

Straits Resources Limited
Suite 1, Level 2
HQ South Tower
520 Wickham Street
Fortitude Valley QLD 4006
www.straits.com.au

## STRAITS RESOURCES LIMITED

## TRITTON MINES OPERATIONS

**Larsens Deposit** 

# Mineral Resource and Ore Reserve Statement 30<sup>th</sup> June 2014

Author/s	Name	Title	
	Byron Dumpleton	Competent Person – Mineral Resource Estimate	
	lan Sheppard	Competent Person – Ore Reserve Estimate	



1	PRC	OJECT SUMMARY	2
	1.1	Introduction and setting	2
2	PRC	OJECT BACKGROUND	2
	2.1	LOCATION	2
	2.2	HISTORY	
	2.3	METHOD OF MINING	3
	2.4	ORE PROCESSING	4
3	GEC	OLOGY	4
4	MIN	NERAL RESOURCE ESTIMATE	5
	4.1	RESULTS	5
	4.2	CHANGE FROM PREVIOUS PUBLIC REPORT	5
	4.3	STATEMENT OF COMPLIANCE WITH JORC CODE REPORTING	5
	4.3.	.1 Competent Person Statement	6
	4.3.	.2 Competent Person Consent	7
	4.4	JORC CODE, 2012 EDITION – TABLE 1 REPORT: LARSENS DEPOSIT	8
	4.4.	.1 Section 1 Sampling Techniques and Data	8
	4.4.	.2 Section 3 Estimation and Reporting of Mineral Resources	11
5	ORE	E RESERVE ESTIMATE	14
	5.1	RESULTS	14
	5.2	CHANGES FROM PREVIOUS ESTIMATE	14
	5.3	STATEMENT OF COMPLIANCE WITH JORC CODE REPORTING	14
	5.3.	.1 Competent Person Statement	14
	5.3.	.2 Competent Person Consent	15
	5.4	CONSENT TO RELEASE	15
	5.5	EXPERT INPUT	
	5.6	SECTION 4 ESTIMATION AND REPORTING OF ORE RESERVES	16



## 1 PROJECT SUMMARY

#### 1.1 INTRODUCTION AND SETTING

Larsens is a sulphide copper gold deposit located on ML1383 in central NSW, Australia. Mineralisation is described as a Besshi style volcanic associated massive sulphide deposit. It contains economic grades of copper and silver. Minor gold concentrations in the ore however the grade is generally not economic when recovered in the copper concentrate.

The deposit is to be mined using underground methods by Tritton Resources Pty Ltd a subsidiary of Straits resources Limited. Open pit mining of the near surface oxide portion of the Larsens deposit was completed prior to 2002 by the Girilambone Copper Company. Sulphide mineralisation at depth was not suited to the heap leach processing method at the Girilambone copper mine and the pit was mined only to the base of oxidised ore. Underground mining of development to access the Larsens sulphide ore and adjacent Larsens deposit by Tritton Resources commenced in 2008. All underground access to the ore by decline was completed there has been no mining of the Larsens ore to date from underground. Completion of the access development and start of ore mining is expected in 2014.

The Larsens ore will be treated at the Tritton copper sulphide ore processing plant by flotation to produce a copper concentrate product.

Larsens ore is mined on the assumption that the larger Tritton mine covers the majority of overhead or fixed cost incurred by the business. Larsens production fills spare ore processing capacity and so is not expected to cover a full share of overhead expenses

The Larsens mine is fully permitted for production. Access to the Larsens deposit is from the decline that services the Larsens deposit. The two deposits share mining equipment, labour and infrastructure.

This Mineral Resource and Ore Reserve estimate is a revision of the previous estimate following additional engineering studies investigating the mining of Mineral Resource close to the base of the Larsens pit.

#### 2 PROJECT BACKGROUND

#### 2.1 LOCATION

The Larsens deposit is located 3km northwest of the small town of Girilambone in central NSW, Australia. It forms part of the Tritton Resources Girilambone mining area that includes the Larsens mine, Larsens mine, Murrawombie mine and the Avoca Tank project. The ore processing plant for sulphide copper gold ore is located at Tritton 30km by road to the south.

The deposit is located on ML1383.



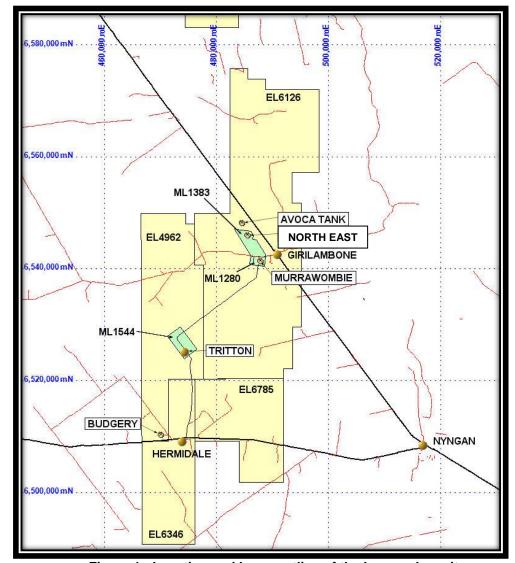


Figure 1: Location and lease outline of the Larsen deposit

#### 2.2 HISTORY

The Larsens deposit was first mined by open pit. Oxide ore was processed at the Girilambone copper heap leach and Solvent Extract and Electro Winning (SXEW) plant. The pit reached its final depth where the mineralisation became sulphide in character and not suitable for leaching.

Mining of the sulphide ore below the pit became economic following the construction of the Tritton copper sulphide flotation plant. In 2008 development of the adjacent Larsens underground mine commenced. Portal and part of the Larsens access decline are shared by the Larsens deposit.

Decline access to the Larsens deposit has been mined for several years. However mining of the ore has yet not started while mining operations were focused on the Larsens mine.

Ore production from the Larsens deposit is expected to start in 2014.

## 2.3 METHOD OF MINING

The Mineral Resource and Ore Reserve estimates have been based on the results of technical input to budgets and mine plans at the level of feasibility study. The mine plans assume the use of up-hole bench stoping with sub-levels developed at 20m vertical intervals. Rib pillars are to be left in sub economic areas of mineralisation. There is no backfill required. The mining method is identical to that successfully used at the adjacent Larsens mine.



Ore from crown pillar stopes that breakthroundergroundh the base of the Larsens open pit is included in the Ore Reserve estimate. These crown pillar stopes will be mined with some drilling from the open pit in a modification of the usual underground method.

Historical experience with stope stability at Larsens is used to inform the estimate of mining dilution. An assumption of 15% dilution by nil grade waste is applied to most stope production in the estimate of Ore Reserve. This compares to 12% dilution factor used at Larsens. The higher dilution allowance reflects a conservative approach where we have no specific experience of stability at Larsens deposit.

Mine access is via a decline developed at industry standard 1 down for 7 horizontal. Decline dimensions will be 5.5m high and 5m wide, suitable for use of mechanized jumbo, loader and 45 tonne capacity haul truck equipment.

#### 2.4 ORE PROCESSING

The ore produced from the Larsens mine will be processed at the Tritton copper sulphide ore processing plant. Larsens mine ore will be hauled by on-highway road train truck 30km for processing at the Tritton plant.

#### 3 GEOLOGY

Regionally the mineralisation is hosted within early Ordovician sediments as part of the Girilambone group. The Murrawombie mineralisation is hosted within pelitic to psammitic turbidite sediments with sparse interbedded courser sandstones of the Girilambone Group.

The Larsens sulphide mineralisation is classified as a "Besshi style" stratiform volcanogenic massive sulphide deposit. Mineralisation is dominated by banded to stringer pyrite – chalcopyrite, with minor but locally important magnetite – chalcopyrite, lesser massive pyrite – chalcopyrite, and rare banded pyrite.

Structurally the Larsens sulphide mineralisation is hosted within a corridor of moderate to intense shearing related to a thrust fault observed in the east wall of the Eastern Shear of the Murrawombie Pit (Murrawombie pit is located approximately 4km SW of the Larsens mineralisation). The shear corridor has been traced by Sirotem (Nord) to the north west of the Murrawombie pit, with the Larsens mineralisation sitting in the hanging wall (HW) to the Eastern Shear, in relatively undeformed sediments.

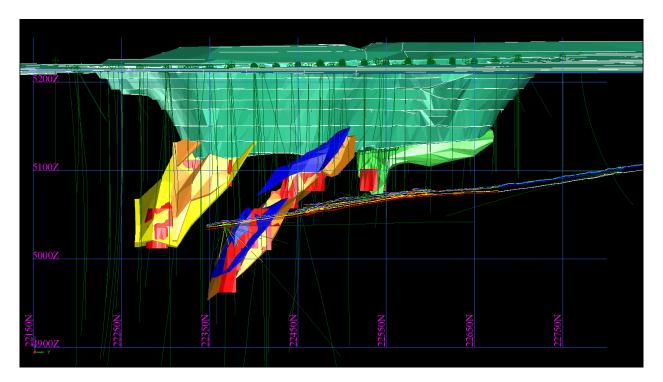


Figure 2: Schematic view of the Larsens deposit geology



## 4 MINERAL RESOURCE ESTIMATE

#### 4.1 RESULTS

The Larsens Mineral Resource is reported at 30<sup>th</sup> June 2014 (Table 1). The Larsens deposit has not been mined since the previous public report (30<sup>th</sup> June 2013). The Mineral Resource includes Indicated and Inferred categories and is inclusive of the Mineral Resource used to derive Ore Reserves. All Mineral Resource figures included in this report were estimated and reported from a three dimensional block model created using GEOVIA Surpac software.

	June 2014		
	Tonnes (kt)	Cu (%)	Cu (kt)
Larsens			
Measured	-	-	-
Indicated	810	1.8	15
Total M + I	810	1.8	15
Inferred	-	-	-
TOTAL	810	1.8	15

Table 1: Mineral Resource estimate for Larsens as at 30<sup>th</sup> June 2014 <sup>1,2,3</sup>

- 1. Cut-off grade: 0.6% Cu cut-off applied
- 2. Mineral Resources are quoted as INCLUSIVE of Ore Reserve.
- 3. Discrepancy in summation may occur due to rounding.

#### 4.2 CHANGE FROM PREVIOUS PUBLIC REPORT

The Larsens Mineral Resource remains unchanged since the previous reporting period (Table 2).

	June 2014			June 2013		
	Tonnes (kt)	Cu (%)	Cu (kt)	Tonnes (kt)	Cu (%)	С
Larsens						
Measured	-	-	-	-	-	
Indicated	810	1.8	15	810	1.8	
Total M + I	810	1.8	15	810	1.8	
Inferred	-	-	-	-	-	
TOTAL	810	1.8	15	810	1.8	

Table 2: Change in Mineral Resource estimate since previous public report <sup>1,2,3</sup>

- 1. Cut-off grade: 0.6% Cu cut-off applied
- 2. Mineral Resources are quoted as INCLUSIVE of Ore Reserve.
- 3. Discrepancy in summation may occur due to rounding.

## 4.3 STATEMENT OF COMPLIANCE WITH JORC CODE REPORTING

This Mineral Resource statement has been compiled in accordance with the guidelines defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.



## 4.3.1 Competent Person Statement

I, Byron Dumpleton a Consultant Resource Geologist confirm that I am the Competent Person for the Larsens Mineral Resources section of this Report and:

- I have read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition).
- I am a Competent Person as defined by the JORC Code, 2012 Edition, having five years'
  experience that is relevant to the style of mineralisation and type of deposit described in the
  Report and to the activity for which I am accepting responsibility.
- I am a Member of the Australian Institute of Geologists (MAIG No. 1598).
- I have reviewed the Report to which this Consent Statement applies.

I am a full time employee of BKD Resources Pty Ltd (ABN 81 109 376 481) and acting as the Mineral Resources Manager for Straits Resources Limited. I have been engaged by Straits Resources Limited to prepare the documentation for Larsens 30<sup>th</sup> June 2014 Mineral Resource estimate.

I have disclosed to Straits Resources Limited the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest. Specifically Mr. Dumpleton owns 61,349 shares in Straits Resources Ltd which were issued as part of the company share plan in 2010 when Mr. Dumpleton was a staff member of Straits Resources Limited.

I verify that the Larsens Mineral Resource section of this Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to Mineral Resources.



## 4.3.2 Competent Person Consent

With respect to the sections of this report for which I am responsible – Mineral Resource Estimate - I consent to the release of the Larsens Mineral Resources and Ore Reserves Statement as at 30<sup>th</sup> June 2014 by the directors of Straits Resources Limited

Signature of Competent Person	Date
Byron Dumpleton Member No.####	
Signature of Witness	Witness Name and Address
Signature of Witness	Witness Name and Address
Signature of Witness	Witness Name and Address
Signature of Witness	Witness Name and Address



## 4.4 JORC CODE, 2012 EDITION – TABLE 1 REPORT: LARSENS DEPOSIT

## 4.4.1 Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	Commentary
Sampling techniques	<ul> <li>All Diamond core samples are based on ½ core, pre-collar RC samples in waste zones taken as 4m composites and re-spit to 1m samples when return assays or geology indicate copper or gold mineralisation. Dedicated RC holes samples are taken at 1 metre intervals. Underground face sample data is collected at 1m intervals or at geological breaks as rock chip samples.</li> <li>All diamond core is aligned, measured and metre marked. All underground face sample faces collected are digitally photographed and with face position measured from survey points and survey pickups.</li> <li>Diamond and RC-pre-collars conducted by Straits Resources are completed to industry standards. Early percussion drilling is to be treated as historical data, but Straits have assumed that these programs were conducted at Industry standards done in its day (mid 1970's). For diamond drilling samples these are taken at geological boundaries to maximum of 1.4 metres and a minimum of 0.5 metres with the standard interval at 1 metre within mineralised zones to approximately 50 metres before and past mineralisation horizons. Diamond core drilled from surface are predominantly NQ2 in size from RC pre-collars, 2 of the holes were PQ in size. Underground grade control holes are NQ2 for down holes and LTK60 for up holes. Underground face samples (rock chip) are also collected for grade estimation with ore drives mapped and ore boundaries picked up by survey. All Exploration holes sampled by Straits Resources for the Larsens resource for the primary subphides, are analysed by a 3 stage aqua regia digestion with an ICP finish (suitable for Cu 0.01-40%) ALS method ME-ICP41. All Cu samples greater than or equal to 1 % were re-submitted for an ore digest ME-OG46. Additional Au analysis by fire assay fusion with an AAS finish, 30g charge (suitable for Au 0.01-100ppm) ALS method Au-AA22. All Au samples greater than or equal to 1 g/t were re-submitted for an ore grade fire assay 30g charge, Au-AA25. All diamond Grade Control holes and Face samples are</li></ul>
Drilling techniques	<ul> <li>All available drilling was used for the Larsens resource interpretation and estimation as at 30th June 2014 below the oxide pit. Drilling used was RC and diamond core, and underground Face Samples. For the resource 59 holes were surface RC holes (4%), 146 holes were surface diamond (9%), 777 were underground grade control diamond holes (49%) and 594 Face sample locations (38%). The majority of the surface drill holes used for the modeling is NQ2. For underground grade control NQ2 is used for down holes and LTK60 for up holes.</li> </ul>
Drill sample recovery	<ul> <li>All diamond core has recoveries measured and recorded by the drilling company and confirmed by Straits Resources. RC pre-collar sample recoveries were not recorded nor required to be recorded as all material estimated for the Larsens mineralisation is defined by core below 150 metres from the surface and a mixture of RC and diamond above 150m. RQD measurements are taken on all core prior to all sampling, thus are completed on all intervals used in resource estimation.</li> <li>Industry standard drilling practices resulted in good sample recoveries for RC chips and good to reasonable for diamond core.</li> <li>No relationship appears to exist between recovery and grade.</li> </ul>



Criteria	Commentary
Logging	<ul> <li>All diamond core and RC chips are geologically logged by Company Geologists. All exploration core is also geotechnically logged. Logging is to the level of detail to support the Larsens style of mineralisation (VMS-Besshi style).</li> <li>Logging of both RC and Diamond core samples recorded lithology, alteration, mineralisation, degree of oxidation, fabric/structure and colour. All exploration core was photographed in both dry and wet form, for underground grade control holes all core is photo graphed in wet form only. All RC intervals are stored in plastic chip trays, labelled with interval and hole number. Core is stored in core trays and labelled similarly. Underground faces were faces are taken are digitally photographed.</li> <li>All RC and core samples were logged in full and face samples are logged for lithology and accompanied by geological mapping.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>Half core was collected on average at 1m intervals, minimum sample length is 0.5m and maximum length is 1.4m.</li> <li>RC samples for waste sections are collected at 1m intervals, with a 1m split and bulk residual collected on the drill rig. The bulk residual was composited to 4m interval by spear sampling. If RC composites returned above background copper or gold values, the stored original 1m split was sent to the laboratory for analysis.</li> <li>Samples taken are appropriate for the Larsens mineralisation style (Copper VMS).</li> <li>Sample blanks and industry standards are routinely submitted, Pulps retained to be re-submitted to test for reproducibility.</li> <li>No field duplicates have been conducted for the Larsens mineralisation. The understanding of sample representative and grade estimation is reviewed throughout mine to mill reconciliations and stope reconciliations and closing reports. All core samples are visually examined against assay values and logged mineralisation.</li> <li>The sample sizes are considered appropriate to the grain size of the material being sampled.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>All assays for holes drilled by Straits Resources were conducted at accredited assay laboratories. Samples for the drill holes in the Larsens resource estimation are primary sulphide, all surface exploration holes are analysed by a 3 stage aqua regia digestion with an ICP finish (suitable for Cu 0.01-40%) ALS method ME-ICP41. All Cu samples greater than or equal to 1 % were re-submitted for an ore digest ME-OG46. Additional Au analysis by fire assay fusion with an AAS finish, 30g charge (suitable for Au 0.01-100ppm) ALS method Au-AA22. All Au samples greater than or equal to 1 g/t were re-submitted for an ore grade fire assay 30g charge, Au-AA25. Samples taken pre 2005 cannot confirm the exact assay technique, however Straits is assuming for identifying mineralised zones the assays had meet industry standards at the time.</li> <li>N/A</li> <li>Laboratory QA/QC samples were involving the use of blanks, duplicates, standards (commercial and site made certified reference materials are used), replicates as part of in-house procedures.</li> </ul>
Verification of sampling and assaying	<ul> <li>Significant mineralised intersections are reviewed by the logging Geologist and Senior Geologist.</li> <li>No twinned holes were conducted.</li> <li>All Straits Resources geological data is logged directly into Straits Resources logging computers following the Corporate Geology codes. Data is transferred to the Corporate AcQuire database and validated on entry. Down hole survey data is validated and checked for potential deviation from magnetic mineralisation before data entry.</li> <li>No adjustments to assay data were made. If survey data is affected by mineralisation, the survey is omitted. With a general trend</li> </ul>



Criteria	Commentary
	being applied based on the survey above and below the affected value.
Location of data points	<ul> <li>All recent surface drill hole collars have been surveyed by using a DGPS by a local contractor, all pre 2008 holes are surveyed by theodolite. All underground hole collars are surveyed in by theodolite by company surveyors. Surveys are entered into the Straits Corporate Acquire database. A 3D dtm of the topographic surface was generated using the drill hole collars outside of the Larsens, Hartman and Larsen pit area. Pit and nearby infrastructure is picked up by company surveyors.</li> <li>Resource modelling based on local Larsens Mine Grid. Rotation of the grid is 31.22 degrees to the west from AGD 66 true North.</li> <li>Quality and accuracy of the drill collars are suitable for resource work and resource evaluation for Proved and Probable reserve.</li> </ul>
Data spacing and distribution	<ul> <li>The Larsens Resource surface definition drilling was conducted on a nominal 100m x 100m to 50m x 50m grid with infill grade control drilling conducted on a nominal 20m x 20m. Reserve area is primarily drilled out by underground grade control drilling. Face samples are taken at regular intervals along strike (between 3m to 6m) with samples taken at 1m intervals across the face.</li> <li>The Larsens mineralisation is defined sufficiently to define both geology and grade continuity for a Mineral Resource estimation and Ore Reserve evaluation and stope delineation.</li> <li>Samples are collected at m intervals and or to geology breaks. Minimum sample interval is 0.5m, maximum sample interval is 1.4m. For the resource estimation 1m composites were generated and applied.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>This deposit may have minor BIAS due to the "fan" nature of the underground drilling and mixed sample support as face sample data is used for resource estimation and delineation.</li> <li>No material issues due to sampling BIAS is expected due to the extensive geological knowledge and mining history, therefore this is seen as a low risk.</li> </ul>
Sample security	<ul> <li>Chain of Custody is managed by the Company. Samples are stored on site in polyweave bags containing approximately 5 samples. These bags are securely tied, then loaded and wrapped onto a pallet for dispatch to the laboratory. The samples are freighted directly to the laboratory with appropriate documentation listing sample numbers and analytical methods requested. Samples are immediately receipted by the lab on arrival, with a notification to the Company Senior Geologist of the number of samples that have arrived.</li> </ul>
Audits or reviews	<ul> <li>External reviews and audits have been conducted by AMC in 2010, no fatal flaws or significant issues with the past Larsens models were identified.</li> </ul>



## 4.4.2 Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	Commentary
Database integrity	<ul> <li>All assay results are logged against unique sample numbers. A sampling sheet detailing sample numbers and core / RC intervals is completed prior to sampling commencing. During the sampling process each sample interval is cross-referenced to the sample number and checked off against the sampling sheet. Pre-numbered bags are used to minimize errors. Assay data is received via email in a common electronic format and verified against the AcQuire database.</li> <li>Data validation checks are run by the Database Manager and checked by the logging geologist.</li> </ul>
Site visits	<ul> <li>Byron Dumpleton (Straits Resources – Mineral Resource Manager) has made numerous site visits during the drill out of the Larsens resource during various drilling programmes between 2008 and 2013. Mr Dumpleton was also part of the team that developed the Geological Interpretation and Grade control procedures for the Larsens Deposit.</li> </ul>
Geological interpretation	<ul> <li>The confidence in the Larsens geology model is high due extensive underground exposure and mining history. The geological model is considered good for this style of deposit. The Geological setting is close to a traditional "Besshi style" (type of VMS mineralised system).</li> <li>The nature of the Larsens drilling data generally intersects the mineralisation at good angles. Ore development and geological mapping is used extensively to control ore boundaries.</li> <li>The deposit is tabular in nature with good visible mineralisation. The underground mine has been operating since 2008 and has demonstrated good geological and grade continuity and the geological knowledge by the geology team is high, minimizing the risk for alternative interpretations.</li> <li>Surveyed geological mapping of ore zones and core logging are used to fix resource position. Grade boundaries of a nominal 0.8% Cu are used to confine the grade estimation.</li> <li>The mineralisation at depth does have faulting with significant fault movement which offset the ore horizons. These faults are well understood geological due to underground mapping and exposure.</li> </ul>
Dimensions	• The Larsens resource occurs as several discrete tabular lenses covering an area approximately 450m north—south and 500m east—south with mineralisation starting from near surface. Fresh mineralisation starting at approximately 100 metres below surface. The tabular lenses have strike lengths ranging from 150m to 200m and a down dip extent ranging from 90m to 420m with an over added length of approximately 940m. The lenses vary in true width from 2m to 20m, with an average true width of 5m to 7m. A major faulting off set occurs at approximately 410m below surface. The faulting shifts the down dip section of the main ore lenses up approximately 90m. The current Larsens resource has been interpreted to a depth of approximately 520m below the current surface and is still open at depth. The current resource is closed off along strike.
Estimation and modelling	The resource estimation for grade was estimated using Ordinary kriging. The software package for the grade estimation, variography and geological interpretation was Surpac. Cu, Au, Ag, Fe, Zn, S and Density were estimated. Estimation was run in Mineral Resource and Ore Resource 20, June 2014.  Mineral Resource and Ore Resource 20, June 2014.



Criteria	Commentary
techniques	<ul> <li>one to two passes pending on the model domain and data density and geology confidence. The first pass was run at a 30 metre search radius. For the second pass the search radius was run at 140 metres. Estimation of grade are within interpreted hard grade boundaries based on a nominal 0.8% copper solid (closed wireframe) with a minimum width of 2m down hole.</li> <li>Larsens resource has been mined historically both as an Open Pit for its oxide copper mineralisation (in the 1990's) and for Fresh chalcopyrite mineralisation (since 2008). The Larsens resource model has only been modelled for the fresh sulphides (chalcopyrite mineralisation). Reconciliations for the FY13 and Q1 and Q2 for FY14 shows Mined claimed tonnes has marginally overcalled by 1.6%, marginally under called Cu grade by 1.02% and marginally overcalled copper metal tonnes marginally by 0.59% against reconciled Mill production.</li> <li>No deleterious elements were estimated.</li> <li>The resource was modelled using a 8mN x 4mE x 4mZ with sub celling down to 2mN x 1mE x 1mZ. Each ore domain has been flagged and modelled separately.</li> <li>Block model parent cell size dimension takes into account for incorporating face sample data, to accommodate narrow sections and satellite mineralised domains and drill spacing. The block size is general larger than the face sampled area or equivalent, and is approximately 40% less than the average GC drill spacing along strike.</li> <li>No assumptions have been applied to the model for selective mining unit.</li> <li>No correlation has been made between variables.</li> <li>A top cuts was set to the 97.5 percentile for all elements estimated.</li> <li>Block model volume validation was validated against ore solid wireframes for each ore domain. Block model validation for grade was conducted both by visually expecting model sections by northings at 20 metre increments, by benches at 10 metre increments and exposed underground ore development.</li> </ul>
Moisture	Tonnages are estimated on a dry basis.
Cut-off parameters	<ul> <li>The nominal 0.8% copper cut-off grade used for the mineralised interpretation was chosen as this appears to reflect the natural background grade cut-off.</li> </ul>
Mining factors or assumptions	<ul> <li>The only consideration to the mining method is the minimum interpretation width applied is 2 metres. Otherwise no other mining assumptions have been applied to the Larsens model. The model is setup for mining evaluation and stope delineation with low grade material (generally sub 0.8 Cu%) estimated outside the copper ore domains to estimate grade for planned dilution from stope designs. Material not estimated is set to zero.</li> </ul>
Metallurgical factors or assumptions	<ul> <li>The dominant mineralisation for the Larsens Mineralisation is chalcopyrite. Material mined from Larsens is process at the Tritton Copper Operations copper concentrator a 1.4Mtpa Processing Plant. Processing recoveries for Larsens are on average 94.5%.</li> </ul>
Environmenta I factors or	<ul> <li>Waste from processing is disposed at the current tailings storage facility at Tritton (or utilised as paste fill). Waste from underground development is stored within the Hartman's Pit and as backfill in the mining process. Any potentially acid forming waste will be</li> </ul>



Criteria	Commentary
assumptions	encapsulated within the waste dump on the surface or is placed in as stope backfill. No significant environmental impacts have been identified for the Larsens mining operation.
Bulk density	<ul> <li>Bulk density for the Larsens Model for waste material type has been assign by the average values measured across the field. Density for material within ore domains have been estimated using Ordinary Kriging.</li> <li>Bulk density for the resource has been measured using the Archimedes Principle Method' (weight in air v's weight in water). A total of 15,133 density measurements have been used for the Larsens resource estimate.</li> <li>Bulk density has been estimated by the actual measurements for fresh ore material. For material outside the mineralised domains an average density value for the host material has been assigned.</li> </ul>
Classification	<ul> <li>The classification has been guided by drill density (currently at nominal 20m x 20m above 4775mRL including face samples and surveyed ore mapping, below 4775mRL drilling is spaced at a nominal 30m x 30m to 50m x 50m), the geological knowledge of the senior geology personnel and the Mineral Resource Manager reflecting their understanding of the Larsens resource and the Tritton Copper Operation VMS field, and grade continuity.</li> <li>The drill and input data density is comprehensive in its coverage for the resource to allow reasonable confidence for the tonnage and grade distribution to the levels of Measured, Indicated and Inferred.</li> <li>The Mineral Resource estimated appropriately reflects the view of the competent person.</li> </ul>
Audits or reviews	<ul> <li>External reviews and audits have been conducted by AMC for early generations of the Larsens resource models, no fatal flaws or significant issues with the past Larsens models were identified at the time. The current model follows the same principles for their interpretation methodology and estimation criteria.</li> </ul>
Discussion of relative accuracy/ confidence	<ul> <li>The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC code.</li> <li>The statement relates to local estimate of tonnes and grade above the 4775mRL and below 4775mRL the estimate relates to a global estimate.</li> <li>The Larsens resource model has only been modelled for the fresh sulphides (chalcopyrite). Reconciliations for the FY13 and Q1 and Q2 for FY14 shows Mined claimed tonnes has marginally overcalled by 1.6%, marginally under called Cu grade by 1.02% and marginally overcalled copper metal tonnes by 0.59% against reconciled Mill production.</li> </ul>



## 5 ORE RESERVE ESTIMATE

#### 5.1 RESULTS

The Larsens Ore Reserve Estimate as at 30<sup>th</sup> June 2014 is reported in

		June 2014			
	Tonnes (kt)	Cu (%)	Cu (kt)		
Larsens					
Pro ve d	-	-	-		
Probable	631	1.5	9		
TOTAL	631	1.5	9		

Table 3. It is reported according to JORC 2012.

		June 2014	
	Tonnes (kt)	Cu (%)	Cu (kt)
Larsens			
Pro ve d	-	-	-
Probable	631	1.5	9
TOTAL	631	1.5	9

Table 3: Ore Reserve Table for Public Reporting of Larsens Mine as at 30 June 2014 1,2

- 1. Ore Reserves are reported as Inclusive of the supporting Mineral Resource estimate
- 2. Discrepancies in summation will occur due to rounding

#### 5.2 CHANGES FROM PREVIOUS ESTIMATE

The previous public reported Ore Reserve estimate was as at 30<sup>th</sup> June 2013. Changes in the Ore Reserve result from additional Mineral Resource that was available for conversion to Ore Reserve.

		June 2014		June 2013		
	Tonnes (kt)	Cu (%)	Cu (kt)	Tonnes (kt)	Cu (%)	Cu (kt)
Larsens				Larsens		
Proved	-	-	-	-	-	-
Probable	631	1.5	9	440	1.7	7
TOTAL	631	1.5	9	440	1.7	7

Table 4: Larsens Ore Reserve comparison between the current reportable Ore Reserve and previous reportable Ore Reserve <sup>1,2</sup>

- 1. Ore Reserves are reported as Inclusive of the supporting Mineral Resource estimate
- 2. Discrepancies in summation will occur due to rounding

#### 5.3 STATEMENT OF COMPLIANCE WITH JORC CODE REPORTING

This Ore Reserve statement has been compiled in accordance with the guidelines defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.

#### 5.3.1 Competent Person Statement

I, Ian Sheppard, confirm that I am the Competent Person for the Larsens Ore Reserve section of this Report and:



- I have read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition).
- I am a Competent Person as defined by the JORC Code, 2012 Edition, having five years'
  experience that is relevant to the style of mineralisation and type of deposit described in the
  Report and to the activity for which I am accepting responsibility.
- I am a Member of The Australasian Institute of Mining and Metallurgy, No. 105998.
- I have reviewed the Report to which this Consent Statement applies.

I am a full time employee of Straits Resources Limited.

I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest. Specifically I have rights to 4,870,921 shares in Straits Resources. Title to the shares will vest when a range of conditions have been satisfied as defined in an Employee Share Acquisition Plan. These conditions have not been met at this time.

I verify that the Ore Reserve section of this Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to Ore Reserve.

## 5.3.2 Competent Person Consent

With respect to the sections of this report for which I am responsible – Ore Reserve Estimate - I consent to the release of the 2014 Mineral Resources and Ore Reserves Statement as at 30<sup>th</sup> June 2014 for Larsens.

## 5.4 CONSENT TO RELEASE

Signature of Competent Person	Date
lan Sheppard Member No.105998 AuSIMM	
Signature of Witness	Witness Name and Address



## 5.5 EXPERT INPUT

A number of persons have contributed key inputs to the Ore Reserves determination. These are listed below.

In compiling the Ore Reserve the Competent Person has reviewed the supplied information for reasonableness, but has relied on this advice and information to be correct.

Expert Person / Organization	Area of Expertise
Wayne Race	Mine design
Byron Dumpleton	Mineral Resource estimation model

Table 5: Expert contribution to Ore Reserve.



## 5.6 SECTION 4 ESTIMATION AND REPORTING OF ORE RESERVES

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	Commentary
Mineral Resource estimate for conversion to Ore Reserves	<ul> <li>The Ore Reserve estimate is based on the 30<sup>th</sup> June 2014 Mineral Resource, supported by the Larsens Grade Control Model Ne_gc_bm_28oct2013_rescat_as_at31dec2013.mdl digital block model. Mr Byron Dumpleton is the competent person responsible for Mineral Resource Estimation.         <ul> <li>Information from stoping and development on ore in mining levels above where the Ore Reserve is located has been used to assist with the June 2014 Ore Reserve.</li> </ul> </li> </ul>
	Mineral Resources are quoted as INCLUSIVE of the Ore Reserve Estimate
Site visits	<ul> <li>Mr Ian Sheppard, the competent person responsible for the Ore Reserve estimate, has visited the Larsens mine on several occasions. Ground conditions, mining methods, operating costs and supporting infrastructure have been inspected. Assumptions regards modifying factors applied in the estimate are based on these inspections.</li> </ul>
Study status	<ul> <li>The Larsens mine is an active mining operation. Reporting of the Ore Reserve estimate is supported by an operating budget, production experience and mine plans. The combination of budgets and mine plans contains information on the modifying factors that exceeds the standard of a Feasibility Study.</li> </ul>
	<ul> <li>Production plans have been developed that shows how the Ore Reserve will be mined. The Larsens mine is an active operation with all infrastructure and mining equipment in place. The only required capital expenditure to mine the Ore Reserve is the development of decline access from the 4800mRL level to the 4750mRL level. Ore will be processed at the existing Tritton flotation concentrator where Larsens mine ore is being successfully treated. The combination of mine plans and existing mine and processing infrastructure exceeds the standard for the level of information contained in a Feasibility study.</li> </ul>
Cut-off parameters	<ul> <li>The June 2014 Ore Reserve uses copper grade, Cu%, as the cut-off grade criteria.</li> <li>There are no significant impurities in the mineralisation that require inclusion in the cut-off grade criteria.</li> <li>Different cut-off grades are applied to ore mined by development and ore mined by stoping. This reflects the difference in cost allocation to the method of mining. For ore from development mining a large portion of the costs are considered sunk at the time of mining since the development will proceed irrespective of the decision to call blasted material as ore or waste. For ore mined from stope, the majority of cost is future expenditure and so is considered in the cut-off grade that guides stope design. Material mined by development has a low cut-off grade compared to ore mined by stope.</li> <li>A 1.2% copper cut-off grade is applied to stope ore. The whole of stope average grade must exceed the cut-off grade for inclusion in the Ore Reserve. In special circumstances a reduced cut-off grade of 1% copper is allowed for stopes that can be mined with reduced cost where stope development is paid for by higher grade stope along strike. A single stope is included in the Ore Reserve at this lower cut-off grade is applied to ore mined by development.</li> <li>A 0.8% copper cut-off grade is applied to ore mined by development.</li> <li>All ore, in stope or development, must be inside the Mineral Resource volume defined by a 0.6% copper cut-off grade.</li> </ul>



Criteria	Commentary
Mining factors or assumptions	<ul> <li>June 2014 Mineral Resources have been converted to Ore Reserve by a process of detailed stope and development design.</li> <li>The mining method applied at Larsens mine is up-hole bench mining. Stopes are mined in retreat from the end of the ore towards the access drive. Sublevel interval is 20m vertical. Rib pillars are left in waste areas to support the stope. No backfill is placed. Stope heights of over 80m vertical and 30m on strike have been mined at Larsens between pillars without significant stope wall failure occurring. This history experience is used to guide stope design for Ore Reserve estimation.</li> <li>Access to the ore is from a decline mined at a gradient of 1 down for 7 horizontal. Ore and waste are removed by loader and truck to the surface (approximately 400m vertical lift). Ore is transported to the processing plant from a surface stockpile by on highway truck road train operating on a majority sealed road.</li> <li>Geotechnical design of the stope is based on experience mining stopes immediately above. Strike length of up to 40m and vertical height of 60m is allowed. Similar stope sizes have been mined previously in the ore body without significant dilution. There are no identified major structures or changes in the rock mass that suggest such stope dimensions will be unstable in the Ore Reserve.</li> <li>The Ore Reserve is based on engineer designed stopes and development drives. The Mineral Resource model used is Ne_gc_bm_28oct2013_rescat_as_at31dec2013.md.</li> <li>Ore Reserve estimates include the volume of material that is below cut-off grade and which is considered impractical to exclude from the surrounding or adjacent volume of material that is below cut-off grade and will increase the ore tonnage by 12%, Ore Reserve grades are reduced to reflect the inclusion of nil grade dilution tonnage.</li> <li>Mining dilution from external to the drive for development is assumed to be nil, since there is good access to control location of the development mining and intense ground sup</li></ul>
Metallurgical factors or assumptions	<ul> <li>The Larsens ore is treated at the existing Tritton ore processing plant located 30km by road from the mine. Copper, gold and silver are recovered to a copper concentrate by sulphide flotation.</li> <li>The sulphide flotation treatment method is being used successfully to treat Larsens mine ore. Metal recovery estimates are based on production history.</li> <li>There is no evidence to suggest any change in the mineralogy in the mineralisation on which the Ore Reserve is based. Hence no change in metal recovery performance is expected. No metallurgy test work has been completed on the Ore Reserve.</li> <li>Larsens mine ore occasionally contains elevated levels of fast floating talc that will report to the copper concentrate, reducing concentrate grade. Talc suppressant chemicals are added to the flotation cells when elevated levels of talc are present to nearly eliminate this problem. No other deleterious elements are found in the Larsens ore.</li> </ul>
Environmenta I	<ul> <li>Larsens mine operates under the Tritton Resources Limited Mine Operations Plan, EPA licenses and associated local and NSW State Government approvals. The mine is located on a Mining Lease. The environmental impact of the mine and the ore processing</li> </ul>



Criteria	Commentary
Infrastructure	<ul> <li>are fully approved.</li> <li>Waste rock from mining operations is disposed to the Hartman's Open pit. Waste rock with sulphur content of less than 1% is Not Potentially Acid Forming and can remain stockpiled at surface. The small quantity of waste rock with sulphur content greater than 1% is disposed into empty stopes underground.</li> <li>All infrastructure necessary to support mining operations is in place.</li> </ul>
Costs	
Cosis	<ul> <li>Capital cost for the modest length of decline development is based on historical actual experience at Larsens mine.</li> <li>Estimates of operating cost for the development, mining and processing of the Ore Reserve are based on historical actual experience at the Larsens mine. Cost estimates are at better than Feasibility study level of confidence ±10%</li> </ul>
	<ul> <li>The cost of talc suppression chemical and dosage rates is known from recent operating experience.</li> </ul>
	<ul> <li>Metal price assumptions for copper, gold and silver are Straits Resources corporate long term assumptions derived from a variety of market sources.</li> </ul>
	<ul> <li>Exchange rate assumptions are Straits Resources corporate long term assumptions derived from a variety of market sources.</li> <li>Product transport charges are current contracted rates.</li> </ul>
	<ul> <li>Copper concentrate treatment and refining charges are actual cost for Tritton Mines in 2013; USD\$70/t treatment and USD\$0.07/lb refining.</li> </ul>
	• NSW Government royalty of 4% is payable on revenue less deductible items. After deductions, the effective royalty rate on revenue is approximately 3% for Tritton Resources. No private royalties apply.
Revenue factors	Metal price assumptions are;     Copper price of USD\$3.18/lb
	<ul> <li>Gold price of \$1300/oz</li> <li>Silver price of USD\$20/oz</li> </ul>
	<ul> <li>AUD:USD exchange rate of 0.9</li> </ul>
	Copper treatment charge of USD\$70/t
	<ul> <li>Copper refinery charge of USD7c/lb</li> <li>Standard Tritton commercial terms under contract for payable metal rates</li> </ul>
Market	<ul> <li>Copper metal production from Larsens is very small compared to world copper market size. There are market restrictions. All copper</li> </ul>
assessment	concentrate is sold to Glencore International AG under a life of mine contract.
Economic	The economics of mining Larsens ore has been clearly demonstrated by the Tritton Mines budget.
	<ul> <li>Estimation of a NPV for the small Ore Reserve that will be mined as part of larger mining operation with shared costs is not considered reasonable. No NPV is estimated.</li> </ul>
Social	<ul> <li>The Larsens mine operation is fully permitted as part of the Tritton Resources operations based in the township of Nyngan in the Bogan Shire NSW. Strong community support for the continued operation of the Tritton Resources mines has been evidenced in regular community consultation sessions. There are no known objections from the community against the Tritton Resources operations.</li> </ul>



Criteria	Commentary
Other	<ul> <li>No material natural risks have been identified for the project.</li> <li>All copper concentrate produced by Tritton Resources from Larsens mine will be sold to Glencore International AG under existing life of mine contracts.</li> <li>Larsens mine is on a granted Mining Lease. All necessary approvals to allow continued mine operation are in place.</li> </ul>
Classification	<ul> <li>The Ore Reserves is classified as Probable as a result of conversion from Indicated Mineral Resource.</li> <li>No additional modifying factors are applicable to the categorization of the Ore Reserve.</li> <li>No Ore Reserve has been derived from Measured Mineral Resource.</li> </ul>
Audits or reviews	There has been no external review of the Ore Reserve.
Discussion of relative accuracy/ confidence	Criteria     Risk Rating     Reconciliation history indicates the resource model techniques applied are a good estimation of the Mineral Resource grade. Good continuity of mineralisation between drill hole intercepts is demonstrated.      Classific ation     All Probable based on Indicated Mineral Resource. No complication from modifying factors.
	Site visit     Study status
	Cut-off grade     Dow Mineralisation has sharp grade boundaries.



Criteria	Commentary	
	Mining     factors	Experience from recent operations in the same rock mass.
	Metallurg	Ore from the same ore body is currently being processed successfully.
	• Environ • L mental	All permits in place.     No significant risks identified from existing operation.
	Infrastru	All infrastructure is in place.
	• Costs • L	Estimates based on current experience.
	Revenue     Factors	- Copper metal price has high annual variability. Larsens mine runs with thin margins and operations could be suspended during period of extended low metal price.
	Market     assessm     ent	Life of mine concentrate sale contract in place.
	• Economi • N	Risk reflects impact of metal price variability.
	Social     L	Mine is fully permitted and operating with no community objections



## **End Report**