GLENCORE

Resources & Reserves

as at 31 December 2017

Contents

About this report

We report our resources and reserves in accordance with the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code), the 2016 edition of the South African Code for Reporting of Mineral Resources and Mineral Reserves (SAMREC), the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Reserves (2014 edition) and the Petroleum Resources Management System (PRMS) for reporting oil and natural gas Reserves and Resources.

Overview

The resource and reserve data in the following tables are as at 31 December 2017, unless otherwise noted. For comparison purposes, data for 2016 has been included.

Metric units are used throughout.

All data is presented on a 100% asset basis, with the Glencore attributable percentage shown against each asset, with the exception of Oil assets which are shown on a working interest basis.

All tonnage information has been rounded to reflect the relative uncertainty in the estimates; there may therefore be small differences in the totals.

The Measured and Indicated resources are reported inclusive of those resources modified to produce reserves, unless otherwise noted.

Commodity prices and exchange rates used to establish the economic viability of reserves are based on long-term forecasts applied at the time the reserve was estimated.

Where resources and reserves have not been updated, on the basis that the information has not materially changed since it was reported under JORC 2004, this information has not been updated to comply with the JORC code 2012. Reference is given in the report where this is the case.

Copper

The Copper Mineral Resources and Ore Reserves Statement at 31 December 2017 has been compiled in accordance with the JORC Code.

The Mineral Resources and Ore Reserves statements for Australia have been reviewed and the relevant data extracted and compiled by Jason Hosken, Glencore Copper.

The Mineral Resources and Ore Reserves statements for each African and South American operation and project have been reviewed, with the data being extracted and compiled by the respective competent person for each operation and project.

Zinc

The Zinc Mineral Resource and Ore Reserve Statement at 31 December 2017 has been compiled in accordance with the JORC Code.

The term ‘Ore Reserves’, as defined in Clause 28 of the JORC Code, has the same meaning as ‘Mineral Reserves’ as defined in the CIM Definition Standards for Mineral Resources and Mineral Reserves.

The Mineral Resource and Ore Reserve statements have been reviewed and the relevant data extracted and compiled by Aline Cote, Glencore Zinc (OGQ).

Nickel

The Canadian and New Caledonian Mineral Resources and Mineral Reserves estimates are prepared in accordance with the CIM Definition Standards on Mineral Resources and Mineral Reserves, adopted by CIM Council on 10 May 2014, and the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines, adopted by CIM Council on 23 November 2003, and have been compiled using geo-statistical and/or classical methods, plus economic and mining parameters appropriate to each project.

The Mineral Resource and Ore Reserve estimates at Murrin in Australia have been prepared in accordance with the JORC Code.

The Mineral Resource and Ore Reserve statements have been reviewed and the relevant data extracted and compiled by Steve Kormos, Glencore Nickel.

Ferroalloys

South African chromite, vanadium and PGM’s (platinum group metals) Mineral Resources and Ore Reserves in this report were prepared in accordance with the JORC Code.

The Chromite, Vanadium and PGM’s Mineral Resource and Ore Reserve Statement at 31 December 2017 is based on the Glencore Ferroalloys “Procedure for the Estimation of Mineral Resources and Ore Reserves”. Definitions of all the terms used in this report can be found in the relevant code.
The Mineral Resource and Ore Reserve statements have been reviewed and the relevant data extracted and compiled by Pieter-Jan Gräbe, Glencore Ferroalloys (SACNASP).

Iron Ore

Iron ore Mineral Resources and Ore Reserves have been compiled in accordance with the JORC Code, unless otherwise stated in the notes for a particular Mineral Resource and Ore Reserve.

Iron Ore Mineral Resources and Ore Reserves have not been re-estimated since 2015.

About this report

Coal
Australian, Canadian and Colombian Coal Resources and Reserves have been prepared in accordance with the JORC Code.

South African Coal Resources and Reserves have been prepared in accordance with the 2016 edition of the South African Code for Reporting of Mineral Resources and Mineral Reserves (SAMREC).

The Coal Resource and Reserve Statements as at 31 December 2017 conform to the requirements of these Codes and are consistent with Glencore Coal's internal Coal Resource and Reserve Estimation and Reporting Standard.

Coal resources have been estimated for all coal seams that have reasonable prospects for eventual economic extraction by open cut or underground mining methods within mining leases or exploration licences. In general, Coal Resources are reported within a geoshell limited by the areal and depth extent of the drill holes; i.e. there is very little inclusion of Coal Resources extrapolated beyond the extent of the geological data.

Coal Resources are excluded from those areas where the seam has been extracted or sterilised by mining.

All tonnage information has been rounded to reflect the relative uncertainty in the estimates; there may therefore be small differences in the totals.

Coal Resource and Reserve totals are rounded to appropriate levels of accuracy in accordance with the Glencore Coal rounding procedures. The following table summarises the data rounding assumptions for the 2017 report.

Classification	Tonnage Range	Rounding
Measured + Indicated Resources / Proved + Probable Reserves	< 10Mt	1 significant figure
	10Mt - 30Mt	2 significant figures
	30Mt - 100Mt	Nearest 5Mt
	> 100Mt	2 significant figures
	>1000Mt	Nearest 50Mt
Inferred	< 100Mt	Nearest 10Mt
	100Mt - 400Mt	Nearest 50Mt
	> 400Mt	Nearest 100Mt

Coal Reserves are rounded to the same assumptions as Measured and Indicated Coal Resources above. Individual tonnage assessments are added to show Group or Complex tonnages and geographical accumulations. These are not subjected to further rounding.

The Coal Resource and Reserve Competent Person statements have been reviewed and the relevant data extracted and compiled by Jeff Gerard, Glencore Coal.

Oil
Oil and natural gas Resources and Reserves have been prepared in accordance with the PRMS jointly published by the Society of Petroleum Engineers, the World Petroleum Council, the American Association of Petroleum Geologists and the Society of Petroleum Evaluation Engineers, as amended.

The Oil Reserves statement has been reviewed and the relevant data extracted and compiled by McDaniel & Associates.

The Oil Resources statements for Equatorial Guinea, Chad and Cameroon have been reviewed and the relevant data extracted and compiled by Glencore.

Competent/Qualified Persons
Resource and reserve estimates are based on information compiled by Competent Persons (as defined by the JORC, SAMREC Codes), Qualified Persons (as defined by CIM Definition Standards for Mineral Resources and Mineral Reserves) and Adequately Qualified Persons (as defined by PRMS).

Each of the Competent/Qualified Persons has the appropriate professional membership and the relevant experience in relation to the resources and/or reserves being reported by them to qualify as a Competent or Qualified Person as defined in the relevant code or standard. Each has consented to the inclusion of their resource and reserve estimates in the form and context in which it appears in this report.

Recent developments
Volcan (Zinc): Following a public tender offer, the Group acquired a controlling interest in Volcan Compania Minera ("Volcan") in November 2017, by moving to a >50% holding of the class A voting shares. However, due to the differing number and rights of class A shares and class B shares in Volcan, the Group's economic interest is approximately 23%.

Volcan operates four major mining units, each of which consists of two or more mines, and has a number of development projects. In order to align with the Group's reporting, data will be reinterpreted and a programme of exploration drilling will be conducted under the supervision of the Group's personnel. The results are expected to be published in the Group's 2018 resources and reserves report.

Hunter Valley Operations ("HVO") (Coal): Glencore reached an agreement to acquire a 49% interest with Yancoal retaining 51% in the latter part of 2017. The mines and projects are located in the central Hunter Valley coalfield adjacent to existing Glencore mines.

The transaction, is scheduled to complete, subject to regulatory approvals, during the first half of 2018.
Resource and Reserve update will be completed for reporting by early 2019.

Aurukun (Alumina/aluminium): Glencore was granted a Mineral Development Licence over the Aurukun bauxite resource in Queensland, Australia, with effect from January 2018. Technical work will progress through the coming year with a view to providing an update in early 2019.

Definitions

Throughout this report, the following abbreviations and definitions have been used:

3PGE	Three Platinum Group Elements (Platinum, Palladium and Rhodium)
AIG	Australian Institute of Geoscientists
APEGBC	Association of Professional Engineers and Geoscientists of BC
APEGGA	Association of Professional Engineers Geologists and Geophysicists of Alberta
APEGNB	Association of Professional Engineers and Geoscientists of New Brunswick
APGO	Association of Professional Geoscientists of Ontario
AusIMM	Australasian Institute of Mining and Metallurgy
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CV (kcal/kg)	Calorific Value, kilo calories per kilogramme
DTC	Davis Tube Concentrate
ECSA	Engineering Council of South Africa
EL	Exploration Licence
FPSO	Floating production, storage and offloading
Geoshell	A broad envelope limited by the depth and areal extent of geological data points (primarily drill holes)
GSL	Geological Society of London
ICOG-EurGeol	Ilustre Colegio Oficial de Geólogos – European Geologist
JORC	Joint Ore Reserves Committee
kt	Thousand tonnes
LOM	Life of Mine
LOX	Limit of Oxidation
LOZ	Lower Oxidised Zone
Mt	Million tonnes
NSR	Net Smelter Return
OC	Open cast or Open cut
OGQ	Ordre des Géologues du Québec
OIQ	Ordre des Ingénieurs du Québec
OR	Ore Reserves
PEO	Professional Engineers of Ontario
PLATO	South African Council for Professional and Technical Surveyors
PRMS	Petroleum Resources Management System
QQ	Quantile quantile plot, a geostatistical method to assess modelled data against actual data
ROM	Run of Mine
SACNASP	The South African Council for Natural Scientific Professions
SAMREC	South African Code for Reporting of Mineral Resources and Mineral Reserves
UG	Underground
UG2	Upper Group No2 Chromitite layer
VMS	Volcanogenic Massive Sulphide

Marketable Coal Reserves (CIM/JORC) and Saleable Coal Reserves (SAMREC) are the tonnage and coal quality that will be available for sale, either in the raw ROM state at specific moisture content or after beneficiation of the ROM Coal Reserve has produced materials at specified qualities, moisture contents and size ranges.

Definitions of many of the terms used in this report can be found in the relevant codes.

Metals and Minerals
Copper

African Copper Mineral Resources (Katanga, Mutanda, Mopani)

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent person
Katanga												
Kamoto	64.7%	UG	(Mt)	12.2	12.2	65.9	65.9	78.1	78.1	48.5	48.5	CS
			Copper (%)	3.90	3.90	3.92	3.92	3.92	3.92	3.83	3.83	
			Cobalt (%)	0.59	0.59	0.46	0.46	0.48	0.48	0.38	0.38	
T17 (OC&UG)	64.7%		(Mt)	4.2	4.2	9.4	9.4	13.6	13.6	5.2	5.2	CS
		UG/OC	Copper (%)	2.66	2.66	4.44	4.44	3.89	3.89	4.21	4.21	
			Cobalt (%)	0.51	0.51	0.65	0.65	0.61	0.61	0.98	0.98	
Mashamba	64.7%	OC	(Mt)	–	–	60.0	60.0	60.0	60.0	18.3	18.3	CS
East			Copper (%)	–	–	1.68	1.68	1.68	1.68	2.85	2.85	
			Cobalt (%)	–	–	0.62	0.62	0.62	0.62	0.47	0.47	
KOV OC,	64.7%	OC	(Mt)	–	–	110.4	110.5	110.4	110.5	78.0	78.2	CS
KOV UG,			Copper (%)	–	–	4.75	4.75	4.75	4.75	4.40	4.39	
KTE			Cobalt (%)	–	–	0.53	0.53	0.53	0.53	0.38	0.38	
Kananga	64.7%	OC	(Mt)	–	–	4.1	4.1	4.1	4.1	4.0	4.0	CS
			Copper (%)	–	–	1.61	1.61	1.61	1.61	2.00	2.00	
			Cobalt (%)	–	–	0.79	0.79	0.79	0.79	0.98	0.98	
Tilwezembe	64.7%	OC	(Mt)	–	–	9.5	9.5	9.5	9.5	13.8	13.8	CS
			Copper (%)	–	–	1.89	1.89	1.89	1.89	1.75	1.75	
			Cobalt (%)	–	–	0.60	0.60	0.60	0.60	0.60	0.60	
KITD	64.7%		(Mt)	–	–	7.8	–	7.8	–	–	–	CS
			Copper (%)	–	–	1.49	–	1.49	–	–	–	
			Cobalt (%)	–	–	0.16	–	0.16	–	–	–	
Total Katanga			**(Mt)**	**16**	**16**	**267**	**259**	**284**	**276**	**168**	**168**	
			Copper (%)	**3.58**	**3.58**	**3.60**	**3.66**	**3.60**	**3.66**	**3.79**	**3.78**	
			Cobalt (%)	**0.57**	**0.57**	**0.53**	**0.54**	**0.54**	**0.55**	**0.44**	**0.44**	
Mutanda												
Mutanda	100%	OC	(Mt)	208.0	197.3	171.0	164.4	379.0	361.7	143.0	175.8	CS
South			Copper (%)	1.49	1.71	1.21	1.20	1.36	1.48	0.81	0.92	
			Cobalt (%)	0.54	0.66	0.46	0.45	0.51	0.56	0.41	0.29	
Mutanda	100%	OC	Mt	48.1	48.1	29.1	29.1	77.2	77.2	58.9	58.9	CS
North			Copper (%)	0.73	0.73	0.51	0.51	0.65	0.65	0.48	0.48	
			Cobalt (%)	0.34	0.34	0.14	0.14	0.26	0.26	0.08	0.08	
Total Mutanda			**(Mt)**	**256**	**245**	**200**	**194**	**456**	**439**	**202**	**235**	
			Copper (%)	**1.36**	**1.52**	**1.11**	**1.10**	**1.24**	**1.33**	**0.71**	**0.81**	
			Cobalt (%)	**0.51**	**0.60**	**0.41**	**0.40**	**0.46**	**0.51**	**0.31**	**0.24**	
Mopani												
Nkana	73.1%	UG	(Mt)	159.1	149.8	47.1	46.6	206.1	196.4	50.8	50.2	CS
Sulphides			Copper (%)	2.07	2.09	2.04	2.02	2.06	2.07	1.98	1.97	
			Cobalt (%)	0.11	0.11	0.12	0.12	0.11	0.11	0.13	0.15	
Nkana	73.1%	UG/OC	(Mt)	7.2	7.3	1.9	1.9	9.2	9.2	1.5	1.5	CS
Oxides			Copper (%)	2.25	2.28	1.92	1.93	2.18	2.21	1.89	1.91	
			Cobalt (%)	0.03	0.03	0.06	0.05	0.04	0.03	0.04	0.04	
Nkana	73.1%		(Mt)	–	–	5.7	5.7	5.7	5.7	0.8	0.8	CS
Tailings			Copper (%)	–	–	0.71	0.71	0.71	0.71	0.94	0.94	
Dump			Cobalt (%)	–	–	0.07	0.07	0.07	0.07	0.07	0.07	
Mufulira	73.1%	UG	(Mt)	32.9	33.5	15.9	15.9	48.8	49.4	21.9	21.9	CS
Sulphides			Copper (%)	2.44	2.45	2.57	2.57	2.49	2.49	2.42	2.42	
Mufulira	73.1%	UG	(Mt)	8.8	8.8	2.0	2.0	10.8	10.8	1.3	1.3	CS
Oxides			Copper (%)	1.19	1.19	0.90	0.90	1.14	1.14	0.81	0.81	
Mufulira	73.1%		(Mt)	3.0	3.0	1.8	1.8	4.8	4.8	1.3	1.3	CS
Surface			Copper (%)	1.81	1.81	1.80	1.80	1.81	1.81	1.76	1.76	
Total Mopani			**(Mt)**	**211**	**202**	**74**	**74**	**285**	**277**	**78**	**77**	
			Copper (%)	**2.09**	**2.11**	**2.01**	**2.00**	**2.07**	**2.08**	**2.07**	**2.06**	
			Cobalt (%)	**0.08**	**0.08**	**0.08**	**0.08**	**0.08**	**0.08**	**0.09**	**0.10**	

Metals and Minerals Copper

African Copper Ore Reserves (Katanga, Mutanda, Mopani)

Name of operation	Attributable interest	Mining method	Commodity	Proved Ore Reserves 31.12.17	Proved Ore Reserves 31.12.16	Probable Ore Reserves 31.12.17	Probable Ore Reserves 31.12.16	Total Ore Reserves 31.12.17	Total Ore Reserves 31.12.16	Competent person
Katanga										
Kamoto	64.7%	UG	Ore (Mt)	6.6	8.2	20.3	17.2	26.9	25.5	JL
			Copper (%)	3.59	3.68	3.34	3.57	3.40	3.60	
			Cobalt (%)	0.56	0.37	0.54	0.52	0.54	0.47	
T17 (OC & UG)	64.7%	UG/OC	Ore (Mt)	2.2	2.2	9.1	9.1	11.3	11.3	JL
			Copper (%)	3.42	3.42	3.71	3.71	3.65	3.65	
			Cobalt (%)	0.54	0.54	0.64	0.64	0.62	0.62	
Mashamba East	64.7%	OC	Ore (Mt)	–	–	32.1	32.1	32.1	32.1	JL
			Copper (%)	–	–	2.13	2.13	2.13	2.13	
			Cobalt (%)	–	–	0.60	0.60	0.60	0.60	
KOV OC,	64.7%	OC	Ore (Mt)	–	–	60.5	55.9	60.5	55.9	JL
KOV UG, KTE			Copper (%)	–	–	3.70	4.23	3.70	4.23	
			Cobalt (%)	–	–	0.48	0.47	0.48	0.47	
KITD	64.7%		Ore (Mt)	–	–	7.4	–	7.4	–	JL
			Copper (%)	–	–	1.49	–	1.49	–	
			Cobalt (%)	–	–	0.16	–	0.16	–	
Total Katanga			**(Mt)**	**9**	**10**	**129**	**114**	**138**	**125**	
			Copper (%)	**3.55**	**3.63**	**3.13**	**3.50**	**3.15**	**3.51**	
			Cobalt (%)	**0.55**	**0.41**	**0.51**	**0.53**	**0.51**	**0.52**	
Mutanda										
Mutanda South	100%	OC	Ore (Mt)	62.4	91.1	33.6	42.7	96.0	133.8	JL
			Copper (%)	2.05	2.04	1.73	1.53	1.94	1.88	
			Cobalt (%)	0.77	0.78	0.59	0.65	0.71	0.74	
Stockpiles	100%		Ore (Mt)	30.2	25.1	–	–	30.2	25.1	JL
			Copper (%)	1.27	1.31	–	–	1.27	1.31	
			Cobalt (%)	0.51	0.61	–	–	0.51	0.61	
Total Mutanda			**(Mt)**	**93**	**116**	**34**	**43**	**126**	**159**	
			Copper (%)	**1.80**	**1.88**	**1.73**	**1.53**	**1.78**	**1.79**	
			Cobalt (%)	**0.69**	**0.74**	**0.59**	**0.65**	**0.66**	**0.72**	
Mopani										
Nkana Sulphides	73.1%	UG	Ore (Mt)	97.0	96.6	22.89	23.7	119.9	120.3	HT
			Copper (%)	1.85	1.85	1.86	1.85	1.86	1.85	
			Cobalt (%)	0.08	0.09	0.09	0.10	0.08	0.09	
Mufulira Sulphides	73.1%	UG	Ore (Mt)	17.3	15.3	7.2	6.3	24.5	21.6	HT
			Copper (%)	2.20	2.21	2.30	2.31	2.23	2.24	
Total Mopani			**(Mt)**	**114**	**112**	**30**	**30**	**144**	**142**	
			Copper (%)	**1.91**	**1.90**	**1.97**	**1.95**	**1.92**	**1.91**	
			Cobalt (%)	**0.07**	**0.08**	**0.07**	**0.08**	**0.07**	**0.08**	

Notes

Katanga: Remaining life of mine: expected to be in excess of 20 years. Expiry date of relevant permits: 7 May 2022 for the Kananga Extension and 3 April 2024 for all remaining permits (Kamoto and Mashamba East Open Pit, T-17 Open Pit, KOV Open Pit, Tilwezembe Open Pit, Kananga Mine), renewable in accordance with the DRC mining code for a period of 15 years.

Glencore owns 86.3% of Katanga Mining Limited ("KML"), which in turn owns 75% of Kamoto Copper Company SA (“KCC”). KCC owns the material assets, including the mining and exploration rights related to the mining assets. La Generale des Carrieres et des Mines ("GCM") and La Société Immobilière du Congo, which are state-owned mining companies in the DRC, own the other 25% of KCC.

With the exception of Tilwezembe, primary mineralisation, in the form of sulphides, within the Lower Roan is associated with the Stratified Dolomite and Silicified Rocks for the Orebody Inferior and the Basal Schists and Upper Dolomitic Shales for the Orebody Superior and is thought to be sys-sedimentary in origin. Typical primary copper sulphide minerals are bornite, chalcopyrite, chalcocite and occasional native copper while cobalt is in the form of carrolite. The mineralisation occurs as disseminations or in association with hydrothermal carbonate alteration and silicification.

The mineralisation at Tilwezembe Mine is atypical being hosted by the Mwashya or R4 Formation. The mineralisation generally occurs as infilling of fissures and open fractures associated with the brecciation. The typical copper minerals are mainly chalcopyrite, malachite and pseudomalachite while cobalt is in the form of heterogenite, carrolite and spherocobaltite. Manganese minerals are psilomelane and manganite.

The Kamoto Interim Tailings Dam ("KITD") is a large tailings facility located in proximity to the Kamoto concentrator. Concentrate quality material containing valuable amounts of copper and cobalt was discharged along with operational waste into KITD over the period 2010 to 2013. In August 2017, the Company resumed an exploration drilling program to profile the mineral contents of KITD. This drilling activity identified anticipated mineralization.

Mineral Resources increased from 2016 to 2017 due to new drilling and Mineral Resource models developed for KITD.

Ore Reserves changed from 2016 to 2017 as a result of (i) revised pit optimisation and redesign of KOV open pit based on the 2016 updated Mineral Resource model, (ii) revised Kamoto mine design based on the 2016 updated Mineral Resource model, and (iii) addition of KITD.

Mutanda: Remaining mine life: estimated in excess of 15 years. Expiry date of relevant mining permits: 26 May 2022 for Mutanda South ("Mutanda") and 5 May 2022 for Mutanda North ("Kansuki"). Both mining permits are renewable in accordance with the DRC mining code for periods of 15 years.

Kansuki consists of Kabwimia, Area 2 East, and Area 2 West. Mutanda consists of East (includes Area 1), Central (includes Central North West), and West.

Overall Mineral Resources decreased from 2016 to 2017 due to a combination of mining depletion and updated geological models, although these updates enabled promotion of resources from Inferred to Measured and Indicated.

Change in Ore Reserves from 2016 to 2017 is as a result of mining depletion coupled with updated geological models, pit optimisation and processing methodology, with consequent revision in cut-off grades.

Mopani: Remaining life of mine: 28 years for Nkana and 13 years for Mufulira. Expiry date of relevant mining/ concession licences: 31 March 2025 for both of these mines. Licences are renewable in accordance with the provisions of the relevant laws of Zambia.

Within the Nkana mining area there are four underground mines and a series of open pits. The open pits are under care and maintenance and have therefore been excluded from Ore Reserves and included under Mineral Resources. All are situated on the north-eastern limb of the Nkana Syncline area. Other cupriferous zones are present in the nose and southwest limb of the syncline. The orebodies are stratiform and are mainly confined to a recognisable ore formation, which occurs near the base of the Katangan sequence within the Lower Roan Group of the Mine Series. In the underground workings, the principal copper ore minerals are chalcopyrite and bornite with subordinate chalcocite. There is a zoning in the geographical distribution of these minerals. Cobalt occurs as carrollite and cobaltiferious pyrite. The principal ore minerals are malachite, pseudomalchite, chrysocolla, native copper, cuprite and libethenite. In the open pit, malachite and chrysocolla are the principal ore minerals in the zone of oxidation closer to the surface. In some places however, vermiculite, malachite pseudomalachite and accessory wad are more important. At deeper levels chalcopyrite, bornite and chalcocite are predominantly present.

In the Mufulira mining area, the Basement Complex topography appears to have exerted a significant structural control during deformation. The distribution of ore minerals in all three orebodies is stratigraphically controlled, occurring dominantly as disseminations, blebs and irregular masses. The principal copper minerals are chalcopyrite (60%), bornite (40%), and minor/trace chalcocite. Oxide minerals are confined to near surface occurrences, and supergene enrichment zones. Generally the deposit is structurally simple being characterised by three main folds that are in part overturned with a plunge and dip approximately 10º to the northeast. The basin is open and untested at depth.

Mineral Resources at Mufulira mostly remain unchanged from 2016 to 2017 while changes at Nkana are due to new geological models supported by the 2016/2017 exploration drilling campaign and updated mining depletions.

Changes in Ore Reserves from 2016 to 2017 at Mufulira can be attributed to mining depletions and mine design changes including portions previously excluded from the mine design, whilst changes at Nkana are due to new drilling data and updated geological models.

Competent Persons

CS = Christiano Santos Goncalves of Golder Associates Africa (Pty) Ltd, (MAusIMM CP (Geo)).

HT = Hugo Tukker of Golder Associates Africa (Pty) Ltd, (ECSA, PrEng).

JL = Jacobus Lotheringen of Ukwazi Mining Solutions (Pty) Ltd, for Golder Associates Africa (Pty) Ltd, (SAIMM, PrEng.).

Metals and Minerals Copper

Collahuasi Mineral Resources

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent person
Collahuasi	44%	OC	Sulphide (Mt)	898	824	4,442	4,218	5,340	5,042	4,393	4,801	YT
			Copper (%)	0.86	0.81	0.81	0.80	0.82	0.80	0.76	0.76	
			Molybdenum (%)	0.018	0.019	0.023	0.022	0.022	0.022	0.013	0.012	
			Oxide & Mixed (Mt)	36	35	29	45	65	80	51	52	YT
			Copper (%)	0.67	0.67	0.73	0.67	0.69	0.67	0.57	0.53	
Total Collahuasi			**(Mt)**	**934**	**859**	**4,471**	**4,263**	**5,405**	**5,122**	**4,444**	**4,853**	
			Copper (%)	**0.85**	**0.80**	**0.81**	**0.79**	**0.82**	**0.80**	**0.75**	**0.76**	
			Molybdenum (%)	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	

Collahuasi Ore Reserves

Name of operation	Attributable interest	Mining method	Commodity	Proved Ore Reserves 31.12.17	Proved Ore Reserves 31.12.16	Probable Ore Reserves 31.12.17	Probable Ore Reserves 31.12.16	Total Ore Reserves 31.12.17	Total Ore Reserves 31.12.16	Competent person
Collahuasi	44%	OC	Sulphide (Mt)	479	419	2,740	2,669	3,220	3,088	AP
			Copper (%)	1.14	1.08	0.89	0.87	0.93	0.90	
			Molybdenum (%)	0.023	0.025	0.024	0.023	0.024	0.023	

Notes

Collahuasi: The Collahuasi district is located in Northern Chile, Tarapacá Region, and hosts large Copper-Molybdenum porphyry-type deposits: Ujina, Rosario a high sulphidation vein deposit as Rosario Oeste and a oxide copper deposit as Rosario Sur. Sulphides as chalcopyrite, bornite and less chalcosite are the main copper minerals at Ujina and Rosario. At Rosario Oeste, supergene chalcosite is the main copper mineral. Rosario Sur is a small oxide-bearing deposit, mainly of chrysocolla. Collahuasi is mined by open cut methods. The Rosario orebody is the main source of mineral for current Collahuasi operation. Mineral Resources for Rosario, Ujina, Rosario Oeste and Rosario Sur have been classified into Measured, Indicated and Inferred categories based on minimum search radius constraints, drillhole spacing and equivalent grid spacing. Mineral Resources are reported within the constraints of optimized pit shells. Mineral Resources and Ore Reserves have been updated on the basis of new drilling information, updated geological-geostatistical models, mining parameters and adjustments to metal prices forecast. The 48.6 Mt ore production for 2017 (basis actual production to October and an estimate for November/December) is already depleted from the reported Ore Reserves. Ore Reserves estimates are based only on Measured and Indicated Mineral Resources, optimized mine plans and meet minimum operational cut-off requirements. The Ore Reserves include all Proved and Probable Reserves above the mill (operational) cut-off grade. The process of generating the resource model and optimized pit shells, already incorporates diluting materials. Thus no additional dilution factors were required in converting Mineral Resources to Ore Reserves. Both Mineral Resources and Ore Reserves includes estimates of stockpile material at time of reporting. Material included in stockpile is periodically verified and re-evaluated through drilling, trenching, and sampling. Stockpile material from Rosario and Ujina pits are classified according to the level of perceived uncertainty. All sulphide stockpiles are considered Indicated Mineral Resources and are classified as Probable Ore Reserves.

Collahuasi has a life of mine of 69 years from 2018 to 2086, according to the most recent life of mine plan that supports the present reserves report.

Competent Persons

YT = Yuan Tay, Employee of Compañía Minera Doña Inés de Collahuasi (APEGBC).

AP = Andrés Pérez, Employee of Compañía Minera Doña Inés de Collahuasi (APEGBC).

Metals and Minerals Copper

Antamina Mineral Resources

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent person
Antamina	33.75%	OC/UG	Sulphide Cu (Mt)	170	161	528	520	698	681	1,104	816	LC
			Copper (%)	0.88	0.89	0.87	0.86	0.88	0.87	0.90	0.82	
			Zinc (%)	0.14	0.14	0.16	0.15	0.16	0.15	0.29	0.14	
			Silver (g/t)	7	7	9	9	8	9	9	8	
			Molybdenum (%)	0.031	0.033	0.027	0.026	0.028	0.028	0.023	0.024	
			Sulphide Cu-Zn (Mt)	84	78	289	326	373	404	268	431	LC
			Copper (%)	0.90	0.95	0.93	0.92	0.93	0.93	0.94	0.98	
			Zinc (%)	2.01	1.93	1.86	1.82	1.90	1.84	1.61	1.52	
			Silver (g/t)	18	17	16	15	16	15	15	15	
			Molybdenum (%)	0.009	0.009	0.008	0.008	0.008	0.008	0.009	0.008	
Total Antamina			**(Mt)**	**254**	**239**	**816**	**846**	**1,070**	**1,085**	**1,372**	**1,247**	
			Copper (%)	**0.89**	**0.91**	**0.89**	**0.88**	**0.89**	**0.89**	**0.91**	**0.88**	
			Zinc (%)	**0.76**	**0.72**	**0.76**	**0.79**	**0.76**	**0.78**	**0.55**	**0.62**	
			Silver (g/t)	**11**	**10**	**11**	**11**	**11**	**11**	**10**	**10**	
			Molybdenum (%)	**0.024**	**0.025**	**0.020**	**0.019**	**0.021**	**0.021**	**0.020**	**0.018**	

Antamina Ore Reserves

Name of operation	Attributable interest	Mining method	Commodity	Proved Ore Reserves 31.12.17	Proved Ore Reserves 31.12.16	Probable Ore Reserves 31.12.17	Probable Ore Reserves 31.12.16	Total Ore Reserves 31.12.17	Total Ore Reserves 31.12.16	Competent person
Antamina	33.75%	OC	Sulphide Cu (Mt)	116	115	196	190	312	305	LM
			Copper (%)	1.01	1.03	0.97	1.02	0.98	1.02	
			Zinc (%)	0.15	0.15	0.18	0.19	0.17	0.17	
			Silver (g/t)	7	8	8	8	8	8	
			Molybdenum (%)	0.037	0.038	0.034	0.032	0.035	0.034	
			Sulphide Cu-Zn (Mt)	65	59	161	188	226	247	LM
			Copper (%)	0.90	0.98	0.80	0.82	0.83	0.86	
			Zinc (%)	2.20	2.13	2.01	2.02	2.06	2.05	
			Silver (g/t)	18	17	13	13	14	14	
			Molybdenum (%)	0.007	0.008	0.008	0.008	0.008	0.008	
Total Antamina			**(Mt)**	**180**	**174**	**358**	**378**	**538**	**552**	
			Copper (%)	**0.97**	**1.01**	**0.89**	**0.92**	**0.92**	**0.95**	
			Zinc (%)	**0.89**	**0.82**	**1.00**	**1.10**	**0.96**	**1.01**	
			Silver (g/t)	**11**	**11**	**10**	**11**	**11**	**11**	
			Molybdenum (%)	**0.027**	**0.028**	**0.022**	**0.020**	**0.024**	**0.022**	

Notes

Antamina: Antamina is a polymetallic (copper, zinc and molybdenum predominate) skarn deposit resulting from complex multiple intrusive events. Copper mineralization occurs mainly as chalcopyrite except for some areas of bornite, representing approximately 5% of the deposit. Zinc mineralization generally occurs as sphalerite. Other significant sulphide minerals include molybdenite and pyrite, while trace amounts of numerous silver and bismuth bearing minerals and local areas of galena (lead sulphide) are also found within the deposit.

The Mineral Resource classification is based on geologic risk factors (proportion of breccia indicator), geologic continuity (intrusive, endoskarn and exoskarn-waste) and drill hole spacing. The Antamina deposit is sufficiently well drilled to support the classification criteria.

Ore Reserves results were developed during the mine planning process in 2017, which is based on the end of year 2017 topography projection. The life-of-mine plan, and subsequent Ore Reserve estimation used for this statement considers only Measured and Indicated Mineral Resources; all Inferred Mineral Resources within this pit has been treated as waste. The cut-off grade for the Ore Reserves estimate varies by year in an effort to maximize the net present value of the life-of-mine. Ore Reserves are limited to the current operation tailings dam capacity. Antamina is currently assessing options to increase tailings storage capacity, which has the potential to extend the mine life and increase the Mineral Reserves estimate.

In comparison with the previous year estimate, total Sulphide Ore Reserves (Cu and Cu-Zn) decreased by 14 Mt mainly due to depletion during 2017 which was partly compensated by increased tailings storage capacity.

Antamina has an approved life of mine plan of 11 years (2018-2028), based on Ore Reserves. Operating permits are valid until the end of the life-of-mine.

Competent Persons

LC = Lucio Canchis, Employee of Compania Minera Antamina S.A. (AusIMM);

LM = Luis Mamani, Employee of Compañia Minera Antamina S.A. (AusIMM).

Other South America Mineral Resources (Alumbrera, Lomas Bayas, Antapaccay, Punitaqui)

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent person
Alumbrera	50%											
Bajo de la Alumbrera		UG	Ore (Mt)	92	53	5	3	97	56	0.3	1	FM
			Copper (%)	0.41	0.31	0.39	0.24	0.41	0.31	0.37	0.22	
			Gold (g/t)	0.39	0.30	0.37	0.21	0.39	0.29	0.37	0.22	
			Molybdenum (%)	0.014	0.011	0.012	0.013	0.014	0.011	0.012	0.014	
Bajo El Durazno		OC	(Mt)	12	50	1	43	13	93	0.6	56	FM
			Copper (%)	0.15	0.15	0.15	0.15	0.15	0.15	0.13	0.14	
			Gold (g/t)	0.42	0.40	0.39	0.41	0.42	0.41	0.28	0.33	
Lomas Bayas	100%											
Lomas Bayas I		OC	Oxide & Mixed (Mt)	151	157	615	623	766	780	76	77	MR
			Copper (%)	0.32	0.32	0.22	0.22	0.24	0.24	0.20	0.20	
			Soluble Copper (%)	0.16	0.16	0.11	0.11	0.12	0.12	0.10	0.10	
Lomas Bayas II		OC	Oxide & Mixed (Mt)	158	182	345	342	503	524	63	57	MR
			Copper (%)	0.31	0.30	0.23	0.23	0.26	0.25	0.10	0.10	
			Soluble Copper (%)	0.21	0.21	0.15	0.15	0.17	0.17	0.10	0.10	
Lomas Bayas III		OC	Sulphide&Mixed (Mt)	18	18	423	422	441	440	449	449	MR
			Copper (%)	0.55	0.55	0.37	0.37	0.38	0.38	0.30	0.30	
			Oxide & Mixed (Mt)	1	1	50	50	51	51	32	32	
			Copper (%)	0.26	0.26	0.24	0.24	0.24	0.24	0.20	0.20	
Antapaccay	100%	OC	(Mt)	182	206	434	452	616	658	161	156	HB
			Copper (%)	0.55	0.57	0.42	0.43	0.46	0.47	0.40	0.40	
			Gold (g/t)	0.12	0.13	0.08	0.08	0.09	0.10	0.10	0.10	
			Silver (g/t)	1.42	1.45	1.16	1.17	1.24	1.26	0.80	0.80	
			Molybdenum (%)	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	
Coroccohuayco	100%	UG/OC	(Mt)	33	33	256	256	289	289	56	56	HB
			Copper (%)	0.85	0.85	0.91	0.91	0.90	0.90	1.08	1.08	
			Gold (g/t)	0.09	0.09	0.10	0.10	0.10	0.10	0.10	0.10	
			Silver (g/t)	3.13	3.13	2.68	2.68	2.73	2.73	3.51	3.51	
Punitaqui	100%	UG/OC	(Mt)	3.90	0.92	2.57	4.22	6.47	5.14	0.50	1.87	FM
			Copper (%)	1.36	1.69	1.07	1.04	1.25	1.16	1.11	1.12	
			Silver (g/t)	6.45	5.31	4.41	1.85	5.64	2.47	3.73	1.12	
Total Other South America			**(Mt)**	**651**	**701**	**2,132**	**2,195**	**2,782**	**2,896**	**838**	**886**	
			Copper (%)	**0.43**	**0.41**	**0.38**	**0.37**	**0.39**	**0.38**	**0.34**	**0.33**	
			Gold (g/t)	**0.10**	**0.09**	**0.03**	**0.04**	**0.05**	**0.05**	**0.03**	**0.05**	
			Silver (g/t)	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.4**	**0.4**	

Other South America Ore Reserves (Alumbrera, Lomas Bayas, Antapaccay, Punitaqui)

Name of operation	Attributable interest	Mining method	Commodity	Proved Ore Reserves 31.12.17	Proved Ore Reserves 31.12.16	Probable Ore Reserves 31.12.17	Probable Ore Reserves 31.12.16	Total Ore Reserves 31.12.17	Total Ore Reserves 31.12.16	Competent person
Alumbrera	50%									
Bajo de la Alumbrera		UG	Ore (Mt)	68	16	2	–	71	16	FM
			Copper (%)	0.41	0.34	0.38	–	0.41	0.34	
			Gold (g/t)	0.39	0.33	0.37	–	0.39	0.33	
			Molybdenum (%)	0.013	0.009	0.014	–	0.013	0.009	
Bajo el Durazno		OC	Ore (Mt)	11	24	1.5	4	12	28	FM
			Copper (%)	0.16	0.17	0.16	0.16	0.16	0.17	
			Gold (g/t)	0.43	0.43	0.38	0.37	0.43	0.42	
Lomas Bayas	100%									
Lomas Bayas I		OC	Oxide & Mixed (Mt)	82	88	140	145	222	233	MR
			Copper (%)	0.28	0.28	0.22	0.22	0.24	0.24	
			Soluble Copper (%)	0.16	0.16	0.12	0.13	0.14	0.14	
Lomas Bayas II		OC	Oxide & Mixed (Mt)	141	165	199	208	340	373	MR
			Copper (%)	0.31	0.30	0.24	0.24	0.27	0.27	
			Soluble Copper (%)	0.21	0.21	0.16	0.15	0.18	0.18	
Antapaccay	100%	OC	(Mt)	185	207	313	324	498	531	HB
			Copper (%)	0.54	0.56	0.42	0.43	0.46	0.48	
			Gold (g/t)	0.11	0.12	0.08	0.08	0.09	0.10	
			Silver (g/t)	1.41	1.44	1.15	1.19	1.25	1.29	
Coroccohuayco	100%									
		OC	(Mt)	22	22	41	41	63	63	HB
			Copper (%)	0.75	0.75	0.56	0.56	0.63	0.63	
			Gold (g/t)	0.08	0.08	0.06	0.06	0.07	0.07	
			Silver (g/t)	2.75	2.75	1.57	1.57	1.98	1.98	
		UG	(Mt)	9	9	112	112	121	121	AZ
			Copper (%)	0.82	0.82	1.25	1.25	1.22	1.22	
			Gold (g/t)	0.09	0.09	0.12	0.12	0.12	0.12	
			Silver (g/t)	3.02	3.02	3.93	3.93	3.86	3.86	
Punitaqui	100%	UG/OC	Ore (Mt)	1.12	0.32	0.89	0.08	2.01	0.40	FM
			Copper (%)	1.19	1.63	0.97	1.69	1.10	1.64	
			Silver (g/t)	3.41	4.40	3.00	4.71	3.23	4.46	
Total Other South America			**(Mt)**	**519**	**531**	**809**	**834**	**1,329**	**1,365**	
			Copper (%)	**0.43**	**0.42**	**0.46**	**0.46**	**0.45**	**0.45**	
			Gold (g/t)	**0.10**	**0.08**	**0.05**	**0.05**	**0.07**	**0.07**	
			Silver (g/t)	**0.7**	**0.7**	**1.1**	**1.1**	**0.9**	**0.9**	

Notes

Bajo de La Alumbrera and Bajo El Durazno:

The **Bajo de la Alumbrera** copper-gold porphyry deposit is located in the Hualfin district, Belen department of the Catamarca province, in the northwest region of Argentina. The orebody consists of primary sulphide mineralised ore which comprises disseminated, vein and fracture controlled chalcopyrite in altered dacite and andesite host rocks, with minor chalcocite and covellite in the enriched zone that surrounds the major faults.

The variations from the 31 December 2016 published statement are a result of a new mining method for the remaining resources. The project evaluation was carried out during 2016-17.

The Ore Reserves and Mineral Resources figures are obtained using Ordinary Kriging interpolation within geological constraints from an assay database comprising some 116,000m of diamond drilling and 15,000m of reverse circulation drilling. Ore Reserves are based on an economic solid generated for an underground mining process with a COG = 0.5 % Cueq. The economic cut-off is based on economic parameters and metallurgical recoveries.

The **Bajo el Durazno** deposit belongs to the mining district of Agua de Dionisio and is located 5km northeast of the Bajo de la Alumbrera deposit and 2km from Minera Alumbrera's concentrator plant. The deposit is located within the Farallón Negro volcanic complex, which is eroded, deformed by faults and mineralized, resulting in a "depressed geomorphological" with hydrothermal alteration known as "Bajo".

39,444m of diamond drilling was completed between 2009 and 2015. Ore Reserves and Mineral Resources figures are obtained using Ordinary Kriging interpolation for Cu and Au. The size of the block in the geological model (10x10x15) was based on geological criteria stemming from the geological interpretation and the proposed drilling grid.

The Mineral Resources were estimated using a cut-off 0.20 g/t for Au within an economic shell. The main difference from 2016 is changes to the economic assumptions applied.

Ore Reserves are based on a pit optimization and are reported on an economic 0.30g/t Au equivalent cut-off grade.

The decrease in reserves compared to the 2016 declaration is the result of the mining process during 2017. The life of mine is up to end of July 2018.

Lomas Bayas (I) – Lomas Bayas (III): Lomas Bayas is a low grade Cu-Mo deposit resulting from the intrusion of several porphyry and breccia systems that were later exposed to leaching and subsequent supergene enrichment and *in situ* oxidation. Green copper oxides, copper sulphates in various forms and less partially mixed ores are the main source of ore for the existing SX/EW operation. The copper oxides-sulphate mineralisation is the basis of the Lomas Bayas Ore Reserves (Lomas Bayas I).

Mineral Resources and Ore Reserves estimation has been completed using Ordinary Kriging on a block model that includes historic drill holes totalling 318,788m and sampled at 2m intervals. Ore Reserves are as of 31 December 2017 using projected topography; operational pit life-of-mine developed in 2017; cut-off grade Heap: 0.27% CuT and ROM: 0.07% CuT. Lomas Bayas (I) Ore Reserves have been depleted to account for ongoing extraction. The Lomas Bayas (III) Mineral Resources estimates sulphides in a pit shell calculated using Measured, Indicated and Inferred Mineral Resources; Oxides-Mixed within this pit are also considered Mineral Resources that will eventually feed the current SX/EW operation.

Lomas Bayas (II): This low grade Cu deposit is located 2km south of Lomas I pit, in the same district and geological environment as Lomas Bayas deposit. The main difference is a larger presence of water soluble copper oxides and lower geotechnical rock quality. The Lomas II block model includes historic drill holes totalling 127,369m and sampled at 2m intervals. Mineral Resources and Ore Reserves estimation has been completed using Ordinary Kriging. Ore Reserves are as of 31 December 2017 and consider the operational life-of-mine and cut-off grades (Heap: 0.27% CuT and ROM: 0.07% CuT). Lomas Bayas (II) Ore Reserves have been depleted to account for ongoing extraction.

The Lomas Bayas SX/EW plant is fed by both Lomas Bayas (I) and Lomas Bayas (II) and has a current life of mine plan that extends to 2028; permits for the operation are valid to the end of the life of the mine.

Antapaccay: The Antapaccay orebody is located 10km southwest of Tintaya, and together with Coroccohuayco is part of the Tintaya mineralised district. It is a sulphide mineralised system comprising disseminated, vein and fracture controlled chalcopyrite and bornite in altered quartz–monzonite and diorite in a limestone host rock, with some mineralised exoskarn areas and minor copper oxides and copper carbonates in the upper part of the deposit.

Antapaccay Ore Reserves and Mineral Resources as at 31 December 2017: Mineral Resource categorisation is based on assessment of orebody and grade continuity, structural complexity, data quality, adequacy of data coverage, and reasonable prospects of economical extraction. The Mineral Resources estimation is based on a block model with grade interpolation by using Ordinary Kriging. Mineral Resources are stated at defined internal copper cut–off, which is maintained at 0.15% TCu. Ore Reserves are then derived from Measured and Indicated Mineral Resources after applying economical and technical modifying factors. Ore Reserves decreased by 33 Mt during 2017.

The deposit geology model and Mineral Resources estimate has been updated in 2017 using a drill hole database that now includes over 255,817 m of total drilling data. The major variations from the previous published Mineral Resources statement are due to the inclusion of new infill drilling to the updated geological model and block grade interpolate.

The Ore Reserves are for 12 years ending in 2029, with ore processed through the Tintaya and Antapaccay plants. Operation permits are valid until the end of the life of mine.

Coroccohuayco: The Coroccohuayco copper–gold skarn deposit is located 9km southeast of Tintaya. Together with Tintaya and Antapaccay this orebody is part of the Tintaya mineralised district. The main copper bearing minerals are bornite, chalcopyrite and chalcocite. The Coroccohuayco orebody is defined as a copper skarn deposit, which consists of Cretaceous sedimentary rocks of the Ferrobamba and Mara formation intruded by monzonitic plutons of the Eocene–Oligocene Andahuaylas–Yauri batholiths. The deposit geology model and Mineral Resources and Reserves estimate was updated as at 31 December 2016, and the same resources and reserves are being declared for 31 December 2017, given there has been limited geological drilling completed during 2017.

Punitaqui: Remaining life of mine is approximately 1 year based on Ore Reserves and 6 years based on Mineral Resources. Several epigenetic stratifiorm copper mineralisation (manto type) bodies with variable thicknesses between 20 to 40m are distributed along 900m strike length mineralised corridor named Cinabrio zone. Mineralisation is composed of crisocole, brochantita and malachite in upper oxide levels turning into a mixed zone composed of malachite, crisocole and chalcopyrite. Main sulphide zones are composed of pyrite, bornite and chalcopyrite. All mineralisation is distributed in calcareous shales also within minor pre-existing faults. Dalmacia deposit is located 7km south of the Punitaqui concentrator plant. Also described as a stratiform copper deposit the mineralisation occurs as irregular lenses of chalcopyrite, chalcocite and covellite sulphides within the porphyritic andestites of the reloj formation. Mineral Resources and Ore Reserves estimation has been completed using Ordinary Kriging. Ore Reserves at 31 December 2017, considering operational pit life-of-mine developed in 2017; Cut-off grade of 0.9% Cui for Cinabrio project and 0.6% Cui for Dalmacia Project. Mineral Resources at 31 December 2017 considering pit life-of-mine developed in 2017; cut-off grade of 0.8% CuT for Cinabrio project and 0.6% Cui for Dalmacia project.

Competent Persons

AZ = Americo Zuzunaga, Employee of BISA (AusIMM).

FM = Flavio Montini, Employee of Glencore (AusIMM).

HB = Heller Bernabé, Employee of Glencore (AusIMM).

MR = Mauricio Rubio, Employee of Glencore (AusIMM).

Metals and Minerals Copper

Australia Mineral Resources (Ernest Henry, Mount Isa, Cobar)

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent person
Ernest Henry												
Underground	70%	UG	(Mt)	13.2	12.1	67.1	68.7	80.3	80.7	15.0	9.0	CS
			Copper (%)	1.33	1.33	1.18	1.15	1.20	1.18	1.0	1.1	
			Gold (g/t)	0.69	0.70	0.62	0.59	0.63	0.61	0.6	0.5	
E1	100%	OC	(Mt)	4.6	4.6	5.5	5.5	10.1	10.1	0.4	0.4	CS
			Copper (%)	0.70	0.70	0.75	0.75	0.73	0.73	0.9	0.9	
			Gold (g/t)	0.20	0.20	0.23	0.23	0.22	0.22	0.3	0.3	
Monakoff	100%	OC	(Mt)	–	–	2.4	2.4	2.4	2.4	0.1	0.1	CS
			Copper (%)	–	–	0.95	0.95	0.95	0.95	0.8	0.8	
			Gold (g/t)	–	–	0.30	0.30	0.30	0.30	0.2	0.2	
Mount Isa	100%											
X41 Mine 500, 650,		UG	(Mt)	23.5	25.2	13.4	15.0	36.9	40.2	6.8	6.2	HB
1100 & 1900 Orebodies			Copper (%)	1.89	1.90	1.75	1.80	1.80	1.86	1.7	1.7	
Enterprise Mine 3000		UG	(Mt)	23.7	28.5	5.6	6.2	29.3	34.7	1.4	1.7	HB
& 3500 Orebodies			Copper (%)	2.51	2.59	2.28	2.37	2.46	2.55	2.2	2.2	
Black Rock Cave		UG	(Mt)	–	–	1.4	–	1.4	–	0.6	–	HB
			Copper (%)	–	–	5.88	–	5.88	–	4.8	–	
Open Pit		OC	(Mt)	47.5	48	79.0	82	126.6	130	135	138	HB
			Copper (%)	1.41	1.46	1.24	1.32	1.30	1.37	0.9	0.89	
Cobar	100%	UG	(Mt)	3.1	3.1	2.9	2.6	6.0	5.7	5.3	6.3	JH
			Copper (%)	5.93	5.95	5.26	5.34	5.61	5.67	5.6	5.5	
			Silver (g/t)	23.7	23.4	22.5	25.0	23.1	24.1	23	21	
Total Australia			**(Mt)**	**116**	**122**	**177**	**182**	**293**	**304**	**165**	**162**	
			Copper (%)	**1.82**	**1.89**	**1.37**	**1.37**	**1.54**	**1.58**	**1.1**	**1.1**	
			Gold (g/t)	**0.09**	**0.08**	**0.23**	**0.23**	**0.18**	**0.17**	**0.06**	**0.03**	
			Silver (g/t)	**0.6**	**0.6**	**0.4**	**0.4**	**0.5**	**0.5**	**0.7**	**0.8**	

Australia Ore Reserves (Ernest Henry, Mount Isa, Cobar)

Name of operation	Attributable interest	Mining method	Commodity	Proved Ore Reserves 31.12.17	Proved Ore Reserves 31.12.16	Probable Ore Reserves 31.12.17	Probable Ore Reserves 31.12.16	Total Ore Reserves 31.12.17	Total Ore Reserves 31.12.16	Competent person
Ernest Henry	70%									
Underground		UG	Ore (Mt)	10.2	7.1	41.2	52.3	51.4	59.4	MJ
			Copper (%)	1.50	1.41	0.96	0.96	1.07	1.02	
			Gold (g/t)	0.77	0.72	0.49	0.48	0.54	0.50	
Mount Isa	100%									
X41 Mine 500, 650,		UG	Ore (Mt)	5.5	6.7	12.4	12.1	17.9	18.8	DL
1100 & 1900 Orebodies			Copper (%)	1.82	1.84	1.77	1.79	1.79	1.80	
Enterprise Mine 3000		UG	Ore (Mt)	6.3	8.9	12.1	12.9	18.5	21.8	DL
& 3500 Orebodies			Copper (%)	2.34	2.47	2.19	2.22	2.24	2.32	
Black Rock Cave		UG	Ore (Mt)	–	–	1.4	–	1.4	–	MJ
			Copper (%)	–	–	4.51	–	4.51	–	
Cobar	100%	UG	Ore (Mt)	3.5	3.2	1.9	2.5	5.4	5.7	TB
			Copper (%)	4.26	4.38	3.94	3.78	4.15	4.12	
			Silver (g/t)	17.1	17.6	14.6	17.4	16.2	17.5	
Total Australia			**(Mt)**	**26**	**26**	**69**	**80**	**95**	**106**	
			Copper (%)	**2.16**	**2.25**	**1.48**	**1.38**	**1.66**	**1.59**	
			Gold (g/t)	**0.31**	**0.20**	**0.29**	**0.31**	**0.29**	**0.28**	
			Silver (g/t)	**2.3**	**2.2**	**0.4**	**0.5**	**0.9**	**0.9**	

Notes

Ernest Henry Underground: The current expected mine life is nine years (completion in 2026) with the Mining Lease tenements due to expire in nine years (2026).

Copper and gold mineralisation occurs in a breccia comprised of strongly altered and replaced intermediate volcanic fragments in a matrix assemblage of predominantly magnetite, chalcopyrite and carbonate. Copper occurs as chalcopyrite and gold is strongly associated with chalcopyrite.

Changes to the Mineral Resource and Ore Reserve are primarily due to grade cut-off modifications and depletion through mining.

E1: Economic mineralisation at E1 occurs as breccia-hosted mineralisation within the footwall volcanics at E1 North, and as strata-bound, replacement style mineralisation within the mineralised sedimentary units at E1 North, Central, South and East. Mine lease tenements expire in December 2032.

Monakoff: Economic mineralisation at Monakoff and Monakoff East occurs in very-fine to medium grained steeply dipping metasediment units. Mine lease tenements expire in October 2032.

Mount Isa X41 and Enterprise Copper Mine: Mineralisation occurs generally as breccia hosted massive to disseminated chalcopyrite in “silica dolomite” altered pyritic dolomitic siltstone. Mining depletion, sterilisation and changes to mine design amounted to a net 0.9Mt decrease in the X41 and 3.3Mt decrease in the Enterprise Ore Reserves.

Mount Isa Open pit: Copper mineralisation occurs generally as breccia hosted massive to disseminated copper minerals in “silica dolomite” altered pyritic dolomitic siltstone. The Mineral Resources mineralisation consists primarily of chalcopyrite, the remainder being oxidised or partially oxidised, with a minor amount of supergene chalcocite mineralisation. The 2016 Mineral Resource is reported inside an optimised pit shell using a cut-off grade of 0.5% Cu. In 2016, the Black Rock Resource was reported within the MIOP resource but this year has been reported separately as the Black Rock Cave Resource, based on a likelihood of underground extraction.

Black Rock Cave: Copper mineralisation occurs generally within a Chalcocite Zone that lies above the Leached Primary material. The zone is interpreted to lie outside of the Silica-Dolomite alteration. This Resource is reported using a cut-off grade of 2.0% Cu.

The underground life of mine estimate for the X41, Enterprise, and the Black Rock Cave is 6 years (2023) with the tenements due to expire in 19 years (2036).

Cobar: The expected remaining life of mine is approximately 5 years based on Ore Reserves and approximately 10 years based on Mineral Resources, although Cobar has previously been able to extend its expected life of mine through exploratory drilling over the past 50 years. The expiry date of relevant mining/concession licences is 24 June 2028.

Economic mineralisation at Cobar occurs mostly as narrow lenses with short strike lengths that are depth extensive. Lenses consist of vein or semi massive to massive chalcopyrite hosted by sub-vertical quartz-chlorite shear zones within a siltstone unit. The Cobar Mineral Resources and Ore Reserves are reported within five ‘systems’: Western, Eastern, QTS North, QTS South and QTS Central.

A 0.7Mt reduction in the total Mineral Resource is largely the result of mine depletion. Mining depletion coupled with revised stope classification parameters resulted in a 0.3Mt reduction in Ore Reserves

Competent Persons

CS = Colin Stelzer, Glencore Copper (AusIMM).

DL = David Lafferty, Glencore Copper (AusIMM).

HB = Helen Barnes, Glencore Copper (AusIMM).

JH = Jason Hosken, Glencore Copper (AusIMM).

MJ = Mark Jamieson, Glencore Copper (AusIMM).

TB = Timothy Brettell, Glencore Copper (AusIMM).

Metals and Minerals Copper

Other projects Mineral Resources

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Mineral Resources 31.12.17	Measured and Indicated Mineral Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent person
El Pachón	100%	OC	(Mt)	534	534	1,056	1,056	1,590	1,590	1,528	1,567	FM
			Copper (%)	0.67	0.67	0.49	0.49	0.55	0.55	0.41	0.41	
			Silver (g/t)	2.4	2.4	2.0	2.0	2.2	2.2	1.8	1.8	
			Molybdenum (%)	0.013	0.013	0.011	0.011	0.012	0.012	0.009	0.009	
West Wall	50%		(Mt)	–	–	495	495	495	495	970	970	MMV
Copper Project			Copper (%)	–	–	0.55	0.55	0.55	0.55	0.48	0.48	
			Gold (g/t)	–	–	0.05	0.05	0.05	0.05	0.05	0.05	
			Molybdenum (%)	–	–	0.009	0.009	0.009	0.009	0.008	0.008	
Total Other projects			**(Mt)**	**534**	**534**	**1,551**	**1,551**	**2,085**	**2,085**	**2,498**	**2,537**	
			Copper (%)	**0.67**	**0.67**	**0.51**	**0.51**	**0.55**	**0.55**	**0.44**	**0.44**	
			Gold (g/t)	–	–	**0.02**	**0.02**	**0.01**	**0.01**	**0.02**	**0.02**	
			Silver (g/t)	**2.4**	**2.4**	**1.4**	**1.4**	**1.7**	**1.7**	**1.1**	**1.1**	
			Molybdenum (%)	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	

Notes

El Pachón: Located in the southwest of San Juan Province of Argentina, the El Pachón orebody is a porphyry copper-molybdenum deposit in which two major stages of sulphide mineralisation contributed to the formation of the orebody. The bulk of the ore takes the form of disseminated Chalcopyrite-Molibdenite primary sulphides on top which an immature, relatively small copper enrichment blanket has been developed. In this upper part of the deposit Chalcocite and minor Covellite are partially replacing the primary Chalcopyirite ore. Mineral Resources stated herein are based on assay and geology information from 135,000m of mainly diamond drill holes. Mineral Resources have been classified using a combination of criteria including geological continuity and Kriging parameters. Mineral Resources are constrained by the use of an economic pit shell determined using Measured, Indicated and Inferred Mineral Resources and current assumption for the economic and technical modifying factors conditioning the resource pit. The decrease in resources compared to the 2016 report is a result of changes in economic assumptions.

West Wall: The West Wall Copper Project is located in central Chile's Valparaiso Region, 100km northeast of Santiago and 70km north of the Rio Blanco – Los Bronces mineral district. Glencore and Anglo American each have a 50% interest in the mining company West Wall SCM which holds the project. Porphyry copper style hydrothermal alteration covers a large area of approximately 7km by 3km. Exploration activities have focused in the south of the prospect at Lagunillas and West Wall North, where drilling has outlined copper sulphide Mineral Resources associated with porphyry intrusive bodies. Mineral Resources have been classified using a combination of criteria including geological continuity and Kriging parameters. Mineral Resources are constrained by the use of an economic pit shell, determined using Indicated and Inferred Mineral Resources and current assumption for the economic and technical modifying factors conditioning the limits of the resource pit.

Competent Persons

FM = Flavio Montini, Employee of Glencore (AusIMM).

MMV = Manuel Machuca Valderrama, Employee of Anglo American for the West Wall Project (AusIMM).

Metals and Minerals
Zinc

Kazzinc Mineral Resources

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent person
Maleevsky	69.7%	UG	(Mt)	5.2	4.4	6.6	5.8	11.8	10	4.3	5.0	AC
			Zinc (%)	9.4	9.1	7.7	7.8	8.4	8.4	7.1	6.0	
			Lead (%)	1.4	1.4	1.3	1.3	1.3	1.3	1.2	1.0	
			Copper (%)	2.8	2.9	2.4	2.5	2.6	2.7	1.9	2.0	
			Silver (g/t)	81	77	73	68	76	72	62	46	
			Gold (g/t)	0.6	0.7	0.4	0.7	0.5	0.7	0.4	0.6	
Ridder-Sokolny	69.7%	UG	(Mt)	16.5	16.9	13.2	14.0	29.7	30.9	6.1	6.0	AC
			Zinc (%)	1.4	1.5	1.2	1.3	1.3	1.4	1.2	1.0	
			Lead (%)	0.7	0.7	0.5	0.5	0.6	0.6	0.5	0.5	
			Copper (%)	0.7	0.7	0.6	0.6	0.6	0.7	1.2	1.0	
			Silver (g/t)	24	24	26	27	25	25	22	22	
			Gold (g/t)	1.7	1.8	1.3	1.5	1.5	1.7	1.6	2.0	
Tishinsky	69.7%	UG	(Mt)	6.5	4.0	0.5	3.3	7.0	7.3	1.6	2.0	AC
			Zinc (%)	5.5	6.1	10.1	5.9	5.8	6.0	5.9	5	
			Lead (%)	0.9	1.1	2.2	1.0	1.0	1.0	1.4	0.5	
			Copper (%)	0.6	0.6	0.9	0.7	0.6	0.7	0.4	0.3	
			Silver (g/t)	11	14	21	12	11	13	9	5	
			Gold (g/t)	0.8	0.8	1.0	0.9	0.8	0.9	0.4	0.4	
Shubinsky	69.7%	UG	(Mt)	0.5	0.7	0.7	0.6	1.2	1.4	0.2	0.3	AC
			Zinc (%)	2.7	3.4	2.7	2.1	2.7	2.8	1.4	2	
			Lead (%)	0.4	0.6	0.4	0.4	0.4	0.5	0.4	0.3	
			Copper (%)	2.1	2.4	1.8	2.0	1.9	2.2	1.8	1	
			Silver (g/t)	20	26	23	22	22	24	20	13	
			Gold (g/t)	0.4	0.6	0.6	0.7	0.5	0.6	0.5	0.4	
Staroye Tailings	69.7%		(Mt)	–	–	2.4	2.4	2.4	2.4	1.4	1.4	AC
Dam			Silver (g/t)	–	–	11	11	11	11	10	10	
			Gold (g/t)	–	–	1.0	1.0	1.0	1.0	0.8	0.8	
Chashinskoye	69.7%	OC	(Mt)	–	–	58	58	58	58	30	30	AC
Tailings Dam			Silver (g/t)	–	–	5	5	5	5	5	5	
			Gold (g/t)	–	–	0.7	0.7	0.7	0.7	0.5	0.5	
Shaimerden	69.7%	OC	(Mt)	–	–	1.6	1.8	1.6	1.8	–	–	AC
Stockpiles			Zinc (%)	–	–	22	22	22	22	–	–	
Dolinnoe	69.7%	UG	(Mt)	0.9	–	2.8	2.4	3.7	2.4	8.1	4.4	AC
			Zinc (%)	2.8	–	1.4	2.4	1.7	2.4	0.9	1.0	
			Lead (%)	1.4	–	0.7	1.2	0.9	1.2	0.4	1.0	
			Copper (%)	0.4	–	0.2	0.3	0.2	0.3	0.1	0.3	
			Silver (g/t)	90	–	44	67	56	67	22	76	
			Gold (g/t)	7.5	–	4.1	6.3	4.9	6.3	2.1	6.0	
Obruchevskoe	69.7%	UG	(Mt)	–	–	5.4	4.1	5.4	4.1	4.0	2.9	AC
			Zinc (%)	–	–	7.3	10.5	7.3	10.5	4.3	3.0	
			Lead (%)	–	–	3.2	4.8	3.2	4.8	1.8	1.0	
			Copper (%)	–	–	0.9	1.0	0.9	1.0	0.6	0.6	
			Silver (g/t)	–	–	37	62	37	62	33	48	
			Gold (g/t)	–	–	1.1	1.8	1.1	1.8	0.7	0.7	
Zhairemsky	69.7%	OC	(Mt)	23.2	23.2	0.6	0.6	23.8	23.8	1.0	1.0	AC
Zapadny			Zinc (%)	4.11	4.11	4.7	4.7	4.1	4.1	4.0	4.0	
			Lead (%)	2.43	2.43	0.9	0.9	2.4	2.4	3.0	3.0	
			Silver (g/t)	25.9	25.9	27	27	26	26	30	30	
Zhairemsky	69.7%	OC	(Mt)	36.5	36.5	3.5	3.5	40	40	–	–	AC
Dalnezapadny			Zinc (%)	4.39	4.39	3.9	3.9	4.3	4.3	–	–	
			Lead (%)	1.24	1.24	0.9	0.9	1.2	1.2	–	–	
			Silver (g/t)	5.9	5.9	2.7	2.7	5.5	5.5	–	–	

Metals and Minerals Zinc

Kazzinc Mineral Resources (continued)

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent person
Zhairemsky	69.7%	OC	(Mt)	0.9	1.4	1.7	2.1	2.6	3.5	0.1	0.1	AC
Ushkatyn			Zinc (%)	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	
			Lead (%)	6.0	7.3	3.9	5.3	4.6	6.1	2.9	4	
			Silver (g/t)	39	49.3	28	37	32	41	16	17	
Uzhynzhal	100%	OC	(Mt)	–	–	–	–	–	–	14.0	14.0	AC
			Zinc (%)	–	–	–	–	–	–	1.0	1.0	
			Lead (%)	–	–	–	–	–	–	4.0	4.0	
			Silver (g/t)	–	–	–	–	–	–	57	57	
Novo-	69.7%		(Mt)	–	–	–	–	–	–	30.0	30.0	AC
Leninogorskoye			Zinc (%)	–	–	–	–	–	–	5.0	5.0	
			Lead (%)	–	–	–	–	–	–	2.0	2.0	
			Copper (%)	–	–	–	–	–	–	0.2	0.2	
			Silver (g/t)	–	–	–	–	–	–	40	40	
			Gold (g/t)	–	–	–	–	–	–	2	2	
Chekmar	69.7%		(Mt)	–	–	–	–	–	–	55	–	AC
			Zinc (%)	–	–	–	–	–	–	2.7	–	
			Lead (%)	–	–	–	–	–	–	0.9	–	
			Copper (%)	–	–	–	–	–	–	0.4	–	
			Silver (g/t)	–	–	–	–	–	–	13	–	
			Gold (g/t)	–	–	–	–	–	–	0.3	–	
Total Polymetallic Kazzinc			**(Mt)**	**90**	**87**	**97**	**99**	**187**	**186**	**156**	**97**	
			Zinc (%)	**4.1**	**4.0**	**1.7**	**1.9**	**2.8**	**2.9**	**2.5**	**2**	
			Lead (%)	**1.5**	**1.5**	**0.5**	**0.6**	**1.0**	**1.0**	**1.2**	**1**	
			Copper (%)	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	
			Silver (g/t)	**20**	**20**	**16**	**17**	**18**	**18**	**23**	**31**	
			Gold (g/t)	**0.5**	**0.4**	**0.8**	**0.9**	**0.7**	**0.7**	**0.8**	**1**	
Vasilkovskoye	69.7%	OC	(Mt)	84	87	48	40	132	127	0.1	26	AC
(Gold)			Gold (g/t)	2.1	2.2	1.7	2.1	2.0	2.2	0.9	1.7	

Metals and Minerals Zinc

Kazzinc Ore Reserves

Name of operation	Attributable interest	Mining method	Commodity	Proved Ore Reserves 31.12.17	Proved Ore Reserves 31.12.16	Probable Ore Reserves 31.12.17	Probable Ore Reserves 31.12.16	Total Ore Reserves 31.12.17	Total Ore Reserves 31.12.16	Competent Person
Maleevsky	69.7%	UG	Ore (Mt)	3.2	2.8	5.5	4.9	8.7	7.6	AC
			Zinc (%)	7.3	6.1	5.0	4.5	5.9	5.0	
			Lead (%)	1.0	0.9	0.8	0.7	0.9	0.8	
			Copper (%)	2.0	1.9	1.6	1.5	1.7	1.6	
			Silver (g/t)	57	51	46	40	50	44	
			Gold (g/t)	0.4	0.5	0.3	0.4	0.3	0.4	
Ridder-Sokolny	69.7%	UG	Ore (Mt)	7.8	8.2	5.7	6.2	13.5	14.0	AC
			Zinc (%)	1.1	1.2	0.9	1.0	1.1	1.1	
			Lead (%)	0.5	0.5	0.4	0.4	0.4	0.5	
			Copper (%)	0.4	0.5	0.5	0.5	0.4	0.5	
			Silver (g/t)	19	19.5	19	20	19	19	
			Gold (g/t)	1.3	1.5	0.8	1.1	1.1	1.3	
Tishinsky	69.7%	UG	Ore (Mt)	4.4	0.8	0.9	3.2	5.3	4.0	AC
			Zinc (%)	4.9	4.3	3.7	5.0	4.7	4.9	
			Lead (%)	0.8	0.7	0.6	0.8	0.8	0.8	
			Copper (%)	0.5	0.4	0.4	0.6	0.5	0.5	
			Silver (g/t)	10	8	8	10	9	10	
			Gold (g/t)	0.7	0.5	0.5	0.8	0.7	0.7	
Shubinsky	69.7%	UG	Ore (Mt)	0.03	0.1	0.1	0.03	0.2	0.2	AC
			Zinc (%)	2.0	3.8	2.5	1.7	2.4	3.4	
			Lead (%)	0.2	0.6	0.3	0.3	0.3	0.5	
			Copper (%)	1.5	2.0	1.7	1.3	1.7	2.0	
			Silver (g/t)	14	24	16	16	16	22	
			Gold (g/t)	0.3	0.4	0.3	0.3	0.3	0.4	
Shaimerden	69.7%	OC	Ore (Mt)	–	–	1.6	1.8	1.6	1.8	AC
Stockpiles			Zinc (%)	–	–	22	22	22	22	
Dolinnoe	69.7%	UG	Ore (Mt)	1.0	–	1.6	–	2.7	–	AC
			Zinc (%)	2.2	–	1.4	–	1.7	–	
			Lead (%)	1.1	–	0.7	–	0.9	–	
			Copper (%)	0.3	–	0.2	–	0.2	–	
			Silver (g/t)	72	–	53	–	60	–	
			Gold (g/t)	6.0	–	4.5	–	5.0	–	
Zhairemsky	69.7%	OC	Ore (Mt)	23.3	22.5	0.6	0.5	23.9	23.0	AC
Zapadny			Zinc (%)	4.0	4.1	4.3	4.6	4.0	4.1	
			Lead (%)	2.4	2.4	0.9	0.9	2.3	2.4	
			Silver (g/t)	26	25	26	27	26	25	
Zhairemsky	69.7%	OC	Ore (Mt)	38.0	35.4	2.9	2.6	40.9	38.0	AC
Dalnezapadny			Zinc (%)	4.2	4.3	3.7	3.9	4.1	4.3	
			Lead (%)	1.2	1.2	0.9	0.9	1.2	1.2	
			Silver (g/t)	6	6	2	2.0	5	5.6	
Zhairemsky	69.7%	OC	Ore (Mt)	0.7	0.9	1.3	1.0	2.0	1.9	AC
Ushkatyn			Zinc (%)	0.1	0.1	0.1	0.1	0.1	0.1	
			Lead (%)	6.3	7.4	4.2	5.5	5.0	6.4	
			Silver (g/t)	41	55	29	39	33	46	
Total Polymetallic Kazzinc			**(Mt)**	**78**	**71**	**20**	**20**	**99**	**91**	
			Zinc (%)	**3.9**	**3.9**	**4.3**	**4.8**	**4.0**	**4.1**	
			Lead (%)	**1.5**	**1.6**	**0.8**	**0.8**	**1.4**	**1.4**	
			Copper (%)	**0.2**	**0.1**	**0.6**	**0.6**	**0.3**	**0.2**	
			Silver (g/t)	**16**	**16**	**26**	**20**	**18**	**17**	
			Gold (g/t)	**0.3**	**0.2**	**0.7**	**0.6**	**0.3**	**0.3**	
Vasilkovskoye	69.7%	OC	Ore (Mt)	70.0	70.6	38	30	108	101	AC
(Gold)			Gold (g/t)	2.2	2.3	1.8	2.2	2.1	2.3	

Metals and Minerals Zinc

Notes

Remaining mine life: different for each mine, ranging from 5 to 20 years. Expiry date of relevant mining/concession licences: different for each mine, ranging from February 2019 to March 2041. There is a routine licence extension procedure in Kazakhstan which Kazzinc undertakes as required.

Maleevsky: It is a typical syngenetic VMS deposit hosting ores of sulphide-polymetallic formation (with associated gold and silver).

Infill drilling in various parts of the deposit enabled conversion of Inferred resources to Indicated, particularly near the active mining fronts.

The mined material from Maleevsky during 2017 was 2.1Mt at 6.1% Zn, 0.9% Pb, 1.9% Cu, 63g/t Ag and 0.5g/t Au.

Ridder-Sokolny: The gold-polymetallic deposit is also VMS type of syngenetic deposits hosting ores of gold bearing sulphide-polymetallic formation.

Mineral Resource changes are due to mining exploitation during 2017.

For Ridder-Sokolny, Mineral Resources and Ore Reserves are reported as totals for Polymetallic and Cu-type mineralisation combined. Remodelling is underway, and will most likely lead to an overall increase in grades.

The mined material from Ridder-Sokolny during 2017 was 1.5Mt at 0.5% Zn, 0.3% Pb, 0.7% Cu, 9g/t Ag and 2.4g/t Au.

Tishinsky: It is a syngenetic VMS deposit of Au- and Ag-bearing sulfide polymetallic ores.

Tishinsky Mineral Resources has slightly increased, due to several factors, including reinterpretation of geological wireframes, sterilisation of resources, and ongoing exploration.

The mined material from Tishinsky during 2017 was 1.0Mt at 5.0% Zn, 1.1% Pb, 0.5% Cu,10g/t Ag and 0.7g/t Au.

Shubinsky: The polymetallic deposit is a syngenetic VMS deposit hosting ores of sulphide-polymetallic formation (with associated gold and silver).

Orebody and structural interpretation, modelling and classification of the Mineral Resource was completed on the basis of additional geological information and improved systems.

Resource tonnage has been reduced as a result of a sterilization campaign in 2017. Only tonnes in the recoverable sill pillar and beneath past production zones are deemed to have a realistic potential of recovery. This had no impact on the Reserve.

The mined material from Shubinsky during 2017 was 0.2Mt, 2.8% Zn, 0.45% Pb, 1.5% Cu, 17g/t Ag and 0.5g/t Au.

Shaimerden: The Shaimerden stockpile is composed of high-grade, crushed zinc oxide ore which is not amenable to the concentration process; it is directly sent to the Ridder Zinc refinery. Total material processed during 2017 was 240Kt at 20.7% Zn.

Dolinnoe: The Dolinnoe deposit is situated in the south-eastern portion of the Ridder mining district in the Rudnyi Altay geotectonic block. Gold is the main mineral of economic interest at Dolinnoe

Orebody and structural interpretation, modelling and classification of the Mineral Resource was completed on the basis of underground infill drilling campaign.

Reserves were recognised at Dolinnoe following a pre-feasibility study in 2017.

Obruchevskoe: The Obruchevskoe deposit is situated in the deepest south-eastern portion of the Ridder mining district in the Rudnyi Altay geotectonic block. Veinlet-disseminated polymetallic mineralisation predominates at Obruchevskoe. Changes to the Resource reflect the incorporation of additional historical data and an updated interpretation.

A feasibility study and confirmation drilling, regarding the mining of the Obruchevskoe deposit is underway.

Chekmar: The Chekmar deposit is comprised of two main poylmetallic mineralized zones, Chekmar and Gusliakov, separated by a distance of roughly 1.5km. The deposits are typical syngenetic VMS deposits, with distinct metal zonation and near-surface weathering profiles. The deposits were intially explored in the 1970s. A drill program to confirm the Resource and to perform metallurgical testing of the ores was initiated in late 2017. Due to the historical nature of the drilling, all Resources are currently classified as Inferred.

Zhairemsky: The various iron, manganese, barite and polymetallic deposits of the Zhairemsky area, central Kazakhstan were discovered by geological and geophysical prospecting between the 1930s and 1960s. Between 1978 and 1995, some 22 million tonnes of low-grade zinc-lead ore including barite-dominated mineralisation were mined. As of 1996, focus was set on manganese and iron ore production. The Zhairemsky deposits were acquired by Kazzinc on the basis of their polymetallic value.

Resource and Reserve Numbers were generated from a Feasibility study completed in 2016 year by Glencore and SRK.

Uzhynzhal: The Uzynzhal deposit is located in central Kazhakstan, in the same belt as the Zhareimsky deposits. It has been identified as a Sedex. Pb-Zn ores shows close spatial correlations with barite and manganese ores. The deposit is made up of an oxide cap, containining mainly Pb-oxide ores, while the sulfide portion of the deposit contains both Zn and Pb sulfides.

Novo-Leninogorskoye: The Novo-Leninogorskoye deposit is part of the Ridder-Sokolny group of VMS polymetallic deposits. Novo-Leninogorskoye was discovered in 1981 and was explored between 1981 and 1985. Two styles of mineralisation can be found at Novo-Leninogorskoye, barite-polymetallic and polymetallic with the mineralisation hosted by siltstones and quartzites.

Vasilkovskoye: It is a gold deposit of epigenetic (stockwork) type and beresite subtype of deposits hosting ores of gold-quartz formation.

The Resource numbers reported are based on the new ore model, updated using 5 new drill holes drilled in 2017; the Resource was constrained in a newly designed pit shell.

Ore Reserves were estimated based upon an updated Resource interpretation and interpolation parameters; the Reserve was constrained by a new pit design, which is fully encompassed in the Resource pit shell. The mined material from Vasilkovskoye during 2017 was 8.1Mt at 2.2g/t Au.

Competent person

AC = Aline Côté, Head of Mining Technical Services, Glencore Zinc, (OGQ).

Metals and Minerals Zinc

Australia Mineral Resources (Mount Isa, McArthur River)

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent Person
Mount Isa	100%											
Black Star		OC	(Mt)	7.9	7.9	1.9	1.9	10.0	10.0	0.80	0.80	BY
Open Cut			Zinc (%)	5.2	5.2	3.5	3.5	4.9	4.9	5.0	5.0	
			Lead (%)	4.7	4.7	2.7	2.7	4.3	4.3	4.0	4.0	
			Silver (g/t)	81	81.4	46	46	75	75	70	70	
Mount Isa Open Pit		OC	(Mt)	45.3	45.3	191	191	236	236	120	120	BY
Excl. Black Star			Zinc (%)	4.1	4.1	3.6	3.6	3.7	3.7	3.0	3.0	
			Lead (%)	4.0	4.0	2.7	2.7	2.9	2.9	2.0	2.0	
			Silver (g/t)	81	81	57	57	62	62	50	50	
George Fisher	100%											
South (P49) Orebodies		UG	(Mt)	24.0	26.6	30.2	23.5	54.0	50.1	25.0	30.0	NS
			Zinc (%)	8.4	8.3	8.1	8.1	8.0	8.2	8.0	8.0	
			Lead (%)	5.2	5.6	4.8	4.7	5.0	5.2	4.0	5.0	
			Silver (g/t)	112	122	100	94	105	109	86	90	
North (L72) Orebodies		UG	(Mt)	38.7	31.3	126	121	165	153	43.0	48.0	NS
			Zinc (%)	9.2	9.8	8.8	8.9	8.9	9.0	9.0	9.0	
			Lead (%)	3.46	4.0	3.5	3.5	3.5	3.6	4.0	3.0	
			Silver (g/t)	60	69	55	54	56	57	55	50	
Handlebar Hill		OC	(Mt)	1.6	1.6	3.6	3.6	5.2	5.2	0.8	0.8	BY
Open Cut (primary)			Zinc (%)	7.8	7.8	6.1	6.1	6.6	6.6	5.0	5.0	
			Lead (%)	2.6	2.6	2.0	2.0	2.2	2.2	2.0	2.0	
			Silver (g/t)	41	41	35	35	37	37	30	30	
Handlebar Hill		OC	(Mt)	0.5	0.5	0.1	0.1	0.6	0.6	–	–	BY
Open Cut (oxide)			Zinc (%)	0.4	0.4	0.4	0.4	0.4	0.4	–	–	
			Lead (%)	8.5	8.5	4.1	4.1	7.8	7.8	–	–	
			Silver (g/t)	89	89	65	65	85	85	–	–	
Lady Loretta	100%	UG	(Mt)	5.3	5.3	3.9	3.9	9.2	9.2	0.3	0.3	NS
			Zinc (%)	16.3	16.3	14.0	14.0	15.0	15.0	11.0	11.0	
			Lead (%)	6.4	6.4	4.6	4.6	5.6	5.6	5.0	5.0	
			Silver (g/t)	104	104	86	86	96	96	90	90	
Total Mount Isa			**(Mt)**	**123**	**118**	**358**	**346**	**480**	**464**	**190**	**200**	
			Zinc (%)	**6.9**	**7.2**	**6.0**	**5.9**	**6.2**	**6.2**	**5**	**5**	
			Lead (%)	**4.2**	**4.5**	**3.2**	**3.1**	**3.4**	**3.5**	**3**	**3**	
			Silver (g/t)	**81**	**87.5**	**60**	**59**	**66**	**66**	**55**	**56**	
McArthur River	100%											
Open Cut		OC	(Mt)	121	123	57	56	180	180	–	–	KM
			Zinc (%)	9.9	9.9	8.1	8.2	9.4	9.4	–	–	
			Lead (%)	4.7	4.6	3.8	3.9	4.4	4.4	–	–	
			Silver (g/t)	47	47	40	41	45	45	–	–	
Woyzbun South Zone		UG	(Mt)	–	–	8.3	8.3	8.3	8.3	–	–	KM
			Zinc (%)	–	–	14	14	14	14	–	–	
			Lead (%)	–	–	5.6	5.6	5.6	5.6	–	–	
			Silver (g/t)	–	–	58	58	58	58	–	–	
Total McArthur River			**(Mt)**	**121**	**123**	**65**	**64**	**188**	**188**	–	–	
			Zinc (%)	**9.9**	**9.9**	**8.8**	**8.9**	**9.6**	**9.6**	–	–	
			Lead (%)	**4.6**	**4.6**	**4.0**	**4.1**	**4.5**	**4.5**	–	–	
			Silver (g/t)	**47**	**47**	**42**	**43**	**46**	**46**	–	–	
Total Australia			**(Mt)**	**244**	**241**	**423**	**410**	**668**	**652**	**190**	**200**	
			Zinc (%)	**8.4**	**8.6**	**6.4**	**6.4**	**7.2**	**7.2**	**5**	**5**	
			Lead (%)	**4.4**	**4.5**	**3.3**	**3.3**	**3.7**	**3.7**	**3**	**3**	
			Silver (g/t)	**64**	**67**	**57**	**56**	**60**	**60**	**55**	**56**	

Australia Ore Reserves (Mount Isa, McArthur River)

Name of operation	Attributable interest	Mining method	Commodity	Proved Ore Reserves 31.12.17	Proved Ore Reserves 31.12.16	Probable Ore Reserves 31.12.17	Probable Ore Reserves 31.12.16	Total Ore Reserves 31.12.17	Total Ore Reserves 31.12.16	Competent Person
George Fisher	100%									
South (P49) Orebodies		UG	Ore (Mt)	7.2	6.0	9.9	10	17	16	AM
			Zinc (%)	6.8	6.4	5.7	6.9	6.2	6.7	
			Lead (%)	4.5	5.0	4.2	4.8	4.3	4.9	
			Silver (g/t)	100	122	95	104	97	111	
North (L72) Orebodies		UG	Ore (Mt)	13.4	10.7	45	42	58	53	AM
			Zinc (%)	7.8	8.4	7	7.8	7.5	7.9	
			Lead (%)	3.5	4.0	3	3.6	3.4	3.7	
			Silver (g/t)	61	73	56	60	57	63	
Handlebar Hill Open Cut		OC	Ore (Mt)	0.5	0.5	–	–	0.5	0.5	BY
(oxide)			Zinc (%)	0.4	0.4	–	–	0.4	0.4	
			Lead (%)	8.5	8.5	–	–	8.5	8.5	
			Silver (g/t)	89	89	–	–	89	89	
Lady Loretta	100%	UG	Ore (Mt)	5.2	5.2	3.3	3.3	8.5	8.5	SVDM
			Zinc (%)	14.5	14.5	11	11	13	13	
			Lead (%)	5.9	5.9	3.8	3.8	5.1	5.1	
			Silver (g/t)	97	97	70	70	87	87	
Total Mount Isa			**(Mt)**	**26.3**	**22.4**	**58**	**55**	**84**	**78**	
			Zinc (%)	**8.7**	**9.1**	**7.0**	**7.9**	**7.8**	**8.2**	
			Lead (%)	**4.3**	**4.8**	**3.2**	**3.8**	**3.8**	**4.1**	
			Silver (g/t)	**79**	**92**	**63**	**69**	**68**	**75**	
McArthur River	**100%**	**OC**	**(Mt)**	**70**	**71**	**44.1**	**45.2**	**114**	**117**	**DH**
			Zinc (%)	**10.6**	**10.6**	**7.4**	**7.4**	**9.3**	**9.4**	
			Lead (%)	**5.0**	**5.0**	**3.6**	**3.6**	**4.4**	**4.5**	
			Silver (g/t)	**50**	**50**	**37**	**37**	**45**	**45**	
Total Australia			**(Mt)**	**96**	**94**	**102**	**100**	**198**	**195**	
			Zinc (%)	**10.1**	**10.2**	**7.2**	**7.6**	**8.6**	**8.9**	
			Lead (%)	**4.8**	**5.0**	**3.4**	**3.7**	**4.1**	**4.4**	
			Silver (g/t)	**58**	**60**	**52**	**54**	**55**	**57**	

Notes

Mount Isa

Black Star Open Cut: Lead-zinc-silver mineralisation occurs in galena and sphalerite-rich bedding parallel horizons in dolomitic and variably carbonaceous pyritic shales and siltstones.

The Black Star Open Cut resource is additional to the Mount Isa Open Pit resource.

The resource mineralisation occurs inside a designed Stage 7 pit based on a pit optimisation utilising Measured and Indicated Resources.

The open cut was moved to a care and maintenance phase during the last quarter of 2016 after mining out the existing Reserves.

The Black Star Open Cut is located on Mining Lease ML8058 which expires on 30 November 2036.

Isa Open Pit: Lead-zinc-silver mineralisation occurs in galena and sphalerite-rich bedding parallel horizons in dolomitic and variably carbonaceous pyritic shales and siltstones.

Approximately 85% of the lead-zinc-silver resource is primary sulphide; the remainder being considered as transitional (mixed primary sulphide and secondary oxide/carbonate) mineralisation.

The Black Star Open Cut resource has been removed from the Isa Open Pit and is reported separately.

Pit optimisation was conducted using Measured, Indicated and Inferred Mineral Resources, and a pit shell was generated to constrain the Mineral Resource.

The copper resource inside the Isa Open Pit has not been included here; it is reported separately in the Copper section of this report. The Isa Open Pit is located on Mining Lease ML8058 which expires on 30 November 2036.

George Fisher Mine

North (L72) & South (P49) Orebodies: Lead-zinc-silver mineralisation occurs in galena and sphalerite-rich bedding parallel horizons in dolomitic and variably carbonaceous pyritic shales and siltstones.

Orebody and structural interpretation, modelling and classification of the Mineral Resource was completed on the basis of additional geological information and improved systems.

Changes to the Mineral Resources are due to geological modelling and the addition of new drilling information.

Mine production for the period January 2017 to December 2017 totalled 2.9Mt at 7.4% Zn, 4.2% Pb and 79g/t Ag.

The mine is located on Mining Lease ML8058 and the lease expires on 30 November 2036.

Handlebar Hill Open Cut: Lead-zinc-silver mineralisation occurs in galena and sphalerite-rich bedding parallel horizons in dolomitic and variably carbonaceous pyritic shales and siltstones.

The Handlebar Hill Open Cut resource is up dip of and additional to the George Fisher South resource.

Material from the oxidised portion of the mineralisation has been reported as a Mineral Resource.

No depletion has occurred through mining during 2017.

The Handlebar Hill Open Cut is located on Mining Lease ML8058 which expires on 30 November 2036. The mine was placed in care and maintenance in July 2014.

Lady Loretta

Lead-zinc-silver mineralisation occurs in a galena and sphalerite rich massive sulphide lens located in carbonaceous pyritic shales and siltstones. The deposit consists of a tight syncline dislocated by a number of major faults. The deeper and high grade portion of the deposit reaches 500m below the surface.

There was no mine production for 2017 as Lady Loretta was placed on care and maintenance during the last quarter of 2015 with a view to restarting in the appropriate economic conditions.

The Mining Lease (ML5568) is current until 31 January 2026.

McArthur River Mine

Zinc-lead-silver mineralisation occurs predominantly as ultra-fine bedded parallel sphalerite and galena rich bands hosted by dolomitic and carbonaceous pyritic siltstones, graded beds and chaotic debris flow breccia.

Mineral Resources and Ore Reserves are based on the approved mine plan.

All relevant Modifying Factors for the conversion of Mineral Resources to Ore Reserves have been considered, with confidence levels in these factors reflected in the classification categories. There are no known issues that could materially affect the estimates.

The Mineral Resources have been depleted during 2017 by a total of 4.0Mt and Ore Reserves by 4.0Mt at 8.4% Zn and 3.7% Pb. Changes beyond depletion were primarily due to revised cut-off calculations.

Mineral Resources and Ore Reserves are located within leases that are valid to 2043, with the revised mine plan ending in 2040.

Competent persons

BY = Ben Young, Mine Operations Manager, Glencore Zinc, (AusIMM).

KM = Kristian Masterman, Mining Technical Services Superintendent, Glencore Zinc, (AusIMM).

DH = Drew Herbert, Mining Consultant, The Minserve Group Pty Ltd, (AusIMM).

AM = Archie Macpherson, Senior Mine Planning Engineer, Glencore Zinc, (AusIMM).

NS = Nicholas Spanswick, Mineral Resources Superintendent, Glencore Zinc, (AIG).

SVDM = Shaun Van Der Merwe, Manager Technical Services, Glencore Zinc, (AusIMM).

Metals and Minerals Zinc

North America Mineral Resources (Kidd Creek, Matagami, PD1, Errington, Vermilion, Hackett River, Bell, Granisle)

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent Person
Kidd Creek	100%	UG	(Mt)	10.1	11.7	1.0	1.2	11	13	3.5	3.5	BD
			Zinc (%)	4.4	4.3	5.5	5.6	4.5	4.4	7.0	7.0	
			Copper (%)	1.9	2.0	1.7	1.6	1.9	2.0	2.0	2.0	
			Silver (g/t)	50	51	42	41	50	50	60	60	
Matagami	100%											
Bracemac-McLeod		UG	(Mt)	1.3	2.2	3.6	4.2	4.9	6.4	–	–	JD
			Zinc (%)	5.3	5.6	6.2	5.9	6.0	5.8	–	–	
			Copper (%)	0.9	1.0	1.1	1.1	1.0	1.1	–	–	
			Silver (g/t)	18	18	29	29	26	25	–	–	
			Gold (g/t)	0.3	0.4	0.7	0.6	0.6	0.5	–	–	
Caber	100%	UG	(Mt)	0.7	–	0.8	–	1.5	–	0.02	–	AC
			Zinc (%)	5.9	–	4.6	–	5.2	–	8.2	–	
			Copper (%)	1.2	–	1.1	–	1.1	–	0.8	–	
			Silver (g/t)	10	–	10	–	10	–	6	–	
			Gold (g/t)	0.2	–	0.3	–	0.3	–	0.1	–	
PD-1	100%	OC/UG	(Mt)	0.6	0.6	1.0	1.0	1.6	1.6	–	–	GR
			Zinc (%)	4.2	4.2	5.0	5.0	4.7	4.7	–	–	
			Copper (%)	0.8	0.8	1.3	1.3	1.1	1.1	–	–	
			Silver (g/t)	20	20	20	20	20	20	–	–	
			Gold (g/t)	0.1	0.1	–	–	–	–	–	–	
Errington	100%	UG	(Mt)	6.7	6.7	2.3	2.3	9.0	9.0	–	–	AC
			Zinc (%)	3.9	3.9	4.3	4.3	4.0	4.0	–	–	
			Lead (%)	1.1	1.1	1.3	1.3	1.2	1.2	–	–	
			Copper (%)	1.2	1.2	1.1	1.1	1.1	1.1	–	–	
			Silver (g/t)	52.0	52.0	55	55	53	53	–	–	
			Gold (g/t)	0.8	0.8	0.8	0.8	0.8	0.8	–	–	
Vermilion	100%	UG	(Mt)	2.8	2.8	0.4	0.4	3.2	3.2	–	–	AC
			Zinc (%)	4.2	4.2	5.3	5.3	4.4	4.4	–	–	
			Lead (%)	1.2	1.2	1.3	1.3	1.2	1.2	–	–	
			Copper (%)	1.3	1.3	1.1	1.1	1.3	1.3	–	–	
			Silver (g/t)	53	53	56	56	53	53	–	–	
			Gold (g/t)	0.9	0.9	1.1	1.1	0.9	0.9	–	–	
Hackett River	100%	OC/UG	(Mt)	–	–	27	27	27	27	60	60	AC
			Zinc (%)	–	–	4.5	4.5	4.5	4.5	3.5	3.5	
			Lead (%)	–	–	0.6	0.6	0.6	0.6	0.5	0.5	
			Copper (%)	–	–	0.5	0.5	0.5	0.5	0.4	0.4	
			Silver (g/t)	–	–	130	130	130	130	150	150	
			Gold (g/t)	–	–	0.3	0.3	0.3	0.3	0.2	0.2	
Total Zinc North America			**(Mt)**	**22.1**	**24.0**	**36.1**	**36.1**	**58**	**60**	**64**	**64**	
			Zinc (%)	**4.3**	**4.32**	**4.7**	**4.7**	**4.6**	**4.6**	**3.7**	**3.7**	
			Lead (%)	**0.5**	**0.44**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	
			Copper (%)	**1.5**	**1.56**	**0.7**	**0.7**	**1.0**	**1.0**	**0.5**	**0.5**	
			Silver (g/t)	**47**	**47.7**	**106**	**107**	**84**	**83**	**145**	**140**	
			Gold (g/t)	**0.4**	**0.38**	**0.4**	**0.4**	**0.4**	**0.4**	**0.2**	**0.2**	
Bell	100%	OC	(Mt)	57	57	200	200	257	257	100	100	BD
			Copper (%)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	
			Gold (g/t)	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	
Granisle	100%	OC	(Mt)	18	18	55	55	73	73	20	20	BD
			Copper (%)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
			Gold (g/t)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Total Copper North America			**(Mt)**	**75**	**75**	**255**	**255**	**330**	**330**	**120**	**120**	
			Copper (%)	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	
			Gold (g/t)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.1**	**0.1**	

Metals and Minerals Zinc

North America Ore Reserves (Kidd Creek, Matagami)

Name of operation	Attributable interest	Mining method	Commodity	Proved Ore Reserves 31.12.17	Proved Ore Reserves 31.12.16	Probable Ore Reserves 31.12.17	Probable Ore Reserves 31.12.16	Total Ore Reserves 31.12.17	Total Ore Reserves 31.12.16	Competent Person
Kidd Creek	100%	UG	Ore (Mt)	5.7	6.6	1.3	1.8	7.0	8.4	AM
			Zinc (%)	3.8	3.8	5.7	5.2	4.2	4.1	
			Copper (%)	2.0	2.0	1.8	1.7	1.9	1.9	
			Silver (g/t)	49	49	42	44	48	48	
Matagami	100%									
Bracemac-McLeod		UG	Ore (Mt)	0.67	1.0	2.8	3.0	3.4	4.0	AC
			Zinc (%)	6.3	7.1	6.8	6.8	6.7	6.8	
			Copper (%)	0.8	0.9	1.1	1.2	1.1	1.1	
			Silver (g/t)	16	18	30	30	28	27	
			Gold (g/t)	0.4	0.4	0.7	0.7	0.6	0.6	
Total North America			**(Mt)**	**6.3**	**7.7**	**4.1**	**4.8**	**10**	**12**	
			Zinc (%)	**4.1**	**4.2**	**6.4**	**6.2**	**5.0**	**5.0**	
			Copper (%)	**1.8**	**1.8**	**1.3**	**1.4**	**1.6**	**1.7**	
			Silver (g/t)	**46**	**45**	**34**	**35**	**41**	**41**	
			Gold (g/t)	**0.04**	**0.1**	**0.5**	**0.4**	**0.2**	**0.2**	

Notes

Kidd Creek: Kidd Creek is a VMS Cu-Zn-Ag deposit. Mineralisation occurs within a rhyolitic volcanic/volcaniclastic sequence as massive sulphide lenses of dominantly pyrite-pyrrhotite-sphalerite-galena-rich ores that are underlain by copper (chalcopyrite) stringer zones.

Ore Reserves are based on the approved mining plan to 9600ft depth.

Mineral Resources and Ore Reserves changes are the result of mining drawdown, with some adjustments due to updated mine design, cost reductions, and commodity pricing changes.

January to December 2017 estimated production totalled 2.2Mt at 3.8% Zn, 1.9% Cu and 44g/t Ag.

The majority of Ore Reserve in the Probable category reflects geotechnical and economic uncertainty during the latter years of the mine plan, rather than geological uncertainty.

Mine life is anticipated to be 4.5 years (Mid-2022). There are no known land tenure issues that could affect the production plan.

Bracemac-McLeod: The Bracemac-McLeod deposits comprise a cluster of polymetallic VMS lenses similar to other deposits mined historically in the Matagami mining camp, except for their generally thinner and complex morphology.

The geological models and the resource block models for all Bracemac lenses (Main, KT and Upper) and McLeod A and B lenses were updated from geological mapping. The residual Mineral Resource is updated on a monthly basis as mining progresses. For most massive to semi-massive sulphide lenses, there is significant lower grade stringer-type mineralisation in the immediate footwall. In 2017, it has been decided to substract 0.8Mt of these stringers from the Measured Mineral Resource, since they have been evaluated and there is no prospect for an eventual economic extraction.

A drilling campaign started January 2017 to delineate the McLeod Deep lens to a 15m spacing. The geological model and the resource block model for this deposit is revised on a regular basis, based on new information derived from on-going underground delineation diamond drilling and geological mapping. As of 31 December 2017, 10% of the lens (essentially the upper part) is measured, the rest is indicated and needs to be delineated in 2018-2019.

Mine production for year 2017 was 0.86Mt grading 6.25% Zn, 0.91% Cu, 19g/t Ag and 0.45g/ Au.

The Bracemac-McLeod mine is contained on two mining leases expiring in April 2033.

PD–1: The PD1 deposit is a polymetallic VMS of the same age and derived from the same ore-forming hydrothermal system as the rest of the Matagami camp deposits. It is located 40km west of Glencore's Matagami concentrator and offices.

The PD1 deposit was discovered in 1974. A total of 50 historical drill holes were drilled between 1974 and 1984. In 2010, 25 additional holes were drilled in the upper portion of the deposit above 100m vertical depth, including 3 duplicate holes to validate the historical data. The deposit is located on a mining claim owned by Glencore Canada Corporation.

Caber: The Caber deposit is deposit is a polymetallic VMS deposit of the same age and derived from the same ore-forming hydrothermal system as the rest of the Matagami camp deposits. It is located 35km west of Glencore's Matagami concentrator and offices. The Caber deposit was acquired by Glencore in 2017, on the basis of its polymetallic value.

The deposit is located on a mining claim owned by Glencore Canada Corporation. A Feasibility study to determine economic viability of the deposit is currently in progress; expected to be completed in 2018. Drilling conducted in 2017 confirmed historical resources and increased confidence in the grade and tonnage of the mineralization.

Errington: The Errington deposit is a polymetallic massive sulphide located in the Sudbury Basin, Ontario. The 5 lenses that make up this deposit are hosted by sedimentary rocks of the Vermilion Formation at the contact of the Onaping and Onwatin formations. The deposits formed by replacement of carbonate mounds and carbonaceous tuffs fuelled by heat from the Sudbury Igneous Complex. Additional enrichment and concentration of metals was provided by deformation from the South Range shear zone.

Discovered in the 1920's, the Errington underground development began in 1924 and ended in 1928. A total of 129,713t of ore were produced from Errington.

The historical resource was confirmed and rendered compliant with a 50,000m drill programme in 2013. The resources have been interpolated by ID2.

Vermilion: The Vermilion deposit is a polymetallic massive sulphide located in the Sudbury Basin, Ontario. The 17 lenses that make up this deposit are hosted by sedimentary rocks of the Vermilion Formation at the contact of the Onaping and Onwatin formations. The deposits formed by replacement of carbonate mounds and carbonaceous tuffs fuelled by heat from the Sudbury Igneous Complex. Additional enrichment and concentration of metals was provided by deformation from the South Range shear zone.

Although discovered in the 1920's, the Vermilion underground development only started between 1952 and 1957. A total of 22,172t of ore were hoisted at Vermillion and stockpiled circa since 1958. The stockpile was shipped to Kidd Creek for processing in 1992.

The historical resource was confirmed and rendered compliant with a 10,000m drill programme in 2013. The resources have been interpolated by ID2.

Hackett River Project: The Hackett River project is located in Nunavut, Canada, approximately 480km northeast of Yellowknife and 105km south–southwest of the community of Bathurst Inlet, which is located on the Arctic Ocean.

The Hackett River deposits are situated within the Slave Structural Province, a predominantly Archaean granite-greenstone-sedimentary terrain that lies between Great Slave Lake and Coronation Gulf. The deposits are typical of VMS deposits. Sulphide mineralisation occurs as tabular semi-massive to massive lenses. Stringer sulphide minerals are developed beneath the lower massive lenses in stratiform to pipe-like configurations. Stratiform disseminated sulphides envelop the massive sulphide and stringer zones.

The four principal sulphide occurrences from west to east are the East Cleaver, Boot Lake, Main Zone, and Jo Zone deposits. These deposits were defined as economically viable mineable resources, following boundaries of open cut vs underground mining, through a Preliminary Economic Assessment prior to Glencore's acquisition (2010). A Pre-Feasibility study was carried out in 2013 to evaluate possible mining methods and boundaries between open cut and underground; for these reasons the Mineral Resources are only distinguished through their categories instead of exploitation method.

Following the exploration drilling campaign of 2013, which added 114 drill holes totalling 39,000m, we have undertaken the re-interpretation of an *in situ* resource using Zn equivalent values instead of considering a block dollar value. The resources have been interpolated by ID2.

Bell/Granisle: Bell and Granisle are porphyry copper-gold deposits located at Babine Lake. The Babine deposits are associated with calc-alkaline magmatic rocks. They were formed in the roots of Eocene volcanoes built upon continental crust. Erosion has removed most of the poorly consolidated volcanic piles, exposing the mineral deposits.

Recorded past production from the Bell mine from 1972 to 1992 totalled 77.2Mt averaging 0.47% Cu with an average waste to ore ratio of 0.95:1.

Past production for Granisle from 1966 to 1982 totalled 52.7Mt averaging 0.47% Cu with an average waste to ore ratio of 1.37.

Mineral Resources were not updated in 2017. A life of mine of 19 years has been estimated, at a processing rate of 50,000 tonnes per day.

There are no known land tenure issues and the mining leases are renewed yearly.

Competent persons

AC = Aline Côté, Head of Mining Technical Services, Glencore Zinc, (OGQ).

AM = Adrianus Moerman, Principal Mine Engineer, Glencore Zinc, (PEO).

BD = Benoit Drolet, Senior Resource Geologist, Glencore Zinc (APGO).

GR = Gilles Roy, Senior Resource Geologist, Glencore Zinc, (OGQ).

JD = Julie Drapeau, Chief Mine Geologist, Glencore Zinc (OGQ).

Metals and Minerals Zinc

Other Zinc Mineral Resources (Los Quenuales, Illapa, Sinchi Wayra, Aguilar, Pallas Green)

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent Person
Los Quenuales	97.6%											
Iscaycruz		UG/OC	(Mt)	1.5	0.9	2.9	4.3	4.4	5.2	2.2	2	AC
			Zinc (%)	6.0	6.6	5.5	6.2	5.7	6.3	6	5	
			Lead (%)	0.4	0.1	0.6	0.7	0.5	0.6	1	0.8	
			Copper (%)	0.5	0.7	0.5	0.4	0.5	0.5	0.3	0.4	
			Silver (g/t)	22	24	31	38	28	35	42	40	
Yauliyacu		UG	(Mt)	8.5	4.7	10.5	15	19	20	4.1	0.5	AC
			Zinc (%)	3.5	3.9	3.4	3.7	3.4	3.8	2.2	2	
			Lead (%)	1.6	2.3	1.8	1.8	1.7	1.9	1.5	2	
			Copper (%)	0.4	0.5	0.4	0.4	0.4	0.5	0.3	0.3	
			Silver (g/t)	182	302	226	240	206	260	285	70	
Contonga		UG	(Mt)	1.9	–	2.3	–	4.2	–	2.3	–	AC
			Zinc (%)	3.7	–	3.9	–	3.8	–	3.5	–	
			Lead (%)	0.5	–	1.1	–	0.8	–	1.2	–	
			Copper (%)	1.1	–	0.8	–	0.9	–	0.7	–	
			Silver (g/t)	51	–	70	–	62	–	70	–	
Illapa	45%											
Bolivar		UG	(Mt)	1.2	1.6	1.1	0.9	2.3	2.5	6.1	4.3	AC
			Zinc (%)	14.8	16.5	13.1	15.0	13.9	16.0	9.7	9.0	
			Lead (%)	1.7	1.8	1.4	1.6	1.6	1.7	1.0	0.9	
			Silver (g/t)	374	396	325	313	350	366	266	180	
Porco		UG	(Mt)	0.8	0.8	1.0	0.60	1.8	1.4	3.5	1.0	AC
			Zinc (%)	12.8	9.9	10.9	10	11.8	10	9.9	10	
			Lead (%)	0.9	0.7	0.8	0.7	0.9	0.7	1.0	1	
			Silver (g/t)	117	101	102	101	108	101	94	80	
Sinchi Wayra	100%											
Caballo Blanco		UG	(Mt)	0.6	0.4	0.7	0.4	1.3	0.8	2.0	1.7	AC
			Zinc (%)	13.6	13.1	12.9	13.0	13.2	13.0	13.2	12.0	
			Lead (%)	3.6	3.9	4.1	3.5	3.9	3.7	3.5	2.0	
			Silver (g/t)	323	392	378	350	352	370	313	190	
Aguilar	100%											
Aguilar Pit		OC	(Mt)	0.5	0.3	0.4	0.7	0.8	1.0	0.03	0.3	AC
			Zinc (%)	2.8	2.8	2.3	2.8	2.6	2.8	1.8	2.0	
			Lead (%)	2.3	2.4	2.4	2.4	2.3	2.4	2.7	2.0	
			Silver (g/t)	59	69	65	60	62	63	65	60	
Aguilar		UG	(Mt)	1.3	1.6	0.8	0.8	2.1	2.4	0.4	0.1	AC
			Zinc (%)	8.0	8.3	8.3	10	8.1	8.9	9.4	13	
			Lead (%)	8.8	9.2	7.5	8.2	8.3	8.9	7.9	7	
			Silver (g/t)	185	189	136	160	166	179	128	140	
Pallas Green	100%		(Mt)	–	–	–	–	–	–	44.2	44.0	AH
Tobermalug Zone			Zinc (%)	–	–	–	–	–	–	7.2	7.0	
			Lead (%)	–	–	–	–	–	–	1.2	1.0	
Total Other Zinc			**(Mt)**	**16.3**	**10.2**	**19.8**	**22.7**	**36.1**	**33.3**	**64**	**53.9**	
			Zinc (%)	**5.8**	**7.6**	**5.2**	**5.1**	**5.5**	**5.9**	**7.3**	**7.2**	
			Lead (%)	**2.0**	**3.0**	**1.8**	**1.8**	**1.9**	**2.2**	**1.3**	**1.0**	
			Copper (%)	**0.4**	**0.3**	**0.4**	**0.3**	**0.4**	**0.4**	**0.1**	–	
			Silver (g/t)	**165**	**256**	**177**	**195**	**172**	**217**	**62**	**25**	

Metals and Minerals Zinc

Other Zinc Ore Reserves (Los Quenuales, Illapa, Sinchi Wayra, AR Zinc)

Name of operation	Attributable interest	Mining method	Commodity	Proved Ore Reserves 31.12.17	Proved Ore Reserves 31.12.16	Probable Ore Reserves 31.12.17	Probable Ore Reserves 31.12.16	Total Ore Reserves 31.12.17	Total Ore Reserves 31.12.16	Competent Person
Los Quenuales	97.6%									
Iscaycruz pit		OC	Ore (Mt)	0.79	0.18	1.7	2.9	2.5	3.1	AC
			Zinc (%)	4.8	5.25	5.1	6.1	5.0	6.1	
			Lead (%)	0.62	0.50	0.71	0.8	0.7	0.8	
			Copper (%)	0.27	0.32	0.18	0.2	0.2	0.2	
			Silver (g/t)	37	28.2	47	44	44	43	
Iscaycruz		UG	Ore (Mt)	–	–	0.5	0.5	0.5	0.5	AC
			Zinc (%)	–	–	6.0	6.0	6.0	6.0	
			Copper (%)	–	–	0.9	0.9	0.9	0.9	
			Silver (g/t)	–	–	20	20	20	20	
Yauliyacu		UG	Ore (Mt)	1.8	1.6	4.9	5.1	6.7	6.7	AC
			Zinc (%)	2.5	2.3	2.3	2.7	2.4	2.6	
			Lead (%)	0.9	1.5	1.1	1.3	1.0	1.4	
			Copper (%)	0.3	0.3	0.3	0.3	0.3	0.3	
			Silver (g/t)	122	239	146	170	140	187	
Contonga		UG	Ore (Mt)	0.36	–	1.0	–	1.4	–	AC
			Zinc (%)	2.9	–	3.7	–	3.5	–	
			Lead (%)	0.3	–	1.0	–	0.8	–	
			Copper (%)	1.0	–	0.7	–	0.8	–	
			Silver (g/t)	33	–	60	–	53	–	
Illapa	45%									
Bolivar		UG	Ore (Mt)	0.48	0.82	0.54	0.5	1.0	1.3	AC
			Zinc (%)	10	11.2	9	12	10	12	
			Lead (%)	1.2	1.3	1.1	1.3	1.1	1.3	
			Silver (g/t)	308	295	264	295	285	295	
Porco		UG	Ore (Mt)	0.27	0.23	0.49	0.45	0.8	0.67	AC
			Zinc (%)	10.5	6.6	8.0	6.2	8.9	6.3	
			Lead (%)	0.6	0.5	0.4	0.4	0.5	0.4	
			Silver (g/t)	101	84	87	75	92	78	
Sinchi Wayra	100%									
Caballo Blanco		UG	Ore (Mt)	0.7	0.16	1.0	0.3	1.7	0.4	AC
			Zinc (%)	7.7	7.7	7.1	8.3	7.3	8.1	
			Lead (%)	1.8	2.3	2.0	1.7	1.9	1.9	
			Silver (g/t)	161	181	183	146	174	160	
Aguilar	100%	OC	Ore (Mt)	0.4	–	0.4	–	0.8	–	AC
Aguilar pit			Zinc (%)	2.7	–	2.2	–	2.4	–	
			Lead (%)	2.2	–	2.3	–	2.2	–	
			Silver (g/t)	54	–	54	–	54	–	
Aguilar		UG	Ore (Mt)	0.7	1.0	0.4	0.5	1.1	1.5	AC
			Zinc (%)	7.1	6.7	7.9	9.4	7.3	7.6	
			Lead (%)	8.4	8.6	8.9	10	8.6	9.1	
			Silver (g/t)	178	169	142	177	165	171	
Total Other Zinc			**(Mt)**	**5.5**	**4.0**	**10.9**	**10.2**	**16.5**	**14.2**	
			Zinc (%)	**5.2**	**5.8**	**4.3**	**4.9**	**5.5**	**5.2**	
			Lead (%)	**2.0**	**3.2**	**1.4**	**1.5**	**1.9**	**2.0**	
			Copper (%)	**0.2**	**0.1**	**0.3**	**0.3**	**0.2**	**0.2**	
			Silver (g/t)	**126**	**212**	**120**	**128**	**122**	**152**	

Notes

Iscaycruz: Zinc, lead and copper mineralisation are exposed as subvertical massive sulphide orebodies; described as skarn, breccias and carbonate replacement type along 12km corridor hosted in clay-rich limestone and dolomite rocks. Hydrothermal mineralisation assemblages are mainly composed of sphalerite, galena, pyrite and chalcopyrite distributed in five production zones named Limpe Centro, Chupa, Tinyag II, Tinyag I and Santa Este from north to south. Changes of Resource grades and tonnages come from the completed 3D model, which contains geostatistical sub-domains which enable grade enhancement.

Changes to Sante Este Mineral Resources and Reserves are due to geological modelling and the addition of new drilling information.

Underground Reserves were generated at Chupa and Limpe Sur following a positive economic assessment. A Feasibility study to determine underground viability at Santa Este and Olga Norte is planned for 2018.

Mine was on Care and Maintenance throughout 2017.

The expected life of Iscaycruz is 2 to 3 years based on Ore Reserves and 3 to 5 years based on Mineral Resources.

Expiry date of relevant mining/concession licences: permanent.

Yauliyacu: Main mineralisation occurs as sphalerite, galena, tetrahedrite and chalcopyrite in 60° to 80° northwest dipping narrow veins, stockwork and minor replacement massive orebodies exposed in about 5km length extension and +2km depth extension. This hydrothermal mineralisation is strongly structurally controlled and hosted in folded rock units as calcareous sandstones (red beds), conglomerates, volcanic tuffs, andesites and limestones. Changes to the Resource are due to refinement of the model with additional zones of vein and disseminated mineralisation; changes to silver grades are mainly driven by the refinement factors used in the treatment of historical data.

Production for year 2017 to the end of December was 1.3Mt grading 2.18% Zn, 0.8% Pb and 74/t Ag.

The expected life of Yauliyacu is 4 years based on Ore Reserves and 10 years based on Mineral Resources.

Expiry date of relevant mining/concession licences: permanent.

Contonga: The Contonga Mine is a polymetallic deposit of Zinc, and Lead-Silver (and lesser Copper) skarns. The mine is located 425 km northeast of Lima in the Ancash region, and is adjacent to the world-class Antamina mine. The area is extremely rugged mountains, with relief on the property between 4,000 and 5,000 m in elevation. It has been in operation since the 1900s. Glencore acquired the Contonga Mine in 2017.

Production for year 2017 to the end of December was .26Mt grading 2.1% Zn, 1.12% Pb, .16% Cu and 31 g/t Ag.

The expected life of Contonga Mine is 5-6 years based on Ore Reserves and 8-10 years based on Mineral Resources.

Illapa and Sinchi Wayra: The majority of the deposits within the Illapa and Sinchi Wayra portfolio are epigenetic-hydrothermal base metal type vein and fault filled mineralisation hosted within a variety of lithologies from volcanic tuffs to sedimentary packages. The main mineral assemblages are composed of sphalerite, marmatite, galena, silver rich galena and silver sulfosalts. The resources are usually based on multiple structures with Porco containing over 100 different veins. The typical dimensions of these structures is +500m in length and +450m depth profile with mineralisation open at depth; average vein widths from 0.2 - 4.0m.

Caballo Blanco operational unit consists of three mines: Colquechaquita, Reserva and Tres Amigos, supplying the central plant “Don Diego” situated close to Potosi.

Regarding Porco, ore zones have been fully converted to 3D and reported; the Mineral Resource grades have increased (especially Zinc) as a results of new interpolation parameters, as dictated by variography. The increased Reserve grades and tonnages are also reflective of the Resource update.

Production for the year 2017 to the end of December for each of the operations was:

Bolivar – 0.22 Mt grading 8.6% Zn, 0.9% Pb and 220 g/t Ag.

Porco – 0.21 Mt grading 7.5 % Zn, 0.8% Pb and 113 g/t Ag.

Caballo Blanco – 0.23 Mt grading 7.3% Zn, 1.9% Pb and 209g/t Ag.

The expected life of the mines as a group, considering current production capacities, is an average of 5 years based on Ore Reserves and 7 to 10 years based on Mineral Resources.

According to the new Bolivian Constitution enacted in 2009, natural resources belong to the Bolivian people. The Bolivian State can enter into mining contracts with private investors to operate them. As with all private investors in Bolivia, Illapa and Sinchi Wayra do not hold property rights over mining resources in the country, but rather hold the right to exploit them pursuant to Bolivian legislation.

Expiry date of relevant mining concessions / authorisations or contracts is different for each mine: Porco and Bolivar – July 2028 (joint venture agreement entered into in 2013) and permanent in respect of Caballo Blanco.

Aguilar: Mineralisation is classified as sedex type with sulphide layers in between siliciclastic and shale rocks with a post-secondary metasomatic over print between two intrusive stocks. Galena-rich, sphalerite, marmatite pyrite orebodies as lenses shape, locally brittle-style hydrothermal breccias, minor veinlets-stockworks and dissemination defines the economic portion of mineral inventories. Strike length extension of mineral geometries is variable and reaches up to 300m on north-south extension, about 55m in width and reaches up to 160m in depth.

The decrease in the underground Resources is result of sterilization campaign on portions of Piqué Inferior and Capa A Contacto that are impossible to access. There has been no effect on the Reserves as these zones were not previously considered part of the Reserve.

Production for year 2017 from both underground and open pit was 0.58Mt grading 4.6% Zn, 5.1% Pb and 111g/t Ag.

The remaining mine life is approximately 3 years based on Ore Reserves and 4-5 years based on Mineral Resources.

Expiry date of relevant mining/concession licences: permanent.

Expiry date of ML 39+AW (Mining Licence and Accessory Works) is 11 February 2020.

Pallas Green: The Pallas Green project is situated near Limerick in Southwestern Ireland. The Tobermalug zone consists of multiple, subhorizontal, stratiform lenses of Irish-

type, breccia-hosted, sphalerite-galena-pyrite within a Carboniferous limestone. The lenses occur over an area 4,000m by 4,000m, and from 300m to 1,300m below surface.

The Inferred Mineral Resource is based on 392,000m of diamond drilling in 775 drill holes completed between 2002 and the end of 2017. Drill spacing is nominally 100m, but 178 infill drill holes at 50m spacing have been completed. Mineralisation wireframes were built, taking into account a cut-off of Zn+Pb and a minimum 3.0m true thickness, and constrain interpolation by Inverse Distance Weighting (IDW) in a block model.

Drilling resumed at Pallas Green in May 2017, following suspension in July 2014. New drilling totalled 15,060 m in 23 drillholes. All but two of these were directional cuts from existing drillholes for a total of 28,350 m of effective drilling. All drillholes continued a 100 m spaced program aimed at basic delineation of the Caherline Zone, which was discovered in 2012. The Caherline Zone is deeper than the rest of the Resource, but has better than average grade, presently 9.9 Mt at 8.7% Zn and 1.4% Pb.

Portfolio changes: Rosh Pinah and Perkoa were sold to Trevali Mining in August 2017.

Competent Person

AC = Aline Côté, Head of Mining Technical Services, Glencore Zinc, (OGQ).

AH = Allan Huard, Senior Geologist, Glencore Zinc, (APGO).

Metals and Minerals
Nickel

Integrated Nickel Operations (INO) Mineral Resources (Raglan, Sudbury)

Name of operation	Attributable Interest	Mining Method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent Person
Raglan	100%	UG	(Mt)	6.61	6.22	13.80	12.72	20.4	18.9	14	17	DP
			Nickel (%)	3.79	3.75	3.14	3.32	3.35	3.46	3.0	3.0	
			Copper (%)	0.91	0.95	0.96	0.98	0.94	0.97	0.9	0.9	
			Cobalt (%)	0.08	0.08	0.07	0.07	0.07	0.08	0.1	0.1	
			Platinum (g/t)	0.99	1.01	0.93	0.97	0.95	0.98	0.9	0.9	
			Palladium (g/t)	2.39	2.45	2.33	2.39	2.35	2.41	2.2	2.3	
Sudbury	100%	UG	(Mt)	8.03	8.70	20.84	17.19	28.9	25.9	20	21	SEK
			Nickel (%)	1.71	1.75	2.26	2.33	2.11	2.13	1.0	1.3	
			Copper (%)	1.59	1.79	2.38	0.99	2.16	1.26	2.5	3.6	
			Cobalt (%)	0.04	0.04	0.05	0.06	0.05	0.05	-	-	
			Platinum (g/t)	0.84	0.95	0.91	0.51	0.89	0.65	1.0	1.3	
			Palladium (g/t)	0.86	1.00	1.04	0.54	0.99	0.69	1.2	1.6	
Total INO			**(Mt)**	**14.6**	**14.9**	**34.6**	**29.9**	**49.3**	**44.8**	**34**	**38**	
			Nickel (%)	**2.65**	**2.58**	**2.61**	**2.75**	**2.62**	**2.70**	**1.8**	**2.1**	
			Copper (%)	**1.28**	**1.44**	**1.81**	**0.99**	**1.66**	**1.14**	**1.8**	**2.4**	
			Cobalt (%)	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.1**	**0.1**	
			Platinum (g/t)	**0.91**	**0.98**	**0.92**	**0.71**	**0.91**	**0.80**	**1.0**	**1.1**	
			Palladium (g/t)	**1.55**	**1.60**	**1.55**	**1.33**	**1.55**	**1.42**	**1.6**	**1.9**	

Integrated Nickel Operations Ore Reserves (Raglan, Sudbury)

Name of operation	Attributable Interest	Mining Method	Commodity	Proved Ore Reserves 31.12.17	Proved Ore Reserves 31.12.16	Probable Ore Reserves 31.12.17	Probable Ore Reserves 31.12.16	Total Ore Reserves 31.12.17	Total Ore Reserves 31.12.16	Competent Person
Raglan	100%	UG	Ore (Mt)	4.79	3.60	7.64	6.43	12.43	10.03	RC
			Nickel (%)	2.90	3.17	2.83	3.02	2.86	3.07	
			Copper (%)	0.71	0.73	0.78	0.78	0.75	0.76	
			Cobalt (%)	0.06	0.07	0.06	0.06	0.06	0.07	
			Platinum (g/t)	0.77	0.82	0.88	0.88	0.84	0.86	
			Palladium (g/t)	1.81	1.94	2.09	2.05	1.98	2.01	
Sudbury	100%	UG	Ore (Mt)	6.33	6.16	14.23	2.88	20.56	9.04	SEK
			Nickel (%)	1.38	1.34	2.15	1.62	1.91	1.43	
			Copper (%)	1.49	1.88	1.00	0.62	1.15	1.47	
			Cobalt (%)	0.03	0.03	0.05	0.05	0.04	0.04	
			Platinum (g/t)	0.79	1.02	0.36	0.16	0.49	0.75	
			Palladium (g/t)	0.80	1.09	0.41	0.18	0.53	0.80	
Total INO			**(Mt)**	**11.1**	**9.8**	**21.9**	**9.3**	**33.0**	**19.1**	
			Nickel (%)	**2.03**	**2.02**	**2.39**	**2.59**	**2.27**	**2.29**	
			Copper (%)	**1.15**	**1.46**	**0.92**	**0.73**	**1.00**	**1.10**	
			Cobalt (%)	**0.04**	**0.04**	**0.05**	**0.06**	**0.05**	**0.05**	
			Platinum (g/t)	**0.78**	**0.95**	**0.54**	**0.66**	**0.62**	**0.81**	
			Palladium (g/t)	**1.24**	**1.40**	**1.00**	**1.47**	**1.08**	**1.44**	

Metals and Minerals Nickel

Notes

For the purposes of this statement, the term 'Ore Reserves' as defined by the JORC Code 2012 has the same meaning as 'Mineral Reserves' as defined in the CIM Standards 2014. The resource totals have been restated in compliance with the JORC Code.

There are no known environmental, permitting, legal, taxation, political or other relevant issues that would materially affect the estimates of the Mineral Reserves.

Depending on when production is scheduled, Mineral Reserves and Resources are calculated using a blend of short, medium, or long term metal price assumptions and exchange rates.

Raglan: Ni-Cu-Co-PGE mineralisation is located at or near the base of subvolcanic mafic-ultramafic intrusive complexes referred to as the "Raglan Formation". Resources are generally determined at a 1.5% Ni cut-off and are composed of disseminated, net-textured, and massive pyrrhotite-pentlandite-chalcopyrite rich sulphides contained within more than 128 individual sulphide lenses, extending from surface to more than 800m vertical depth. The size of these high-grade sulphide lenses varies significantly from 0.01Mt to 5.2Mt, averaging 0.2Mt. Mineral Reserves are sufficient to support an 8 year mine life. Significant undeveloped Mineral Resources provide an opportunity to extend mine life by more than 10 years. Expiry date of relevant mining leases and exploration licenses: depending on the mine/project, range from 15 February 2018 to 15 February 2034.

Sudbury: Sulphide deposits sit on broadly defined trends of mineralisation along basal brecciated rocks of the Sudbury Igneous Complex as pentlandite-pyrrhotite-chalcopyrite rich concentrations as well as within the underlying footwall in fractured pathways as chalcopyrite dominated polymetallic (Cu, Ni, Au, Ag, Pt, Pd) vein-style sulphides. The total Mineral Reserve tonnage increased from 2016 due to the addition of the Onaping Depth deposit. Cut-off grades are calculated for each individual mine site or resource based on a metal equivalent or net smelter return value taking into account all recoverable metals. The expected reserve-based mine life is 17 years. All Land holdings in Sudbury covering existing Mineral Reserves are patented and 100% owned by Glencore. Mineral Resources are also patented with the exception of areas covered by two licences of occupation which are held in perpetuity and several mining leases which expire in 2033 and 2035.

Competent Persons

DP = Daniel Patry, Glencore Nickel, P.Geo (OGQ).

RC = Richard Caumartin, Glencore Nickel, P.Eng. (OIQ).

SEK = Steve Kormos, Glencore Nickel, P. Geo. (APGO).

Metals and Minerals Nickel

Murrin Murrin Mineral Resources

Name of operation	Attributable Interest	Mining Method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent Person
Murrin Murrin	100%	OC	(Mt)	140.9	186.1	77.4	88.3	218.3	274.4	18	21	SK
			Nickel (%)	1.00	0.97	0.99	0.98	1.00	0.97	0.9	0.9	
			Cobalt (%)	0.074	0.071	0.084	0.078	0.078	0.073	0.07	0.06	

Murrin Murrin Ore Reserves

Name of operation	Attributable Interest	Mining Method	Commodity	Proved Ore Reserves 31.12.17	Proved Ore Reserves 31.12.16	Probable Ore Reserves 31.12.17	Probable Ore Reserves 31.12.16	Total Ore Reserves 31.12.17	Total Ore Reserves 31.12.16	Competent Person
Murrin Murrin	100%	OC	Ore (Mt)	85.5	183.7	18.9	54.2	104.3	237.9	MR/PW
			Nickel (%)	1.04	0.94	1.06	0.92	1.05	0.94	
			Cobalt (%)	0.080	0.064	0.077	0.061	0.079	0.064	

Koniambo Mineral Resources

Name of operation	Attributable Interest	Mining Method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent Person
Koniambo	49%	OC	(Mt)	13.8	13.1	43.2	46.3	57.0	59.6	83	88	HD
			Nickel (%)	2.49	2.50	2.40	2.44	2.42	2.46	2.5	2.5	

Koniambo Ore Reserves

Name of operation	Attributable Interest	Mining Method	Commodity	Proved Ore Reserves 31.12.17	Proved Ore Reserves 31.12.16	Probable Ore Reserves 31.12.17	Probable Ore Reserves 31.12.16	Total Ore Reserves 31.12.17	Total Ore Reserves 31.12.16	Competent Person
Koniambo	49%	OC	Ore (Mt)	11.2	9.7	25.9	26.2	37.1	35.9	HD
			Nickel (%)	2.30	2.30	2.22	2.28	2.25	2.29	

Other Nickel Mineral Resources

Name of operation	Attributable Interest	Mining Method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent Person
Kabanga	50%	UG	(Mt)	13.8	13.8	23.4	23.4	37.2	37.2	21	21	SEK
			Nickel (%)	2.49	2.49	2.72	2.72	2.63	2.63	2.6	2.6	
			Copper (%)	0.34	0.34	0.36	0.36	0.35	0.35	0.3	0.3	
			Cobalt (%)	0.21	0.21	0.19	0.19	0.20	0.20	0.2	0.2	
			Platinum (g/t)	0.16	0.16	0.42	0.42	0.32	0.32	0.3	0.3	
			Palladium (g/t)	0.19	0.19	0.28	0.28	0.25	0.25	0.3	0.3	

Metals and Minerals Nickel

Notes

For the purposes of this statement, the term 'Ore Reserves' as defined by the JORC Code 2012 has the same meaning as 'Mineral Reserves' as defined in the CIM Standards 2014. The Mineral Resource totals have been restated in compliance with the JORC Code.

There are no known environmental, permitting, legal, taxation, political or other relevant issues that would materially affect the estimates of the Mineral Reserves.

Depending on when production is scheduled, Mineral Reserves and Resources are calculated using a blend of short, medium, or long term metal price assumptions and exchange rates.

Murrin Murrin: Nickel and cobalt mineralisation at Murrin is hosted within a laterite formed from the weathering of ultramafic rocks. The resources are hosted in multiple deposits over three main project areas (North, South and East). Mineral Resource and Ore Reserve figures as at 31 December 2017 are generated by depletion of the resource models by using end-of-period surface surveys as at 30 September 2017, with adjustments applied for October to December forecast production. Resources are determined at a 0.8% Ni cut-off.

The Murrin 2017 Ore Reserve estimate is based on the optimised Base Case pit shells for Measured and Indicated Mineral Resources, and includes scats and stockpiles. Updates to process modelling, 4-yearly shutdown costs and operating costs have been included. The Ore Reserve tonnage has decreased in 2017, mostly attributable to the comprehensive re-optimisation of the ore body and mine plan.

Ore Reserve grades have been subject to the application of grade modifying factors. These have been derived from analysis of the previous two years mine-to-mill grade performance and result in grade modifying factors of 97.6% and 88.6% for nickel and cobalt respectively.

At the forecast throughput capacity of 4.5 million tonnes per annum, the project's operating life is expected to be 17 years. Expiry dates for relevant tenements differ for each tenement and range from 2018 to 2037.

Koniambo: Nickel rich laterite deposits are developed on variably serpentinized ultramafic rocks. The Ore Reserve estimate for the deposit was established from a new Life of Mine Resource Model established in 2015 and updated in 2017. It has been adjusted to incorporate changes in classification, and actual completed production up to 31 October 2017, with adjustments applied for forecast production between November and December. Mineral Resources for the Life of Mine area have been calculated by 3D modelling and Conditional Simulations within the LOM area and Trazy. In areas outside of the LOM footprint, mineral resources were estimated by the plan polygonal method. The reserve cut-off grade used is 2.0% Ni. The expected mine life is 17 years. The expiry date of relevant mining property licences range from June 2018 to 31 December 2048. Production began in April 2013 and mining is supporting a two-line operation at the Metallurgical Plant as at 31 December 2017. Ore Reserves stated include an estimated 227kt at 2.27% of stockpiles between the mine and process plant. Ore Reserves and Mineral Resources exclude an additional 33 million tonnes of medium grade material at 1.9% Ni below the current cut-off grade (< 2.0% Ni).

Kabanga: The current delineated Mineral Resource is comprised of 88% of contact-style massive sulphide and 12% of ultramafic-hosted disseminated to semi-massive sulphide mineralisation. The ultramafic bodies are hosted in a sequence of metamorphosed pelitic sediments that are overturned, steeply dipping. All resource estimates are done using Ordinary Kriging and are based on block models with appropriate variography. A cut-off grade of 1% Ni-equivalent is used for all Mineral Resources except ultramafic-hosted disseminated to semi-massive sulphide (UMIN) mineralisation at Tembo (1.1% Ni cut-off grade applied). The contribution to the Ni-equivalent value is provided by copper, cobalt and platinum group elements. The last Mineral Resource drilling campaign was done in 2009 and the latest Mineral Resource estimate dates from June 2010. The delineated Kabanga Mineral Resources are sufficient to support a 30 year mine life as currently studied. All resources are held under a Retention Licence which was renewed for an additional 5 year period on 2 May 2014.

Competent Persons

HD = Hubert Dumon, Koniambo Nickel SAS, (AusIMM).

MR = Mitch Rohr, Minara Resources Pty Ltd., (mining and metallurgical costs, reserve optimisation), (AusIMM).

PW = Paul Wiltshire, Minara Resources Pty Ltd., (process plant modelling assumptions), (AusIMM).

SK = Stephen King, Minara Resources Pty Ltd., (geostatistical analysis, modelling/estimation and resource classification), (AusIMM).

SEK = Steve Kormos, Glencore Nickel, P. Geo (APGO).

Metals and Minerals
Ferroalloys

Chrome Mineral Resources

Bushveld Complex – Western Limb

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent Person
Western Chrome Mines – LG6 Chromitite Package and MG1 Chromitite Layer												
Waterval Mine	79.5%	UG	Ore (Mt)	16.044	16.199	0.98	0.98	17.03	17.18	0.6	0.6	MM/DR
			Cr_2O_3 (%)	41.30	41.30	42.6	42.6	41.4	41.4	43	43	
Marikana West	79.5%	UG	Ore (Mt)	2.827	2.807	1.60	1.60	4.43	4.41	–	–	MM/DR
			Cr_2O_3 (%)	42.44	42.46	42.6	42.6	42.5	42.5	–	–	
Kroondal Mine	79.5%	UG/OC	Ore (Mt)	8.803	8.521	1.57	2.15	10.37	10.67	–	–	MM/DR
			Cr_2O_3 (%)	42.70	42.84	41.6	41.6	42.5	42.6	–	–	
Kroondal	79.5%	UG/OC	Ore (Mt)	10.649	10.566	4.42	5.03	15.07	15.59	–	–	MM/DR
Gemini			Cr2O3 (%)	42.59	42.58	41.6	41.6	42.3	42.3	–	–	
Marikana East	79.5%	UG	Ore (Mt)	4.196	4.196	0.78	0.78	4.98	4.98	–	–	MM/DR
			Cr_2O_3 (%)	42.25	42.25	41.8	41.8	42.2	42.2	–	–	
Klipfontein/	79.5%	UG	Ore (Mt)	11.729	11.820	16.98	16.95	28.71	28.77	115.0	114.9	MM/DR
Waterval			Cr_2O_3 (%)	42.12	42.12	42.0	42.0	42.0	42.0	42	42	
Boshoek	79.5%	UG/OC	Ore (Mt)	–	–	17.09	17.09	17.09	17.09	–	–	MM/DR
			Cr_2O_3 (%)	–	–	40.5	40.5	40.5	40.5	–	–	
Townlands	79.5%	UG	Ore (Mt)	–	–	12.94	12.94	12.94	12.94	–	–	MM/DR
Extension 9			Cr_2O_3 (%)	–	–	41.4	41.4	41.4	41.4	–	–	
Total LG6 and MG1			**(Mt)**	**54.248**	**54.108**	**56.38**	**57.54**	**110.63**	**111.65**	**115.6**	**115.5**	
			Cr_2O_3 (%)	**42.09**	**42.11**	**41.4**	**41.4**	**41.7**	**41.7**	**42**	**42**	
Kroondal	**79.5%**		**Tailings (m^3)**	**–**	**–**	**–**	**–**	**–**	**–**	**461.183**	**–**	**CM**
Tailings Dam			**Cr_2O_3 (%)**	**–**	**–**	**–**	**–**	**–**	**–**	**17.2**	**–**	

Bushveld Complex – Eastern Limb

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent Person
Eastern Chrome Mines –MG1 Chromitite Layer												
Thorncliffe	79.5%	UG/OC	Ore (Mt)	36.406	36.104	15.27	13.05	51.67	49.16	0.3	5.6	SV/DR
			Cr_2O_3 (%)	40.61	40.63	41.3	41.3	40.8	40.8	41	41	
Helena	79.5%	UG/OC	Ore (Mt)	23.309	23.621	14.53	11.42	37.84	35.04	9.1	49.0	SV/DR
			Cr_2O_3 (%)	39.84	39.88	39.0	39.0	39.5	39.6	39	39	
De Grooteboom	79.5%	UG/OC	Ore (Mt)	1.036	1.039	0.50	0.51	1.54	1.54	–	–	SV/DR
			Cr_2O_3 (%)	40.23	40.23	40.3	40.3	40.3	40.3	–	–	
Richmond	79.5%	UG	Ore (Mt)	0.613	–	12.28	–	12.89	–	13.9	–	SV/DR
			Cr_2O_3 (%)	41.33	–	41.1	–	41.1	–	41	–	
St George	79.5%	UG	Ore (Mt)	–	–	3.20	–	3.20	–	7.2	–	SV/DR
			Cr_2O_3 (%)	–	–	39.4	–	39.4	–	40	–	
Total MG1			**(Mt)**	**61.364**	**60.764**	**45.78**	**24.98**	**107.14**	**85.75**	**30.5**	**54.6**	
			Cr_2O_3 (%)	**40.32**	**40.33**	**40.4**	**40.2**	**40.3**	**40.3**	**40**	**39**	
Eastern Chrome Mines – MG2 Chromitite Layer												
Thorncliffe Mine	79.5%	UG/OC	Ore (Mt)	–	–	–	–	–	–	41.8	41.8	SV/DR
			Cr_2O_3 (%)	–	–	–	–	–	–	38	38	
Helena Mine	79.5%	UG/OC	Ore (Mt)	–	–	–	–	–	–	85.4	85.4	SV/DR
			Cr_2O_3 (%)	–	–	–	–	–	–	38	38	
Total MG2			**(Mt)**	**–**	**–**	**–**	**–**	**–**	**–**	**127.2**	**127.2**	
			Cr_2O_3 (%)	**–**	**–**	**–**	**–**	**–**	**–**	**38**	**38**	
Total MG1 and MG2			**(Mt)**	**61.364**	**60.764**	**45.78**	**24.98**	**107.14**	**85.75**	**157.7**	**181.7**	
			Cr_2O_3 (%)	**40.32**	**40.33**	**40.4**	**40.2**	**40.3**	**40.3**	**38**	**38**	

Metals and Minerals
Ferroalloys

Chrome Ore Reserves

Bushveld Complex – Western Limb

Name of operation	Attributable interest	Mining method	Commodity	Proved Ore Reserves 31.12.17	Proved Ore Reserves 31.12.16	Probable Ore Reserves 31.12.17	Probable Ore Reserves 31.12.16	Total Ore Reserves 31.12.17	Total Ore Reserves 31.12.16	Competent Person
Western Chrome Mines – LG6 Chromitite Package and MG1 Chromitite Layer										
Waterval	79.5%	UG	Ore (Mt)	8.548	8.727	0.89	0.89	9.44	9.61	MM/DR
			Cr_2O_3 (%)	31.36	31.40	26.8	26.8	30.9	31.0	
Marikana West	79.5%	UG	Ore (Mt)	0.150	0.110	–	–	0.15	0.11	MM/DR
			Cr_2O_3 (%)	29.88	28.93	–	–	29.9	28.8	
Kroondal	79.5%	UG/OC	Ore (Mt)	2.199	2.142	1.36	1.92	3.56	4.07	MM/DR
			Cr_2O_3 (%)	29.38	29.27	28.8	28.5	29.2	28.9	
Kroondal Gemini	79.5%	UG/OC	Ore (Mt)	6.036	6.178	4.05	4.72	10.08	10.89	MM/DR
			Cr_2O_3 (%)	31.57	31.42	28.9	28.5	30.5	30.2	
Marikana East	79.5%	UG	Ore (Mt)	0.725	–	0.15	–	0.87	–	MM/DR
			Cr_2O_3 (%)	28.58	–	28.5	–	28.6	–	
Klipfontein/	79.5%	UG	Ore (Mt)	0.820	–	0.34	–	1.16	–	MM/DR
Waterval			Cr_2O_3 (%)	28.65	–	28.7	–	28.7	–	
Boshoek	79.5%	UG/OC	Ore (Mt)	–	–	0.58	0.58	0.58	0.58	MM/DR
			Cr_2O_3 (%)	–	–	26.1	26.1	26.1	26.1	
Total LG6 and MG1			**(Mt)**	**18.477**	**17.157**	**7.37**	**8.11**	**25.84**	**25.26**	
			Cr_2O_3 (%)	**31.00**	**31.13**	**28.4**	**28.1**	**30.4**	**30.2**	

Bushveld Complex – Eastern Limb

Name of operation	Attributable interest	Mining method	Commodity	Proved Ore Reserves 31.12.17	Proved Ore Reserves 31.12.16	Probable Ore Reserves 31.12.17	Probable Ore Reserves 31.12.16	Total Ore Reserves 31.12.17	Total Ore Reserves 31.12.16	Competent Person
Eastern Chrome Mines – MG1 Chromitite Layer										
Thorncliffe Mine	79.5%	UG/OC	Ore (Mt)	24.093	22.267	9.09	8.15	33.18	30.41	SV/DR
			Cr_2O_3 (%)	35.13	33.76	35.9	34.2	35.3	33.9	
Helena Mine	79.5%	UG/OC	Ore (Mt)	2.957	3.250	–	–	2.96	3.25	SV/DR
			Cr_2O_3 (%)	33.92	33.45	–	–	33.9	33.5	
Total MG1			**(Mt)**	**27.050**	**25.517**	**9.09**	**8.15**	**36.14**	**33.66**	
			Cr_2O_3 (%)	**35.00**	**33.72**	**35.9**	**34.2**	**35.2**	**33.8**	

Notes

Tonnages are quoted as million metric tonnes.

Grades are quoted as %Cr_2O_3.

The Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce Ore Reserves.

The chromitite assets include those owned by Glencore and Merafe in different ownership percentages, the attributable interest in such assets remain as reflected.

All Glencore Ferroalloys' chrome operations mine the chromitite deposits developed within the world renowned Bushveld Complex of South Africa. The 2060 Ma year-old Bushveld Complex is the largest known deposit of chrome, vanadium and platinum group elements (PGEs) in the world. The Bushveld Complex stretches 350km east-west and 450km north-south. The chrome ore is mined from shallow dipping (10° – 14°) tabular orebodies. Although there are numerous chromitite layers developed in the Bushveld Complex, the chromitite layers targeted for economic exploitation are the LG6/LG6A Chromitite Layer package and the MG1 Chromitite Layer.

No cut-off grades are applied to the chromitite layers being mined. The chromitite layer grades show exceptional regional grade consistency and continuity.

The chromitite layers are mostly mined underground using trackless mechanised mining methods on a board and pillar mine layout design.

The Mineral Resources are estimated as chromitite tonnages and grades to reflect the grades of the various individual chromitite layers and have been presented by separate layers for clarity in this 2017 report. There were no changes to the underlying processes, estimates and methodology. To this end the Mineral Resources for the Eastern Limb properties have been split between the MG1 and MG2 Chromitite Layers. Both the LG6 and MG1 Chromitite Layers which Glencore currently mines are discrete solid chromitite layers with sharp contacts.

Changes in the year on year Mineral Resource tonnage and grade estimates are mainly due to mining depletion and changes due to additional geological information gained through exploration. These changes reflect in the tonnage and grade reports from the grade block models.

The Kroondal Slimes Dam Mineral Resources has been estimated and declared for the first time.

Eastern Chrome Mines: The mining complex consisting of the Thorncliffe, Helena, and Magareng Mines had a net decrease in Mineral Resources of -2.635Mt after the addition of the Richmond and St George properties and the amendment of the Helena Mineral Resources.

Western Chrome Mines: The chrome mining complex consisting of the Kroondal and Waterval Mines had a net decrease in Mineral Resources of -0.956Mt.

The tonnage and grade estimations for the chromitite layers are initiated by the geostatistical analysis of the exploration drill hole

data. The outcomes of this analysis are used in the construction of block models for each and every mine and project area. The geostatistical analysis of the chromitite data indicates a high degree of continuity both in grade and thickness of the chromitite layers. The block model estimates are verified using geostatistical parameters such as Kriging Efficiency to test the stability of the variograms used and the suitability of the selected cell sizes and Kriging parameters. Tonnages and grades are reported from these block models for each mine and project. There is a high degree of confidence in the tonnage and grade estimations derived from the block models. This is confirmed by the monthly and yearly reconciliation between the block model estimates, the monthly survey measurements and the actual mine production for each operating mine. The slimes dam estimates are based on daily production sampling and dam surveying by a certified surveyor.

The LOM for the operating chrome mines vary between 1 year and 5 years based on the declared Ore Reserves. The LOM periods for the various operating mines, based on all the Mineral Resources converted to Ore Reserves vary between 5 years and 38 years. The Mining Right expiry dates vary from 2022 to 2039 for the operating chrome mines. All the chrome mining rights were granted for an initial period of 30 years. The production rates for the various chrome mines vary from 30kt ROM per month to 112kt ROM per month.

The newly acquired Prospecting Rights on St George and Richmond have been drilled and initial Mineral Resources are declared for these properties. These properties form the downdip extension of the Eastern Chrome Mines Mining Right area. An application has been lodged to incorporate these properties into the existing Eastern Chrome Mines Mining Right.

Competent Persons

PJG = Pieter-Jan Gräbe, Glencore Ferroalloys, (SACNASP); overall responsibility for Mineral Resources and Ore Reserves.

SV = Solly Vaid, Glencore Ferroalloys, (PLATO); responsibility for Mineral Resources and Ore Reserves.

DR = Dean Richards, Obsidian Consulting Services (SACNASP); responsible for geostatistical analysis of data, Mineral Resource classification and construction of tonnage and grade block models and reporting of tonnage and grades from block models.

MM = Mogomotsi Maputle, Glencore Ferroalloys, (SACNASP), Responsible for Mineral Resources and Ore Reserves.

Metals and Minerals Ferroalloys

Vanadium Mineral Resources

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent Person
Rhovan	74.0%	OC	(Mt)	49.68	49.18	38.12	39.4	87.81	88.5	94	95	DR/SM
			V_2O_5 (%)	0.48	0.48	0.5	0.5	0.5	0.5	0.5	0.5	

Vanadium Ore Reserves

Name of operation	Attributable interest	Mining method	Commodity	Proved Ore Reserves 31.12.17	Proved Ore Reserves 31.12.16	Probable Ore Reserves 31.12.17	Probable Ore Reserves 31.12.16	Total Ore Reserves 31.12.17	Total Ore Reserves 31.12.16	Competent Person
Rhovan	74.0%	OC	Ore (Mt)	25.30	26.83	12.1	13.0	37.4	39.8	DR/SM
			V_2O_5 (%)	0.47	0.47	0.5	0.5	0.5	0.5	

Notes

Tonnages are quoted as million metric tonnes.

Grades are quoted as %V_2O_5.

The Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce Ore Reserves.

Glencore Ferroalloys' vanadium mining operations mine the vanadiferous magnetite deposits developed within the Bushveld Complex, South Africa. The 2060 Ma year-old Bushveld Complex is the largest known deposit of chrome, vanadium and platinum group elements (PGE's) in the world.

The magnetite ore is mined from shallow dipping (6° – 25°) stratified magnetite orebodies developed in the Upper Zone of the Bushveld Complex. Various ore zones with varying grades can be identified in the orebody. The ore zones are defined based on their magnetite and vanadium content.

The magnetite ore is mined using open cast mining methods.

No material changes were recorded compared with the 2016 resource and reserve estimation.

Rhovan: There was a net increase of 1.275Mt in the Mineral Resource estimate after mining depletions have been discounted.

The Ore Reserves had a net increase of 1.009Mt after mining depletions have been discounted.

Obsidian Consulting Services has estimated the Mineral Resources for Pit 1 and Pit 6. An updated grade block model with new data was constructed during September 2017, following the addition of blast hole data for the 2016-2017 reporting period.

The tonnage and grade estimations were done using geo-statistical analysis of the exploration drill hole and blast hole data. From this analysis, the most appropriate parameters for the construction of block models for the various pits were derived. The block model estimates are verified using geostatistical parameters such as Kriging Efficiency and Slope of Regression to test the stability of the variograms used and the suitability of the selected cell sizes. A final geospatial validation is done by means of swath and QQ plots. Other validations included a comparison of distributions of the source data versus estimated results. Tonnages and grades are reported from the block models for each pit. The degree of confidence in the tonnage and grade estimations derived from the block models is reflected in the classified Mineral Resource classes.

The Rhovan LOM based on the declared Ore Reserves is 14 years. The LOM based on all the Mineral Resources converted to Ore Reserves is 30 years. The 2016 Ore Reserve LOM was incorrectly stated as 16 years. Rhovan is mining from various open cast pits at an actual mining rate averaging 170.2kt of ROM per month (year to date). The Mining Right expires in 2027.

Competent Persons

PJG = Pieter-Jan Gräbe, Glencore Ferroalloys, (SACNASP); overall responsibility for Mineral Resources and Ore Reserves.

DR = Dean Richards, Obsidian Consulting Services, (SACNASP); responsible for data validation, geo-statistical analysis of data, construction of tonnage and grade block models and reporting of tonnage and grades from block models for Mineral Resource and Ore Reserve estimates.

SM = Sydney Maseti, Glencore Ferroalloys, (SACNASP); Responsible for Mineral Resources and Ore Reserves..

Metals and Minerals Ferroalloys

PGM Mineral Resources

Bushveld Complex – Eastern Limb

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent Person
Mototolo JV	38%	UG/OC	(Mt)	20.988	24.294	–	–	20.99	24.29	–	–	FF/DR/CL
			3PGE + Gold (g/t)	4.21	3.89	–	–	4.2	3.9	–	–	

PGM Ore Reserves

Name of operation	Attributable interest	Mining method	Commodity	Proved Ore Reserves 31.12.17	Proved Ore Reserves 31.12.16	Probable Ore Reserves 31.12.17	Probable Ore Reserves 31.12.16	Total Ore Reserves 31.12.17	Total Ore Reserves 31.12.16	Competent Person
Mototolo JV	38%	UG/OC	Ore (Mt)	12.992	12.795	–	–	12.99	12.80	FF/DR
			3PGE + Gold (g/t)	4.02	3.58	–	–	4.0	3.6	

Notes

Tonnages are quoted as million metric tonnes.

Grades are quoted as 3PGE + Au (Platinum, Palladium, Rhodium and Gold).

The Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce Ore Reserves.

Glencore Ferroalloys' platinum mining operations mine the platinum bearing UG2 Chromitite Layer of the Bushveld Complex, South Africa. The 2060 Ma year-old Bushveld Complex is the largest known deposit of chrome, vanadium and platinum group elements (PGEs), in the world.

The PGM ore at Mototolo Mine is mined from a shallow dipping (10º – 14º) tabular ore-body referred to as the UG2 Chromitite Layer. The chromitite layer is mined underground using a trackless mechanised mining method on a bord and pillar mine layout design.

Changes in the year on year tonnage and grade estimates are mainly due to mining depletion, reclassification and changes in the Mineral Resource and Ore Reserve tonnages and grades due to additional geological information gained through exploration.

The tonnage and grade estimations are made using geostatistical analysis of the exploration drill hole data as well as underground channel sample data, where available. From this analysis the most appropriate parameters are derived for the construction of block models for the various orebodies. Tonnages and grades are reported from these block models for each mine and project. Confidence limit curves are derived from fitted distributions and used to classify the Mineral Resources at various confidence levels. A final geospatial validation is done by means of swath and QQ plots.

Mototolo JV: The structural and grade block model was updated with exploration drill hole data, underground stope observations and mining face sampling during the 2016 – 2017 reporting period.

The net change in the year on year Mineral Resources is -1.025Mt after mining depletions have been discounted. This change is mainly due to the removal or reinterpretation of resources blocks that are considered un-mineralized or un-mineable for practical or safety reasons.

The Ore Reserve increased year on year on a net basis, after mining depletions have been discounted, by 0.197Mt.

The LOM period for Mototolo Platinum Mine is 5.6 years based on the declared Ore Reserves. The LOM period based on all the Mineral Resources converted to Ore Reserves is 7.2 years. This includes remnant areas. The planned production rate is 212kt ROM per month.

The Mining Right expiry date is 2039.

Eland: Agreement to sell the Eland Platinum Mine, which has been on care and maintenance since 2015, was reached in February 2017. By the reporting date of 31 December 2017, only customary closing conditions remained. On this basis, the mineral resources, which in any case were not re-estimated, have been excluded from this report.

Competent Persons

PJG = Pieter-Jan Gräbe, Glencore Ferroalloys (SACNASP); overall responsibility for Mineral Resources.

FF = Frikkie Fensham, Glencore Ferroalloys, (SACNASP); Responsible for Mineral Resources and Ore Reserves.

DR = Dean Richards, Obsidian Consulting Services (SACNASP); responsible for data validation, construction of tonnage and grade block models and reporting of tonnage and grades from block model.

CL = Carina Lemmer, Geological & Geostatistical Services (SACNASP); responsible for geostatistical analysis of data and classification of Mineral Resources.

Metals and Minerals Ferroalloys

Silica Mineral Resources

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent Person
Rietvly	79.5%	OC	(Mt)	–	–	22.96	23.27	22.96	23.27	–	–	CM
			SiO_2 (%)	–	–	91	91	91	91	–	–	

Silica Ore Reserves

Name of operation	Attributable interest	Mining method	Commodity	Proved Ore Reserves 31.12.17	Proved Ore Reserves 31.12.16	Probable Ore Reserves 31.12.17	Probable Ore Reserves 31.12.16	Total Ore Reserves 31.12.17	Total Ore Reserves 31.12.16	Competent Person
Rietvly	79.5%	OC	Ore (Mt)	–	–	1.70	2.05	1.70	2.05	CM
			SiO_2 (%)	–	–	90	91	90	91	

Notes

Tonnages are quoted as thousand metric tonnes.

Grades are quoted as %SiO_2.

Glencore Ferroalloys' silica mining operation is an open cast mining operation mining a massive quartzite deposit of the Magaliesberg Formation of the Pretoria Group, which is a subgroup of the Transvaal Super Group, South Africa. The Magaliesberg Formation forms a prominent quartzite ridge striking north-south along the Magaliesberg Mountain Range. The formation is a few hundred meters thick and dips towards the east at over 20º. The Rietvly quartzite orebody is a very pure quartzite with a silica content of over 90% SiO_2.

The ore is mined through open cast mining methods and the ROM ore is crushed, washed and sized on site to produce a final sized and quality graded product. No silica cut-off grades are applied to the Mineral Resource estimation. The quartzite is mainly mined to supply the Glencore Ferroalloys furnaces with silica.

No significant changes have been recorded in the year on year Mineral Resource estimation.

No significant changes have been recorded in the year on year Ore Reserve estimation.

The Ore Reserves for Rietvly Silica Mine is based on a 5 year mining footprint with a production rate of 31.23kt ROM per month. The LOM period based on all the Mineral Resources converted to Ore Reserves (excluding Inferred Resources) is 44 years. The Mining Right expiry date is 2037.

Competent Persons

PJG = Pieter-Jan Gräbe, Glencore Ferroalloys (SACNASP); overall responsibility for Mineral Resources and Ore Reserve.

CM = Mogomotsi Maputle, Glencore Ferroalloys (SACNASP); responsible for Mineral Resources and Ore Reserves.

Competent Person for Ore Reserve / Competent Person for Mineral Resource; where only one set of initials is listed, the same Competent Person is responsible for all categories quoted. Unless otherwise noted all Competent Persons are full time employees of Glencore plc subsidiaries.

Metals and Minerals
Iron Ore

Iron Ore Mineral Resources

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent Person
El Aouj Mining Company S.A.												
Guelb el Aouj	50%	OC	(Mt)	400	400	1,170	1,170	1,570	1,570	300	300	AM/SvdM
East			Iron (%)	36	36	36	36	36	36	36	36	
			DTC wt (%)	45	45	45	45	45	45	45	45	
			DTC Iron (%)	69.8	69.8	69.2	69.2	69.3	69.3	69.5	69.5	
			Oxidised (Mt)	70	70	80	80	150	150	30	30	AM/SvdM
			Iron (%)	34	34	35	35	35	35	35	35	
Guelb el Aouj	50%		(Mt)	–	–	185	185	185	185	615	615	AM/SvdM
Centre			Iron (%)	–	–	34	34	34	34	35	35	
			DTC wt (%)	–	–	43	43	43	43	44	44	
			DTC Iron (%)	–	–	69.6	69.6	69.6	69.6	69.8	69.8	
			Oxidised (Mt)	–	–	–	–	–	–	45	45	AM/SvdM
			Iron (%)	–	–	–	–	–	–	33	33	
Bou Derga	50%		(Mt)	–	–	–	–	–	–	510	510	AM/SvdM
			Iron (%)	–	–	–	–	–	–	36	36	
			DTC wt (%)	–	–	–	–	–	–	43	43	
			DTC Iron (%)	–	–	–	–	–	–	69.7	69.7	
			Oxidised (Mt)	–	–	–	–	–	–	130	130	AM/SvdM
			Iron (%)	–	–	–	–	–	–	35	35	
Tintekrate	50%		(Mt)	–	–	–	–	–	–	710	710	AM/SvdM
			Iron (%)	–	–	–	–	–	–	36	36	
			DTC wt (%)	–	–	–	–	–	–	44	44	
			DTC Iron (%)	–	–	–	–	–	–	69.4	69.4	
			Oxidised (Mt)	–	–	–	–	–	–	180	180	AM/SvdM
			Iron (%)	–	–	–	–	–	–	34	34	
Total El Aouj Mining Company S.A.			**(Mt)**	**470**	**470**	**1,435**	**1,435**	**1,905**	**1,905**	**2,520**	**2,520**	
			Iron (%)	**36**	**36**	**36**	**36**	**36**	**36**	**35**	**35**	
Sphere Mauritania S.A.												
Askaf North	90%	OC	(Mt)	200	200	160	160	360	360	45	45	AM/SvdM
			Iron (%)	36	36	35	35	36	36	36	36	
			DTC wt (%)	47	47	45	45	46	46	45	45	
			DTC Iron (%)	69.8	69.8	69.4	69.4	69.6	69.6	69.2	69.2	
			Oxidised (Mt)	15	15	30	30	45	45	15	15	AM/SvdM
			Iron (%)	35	35	35	35	35	35	35	35	
Askaf Centre	90%	OC	(Mt)	–	–	–	–	–	–	95	95	AM/SvdM
			Iron (%)	–	–	–	–	–	–	36	36	
			DTC wt (%)	–	–	–	–	–	–	42	42	
			DTC Iron (%)	–	–	–	–	–	–	69.9	69.9	
			Oxidised (Mt)	–	–	–	–	–	–	13	13	AM/SvdM
			Iron (%)	–	–	–	–	–	–	37	37	
Askaf East	90%	OC	(Mt)	–	–	–	–	–	–	70	70	AM/SvdM
			Iron (%)	–	–	–	–	–	–	35	35	
			DTC wt (%)	–	–	–	–	–	–	42	42	
			DTC Iron (%)	–	–	–	–	–	–	70.3	70.3	
			Oxidised (Mt)	–	–	–	–	–	–	13	13	AM/SvdM
			Iron (%)	–	–	–	–	–	–	31	31	
Total Sphere Mauritania S.A.			**(Mt)**	**215**	**215**	**190**	**190**	**405**	**405**	**251**	**251**	
			Iron (%)	**36**	**36**	**35**	**35**	**36**	**36**	**35**	**35**	
Sphere Lebtheinia S.A.												
Lebtheinia	100%		(Mt)	–	–	2,180	2,180	2,180	2,180	350	350	AM/SvdM
Centre			Iron (%)	–	–	32	32	32	32	32	32	
			DTC wt (%)	–	–	27	27	27	27	27	27	
			DTC Iron (%)	–	–	68.6	68.6	69.6	68.6	68.1	68.1	
			LOZ (Mt)	–	–	–	–	–	–	210	210	AM/SvdM
			Iron (%)	–	–	–	–	–	–	31	31	
Total Sphere Lebtheinia S.A.			**(Mt)**	**–**	**–**	**2,180**	**2,180**	**2,180**	**2,180**	**560**	**560**	
			Iron (%)	**–**	**–**	**32**	**32**	**32**	**32**	**32**	**32**	

Metals and Minerals Iron Ore

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 31.12.17	Measured Mineral Resources 31.12.16	Indicated Mineral Resources 31.12.17	Indicated Mineral Resources 31.12.16	Measured and Indicated Resources 31.12.17	Measured and Indicated Resources 31.12.16	Inferred Mineral Resources 31.12.17	Inferred Mineral Resources 31.12.16	Competent Person
Jumelles Limited												
Zanaga	50%	OC	(Mt)	2,300	2,300	2,500	2,500	4,800	4,800	2,100	2,100	MT
			Iron (%)	34	34	30	30	32	32	31	31	

Iron Ore Reserves

Name of operation	Attributable interest	Mining method	Commodity	Proved Ore Reserves 31.12.17	Proved Ore Reserves 31.12.16	Probable Ore Reserves 31.12.17	Probable Ore Reserves 31.12.16	Total Ore Reserves 31.12.17	Total Ore Reserves 31.12.16	Competent Person
El Aouj Mining Company S.A.										
Guelb el Aouj East	50%	OC	Ore (Mt)	380	380	551	551	931	931	NS
			Iron (%)	35	35	35	35	35	35	
			DTC wt (%)	44	44	43	43	44	44	
			DTC Iron (%)	69.6	69.6	69.0	69.0	69.2	69.2	
Jumelles Limited	50%									
Zanaga		OC	Ore (Mt)	770	770	1,290	1,290	2,070	2,070	GB
			Iron (%)	37	37	32	32	34	34	

Notes

All Mineral Resources are considered suitable for open cut extraction.

DTC wt (%) – Davis Tube Concentrate mass recovery.

DTC Iron (%) – Davis Tube Concentrate assay %Fe.

Davis Tube test work has been conducted at a grind size of 95% passing 80 micron.

The rounding used for the values in this report reflects the confidence in the different levels of Mineral Resource and Ore Reserve classifications.

No exploration activities were carried out in the reporting period.

El Aouj Mining Company: Glencore holds a 50% interest in the El Aouj Mining Company through a Joint Venture arrangement with SNIM.

Guelb el Aouj East: The "Guelb" deposits are hosted in Banded Iron Formations (BIF) within the Dorsale Reguibat, an uplifted part of the Archaean West African Craton, which dominates the northern third of Mauritania's surface geology. Recrystallisation and aggregation of the magnetite grains in BIF has resulted in the partial to total destruction of the original banded (bedding) texture to produce the Guelb el Aouj magnetite-quartzite deposits. The geological sequence is overprinted by a reasonably uniform, approximately 80m thick weathered zone in which much of the magnetite has oxidised to hematite.

This resource uses a cut-off grade of 20% DTC wt% for fresh (unoxidised) mineralisation and a cut-off grade of 20% head Fe for oxidised mineralisation. All reported concentrate grades were weighted by DTC wt%.

The Guelb el Aouj East Ore Reserve Statement is based on a Feasibility Study and uses a 20% DTC wt% cut-off. No oxidised material has been included in the Ore Reserves.

Guelb el Aouj Centre: The El Aouj Centre magnetite-quartzite (MQ) deposit is a highly metamorphosed banded iron formation (meta-BIF) unit that ranges in true thickness from 50m to over 200m. The geometry of the deposit is defined by a tight synformal structure with a sub-vertical axial plane. The synform outcrops over a strike length of about 2.4km. The thickest accumulation of magnetite-quartzite is found along the western limb of the synform, pinching out towards the east. A series of stacked recumbent isoclinal folds probably controlled the overall geometry of the deposit. The original bedding has been partially to completely obliterated by recrystallisation, resulting in a coarse-grained texture with aggregated magnetite grains. The weathered zone, though variable, has an average vertical thickness of approximately 40m. In this zone partial to complete oxidation of magnetite to hematite has occurred.

This resource uses a cut-off grade of 20% DTC wt% for fresh (unoxidised) mineralisation and a cut-off grade of 20% head Fe for oxidised mineralisation. All reported concentrate grades were weighted by DTC wt%.

Bou Derga: The Bou Derga deposit forms part of a larger scale synformal structure defined by an Archean magnetite-quartzite (MQ) unit that ranges in true thickness from approximately 20m to 200m. The thicker parts of the deposit are considered to be a result of isoclinal folding. Drilling was restricted to the western fold closure. The deposit dips towards the northeast at about 60°. The deposit contains a number of internal waste bands (typically 5m to 50m thick) which have been modelled separately and excluded from the Mineral Resource estimation. A northwest-southeast trending fault displaces the mineralisation in the south-eastern part of the deposit.

This resource uses a cut-off grade of 20% DTC wt% for fresh (unoxidised) mineralisation and a cut-off grade of 20% head Fe for oxidised mineralisation. All reported concentrate grades were weighted by DTC wt%.

The Bou Derga Mineral Resource Statement has been prepared in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2004 Edition).

Tintekrate: The Tintekrate deposit is hosted within the Dorsale Reguibat, an uplifted part of the Archaean West African Craton, which dominates the northern third of Mauritania's surface geology. Recrystallisation and aggregation of the magnetite grains in the meta-banded iron formation (BIF) units has resulted in partial to total destruction of the original banded (bedding) texture to produce the Tintekrate and other similar magnetite-quartzite deposits. The Tintekrate deposit is a circular structure defined by a steep dipping MQ unit with dips of 50° to 80° (locally overturned) with true mineralised thicknesses of 100m to 150m on the western side of the structure to 50m to 100m on the eastern side. The weathered zone averages 70m to 75m vertical depth below natural surface and its base tends to mirror the natural surface

profile. In this zone, magnetite has been partially to completely oxidised to hematite.

This resource uses a cut-off grade of 20% DTC wt% for fresh (unoxidised) mineralisation and a cut-off grade of 20% head Fe for oxidised mineralisation. All reported concentrate grades were weighted by DTC wt%.

Askaf North: Askaf North Deposit is an east-west striking synformal structure defined by a magnetite-quartzite (MQ) unit that ranges in true thickness from approximately 140m in the western hinge zone to approximately 30m along the eastern part of the southern limb. The synformal axis plunges at between 20° to 30° towards the east in the western part of the synform, and at about 35° to 45° towards the west at the eastern fold closure, producing a double plunging synform. A dolerite dyke has been emplaced along an east-west fault zone that displaces the northern part of the deposit in a dextral shear sense. The disruption and emplacement of the dolerite along the northern limb of the synform has not affected the quality of the mineralisation. The MQ unit represents a metamorphosed banded iron-formation (BIF). The precursor BIF was subjected to high-grade metamorphic conditions during the Archaean, which resulted in complete recrystallisation of the original fine-grained BIF. In most cases the primary textures have been destroyed by the recrystallisation. Coarse-grained (>1mm) MQ is produced as a result, with good Davis Tube liberation characteristics and concentrate grades at a liberation grind size of 95% passing 80 micron.

The Askaf North Mineral Resource Statement uses a cut-off grade of 20% DTC wt% for fresh (unoxidised) mineralisation and a cut-off grade of 20% head Fe for oxidised mineralisation. All reported concentrate grades were weighted by DTC wt%.

Askaf Centre: The Askaf Centre deposit comprises a northern body that is exposed over a strike length of 3.5km and a southern body that is exposed over a strike length of 1.7km. Both bodies form part of a regional scale antiformal structure and each body is also duplicated within itself by outcrop-scale tight isoclinal folding. The northern and southern bodies are separated and displaced in a dextral shear sense by a regional scale fault/fracture system. The northern body is generally sub-vertical striking roughly northwest-southeast. The magnetite-quartzite unit ranges in thickness from approximately 50m in the west to approximately 70m in the east, with the magnetite-quartzite mineralisation being thinnest in the steep dipping middle portion (±10 m). The multiple layers reported is the result of tight isoclinal folding. The southern body comprises an open synformal structure with an undulating sub-horizontal fold axis that plunges at approximately 25° towards the southwest at the southern part of the deposit. At this locality the mineralisation is still open-ended at depth. The two limbs of the synform are exposed over a strike length of approximately 1km. The northern part of the synform is tighter than is the case in the south, with the eastern limb almost being overturned in some places. Magnetite-quartzite ranges in thickness from approximately 30m to 35m in the limbs to approximately 45m to 55m in the synformal keel as a result of structural thickening with thicknesses of up to 90m reported. The magnetite-quartzite unit is embedded within an Archaen granitic/gneiss sequence. The weathered zone which, though variable, has an average vertical thickness of approximately 40m and in this zone partial to complete oxidation of magnetite to hematite has occurred. Oxidation significantly reduces the Davis Tube mass recovery (wt%) in mineralised drill samples.

This resource uses a cut-off grade of 20% DTC wt% for fresh (unoxidised) mineralisation and a cut-off grade of 20% head Fe for oxidised mineralisation. All reported concentrate grades were weighted by DTC wt%.

Askaf East: The Askaf East deposit occupies the southern limb of an apparent east-west striking synformal structure defined by an Archaean magnetite-quartzite unit that ranges in true thickness from approximately 20m at the western end of the limb to approximately 140m in the central part of the limb. The hinge zone is at the eastern end of the deposit. The synformal axis plunges about 40° towards the west in the eastern part of the synform. The thickening of the sequence in the eastern part of the deposit is probably as a result of isoclinal folding within the sequence. The MQ unit is embedded within an Archaen granitic/gneiss sequence. The weathered zone, though variable, has an average vertical thickness of approximately 40m. Partial to complete oxidation of magnetite to hematite has occurred in this zone and this significantly reduces the Davis Tube mass recovery (wt%) in mineralised drill samples.

This resource uses a cut-off grade of 20% DTC wt% for fresh (unoxidised) mineralisation and a cut-off grade of 20% head Fe for oxidised mineralisation. All reported concentrate grades were weighted by DTC wt%.

Lebtheinia: The magnetite-rich Banded Iron Formations (BIF) at Lebtheinia form part of the Archaean Lebzena Group. The BIF units in EL264 are exposed over a total strike length of approximately 24km, of which Lebtheinia Centre has a strike length of 11.5km. Parts of the main BIF units at Lebtheinia Centre deposit are covered by laterite and colluvium consisting of BIF fragments.

The magnetite-BIF at Lebtheinia Centre averages about 240m thick. The BIF is characterised by a well-defined banding pattern, with individual bands ("mesobands") averaging 5-10mm thick. Drilling shows that mineralisation extends to at least 400m vertically below natural surface and is open at depth. The deposit is intruded by a series of sub-vertical dolerite dykes, striking NE-SW to NNE-SSW. Lebtheinia Centre has a hanging wall of (variously) quartzite, amphibolite, rhyolite, clay/saprolite (altered amphibolite) and a footwall of quartzite or amphibolite.

The depth of weathering (oxidation) of the BIF averages around 50m. In the lower two thirds of the oxidised zone (the Lower Oxidised Zone, "LOZ") the degree of oxidation is less than in the more oxidised upper third.

The Lebtheinia Centre Mineral Resource Statement for fresh mineralisation uses 20% DTC wt% cut-off. For the LOZ unit the cut-off is 14 SI x 10-3 units of magnetic susceptibility.

The Lebtheinia Mineral Resource Statement has been prepared in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2004 Edition).

Zanaga Project: The Zanaga ELs are located within a north-south oriented greenstone belt which extends for over 47km in length, and vary between 0.5km and 3km in width. The mineralisation is hosted by metamorphosed volcano-sedimentary itabirites, and is interbedded with amphibolites and mafic schists. The contact with the crystalline basement is typically faulted and sheared. The principal ore lithologies consist of itabirites, interbedded with basic lavas, which are later altered to amphibolites. Typically, the itabirites consist of layers of iron-rich and quartz rich meta-sediments, on a millimetre to centimetre scale. The orebody lithologies are crosscut by late intrusions and dolerite dykes, oriented

northeast-southwest. The deposit comprises a sequence of weathering domains, which overlay an un-weathered protore comprising itabirite. The weathered sequence observed at Zanaga is typical of iron ore deposits, where the surficial material demonstrates enrichment in iron above the protore due to a mass reduction and associated leaching of the silicate layers.

The Mineral Resource is reported at a 0% Fe cut-off.

The Zanaga Mineral Resource Statement has been prepared in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012 Edition).

The Zanaga Project Ore Reserve Statement was prepared by SRK Consulting (UK) Limited as part of a Feasibility Study.

The full release of this Mineral Resource and Ore Reserve update is available on the Zanaga Iron website (www.zanagairon.com).

Competent Persons

AM = Alan Miller, Independent Consultant (MAusIMM (CP)), responsible for the construction of the geological block model, the grade interpolation and the Mineral Resource estimation (tonnage and grade) and classification.

GB = Gabor Bacsfalusi, SRK Consulting (UK) Limited (MAusIMM (CP)).

MT = Malcolm Titley, CSA Global (UK) Ltd (MAusIMM (CP)).

NS = Nicolas Szwedska, BBA Inc. (OIQ).

SvdM = Schalk van der Merwe, Independent Consultant (SACNSP), responsible for the geological interpretation for the Mineral Resource estimation (wireframe model), and the drill hole data set used in these resource estimation.

Energy Products
Coal

Australia Coal Resources – New South Wales

Name of operation	Attributable interest	Mining Method	Commodity	Measured Coal Resources 31.12.17	Measured Coal Resources 31.12.16	Indicated Coal Resources 31.12.17	Indicated Coal Resources 31.12.16	Inferred Coal Resources 31.12.17	Inferred Coal Resources 31.12.16	Competent Person
Oakbridge Group			Thermal Coal (Mt)	**1,034**	**1,184**	**633**	**673**	**1,530**	**1,030**	
Bulga Complex	68.3%	OC/UG	Thermal Coal (Mt)	1,000	1,150	560	600	1,300	800	JT
			CV (kcal/kg)	5,900	5,800	5,600	5,750	5,700	5,600	
Baal Bone	74.1%	OC/UG	Thermal Coal (Mt)	15	15	13	13	80	80	MS
			CV (kcal/kg)	5,800	5,800	6,350	6,350	5,000	5,000	
Running Stream	78%	OC/UG	Thermal Coal (Mt)	19	19	60	60	150	150	MS
			CV (kcal/kg)	5,050	5,050	5,050	5,050	5,150	5,150	
Macquarie Coal JV	80%		Thermal Coal (Mt)	**42**	**62**	**107**	**97**	**30**	**30**	
West Wallsend		UG	Thermal Coal (Mt)	40	60	12	5	–	–	MS
			CV (kcal/kg)	5,350	5,500	5,450	5,100	–	–	
Cardiff Borehole		UG	Thermal Coal (Mt)	–	–	15	12	30	30	MS
			CV (kcal/kg)	–	–	5,800	5,700	5,500	5,500	
Teralba		UG	Thermal Coal (Mt)	2	2	80	80	–	–	MS
			CV (kcal/kg)	6,000	6,000	6,100	6,100	–	–	
Mitchells Flat	100%	OC/UG	Thermal Coal (Mt)	–	–	**120**	**120**	**350**	**350**	ML
			CV (kcal/kg)	–	–	5,750	5,750	5,900	5,900	
Liddell	67.5%	OC/UG	Thermal Coal (Mt)	**170**	**170**	**200**	**180**	**400**	**350**	ST/DS
			CV (kcal/kg)	6,200	6,200	6,100	6,100	6,200	6,150	
Mount Owen Complex	100%		Thermal Coal (Mt)	**320**	**265**	**296**	**155**	**441**	**191**	
Mount Owen		OC	Thermal Coal (Mt)	190	130	220	80	350	100	DS
			CV (kcal/kg)	6,050	6,300	6,200	6,050	6,050	6,000	
Ravensworth East		OC	Thermal Coal (Mt)	65	65	26	25	1	1	DS
			CV (kcal/kg)	5,750	5,750	5,700	5,700	5,750	5,750	
Glendell		OC	Thermal Coal (Mt)	65	70	50	50	90	90	DS
			CV (kcal/kg)	5,900	5,900	5,900	5,900	5,850	5,850	
Integra	100%	UG	Thermal/Coking Coal (Mt)	**17**	**15**	**50**	**55**	**40**	**40**	DS
			CV (kcal/kg)	5,400	5,400	5,450	5,450	5,400	5,400	
United	95%	OC/UG	Thermal Coal (Mt)	**240**	**240**	**250**	**230**	**600**	**600**	IE
			CV (kcal/kg)	6,000	6,000	6,000	6,000	5,550	5,550	
Ulan Complex	90%		Thermal Coal (Mt)	**255**	**265**	**343**	**373**	**720**	**720**	
Ulan UGs		UG	Thermal Coal (Mt)	210	220	330	360	700	700	ML
			CV (kcal/kg)	6,600	6,600	4,750	4,750	5,000	5,000	
Ulan OC		OC	Thermal Coal (Mt)	45	45	13	13	20	20	ML
			CV (kcal/kg)	4,950	4,950	5,200	5,200	4,900	4,900	
Ravensworth Group			Thermal Coal (Mt)	**434**	**434**	**250**	**240**	**100**	**100**	
Narama	100%	OC	Thermal Coal (Mt)	24	24	–	–	–	–	ML
			CV (kcal/kg)	5,600	5,600	–	–	–	–	
Ravensworth North	90%	OC	Thermal Coal (Mt)	410	410	250	240	100	100	ML
			CV (kcal/kg)	5,950	5,900	6,000	6,000	5,700	5,700	
Mangoola	100%	OC/UG	Thermal Coal (Mt)	**110**	**130**	**270**	**260**	**1,300**	**1,300**	MS
			CV (kcal/kg)	5,200	5,200	4,500	4,650	4,100	4,400	
Tahmoor Complex	100%		Coking Coal (Mt)	**60**	**60**	**340**	**340**	**250**	**250**	
Tahmoor North		UG	Coking Coal (Mt)	40	40	100	100	150	150	ML
Tahmoor South		UG	Coking Coal (Mt)	20	20	240	240	100	100	ML
Ravensworth UG	70%	UG	Thermal Coal (Mt)	**320**	**320**	**220**	**220**	**250**	**250**	ML
			CV (kcal/kg)	5,800	5,800	5,400	5,400	5,350	5,350	
Coal Resources New South Wales			**Coking/Thermal Coal (Mt)**	**3,002**	**3,145**	**3,079**	**2,943**	**6,011**	**5,211**	

Energy Products Coal

Australia Coal Reserves – New South Wales

Name of operation	Attributable interest	Mining method	Coal type	Coal Reserves Proved 31.12.17	Coal Reserves Probable 31.12.17	Marketable Coal Reserves Proved 31.12.17	Marketable Coal Reserves Probable 31.12.17	Total Marketable Coal Reserves 31.12.17	Total Marketable Coal Reserves 31.12.16	Competent Person
Oakbridge Group	68.3%		Thermal Coal (Mt)	**170**	**94**	**120**	**67**	**187**	**212**	
Bulga OC		OC	Thermal Coal (Mt)	75	70	50	50	100	108	JG
			CV (kcal/kg)			6,350	6,300	6,350	6,450	
Bulga UG		UG	Thermal Coal (Mt)	95	24	70	17	87	104	MJ
			CV (kcal/kg)			6,400	6,450	6,400	6,400	
Liddell	67.5%	OC	Thermal Coal (Mt)	**20**	**10**	**12**	**6**	**18**	**23**	CG
			CV (kcal/kg)			6,700	6,700	6,700	6,700	
Mount Owen Complex	100%		Thermal Coal (Mt)	**90**	**9**	**53**	**5**	**58**	**68**	
Mount Owen		OC	Thermal Coal (Mt)	60	9	35	5	40	46	STH
			CV (kcal/kg)			6,350	6,300	6,350	6,450	
Ravensworth East		OC	Thermal Coal (Mt)	10	–	6	–	6	7	STH
			CV (kcal/kg)			6,000	–	6,000	6,100	
Glendell		OC	Thermal Coal (Mt)	20	–	12	–	12	15	STH
			CV (kcal/kg)			6,600	–	6,600	6,450	
Integra	100%	UG	Coking Coal (Mt)	**4**	**1**	**2**	**0.7**	**3**	**1.4**	AF
			Ash (%)			8.6	8.4	8.6	8.1	
United	95%		Thermal Coal (Mt)	**–**	**70**	**–**	**50**	**50**	**50**	
United OC		OC	Thermal Coal (Mt)	–	70	–	50	50	50	PP
			CV (kcal/kg)			–	6,500	6,500	6,450	
Ulan Complex	90%		Thermal Coal (Mt)	**156**	**6**	**149**	**6**	**154**	**159**	
Ulan #3 UG		UG	Thermal Coal (Mt)	55	0.4	55	0.4	55	55	EMcG
			CV (kcal/kg)			6,350	6,350	6,350	6,550	
Ulan West UG		UG	Thermal Coal (Mt)	95	5	90	5	95	100	HE
			CV (kcal/kg)			6,250	6,250	6,250	6,400	
Ulan Waratah OC		OC	Thermal Coal (Mt)	6	0.4	4	0.2	4	4	VC
			CV (kcal/kg)			5,000	5,000	5,000	5,000	
Ravensworth North	90%	OC	Thermal Coal (Mt)	**220**	**12**	**140**	**8**	**148**	**157**	DC
			CV (kcal/kg)			6,400	6,450	6,400	6,200	
Mangoola	100%	OC	Thermal Coal (Mt)	**75**	**6**	**65**	**3**	**68**	**79**	MW
			CV (kcal/kg)			5,350	5,150	5,350	5,350	
Tahmoor Complex	100%		Coking/Thermal Coal (Mt)	**14**	**40**	**10**	**31**	**41**	**42**	
Tahmoor North		UG	Coking Coal (Mt)	1	10	1	7	8	9	RO
			Ash (%)			9.2	9.3	9.3	9.3	
		UG	Thermal Coal (Mt)	–	–	0.1	1	1	1	
			CV (kcal/kg)			5,600	5,600	5,650	5,600	
Tahmoor South		UG	Coking Coal (Mt)	13	30	8	21	29	29	RO
			Ash (%)			9.5	9.5	9.5	9.5	
		UG	Thermal Coal (Mt)	–	–	0.8	2	3	3	
			CV (kcal/kg)			5,750	5,700	5,750	5,850	
Ravensworth UG	70%	UG	Thermal Coal (Mt)	**40**	**–**	**28**	**–**	**28**	**28**	KB
			CV (kcal/kg)			6,950	–	6,950	6,950	
Coal Reserves New South Wales			**Thermal Coal (Mt)**	**771**	**207**	**568**	**148**	**715**	**780**	
			Coking Coal (Mt)	**18**	**41**	**11**	**29**	**40**	**39**	

Note: Hunter Valley Semisoft coking coal is included in Thermal Coal (Mt)

Energy Products Coal

Notes

The Australian Coal Resources and Reserves are contained within the Sydney Basin (New South Wales), the Bowen Basin (Queensland), the Surat Basin (Queensland) and the Galilee Basin (Queensland).

Coal Resource tonnes have been reported on an in situ moisture basis while Coal Reserves are reported on an as received moisture basis. Coal Resources are reported inclusive of those Coal Resources modified to produce Coal Reserves.

Coal Resources have been re-estimated in 2017 for inclusion in this summary table except where otherwise stated. Revision of the totals includes changes to classifications of Coal Resource status due to exploration, geological reinterpretation remodelling, and changes to lease holdings and depletion by mining.

Thermal Coal Resource qualities are reported at an *in situ* moisture basis and Thermal Coal Reserve qualities are reported on a gross as received basis. Coal Resource qualities for coking coal are not reported, however Coking Coal Reserve qualities are reported on a gross as received basis.

Unless otherwise stated, the product yields used to estimate Marketable Coal Reserves are derived from a simulation package applied to sizing and washability data from each deposit, commonly the "Resource Mastor" software developed by A&B Mylec. The plant simulation package forecasts future plant performance based on historical plant data and exploration drill core analysis.

Changes and issues material to the estimation of Coal Resources and Reserves are noted below for specific projects. Reference to production changes between 31 December 2016 and 31 December 2017 are detailed for each producing mine site.

Tonnages are quoted as million metric tonnes.

Oakbridge Group

Bulga Complex: Overall Coal Resource increase due to thickness and cut-off adjustments for both open cut and underground models (385Mt). Although the overall Resource quantity has not materially changed, a reclassification of Measured and Indicated Resources to Inferred status (190Mt), and additional Inferred status tonnage (310MT) has also resulted from this change to model methodology. Figures in table have been reported in accordance with rounding procedures.

Bulga open cut: Coal Resource and Reserve depletion due to mining (-11Mt).

Coal Reserves for Bulga Open Cut operations are sufficient to support a mine life of approximately 18 years.

Bulga underground: Coal Resource and Reserve depletion due to mining (-6Mt).

Coal Reserve decrease due to the removal of the Glen Munro seam from the mine plan following Prefeasibility Technical Studies (-26Mt). The decrease was partially offset by the introduction of newly classified resources due to available exploration data and statistical analysis (10mt).

Tenements for the Bulga Complex expire between April 2018 and September 2036.

Baal Bone: Coal Resources were not re-estimated in 2017.

Extraction of the remaining Lithgow Seam and Irondale Seam resources expected to be by underground methods except where the Lithgow, Irondale and Glen Davis Seams are potentially extractable by open cut methods.

Tenements for Baal Bone expire between December 2024 and August 2032.

Running Stream: Running Stream is an undeveloped thermal coal project. Coal Resources were not re-estimated in 2017.

Potential mining methods are open cut for the shallow Coal Resources (less than 60m depth of cover) and underground mining for Coal Resources in excess of 60m depth of cover.

Assessment Lease expires in May 2020.

Macquarie JV

West Wallsend: Coal Resource depletion due to removal of inaccessible areas after the sealing of West Wallsend Colliery (-26Mt). The decrease was partially offset by the introduction of the Young Wallsend seam as a resource (14Mt).

West Wallsend Mine completed operations in 2016 and mine closure work has commenced. Tenements for West Wallsend, Cardiff Borehole and Teralba expire between January 2020 and January 2030. Some tenements have expired and Renewal Applications have been submitted.

Cardiff Borehole: Minor Coal Resources increase due to re-modelling of seam split areas (+1.3mt). There is currently no mine plan at Cardiff Borehole.

Cardiff Borehole is a potential underground Coal Resource possibly accessible via the existing Teralba Colliery infrastructure.

Teralba: Coal Resources were not re-estimated in 2017.

Teralba was a longwall underground that ceased operations in 2001. The Coal Resource remains suitable for a potential underground mine.

Mitchells Flat: Coal Resources were not re-estimated in 2017.

Tenements for Mitchells Flat expire in February 2019.

Liddell Open Cut: Coal Resources include both the current Liddell Open Cut Operations (assessed by ST) and a project called Glendell North Project (assessed by DS).

Coal Resource and Reserve depletion due to mining at Liddell Open Cut (-5Mt).

Tenements for Liddell expire between October 2023 and November 2028. Coal Reserves for Liddell operations are sufficient to support a mine life of 6 years.

Coal Resource increase due to exploration programs and additional data across both Liddell Operations and Glendell North Project (48Mt). Figures in table have been reported in accordance with rounding procedures.

Tenements for Glendell North Project expire between July 2020 and December 2023.

Mt Owen Complex

Mount Owen: Coal Resource and Reserve depletion due to mining (-8Mt).

Coal Resource increase due to exploration programs conducted throughout 2017 within lease areas which have been transferred from Integra (acquired 2016) to Mt Owen (Measured and Indicated 186Mt, Inferred 245Mt).

Tenements for Mt Owen expire between December 2018 and July 2036.

Coal Reserves for Mt Owen Complex operations are sufficient to support a mine life of 13 years.

Ravensworth East: Coal Resource increase (1Mt) due to geological model update. Coal Reserve depletion due to mining (-1.3Mt)

Tenements for Ravensworth East expire between June 2019 and October 2034.

Coal Reserves for Ravensworth East operations are sufficient to support a mine life of 5 years.

Glendell: Coal Resource and Reserve depletion due to mining (-4Mt).

Tenements for Glendell expire between July 2020 and November 2033. Coal Reserves for Glendell operations are sufficient to support a mine life of 5 years.

Integra: Coal Resource and Reserve depletion due to mining (-2Mt).

Coal Reserve increase due to the inclusion of LW14, LW15 and Mains in the current Life of Mine Plan (4Mt).

Underground operations have recommenced during 2017 to extract the next three longwall blocks. Reserves reflect these three blocks only.

Tenements for the area acquired by Glencore expire between November 2023 and November 2033. Coal Reserves for Integra operations are sufficient to support a mine life of 2 years.

United: Coal Resource increase due to a transcription error in 2016 which excluded an indicated polygon (17Mt).

Tenements for United expire between August 2019 and March 2033.

United Open Cut Project: No material change to Coal Reserves estimations since 31 December 2016.

Coal Reserves for United Open Cut Project are sufficient to support a mine life of 14 years following commencement of operations which is currently under consideration.

United A444 Underground Project: Coal Resources were not re-estimated in 2017.

Ulan Complex: Coal Resource decrease due to removal of sterilised mining section and re-correlation (-33Mt).

Underground Coal Resource depletion due to mining (-12Mt).

Tenements for Ulan expire between May 2020 and June 2038.

Ulan Open Cut: No material change to Coal Reserves estimations since 31 December 2016.

Ulan West Underground: Coal Reserve depletion due to mining (-7Mt).

Coal Reserves for Ulan West underground operations are sufficient to support a mine life of 14 years.

Ulan #3 Underground: Coal Reserve depletion due to mining (-5Mt).

Coal Reserve increase (5Mt) with a decrease in Marketable Reserve CV due to annual variation in product strategy (-200kcal/kg).

Coal Reserves for Ulan #3 underground operations are sufficient to support a mine life of 12 years.

Ravensworth Group

Narama: No material change to Coal Resources since 31 December 2016. Mining Operations in Narama ceased at the end of 2014 upon completion of the Narama mine plan.

Tenements for Narama expire between December 2023 and August 2036.

Ravensworth North: Coal Resource depletion due to mining (-13Mt).

Coal Resource increase due to adjustments to minimum cut-off thicknesses (24Mt).

Increase in Marketable Reserve CV following updated reconciliation with actuals (200kcal/kg).

Coal Reserve depletion due to mining (-12Mt) and dilution (6Mt).

Tenements for Ravensworth North expire between June 2022 and September 2035. Some tenements have expired and Renewal Applications have been submitted. Coal Reserves for Ravensworth North operations are sufficient to support a mine life of 17 years.

Mangoola: Coal Resource and Reserve depletion due to mining (-13Mt).

Additional Coal Resource decrease due to the July to December 2016 forecast tonnes being omitted from the 2016 report in error (-7Mt). This decrease due to the error was partly offset with additional resources as a result of the combination of the Mangoola North and South models (11Mt).

Decrease in Inferred Resource CV due to acquisition of new data impacting the LOX line location and subsequent tonnes (-300kcal/kg).

Tenements for Mangoola expire between November 2019 and December 2037. Coal Reserves for Mangoola operations are sufficient to support a mine life of 9 years.

Tahmoor Complex:

Tahmoor North: Coal Resource and Reserve depletion due to mining (-2Mt).

Tenements for Tahmoor North expire between January 2018 and March 2035. Some tenements have expired and Renewal Applications have been submitted. Coal Reserves for Tahmoor North underground operations are sufficient to support a mine life of 1 years.

Tahmoor South: Coal Resources were not re-estimated in 2017.

Tenements for Tahmoor South expire between March 2021 and November 2025.

Glencore has reached agreement to sell Tahmoor to SIMEC Mining, the mining division of the GFG Alliance. The transaction is subject to approval from the NSW Government and is expected to complete in 2018.

Ravensworth Underground: No material change in Coal Resource or Reserve estimations since 31 December 2016.

Production was suspended in September 2014 with the mine currently on care and maintenance.

Tenements for Ravensworth Underground expire between November 2021 and November 2029. Some tenements have expired and Renewal Applications have been submitted.

Competent Persons

AF = Alison Freeman, Senior Mining Engineer, Glencore Coal Assets Australia (AusIMM);

CG = Chris Gerard, Technical Services Manager, Liddell Open Cut (AusIMM);

DC = David Cahill, Superintendent Technical Services, Ravensworth Open Cut (AusIMM);

DS = Daniel Saunders, Geologist, Glendell Mine (AusIMM);

EMcG = Edward McGonigle, Senior Mining Engineer, Ulan Underground Mine (AusIMM);

HE = Heath Evans, Technical Services Manager, Ulan West Operations (AusIMM);

IE = Isaac Eadndel, Project Geologist, United Collieries (AusIMM);

JG = Joel Grant, Senior Mining Engineer, Bulga Open Cut (AusIMM);

JT = John Terrill, Principal Geologist, Glencore Coal (AIG);

KB = Konrad Bawelkiewicz, Mining Engineer/Analyst, Glencore Coal Assets Australia (AusIMM);

MJ = Marc Justen, Senior Mining Engineer, Bulga Underground Operations (AusIMM);

ML = Mark Laycock, Geology Superintendent, Glencore Coal Assets Australia (AusIMM);

MW = Mark Williams, Technical Services Manager, Mangoola (AusIMM);

MS = Michael Stadler, Senior Geologist, Glencore Coal Assets Australia (AusIMM);

PP = Phuc Pham, Mining Engineer, United Collieries (AusIMM);

RO = Rachelle Oliver, Project Manager, Glencore Coal Assets Australia (AusIMM);

STH = Shane Holmes, Technical Services Manager, Mt Owen (AusIMM);

ST = Shaun Tamplin, Principal Consultant, Tamplin Resources (AusIMM);

VC = Vrotnesky Cediel, Technical Services Superintendent, Ulan Surface Operations (AusIMM).

Energy Products Coal

Australia Coal Resources – Queensland

Name of operation	Attributable interest	Mining Method	Commodity	Measured Coal Resources 31.12.17	Measured Coal Resources 31.12.16	Indicated Coal Resources 31.12.17	Indicated Coal Resources 31.12.16	Inferred Coal Resources 31.12.17	Inferred Coal Resources 31.12.16	Competent Person
Oaky Creek	55%	OC/UG	Coking Coal (Mt)	**260**	**260**	**340**	**340**	**80**	**80**	RJH
Red Rock	75%	OC/UG	Coking/Thermal Coal (Mt)	**0.7**	**0.1**	**150**	**150**	**150**	**150**	RJH
			CV (kcal/kg)	6,950	6,900	6,000	6,000	5,700	5,700	
NCA	100%		Coking/Thermal Coal (Mt)	**467**	**473**	**513**	**544**	**1,000**	**1,010**	
Newlands, Suttor		OC/UG	Thermal Coal (Mt)	310	310	120	130	400	400	JT
Eastern (RCM)			CV (kcal/kg)	5,700	5,700	5,400	5,400	5,100	5,100	
Wollombi (MCM)		OC/UG	Coking Coal (Mt)	10	10	25	26	50	70	JT
			Thermal Coal (Mt)	17	18	60	60	90	90	JT
			CV (kcal/kg)	5,300	5,250	5,000	5,050	5,000	5,100	
Sarum		OC/UG	Coking Coal (Mt)	30	30	8	8	60	60	JT
			Thermal Coal (Mt)	–	–	65	65	250	250	JT
			CV (kcal/kg)	–	–	5,450	5,450	4,650	4,650	
Collinsville		OC/UG	Coking Coal (Mt)	30	35	75	75	40	40	RJH
			Thermal Coal (Mt)	70	70	160	180	110	100	RJH
			CV (kcal/kg)	5,350	5,850	6,200	6,250	5,450	5,850	
Cook	95%	OC/UG	Coking/Thermal Coal (Mt)	**–**	**–**	**210**	**210**	**800**	**800**	DP
			CV (kcal/kg)	–	–	6,650	6,650	6,500	6,500	
Rolleston	75%		Thermal Coal (Mt)	**210**	**220**	**210**	**210**	**420**	**370**	
Rolleston ML		OC	Thermal Coal (Mt)	210	220	210	210	400	350	JB
			CV (kcal/kg)	5,750	5,750	5,550	5,550	5,550	5,550	
Rolleston MDL &		OC	Thermal Coal (Mt)	–	–	–	–	20	20	JB
EPCs			CV (kcal/kg)	–	–	–	–	5,400	5,800	
Togara North	70%	OC/UG	Thermal Coal (Mt)	**370**	**370**	**250**	**250**	**700**	**700**	MS
			CV (kcal/kg)	6,350	6,350	6,000	6,000	6,000	6,000	
Wandoan	75%		Thermal Coal (Mt)	**1,500**	**1,500**	**1,950**	**1,750**	**4,600**	**4,300**	RJ
			CV (kcal/kg)	5,200	5,200	5,100	5,050	5,050	5,200	
Milray	75%	OC/UG	Thermal Coal (Mt)	**–**	**–**	**170**	**170**	**600**	**600**	RJH
			CV (kcal/kg)	–	–	6,050	6,150	4,950	5,800	
Pentland	75%	OC/UG	Thermal Coal (Mt)	**100**	**100**	**40**	**40**	**10**	**10**	RJH
			CV (kcal/kg)	4,400	4,400	4,050	4,050	4,100	4,100	
Clermont	25%	OC	Thermal Coal (Mt)	**110**	**110**	**18**	**21**	**10**	**10**	JT
			CV (kcal/kg)	6,200	6,200	6,050	6,050	5,800	5,750	
Coal Resources Queensland			**Coking/Thermal Coal (Mt)**	**3,008**	**3,033**	**3,851**	**3,685**	**8,370**	**8,030**	

Energy Products Coal

Australia Coal Reserves – Queensland

Name of operation	Attributable interest	Mining method	Coal type	Coal Reserves Proved 31.12.17	Coal Reserves Probable 31.12.17	Marketable Coal Reserves Proved 31.12.17	Marketable Coal Reserves Probable 31.12.17	Total Marketable Coal Reserves 31.12.17	Total Marketable Coal Reserves 31.12.16	Competent Person
Oaky Creek	55%		Coking Coal (Mt)	**50**	**26**	**35**	**16**	**51**	**63**	
Oaky No. 1		UG	Coking Coal (Mt)	–	–	–	–	–	1	SW
			Ash (%)			–	–	–	9.4	
Oaky North		UG	Coking Coal (Mt)	50	26	35	16	51	62	SW
			Ash (%)			9.4	9.4	9.4	9.4	
NCA	100%		Coking/Thermal Coal (Mt)	**77**	**84**	**60**	**64**	**124**	**131**	
Newlands OC		OC	Coking Coal (Mt)	6	4	4	2	6	6	AC
			Ash (%)			9.5	9.8	9.6	9.5	
		OC	Thermal Coal (Mt)	35	18	27	13	40	44	AC
			CV (kcal/kg)			6,450	6,200	6,400	6,350	
Collinsville OC		OC	Coking Coal (Mt)	10	12	7	9	16	14	AC
			Ash (%)			10.3	9.7	10	10	
		OC	Thermal Coal (Mt)	26	50	22	40	62	67	AC
			CV (kcal/kg)			5,850	6,050	5,950	5,900	
Rolleston	75%	OC	Thermal Coal (Mt)	**150**	**80**	**150**	**80**	**230**	**235**	RM
			CV (kcal/kg)			5,700	5,400	5,600	5,600	
Togara North	70%	OC	Thermal Coal (Mt)	**–**	**28**	**–**	**28**	**28**	**28**	PJ
			CV (kcal/kg)			–	6,300	6,300	6,300	
Wandoan	75%	OC	Thermal Coal (Mt)	**570**	**200**	**490**	**170**	**660**	**660**	PJ
			CV (kcal/kg)			5,600	5,600	5,600	5,600	
Clermont	25%	OC	Thermal Coal (Mt)	**100**	**14**	**100**	**14**	**114**	**118**	HB
			CV (kcal/kg)			5,950	5,900	5,950	6,150	
Coal Reserves Queensland			**Thermal Coal (Mt)**	**881**	**390**	**789**	**345**	**1,134**	**1,152**	
			Coking Coal (Mt)	**66**	**42**	**46**	**27**	**73**	**83**	

Notes

Oaky Creek Complex

Oaky Creek: Coal Resource depletion due to mining (-7Mt). Figures in table have been reported in accordance with rounding procedures.

Tenements for the Oaky Creek Complex expire between June 2020 and August 2035.

Oaky Creek No. 1: Coal reserve depletion due to mining of final ROM coal (2Mt) and final sales (1Mt).

Mining operations at Oaky Creek No 1 ceased during 2017.

Oaky Creek North: Coal Reserve depletion due to mining (-5Mt). Coal Reserve decrease due to mine design changes in longwall panels within ML70327 (-10Mt).

Coal Reserves are sufficient to support a mine life for 15 years.

Red Rock: No material change to Coal Resources since 31 December 2016.

Tenements for Red Rock expire between September 2018 and September 2020.

NCA

Newlands Open Cut: Coal Reserve depletion due to mining (-6Mt).

Coal Reserves for Newlands Open Cut operations are sufficient to support a mine life of 8 years.

Newlands, Suttor, Eastern (RCM – Rangal Coal Measure): Newlands Coal Resource depletion due to mining (-1Mt).

Eastern Creek Coal Resource depletion due to mining (-2Mt).

Suttor Creek Coal Resource no material change since 31 December 2016.

Figures in table have been reported in accordance with rounding procedures.

Tenements for Newlands Complex expire between March 2018 and August 2037. Tenement Renewal Applications have been submitted as required

Wollombi (MCM – Moranbah Coal Measures): Coal Resource depletion due to mining (-3Mt).

Inferred Coal Resource depletion due to classification review with newly available data (-6Mt). Figures in table have been reported in accordance with rounding procedures.

Newlands Underground: Newlands Underground completed operations during 2016.

Sarum: No change in the Coal Resource estimation since 31 December 2012.

The Sarum Project is inclusive of the Sarum and Gattonvale deposits. Tenements at the Project expire between July 2018 and April 2021. An application for the grant of a new, singular, Mineral Development Licence that covers the entire project area has been lodged.

Collinsville: Coal Resource and Reserve depletion due to mining (-3Mt).

Overall Coal Resource decrease due to geological model refinements (-11Mt).

Decrease in Resource CV due to correction of rounding errors in 2016 (Measured -500kcal/kg, Inferred -200kcal/kg).

Coal Reserves for Collinsville are sufficient to support a mine life for 20 years.

Tenements for Collinsville expire between March 2018 and September 2035.

Energy Products Coal

Cook (Blackrock): No change in the Coal Resource estimation since 31 December 2016.

Tenements for Cook expire between April 2021 and September 2028.

Rolleston: Coal Resource depletion due to mining (-9Mt) and sterilisation (-3Mt). Inferred Coal Resource increase due to the inclusion of resources identified through additional drilling (28Mt). Figures in table have been reported in accordance with rounding procedures.

Coal Reserve depletion due to mining (-15Mt). Coal Reserve increase due to changes in pit limits with a revised mine design allowing greater use of dragline stripping to bring about reduced costs and hence overall improved economics (13Mt).

Decrease in EPC Inferred Resource CV due to the inclusion of higher ash areas (-400kcal/kg).

Tenements for Rolleston expire between April 2020 and May 2043. Some tenements have expired and Renewal Applications have been submitted. Coal Reserves for Rolleston are sufficient to support a mine life of 24 years.

Togara North: Coal Resources were not re-estimated in 2017.

Tenements for Togara North expire between September 2018 and December 2046.

Wandoan: Coal Resource increase due to declaration of a maiden resource within MDL414 (632Mt). Figures in table have been reported in accordance with rounding procedures.

No change in the Coal Reserve estimation since 31 December 2016.

Tenements for Wandoan expire between January 2019 and December 2043. Some tenements have expired and Renewal Applications have been submitted. Coal Reserves for Wandoan are sufficient to support a mine life greater than 30 years.

Milray: No change in the Coal Resource estimation since 31 December 2016.

Decrease in Inferred Resource CV due to correction of a rounding error in 2016 (-850kcal/kg).

Tenement for Milray expires in January 2021.

Pentland: Coal Resources were not re-estimated in 2017.

Tenements for Pentland expire between October 2019 and September 2021.

Clermont: Clermont Coal Resources estimated for the extraction of thermal coal via open cut methods.

Coal Resource and Reserve depletion due to mining (-12Mt) and sterilisation (-1.6Mt).

Coal Reserve increase due to resource reclassification (6Mt)

Tenements for Clermont expire between April 2020 and November 2027. Coal Reserves at Clermont are sufficient to support a mine life for 9 years.

Competent Persons

AC = Andrew Connell, Principal Mining Engineer, Glencore Coal Assets Australia (AusIMM);

DP = Doyle Pryde, Senior Geologist, McElroy Bryan Geological Services Pty Ltd (AusIMM);

HB = Hans Binnekamp, Senior Mine Planner, Clermont Coal (AusIMM);

JB = Jarrod Bennedick, Senior Mine Geologist, Rolleston Coal (AusIMM);

JT = John Terrill, Principal Geologist, Glencore Coal Assets Australia (AIG);

MS = Michael Stadler, Senior Geologist, Glencore Coal Assets Australia (AusIMM);

PJ = Paul Jones, Principal Mining Engineer, Glencore Coal Assets Australia (AusIMM);

RJ = Rowan Johnson, Senior Geologist, McElroy Bryan Geological Services Pty Ltd (AusIMM);

RJH = Richard Hingst, Resource Geologist, Oaky Creek Coal (AusIMM);

RM = Rob Molan, Senior Mining Engineer, Rolleston Coal (AusIMM);

SW = Steven Winter, Technical Services Manager, Oaky Creek Coal (AusIMM).

Energy Products Coal

South Africa Coal Resources

In accordance with the 2016 SAMREC code, Mineable Tonnes in Situ (MTIS) Coal Resources have been shown for 2017. For comparability, Gross Tonnes in Situ (GTIS) reported in 2016 under the provisions of the 2007 SAMREC Code (revised 2009) have also been reported for 2017.

				Measured Coal Resources			Indicated Coal Resources			Inferred Coal Resources			
Name of operation	Attributable interest	Mining Method	Commodity	Dec 17 (MTIS)	Dec 17 (GTIS)	Dec 16 (GTIS)	Dec 17 (MTIS)	Dec 17 (GTIS)	Dec 16 (GTIS)	Dec 17 (MTIS)	Dec 17 (GTIS)	Dec 16 (GTIS)	Competent Person
Tweefontein	79.8%		Thermal Coal (Mt)	875	920	940	60	65	65	38	40	40	
Tweefontein North		OC/UG	Thermal Coal (Mt)	675	710	730	–	–	–	8	10	10	MS
			CV (kcal/kg)	5,250	5,250	5,250	–	–	–	5,500	5,500	5,500	
Tweefontein South		OC/UG	Thermal Coal (Mt)	200	210	210	60	65	65	30	30	30	MS
			CV (kcal/kg)	5,350	5,350	5,350	4,350	4,350	4,350	4,600	4,600	4,600	
Goedgevonden	74%	OC/UG	Thermal Coal (Mt)	515	540	540	7	8	13	1	1	–	MS
Complex			CV (kcal/kg)	4,800	4,800	4,800	5,000	5,000	5,000	3,450	3,450	–	
iMpunzi	79.8%		Thermal Coal (Mt)	380	395	410	13	14	14	2	3	3	
iMpunzi North		OC	Thermal Coal (Mt)	250	260	270	4	4	4	2	3	3	MS
			CV (kcal/kg)	5,250	5,250	5,250	5,500	5,500	5,500	5,600	5,600	5,600	
iMpunzi East		OC	Thermal Coal (Mt)	130	135	140	9	10	10	–	–	–	MS
			CV (kcal/kg)	5,400	5,400	5,400	5,250	5,250	5,250	–	–	–	
Zonnebloem	100%	OC	Thermal Coal (Mt)	190	200	200	35	40	40	–	–	–	MS
			CV (kcal/kg)	5,150	5,150	5,150	4,850	4,850	4,850	–	–	–	
Oogiesfontein	100%	UG	Thermal Coal (Mt)	55	60	60	18	20	20	–	–	–	MS
			CV (kcal/kg)	4,950	4,950	4,950	4,950	4,950	4,950	–	–	–	
Paardekop	100%	UG	Thermal Coal (Mt)	120	130	130	575	640	640	80	90	90	MS
			CV (kcal/kg)	5,350	5,350	5,350	5,400	5,400	5,400	5,350	5,350	5,350	
Nooitgedacht	100%	UG	Thermal Coal (Mt)	21	22	22	40	45	40	5	6	6	MS
			CV (kcal/kg)	4,850	4,850	4,850	4,850	4,850	4,850	4,850	4,850	4,850	
Undeveloped	100%	OC/UG	Thermal Coal (Mt)	–	–	–	12	13	13	100	150	250	MS
Resources			CV (kcal/kg)	–	–	–	4,750	4,750	4,750	5,400	5,400	5,400	
Izimbiwa	49.99%		Thermal Coal (Mt)	141	148	188	40	50	110	38	51	16	
Graspan		OC	Thermal coal (Mt)	4	4	7	–	–	–	2	4	–	MS
			CV (kcal/kg)	5,600	5,600	5,350	–	–	–	5,600	5,600	–	
Townlands		OC	Thermal coal (Mt)	13	13	14	–	–	–	–	–	–	MS
			CV (kcal/kg)	5,250	5,250	4,850	–	–	–	–	–	–	
Steelcoal		OC	Thermal coal (Mt)	5	6	10	–	–	–	–	–	–	MS
			CV (kcal/kg)	4,850	4,850	4,650	–	–	–	–	–	–	
Lakeside		OC/UG	Thermal coal (Mt)	5	5	5	–	–	–	–	–	–	MS
			CV (kcal/kg)	4,500	4,500	4,500	–	–	–	–	–	–	
Leeuwfontein		OC	Thermal coal (Mt)	5	5	5	–	–	–	–	–	–	MS
			CV (kcal/kg)	4,600	4,600	4,600	–	–	–	–	–	–	
Springlake		UG/OC	Thermal coal (Mt)	16	17	17	5	10	10	6	7	6	MS
			CV (kcal/kg)	5,800	5,800	6,300	5,750	5,750	6,300	5,700	5,700	6,300	
Argent		OC	Thermal coal (Mt)	28	29	29	–	–	–	–	–	–	MS
			CV (kcal/kg)	5,100	5,100	5,100	–	–	–	–	–	–	
Springboklaagte*		UG/OC	Thermal coal (Mt)	52	55	86	35	40	100	30	40	10	MS
			CV (kcal/kg)	5,100	5,100	4,500	5,050	5,050	4,500	4,950	4,950	4,500	
Corobrik		OC	Thermal coal (Mt)	13	14	15	–	–	–	–	–	–	MS
			CV (kcal/kg)	5,150	5,150	5,100	–	–	–	–	–	–	

* Springboklaagte is held as a Joint Venture between Izimbiwa and Umcebo, 100% of the Springboklaagte resources are included in the table above under Izimbiwa and excluded from Umcebo.

Energy Products Coal

South Africa Coal Resources (continued)

				Measured Coal Resources			Indicated Coal Resources			Inferred Coal Resources			
Name of operation	Attributable interest	Mining method	Commodity	Dec 17 (MTIS)	Dec 17 (GTIS)	Dec 16 (GTIS)	Dec 17 (MTIS)	Dec 17 (GTIS)	Dec 16 (GTIS)	Dec 17 (MTIS)	Dec 17 (GTIS)	Dec 16 (GTIS)	Competent Person
Umcebo	48.67%		Thermal Coal (Mt)	178	192	405	44	50	181	91	106	30	
Klippan		OC	Thermal coal (Mt)	3	4	4	1	1	1	–	–	–	KD
			CV (kcal/kg)	5,800	5,800	5,800	5,800	5,800	5,800	–	–	–	
Kleinfontein Jicama			Thermal coal (Mt)	11	11	11	–	–	–	5	10	10	KD
			CV (kcal/kg)	5,200	5,200	5,200	–	–	–	5,200	5,200	5,200	
Wonderfontein		OC/UG	Thermal coal (Mt)	75	80	95	5	5	–	1	1	–	MS
			CV (kcal/kg)	5,350	5,350	5,350	5,200	5,200	–	4,900	4,900	–	
Norwesco		OC	Thermal coal (Mt)	1	1	1	–	–	–	–	–	–	GC
			CV (kcal/kg)	5,000	5,000	5,000	–	–	–	–	–	–	
Doornrug		OC	Thermal coal (Mt)	4	4	4	–	–	–	–	–	–	GC
			CV (kcal/kg)	5,000	5,000	5,000	–	–	–	–	–	–	
Hendrina		UG	Thermal coal (Mt)	24	27	180	20	24	180	80	90	10	MS
			CV (kcal/kg)	4,400	4,400	4,250	4,400	4,400	4,250	4,700	4,700	4,250	
Belfast	24.34%	UG	Thermal coal (Mt)	60	65	110	18	20	–	5	5	10	MS
			CV (kcal/kg)	5,200	5,200	5,100	5,050	5,050	–	5,150	5,150	5,100	
Coal Resources South Africa			Thermal coal (Mt)	2,475	2,607	2,895	844	945	1,136	355	447	435	

Energy Products Coal

South Africa Coal Reserves

Name of operation	Attributable interest	Mining method	Coal type	Extractable Coal Reserves Proved 31.12.17	Extractable Coal Reserves Probable 31.12.17	Saleable Coal Reserves Proved 31.12.17	Saleable Coal Reserves Probable 31.12.17	Total Saleable Coal Reserves 31.12.17	Total Saleable Coal Reserves 31.12.16	Competent Person
Tweefontein	79.8%		Thermal Coal (Mt)	**205**	**11**	**134**	**7**	**141**	**149**	
Tweefontein		UG/OC	Thermal Coal (Mt)	196	11	127	7	134	142	TH
North			*Export (Mt)*			*80*	*4*	*84*	*89*	
			CV (kcal/kg)			*5,900*	*5,900*	*5,900*	*5,900*	
			Domestic (Mt)			*47*	*3*	*50*	*53*	
			CV (kcal/kg)			*5,100*	*5,100*	*5,100*	*5,100*	
Tweefontein		UG/OC	Thermal Coal (Mt)	9	–	7	–	7	7	TH
South			*Export (Mt)*			*7*	*–*	*7*	*7*	
			CV (kcal/kg)			*5,900*	*–*	*5,900*	*5,900*	
Goedgevonden	74%	OC	Thermal Coal (Mt)	**283**	**10**	**175**	**5**	**180**	**186**	CT
			Export (Mt)			*77*	*2*	*79*	*84*	
			CV (kcal/kg)			*6,000*	*6,000*	*6,000*	*6,000*	
			Export (Mt)			*66*	*2*	*68*	*65*	
			CV (kcal/kg)			*5,100*	*5,100*	*5,100*	*5,100*	
			Domestic (Mt)			*32*	*1*	*33*	*37*	
			CV (kcal/kg)			*5,100*	*5,100*	*5,100*	*5,100*	
iMpunzi	79.8%		Thermal Coal (Mt)	**146**	**6**	**84**	**2**	**86**	**94**	
iMpunzi North		OC	Thermal Coal (Mt)	41	3	23	1	24	28	TH
			Export (Mt)			*21*	*1*	*22*	*25*	
			CV (kcal/kg)			*5,700*	*5,700*	*5,700*	*5,700*	
			Domestic (Mt)			*2*	*–*	*2*	*3*	
			CV (kcal/kg)			*5,100*	*–*	*5,100*	*5,100*	
iMpunzi East		OC	Thermal Coal (Mt)	105	3	61	1	62	66	TH
			Export (Mt)			*52*	*1*	*53*	*56*	
			CV (kcal/kg)			*5,700*	*5,700*	*5,700*	*5,700*	
			Domestic (Mt)			*9*	*–*	*9*	*10*	
			CV (kcal/kg)			*5,100*	*–*	*5,100*	*5,100*	
Zonnebloem	100%	OC	Thermal Coal (Mt)	**–**	**159**	**–**	**80**	**80**	**80**	TH
			Export (Mt)				*40*	*40*	*40*	
			CV (kcal/kg)				*6,000*	*6,000*	*6,000*	
			Domestic (Mt)				*40*	*40*	*40*	
			CV (kcal/kg)				*5,100*	*5,100*	*5,100*	
Nooitgedacht	100%	UG	Thermal Coal (Mt)	**–**	**33**	**–**	**22**	**22**	**22**	MS
			Export (Mt)				*11*	*11*	*11*	
			CV (kcal/kg)				*5,900*	*5,900*	*5,900*	
			Domestic (Mt)				*11*	*11*	*11*	
			CV (kcal/kg)				*5,100*	*5,100*	*5,100*	
Oogiesfontein	100%	OC	Thermal Coal (Mt)	**–**	**8**	**–**	**5**	**5**	**5**	TH
			Export (Mt)				*4*	*4*	*4*	
			CV (kcal/kg)				*5,900*	*5,900*	*5,900*	
			Domestic (Mt)				*2*	*2*	*2*	
			CV (kcal/kg)				*5,100*	*5,100*	*5,100*	

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South Africa Coal Reserves (continued)

Name of operation	Attributable interest	Mining method	Coal type	Extractable Coal Reserves Proved 31.12.17	Extractable Coal Reserves Probable 31.12.17	Saleable Coal Reserves Proved 31.12.17	Saleable Coal Reserves Probable 31.12.17	Total Saleable Coal Reserves 31.12.17	Total Saleable Coal Reserves 31.12.16	Competent Person
Izimbiwa	49.99%		Thermal Coal (Mt)	**27**	**26**	**20**	**24**	**44**	**82**	
Graspan		OC	Thermal Coal (Mt)	0.3	–	0.3	–	0.3	0.5	MC
			Domestic (Mt)			*0.2*	–	*0.2*	*0.2*	
			CV (kcal/kg)			*5,900*	–	*5,900*	*5,900*	
			Domestic (Mt)			*0.1*	–	*0.1*	*0.3*	
			CV (kcal/kg)			*4,500*	–	*4,500*	*4,500*	
Townlands		OC	Thermal Coal (Mt)	10	–	8	–	8	3	MC
			Export (Mt)			*4*	–	*4*	*0.8*	
			CV (kcal/kg)			*5,800*	–	*5,800*	*5,800*	
			Domestic (Mt)			*4*	–	*4*	*2*	
			CV (kcal/kg)			*4,500*	–	*4,500*	*4,500*	
Steelcoal		OC	Thermal Coal (Mt)	5	–	4	–	4	4	MC
			Domestic (Mt)			*0.5*	–	*0.5*	–	
			CV (kcal/kg)			*5,800*	–	*5,800*	5,800	
			Domestic (Mt)			*3*	–	*3*	4	
			CV (kcal/kg)			*4,500*	–	*4,500*	4,500	
Springlake		UG/OC	Anthracite (Mt)	–	–	–	–	–	6	MC
			Export (Mt)					–	*5*	
			CV (kcal/kg)					–	*6,500*	
			Domestic (Mt)					–	*1*	
			CV (kcal/kg)					–	*6,500*	
Argent		OC	Thermal Coal (Mt)	–	26	–	24	24	24	MC
			Export (Mt)				*19*	*19*	*19*	
			CV (kcal/kg)				*4,500*	*4,500*	*4,500*	
			Domestic (Mt)				*5*	*5*	*5*	
			CV (kcal/kg)				*4,500*	*4,500*	*4,500*	
Springboklaagte*		UG/OC	Thermal Coal (Mt)	–	–	–	–	–	33	TH
			Export (Mt)					–	*18*	
			CV (kcal/kg)					–	*6,000*	
			Domestic (Mt)					–	*15*	
			CV (kcal/kg)					–	*4,500*	
Corobrik		OC	Thermal Coal (Mt)	12	–	9	–	9	12	MC
			Domestic (Mt)			*4*	–	*4*	*4*	
			CV (kcal/kg)			*5,800*	–	*5,800*	*5,800*	
			Domestic (Mt)			*5*	–	*5*	*8*	
			CV (kcal/kg)			*4,500*	–	*4,500*	*4,500*	

* Springboklaagte is held as a Joint Venture between Izimbiwa and Umcebo, 100% of the Springboklaagte reserves are included in the table above under Izimbiwa and excluded from Umcebo.

South Africa Coal Reserves (continued)

Name of operation	Attributable interest	Mining method	Coal type	Extractable Coal Reserves Proved 31.12.17	Extractable Coal Reserves Probable 31.12.17	Saleable Coal Reserves Proved 31.12.17	Saleable Coal Reserves Probable 31.12.17	Total Saleable Coal Reserves Proved 31.12.17	Total Saleable Coal Reserves Probable 31.12.16	Competent Person
Umcebo	48.67%		Thermal Coal (Mt)	**53**	**–**	**37**	**–**	**37**	**28**	
Wonderfontein		OC/UG	Thermal Coal (Mt)	53	–	37	–	37	28	MC
			Export (Mt)			–	–	–	*22*	
			CV (kcal/kg)			–	–	–	*5,700*	
			Domestic (Mt)			*37*	–	*37*	*6*	
			CV (kcal/kg)			*4,500*	–	*4,500*	*4,500*	
Norwesco		OC	Thermal Coal (Mt)	0.3	–	0.2	–	0.2	0.2	HG
			Export (Mt)			*0.2*	–	*0.2*	*0.2*	
			CV (kcal/kg)			*5,600*	–	*5,600*	*5,600*	
			Domestic (Mt)			*0.05*	–	*0.05*	*0.05*	
			CV (kcal/kg)			*4,500*	–	*4,500*	*4,500*	
Coal Reserves South Africa			**Thermal Coal (Mt)**	**714**	**253**	**450**	**145**	**595**	**646**	

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Notes

South African Coal Resources and Reserves have been prepared in accordance with 2016 edition of the South African Code for the Reporting of Exploration Results, Coal Resources and Coal Reserves (the SAMREC Code) and the South African guide to the systematic evaluation of coal resources and coal reserves (SANS 10320:2004)

In accordance with the 2016 SAMREC Code, Mineable Tonnes In Situ (MTIS) Coal Resources are reported for 2017. In addition Gross Tonnes In Situ (GTIS) are reported at 31 December 2016 and also at 31 December 2017, to provide a year on year comparison.

GTIS represents the coal resource at specified moisture content and quality parameters above the minimum coal seam thickness cut-off. In addition, MTIS applies estimates related to the specific mining method and level of dilutive/contaminated material that may be expected, and adjusted for the geological loss factors and derating for previous mining activities. The eventual coal production may be lower or higher than the MTIS due to a wide range of uncertainties.

Coal Resources have been re-estimated in 2017 for inclusion in this summary table except where otherwise stated. Revision of the totals includes changes to classifications of Coal Resource status due to exploration, geological reinterpretation and remodelling, and changes to lease holdings.

Coal Resources and Reserve qualities are reported at an air dried moisture basis and Export Saleable Coal Reserves are reported at a net as received moisture basis. Coal Resources are reported inclusive of Coal Reserves.

Product yields used to estimate Saleable Coal Reserves were derived from the “Limn Model” software. Inputs to this model are coal ply and in-seam dilution data, processed in the model. The model takes into account plant efficiencies to calculate practical yields. The model is calibrated to historical plant performance and where applicable, large diameter borehole data is used.

Changes and notes relevant to the estimation of Coal Resources and Reserves are listed below for specific projects. Changes reported are exclusive of production from 31 December 2016 to 31 December 2017. Depletion due to mining is based on the actual depletion from January to September, and a forecast for October to December. This forecast number is reconciled each year to the actual and an adjustment is made accordingly.

Coal Resource and Reserve totals are rounded to appropriate levels of accuracy in accordance with the 2016 SAMREC Code and the Glencore Coal rounding process. In summary, Measured and Indicated Coal Resources are rounded to 1 significant figure if less than 10Mt and 2 significant figures if greater than 10Mt; calorific values are rounded to the nearest 50kcal/kg

Tweefontein Complex

Tweefontein North: Resource depletion due to mining (-13Mt), Boschmans South East Pit mined short due to spontaneous combustion concerns (-2Mt). Coal lost due to sterilization (-1Mt).

The Tweefontein North development includes all five seams present in the Vryheid Formation, however, only the No.1, No. 2, No. 4 and No. 5 seams form part of the mineable and economic Coal Resources. The resources have the potential to be extracted via both opencast truck and shovel or dragline, and underground bord and pillar mining methods.

Coal Reserve depletion due to mining (-13Mt) was offset by an increase of UG Reserves (+2Mt) as a result of mine plan optimisation.

Mining Tenement for Tweefontein North expires in August 2020. Coal Reserves for Tweefontein North are sufficient to support a mine life of 18 years.

Tweefontein South: Tweefontein South Complex is contained in the iMpunzi new order mining right and in the Klippoortje old order mining authorisation, for which a section 102 application was submitted to incorporate it into the iMpunzi mining right. The mining area development includes all five seams, however only the No.1, No. 2, No. 4 and No. 5 seams form part of the potentially mineable and economic Coal Resources.

No mining was conducted in 2017 and the 5 Seam Addcar Coal Reserves remain available for future extraction.

Tenements for Tweefontein South expire between August 2024 and August 2040. Coal Reserves for Tweefontein South are sufficient to support a mine life of 10 years.

Goedgevonden: Resource depletion due to mining (-11Mt), was offset by resource gain by modelling updates (8Mt). Geological and mining losses of 0.6Mt were incurred due to an In-seam torbanitic coal and shale band that was removed by scalping during mining.

The Goedgevonden Complex is situated within the Witbank coal field. Opencast dragline mining operations in the area are extracting the No. 2, No. 4 and No. 5 seams. The No. 3 seam is too thin for practical extraction and the No.1 seam is not considered an economic Coal Resource in the area.

Coal Reserve depletion due to mining (-9Mt). Reserves increased by 3Mt due to a mining methodology change, where the mining horizon includes the upper and lower seams as one composite horizon.

Tenements for Goedgevonden expire between February 2038 and May 2038. Coal Reserves for Goedgevonden are sufficient to support a mine life of 25 years.

iMpunzi

iMpunzi North Coal Resource depletion due to mining (-7Mt). Loss of 4 Lower seam Resources in North East Pit based on the extent of a coal wash out area as a result of additional drilling (-0.1Mt).

iMpunzi consists of iMpunzi Opencast (opencast dragline and truck and shovel operations) and iMpunzi Mini-pits (truck and shovel operations). The Opencast resources include the No.1, No. 2 and No. 4 seams, whilst the Mini-pit includes only the No. 4 seam.

Coal Reserve depletion due to mining (-8Mt)

Mining tenement for iMpunzi North expires in August 2040. Coal Reserves for iMpunzi North and East are sufficient to support a mine life of 24 years.

iMpunzi East: Resource depletion due to mining (-3Mt)

A large portion of No. 2 seam and a small area of No. 4 seam have been previously mined via underground bord and pillar method. The full seam is extracted through opencast mining methods – the lower zone of each seam was previously partially extracted by underground mining and the upper zone remains intact.

Reserve depletion due to mining (-3Mt). Layout changes to accommodate areas sterilised by 1:100 year flood-line, orchid and other endangered list species, and the Transnet servitudes, resulted in an 8Mt decrease in reserves.

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Zonnebloem: Mining has commenced with the establishment of a box-cut in the central part of Zonnebloem in October 2017. Resource and Reserve depletion due to mining (-0.1Mt).

The No. 1 and No. 2 seams are developed at Zonnebloem with planned extraction by opencast truck and shovel operations.

Mining and environmental licensing and permitting has been finalised. Mining tenement for Zonnebloem expires in September 2039. Coal Reserves for Zonnebloem are sufficient to support a mine life of 24 years.

Oogiesfontein: There have been no changes to the Coal Resource or Reserve. A Section 102 application has been approved to incorporate Oogiesfontein into the Goedgevonden Complex. Awaiting environmental licensing and permitting to be finalised.

Mining Tenement for Oogiesfontein expires in October 2018.

Paardekop: A new order mining right was granted in 2017. Awaiting approval of environmental licensing and permitting. The project area comprises of underground resources in a single-seam.

The seam of economic importance in Paardekop project area is the Main seam which contains nearly 95% of the extractable coal. The seam has a mean thickness of 2.5m and is structurally almost flat. The upper zone is of poor CV whilst the lower zone has an average raw CV over 5,300kcal/kg.

Undeveloped Coal Resources: Applications for mining rights have been submitted for all the undeveloped Coal Resources. The mining right for Amersfoort was granted while the others are still outstanding. The Coal Resource estimation includes:

Amersfoort (contained in the southern portion of the Ermelo Coalfield, Mpumalanga province southwest of Breyten). Estimation for Amersfoort is based on the C seam which is at a depth of 200m and a thickness of 2.5m;

Boschmanspoort (located in the Witbank Coalfield of Mpumalanga southeast of Middleburg). Estimation for Boschmanspoort is based on the No. 2 seam which dips towards the east, therefore allowing some potential opencast resources in the west; and

Trichardsfontein (located north of Trichardt) was acquired by Sasol, reducing the Inferred Resources by (-107Mt).

Izimbiwa Coal:

The remaining mine life for individual mining operations range from 2 to 12 years, based on the coal reserves except for the Springboklaagte deposit that extends Izimbiwa's expected life by approximately 20 to 25 years.

Expiry date of relevant mining/concession licenses are different for each mine, ranging from January 2017 to March 2027 in respect of Graspan, Townlands, Steelcoal, Lakeside and Springlake. An application for extension of the Graspan mining right that lapsed in January 2017 was submitted in October 2016.

Leeuwfontein remains an 'old order right' or mining license, with applications pending for conversion into a 'new order right' or mining license (only upon conversion will the expiry date be known).

The mining right for Argent and Springboklaagte was granted in May 2016 and is awaiting finalisation of the environmental licensing and permitting.

Springboklaagte is held as a Joint Venture between Izimbiwa Coal and Umcebo, 100% of the Springboklaagte Coal Reserves and Resources is included in the table above.

Graspan: Revised mining block geometries and revision of the geological interpretation and updated resource model resulted in a resource gain of 2Mt. 4Mt of the previous Graspan resources were reclassified from Measured to Inferred Resources. Raw CV increased due to the review and update of the borehole and quality database.

Reserve depletion due to mining (-0.7Mt), 0.6Mt of coal gained outside mine layout and Portion 31 (Corobrik) pillar mined in 2017.

Townlands: 0.9Mt reduction in resources due to changes in resource cut-offs (40% maximum Ash and 0.5m seam thickness). Increase in raw CV was due to the reduction of the Ash cut-off (40%).

Block B was included in LOM, increasing the reserves by 5Mt

Steelcoal: Resource depletion due to mining (-0.6Mt). Revised mining block geometries resulted in a 2Mt reduction in resources, and updated resource cut-offs (Maximum 40% Ash and 0.5m seam thickness) resulted in a resource reduction of 2Mt. Increase in raw CV was due to the reduction of the Ash cut-off (40%).

Reserve depletion due to mining (-0.5Mt). Steelcoal East and Steelcoal South included in LOM increasing the reserves by 2Mt

Lakeside and Leeuwfontein: No change to Coal Resources or Reserves due to these mines being on care and maintenance.

Springlake: A reduction in resource of 3Mt, attributable to a decreased resource block footprint, associated with geological discontinuities (fault) and land tenure. Mine placed on care and maintenance. Raw CV decreased due to the review and revamp of the borehole and quality database.

Argent: The Argent resource will be exploited through opencast truck and shovel and is awaiting finalisation of the environmental licensing and permitting before mining can commence.

Springboklaagte: A review of the geological and quality data and model has decreased the resource block footprint and overall resource reduction of 67Mt. Coal resources were reallocated from Measured and Indicated to Inferred, raw coal CV increased due to the reduction of the Ash cut-off (40%).

Corobrik: Resource depletion due to mining (-3Mt). Remodelling of the resource and re-correlation of seams resulted in an addition of 1Mt of Resources.

The reserve forms a natural extension to Graspan Colliery and North Pit was extended into the Corobrik block.

Reserve depletion due to mining (-2Mt).

Umcebo: The remaining mine life of the individual mining operations range up to 10 years. Expiry date of relevant mining/concession licenses are different for each mine, ranging from October 2017 to December 2037. Renewals have been lodged for Doornrug, Klippan and Norwesco. The Wonderfontein mining right expires in August 2037.

Klippan: The mine is currently closed.

Kleinfontein Jicama: Mine on care and maintenance.

Wonderfontein: Resource depletion due to mining (-3Mt). Drilling of 70 boreholes between 2014 and 2016 allowed for a revised geological interpretation and an updated resource model. Re-correlation of seams and revised mining block geometries gave rise to an increase in the resource block footprint in Pit A, while other blocks located in wetland areas were excluded, resulting in an overall reduction of 8 Mt of coal resources.

Reserve depletion due to mining (-3Mt). 15Mt increase in ROM reserves after an increase in pit shell (Pit A, Pit B and Pit D) and mineable horizon re-correlation. The product makeup changed from export and domestic to solely domestic, resulting in an increase in yield, from 66% to 70%.

Hendrina: The Project area is located south of the town of Hendrina in the province of Mpumalanga. The mining right application covers three discrete blocks of ground named Mooivley East, Mooivley West and Bosmanskrans. The area is traversed by the national road N11 which connects Hendrina and Ermelo. The asset is an advanced stage exploration project. It is planned to be developed as an underground mine to supply an Eskom type product. A mining rights application was accepted by the DMR in June 2016.

58Mt reduction in resources due to resource areas not being included as a result of re-classification and 164Mt resource reduction as a result of cut-off changes (maximum 40% raw Ash, minimum 12% raw Volatiles, and a 1m minimum seam thickness cut-off. Increase in raw CV due to the reduction of the Ash cut-off (40%).

Belfast: The prospecting right encompasses a number of blocks extending approximately 45km from east of Belfast to west of Wonderfontein. The N4 highway, the Gauteng-Maputo railway and Eskom power lines traverse the area. A prospecting right renewal application has been submitted and executed.

Block AA on farm Weltevreden was excluded from resources after re-classification based on boreholes with reliable quality information resulting in a resource reduction of 8Mt. An exclusion zone south of the N4 highway of a 100m was created, and the 1 seam and 2 Upper seams were excluded from the underground resource, effectively sterilizing a further 18Mt of Resources.

Increase in raw CV due to the reduction of the Ash cut-off (40%).

Norwesco and Doornrug: Future projects with no changes in Coal Resources or Reserves for the current reporting period.

Competent Persons:

CT = Chris Theart; ND, NHD Metal Mining; SAIMM (706513); Group Mining Engineer, Glencore Coal South Africa;

GC = Gerrit Cronjé, BSc Hons Geology; Pr Sc Nat 400128/86, employed by Izimbiwa Coal (Pty) Ltd.

HG = Hugo Grobler B Engineering Mining; MSc Engineering Mining; MCC, SAIMM; employed by Izimbiwa Coal (Pty) Ltd;

KD = Karin van Deventer; (MSc Geochemistry; Pr Sc Nat 400705/15, employed by Glencore Coal South Africa;

MC = Mark Cunney, BEng Hons Mining Engineering, MCC; Pr Cert Eng 2007 0114, employed by Izimbiwa Coal (Pty) Ltd;

MS = Marius Smith; B Sc. Honours Geology; MBA; Pr Sc Nat 400075/03; Group Coal Geologist, Glencore Coal South Africa;

TH = Trevor Howard; B Eng. Mining; Coal Mine Managers Certificate of Competency; SAIMM (701062); Group Mining Engineer, Glencore Coal South Africa;

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Colombia Coal Resources and Reserves

Prodeco Coal Resources

Name of operation	Attributable interest	Mining Method	Commodity	Measured Coal Resources 31.12.17	Measured Coal Resources 31.12.16	Indicated Coal Resources 31.12.17	Indicated Coal Resources 31.12.16	Inferred Coal Resources 31.12.17	Inferred Coal Resources 31.12.16	Competent Person
Calenturitas	100%	OC	Thermal Coal (Mt)	160	110	130	180	70	70	KJW
			CV (kcal/kg)	6,350	6,300	6,250	6,200	6,300	6,250	
La Jagua	100%	OC	Thermal Coal (Mt)	60	65	30	30	–	–	KJW
			CV (kcal/kg)	7,100	7,100	7,100	7,050	–	–	
Coal Resources Prodeco			**Thermal Coal (Mt)**	**220**	**175**	**160**	**210**	**70**	**70**	

Prodeco Coal Reserves

Name of operation	Attributable interest	Mining method	Coal type	Coal Reserves Proved 31.12.17	Coal Reserves Probable 31.12.17	Marketable Coal Reserves Proved 31.12.17	Marketable Coal Reserves Probable 31.12.17	Total Marketable Coal Reserves 31.12.17	Total Marketable Coal Reserves 31.12.16	Competent Person
Calenturitas	100%	OC	Thermal Coal (Mt)	70	30	70	30	100	100	GL
			CV (kcal/kg)	6,200	6,100	6,200	6,100	6,150	6,150	
La Jagua	100%	OC	Thermal Coal (Mt)	50	25	50	25	75	80	GL
			CV (kcal/kg)	6,700	6,700	6,700	6,700	6,700	6,750	
Coal Reserves Prodeco			**Thermal Coal (Mt)**	**120**	**55**	**120**	**55**	**175**	**180**	

Cerrejón Coal Resources

Name of operation	Attributable interest	Mining Method	Commodity	Measured Coal Resources 31.12.17	Measured Coal Resources 31.12.16	Indicated Coal Resources 31.12.17	Indicated Coal Resources 31.12.16	Inferred Coal Resources 31.12.17	Inferred Coal Resources 31.12.16	Competent Person
Carbones del	33.3%	OC	Thermal Coal (Mt)	3,150	3,000	1,050	1,250	700	650	GH
Cerrejón			CV (kcal/kg)	6,550	6,550	6,600	6,600	6,400	6,450	

Cerrejón Coal Reserves

Name of operation	Attributable interest	Mining method	Coal type	Extractable Coal Reserves Proved 31.12.17	Extractable Coal Reserves Probable 31.12.17	Saleable Coal Reserves Proved 31.12.17	Saleable Coal Reserves Probable 31.12.17	Total Saleable Coal Reserves 31.12.17	Total Saleable Coal Reserves 31.12.16	Competent Person
Carbones del	33.3%	OC	Thermal Coal (Mt)	430	40	420	40	460	540	GH
Cerrejón			CV (kcal/kg)	6,150	6,150	6,150	6,150	6,150	6,100	

Notes

Glencore's Colombian coal interests are located in two different coal provinces; in the La Guajira Department (Cerrejón) and the Cesar Department (Prodeco).

Extractable Reserves are as mined Coal Reserves taking into account geological losses, mining losses, contamination and as mined moisture adjustments. Reserves are reported on a ROM moisture basis. Coal Resources are reported on an *in situ* moisture basis.

Saleable Reserves: As sold basis are Coal Reserves adjusted for yield losses in the preparation plant (if applicable) and converted to a saleable moisture basis. The Coal Resource and Coal Reserve estimates tabulated above are stated on a total mine basis as at 31 December 2017.

Coal Resource qualities are reported on an *in situ* moisture basis and Coal Reserve qualities are reported on a gross as received basis. Coal Resources are reported inclusive of those Coal Resources modified to produce Coal Reserves. Coal tonnages are quoted as million metric tonnes

Changes and issues material to the estimation of Coal Resources and Reserves are noted below for specific projects. Reference to production changes between 31 December 2016 and 31 December 2017 are detailed for each producing mine site.

Coal Resource and Coal Reserve totals are rounded to appropriate levels of accuracy in accordance with the 2012 JORC Code and the Glencore Coal Assets rounding procedures.

Prodeco:

Calenturitas: Coal Resources decreased due to mining (-11Mt).

2017 exploration increased confidence on seam predictability and as a result Measured Resources increased (50Mt) from Indicated Resources and from unclassified resources (+10Mt). Geological model methodology was updated to restrict interpolation of thin irregular seams as a result of in-pit data and coal reconciliation data (-10Mt).

Marketable Coal Reserves depletion due to mining (-10Mt). Coal Reserves increases due to new pit shell (14Mt). Coal Reserves decreases due to new geological model (-5Mt).

Remaining mine life expected to be 10 years. Expiry date of relevant mining/concession licenses: 2035.

La Jagua: Coal Resources decreased due to mining (-5Mt).

Marketable Coal Reserves depletion due to mining (-5.5Mt). Coal Reserves decreases due to new geological model (-1Mt).

Remaining mine life expected to be 11 years. Expiry date of relevant mining/concession licenses: Carbones El Tesoro

(CET), Consorcio Minero Unido (CMU) and Carbones de La Jagua (CDJ) expire between 2027 and 2038.

Cerrejón: Coal Resources are reported as gross tonnes in situ, i.e. thin seams (<0.65m) excluded and no geological losses applied. The Coal Resources occur within a 'geoshell' constrained by the horizontal and vertical distribution of data within the drill hole (data limits) envelope. Resources include coal for which the continuity, quality and mineability are established but are outside the current LOM plan. Total resources include approximately 770Mt of coal associated to rivers requiring additional permit approvals.

There are approximately 220Mt of coal within the geoshell and within 1 km of major towns that has not been included in the Coal Resources in 2017. Coal Resources comply with current and foreseen mining and marketing criteria and have economic potential.

Coal Reserves have reduced by 80Mt due principally to depletion by mining (-32Mt) and changes to the LOM plan.

The current mining rights expire in 2033.

Competent Persons

GL = Guillermo Leon, Superintendent Mine Planning, Prodeco, (AusIMM).

KJW = Kerry Whitby, Managing Director, McElroy Bryan Geological Services Pty Ltd (AusIMM).

GH = German Hernandez; BSc, BHPBilliton Certificate of Competent Person; GSSA; APS Geology Superintendent, Carbones del Cerrejón.

Energy Products Coal

Canada Coal Resources

Name of operation	Attributable interest	Mining Method	Commodity	Measured Coal Resources 31.12.17	Measured Coal Resources 31.12.16	Indicated Coal Resources 31.12.17	Indicated Coal Resources 31.12.16	Inferred Coal Resources 31.12.17	Inferred Coal Resources 31.12.16	Qualified Person
Suska	75%	OC	Coking/Thermal Coal (Mt)	–	–	13	13	90	90	KJW
			CV (kcal/kg)	–	–	6,100	6,100	6,100	6,100	
Sukunka	75%	UG/OC	Coking Coal (Mt)	45	45	100	100	40	40	KJW
Coal Resources Canada			**Coking/Thermal Coal (Mt)**	**45**	**45**	**113**	**113**	**130**	**130**	

Notes

Glencore's Canadian coal resources and reserves (Sukunka, Suska) occur in the Peace River area of the Province of British Columbia. Additional tenements adjacent to these Peace River projects are targeted for exploration. These include tenement areas identified as Central South, South Cirque and other tenements that extend north and south of the Pine River.

Coal Resource tonnage and quality are reported at an *in situ* moisture basis. Coal Resources are reported in accordance with the JORC Code 2012 edition.

No coal was mined from the Glencore Canadian coal assets in 2016.

Suska: Coal Resources have not been re-estimated since 2013.

Sukunka: Coal Resources have not been re-estimated since 2015.

Competent Person

KJW = Kerry Whitby, Managing Director, McElroy Bryan Geological Services Pty Ltd (AusIMM).

Energy Products
Oil

Net Reserves (Proven and Probable)[1]

	Working Interest Basis								
	Equatorial Guinea		Chad		Cameroon		**Total**		
	Oil mmbbl	Gas bcf	Oil mmbbl	Gas bcf	Oil mmbbl	Gas bcf	Oil mmbbl	Gas bcf	Combined mmboe
31 December 2016	13	–	152	–	–	–	**165**	**–**	**165**
Revisions	7	146	(53)	–	–	–	**(46)**	**146**	**(21)**
Discoveries	–	–	–	–	3	–	**3**	**–**	**3**
Production	(3)	–	(3)	–	–	–	**(6)**	**–**	**(6)**
31 December 2017	**17**	**146**	**96**	**–**	**3**	**–**	**116**	**146**	**141**

Net Contingent Resources (2C)[1]

	Working Interest Basis								
	Equatorial Guinea		Chad		Cameroon		**Total**		
	Oil mmbbl	Gas bcf	Oil mmbbl	Gas bcf	Oil mmbbl	Gas bcf	Oil mmbbl	Gas bcf	Combined mmboe
31 December 2016	25	530	9	–	18	–	**52**	**530**	**143**
Revisions	(2)	(76)	52	–	(3)	–	**47**	**(76)**	**34**
Acquisitions/Divestments	–	–	–	–	(11)	–	**(11)**	**–**	**(11)**
31 December 2017	**23**	**454**	**61**	–	**4**	**–**	**88**	**454**	**166**

[1] "Net" Reserves or Resources are equivalent to Glencore's working interest in the asset/property.

Notes

Equatorial Guinea: Equatorial Guinea reserves and contingent resources consist of Block O (Glencore 25% working interest ("WI")) and Block I (Glencore 23.75% WI) reserves and resources.

The Aseng field (Block I, 23.75% WI) came on stream in November 2011. The field is produced from subsea wells tied back to an FPSO. Average 2017 gross production was ~23,000 barrels per day.

The Alen field (95% Block O, 25% WI and 5% Block I, 23.75% WI) came on stream in May 2013. Gross production in 2017 was ~9,700 barrels per day. The field is produced from subsea wells tied back to a production platform where condensate is stripped and transported to the Aseng FPSO via a subsea pipeline. The produced gas is currently re-injected into the field but the project to commercialise the gas has progressed sufficiently to reclassify 146 billion cubic feet of gas from net contingent resources to net reserves.

The Aseng and Alen fields have a 25 year exploitation term from approval of a plan of development.

Reserves for Equatorial Guinea were independently assessed by McDaniel & Associates (McDaniel), have been prepared in accordance with the Petroleum Resources Management System (PRMS) and have been extracted without material adjustment from the McDaniel report dated 31 December 2017. Contingent resources are based on Glencore estimates and have been prepared in accordance with PRMS.

Chad: Glencore holds a majority WI in the DOB/DOI, Doseo/Borogop and DOH production sharing contracts. Glencore holds an 85% WI in the Badila and Mangara oil field Exclusive Exploitation Authorisations (EXAs). In addition McDaniel have classified the Krim discovered field as reserves in which Glencore has a 75% WI. The Kibea and Baouda East discoveries have been reclassified from net reserves to net contingent resources.

The Badila field is an onshore development which came on stream in September 2013. Oil is transported through an export pipeline to the Chad/Cameroon export pipeline (Totco/Cotco pipeline) with off-take at the Marine Terminal in Cameroon. Average gross 2017 production was ~6,000 barrels per day.

The Mangara field is an onshore development that has been producing since late December 2014. Gross production in 2017 was ~3,450 barrels per day. Oil is transported through an export pipeline to the Totco/Cotco pipeline with off-take at the Marine Terminal in Cameroon.

The EXA's have a 25 year exploitation term after the authorisation of the EXA.

Reserves for Chad were independently assessed by McDaniel, have been prepared in accordance with PRMS and have been extracted without material adjustment from the McDaniel report dated 31 December 2017. Contingent resources are based on Glencore estimates and have been prepared in accordance with PRMS.

Cameroon: Following a farm-down agreement signed in January 2018 to divest 50% of the Bolongo licence, and based on the assumption that the state NOC will exercise its back-in right to the development, Glencore will hold a 37.5% WI in the licence. This has been reflected in the table above. A phased oil development within the license will now follow and has resulted in the relevant net contingent resources being reclassified as net reserves at the updated WI basis.

Reserves for Cameroon were independently assessed by McDaniel, have been prepared in accordance with PRMS and have been extracted without material adjustment from the McDaniel report dated 31 December 2017. Contingent resources are based on Glencore estimates and have been prepared in accordance with PRMS.