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South32 Limited
(Incorporated in Australia under the *Corporations Act 2001* (Cth))
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CANNINGTON MINERAL RESOURCES AND ORE RESERVES UPDATE

South32 Limited (ASX, LSE, JSE: S32; ADR: SOUHY) (South32) announces changes to its estimates of Mineral Resources and Ore Reserves for the Cannington silver-lead-zinc mine:

- A 42% increase in total estimated open cut Mineral Resource with a 20% reduction in total estimated underground Mineral Resource. A reclassification has resulted in a 24% increase in Measured Mineral Resources.
- A 9% increase in total estimated underground Ore Reserves with a 31% increase in Proved Ore Reserves.

The Cannington polymetallic underground operation is 100% owned by South32 and is located in northwest Queensland, Australia. Full details of this update are contained in the attached report.

About South32

South32 is a globally diversified mining and metals company with high quality operations in Australia, Southern Africa and South America. Our purpose is to make a difference by developing natural resources, improving people's lives now and for generations to come. We are trusted by our owners and partners to realise the potential of their resources. We have a simple strategy to maximise the potential of our assets and shareholder returns by optimising our existing operations, unlocking their potential and identifying new opportunities to compete for capital.

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Further information on South32 can be found at www.south32.net.

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Update on estimates of Mineral Resources and Ore Reserves

South32 confirms a 42% increase in the total estimated open cut Mineral Resource at Cannington to 29 Mt, compared to the previously published 30 June 2016 estimate (see Appendix 1 Table 1 and Table 2). The increase is due to a revision of the 'reasonable prospects for eventual economic extraction' criteria for open cut mining. The open cut Mineral Resource preserves the potential development option until a decision is required, beyond 2020.

A 24% increase in the total estimated Measured Mineral Resource (to 80 Mt) reflects a change in classification approach of this Mineral Resource, that considers confidence in both geological and grade estimation continuity.

A 20% reduction (to 15.6 Mt) in the previously reported underground Mineral Resource is attributable to its reclassification to the open cut Mineral Resource; mining depletion and sterilisation of the underground Mineral Resource; and an increase in reporting net smelter return (NSR) cut-off.

South32 confirms a 9% increase (to 2Mt) in total estimated underground Ore Reserves at Cannington compared to the previously published 30 June 2016 estimate. The increase is due to additional drilling, and an updated resource model and mine plans. Changes include a 31% increase (to 5.4Mt) in the Proved Ore Reserve reflecting changes to the Mineral Resource classification approach.

The Mineral Resources and Ore Reserves estimates as at 30 June 2017 are presented in Appendix 1 Table 1 and Table 3 and a comparison to the previously published Mineral Resources and Ore Reserves estimates (as at 30 June 2016) are presented in Table 2 and Table 4.

The estimates of Mineral Resources and Ore Reserves are reported in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 (JORC Code) and the Australian Securities Exchange Listing Rules. The breakdown of the total estimates of Mineral Resources and Ore Reserves into the specific JORC Code categories is contained in the Appendix 1 tables. This report summarises the information contained in the JORC Code Table 1 which is included in Appendix 2 to this report.

Estimate of Mineral Resources

Geology and geological interpretation

Cannington is a Broken Hill Type (BHT) silver-lead-zinc massive sulphide deposit hosted by Proterozoic age high-grade metamorphic lithologies of the Soldiers Cap Group, located in the Eastern Succession of the Mount Isa Block.

Mineralisation is stratiform bound along the limbs of a tight isoclinal recumbent synform with an easterly dip and a southerly plunge. The core of the synform is composed of amphibolite with encompassing silver-lead-zinc sulphide mineralisation. The mineralisation has been divided into nine types based on textural, mineralogical and geochemical characteristics which assist in defining metallurgical performance.

Drilling techniques

Out of a total of 6,884 drill holes considered for this resource update, 6,803 are diamond core and 81 are surface percussion/reverse circulation drill holes. 89% of the diamond core holes were drilled from underground using a fan drilling pattern.

Sampling and sub-sampling techniques

All diamond core samples were halved and samples were collected on one metre (m) intervals through the mineralised zone, including a visually identifiable buffer of at least six metres into the non-mineralised core. The samples were submitted for preparation and analysis at the Cannington on-site laboratory. The mineralised intersections are verified by mine geologists throughout each drilling programme and field duplicates are within an acceptable range for resource modelling.

Sample analysis method

Samples are crushed to a nominal 2mm from which a 300g sub-sample is pulverized to 90% passing 75 microns, subjected to a three acid digest, and analysed by Inductively Coupled Plasma – Optical Emission Spectrometry (ICP-OES). Coarse crushed duplicates and laboratory pulp duplicates were undertaken at a submission rate of one in ten samples and one in 100 samples were sent to an external laboratory for analysis.

Laboratory quality assurance and quality control measures at the Cannington laboratory include eight geological standards made of homogenised Cannington ore representing the range of Mineral Resource grades.

Cut-off grade

Cannington is a polymetallic deposit and a NSR dollar value is used for representing the minimum block value required for potential economic extraction, determined as follows:

- Underground Mineral Resource cut-off of A$130/t (Dry Metric Tonnes); and
- Open cut Mineral Resource cut-off of A$58/t.

Mining and metallurgical methods and parameters

Cannington has been operating as an underground long hole open stope mine for 20 years and uses periodically updated performance data to establish its modifying factors. This includes geological interpretations with defined mineralisation and waste lithology as well as metallurgical recovery assumptions which are reconciled annually.

Estimation methodology

Resource estimation is performed by ordinary kriging interpolation for silver (Ag), lead (Pb), zinc (Zn) and for minor elements: iron (Fe), arsenic (As), bismuth (Bi), magnesium oxide (MgO) and silica oxide (SiO_2). Search estimation criteria are consistent with geostatistical models developed for each estimation domain according to the appropriate geological controls. Validation includes statistical analysis, swath plots and visual inspection.

Specific gravity measurements from drill cores are used as the basis for estimating dry bulk density in tonnage calculations for both mineralised and non-mineralised material.

Mineral Resource classification

Mineral Resources are classified based on the level of data informing both the geological model and grade estimation. Infill underground drill spacing to approximately 12.5mN x 15mE x 15mRL in the majority of modelled areas provides a high confidence basis for geological modelling. Grade estimation confidence is overlain on the geological modelling classification criteria. The kriging variance is matched to block estimation conditions that relate to the number and distance of data, informing the estimate in relation to semi-variogram models for Ag, Pb and Zn.

Estimate of Ore Reserves

The declared Ore Reserves are based on the Mineral Resource estimate as at 30 June 2017.

Material and economic assumptions

Cannington is an operating underground mine which has been in continuous operation since 1997. Sufficient studies have been undertaken to enable Mineral Resources to be converted to Ore Reserves on the basis of current operating methods and practices. The run-of-mine (ROM) ore is beneficiated on site before being transported by road to the rail load-out facility (Yurbi) for transport to Townsville.

Capital costs are based on the expected future development of the mine, tailings facilities and sustaining capital requirements. The costs are accounted for in the operation's valuation models. Operating costs are estimated as part of the internal budgeting process. Transport charges are based on current truck, rail and shipping contracts and are estimated as part of the internal budgeting process. Other economic assumptions used for valuation reflect South32's view on demand, supply, volume forecasts and competitor analysis and are commercially sensitive.

Ore Reserve classification

Proved and Probable Ore Reserves are derived from the respective Mineral Resource classification. Internal dilution within the Ore Reserve stope boundaries represents <4% of the Ore Reserve by mass and is considered to have the same level of confidence as the reported Mineral Resource.

The Mineral Resource inside each stope is considered for Ore Reserve should it have <30% of its total mass as Inferred Mineral Resource and have a weighted average NSR value greater than or equal to A$130 per dry metric tonne. Stopes within the life of operation plan that are considered to have either a high level of geotechnical/operational risk, potential for sterilisation, marginal economics, or where there is uncertainty in the modifying factors, are excluded from consideration as an Ore Reserve.

The Reserve Life reported in FY17 reflects the scheduled extraction period in years for the total Ore Reserves in the current approved life of operation plan. In FY16, Reserve Life was reported as the Ore Reserves divided by the FY16 nominated production rate.

Mining method and assumptions

The underground mine is accessed via a single surface portal with a decline extending to a depth of 645m below surface. Stope production is conducted using the Long Hole Open Stoping (LHOS) with backfill mining method. The primary backfill method is paste fill with a supplementary use of ROM waste and ROM paste rock. Mining extraction factors for tonnage and grade are updated annually and are applied to individual mining blocks based on their individual characteristics. Extraction factors are derived from actual mining performance/reconciliation data. Average stope dilution across the mine is 11% with mining recovery at 91%.

Processing method and assumptions

The Cannington process plant has a demonstrated throughput capacity of 3.4Mtpa (million tonnes per annum). The existing metallurgical process is appropriate to the style of mineralisation. Predicted metal recoveries are derived using historic recovery regression models; over the life of the operation, average recoveries for silver, lead and zinc are 85%, 87% and 80%, respectively. Regression models include multiple input variables such as ROM grade, metal ratios, enrichment ratios, mill throughput and concentrate grade. These models are revised annually using actual operating data.

There are no allowances made for deleterious elements in the life of operation plan valuation, with these expected to remain non-material.

Cut-off grade

Cannington is a polymetallic deposit which uses an equivalent NSR value as a grade descriptor. NSR considers the remaining gross value of the in-situ revenue generating elements once processing recoveries, royalties, concentrate transport, refining costs and other deductions have been considered. The cut-off strategy employed at Cannington is to optimise the net present value (NPV) of the operation. A dollar equivalent cut-off NSR of A$130 per dry metric tonne forms the basis of mine design and FY17 Ore Reserve reporting. The chosen cut-off grade is supported by a cut-off grade optimisation study conducted in FY16.

Estimation methodology

Ore Reserves are estimated from the current life of operation plan, revised in FY17 with updated modifying factors, mine designs, geotechnical parameters, capacity constraints and mining sequences. The plan provides the optimised long-term direction of the operation and provides the mining physicals from which the Ore Reserves are scheduled and evaluated.

Material modifying factors

The reported Ore Reserves are those that are mined from underground using current mining methods and practices and are fully contained within South32 mining tenements. The Ore Reserves are scheduled to be extracted within the expiration date of all mining leases.

Cannington is an operating asset with all infrastructure required to execute the mine plan in place and assumes no outstanding or foreseeable issues with material legal agreements. Long-term marketing arrangements are in place with smelter supply contracts in various geopolitical regions.

Competent Person's Statement

The information in this report that relates to Mineral Resources for Cannington is presented on a 100% basis, represents an estimate as at 30 June 2017, and is based on information compiled by Matthew Readford.

The information in this report that relates to Ore Reserves for Cannington is presented on a 100% basis, represents an estimate as at 30 June 2017, and is based on information compiled by Tyson Curypko.

Mr. Readford and Mr. Curypko are full time employees of South32 and are members and Chartered Professionals of the Australasian Institute of Mining and Metallurgy. Both have sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activities being undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Each Competent Person consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Additional information is contained in Appendix 2.

Appendix 1

Table 1: Mineral Resources for Cannington as at 30 June 2017 in 100% terms

Ore Type	Measured Mineral Resources				Indicated Mineral Resources				Inferred Mineral Resources				Total Mineral Resources				South32 Interest
	Mt*	g/t Ag	% Pb	% Zn	Mt*	g/t Ag	% Pb	% Zn	Mt*	g/t Ag	% Pb	% Zn	Mt*	g/t Ag	% Pb	% Zn	
UG Sulphide	56	193	5.38	3.26	3.7	116	3.58	2.63	0.8	102	3.65	2.81	61	187	5.25	3.21	100%
OC Sulphide	24	96	3.00	2.37	3.6	72	2.38	1.93	1.6	53	2.38	1.63	29	91	2.89	2.27	

*Million Dry Metric Tonnes, g/t Ag- grams per tonne of silver, % Pb- Percent lead, %Zn- Percent zinc.

Notes:

1. Cut-off grade: NSR in A$/t.

	Mineral Resources
UG Sulphide	130
OC Sulphide	58

2. Mineral Resource information is inclusive of Mineral Resources that have been modified to produce Ore Reserves.
3. All volumes are reported as dry metric tonnes.
4. All tonnes and grade information have been rounded to reflect relative uncertainty of the estimate, hence small differences may be present in the totals.
5. Increase in OC Sulphide Mineral Resource was due to re-assessment of 'reasonable prospects for eventual economic extraction' criteria.
6. Increase in proportion of Measured Mineral Resource is due to a revision of classification based on the results of geological and grade continuity analyses.

Table 2: Mineral Resources for Cannington as at 30 June 2016 in 100% terms

Ore Type	Measured Mineral Resources				Indicated Mineral Resources				Inferred Mineral Resources				Total Mineral Resources				South32 Interest
	Mt*	g/t Ag	% Pb	% Zn	Mt*	g/t Ag	% Pb	% Zn	Mt*	g/t Ag	% Pb	% Zn	Mt*	g/t Ag	% Pb	% Zn	
UG Sulphide	50	190	5.11	3.45	17	140	4.06	2.77	8.4	101	3.56	2.04	76	169	4.70	3.14	100%
OC Sulphide	14	85	3.38	2.20	6.3	56	2.55	1.76					20	76	3.12	2.06	

*Million Dry Metric Tonnes, g/t Ag-grams per tonne of silver, % Pb- Percent lead, %Zn- Percent zinc

Notes:

1. As reported by South32 in the Annual Report for FY16. The report is available on www.south32.net.
2. Cut-off grade: NSR in A$/t.

	Mineral Resources
UG Sulphide	100
3. OC Sulphide	40

4. All volumes are reported as dry metric tonnes.
5. All tonnes and grade information have been rounded to reflect relative uncertainty of the estimate, hence small differences may be present in the totals.
6. Increase in Mineral resources was due to additional drilling and revised price and cost assumptions.

Table 3: Ore Reserves for Cannington as at 30 June 2017 in 100% terms

Ore Type	Proved Ore Reserves				Probable Ore Reserves				Total Ore Reserves				Reserve Life	South32 Interest
	Mt*	g/t Ag	% Pb	% Zn	Mt*	g/t Ag	% Pb	% Zn	Mt*	g/t Ag	% Pb	% Zn	Years	
UG Sulphide	23	191	5.58	3.50	0.4	150	4.37	3.03	23	190	5.56	3.49	10	100%

*Million Dry Metric Tonnes, g/t Ag-grams per tonne of silver, % Pb- Percent lead, %Zn- Percent zinc.

Notes:
1. Cut-off grade: NSR of A$130/t.
2. All volumes are reported as dry metric tonnes.
3. All tonnes and grade information have been rounded to reflect relative uncertainty of the estimate, hence small differences may be present in the totals.
4. Increase in UG Sulphide Ore Reserves is due to additional drilling, updated resource model and mine plan.
5. Reserve Life: The scheduled extraction period in years for the total Ore Reserves in the approved life of operation plan reported to two significant figures.

Table 4: Ore Reserves for Cannington as at 30 June 2016 in 100% terms

Ore Type	Proved Ore Reserves				Probable Ore Reserves				Total Ore Reserves				Reserve Life	South32 Interest
	Mt*	g/t Ag	% Pb	% Zn	Mt*	g/t Ag	% Pb	% Zn	Mt*	g/t Ag	% Pb	% Zn	Years	
UG Sulphide	17	202	5.73	3.69	3.8	227	5.87	3.71	21	206	5.76	3.69	6.5	100%

*Million Dry Metric Tonnes, g/t Ag- grams per tonne of silver, % Pb- Percent lead, %Zn- Percent zinc

Notes:
1. As reported by South32 in the Annual Report for FY16. The report is available on www.south32.net.
2. Cut-off grade: NSR of A$130/t.
3. All volumes are reported as dry metric tonnes.
4. All tonnes and grade information have been rounded to reflect relative uncertainty of the estimate, hence small differences may be present in the totals.
5. Increase in Ore Reserves due to additional drilling, updated resource model and mine plan.
6. Reserve Life in FY16 was reported as Ore Reserves divided by the FY16 nominated production rate.

Appendix 2

JORC Code Table 1

Cannington

The following table provides a summary of important assessment and reporting criteria used at Cannington for the reporting of Mineral Resources and Ore Reserves in accordance with the Table 1 checklist in The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code, 2012 Edition) on an 'if not, why not' basis.

Section 1 Sampling Techniques and Data

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

Criteria	Commentary

Sampling techniques	• Sampling is based on 760 surface diamond drill holes, 81 surface percussion/reverse circulation holes and 6,043 underground diamond drill holes.
	  ○ The majority of sampling (98%) used for geology, geometallurgy and geotechnical purposes is obtained from diamond drill core samples. 83% of metres sampled originate from resource definition drilling undertaken from underground mine workings.
	  ○ Surface exploration diamond drilling makes up 15% of sampled metres.
	  ○ Surface percussion drilling and reverse circulation (RC) drilling is typically used for near-surface definition of mineralisation or as pre-collars of diamond holes, mainly informs geological interpretation and contributes 54 samples to grade estimation. It is assessed to have insignificant impact on estimation quality.
	• Half core sampling of diamond drill holes is predominantly on 1m intervals. All core is sampled for surface drilling whilst mineralised core is sampled for underground drilling with sampling extended 6m into adjacent barren material.
	• Core assembly, metre mark up, recovery estimation (per drill string) and photography all occur prior to sampling, are of a high standard and follow documented procedures of a high standard are well documented.
	• Sample representivity is monitored using quarter and half core duplicates submitted at a rate of 1:10 samples. Variation in results is considered acceptable up to 30% absolute mean percentage difference (AmpD).
	• There is a high degree of confidence in the quality of the sampling techniques.

Drilling techniques	• The bulk of the data used for the resource estimation is based on logging and sampling of LTK60 (43.9mm) and NQ2 (50.7mm) diamond drill cores collared from underground excavations (88% of the 6,884 drill holes). • Surface drilling is generally by RC drilling through the Cretaceous cover sequence with HQ (63.5mm) or NQ (47.6mm) size diamond drilling 'tails' through the Proterozoic host rocks (11% of the drill holes). • Some geotechnical surface holes and 64 underground drill holes (mainly drilled for geotechnical purposes), have been orientated using a variety of methods since drilling began in 1990. • Sound diamond drilling procedures provide a high confidence basis for the geological model.
Drill sample recovery	• Drill core recovery is measured by run length, after core alignment and mark up. • Core recovery is recorded for 8% of surface diamond drill holes and 99% of underground drill holes. Less than 5% of surface drilling and less than 2% of underground drilling has drill recovery below 80%. • Poor core recovery is most often experienced when drilling through the Trepell and Hamilton Fault zones. • Drillers vary rotation speed and pressure to maximise drill core recovery in areas of poorer recovery. Triple tube is used for geotechnical drilling.

Criteria	Commentary
	• There does not appear to be a relationship between core recovery and grade.
Logging	• Procedures for logging and data management are well documented. • The entire length of core is photographed and logged for lithology, faulting, rock quality designation (RQD), mineralisation and a geometallurgical categorisation referenced for blending ore. • Logging is both quantitative and qualitative. It is entered directly into field computers using standard legends to avoid data entry errors. • Logging forms inputs into litho-structural and geometallurgical modelling at 12.5m sectional spacing that results a high confidence estimate for the majority of the Mineral Resource (97% of tonnes are Measured and Indicated). • Review of core logging procedures and practices indicates a high standard that is of sufficient detail for Mineral Resource estimation, mining and metallurgical studies.

Sub-sampling techniques and sample preparation	• Half core sampling of underground drill core is predominantly on 1m intervals in mineralised core and is extended to 6m into adjacent barren material.
	• Subsequent to February 2016 sampling was also terminated at litho-structural and mineralogical boundaries to reduce the potential for boundary/dilution effects at a local scale.
	• Selective sampling of underground drilling is justified on a geological basis as mineralisation is contained within specific rock types and is highly visual. Approximately 73% of all metres drilled are sampled.
	• Surface diamond drill core is sampled at between 0.2m and 2m intervals and 6m beyond mineralisation and terminated firstly at lithological and mineralisation boundaries and secondly at gross geological features. Non-mineralised core was sampled at 4m intervals. Half core is sampled for assay using the same procedures and equipment as that for underground drilling.
	• The selection of the sub-sample size is not supported by sampling studies but yearly production reconciliation is generally within 5% in terms grade suggests the sample size is representative.
	• No bias is evident between the initial and duplicate samples. Some variability in quarter core field duplicates in excess of 30% AmpD is attributed to distortion caused by volume-variance effects and has subsequently been confirmed by results from a change to half core duplicates.
	• Sample preparation is undertaken at the site laboratory. Samples are crushed to a nominal 2mm from which 300 grams are rotary split and pulverized to a 90% pass at 75 micron. A 50 gram sample is prepared for assay.
	• Sample preparation precision is monitored with laboratory coarse crush and pulp duplicates assayed at a rate of 1:10 samples.
	  ○ Results of coarse crush analyses indicate precision generally within 20% and therefore indicate acceptable sample homogenisation in sample preparation.
	  ○ Up until February 2016, laboratory pulp duplicates were analysed by a different method (X-ray fluorescence spectrometry-XRF) to the original inductively coupled plasma optical electronic spectroscopy (ICP-OES) for As, CaO, Fe, MgO, Pb, SiO2 and Zn, which tests the comparative accuracy of the two methods, rather than the precision of the grinding stage of sample preparation, although most were within 10%. This quality control (QC) protocol has been subsequently revised to assay pulp duplicates by the same method as the primary sample.
	• Sub-sampling techniques and sample preparation are sufficient for providing good quality assay data for resource estimation.

Quality of assay data and	• Prior to January 2002 underground samples were assayed by XRF. From January 2002 analysis changed to a three-acid digestion and analysed by ICP-OES. Elements analysed are Ag, Pb, Zn, Fe, As, Mg, Cu, Si, Cd and Y. Bi is not regularly

Criteria	Commentary
laboratory tests	assayed although what assays that are available from other drilling campaigns are used in estimation for assessment of product contaminant penalties. • Eight matrix-matched Cannington ore uncertified 'standards' have been used to monitor assay accuracy over the period January 2003 to July 2016. Four of these are used as field standards, submitted at an average rate of one standard per underground drill hole. After 2012, field standard submission rates were changed to approximately 1:25 samples. The remaining four were inserted as laboratory standards at a rate of 6 per batch of 32 submissions. o A noticeable improvement in assay precision occurs in all standards from October 2005 when a change in assay method from XRF to ICP-OES was introduced. o Results for Ag suggest good precision and accuracy across all grade ranges, however a low-grade bias for Ag is indicated by umpire laboratory results and production reconciliation data. o A low-grade bias is also indicated for Fe from comparison with XRF results. o The low-grade bias for Ag and Fe has partly been explained as being due to a weakness in the analytical method. o Standard returns for Lead and Zinc indicate the Cannington laboratory is in control. • Assaying accuracy is also monitored through the submission of one pulp duplicate in every hundred to an external laboratory (Bureau Veritas – Amdel, then SGS) for analysis by ICP-OES for Fe, Pb, Zn, Cu and with an atomic absorption spectroscopy (AAS) finish (for SGS) for Ag. o Acceptable precision in results was attained between Cannington and Amdel o A study of duplicates submitted to Amdel (3-acid process) and SGS (4-acid) digest in 2014 concluded a low-grade silver and iron bias exists in the 3-acid process. • ICP-OES assay at the Cannington Laboratory provides reasonable quality results for resource estimation. A weakness in the procedure results in a low-grade bias for Ag and Fe since 2008. Production reconciliation data over the last three years quantifies the magnitude of the Ag bias in mined material at less than 5%.
Verification of sampling and assaying	• Core photos are reviewed by geologists to verify significant intersections and modelled results are monitored by reconciliation. There is no regular verification of significant intersections by independent personnel. • Mineralised intersections are verified by mine geologists throughout each drilling programme. • No twinning of underground drill holes has been completed but fan-pattern drilling on 12.5m sections generally provides consistent validation of nearby significant intersections. • Documentation, procedures and protocols are stored electronically in the South32 - Cannington document management system and from FY16 are collated with each resource estimate data store. • No adjustment to assay data has been undertaken.
Location of data points	• Cannington uses a local planar grid which runs parallel to the Australian mapping grid (AMG) true north. • Drill hole collar locations are surveyed by Cannington surveyors using Leica Total Station upon completion of each drill fan. Down-hole surveys are completed using a Maxibor down hole or Eastman camera surveys. Since 2009, a Reflex Gyroscopic tool 'GyroSmart' has been predominantly used for down-hole surveys. • Drill holes with missing collar or down-hole survey data are checked and excluded from the resource if they cannot be verified. • Surface drilling is down hole surveyed at 30m intervals by single shot cameras or more frequently by gyroscope.

Criteria	Commentary
	• Underground drill positioning is highly accurate due to the survey methods and relative short hole lengths (generally around 50m). Surface drilling, which can be over 1,000m in length, is somewhat less accurate than underground drilling and the results of the latter are preferred in interpretations where the two drilling types show significant local differences in logging or assay data. • Cannington survey procedures and practices result in highly accurate data location.
Data spacing and distribution	• Underground diamond drilling is conducted on 12.5m spaced sections along strike (north-south mine grid). Drill fans are designed to obtain approximate east-west mine grid and vertical spacing of 12.5m to 15m. • Drilling is composited using a two metre sample interval. • Drill section spacing is sufficient to establish the degree of geological and grade continuity necessary to support the reported Mineral Resource classifications.
Orientation of data in relation to geological structure	• Mineralisation is variable in dip due to isoclinal folding with axial planes dipping around 60 degrees to the east. • Consideration of the lower level of confidence is given to the resource classification where sub-optimal vertical-only surface holes exist. • Underground drill fans are designed to intersect key faults and mineralised domain boundaries at a high angle. • Any surface or underground drilling drilled at a low angle to the dip of mineralisation is used for geological interpretation but excluded from grade interpolation. • Drilling is generally oriented at a high angle to geological structure to minimise sample bias.
Sample security	• Samples are tracked from the core shed through the on-site laboratory and assays reported digitally to an acQuire database. • Access to the acQuire database is controlled by Windows Authentication and software security. • The unsampled drill core, remaining half core and sample pulps are stored on site at a purpose-built facility. • All primary sampling, assaying and reporting of results are managed on site with procedures that provide adequate sample security.

Audits or reviews	• Database audits have been undertaken as part of external resource audits of the Cannington Mineral Resource in December 2004 and again in February 2011 by Golder Associates Pty Ltd. An internal corporate audit was conducted in March 2010.
	• Various investigations were undertaken by BHP Billiton in FY14 and FY15 to determine the cause of sample bias identified in earlier audits. The results of audits and reviews of sampling techniques and data primarily highlight the low-grade Ag and Fe bias that is a result of the analytical approach. Reconciliation results address this bias on a production scale.
	• An internal review of sampling techniques and database procedures was completed by the Competent Person for this Mineral Resource in February 2016. As a result:
	  ○ Sampling procedures have been modified to split sampling at litho-structural boundaries.
	  ○ Core recovery procedures have been amended to record recovery on a sampled interval basis.
	  ○ Some areas of data collection and management procedures have been recommended for review and update.
	  ○ Quality assurance and quality control (QAQC) and laboratory procedures were reviewed with the objective of reducing or eliminating Ag and Fe low-grade bias and optimising QC protocols.
	  ○ Improvements in this current Mineral Resource estimate has brought Ag grade reconciliation to within 2% over the past 12 months and less than 5% over the last three years.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	Commentary
Mineral tenement and land tenure status	• South32 has secure mineral tenement and land tenure status for longer than the planned life of operation. • The Cannington Mineral Resource and Ore Reserves are entirely contained within Mining Lease ML90059 (Figure 1 and 2), which was granted to BHP Minerals Pty Ltd on 1 January 1995 for a term of 35 years. Ownership was transferred to BHP Billiton Cannington Pty Ltd on 1st February 2015. • The Cannington loading facilities at Yurbi include a concentrate shed and railhead, both situated within Mining Lease ML90077 which was granted to BHP Minerals Pty Ltd on 1 January 1996 for a term of 35 years. Ownership was transferred to BHP Billiton Cannington Pty Ltd on 1st February 2015. • The transfer of these leases to South32 Cannington Pty Ltd occurred on 3 June 2015.
Exploration done by other parties	• The exploration data referenced in this document refers to all previous exploration, initially undertaken by BHP Minerals Pty Ltd and carried on by South32.
Geology	• Cannington is a Broken Hill Type (BHT) silver-lead-zinc massive sulphide deposit hosted by Proterozoic age high-grade metamorphic lithologies of the Soldiers Cap Group, located in the Eastern Succession of the Mt Isa Block (Figure 3). • The Proterozoic lithologies are overlain by Cretaceous mudstones with thicknesses varying from 10m to 70m, increasing in depth towards the south-east. • Mineralisation is stratiform, bound along the limbs of a tight (70m to 90m wide) isoclinal recumbent, synform with parasitic folding and a shallow southerly plunge (Figures 4 and 5). The folding is significantly offset in two places by faulting (Trepell and Hamilton Faults). Fold limbs dip between 40^0 to the east to sub vertical. The core of the synform is composed of amphibolite with encompassing silver-lead-zinc sulphide mineralisation.
Drill hole Information	• All drill hole information, including tabulations of drill hole positions and lengths for this reported Cannington Mineral Resource is stored within project data files created for this estimate on a secure company server.
Data aggregation methods	• Exploration results are not being reported as part of this Mineral Resource report.
Relationship between mineralisation widths and intercept lengths	• Exploration results are not being reported as part of this Mineral Resource report.
Diagrams	• Relevant maps and sections are included as part of the Mineral Resource report and its appendices.
Balanced reporting	• Exploration results are not being reported as part of this Mineral Resource report.
Other substantive exploration data	• Exploration results are not being reported as part of this Mineral Resource report.
Further work	• Near mine exploration is undertaken yearly as part of the development of the Mineral Resource.

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	• Drill hole data is stored in an acQuire relational database. The majority of data is generated in spreadsheet format and uploaded to the database by an automated routine. The exceptions are logging of exploration drilling, which is entered directly into acQuire; and the reporting of assay results from the Cannington laboratory through an intermediary data management layer. • A web-based data management portal provides an interface for geologists to review and assess the progress of collating all relevant drill hole data and is the primary interface for geological data management. It also provides visualisation of QAQC results. • A nightly automated database export provides an updated working data set for geological staff. • Company network security, user access security and security profiles within the system all limit levels of access for viewing or editing data. • The data management, validation and security routines incorporated into the Cannington drill hole data capture and management systems ensure the integrity of data for resource modelling and estimation.
Site visits	• The Competent Person for Cannington Mineral Resource visits site on a quarterly basis to monitor the acquisition, procedures and quality of data acquired for Mineral Resource estimation. • The findings of site visits are incorporated in this JORC Code Table 1 of this report and indicate the data and procedures are of sufficient quality for Mineral Resource estimation and reporting.
Geological interpretation	• The silver-lead-zinc mineralised system is complex, multi-phase, and associated with a diverse package of siliceous and mafic rocks with extensive retrogression and alteration, deformed by isoclinal folding into a synform. • North-westerly (NW) trending sinistral and north-side up faulting displaces mineralisation by approximately 300m in the middle (Trepell Fault) and 50m at the southern end of the synform closure (Hamilton Fault, Figure 4). • Minor NE trending dextral faulting form a conjugate set to the NW faults are used to aid interpretation but are not used in the resource estimation due to their highly localized and inconsistent disruption to mineralisation. • Mineralisation is stratiform along the limbs of a tight (70m to 90m wide) isoclinal recumbent synform. The two limbs of the fold dip between 40^0 and 70^0 to the east and the fold has an overall southerly plunge (Figure 5). The core of the synform is composed of amphibolite with mineralisation wrapped around it and hosted within a garnetiferous quartzite. Non-mineralised, narrow, banded muscovite schist is intercalated with the mineralised zones. The sequence is also cut by a series of pegmatite dykes that post-date mineralisation. • A zoning of base metals is evident within the deposit, which has been characterised by base metal and trace element geochemistry, mineralogy, structural position and texture (Figure 6). • Lithology and mineralisation type zones are interpreted on 12.5m spaced E-W sections that correspond to underground drill hole sections and are then wireframed into 3D geological models. • Extensive close-spaced drilling and ongoing mining since underground operations commenced in 1997 has provided a high level of confidence in the geological interpretation.

Criteria	Commentary
Dimensions	• The Cannington Mineral Resource extends 1,600m along strike, up to 600m in horizontal width and extends from below a Cretaceous erosional surface that is around 50m below topography. • In cross-section, the vertical profile of the synform can be up to 500m, with a maximum depth of mineralisation at around 800 m at the southern end of the deposit (Figure 5). • The thickness of the mineralisation profile can vary from 20m a fold limb to 300m in the hinge but is typically around 100m.

Estimation and modelling techniques	• The estimation and modelling techniques employed have been selected to accommodate the complex geometry and composition of the mineralisation as a result of folding, faulting and metamorphism. Key assumptions are that the deformational history is too complex to remove faulting and folding in order to model the mineralisation in the geometry in which it was emplaced.
	• Drill hole samples are coded with lithology and mineralisation types ('Mintype') using the 3D geological models constructed from 12.5m sectional interpretations. Mintype definitions incorporate high and low-grade mineralisation characterisation and thus grade zoning models are not utilised.
	• The Trepell and Hamilton fault zones form structural domains and 'hard boundaries' to grade estimation due to the post-mineralisation offsets they represent. The combination of structural and Mintype coding form the basis of individual estimation domains for geostatistical analysis and grade interpolation.
	• The Mintype coding, lead, zinc and iron assays are used to density-weight compositing of samples to 1m within each estimation domain to account for variances in metal content.
	• Rotation of mineralisation geometry is modelled though 'dynamic anisotropy' whereby search and variography parameters are interpolated into parent estimation blocks from trend lines digitised in strike, dip and plunge orientations.
	• The final estimation parameters for each estimation domain are the result of several iterations of block grade estimation using ordinary kriging and validation to produce a representative and unbiased resource estimate.
	  ○ Top-cuts to positively skewed data were defined from statistical assessment and applied on an estimation domain basis to ensure grade distributions to manage potential undue bias from high-grade outliers.
	  ○ The outputs of geostatistical analysis, including variography and quantitative kriging neighbourhood analysis (QKNA), were used to optimise grade estimation parameters for elements of economic interest, Ag, Pb, Zn; for Fe to estimate bulk density and deleterious elements SiO_2, As, MgO and Bi. This includes a parent block estimation size of 5mE x 5mN x 5mRL that also allows for selectivity within the minimum selective mining unit (SMU) of 5mE x 10mN x 10mRL.
	  ○ The dimensions of the anisotropic search ellipses were generally matched to ranges of grade continuity indicated in silver variogram models. In domains of complex geometry, adjustments were made to search ranges to improve the responsiveness of the dynamic anisotropy to the local grade trends whilst ensuring sufficient data was available to produce a robust grade estimate. The search ellipse ranges vary between estimation domains but remained the same for all elements within individual domains.
	  ○ Minimum and maximum sample criteria, an octant search strategy and a restriction of the number of samples used from an individual drill hole were applied in the estimate while data declustering helped reduce local grade bias. A second and third search pass, set at twice and three times the dimensions of the first, was used to estimate lower confidence areas of the model.
	• In almost all estimation zones a high confidence estimation outcome was achieved.

Criteria	Commentary
	○ The exception is SiO2, Bi and MgO where significantly less data and, in the cases of Bi and MgO, populations of low-grade 'background' mineralisation are punctuated by areas of exceptional high-grade. Further sampling and investigation into the lithological-structural controls is required for more accurate modelling. ○ Kriging tests with visual and statistical validation of the results provided an indication of the appropriateness of the initial top cut applied, which was then adjusted up and down to counter any introduced global bias. The degree of grade smoothing between data and block values is analysed through comparison of mean differences, histograms, q-q plots and swath plots. ○ The final Mineral Resource model is compared with previous estimates and production reconciliation to quantify accuracy and indicate robustness for Ore Reserve estimation. • All geological and block modelling and grade estimation was completed using Datamine Studio 3 software.
Moisture	• Samples are dried in ovens for 12 hours to obtain dry weight. Comparisons between original and dry sample weights in mineralisation consistently indicate a moisture content of less than 0.5%. The outcome from measurement is supported by the competent and non-porous nature of mineralisation, none of which is oxidized. • The bulk density estimated in the model is therefore assumed to be a dry bulk density and has no moisture factor modification. The moisture content has negligible impact on tonnage estimation and is significantly less than the tonnage estimation error.
Cut-off parameters	• NSR cut-off values are based on full operational costs, approximating the potential for economic extraction under current operating conditions. • The calculations for each block are used to optimise mining block cut-off according to variability of physical costs such as mining, processing and logistics and economic factors such as metal pricing, foreign exchange rates. • The NSR cut-off values for reporting the FY17 Cannington Mineral Resource are A$130/t for material likely to be mined by underground methods and A$58/t for material with open pit mining potential. • The input parameters for the NSR calculation are based on FY17 Corporate Planning Group long term forecasts for silver, lead and zinc pricing; haulage, treatment, shipping, handling and refining charges and A$/US$ foreign exchange rates.
Mining factors or assumptions	• Underground mining factors and assumptions are made on the basis of mining production since 1997. Cannington is mined from underground by longhole stoping on a sub- or full-level basis with subsequent waste or paste backfill. Mineral Resource estimation is currently optimised to suit Ore Reserve estimates based on this mining approach. • The model is depleted using cavity monitoring surveys of drives and stoping. Stoping areas are assigned zero grades for modelling of dilution from waste or paste fill in Ore Reserve estimation. • An optimum pit shell using January 2017 long-term price assumptions and modelled financial parameters from an internal prefeasibility study is used as the reporting limit for open pit Mineral Resource and assumes prior completion of underground mining. • Where the underground Mineral Resource is located within Ore Reserve outlines and also within the open pit shell it is reported including mining dilution.
Metallurgical factors or assumptions	• The NSR block value incorporates metallurgical recovery curves based on batch test studies by JK Tech in 2014 of individual mineralisation type material passed through the Cannington plant. The calculation also takes into account sale terms, payable silver, treat and refine charges and royalties.

Criteria	Commentary
Environmental factors or assumptions	• Cannington is an operating underground mine with known environment impacts of mining and processing. The permitting, processes and controls to minimize the impact is detailed in Section 4.
Bulk density	• Dry bulk density for mineralisation is estimated on a Mintype basis using lead, zinc and iron block grades and regression formulae derived from specific gravity measurements. • Specific gravity measurements have been obtained in campaign programmes since 1997.Measurements are taken from a 10cm to 25cm competent section of drill core at a ratio of one sample for every 10m and includes mineralised and waste material. The Measurement technique uses the core weight in air and weight immersed in water to determine a specific gravity. Routine calibration of scales is undertaken for quality control. • The core is not dried or coated to prevent water ingress prior to immersion so the resulting measurement indicates an in-situ bulk density value that includes moisture content. Comparisons between original and dry sample weights in mineralisation consistently indicate a moisture content of less than 0.5% therefore the bulk density estimated in the model is assumed to be a dry bulk density. • The density formulae have been revised for this Mineral Resource to incorporate additional drill core density measurements and stope grab samples. • Waste rock material bulk density is assigned a constant value according to rock type. • All mined stopes are allocated a default paste bulk density of 2.2t/m^3, and 2.05t/m^3 for stopes mined since January 2016. Development voids are assigned a bulk density of zero.

Classification	• Mineral Resource classification criteria are based on the level of data informing both the geological model and grade estimation.
	• Infill underground drill spacing to approximately 12.5mN x 15mE x 15mRL in the majority of modelled areas provide a high confidence basis for geological modelling.
	• Grade estimation confidence is overlain on the geological modelling classification criteria whereby kriging variance is matched to block estimation conditions that relate to the number and distance of data informing the estimate in relation to semivariogram models for Ag, Pb and Zn.
	• Classification criteria were determined on an individual estimation domain basis.
	  ○ A Measured Mineral Resource classification approximates an area of high geological modelling confidence that has block grades for Ag, Pb, Zn and Fe informed by a high number of data sourced within first pass search radii. The data are also located from the block centroid within a range equivalent to two-thirds of the estimation variance modelled in semivariography for the domain.
	  ○ An Indicated Mineral Resource classification meets similar conditions to that of measured Mineral Resource classification except that data spacing criteria is broadened to ranges matching the limit of modelled grade continuity and the at least eight informing data points.
	  ○ Areas informed by second and third pass estimation are classified as an Inferred Mineral Resource that is revised to unclassified material in areas of excessive grade extrapolation.
	• The high density of data and relatively constrained geological and estimation domains yield a Measured Mineral Resource tonnage that is 89% (79.8Mt) of the total (89.4Mt), with an Indicated Mineral Resource tonnage of 8% (7.3Mt) and Inferred Mineral Resource of 2.4Mt (3%).

Audits or reviews	• The current Mineral Resource internally peer reviewed during its development and formally reviewed in March 2017. • The modelling processes are similar to those used for the previous estimate which was externally audited in January 2016 and found to be a “reasonable estimate with

Criteria	Commentary

	an estimation methodology following standard industry practice and appropriate application of methodology to deal with a multivariate, complex geometry resource. The resource model itself is acceptable for both long term planning and reporting".
	• The current Mineral Resource incorporates recommendations and suggested improvements made by that audit relating to:
	  ○ Review of density regression formulae in the light of updated Mintype interpretations;
	  ○ Detailed investigation of potential opportunities relating to reconciled under-call of silver grade of approximately 5%;
	  ○ Review of the Mineral Resource classification in the context of the newly updated geostatistical analysis;
	  ○ Revision of the depletion model;
	  ○ Update of resource sterilisation zones from mining activity.

Discussion of relative accuracy/ confidence	• The FY17 Cannington Mineral Resource global estimate is expected to be within 15% accuracy for tonnes and grade when reconciled over any production quarter assuming continuation of the current mining methods. • Annual reconciliation over the previous three years of production indicates less than 1% difference for tonnage, lead and zinc grades and less than a 5% under-call in silver grades by the resource model. • In general, 12.5m drill sections are well within grade continuity ranges indicated by variography. The relatively closed-spaced drilling provides a high degree of confidence in modelling the complex geology and mineralogy.

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	• The FY17 Ore Reserve is based on the FY17 Mineral Resource estimate. The difference between the Mineral Resource model and the Ore Reserve model are the price assumptions used to generate the NSR value. • Mineral Resources are reported inclusive of Ore Reserves.
Site visits	• The Competent Person for Cannington Ore Reserves is a full-time employee of South32 and makes regular site visits for the purposes of input data and to interact with site technical teams; during these visits, no material issues impacting the Ore Reserves were identified.
Study status	• Cannington mine is located 135km south-east of Cloncurry, Queensland, and has been in continuous operation since 1997 (Figure 1). Sufficient studies have been undertaken to enable Mineral Resources to be converted to Ore Reserves on the basis of current operating methods and practices. • A life of operation plan is updated annually to review the mine plan and production schedule, and to confirm these remain economically and technically viable. • The current life of operation plan provides the mining physicals from which the FY17 (as at 30 June 2017) Ore Reserves are estimated and evaluated.
Cut-off parameters	• Cannington is a polymetallic deposit which uses an equivalent NSR value as a grade descriptor. NSR considers the remaining gross value of the in-situ revenue generating elements once processing recoveries, royalties, concentrate transport, refining costs and other deductions have been considered. • The elements of economic interest used for cut-off determination include silver (Ag), lead (Pb) and zinc (Zn). • The cut-off strategy employed at Cannington is to optimise the NPV of the operation.

Criteria	Commentary
	• A dollar equivalent cut-off NSR of A$130 per dry metric tonne forms the basis of mine design and FY17 Ore Reserve reporting.
Mining factors or assumptions	• The Ore Reserve estimate is based on the existing Longhole Open Stoping (LHOS) with backfill mining method. The primary backfill method is paste fill with a supplementary use of run-of-mine (ROM) waste and ROM paste rock. • Ore Reserves are estimated from the current life of operation plan which was revised in FY17 with updated modifying factors, mine designs, geotechnical parameters, capacity constraints and mining sequences. • The Mineral Resource inside each stope is considered for Ore Reserve should it satisfy conditions of having <30% of its total mass as Inferred Mineral Resource and have a weighted average NSR value greater than or equal to A$130 per dry metric tonne. Ore development outside of stope boundaries is not considered for inclusion in Ore Reserves as it has a likelihood of varying in spatial location with future plan updates. Stopes within the life of operation plan that are considered to have a high level of geotechnical/operational risk, or have potential for sterilisation, marginal economics or there is uncertainty in modifying factors are excluded from consideration. • Mining extraction factors for tonnage and grade are updated annually and applied to individual mining blocks based on their individual characteristics. Extraction factors are derived from the actual performance/reconciliation data of over 460 stopes. Average stope dilution across the mine is 11% with mining recovery 91%. • To enable mechanisation a typical minimum Selective Mining Unit (SMU) for stope design is 10m along strike by 10m high by 5m wide. Stopes to be mined in the short term are assessed on an individual basis taking cognisance of local mining, geotechnical and geological experience. • Inferred Mineral Resources are incorporated into stope designs and contribute to the overall weighted grades and NSR of the stope. Inferred Mineral Resources contained within stopes used for Ore Reserve estimation represent <1% of the total mass. • The Ore Reserve estimate is exclusive of Inferred Mineral Resources. • Cannington is an existing operation with the infrastructure required to execute the mine plan already in place (Figure 1).

Metallurgical factors or assumptions	• The Cannington process plant is in operation and has a demonstrated throughput capacity of 3.4Mtpa (million tonnes per annum).
	• The metallurgical process is appropriate to the style of mineralisation and consists of six core processes, these include; crushing, grinding, floatation, leaching, de-watering and paste fill preparation. The processing plant produces three products; a silver rich lead concentrate, a zinc concentrate, and a tailing which is used for paste fill.
	• The Mineral Resource model used for mine planning contains eleven individual metallurgical domains which are based on historical metallurgical test work; these domains are used to inform the NSR grade descriptor.
	• Predicted metal recoveries are derived using historic recovery regression models. Regression models include multiple input variables such as ROM grade, metal ratios, enrichment ratios, mill throughput and concentrate grade. These models are revised annually with the latest update including shift recovery data from July 2016 to February 2017.
	• Average mill recoveries for the life of operation are:
	  ○ Ag 85%
	  ○ Pb 87%
	  ○ Zn 80%
	• The impact of processing mineral types containing high arsenic, iron, fluorine and magnesium oxide have historically been limited due to an ability to manage these

Criteria	Commentary
	through effective blending and removal via the fluoride leach circuit. There are no allowances made for deleterious elements in the life of operation plan valuation with these expected to remain non-material.
Environmental	• Cannington is an operating underground mine with a good understanding of the environmental impacts of mining and processing activities. The mine has a number of processes in place to manage and minimise environmental impact. • Cannington has a current Environmental Authority (EA) permit and an Environmental Management Plan (EMP). These have been submitted and approved by the State Government of Queensland. • Cannington has a current approved closure plan which is a requirement of the EMP and Plan of Operations. The first year of closure is FY28 with a planned relinquishment date of FY42 after four years of rehabilitation and ten years of post-closure monitoring. • A large proportion of the tailings from mill processing are mixed with cement and pumped back underground to backfill stope voids minimising surface impact. Small volumes of ROM waste rock and ROM paste rock are trucked to surface and confined to the surface ROM pad.
Infrastructure	• Cannington mine has produced at rates greater than 3.0Mt pa since 2005. • Production is supported by the current installed infrastructure which includes, but is not limited to the following: o Dedicated gas/diesel power plant; o Processing plant, warehouse, core yard, tailings storage facilities, administration offices, medical facility, laboratory buildings; o Paste backfill plant; o Surface roads and communication; o Accommodation, sewage treatment plant and camp facilities; o Surface magazine; o Dedicated rail transfer station (Yurbi); o Port and ship loading facility (Townsville); o Airstrip. • Water licenses and associated licenses are in good standing and extend beyond the current life of operation. Cannington currently holds a license for water extraction from the Great Artesian Basin (GAB) for up to 2.31GL annually as granted by Mining Lease ML90060.
Costs	• Capital costs (CAPEX) are accounted for in the operations valuation models and are based on Cannington's experience of future horizontal and vertical development, tailings facilities and processing and mining sustaining capital. No major capital investments are required to execute the life of operation plan. • Operating costs (OPEX) are estimated as part of the internal budgeting process and consist of both fixed and variable components. Mining physicals used to determine associated operating and capital costs are supported by physical designs updated via routine mine planning processes. • There are no allowances made for deleterious elements in the life of operation plan valuation with these expected to remain non-material. There is no allowance made for penalties for failure to meet product specification. • Commodity price forecasts for silver, lead and zinc and foreign exchange are supplied by South32 marketing and based on the FY17 mid-price assumptions. Price assumptions reflect South32's view on demand, supply, volume forecasts and competitor analysis. Price protocols will not be detailed as the information is commercially sensitive. • Transport charges are based on current truck, rail and shipping contracts and are estimated as part of the internal budgeting process. • Cost of diesel is based on the South32's price assumption for diesel.

Criteria	Commentary
	• Treatment and Refining Charges used for valuation are supplied by South32 marketing and reflect South32's view on demand, supply, volume forecasts and competitor analysis. • Royalty rates used for valuation purposes are based on the Queensland State Government sliding scale royalties for each economic mineral.
Revenue factors	• The current life of operation plan provides the mining physicals such as volume, tonnes and grade to support valuation. • Revenue is calculated by applying forecast metal prices and foreign exchange rates to the scheduled payable metal. Metal payabilities are based on contracted payability terms, typical for the lead and zinc concentrate markets. Payability terms will not be detailed as the information is commercially sensitive. • The Ore Reserves valuation model receives revenue from Inferred Mineral Resource contained within the Ore Reserve stope limits and is fully costed. Contained Inferred material represents <1% of the total Ore Reserves by mass and is non-material.
Market assessment	• Cannington is an existing operation and has a well-defined domestic and international customer base. Internal price protocols reflect South32's view on demand, supply, and stock situations including customer analysis, competitor analysis and identification of major market windows and volume forecasts.
Economic	• Economic inputs are described in the cost, revenue and metallurgical factors commentary. • The Ore Reserve only mine plan provides a positive NPV in all years when all modifying factors are applied. • Sensitivity analysis conducted on the Ore Reserve only physicals considered external factors (variances to ROM head grade, foreign exchange, commodity prices, and CAPEX, OPEX, mill recovery) and various internal factors. Variables that have the greatest impact on NPV are commodity prices and OPEX costs. • NPV and NPV ranges, sensitivity, discount rate and inflation etc. will not be detailed as the information is commercially sensitive.
Social	• Cannington maintains relationships with stakeholders in its host communities through structured and meaningful engagement activities, including: community forums; industry involvement; employee participation; employment and local procurement. • Meaningful community development activities are centered on principles of host community need and are aligned with industry best practice guidance. • Social strategies are reviewed and reported on annually by the company.
Other	• Cannington maintains a well-developed and comprehensive risk register/risk management system to address foreseeable risks that could impact the Ore Reserve. • Cannington has no outstanding or foreseeable issues with material legal agreements. • Long term marketing arrangements are in place with smelter supply contracts in various geopolitical regions. • All reported Ore Reserves are fully contained within tenure South32 has a legal right to mine.
Classification	• Proved Ore Reserve is derived from Measured Mineral Resource. Probable Ore Reserve is derived from Indicated Mineral Resource. Internal dilution within Ore Reserve stope boundaries represents <4% of the Ore Reserve by mass and is considered to have the same level of confidence as the reported Mineral Resource. • Inferred Mineral Resources are used to define the economic mining limits but are excluded from the Ore Reserve estimate. The high percentage of Proved (98%) to Probable (2%) and minor percentage of Inferred Mineral Resource (<1%)

Criteria	Commentary
	demonstrates that the Cannington deposit is well understood and well defined through definition drilling. • The Ore Reserve classifications reflect the Competent Person's view of the deposit.
Audits or reviews	• In 2011 Xstract Mining Consultants were engaged to conduct an independent audit of the Ore Reserves. No material issues were identified. BHP Billiton conducted an internal audit in 2012 where no material issues were raised. • An independent Mineral expert report was produced in FY15 by Xstract Mining Consultants as part of the demerger from BHP Billiton. No material issues were identified in existing estimation practices. • South32 undertook a periodic mine planning and ore reserve audit in FY16 where no material issues were identified. • An internal review of the FY17 Ore Reserve has been completed with no material issues identified.
Discussion of relative accuracy/ confidence	• The Mineral Resource modelling and Ore Reserve estimation techniques are robust and well understood. • Ore Reserves are based on a set of stopes of sufficient value to maintain a stable reporting platform and positive NPV over an expected range of modifying factors. There is no impact on the economic life of operation when excluding non-Ore Reserve material, this demonstrates that the life of operation plan is robust. • There is a high level of confidence in modifying factors as they are based on actual mining experience and reconciliation data. • Sensitivity analysis conducted on the Ore Reserve only physicals considered external factors (variances to ROM head grade, foreign exchange, commodity prices, and CAPEX, OPEX, mill recovery) and various internal factors. Variables that have the greatest impact on NPV were commodity prices. Low case commodity prices have demonstrated to still provide a viable mine plan with positive cash flow and NPV. • F1, F2 and F3 reconciliation for the past twelve months were completed to analyse the relative accuracy of production against forecast. All results are well within a 10% accuracy indicating there is a high level of confidence in the estimate. • The Competent Person deems the relative accuracy and confidence in the Ore Reserve appropriate for a global estimate.

FIGURES

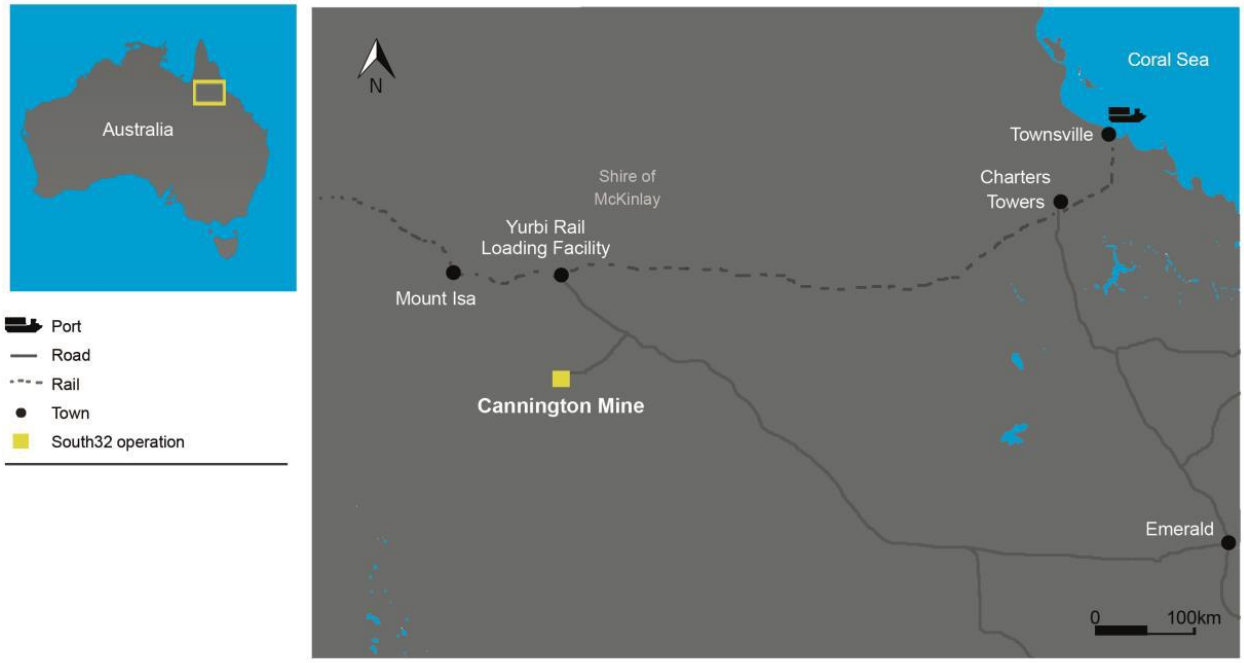

Figure 1: Regional Location Plan

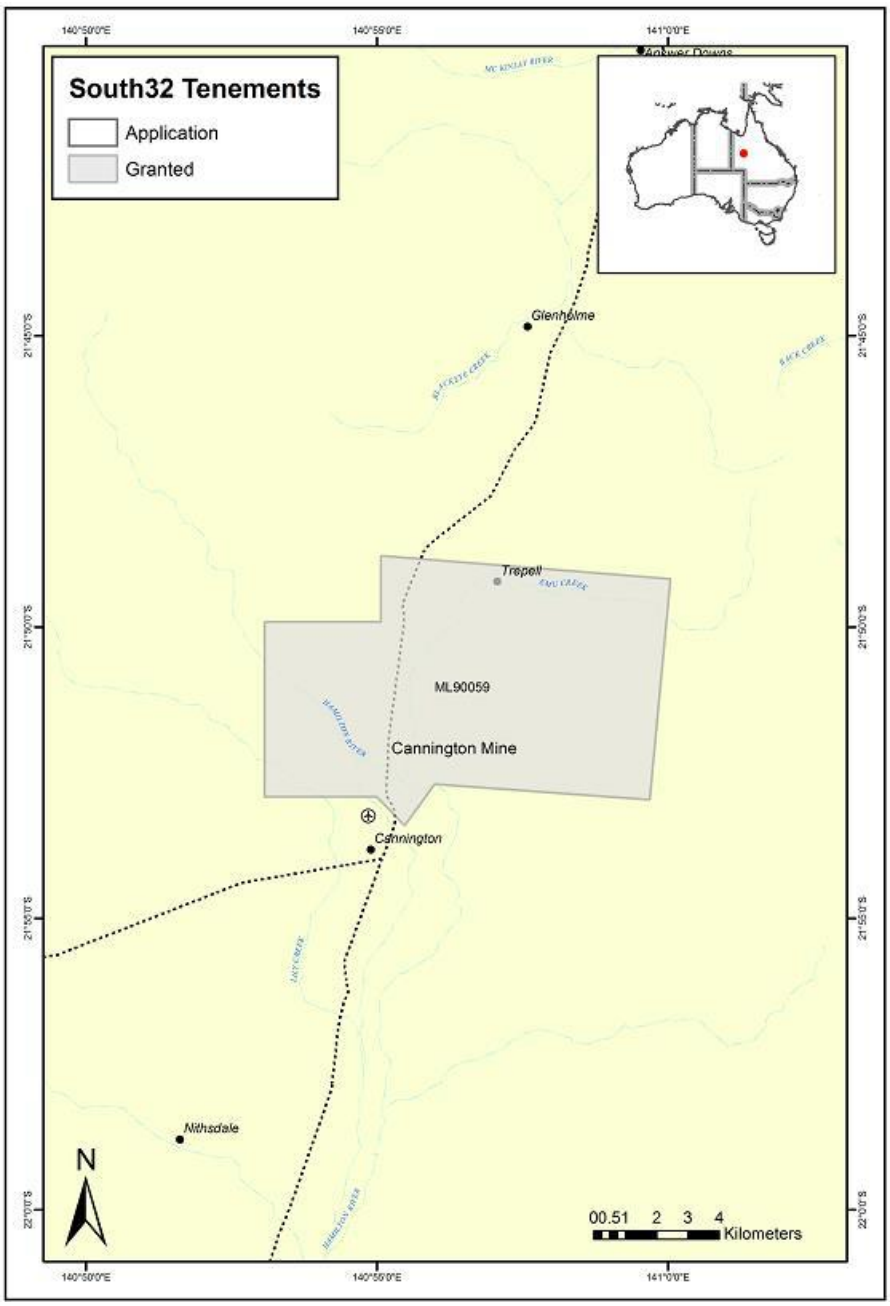

Figure 2: Cannington Mining Lease ML90059

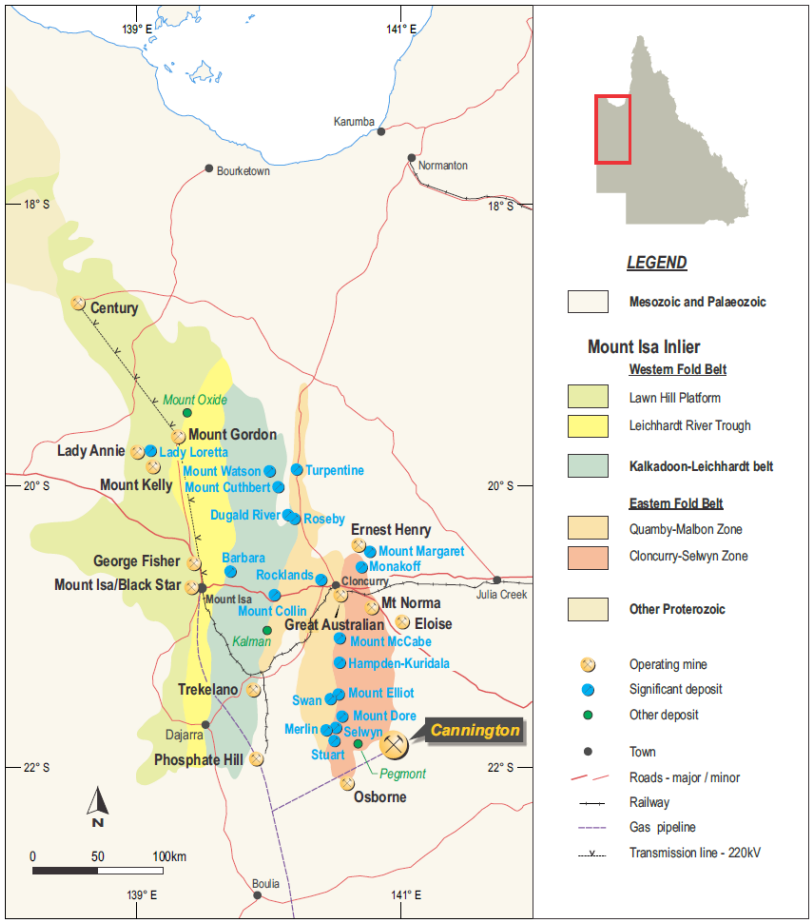

Figure 3: Simplified Geological Map of the Mount Isa Inlier (Modified after Queensland Mining, 2006)

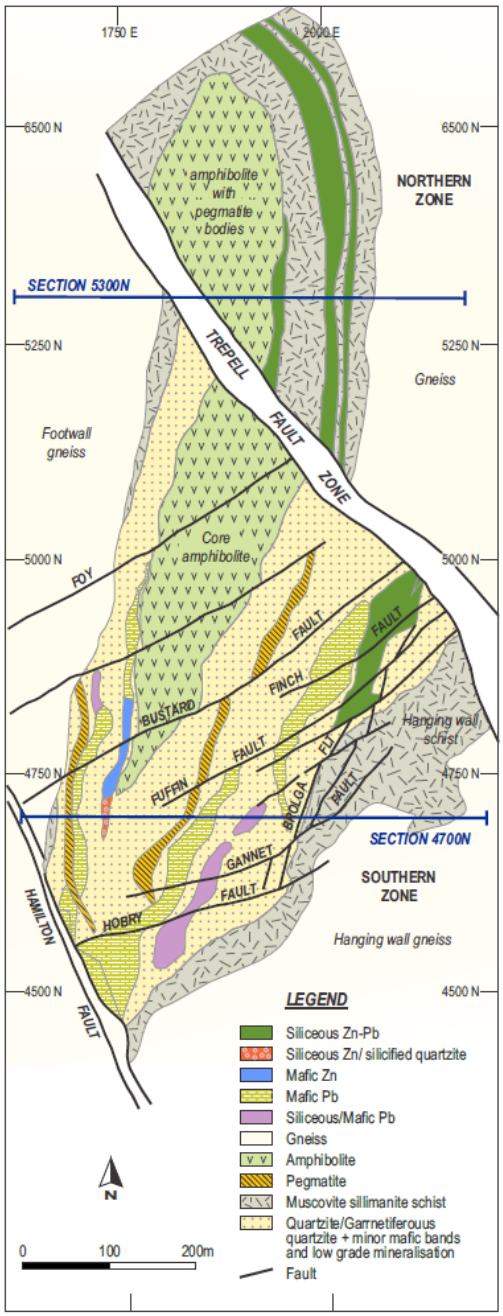

Figure 4: Interpreted Geology at 900mRL (350 m below surface) (Modified from Bailey, 1998)

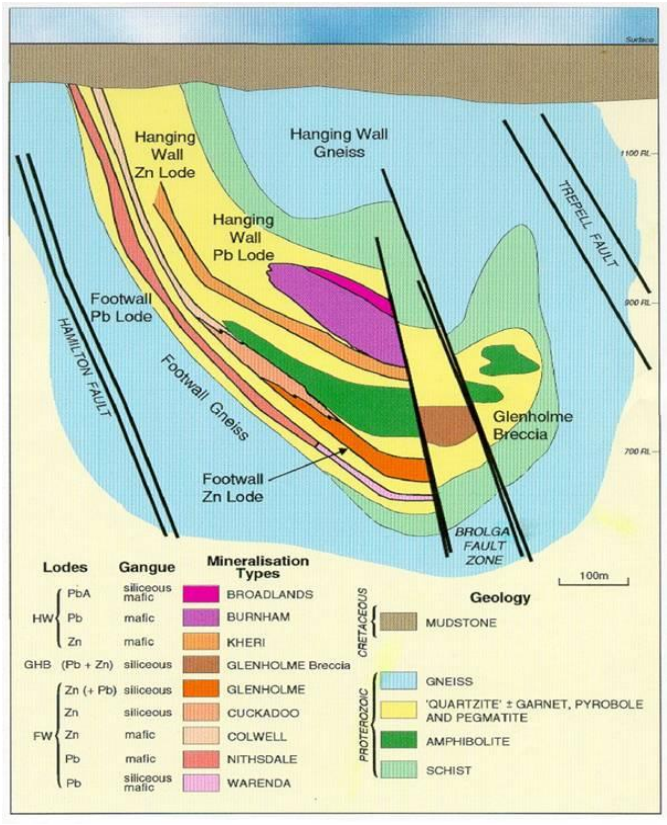

Figure 5: Simplified sectional view of Cannington Geology (Modified from Bailey, 1998)

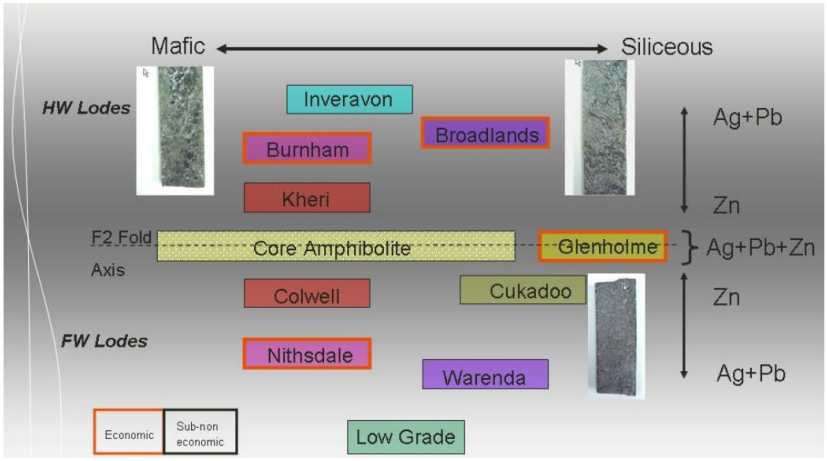

Figure 6: Cannington mineralisation type assignments

Reference:

Bailey, A, 1998, “Cannington silver-lead-zinc deposits”, in *Geology of Australian and Papua New Guinea Mineral Deposits*, (Eds D A Berkman and D H Mackenzie), pp 783 – 792 (the Australasian Institute of Mining and Metallurgy: Melbourne).

Queensland Department of Mines and Energy, 2006; Queensland Mining 2006 Update; Mining and petroleum statistics, projects and industry trends, November, 2006.