersorb Minerals NL signed an agreement with Currumbin Sand and Gravel Pty Ltd to mine and process zeolite material from this site. Material is mined and transported to Duringa for processing. A crushing facility was constructed in 2001.

In June 2007, Supersorb divested itself of all its zeolite interests.

### Web Page

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 38524 WOLFRAM CAMP TUNGSTEN MINE

OPERATING MINE, ACTIVE PROSPECT

Descriptive Location: WOLFRAM CAMP, 21KM NW OF DIMBULAH, 80KM WEST OF CAIRNS.

1:100 000 sheet Number and Name: 7863 CHILLAGOE

Grid Reference: Zone 55 283914 mE 8109969 mN

Latitude -17.0845 Longitude 144.9694

Date Recorded: 21/January/2015

### Other Names for Deposit / Mine

Wolfram Camp Tungsten Prospect

Commodities	Size	Size Definition
TUNGSTEN	MEDIUM	500 - 10 000 tonnes W
MOLYBDENUM	SMALL	50 - 5 000 tonnes MO
BISMUTH	SMALL	50 - 5 000 tonnes BI

### Production Details

Period: 1-Jan-1893 to 31-Dec-1990

WOLFRAMITE 6,855.0 tonnes  
 MOLYBDENITE 135.0 tonnes  
 BISMUTHINITE 1,535.0 tonnes

Period: 1-Jul-2008 to 30-Jun-2014

MOLYBDENITE 82.4 tonnes  
 WOLFRAMITE 1,116.7 tonnes

### Published Reserves/Resources

BR 9601 Published in 2010

#### WOLFRAM CAMP

**INDICATED MINERAL RESOURCE** 780,000 tonnes Ore @  
 0.56 % TUNGSTIC OXIDE **FOR** 4,368 Tonnes TUNGSTIC OXIDE  
 0.13 % MOLYBDENUM **FOR** 1,014 Tonnes MOLYBDENUM

Comments/Cut Off Factor: 0.25% W eq.

BR 9601 Published in 2010

#### WOLFRAM CAMP

**INFERRED MINERAL RESOURCE** 640,000 tonnes Ore @  
 0.65 % TUNGSTIC OXIDE **FOR** 4,160 Tonnes TUNGSTIC OXIDE  
 0.11 % MOLYBDENUM **FOR** 704 Tonnes MOLYBDENUM

Comments/Cut Off Factor: 0.25% W eq.

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 9601	2010	PLANET METALS LIMITED	SIGNIFICANT INCREASE IN RESOURCES AT WOLFRAM CAMP.	ANNOUNCEMENT TO THE AUSTRALIAN SECURITIES EXCHANGE, 10 MAY 2010. PLANET METALS LIMITED, BRISBANE.

### Major Mining Related Events

Year Commenced	Year Completed	Comments
1888	to 1888	Discovery (Willie Joss).
1893	to 1990	Intermittent mining.
1971	to 1982	Mining concentrated on eluvial material.
1982	to 1990	Underground development commenced with 2 declines, New Forget-Me-Not and the Lane Decline.

### Mining Operations

### Comments

OPEN CUT MINING

UNDERGROUND MINING METHODS

PITS

SHAFTS

TRENCHES

ADITS

SURFACE MINING METHODS



# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

Tenure Type/Number	SHARE	Company Name/Surname
EPM 8884	15.00%	TROPICAL METALS PTY LTD
EPM 8884	85.00%	WOLFRAM CAMP MINING PTY LIMITED
ML 4935	15.00%	TROPICAL METALS PTY LTD
ML 4935	85.00%	WOLFRAM CAMP MINING PTY LIMITED
ML 5117	15.00%	TROPICAL METALS PTY LTD
ML 5117	85.00%	WOLFRAM CAMP MINING PTY LIMITED
ML 20486	15.00%	TROPICAL METALS PTY LTD
ML 20486	85.00%	WOLFRAM CAMP MINING PTY LIMITED
ML 20534	15.00%	TROPICAL METALS PTY LTD
ML 20534	85.00%	WOLFRAM CAMP MINING PTY LIMITED

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## Host Rock/Cover Sequences

*Structural Unit*

KENNEDY PROVINCE/IGNEOUS ASSOCIATION

*Formation Name/Age*

James Creek Granite / CARBONIFEROUS to CARBONIFEROUS

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## Deposit Model

GENERAL OREBODY MODEL

INTRUSIVE-RELATED (PORPHYRY-RELATED)

DETAILED OREBODY MODEL

GREISEN

ENDO-GREISEN

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## Mineralisation Age

ORE

LATE CARBONIFEROUS

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## Comments

This deposit occurs in the roof zone of a highly fractionated granite body capped by Hodgkinson Formation sediments and Featherbed Volcanics.

Mineralisation is confined to greisen zones and consists of irregular branching pipes, minor mineralised flat joints and irregular segregations. Wolframite is randomly distributed. Molybdenite is concentrated on the margins of pipes.

Queensland Ores Limited targeted wolframite-molybdenite in portions of alteration zones around the high-grade pipes, especially between the Lanes Decline and Victory workings.

Drilling results announced in October 2007 included 1m at 1.43% WO<sub>3</sub> and 0.79% MoS<sub>2</sub> from 60m, 2m at 0.55% WO<sub>3</sub> and 0.08% MoS<sub>2</sub> from 16m, 6m at 0.21% WO<sub>3</sub> and 0.08% MoS<sub>2</sub> from 2m, and 7m at 0.29% WO<sub>3</sub> and 0.26% MoS<sub>2</sub> from 29m.

Sulphide concentrates are being stockpiled and will be batch treated to extract molybdenite concentrate, rather than operate the molybdenite circuit continuously.

By the end of March 2008, construction work at the mine site was 95% complete. Commissioning of the treatment plant was completed and the first shipment of concentrates took place on 15 September 2008.

Queensland Ores Ltd (now Planet Metals Ltd) announced on November 2008 that the Wolfram Camp mine had suspended operations to conserve money as mining and metallurgical issues are being addressed.

April 2011: Wolfram Camp Mining Pty Ltd a wholly owned subsidiary of Planet Metals Ltd has been sold to Deutsche Rohstoff AG the sale includes the processing plant, the MLs and exploration permits held over the Wolfram Camp Tungsten-Molybdenum deposit.

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## Web Page

[www.rohstoff.de](http://www.rohstoff.de)

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 496707 YARRAMAN

### OPERATING MINE

Descriptive Location: NORTH EASTERN CORNER OF NORTH STRADBROKE ISLAND, 45KM EAST OF BRISBANE.

1:100 000 sheet Number and Name: 9543 BRISBANE

Grid Reference: Zone 56 548959 mE 6962127 mN Latitude -27.4634 Longitude 153.4955 Date Recorded: 21/January/2015

### Other Names for Deposit / Mine

Commodities	Size	Size Definition
ILMENITE	SMALL	5 000 - 5 000 000 tonnes IM
ZIRCON	SMALL	500 - 500 000 tonnes ZIR
RUTILE	MEDIUM	200 000 - 500 000 tonnes RUT
MONAZITE	VERY SMALL	<200 tonnes MZ

### Production Details

Period: 1-Jul-2000 to 30-Jun-2009	
RUTILE	237,900.0 tonnes
ILMENITE	581,471.0 tonnes
Period: 2-Jul-2000 to 30-Jun-2012	
ZIRCON	263,871.0 tonnes

### Published Reserves/Resources

BR 8476 Published in 2006

#### YARRAMAN - DREDGE

<b>MEASURED MINERAL RESOURCE</b> 238,100,000 tonnes Ore @	
0.28 % ILMENITE	<b>FOR</b> 676,204 Tonnes ILMENITE
0.12 % RUTILE	<b>FOR</b> 288,101 Tonnes RUTILE
0.09 % ZIRCON	<b>FOR</b> 219,052 Tonnes ZIRCON

Comments/Cut Off Factor: 0.6% heavy minerals cut off. Includes proved reserves of 125.6Mt at 0.69% heavy minerals.

BR 8476 Published in 2006

#### YARRAMAN - DRY MINE

<b>INDICATED MINERAL RESOURCE</b> 13,100,000 tonnes Ore @	
0.44 % ILMENITE	<b>FOR</b> 56,985 Tonnes ILMENITE
0.17 % RUTILE	<b>FOR</b> 22,270 Tonnes RUTILE
0.14 % ZIRCON	<b>FOR</b> 18,078 Tonnes ZIRCON

Comments/Cut Off Factor: 0.9% heavy minerals cut off.

BR 8476 Published in 2006

#### YARRAMAN - DRY MINE

<b>INFERRED MINERAL RESOURCE</b> 2,200,000 tonnes Ore @	
0.48 % ILMENITE	<b>FOR</b> 10,626 Tonnes ILMENITE
0.16 % RUTILE	<b>FOR</b> 3,542 Tonnes RUTILE
0.13 % ZIRCON	<b>FOR</b> 2,772 Tonnes ZIRCON

Comments/Cut Off Factor: 1.0% heavy minerals cut off.

BR 8476 Published in 2006

#### YARRAMAN - DRY MINE

<b>MEASURED MINERAL RESOURCE</b> 8,000,000 tonnes Ore @	
0.45 % ILMENITE	<b>FOR</b> 36,080 Tonnes ILMENITE
0.17 % RUTILE	<b>FOR</b> 13,200 Tonnes RUTILE
0.12 % ZIRCON	<b>FOR</b> 9,680 Tonnes ZIRCON

Comments/Cut Off Factor: 0.9% heavy minerals cutoff. Includes proved 5.6Mt at 1.07% and probable 7.1Mt at 0.96% heavy mineral

Resource figures listed above are JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 8476	2006	CONSOLIDATED RUTILE LIMITED	ANNUAL REPORT 2006.	CONSOLIDATED RUTILE LIMITED, BRISBANE.

### Major Mining Related Events

Year Commenced	Year Completed	Comments

**Operating Mine Life: 1999 to 2012 Dredge relocated to this mine in 1999 with operations commencing in Sept 1999.**

Mining Operations	Comments
DREDGING	Floating dredge with spiral concentrators snaking through high dunes.

Tenure Type/Number	SHARE	Company Name/Surname
ML 1109	100.00%	STRADBROKE RUTILE PTY LTD
ML 1122	100.00%	STRADBROKE RUTILE PTY LTD

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## Host Rock/Cover Sequences

*Structural Unit*

*Formation Name/Age*

MODERN COASTAL DEPOSITS

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## Deposit Model

GENERAL OREBODY MODEL

DUNE DEPOSIT

DETAILED OREBODY MODEL

DUNE DEPOSIT HEAVY MINERALS

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## Mineralisation Age

ORE

CENOZOIC

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## Comments

Part of Consolidated Rutile Limited's North Stradbroke mineral sands mining operation. Heavy minerals sands are mined using a dredge on artificial ponds concentrated and taken by barge to Pinkenba at the mouth of the Brisbane River for final separation.

In 2009 Sibelco acquired all assets from Consolidated Rutile Ltd.

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## Web Page

<http://www.sibelco.com.au>

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# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 504525 ZACK'S

### OPERATING MINE

Descriptive Location: SEVENTEEN MILE ROAD HELIDON, 6 KM NORTH-NORTH-EAST OF HELIDON, 85KM WEST OF BRISBANE.

1:100 000 sheet Number and Name: 9343 ESK

Grid Reference: Zone 56 416365 mE 6958093 mN Latitude -27.4981 Longitude 152.1533 Date Recorded: 21/January/2015

### Other Names for Deposit / Mine

Rosa And Bondi Quarries

Pearson'S Quarry

Commodities	Size	Size Definition
BUILDING STONE	SMALL	100 000 - 2 000 000 tonnes BLST
SANDSTONE	MEDIUM	100 000 - 1 000 000 tonnes SST

### Production Details

Period: 1-Jan-1991 to 31-Dec-1991	
SANDSTONE	4,200.0 tonnes
Period: 1-Jul-2002 to 30-Jun-2014	
SANDSTONE	87,715.1 tonnes

### Published Reserves/Resources

BR 6192 Published in 2000

**ZACK'S**  
**INDICATED MINERAL RESOURCE**  
861,400 Tonnes SANDSTONE

Probable reserves and Indicated resources of sandstone as at 31st December 1992.

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
BR 6192	2000	NEVILLE BJ, WILLMOTT WF, O'FLYNN ML, POTTER R	KEY RESOURCE AREAS FOR SANDSTONE BUILDING STONE, EXTRACTIVE MATERIALS AND EXPLOSIVES INDUSTRY HELIDON AREA (DRAFT).	DEPARTMENT OF MINES AND ENERGY KEY RESOURCE AREA REPORT NO.3

### Major Mining Related Events

Year Commenced	Year Completed	Comments
1991	to 1992	The Rosa quarry was re-opened in mid-1991 and worked for 6 months.

### Mining Operations

OPEN CUT MINING

### Comments

Tenure Type/Number	SHARE	Company Name/Surname
ML 50013	100.00%	CHONGHERR INVESTMENTS LTD

### Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
CLARENCE-MORETON BASIN	Helidon Sandstone / TRIASSIC to TRIASSIC

### Deposit Model

GENERAL OREBODY MODEL SEDIMENT-HOSTED DEPOSIT

### Mineralisation Age

ORE LATE TRIASSIC to EARLY JURASSIC

### Comments

Quarry produced significant amounts of banded sandstone blocks.

### Web Page

[www.chongherr.com.au](http://www.chongherr.com.au)

# Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

## 481012 ZINABACK

### OPERATING MINE

Descriptive Location: 72 KM NORTH-WEST OF CHARTERS TOWERS, 110KM WEST OF CAIRNS.

1:100 000 sheet Number and Name: 8058 HILGROVE

Grid Reference: Zone 55 371907 mE 7830213 mN

Latitude -19.6190 Longitude 145.7784

Date Recorded: 21/January/2015

### Other Names for Deposit / Mine

Jubilee

Hillgrove Dolomite

### Commodities

EARTHY LIME / DOLOMITE (AGRICULTURAL)

### Size

MEDIUM

### Size Definition

100 000 - 1 000 000 tonnes ELIM

### Production Details

Period: 1-Jan-1993 to 31-Dec-1993

EARTHY LIME / DOLOMITE (AGRICULTURAL)

177.0 tonnes

Period: 1-Jul-1996 to 30-Jun-2001

EARTHY LIME / DOLOMITE (AGRICULTURAL)

5,231.0 tonnes

Period: 1-Jul-2008 to 30-Jun-2012

EARTHY LIME / DOLOMITE (AGRICULTURAL)

64,205.3 tonnes

### Published Reserves/Resources

Company Report 25397 Published in 1990

### ZINABACK

### INFERRED MINERAL RESOURCE

450,000 Tonnes EARTHY LIME / DOLOMITE (AGRICULTURAL)

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
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### Major Mining Related Events

Year Commenced	Year Completed	Comments
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### Mining Operations

OPEN CUT MINING

### Comments

Each pit is approximately 50m x 50m and 6m deep.

### Tenure Type/Number

ML 1694

### SHARE

100.00%

### Company Name/Surname

ZINABACK PTY. LTD.

### Host Rock/Cover Sequences

*Structural Unit*

NULLA BASALT PROVINCE

*Formation Name/Age*

Allingham Formation / TERTIARY to TERTIARY

### Deposit Model

GENERAL OREBODY MODEL

SEDIMENT-HOSTED DEPOSIT

DETAILED OREBODY MODEL

DOLOMITE DEPOSIT

### Mineralisation Age

ORE

PLIOCENE

Flat bedded nodular material.

### Comments

The dolomite deposit in the main pit is under approximately 1.5 m of overburden, the dolomite body itself being approximately 2 m thick.

The dolomite ore material contains 94% carbonates with a ratio of approximately 2:1 for calcium carbonate to magnesite.

### Web Page