GLENCORE

Resources & Reserves

as at 31 December 2020

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.

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.

Overview

The resource and reserve data in the following tables are as at 31 December 2020, unless otherwise noted. For comparison purposes, data for 2019 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.

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.

Copper

The Copper Mineral Resources and Ore Reserves Statement at 31 December 2020 has been compiled in accordance with the JORC Code.

The Mineral Resources and Ore Reserves statements have been reviewed and the relevant data extracted and compiled by Mark Jamieson, Glencore Copper (AusIMM).

Zinc

The Zinc Mineral Resource and Ore Reserve Statement at 31 December 2020 has been compiled in accordance with the JORC Code.

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 29 November 2019, 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 (PGO), Glencore Nickel.

Ferroalloys

South African chromite, vanadium and manganese Mineral Resources and Ore Reserves in this report were prepared in accordance with the JORC Code.

The Chromite, Vanadium and Manganese Mineral Resource and Ore Reserve Statement at 31 December 2020 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 2020 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 2020 report.

Classification	Tonnage range	Rounding
Measured + Indicated	<10 Mt	1 significant figure
Resources	10Mt - 30Mt	2 significant figures
	30Mt - 100Mt	Nearest 5 Mt
Proved + Probable	>100Mt	2 significant figures
Reserves	>1,000Mt	Nearest 50Mt
	<100Mt	Nearest 10Mt
Inferred	100Mt - 400Mt	Nearest 50Mt
	>400Mt	Nearest 100Mt

Values expressed in the text have not been rounded and therefore do not correlate directly with the tables. These refer to run-of-mine figures unless otherwise stated.

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 Matthew White, 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.

Portfolio changes

Glencore has reached an agreement to dispose of its shareholding in Mopani in H1 2021. Mopani's resources and reserves are no longer stated in this report.

Glencore has contributed the Alumbrera mine, plant and infrastructure to the MARA project, in which Glencore has a non-controlling stake. Alumbrera's resources and reserves are no longer stated in this report.

Resources of the Kabanga nickel project in Tanzania are no longer stated in this report.

Resources and reserves of the Mokala manganese project (Ferroalloys) in South Africa are reported for the first time in this report.

Definitions

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

Technical and industry terms:

3PGE	Three Platinum Group Elements (Pt, Pd and Rh)
CV (kcal/kg)	Calorific Value, kilocalories per kilogramme
DTC	Davis Tube Concentrate
EL	Exploration licence
Geoshell	A broad envelope limited by the depth and areal extent of geological data points (primarily drill holes)
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
OR	Ore reserves
QQ	Quantile quantile plot, a geostatistical method to assess modelled data against actual data
ROM	Run of mine
SX/EW	Solvent extraction and electrowinning
UG	Underground
UG2	Upper Group No2 chromitite layer
VMS	Volcanogenic Massive Sulphide

Professional bodies and applicable standards:

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
ECSA	Engineering Council of South Africa
GSL	Geological Society of London
ICOG-EurGeol	Ilustre Colegio Oficial de Geólogos – European Geologist
JORC	Joint Ore Reserves Committee
OGQ	Ordre des Géologues du Québec
OIQ	Ordre des Ingénieurs du Québec
PEO	Professional Engineers of Ontario
PGO	Professional Geoscientists Ontario
PLATO	South African Council for Professional and Technical Surveyors
PRMS	Petroleum Resources Management System
SACNASP	The South African Council for Natural Scientific Professions
SAMREC	South African Code for Reporting of Mineral Resources and Mineral Reserves

Marketable Coal Reserves (CIM/JORC) and Saleable Coal Reserves (SAMREC) are the tonnage and coal quality expected to be available for sale, either in the raw ROM state at specific moisture content or after beneficiation. Definitions of many of the terms used in this report can be found in the relevant codes.

Copper

African Copper (Katanga, Mutanda)

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	Measured Mineral Resources 2019	Indicated Mineral Resources 2020	Indicated Mineral Resources 2019	Measured and Indicated Resources 2020	Measured and Indicated Resources 2019	Inferred Mineral Resources 2020	Inferred Mineral Resources 2019	CP	Proved Ore Reserves 2020	Proved Ore Reserves 2019	Probable Ore Reserves 2020	Probable Ore Reserves 2019	Total Ore Reserves 2020	Total Ore Reserves 2019	CP
Katanga																			
Kamoto	75%	UG	Ore (Mt)	-	12.1	75.5	65.0	75.5	77.0	19.3	48.4	JE	-	6.4	16.0	19.5	16.0	25.8	TU
			Copper (%)	-	3.90	4.56	3.93	4.56	3.92	1.13	3.83		-	3.61	3.31	3.32	3.31	3.39	
			Cobalt (%)	-	0.59	0.54	0.46	0.54	0.48	0.40	0.38		-	0.56	0.48	0.54	0.48	0.54	
T17	75%	UG/OC	Ore (Mt)	-	4.2	20.9	9.4	20.9	13.6	-	5.2	JE	-	2.2	10.6	9.1	10.6	11.3	TU
			Copper (%)	-	2.66	5.08	4.44	5.08	3.89	-	4.21		-	3.42	4.13	3.71	4.13	3.65	
			Cobalt (%)	-	0.51	0.77	0.65	0.77	0.61	-	0.98		-	0.54	0.62	0.64	0.62	0.62	
Mashamba East	75%	UG/OC	Ore (Mt)	-	-	28.1	52.9	28.1	52.9	31.4	14.6	JE	-	-	19.6	28.4	19.6	28.4	TU
			Copper (%)	-	-	2.65	1.70	2.65	1.70	1.16	2.74		-	-	2.38	2.06	2.38	2.06	
			Cobalt (%)	-	-	0.81	0.64	0.81	0.64	0.52	0.52		-	-	0.75	0.62	0.75	0.62	
KOV	75%	OC	Ore (Mt)	-	-	134.0	104.0	134.0	104.0	30.0	77.4	JE	-	-	79.1	54.4	79.1	54.4	TU
			Copper (%)	-	-	5.96	4.81	5.96	4.81	2.10	4.40		-	-	4.53	3.74	4.53	3.74	
			Cobalt (%)	-	-	0.48	0.53	0.48	0.53	0.34	0.38		-	-	0.43	0.48	0.43	0.48	
Kananga	75%	OC	Ore (Mt)	-	-	4.1	4.1	4.1	4.1	4.0	4.0	JE	-	-	-	-	-	-	n.a.
			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	75%	OC	Ore (Mt)	-	-	9.5	9.5	9.5	9.5	13.8	13.8	JE	-	-	-	-	-	-	n.a.
			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	75%	OC	Ore (Mt)	-	-	2.5	3.8	2.5	3.8	-	-	JE	-	-	2.6	3.6	2.6	3.6	TU
			Copper (%)	-	-	1.37	1.42	1.37	1.42	-	-		-	-	1.36	1.41	1.36	1.41	
			Cobalt (%)	-	-	0.17	0.17	0.17	0.17	-	-		-	-	0.17	0.17	0.17	0.17	
Stockpiles	75%	OC	Ore (Mt)	-	-	15.3	-	15.3	-	-	-	TU	-	-	15.3	-	15.3	-	TU
			Copper (%)	-	-	1.21	-	1.21	-	-	-		-	-	1.21	-	1.21	-	
			Cobalt (%)	-	-	0.41	-	0.41	-	-	-		-	-	0.41	-	0.41	-	
Total Katanga	**75%**		**Ore (Mt)**	**-**	**16**	**290**	**249**	**290**	**265**	**99**	**163**		**-**	**9**	**143**	**115**	**143**	**124**	
			Copper (%)	**-**	**3.58**	**4.73**	**3.69**	**4.73**	**3.68**	**1.56**	**3.80**		**-**	**3.56**	**3.66**	**3.18**	**3.66**	**3.20**	
			Cobalt (%)	**-**	**0.57**	**0.55**	**0.54**	**0.55**	**0.54**	**0.47**	**0.45**		**-**	**0.56**	**0.49**	**0.53**	**0.49**	**0.53**	

Katanga

The Katanga operations are located at the north western end of the DRC / Zambia copper belt approximately 10km to the east of the town of Kolwezi in the Democratic Republic of Congo.

The Katanga mineralisation is a typical DRC copper belt metasedimentary copper and cobalt. The mineralisation generally occurs as infilling of fissures and open fractures associated with brecciation. The typical copper minerals are mainly chalcopyrite, malachite and pseudomalachite while cobalt is in the form of heterogenite, carrolite and spherocobaltite.

The primary changes to the Mineral Resource are due to the use of new resource models that were prepared during 2020. Changes to the resource modelling included reinterpretation of mineralised zones and updating of geostatistical analysis. The resource classification was updated, resulting in the removal of measured material from the resource estimate to reflect uncertainty in local structural displacements and geo-metallurgical data.

Other changes to the mineral resource include depletion of 8.8Mt of ore from production during 2020, inclusion of 15.2Mt of stockpiled material as of the end of October 2020 which has been classified as Indicated (previously excluded from the Mineral Resource) and adoption of a copper-equivalent cut-off grade.

The primary changes to the Ore Reserve are due to the use of new resource models, depletion of 8.8Mt of ore from production during 2020, inclusion of 15.2Mt of stockpiled material as of the end of October 2020 which has been classified as Probable (previously excluded from the Ore Reserve) and the use of a copper equivalent cut-off based on updated metal prices.

The Kamoto underground Ore Reserves reduced by 9Mt due to a change in the proposed mining method for part of the reserve from UG to OP methods. Additional reductions include the removal of high-risk pillars from the reserves and sterilisation of ore by previous mining activities.

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 75% of Katanga. La Generale des Carrieres et des Mines ("Gecamines") and La Société Immobilière du Congo, which are state-owned mining companies in the DRC, own the remaining 25%.

The Kananga and Tilwezembe resources are dormant and have been occupied by illegal miners since they were estimated (2009). The amount of resources left is uncertain.

Copper

African Copper (Katanga, Mutanda)

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	Measured Mineral Resources 2019	Indicated Mineral Resources 2020	Indicated Mineral Resources 2019	Measured and Indicated Resources 2020	Measured and Indicated Resources 2019	Inferred Mineral Resources 2020	Inferred Mineral Resources 2019	CP	Proved Ore Reserves 2020	Proved Ore Reserves 2019	Probable Ore Reserves 2020	Probable Ore Reserves 2019	Total Ore Reserves 2020	Total Ore Reserves 2019	CP
Mutanda																			
Mutanda South	100%	OC	Ore (Mt)	330.1	330.1	76.8	76.8	406.9	406.9	16.2	16.2	RH							
			Copper (%)	1.36	1.36	0.96	0.96	1.28	1.28	0.68	0.68								
			Cobalt (%)	0.56	0.56	0.42	0.42	0.53	0.53	0.55	0.55								
Mutanda South Oxide ore	100%	OC	Ore (Mt)										20.6	20.6	0.8	0.8	21.3	21.3	JP
			Copper (%)										1.71	1.71	0.80	0.80	1.68	1.68	
			Cobalt (%)										0.91	0.91	0.72	0.72	0.90	0.90	
Mutanda South Transitional ore	100%	OC	Ore (Mt)										-	-	18.7	18.7	18.7	18.7	JP
			Copper (%)										-	-	2.01	2.01	2.01	2.01	
			Cobalt (%)										-	-	0.80	0.80	0.80	0.80	
Mutanda South Sulphide ore	100%	OC	Ore (Mt)										-	-	59.6	59.6	59.6	59.6	JP
			Copper (%)										-	-	1.46	1.46	1.46	1.46	
			Cobalt (%)										-	-	0.74	0.74	0.74	0.74	
Stockpiles			Ore (Mt)										27.8	27.8	2.6	2.6	30.4	30.4	JP
			Copper (%)										1.09	1.09	1.84	1.84	1.16	1.16	
			Cobalt (%)										0.41	0.41	0.63	0.63	0.43	0.43	
Mutanda South ungerground	100%	UG	Ore (Mt)	28.8	28.8	9.1	9.1	37.9	37.9	-	-	RH	-	-	-	-	-	-	n.a
			Copper (%)	1.86	1.86	1.14	1.14	1.69	1.69	-	-		-	-	-	-	-	-	
			Cobalt (%)	0.51	0.51	0.49	0.49	0.51	0.51	-	-		-	-	-	-	-	-	
Mutanda North	100%	OC	Ore (Mt)	9.0	9.0	9.9	9.9	18.9	18.9	0.4	0.4	RH	-	-	-	-	-	-	n.a
			Copper (%)	1.14	1.14	0.88	0.88	1.00	1.00	2.27	2.27		-	-	-	-	-	-	
			Cobalt (%)	0.47	0.47	0.57	0.57	0.52	0.52	0.04	0.04		-	-	-	-	-	-	
Total Mutanda			**Ore (Mt)**	**368**	**368**	**96**	**96**	**464**	**464**	**17**	**17**		**48**	**48**	**82**	**82**	**130**	**130**	
			Copper (%)	**1.39**	**1.39**	**0.97**	**0.97**	**1.31**	**1.31**	**0.72**	**0.72**		**1.36**	**1.36**	**1.59**	**1.59**	**1.51**	**1.51**	
			Cobalt (%)	**0.55**	**0.55**	**0.44**	**0.44**	**0.53**	**0.53**	**0.54**	**0.53**		**0.62**	**0.62**	**0.75**	**0.75**	**0.70**	**0.70**	

Mutanda

The Mutanda open pit operations are located at the north western end of the DRC / Zambia copper belt approximately 40km to the east of the town of Kolwezi in the Democratic Republic of Congo.

The Mutanda mineralisation is a typical DRC copper belt metasedimentary copper and cobalt deposit. The mineralisation generally occurs as infilling of fissures and open fractures associated with brecciation. The typical copper minerals are mainly chalcopyrite, malachite and pseudomalachite while cobalt is in the form of heterogenite, carrolite and spherocobaltite.

There were no changes to the Mutanda Mineral Resources and Ore Reserve estimates during 2020.

The remaining mine life is estimated to be approximately 20 years (assuming approval and investment in sulphide ore processing).

The expiry date of relevant mining permits is 26 May 2022 for Mutanda South and 5 May 2022 for Mutanda North. Both mining permits are renewable in accordance with the DRC mining code for periods of 15 years.

Mutanda was placed into care and maintenance in November 2019 and has remained on care and maintenance during 2020.

Studies into alternatives to restart operations - oxide and/or sulphides - are continuing. An investment decision on either restarting the oxide operations or committing to sulphide ore mining and processing will be considered upon completion of these studies.

Copper

Collahuasi

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	Measured Mineral Resources 2019	Indicated Mineral Resources 2020	Indicated Mineral Resources 2019	Measured and Indicated Resources 2020	Measured and Indicated Resources 2019	Inferred Mineral Resources 2020	Inferred Mineral Resources 2019	CP	Proved Ore Reserves 2020	Proved Ore Reserves 2019	Probable Ore Reserves 2020	Probable Ore Reserves 2019	Total Ore Reserves 2020	Total Ore Reserves 2019	CP
Collahuasi	44%	OC	Sulphide (Mt)	840	820	4,697	4,501	5,536	5,321	4,848	4,755	RO	491.0	486.0	3,685.0	2,569.0	4,176.0	3,055.0	AP
			Copper (%)	0.80	0.81	0.80	0.81	0.80	0.81	0.73	0.73		1.01	1.03	0.78	0.90	0.80	0.92	
			Molybdenum (%)	0.018	0.018	0.025	0.025	0.024	0.024	0.017	0.017		0.021	0.021	0.023	0.026	0.022	0.025	
			Oxide & Mixed (Mt)	36.0	37.0	32.0	33.0	69.0	70.0	50.0	51.0	RO	-	-	-	-	-	-	AP
			Copper (%)	0.66	0.67	0.74	0.73	0.70	0.70	0.58	0.70		-	-	-	-	-	-	
Total Collahuasi			**(Mt)**	**876**	**857**	**4,729**	**4,534**	**5,605**	**5,391**	**4,898**	**4,806**		**491**	**486**	**3,685**	**2,569**	**4,176**	**3,055**	
			Copper (%)	**0.79**	**0.80**	**0.80**	**0.81**	**0.80**	**0.81**	**0.73**	**0.73**		**1.01**	**1.03**	**0.78**	**0.90**	**0.80**	**0.92**	
			Molybdenum (%)	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**		**0.02**	**0.02**	**0.02**	**0.03**	**0.02**	**0.03**	

Collahuasi

Collahuasi is located in northern Chile in the Tarapacà Region, about 180km southeast of the port of Iquique, at an altitude of 4,400m.

Collahuasi comprises two large copper-molybdenum porphyry-type deposits (Rosario and Ujina) with several peripheral vein deposits (Rosario Oeste and Rosario Sur). The Rosario deposit is the focus of current open cut mining operations.

The major sulphide copper ore minerals at Rosario and Ujina are chalcopyrite, bornite, and enargite, with minor chalcocite. Rosario Oeste features supergene chalcocite and enargite as the main copper mineral. Rosario Sur is a small oxide-bearing deposit, with chrysocolla being the main mineralisation.

Increases to reported Mineral Resources have primarily been due to new drilling information and updated geological-geostatistical models, with adjustments for depletion by production. Mineral Resources are reported within the constraints of optimized pit shells.

Increases to reported Ore Reserves have primarily been due to the changes in the underlying Mineral Resources model, changes to mining parameters, where a longer useful life of the tailings dam is contemplated and the availability of a sustainable water source and adjustments to metal prices forecast, with adjustments for depletion by production. Ore Reserves estimates are reported for detailed designs above the mill (operational) cut-off grade.

Both Mineral Resources and Ore Reserves include estimates of stockpile material at time of reporting and have been downgraded to Indicated Mineral Resources and Probable Ore Reserves to reflect a level of grade uncertainty.

Collahuasi has a life of mine of 68 years from 2021 to 2088, according to the most recent Life of Mine plan that supports the present Ore Reserves reported at a 210 ktpd plant capacity.

The mine is jointly owned by Anglo American plc (44%), Glencore (44%), and Japan Collahuasi Resources B.V. (12%). The operating company is Compañía Minera Doña Inés de Collahuasi.

Copper

Antamina

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	Measured Mineral Resources 2019	Indicated Mineral Resources 2020	Indicated Mineral Resources 2019	Measured and Indicated Resources 2020	Measured and Indicated Resources 2019	Inferred Mineral Resources 2020	Inferred Mineral Resources 2019	CP	Proved Ore Reserves 2020	Proved Ore Reserves 2019	Probable Ore Reserves 2020	Probable Ore Reserves 2019	Total Ore Reserves 2020	Total Ore Reserves 2019	CP
Antamina	33.75%	OC/UG	Sulphide Cu (Mt)	230	239	415	419	645	658	863	889	LC	138	148	95	107	233	255	FA
			Copper (%)	0.82	0.84	0.85	0.83	0.84	0.83	0.96	0.98		0.92	0.94	1	0.99	0.95	0.96	
			Zinc (%)	0.12	0.11	0.13	0.13	0.13	0.12	0.16	0.16		0.13	0.12	0.16	0.15	0.15	0.13	
			Silver (g/t)	7	6	9	8	8	8	9	9		7	6	8	8	7	7	
			Molybdenum (%)	0.028	0.029	0.024	0.026	0.025	0.027	0.018	0.026		0.035	0.037	0.034	0.033	0.035	0.035	
			Sulphide Cu-Zn (Mt)	99	105	227	231	326	336	409	406	LC	68	76	81	98	149	174	FA
			Copper (%)	0.83	0.86	0.95	0.92	0.91	0.90	1.1	1.12		0.87	0.88	0.82	0.82	0.84	0.85	
			Zinc (%)	1.84	1.94	1.8	1.88	1.81	1.90	1.46	1.54		2.07	2.14	2.11	2.18	2.09	2.16	
			Silver (g/t)	15	16	17	16	16	16	16	16		13	14	13	13	13	14	
			Molybdenum (%)	0.007	0.007	0.007	0.009	0.007	0.008	0.006	0.008		0.007	0.007	0.007	0.007	0.007	0.007	
Total Antamina			**(Mt)**	**329**	**344**	**642**	**650**	**971**	**994**	**1,272**	**1,295**		**206**	**224**	**176**	**205**	**382**	**430**	
			Copper (%)	**0.82**	**0.84**	**0.89**	**0.86**	**0.86**	**0.86**	**1.01**	**1.02**		**0.90**	**0.92**	**0.92**	**0.91**	**0.91**	**0.91**	
			Zinc (%)	**0.64**	**0.67**	**0.72**	**0.75**	**0.69**	**0.72**	**0.58**	**0.60**		**0.77**	**0.80**	**1.06**	**1.12**	**0.91**	**0.95**	
			Silver (g/t)	**9**	**9**	**12**	**11**	**11**	**10**	**11**	**11**		**9**	**9**	**10**	**11**	**9**	**10**	
			Molybdenum (%)	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.01**	**0.02**		**0.026**	**0.027**	**0.022**	**0.021**	**0.024**	**0.024**	

Antamina

Antamina is an open-pit mine located in the Andes mountain range of Peru, 270 km north of Lima, and at an average altitude of 4,200 m above mean sea level.

Antamina is a polymetallic (mainly copper, zinc and molybdenum) skarn deposit resulting from multiple, complex intrusive events. Copper mineralisation 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 are also found within the deposit. Copper and Zinc productions represent approximately 90% of the total revenues.

The Mineral Resource before production depletion remained similar (tonnage and grade), with minor changes as a result of an increase from an updated Mineral Resource block model offset by changes in price assumptions. In addition to Mineral Resources associated with the operating open pit mine, Mineral Resources have been reported associated with a conceptual underground mine.

The Ore Reserves before production depletion also remained similar in tonnage and copper grade. A small decrease in zinc grade (0.91% versus 0.95%) resulted from adjustments in estimation parameters.

The Ore Reserve mine plan extends until year 2028 and is primarily limited to the operation tailing-dam capacity. Operating permits are valid until the end of the life of mine.

The operating company, Compañia Minera Antamina, is jointly owned by Glencore plc (33.75%), BHP Billiton plc (33.75%), Teck Resources Limited (22.5%) and Mitsubishi Corporation (10%).

Copper

Other South America (Alumbrera, Lomas Bayas, Antapaccay)

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	Measured Mineral Resources 2019	Indicated Mineral Resources 2020	Indicated Mineral Resources 2019	Measured and Indicated Resources 2020	Measured and Indicated Resources 2019	Inferred Mineral Resources 2020	Inferred Mineral Resources 2019	CP	Proved Ore Reserves 2020	Proved Ore Reserves 2019	Probable Ore Reserves 2020	Probable Ore Reserves 2019	Total Ore Reserves 2020	Total Ore Reserves 2019	CP
Lomas Bayas	100%																		
Lomas Bayas I		OC	Oxide & Mixed (Mt)	90	97	396	375	485	472	65	28	MS	68	74	99	115	167	189	EC
			Copper (%)	0.31	0.30	0.24	0.22	0.25	0.24	0.22	0.18		0.32	0.29	0.25	0.23	0.28	0.25	
			Soluble Copper (%)	0.2	0.17	0.14	0.12	0.15	0.13	0.13	0.09		0.2	0.17	0.15	0.13	0.17	0.14	
Lomas Bayas II		OC	Oxide & Mixed (Mt)	100	116	226	292	326	408	17	40	MS	83	99	142	169	225	267	EC
			Copper (%)	0.32	0.32	0.26	0.24	0.29	0.27	0.13	0.14		0.33	0.33	0.27	0.25	0.29	0.28	
			Soluble Copper	0.2	0.22	0.17	0.15	0.19	0.17	0.08	0.08		0.23	0.22	0.18	0.16	0.2	0.18	
Lomas Bayas III		OC	Sulphide&Mixed (Mt)	61	58	507	523	568	580	422	459	MS	-	-	-	-	-	-	n.a.
			Copper (%)	0.5	0.49	0.35	0.36	0.37	0.37	0.31	0.32		-	-	-	-	-	-	
			Oxide & Mixed	6	3	109	81	115	85	42	36		-	-	-	-	-	-	
			Copper (%)	0.3	0.28	0.22	0.23	0.22	0.23	0.22	0.22		-	-	-	-	-	-	
Antapaccay	100%																		
Antapaccay		OC	Ore (Mt)	183	218	403	432	586	650	96	119	HB	177	210	269	267	446	477	HB
			Copper (%)	0.5	0.49	0.4	0.39	0.42	0.42	0.3	0.30		0.48	0.49	0.41	0.41	0.44	0.45	
			Gold (g/t)	0.09	0.10	0.08	0.08	0.08	0.09	0.06	0.05		0.09	0.09	0.08	0.08	0.08	0.08	
			Silver (g/t)	1.3	1.30	1.11	1.10	1.17	1.17	0.69	0.67		1.28	1.29	1.15	1.14	1.21	1.21	
Tintaya expansion		OC	Ore (Mt)	-	3	-	2	-	5	0	1	HB	-	3	-	2	-	5	HB
			Copper (%)	-	0.89	-	0.86	-	0.88	0	0.20		-	0.89	-	0.86	-	0.88	
			Gold (g/t)	-	0.03	-	0.02	-	0.03	0	0.001		-	0.03	-	0.02	-	0.03	
			Silver (g/t)	-	5.23	-	3.88	-	4.80	0	0.02		-	5.22	-	3.84	-	4.78	
Coroccohuayco		OC	Ore (Mt)	69	42	490	248	559	290	12	12	HB	-	22	-	41	-	63	HB
			Copper (%)	0.7	0.97	0.63	1.25	0.68	1.21	0.28	1.13		-	0.75	-	0.56	-	0.63	
			Gold (g/t)	0.08	0.11	0.09	0.14	0.09	0.14	0.04	0.19		-	0.08	-	0.06	-	0.07	
			Silver (g/t)	2.7	3.83	2.37	4.56	2.49	4.45	0.89	2.99		-	2.75	-	1.57	-	1.98	
		UG	Ore (Mt)										-	9	-	112	-	121	JA
			Copper (%)										-	0.82	-	1.25	-	1.22	
			Gold (g/t)										-	0.09	-	0.12	-	0.12	
			Silver (g/t)										-	3.02	-	3.93	-	3.86	
Total Other South America			**Ore (Mt)**	**509**	**659**	**2,131**	**1,971**	**2,639**	**2,629**	**654**	**703**		**328**	**484**	**510**	**707**	**838**	**1,192**	
			Copper (%)	**0.44**	**0.44**	**0.39**	**0.43**	**0.41**	**0.43**	**0.29**	**0.31**		**0.41**	**0.44**	**0.34**	**0.49**	**0.37**	**0.46**	
			Gold (g/t)	**0.04**	**0.11**	**0.04**	**0.04**	**0.04**	**0.06**	**0.01**	**0.02**		**0.05**	**0.10**	**0.04**	**0.05**	**0.04**	**0.07**	
			Silver (g/t)	**0.8**	**0.7**	**0.8**	**0.8**	**0.8**	**0.8**	**0.1**	**0.2**		**0.7**	**0.8**	**0.6**	**1.2**	**0.6**	**1.0**	

Copper

Lomas Bayas (I)-Lomas Bayas (III)
The Lomas Bayas open cut operations are located in the centre of the Atacama Desert copper belt approximately 115 km to the northeast of the town of Antofagasta in Chile.

Lomas Bayas is a low grade copper-molybdenum 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.

Changes to the Mineral Resources in 2020 are mainly a result of mining depletion and additional drilling to the North of Lomas I in Valle Norte (also called Phase 14).

The Lomas Bayas (III) Mineral Resources estimates sulphides in pit shell calculated using Measured, Indicated and Inferred Mineral Resources; Oxides-Mixed ore within this pit are also considered Mineral Resources that will eventually feed the current SX/EW operation.

Changes to the Ore Reserves in 2020 are mainly a result of mining depletion, an updated operational pit life-of-mine developed in 2020, and an increase in the cut-off grade to 0.144% CuT.

Lomas Bayas (II)
This low grade copper deposit is located 2km south of Lomas Bayas (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 Bayas (II) block model includes historic drill holes totalling 129Km and sampled at 2m intervals.

The Mineral Resources are estimated using Ordinary Kriging on a block model. The 2020 infill drilling program in Lomas Bayas (II) with 6.018Km focused on increasing Indicated Resources and knowledge of orebody involved in the LOM.

Changes to the Ore Reserves in 2020 are mainly a result of mining depletion and revised cut-off grades (0.08% CuT).

The Lomas Bayas SX/EW plant is fed by both Lomas Bayas (I) and (II) and has a current life of mine plan that extends to 2029; permits for the operation are valid to the end of the life of the mine.

The mineralised Tintaya district includes the Antapaccay, Tintaya and Coroccohuayco deposits, which are within 10km of one another.

Antapaccay
Antapaccay is a copper-gold porphyry deposit with zones of gold-silver skarn mineralisation. The primary minerals are bornite and chalcopyrite.

The Mineral Resource estimate is based on a block model interpolation using Ordinary Kriging. Mineral Resources and Ore Reserves were estimated using a variable cut-off grade with a marginal cut-off grade of 0.10% Cu content considered as the minimum recoverable grade. The categorisation of mineral resources is based on the evaluation of the continuity of mineralisation and grade, structural complexity, data quality, and reasonable prospects for economic extraction.

The geological model of the deposit and the Mineral Resources estimate were updated in 2020 using a drilling database that now includes 329,494 meters (1,018 holes) total drilling data. The last geological drilling campaign was carried out in 2020 with 1,999 meters (5 drill holes).

Life of mine based on ore reserves is 11 years ending in 2031. Ore is processed through both the Tintaya and Antapaccay plants. The operating permits are valid until the end of the mine's useful life.

Coroccohuayco
Coroccohuayco is a copper-gold skarn deposit with the main ore-bearing minerals being bornite, chalcopyrite and chalcocite. Ore body model and Mineral Resources estimates were updated in 2020 using a database of drillholes that now includes data of 255,443 metres (759 drill holes). The latest infill drilling campaign was included by estimating the geological model blocks (10,269 metres, 28 drill holes).

Following interpretation of the revised and updated drilling results, the expected method of exploitation is an open pit. Mineral Resources reported within an economic pit shell using a variable cut-off grade with a marginal cut-off grade of 0.10% Cu.

Infill drilling in 2020 and crystalliation of the exploitation method as open pit has increased confidence in the mineral resources available (+269Mt) but at lower average grades.

The reset of mine planning to the conceptual stage for open pit mining has resulted in nil ore reserves being declared.

Tintaya Expansion
As of 2020, no further mining is expected, as a risk management measure due to the proximity of the Tintaya tailings facility.

Copper

Australia (Ernest Henry, Mount Isa, Cobar)

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	2019	Indicated Mineral Resources 2020	2019	Measured and Indicated Resources 2020	2019	Inferred Mineral Resources 2020	2019	CP	Proved Ore Reserves 2020	2019	Probable Ore Reserves 2020	2019	Total Ore Reserves 2020	2019	CP
Ernest Henry																			
Underground	70%[1]	UG	Ore (Mt)	4.7	8.1	55.2	57.7	59.9	65.8	15.5	15.5	JS	2.7	6.1	35.8	38.2	38.5	44.2	MC
			Copper (%)	0.93	1.18	1.16	1.17	1.14	1.17	1.17	1.17		1.49	1.50	0.91	0.92	0.95	1.00	
			Gold (g/t)	0.51	0.65	0.61	0.62	0.61	0.62	0.62	0.62		0.81	0.80	0.47	0.47	0.50	0.52	
E1	100%	OC	Ore (Mt)	4.6	4.6	5.5	5.5	10.1	10.1	0.4	0.4	JS	-	-	-	-	-	-	n.a.
			Copper (%)	0.70	0.70	0.75	0.75	0.73	0.73	0.90	0.90		-	-	-	-	-	-	
			Gold (g/t)	0.20	0.20	0.23	0.23	0.22	0.22	0.30	0.30		-	-	-	-	-	-	
Monakoff	100%	OC	Ore (Mt)	-	-	2.4	2.4	2.4	2.4	0.1	0.1	JS	-	-	-	-	-	-	n.a.
			Copper (%)	-	-	0.95	0.95	0.95	0.95	0.80	0.80		-	-	-	-	-	-	
			Gold (g/t)	-	-	0.30	0.30	0.30	0.30	0.20	0.20		-	-	-	-	-	-	
Mount Isa	100%																		
X41 Mine 500, 650,		UG	Ore (Mt)	24.9	25.1	26.1	11.6	50.9	36.7	2.3	3.0	HB	2.7	3.8	13.1	10.9	15.9	14.7	SJ
1100 & 1900 Orebodies			Copper (%)	1.87	1.84	1.78	1.68	1.82	1.79	1.56	1.65		1.80	1.76	1.69	1.67	1.71	1.70	
Enterprise Mine 3000		UG	Ore (Mt)	19.6	19.1	2.7	5.7	22.3	24.8	0.2	0.9	HB	6.8	8.3	2.9	4.9	9.6	13.2	SJ
& 3500 Orebodies			Copper (%)	2.47	2.44	2.27	2.26	2.44	2.40	2.11	2.26		2.49	2.37	1.90	1.95	2.31	2.21	
Black Rock Cave		UG	Ore (Mt)	-	-	2.4	2.5	2.4	2.5	0.4	0.1	HB	-	-	1.4	1.7	1.4	1.7	SJ
			Copper (%)	-	-	5.52	5.49	5.52	5.49	3.75	4.44		-	-	4.39	4.34	4.39	4.34	
Open Pit		OC	Ore (Mt)	12.9	47.5	80.2	79.0	93.1	126.6	10	135	HB	-	-	-	-	-	-	n.a.
			Copper (%)	1.84	1.41	1.42	1.24	1.48	1.30	1.42	0.90		-	-	-	-	-	-	
Cobar	100%	UG	Ore (Mt)	4.5	3.6	3.4	2.8	7.9	6.4	3.8	5.1	EA	4.9	4.1	2.8	2.6	7.7	6.7	AS
			Copper (%)	5.88	5.69	5.14	5.18	5.50	5.46	5.66	5.29		3.95	4.04	3.65	3.41	3.84	3.79	
			Silver (g/t)	25	22	21	23	23.0	22.1	22	20		16.3	15.0	15.0	14.0	15.8	15.0	
Total Australia			**Ore (Mt)**	**71**	**108**	**178**	**167**	**249**	**275**	**33**	**160**		**17**	**22**	**56**	**58**	**73**	**81**	
			Copper (%)	**2.15**	**1.79**	**1.44**	**1.39**	**1.68**	**1.54**	**1.83**	**1.09**		**2.64**	**2.34**	**1.37**	**1.36**	**1.66**	**1.63**	
			Gold (g/t)	**0.05**	**0.06**	**0.21**	**0.23**	**0.16**	**0.16**	**0.30**	**0.06**		**0.13**	**0.22**	**0.30**	**0.31**	**0.26**	**0.29**	
			Silver (g/t)	**1.6**	**0.7**	**0.4**	**0.4**	**0.7**	**0.5**	**2.6**	**0.6**		**4.7**	**2.8**	**0.8**	**0.6**	**1.7**	**1.2**	

[1] Glencore's effective interest in Ernest Henry underground varies between certain defined areas. The net effect of such is described in the notes.

Ernest Henry Underground

The Ernest Henry underground operation is located approximately 40Km from the town of Cloncurry, in north west Queensland, Australia.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.

In October 2016 Evolution Mining purchased an economic interest in the copper and gold production from EHM. Glencore retains a 70% interest in the copper revenue from a defined life of mine area, and 51% interest in copper, gold and silver revenue outside the defined LOM area. Glencore's net interest is 62% of the total copper resource and 23% of the total gold resource. Of the stated Ore Reserve Glencore's ownership is 65% for copper and 14% for gold.

Changes to the Mineral Resource are primarily due to depletion through mining. Changes to the Ore Reserve are primarily due to mining depletion.

The current expected mine life is six years (completion in 2026) with the Mining Lease tenements currently due to expire November 2025.

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. E1 is classed as an open pit Resource, there is no reported Reserve in 2020. Mine lease tenements expire in December 2032.

Mount Isa

Located in north west Queensland, Australia, Mount Isa is located next to the town of Mount Isa. The Mount Isa Mineral Resource and Reserves are reported seperately for the 3 underground operations; X41 Mine, Enterprise, Black Rock cave and the single Mount Isa open pit. Mineralisation in the X41 and Enterprise occurs generally as breccia-hosted massive to disseminated chalcopyrite in "silica-dolomite" altered pyritic dolomitic siltstone.

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.

The 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 consist primarily of chalcopyrite, the remainder being oxidised or partially oxidised.

The 2020 Mount Isa Resource has been estimated based on a new Resource Model and Revenue Factor 1 open pit shell, which was redesigned based on updated economic assumptions. The redesign has resulted in a decrease in the open pit resource, mainly in the inferred area. Some open pit resource has been converted to underground resulting in a 34% increase to the X41 reported mineral resource tonnage.

The resulting change in the open pit shell and change in location between the underground and open pit mineral resource has resulted in the addition of 3Mt ore (48kt contained metal) to the X41 Reserves. Depletion accounts for all other changes in the ore reserves.

The underground life of mine estimate for the X41 mine is 2026, with Enterprise and the Black Rock Cave closing in 2024. The tenements are due to expire on 30 November 2036.

Cobar

The mine is located approximately 10km north from the town of Cobar, in the north west of New South Wales, Australia. Economic mineralisation of copper and slver 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 1.0Mt increase in the total Mineral Resource is the result of resource growth in Western, QTS North and QTS Central, as defined by drilling and reinterpretation, exceeding mine depletion.

Resource upgrade in both QTS North and QTS Central, along with relevant updated designs, resulted in a 1.0Mt increase in Ore Reserves.

The expected remaining life of mine is approximately 6 years based on Ore Reserves and approximately 12 years based on Mineral Resources. Cobar has previously, over the past 50 years, been able to extend its expected life of mine through exploratory drilling. The expiry date of relevant mining/concession licences is 24 June 2028.

Copper

Other projects

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	Measured Mineral Resources 2019	Indicated Mineral Resources 2020	Indicated Mineral Resources 2019	Measured and Indicated Resources 2020	Measured and Indicated Resources 2019	Inferred Mineral Resources 2020	Inferred Mineral Resources 2019	CP	Proved Ore Reserves 2020	Proved Ore Reserves 2019	Probable Ore Reserves 2020	Probable Ore Reserves 2019	Total Ore Reserves 2020	Total Ore Reserves 2019	CP
Polymet	72%	OC	Ore (Mt)	319	319	403	403	722	722	415	415	ZB	157	157	106	106	264	264	HW
			Copper (%)	0.24	0.24	0.23	0.23	0.23	0.23	0.24	0.24		0.29	0.29	0.29	0.29	0.29	0.29	
			Nickel (%)	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07		0.08	0.08	0.08	0.08	0.08	0.08	
			Palladium (g/t)	0.22	0.22	0.21	0.21	0.21	0.21	0.23	0.23		0.27	0.27	0.26	0.26	0.26	0.26	
			Platinum (g/t)	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06		0.08	0.08	0.08	0.08	0.08	0.08	
			Gold (g/t)	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03		0.04	0.04	0.04	0.04	0.04	0.04	
			Silver (g/t)	0.88	0.88	0.87	0.87	0.87	0.87	0.87	0.87		1.05	1.05	1.08	1.08	1.06	1.06	
			Cobalt (ppm)	71	71	68	68	39	39	56	56		74.21	74.21	73.56	73.56	73.95	73.95	
El Pachón	100%	OC	Ore (Mt)	534	534	1,055	1,055	1,588	1,588	1,536	1,536	FM	-	-	-	-	-	-	n.a.
			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 Copper Project	50%		Ore (Mt)	-	-	861	861	861	861	1,072	1,072	RT	-	-	-	-	-	-	n.a.
			Copper (%)	-	-	0.51	0.51	0.51	0.51	0.42	0.42		-	-	-	-	-	-	
			Gold (g/t)	-	-	0.05	0.05	0.05	0.05	0.05	0.05		-	-	-	-	-	-	
			Molybdenum (%)	-	-	0.008	0.008	0.008	0.008	0.006	0.006		-	-	-	-	-	-	
Total Other projects			**Ore (Mt)**	**853**	**853**	**2,319**	**2,318**	**3,171**	**3,171**	**3,023**	**3,023**		**157**	**157**	**106**	**106**	**264**	**264**	
			Copper (%)	**0.51**	**0.50**	**0.45**	**0.45**	**0.47**	**0.47**	**0.39**	**0.39**		**0.29**	**0.29**	**0.29**	**0.29**	**0.29**	**0.29**	

PolyMet
Polymet and the deposit NorthMet is located approximately 92Km north of the town of Duluth, to the west of Lake Superior in Minnesota, United States of America. Northmet is a polymetallic deposit hosting copper-nickel-platinum located at the northern margin of the Duluth Complex.

The Duluth Complex is a large, composite, layered, mafic intrusion that was emplaced into comagmatic flood basalts along a portion of the Mesoproterozoic Midcontinent Rift System. The ore-bearing units are primarily found in the basal unit of the Duluth Complex, which contains disseminated sulphides and minor massive sulphides hosted in troctolitic rocks.

The metals of interest are copper, nickel, cobalt, platinum, palladium, silver and gold. The majority of the metals are found in the sulphide minerals: chalcopyrite, cubanite, pentlandite, and pyrrhotite. Platinum, palladium and gold are found in bismuthides, tellurides, and alloys.

There are no changes to the Mineral Resource and Ore Reserve estimates for PolyMet in 2020.

Both the mineral resource and mineral reserve estimates take into consideration metallurgical recoveries, concentrate grades, transportation costs, smelter treatment charges and royalties in determining NSR values.

Ore Reserves exceed the currently approved EIS LOM ore milled limit of 204 million tonnes over a mine life of 20 years.

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-Molybdenite 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 Chalcopyrite ore.

The Mineral Resource estimate remains unchanged for 2020.

Mineral Resources stated herein are based on assay and geology information from 135Km 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.

West Wall
The West Wall Copper Project is located in the central Chilean Andes, approximately 100km NNE of Santiago.

West Wall is a copper-molybdenum porphyry, with two distinct mineralized zones; Lagunillas to the south of the prospect, and West Wall Norte (WWN) 2km to the north of Lagunillas. The mineralization zones are part of an extensive NNE striking hydrothermal alteration zone of approximately 9km by 4km.

The sulphide Mineral Resource is reported within an economic pit shell at a copper cut-off and remains unchanged from 2019.

Glencore and Anglo American each have a 50% interest in the mining company West Wall SCM which holds the project.

The project is jointly owned by Glencore plc (50%) and Anglo American (50%).

Zinc

Kazzinc

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	Measured Mineral Resources 2019	Indicated Mineral Resources 2020	Indicated Mineral Resources 2019	Measured and Indicated Resources 2020	Measured and Indicated Resources 2019	Inferred Mineral Resources 2020	Inferred Mineral Resources 2019	CP	Proved Ore Reserves 2020	Proved Ore Reserves 2019	Probable Ore Reserves 2020	Probable Ore Reserves 2019	Total Ore Reserves 2020	Total Ore Reserves 2019	CP
Maleevsky	69.7%	UG	Ore (Mt)	1.2	3.2	2.4	3.8	3.6	7.0	2.0	2.2	AC/	1.6	2.6	2.3	3.5	3.9	6.1	AC
			Zinc (%)	6.6	6.2	5.3	6.4	5.7	6.3	6	6	LP	4.7	5.1	3.4	3.9	4.0	4.4	
			Lead (%)	1.0	1.1	1.0	1.2	1.0	1.1	1	1		0.8	0.8	0.6	0.7	0.7	0.8	
			Copper (%)	2.2	2.2	1.8	2.0	1.9	2.1	1	2		1.3	1.8	1.2	1.2	1.2	1.5	
			Silver (g/t)	71	75	63	73	66	74	40	59		45	60	34	46	39	52	
			Gold (g/t)	0.5	0.5	0.4	0.5	0.4	0.5	0.3	0.5		0.3	0.4	0.2	0.3	0.3	0.3	
Ridder-Sokolny	69.7%	UG	Ore (Mt)	51	60	35	14	86	74	17	0.3	AC/	15.5	16.3	10.6	4.1	26.1	20.4	AC
			Zinc (%)	0.9	0.6	0.8	0.7	0.9	0.6	0.7	0.2	LP	0.6	0.4	0.5	0.4	0.6	0.4	
			Lead (%)	0.4	0.3	0.4	0.3	0.4	0.3	0.3	0.3		0.3	0.2	0.2	0.3	0.3	0.2	
			Copper (%)	0.6	0.6	0.5	0.6	0.6	0.6	0.5	0.3		0.5	0.5	0.5	0.5	0.5	0.5	
			Silver (g/t)	13	10	14	14	13	11	13	22		8	7	9	10	8	8	
			Gold (g/t)	1.9	2.0	1.6	1.9	1.8	2.0	2	2.4		1.8	2.2	1.7	2.2	1.8	2.2	
Tishinsky	69.7%	UG	Ore (Mt)	5.0	7.4	1.4	1.2	6.4	8.6	0.8	0.8	AC/	1.1	2.1	0.5	0.9	1.6	3.0	AC
			Zinc (%)	5.5	5.3	4.0	4.7	5.2	5.2	4	4	LP	6.9	6.5	6.0	4.7	6.6	5.8	
			Lead (%)	1.0	0.9	0.5	0.7	0.9	0.9	0.6	0.6		1.3	1.2	1.5	0.7	1.4	1.1	
			Copper (%)	0.6	0.6	0.4	0.4	0.6	0.6	0.4	0.4		0.7	0.6	0.4	0.6	0.6	0.6	
			Silver (g/t)	10	10	6	6	9	9	5	6		14	12	8	8	12	11	
			Gold (g/t)	0.7	0.7	0.4	0.4	0.6	0.7	0.3	0.3		1.2	0.9	0.4	0.7	0.9	0.8	
Staroye Tailings Dam	69.7%		Ore (Mt)	-	-	2.4	2.4	2.4	2.4	1.4	1.4	AC	-	-	-	-	-	-	n.a.
			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 Tailings Dam	69.7%	OC	Ore (Mt)	-	-	58	58	58	58	30	30	AC	-	-	-	-	-	-	n.a.
			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 Stockpiles	69.7%	OC	Ore (Mt)	-	-	1.2	1.2	1.2	1.2	-	-	AC	-	-	1.2	1.3	1.2	1.3	
			Zinc (%)	-	-	24.4	22	24.4	22	-	-		-	-	24.4	22.7	24.4	22.7	
Dolinnoe	69.7%	UG	Ore (Mt)	6.2	5.6	1.6	1.4	7.7	7.0	7.5	7.3	AC/	4.4	3.7	0.6	0.7	5.0	4.4	AC
			Zinc (%)	1.2	1.2	0.9	1.0	1.1	1.2	0.8	0.7	LP	1.1	1.1	0.8	1.1	1.1	1.1	
			Lead (%)	0.6	0.6	0.4	0.5	0.6	0.6	0.4	0.4		0.6	0.6	0.4	0.6	0.6	0.6	
			Copper (%)	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1		0.1	0.2	0.1	0.2	0.1	0.2	
			Silver (g/t)	42	47	37	47	41	47	11	12		41	51	32	52	40	51	
			Gold (g/t)	3.0	3.2	2.0	2.1	2.8	3.0	1.8	1.8		2.8	3.2	2.2	2.3	2.7	3.1	

Zinc

Kazzinc (continued)

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources		Indicated Mineral Resources		Measured and Indicated Resources		Inferred Mineral Resources		CP	Proved Ore Reserves		Probable Ore Reserves		Total Ore Reserves		CP
				2020	2019	2020	2019	2020	2019	2020	2019		2020	2019	2020	2019	2020	2019	
Obruchevsky	69.7%	UG	Ore (Mt)	-	-	1.7	5.4	1.7	5.4	4.9	4.0	AC/	-	-	-	-	-	-	n.a.
			Zinc (%)	-	-	7.5	7.3	7.5	7.3	5	4	LP	-	-	-	-	-	-	
			Lead (%)	-	-	3.6	3.2	3.6	3.2	2	2		-	-	-	-	-	-	
			Copper (%)	-	-	0.7	0.9	0.7	0.9	0.6	0.6		-	-	-	-	-	-	
			Silver (g/t)	-	-	18	37	18	37	30	33		-	-	-	-	-	-	
			Gold (g/t)	-	-	0.4	1.1	0.4	1.1	0.5	0.7		-	-	-	-	-	-	
Zhairem Zapadny	69.7%	OC	Ore (Mt)	8.3	17.3	6.7	0.2	15.1	17.5	0.70	0.02	AC/	8.0	16.2	5.7	0.1	13.7	16.4	AC
			Zinc (%)	4.9	4.5	4.2	4.3	4.6	4.5	1	2	LP	4.8	4.5	4.2	3.2	4.6	4.5	
			Lead (%)	1.6	1.5	1.2	2.0	1.4	1.5	0.5	0.5		1.6	1.4	1.2	1.5	1.4	1.4	
			Silver (g/t)	31	26	23	36	27	26	10	16		30	26	23	37	27	26	
Zhairem Dalnezapadny	69.7%	OC	Ore (Mt)	38.4	36.5	3.3	3.5	41.7	40.0	0.1	-	AC/	37.4	37.0	2.9	2.8	40.2	39.7	AC
			Zinc (%)	4.6	4.4	5.1	3.9	4.6	4.3	3	-	LP	4.5	4.2	5.0	3.8	4.5	4.1	
			Lead (%)	1.3	1.2	1.4	0.9	1.3	1.2	1	-		1.2	1.2	1.3	0.9	1.2	1.2	
			Silver (g/t)	16	6	14	3	16	6	19	-		16	6	14	2	16	5	
Zhairemsky Ushkatyn	69.7%	OC	Ore (Mt)	0.6	0.6	1.3	1.3	1.9	1.9	0.1	0.1	AC/	-	-	-	-	-	-	AC
			Zinc (%)	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	LP	-	-	-	-	-	-	
			Lead (%)	5.3	5.3	3.7	3.7	4.2	4.2	3	3		-	-	-	-	-	-	
			Silver (g/t)	35	35	27	27	30	30	18	18		-	-	-	-	-	-	
Ushkatyn I	69.7%	OC	Ore (Mt)	-	-	-	-	-	-	5.9	-	AC/	-	-	-	-	-	-	n.a.
			Zinc (%)	-	-	-	-	-	-	2	-	LP	-	-	-	-	-	-	
			Lead (%)	-	-	-	-	-	-	5	-		-	-	-	-	-	-	
Uzhynzhal	100.0%	OC	Ore (Mt)	-	-	-	-	-	-	21.2	17.9	AC/	-	-	-	-	-	-	n.a.
			Zinc (%)	-	-	-	-	-	-	1	1	LP	-	-	-	-	-	-	
			Lead (%)	-	-	-	-	-	-	3	3		-	-	-	-	-	-	
			Silver (g/t)	-	-	-	-	-	-	48	51		-	-	-	-	-	-	
Novo-Leninogorsky	69.7%	UG	Ore (Mt)	-	-	8.0	-	8.0	-	22.2	30.0	AC/	-	-	-	-	-	-	n.a.
			Zinc (%)	-	-	4.3	-	4.3	-	5	5	LP	-	-	-	-	-	-	
			Lead (%)	-	-	1.7	-	1.7	-	2	2		-	-	-	-	-	-	
			Copper (%)	-	-	0.2	-	0.2	-	0.2	0.2		-	-	-	-	-	-	
			Silver (g/t)	-	-	38	-	38	-	48	40		-	-	-	-	-	-	
			Gold (g/t)	-	-	2.0	-	2.0	-	2	2		-	-	-	-	-	-	
Chekmar	69.7%	OC	Ore (Mt)	-	-	-	-	-	-	57.8	55.0	AC/	-	-	-	-	-	-	n.a.
			Zinc (%)	-	-	-	-	-	-	3	2.7	LP	-	-	-	-	-	-	
			Lead (%)	-	-	-	-	-	-	0.9	0.9		-	-	-	-	-	-	
			Copper (%)	-	-	-	-	-	-	0.5	0.4		-	-	-	-	-	-	
			Silver (g/t)	-	-	-	-	-	-	13	13		-	-	-	-	-	-	
			Gold (g/t)	-	-	-	-	-	-	0.4	0.3		-	-	-	-	-	-	
Total Polymetallic Kazzinc			**Ore (Mt)**	**111**	**130**	**123**	**93**	**234**	**223**	**172**	**149**		**68**	**78**	**23.8**	**13.0**	**92**	**91**	
			Zinc (%)	**2.8**	**2.6**	**1.4**	**1.3**	**2.0**	**2.1**	**2.2**	**2.0**		**3.5**	**3.4**	**3.5**	**4.5**	**3.5**	**3.6**	
			Lead (%)	**0.9**	**0.8**	**0.4**	**0.4**	**0.6**	**0.6**	**1.2**	**1.0**		**1.0**	**1.0**	**0.6**	**0.5**	**0.9**	**0.9**	
			Copper (%)	**0.3**	**0.4**	**0.2**	**0.2**	**0.3**	**0.3**	**0.3**	**0.1**		**0.2**	**0.2**	**0.3**	**0.5**	**0.2**	**0.2**	
			Silver (g/t)	**18**	**14**	**13**	**12**	**15**	**13**	**21**	**23**		**18**	**14**	**15**	**19**	**17**	**15**	
			Gold (g/t)	**1.1**	**1.1**	**1.0**	**0.9**	**1.0**	**1.0**	**0.8**	**1.0**		**0.6**	**0.6**	**0.8**	**0.9**	**0.7**	**0.7**	
Vasilkovsky (Gold)	69.7%	OC	Ore (Mt)	71.8	69.7	26.5	43.7	98.4	113.0	0.6	0.1	AC/	43.0	42.0	36.0	43.6	79	86	AC
			Gold (g/t)	1.9	2.1	1.9	1.7	1.9	1.9	0.9	1.0	LP	2.0	2.2	1.8	1.8	1.9	2.0	
		UG	Ore (Mt)	1.4	-	26.5	-	27.9	-	1.4	-		-	-	-	-	-	-	
			Gold (g/t)	2.1	-	2.3	-	2.3	-	2.2	-		-	-	-	-	-	-	
Kazzinc Gold (Vasilkovskoye)			**Ore (Mt)**	**73**	**70**	**53**	**44**	**126**	**113**	**2.0**	**0.1**		**43**	**42**	**36**	**44**	**79**	**86**	
			Gold (g/t)	**1.9**	**2.1**	**2.1**	**1.7**	**2.0**	**1.9**	**1.8**	**1.0**		**2.0**	**2.2**	**2.4**	**1.8**	**1.9**	**2.0**	

Zinc

Maleevsky
Maleevsky is a typical syngenetic VMS deposit hosting ores of sulphide-polymetallic formation with associated gold and silver. The geological model and resource estimate was revised in 2020 with adjustments to wireframing and classification. The reduction of resource tonnage is the result of more thorough sterilization. Infill drilling in various parts of the deposit enabled conversion of Inferred resources to Indicated, particularly near the active mining fronts. The current extraction method at Maleevsky mine is Underground Sublevel open Stoping. The mined material from Maleevsky during 2020 was 1.9Mt at 4.9% Zn, 0.8% Pb, 1.6% Cu, 49 g/t Ag and 0.4 g/t Au.

The expected mine life for Maleevsky is 5 years based on Ore Reserves and 5 years based on Mineral Resources.

Ridder-Sokolny
The Ridder-Sokolny deposit is a unique deposit that has characteristics of several deposit styles. The total footprint of the mineralisation exceeds 20 km2. The upper ore zone of the deposit consists of a cluster of sub-horizontal VMS-style lens-shaped bodies associated with a carbonaceous unit adjacent to a vertical fault structure. The lenticular VMS-style mineralisation is underlain by a steeply dipping to sub-vertical polymetallic Cu-rich stringer-stockwork ore zone. Structurally controlled gold-bearing quartz veins overprint the entire system. The current extraction method at Ridder-Sokolny mine is a combination of sublevel open stoping, sublevel caving, and narrow vein drift and fill to selectively mine individual or small cluster of veins with high gold grades. Production in 2020 was 1.7 Mt, grading 0.4% Zn, 0.2% Pb, 0.4% Cu, 6 g/t Ag, and 2.6 g/t Au.

The expected mine life for Ridder-Sokolny is 19 years based on updated LOM @ a 2.3Mt annual production throughput.

Tishinsky
Tishinsky is a syngenetic VMS deposit of Au- and Ag-bearing sulfide polymetallic ores. Tishinsky mineral resources decreased, mainly due to sterilization of resource in geotechnically unstable zones. Changes to the Indicated zinc and lead grades are due to the sterilization of high grade pillars. The current extraction method at Tishinsky is sublevel open stoping. The mined material from Tishinsky during 2020 was 518 Kt at 7.1% Zn, 1.3% Pb, 0.6% Cu, 13.5 g/t Ag and 0.9 g/t Au.

The expected mine life for Tishinsky is 3 years based on Ore Reserves and 4 years based on Mineral Resources.

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 Complex Zinc refinery. Total material processed during 2020 was 198 Kt at 21% Zn.

Dolinnoe
The Dolinnoe deposit is situated in the south-eastern portion of the Ridder mining district in the Rudny-Altay geotectonic block. Gold is the main mineral of economic interest and structural interpretation, modelling and classification of the Mineral Resource was completed on the basis of an underground infill drilling campaign. Changes to the Mineral Resources (and Ore Reserves) are due to the addition of data with infill drilling and a refinement of estimation parameters. The current extraction method at Dolinnoe is sublevel open stoping. The mined material from Dolinnoe during 2020 was 524 Kt, 1.4% Zn, 0.8% Pb, 0.2% Cu, 95 g/t Ag and 4.0 g/t Au. The expected mine life for Dolinnoe is 10 years based on Ore Reserves and 16 years based on Mineral Resources.

Obruchevsky
The Obruchevsky deposit is situated 1,000 m below surface in the south-eastern portion of the Ridder mining district. Mineralisation consists of banded to massive sulphides of Zn-Pb-Cu in one principal, subhorizontal lens 1,000 m long by 300 m wide with thickness from 3 to >40 m. It was discovered in 1987 and delineated with 147,000 m of drilling in 130 drillholes by the end of 1996. Confirmation and infill drilling was ongoing in 2019 and 2020. Results from twinning drillholes revealed possible issues with historical drillhole locations and assay results, and have led to substantial downward revision of resources for 2020, which now stand at 1.7 Mt of Indicated and 4.9 Mt of Inferred Resources. A Feasibility Study is underway.

Chekmar
The Chekmar deposit comprises two main polymetallic mineralised zones: Chekmar and Gusliakov, which are separated by a distance of roughly 1.5 km. The deposits are typical syngenetic VMS deposits, with distinct metal zonation and near-surface weathering profiles. The deposits were initially explored in the 1970s. Studies are underway to confirm the Mineral Resource and to perform metallurgical testing of the mineralization. Due to the historical nature of the previous drilling, all Mineral Resources are currently classified as Inferred.

Zhairem
The various iron, manganese, barite and polymetallic deposits of the Zhairem area, central Kazakhstan, were discovered by geological and geophysical prospecting between the 1930s and 1960s. Between 1978 and 1995, 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. Zapadny resource changes are related to drilling performed in 2019 and 2020, which showed a decline in density values and led to a downgrade of Measured resources.

Dalnezapadny changes are due to reinterpretation of faults and updated density calculation. The Ushkatyn I deposit was remodelled using updated estimation parameters.

The mined material at the Zapadny pit in 2020 was 439 kt at 4.7% Zn, 2.4% Pb and 30 g/t Ag. The expected mine life for Zhairem is 12 years based on Ore Reserves and Mineral Resources.

Uzynzhal
The Uzynzhal SEDEX deposit is located in central Kazakhstan, in the same belt as the Zhareim deposits. Pb-Zn ores shows close spatial correlations with barite and manganese ores. The deposit is made up of an oxide cap, containing mainly Pb-oxide ores, while the sulfide portion of the deposit contains both Zn and Pb sulfides. Changes to the Resources are due to a refinement of mineralization types with new mineralogical information. No mining took place in 2020.

Novo-Leninogorsky
The Novo-Leninogorsky deposit is part of the Ridder-Sokolny group of polymetallic VMS deposits in the Altai region of Eastern Kazakhstan. Novo-Leninogorsky was discovered in 1981 and was explored between 1981 and 1985. Two styles of mineralisation can be found at Novo-Leninogorsky: barite-polymetallic and polymetallic (massive and stringers), with the mineralisation hosted by siltstones and quartzites. The historical mineral resource was confirmed in 2019-2020 with a 15,000 m diamond drilling program.

Vasilkovsky
Vasilkovsky is a gold deposit of epigenetic stockwork type and beresite subtype of deposits hosting ores of gold-quartz formation. The Vasilkovsky mineral resources are divided into the open pit and underground portions. The open pit resources are limited by an optimized pit shell from engineering studies. The total open pit mineral resources decreased mainly due to new drilling data and new density data. Open pit ore reserves were estimated based upon an updated mineral resource interpretation and interpolation parameters. The ore reserves were constrained by a new pit design, which is fully encompassed in the resource pit shell. The mined ore reserves from Vasilkovsky during 2020 were 7.2 Mt at 2.5 g/t Au.

Underground mineral resources declared for the first time are the depth extension of the same deposit currently mined by open pit.

The expected mine life for Vasilkovsky is 9 years based on Ore Reserves and Mineral Resources.

Zinc

Australia (Mount Isa, McArthur River)

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources		Indicated Mineral Resources		Measured and Indicated Resources		Inferred Mineral Resources		CP	Proved Ore Reserves		Probable Ore Reserves		Total Ore Reserves		CP
				2020	2019	2020	2019	2020	2019	2020	2019		2020	2019	2020	2019	2020	2019	
Mount Isa	100%																		
Mount Isa Open Pit		OC	Ore (Mt)	-	27.5	125.0	80.0	125.0	107.0	178.0	40.3	AC/	-	-	-	-	-	-	n.a.
			Zinc (%)	-	4.0	3.9	4.1	3.9	3.8	4	4	LP	-	-	-	-	-	-	
			Lead (%)	-	4.7	3.0	3.5	3.0	3.8	2	3		-	-	-	-	-	-	
			Silver (g/t)	-	97	66	73	66	79	35	62		-	-	-	-	-	-	
Rio Grande		UG	Ore (Mt)	-	-	2.3	-	2.3	-	13.1	-	AC/	-	-	-	-	-	-	n.a.
			Zinc (%)	-	-	6.0	-	6.0	-	6	-	LP	-	-	-	-	-	-	
			Lead (%)	-	-	2.4	-	2.4	-	2	-		-	-	-	-	-	-	
			Silver (g/t)	-	-	58	-	58	-	54	-		-	-	-	-	-	-	
Pb Underground		UG	Ore (Mt)	-	-	32.0	-	32.0	-	15.4	-	AC/	-	-	-	-	-	-	n.a.
			Zinc (%)	-	-	4.8	-	4.8	-	4	-	LP	-	-	-	-	-	-	
			Lead (%)	-	-	4.3	-	4.3	-	5	-		-	-	-	-	-	-	
			Silver (g/t)	-	-	108	-	108	-	108	-		-	-	-	-	-	-	
Black Star Open Cut		OC	Ore (Mt)	-	4.8	-	3.1	-	7.9	-	7.3	AC/	-	-	-	-	-	-	n.a.
			Zinc (%)	-	5.4	-	3.7	-	4.7	-	2.0	LP	-	-	-	-	-	-	
			Lead (%)	-	5.2	-	3.2	-	4.4	-	1.0		-	-	-	-	-	-	
			Silver (g/t)	-	89	-	53	-	74	-	19		-	-	-	-	-	-	
Black Star underground		UG	Ore (Mt)	-	13.6	-	52.0	-	66.0	-	92.0	AC/	-	-	-	-	-	-	n.a.
			Zinc (%)	-	5.7	-	5.6	-	5.6	-	5.0	LP	-	-	-	-	-	-	
			Lead (%)	-	3.2	-	2.6	-	2.7	-	3.0		-	-	-	-	-	-	
			Silver (g/t)	-	62	-	46	-	49	-	62		-	-	-	-	-	-	
George Fisher	100%																		
South (P49) Orebodies		UG	Ore (Mt)	28.6	29.8	24.4	25.2	53	55	20.1	23.2	CF	6.1	8.7	8.3	8.8	14.4	17.5	CF
			Zinc (%)	8.4	8.3	8.2	8.1	8.3	8.2	8	8		6.7	6.2	6.1	6.2	6.4	6.2	
			Lead (%)	5.3	5.3	4.7	4.7	5.0	5.0	5	4		4.6	4.4	4.6	4.3	4.6	4.3	
			Silver (g/t)	115	114	98	96	107	106	91	82		100	101	103	96	102	98	
North (L72) Orebodies		UG	Ore (Mt)	49.2	49.3	120	116	169	165	61	58	CF	15.4	17.2	36.7	39	52	56	CF
			Zinc (%)	9.2	9.4	8.8	8.9	8.9	9.1	9	9		7.2	7.4	7.0	7.2	7.1	7.2	
			Lead (%)	3.4	3.5	3.3	3.4	3.4	3.4	3	4		3.5	3.2	3.3	3.1	3.4	3.2	
			Silver (g/t)	58	59	52	53	54	55	54	55		61	56	56	54	57	55	
Handlebar Hill Open Cut (primary)		OC	Ore (Mt)	1.6	1.6	3.6	3.6	5.2	5.2	0.8	0.8	AC	-	-	-	-	-	-	n.a.
			Zinc (%)	7.8	7.8	6.1	6.1	6.6	6.6	5	5		-	-	-	-	-	-	
			Lead (%)	2.6	2.6	2.0	2.0	2.2	2.2	2	2		-	-	-	-	-	-	
			Silver (g/t)	41	41	35	35	37	37	30	30		-	-	-	-	-	-	
Handlebar Hill Open Cut (oxide)		OC	Ore (Mt)	0.5	0.5	0.1	0.1	0.6	0.6	-	-	AC	0.5	0.5	-	-	0.5	0.5	AC
			Zinc (%)	0.4	0.4	0.4	0.4	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	-	-		8.5	8.5	-	-	8.5	8.5	
			Silver (g/t)	89	89	65	65	85	85	-	-		89	89	-	-	89	89	
Lady Loretta	100%	UG	Ore (Mt)	5.5	4.1	2.5	3.7	8.1	7.7	1.2	4.5	AC/	4.3	2.9	0.9	2.6	5.3	5.5	CF
			Zinc (%)	13.7	15.4	11.9	15.3	13.1	15.3	8	11	LP	11.8	13.4	11.5	13.3	11.7	13.4	
			Lead (%)	4.3	6.4	2.4	4.1	3.7	5.3	1	3		4.1	6.1	2.2	3.7	3.8	4.9	
			Silver (g/t)	76	106	49	70	68	89	33	79		71	102	45	64	66	83	
Total Mount Isa			**Ore (Mt)**	**85**	**131**	**310**	**284**	**395**	**414**	**290**	**226**		**26**	**29**	**46**	**50**	**72**	**79**	
			Zinc (%)	**9.1**	**7.6**	**6.3**	**6.9**	**6.9**	**7.1**	**5**	**6**		**7.7**	**7.5**	**6.9**	**7.3**	**7.3**	**7.4**	
			Lead (%)	**4.1**	**4.3**	**3.4**	**3.4**	**3.6**	**3.6**	**3**	**3**		**3.9**	**3.9**	**3.5**	**3.4**	**3.7**	**3.6**	
			Silver (g/t)	**78**	**82**	**67**	**61**	**69**	**68**	**48**	**61**		**72**	**74**	**64**	**62**	**67**	**66**	

Zinc

Australia (Mount Isa, McArthur River) (continued)

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	Measured Mineral Resources 2019	Indicated Mineral Resources 2020	Indicated Mineral Resources 2019	Measured and Indicated Resources 2020	Measured and Indicated Resources 2019	Inferred Mineral Resources 2020	Inferred Mineral Resources 2019	CP	Proved Ore Reserves 2020	Proved Ore Reserves 2019	Probable Ore Reserves 2020	Probable Ore Reserves 2019	Total Ore Reserves 2020	Total Ore Reserves 2019	CP
McArthur River	100%																		
Open Cut		OC	Ore (Mt)	106	107	48.6	48.2	154	155	-	-	CH	**74**	**71**	**12.7**	**27.0**	**87**	**98**	DH
			Zinc (%)	9.5	9.6	9.5	9.6	9.5	9.6	-	-		**9.4**	**9.5**	**7.8**	**8.0**	**9.2**	**9.1**	
			Lead (%)	4.1	4.1	4.7	4.8	4.3	4.3	-	-		**4.3**	**4.3**	**3.8**	**4.0**	**4.2**	**4.2**	
			Silver (g/t)	40	41	51	51	44	44	-	-		**43**	**42**	**39**	**42**	**42**	**42**	
Woyzbun South Zone		UG	Ore (Mt)	-	-	8.3	8.3	8.3	8.3	-	-	CH	-	-	-	-	-	-	
			Zinc (%)	-	-	14.2	14.0	14.2	14.0	-	-		-	-	-	-	-	-	
			Lead (%)	-	-	5.6	5.6	5.6	5.6	-	-		-	-	-	-	-	-	
			Silver (g/t)	-	-	58	58	58	58	-	-		-	-	-	-	-	-	
Total McArthur River			**Ore (Mt)**	**106**	**107**	**57**	**56**	**162**	**163**	**-**	**-**		74	71	12.7	27.0	87	98	
			Zinc (%)	**9.5**	**9.6**	**10.2**	**10.3**	**9.7**	**9.8**	**-**	**-**		9.4	9.5	7.8	8.0	9.2	9.1	
			Lead (%)	**4.1**	**4.1**	**4.8**	**4.9**	**4.4**	**4.4**	**-**	**-**		4.3	4.3	3.8	4.0	4.2	4.2	
			Silver (g/t)	**40**	**41**	**52**	**52**	**45**	**45**	**-**	**-**		43	42	39	42	42	42	
Total Australia			**Ore (Mt)**	**191**	**238**	**367**	**340**	**558**	**578**	**290**	**226**		100	100	59	77	159	177	
			Zinc (%)	**9.3**	**8.5**	**6.9**	**7.4**	**7.7**	**7.9**	**5**	**6**		9.0	8.9	7.1	7.6	8.3	8.3	
			Lead (%)	**4.1**	**4.2**	**3.6**	**3.6**	**3.8**	**3.9**	**3**	**3**		4.2	4.2	3.6	3.6	4.0	3.9	
			Silver (g/t)	**57**	**64**	**65**	**60**	**62**	**61**	**48**	**61**		51	51	59	55	53	53	

Mount Isa Open Pit ("MIOP")
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 mineralisation (mixed sulphide and secondary oxide/carbonate). A new resource model was developed in 2020 to encompass the MIOP area, and resources are reported using a Revenue Factor 1 open pit shell, which was redesigned based on updated economic assumptions. The copper resource in MIOP has not been included here; it is reported separately in the Copper section of this report, and is constrained by the same pit shell.

The region's previously reported Black Star Open Cut (BSOC) resources are now included here. MIOP, PBUG and the RG are all located on Mining Lease ML8058 which expires on 30 November 2036.

Pb Underground ("PBUG")
PBUG is the continuation of the same lead-zinc-silver mineralisation in Black Star Open Cut, which occurs in galena and sphalerite-rich bedding parallel horizons in dolomitic and variably carbonaceous pyritic shales and siltstones. A new resource model was developed in 2020 for PBUG and encompasses the previously reported Black Star Underground (BSUG) as well as other nearby underground resources.

Rio Grande ("RG")

RG is a Southern continuation of PBUG where lead-zinc-silver mineralisation occurs in galena and sphalerite-rich bedding parallel horizons in dolomitic and variably carbonaceous pyritic shales and siltstones. An updated geological model and Mineral Resource estimate was produced in 2020. This mineralization occurs close to Cu mine operations around 4800N and was previously reported in BSUG.

George Fisher Mine
North (L72) & South (P49) Orebodies
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. The current extraction method at George Fisher is sublevel open stoping. Mine production for 2020 totalled 2.9 Mt at 6.8% Zn, 3.9% Pb and 70 g/t Ag. The mine is located on Mining Lease ML8058 and the lease expires on 30 November 2036.

Resource changes are mainly associated with mining activity, drilling and improvements in overall modelling and estimation techniques. Reserve changes are mainly due to mining depletion and sterilisation as well as localised geological re-interpretation. Reserves were prepared by CF and reviewed and audited by AC.

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 is reported as a Mineral Resource. No depletion has occurred through mining during 2020. 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 occurs in a tight syncline dislocated by a number major faults. The deeper and high grade portion of the deposit reaches 500m below the surface.

Resources changes are mainly associated with mining activity, drilling and improvements in overall modelling and estimation techniques. The current extraction method at Lady Loretta is sublevel open stoping. Mine production at Lady Loretta in 2020 totalled 1.6 Mt at grades of 13.7% Zn, 6.3% Pb and 100 g/t Ag. The Mining Lease, ML5568, is current until January 31st, 2026.

McArthur River Mine
Zinc-lead-silver mineralisation occurs predominantly as ultrafine bedded parallel sphalerite and galena rich bands hosted by dolomitic and carbonaceous pyritic siltstones, graded beds and chaotic debris flow breccias. 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.

The open pit optimisation showed little sensitivity to updated parameters. The break-even pit shell for Mineral Resources reporting and the designed final pit for Ore Reserves reporting remain unchanged. The Mineral Resources were depleted by 5.1Mt during 2020, and increased by 4.1Mt due to changes in the resource model and economic assumptions. The Ore Reserves have been depleted during 2020 by a total of 4.5Mt at 8.7% Zn and 3.9% Pb, and also reduced due to an elevated cut-off strategy to optimise the project net present value.

Open cut mining is planned to be completed in 2038. Mineral Resources and Ore Reserves are located within leases that are valid to 2043.

Zinc

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

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	Measured Mineral Resources 2019	Indicated Mineral Resources 2020	Indicated Mineral Resources 2019	Measured and Indicated Resources 2020	Measured and Indicated Resources 2019	Inferred Mineral Resources 2020	Inferred Mineral Resources 2019	CP	Proved Ore Reserves 2020	Proved Ore Reserves 2019	Probable Ore Reserves 2020	Probable Ore Reserves 2019	Total Ore Reserves 2020	Total Ore Reserves 2019	CP
Kidd Creek	100%	UG	Ore (Mt)	7.9	7.8	1.7	0.8	9.7	8.6	10.5	3.5	BD	3.3	3.6	1.7	1.0	5.0	4.6	KS
			Zinc (%)	4.0	4.0	5.2	4.8	4.2	4.0	5	7		3.4	3.5	4.0	5.1	3.6	3.8	
			Copper (%)	1.8	1.9	1.4	1.7	1.7	1.8	2	2		1.9	2.0	1.6	1.9	1.8	1.9	
			Silver (g/t)	50.0	48.0	48.0	47.0	50	48	41	62		47	52	38	43	44	50	
Matagami Bracemac-McLeod	100%	UG	Ore (Mt)	2.0	3.1	-	-	2.0	3.1	-	-	MM	1.2	2.1	-	-	1.2	2.1	JD
			Zinc (%)	5.8	6.3	-	-	5.8	6.3	-	-		5.8	6.0	-	-	5.8	6.0	
			Copper (%)	1.0	1.0	-	-	1.0	1.0	-	-		1.0	0.9	-	-	1.0	0.9	
			Silver (g/t)	26	29	-	-	26	29	-	-		26	27	-	-	26	27	
			Gold (g/t)	0.6	0.7	-	-	0.6	0.7	-	-		0.7	0.6	-	-	0.7	0.6	
Caber	100%	UG	Ore (Mt)	0.8	0.8	0.7	0.7	1.5	1.5		0.02	AC							n.a.
			Zinc (%)	6.1	6.1	5.4	5.4	5.8	5.2		8		-	-	-	-	-	-	
			Copper (%)	1.1	1.1	1.1	1.1	1.1	1.1		1		-	-	-	-	-	-	
			Silver (g/t)	10	10	9	9	10	10		6		-	-	-	-	-	-	
			Gold (g/t)	0.3	0.3	0.3	0.3	0.3	0.3		0.1		-	-	-	-	-	-	
Caber Nord	100%	UG	Ore (Mt)	-	-	-	-	-	-	6.0	6.0	AC/	-	-	-	-	-	-	n.a.
			Zinc (%)	-	-	-	-	-	-	3	3	LP	-	-	-	-	-	-	
			Copper (%)	-	-	-	-	-	-	1	1		-	-	-	-	-	-	
			Silver (g/t)	-	-	-	-	-	-	11	11		-	-	-	-	-	-	
			Gold (g/t)	-	-	-	-	-	-	0.1	0.1		-	-	-	-	-	-	
PD-1	100%	OC/UG	Ore (Mt)	0.6	0.6	1.0	1.0	1.6	1.6	-	-	AC	-	-	-	-	-	-	n.a.
			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	-	-		-	-	-	-	-	-	
Errington	100%	UG	Ore (Mt)	6.7	6.7	2.3	2.3	9.0	9.0	-	-	AC/	-	-	-	-	-	-	n.a.
			Zinc (%)	3.9	3.9	4.3	4.3	4	4	-	-	LP	-	-	-	-	-	-	
			Lead (%)	1.1	1.1	1.3	1.3	1.2	1.2	-	-		-	-	-	-	-	-	
			Copper (%)	1.2	1.2	1.1	1.1	1.2	1.1	-	-		-	-	-	-	-	-	
			Silver (g/t)	52	52	55	55	53	53	-	-		-	-	-	-	-	-	
			Gold (g/t)	0.8	0.8	0.8	0.8	0.8	0.8	-	-		-	-	-	-	-	-	
Vermilion	100%	UG	Ore (Mt)	2.8	2.8	0.4	0.4	3.2	3.2	-	-	AC/	-	-	-	-	-	-	n.a.
			Zinc (%)	4.2	4.2	5.3	5.3	4.3	4.4	-	-	LP	-	-	-	-	-	-	
			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	Ore (Mt)	-	-	27.1	27.1	27.1	27.1	60	60	AC	-	-	-	-	-	-	n.a.
			Zinc (%)	-	-	4.5	4.5	4.5	4.5	4	4		-	-	-	-	-	-	
			Lead (%)	-	-	0.6	0.6	0.6	0.6	1	1		-	-	-	-	-	-	
			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)**	**20.8**	**21.8**	**33**	**32**	**54**	**54**	**77**	**70**		**4.5**	**5.7**	**1.7**	**1.0**	**6**	**7**	
			Zinc (%)	**4.3**	**4.4**	**4.6**	**4.5**	**4.4**	**4.5**	**4.1**	**4.0**		**4.04**	**4.42**	**4.0**	**5.1**	**4.0**	**4.5**	
			Lead (%)	**0.5**	**0.5**	**0.6**	**0.6**	**0.6**	**0.6**	**0.8**	**1.0**		**-**	**-**	**-**	**-**	**-**	**-**	
			Copper (%)	**1.4**	**1.4**	**0.6**	**0.6**	**0.9**	**0.9**	**0.7**	**1.0**		**1.67**	**1.59**	**1.6**	**1.9**	**1.6**	**1.6**	
			Silver (g/t)	**46**	**45**	**114**	**116**	**88**	**87**	**124**	**134**		**41**	**43**	**38**	**43**	**40**	**43**	
			Gold (g/t)	**0.4**	**0.5**	**0.3**	**0.3**	**0.4**	**0.4**	**0.2**	**0.2**		**0.2**	**0.2**	**-**	**-**	**0.1**	**0.2**	

Zinc

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

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	2019	Indicated Mineral Resources 2020	2019	Measured and Indicated Resources 2020	2019	Inferred Mineral Resources 2020	2019	CP	Proved Ore Reserves 2020	2019	Probable Ore Reserves 2020	2019	Total Ore Reserves 2020	2019	CP
Bell	100%	OC	Ore (Mt)	57	57	200	200	257	257	100	100	BD	-	-	-	-	-	-	n.a.
			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	0.2	0.1		-	-	-	-	-	-	
Granisle	100%	OC	Ore (Mt)	18	18	55	55	73	73	20	20	BD	-	-	-	-	-	-	n.a.
			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			**Ore (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**	**0.2**	**0.1**		**-**	**-**	**-**	**-**	**-**	**-**	

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 in chalcopyrite stringer zones. Ore Reserves are based on the approved mining plan to 3,000m (9,800ft) depth. Mineral Resources are reported to 3,440m (11,300ft) depth, and include new Inferred Resources recently outlined by an ongoing exploration program. Additional mineralisation continuity is identified to 3,840m (12,600ft) depth, but there is insufficient data at this time to calculate an Inferred Resource.

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. The current extraction method at Kidd Creek is sublevel open stoping.

2020 production totalled 1.91 Mt at 3.69% Zn, 1.81% Cu and 45 g/t Ag. Ore Reserves in the Probable category mainly reflect geotechnical and economic uncertainty, rather than geological uncertainty. Mine life is anticipated to be 3 years, end-2023. All land tenures covering the existing Mineral Resources and Ore Reserves are patented and never expire.

Bracemac-McLeod

The Bracemac-McLeod deposits comprise a cluster of polymetallic VMS lenses, which are generally thinner and of a more complex morphology than the historic deposits in the Matagami mining camp. All shallower deposits are now mined-out and only the McLeod Deep lens remains, which lies between depths of 980m and 1,440m. The current extraction method at Bracemac-McLeod is sublevel open stoping. Mine production for the year 2020 was 0.9Mt grading 6.3% Zn, 0.8% Cu, 32g/t Ag and 0.8g/ Au. Mine life is anticipated to be 1.5 years (Mid-2022). There are no known land tenure issues that could affect the production plan.

PD–1

The PD-1 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 the Matagami concentrator. 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.

Caber / Caber Nord

The Caber deposit is polymetallic VMS of the same age and derived from the same ore forming hydrothermal system as the rest of the Matagami camp deposits.

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 1920s, a total of 129,713t of ore was produced from Errington in 1924-28. The historical Mineral Resource was confirmed in 2013 with a 50,000m drill program and has been reported in compliance with the JORC Code 2012.

Vermilion

The Vermilion deposit is a polymetallic massive sulphide body located in the Sudbury Basin, Ontario. The 17 lenses that make up the 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 fueled 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 1920s, the Vermilion underground development only started between 1952 and 1957. A total of 22,172t of ore were hoisted at Vermilion and stockpiled since circa 1958. The stockpile was shipped to Kidd Mine for processing in 1992. The historical Mineral Resource was confirmed in 2013 with a 10,000m drill program. Mineral Resources were 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 terrane that lies between Great Slave Lake and Coronation Gulf. The deposits are typically VMS deposits. Sulphide mineralization 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 principle 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 Mineral Resources, following boundaries of open cut vs underground mining, through a Preliminary Economic Assessment prior to Glencore's acquisition in 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 possible exploitation method.

Following the exploration drilling campaign of 2013, which added 114 drillholes totalling 39,000m, reinterpretation was carried out outlining an in situ resource using Zn equivalent grades. The Mineral Resource grades are interpolated using ID2 estimation.

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. The latest Mineral Resource estimate does not include the additional 25 holes (12,260m) drilled in 2012.

There are no known land tenure issues and the mining leases are renewed yearly. For the Bell Mine the mining leases expire on July 31, 2021, and for the Granisle Mine the mining leases expire on February 7, 2021.

Zinc

Volcan

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	Measured Mineral Resources 2019	Indicated Mineral Resources 2020	Indicated Mineral Resources 2019	Measured and Indicated Resources 2020	Measured and Indicated Resources 2019	Inferred Mineral Resources 2020	Inferred Mineral Resources 2019	CP	Proved Ore Reserves 2020	Proved Ore Reserves 2019	Probable Ore Reserves 2020	Probable Ore Reserves 2019	Total Ore Reserves 2020	Total Ore Reserves 2019	CP
Yauli	23.3%		Ore (Mt)	1.8	3.2	5.9	4.4	7.7	7.6	4.5	4.7	AC/	0.8	1.6	3.9	3.0	4.7	4.6	AC
Andaychagua		UG	Zinc (%)	5.7	4.7	7.0	6.1	6.7	5.5	5.5	6.2	LP	5.3	4.8	6.8	5.5	6.5	5.3	
			Lead (%)	1.3	1.0	1.3	1.2	1.3	1.1	0.8	0.8		1.3	0.9	1.2	1.1	1.2	1.0	
			Silver (g/t)	109	113	125	122	121	119	137	119		95	84	97	104	97	97	
Zoraida			Ore (Mt)	-	-	3.0	3.0	3.0	3.0	1.0	1.0	AC/	-	-	-	-	-	-	n.a.
			Zinc (%)	-	-	4.8	4.8	4.8	4.8	4.8	4.8	LP	-	-	-	-	-	-	
			Lead (%)	-	-	3.3	3.3	3.3	3.3	3.7	3.7		-	-	-	-	-	-	
			Silver (g/t)	-	-	143	143	143	143	149	149		-	-	-	-	-	-	
Carahuacra		UG	Ore (Mt)	2.5	4.8	4.5	3.7	7.0	8.5	4.5	4.1	AC/	0.4	0.8	1.6	1.6	2.0	2.4	AC
			Zinc (%)	5.5	6.6	6.4	6.6	6.1	6.6	7.1	6.2	LP	4.9	6.6	4.8	4.9	4.8	5.4	
			Lead (%)	0.6	0.8	1.1	1.4	0.9	1.1	1.2	1.3		0.7	1.4	1.0	1.3	0.9	1.3	
			Silver (g/t)	71	77	122	140	104	105	136	135		88	114	111	122	106	119	
San Cristobal		UG	Ore (Mt)	6.3	11.1	13.7	12.5	20.0	23.5	16.8	16.2	AC/	2.2	4.4	7.0	7.8	9.3	12.2	AC
			Zinc (%)	6.7	7.3	6.3	6.2	6.4	6.7	5.3	5.6	LP	5.0	5.5	5.1	5.1	5.1	5.3	
			Lead (%)	0.9	1.2	1.2	1.1	1.1	1.2	1.0	1.0		0.7	1.0	1.0	1.0	0.9	1.0	
			Silver (g/t)	128	156	132	140	131	148	105	109		96	126	107	120	104	123	
Ticlio		UG	Ore (Mt)	1.9	2.6	3.2	3.2	5.1	5.8	4.7	4.0	AC/	0.3	0.6	0.4	1.2	0.7	1.8	AC
			Zinc (%)	5.3	4.7	4.1	4.2	4.5	4.4	3.4	3.5	LP	6.3	4.3	5.4	4.3	5.7	4.3	
			Lead (%)	1.3	1.2	0.9	1.0	1.0	1.1	1.0	1.1		1.2	1.1	0.8	0.8	0.9	0.9	
			Silver (g/t)	61	49	51	63	55	57	64	71		66	53	85	66	78	62	
Chungar	23.3%		Ore (Mt)	1.2	1.3	2.1	3.1	3.2	4.4	4.0	3.9	AC/	0.1	0.1	0.4	0.9	0.5	1.0	AC
Islay		UG	Zinc (%)	1.6	1.7	2.1	1.8	1.9	1.8	1.8	1.6	LP	2.3	1.4	3.3	2.4	3.1	2.3	
			Lead (%)	0.8	0.8	0.8	0.8	0.8	0.6	0.9	0.7		1.1	0.7	1.2	1.0	1.2	1.0	
			Silver (g/t)	174	247	139	153	152	153	135	144		181	209	156	125	161	137	
Animon		UG	Ore (Mt)	3.4	4.5	10.6	12.2	14.0	16.7	14.4	15.0	AC/	1.4	2.5	4.0	6.5	5.4	9.0	AC
			Zinc (%)	9.2	9.7	6.7	6.7	7.3	7.5	5.4	5.4	LP	5.6	5.6	4.5	4.6	4.8	4.9	
			Lead (%)	2.6	2.6	2.0	2.0	2.1	2.1	1.8	1.8		1.7	1.6	1.6	1.5	1.6	1.5	
			Silver (g/t)	87	100	75	81	78	86	69	77		62	61	62	58	62	59	
Alpamarca	23.3%	OC	Ore (Mt)	3.1	0.1	0.6	2.8	3.7	2.8	0.01	0.1	AC/	1.5	0.1	0.1	1.7	1.6	1.8	AC
			Zinc (%)	1.2	0.9	1.4	1.0	1.2	1.0	1.5	0.9	LP	1.2	0.9	1.1	0.9	1.1	0.9	
			Lead (%)	0.9	0.7	1.0	0.7	0.9	0.7	0.9	0.5		0.9	0.8	0.8	0.7	0.9	0.7	
			Silver (g/t)	62	47	75	50	64	50	70	51		59	42	47	47	59	47	
Palma	23.3%	UG	Ore (Mt)	-	-	12.5	12.5	12.5	12.5	10.2	10.2	AC/	-	-	-	-	-	-	n.a.
			Zinc (%)	-	-	4.5	4.5	4.5	4.5	4.2	4.2	LP	-	-	-	-	-	-	
			Lead (%)	-	-	0.9	0.9	0.9	0.9	0.8	0.8		-	-	-	-	-	-	
			Silver (g/t)	-	-	27	27	27	27	17	17		-	-	-	-	-	-	
Romina II	23.3%	UG/	Ore (Mt)	5.8	5.8	4.7	4.7	10.5	10.5	3.9	3.9	AC/	-	-	-	-	-	-	n.a.
Puagjanca			Zinc (%)	4.3	4.3	5.3	5.3	4.7	4.7	4.2	4.2	LP	-	-	-	-	-	-	
			Lead (%)	2.3	2.4	3.0	3.0	2.6	2.6	2.5	2.5		-	-	-	-	-	-	
			Silver (g/t)	35	35	43	43	39	39	35	35		-	-	-	-	-	-	
Andrea	23.3%	UG	Ore (Mt)	-	-	-	-	-	-	5.4	5.4	AC/	-	-	-	-	-	-	n.a.
			Zinc (%)	-	-	-	-	-	-	4.0	4.0	LP	-	-	-	-	-	-	
La Tapada	23.3%	UG	Ore (Mt)	-	-	3.6	3.6	3.6	3.6	6.5	6.5	AC/	-	-	-	-	-	-	n.a.
			Zinc (%)	-	-	3.6	3.6	3.6	3.6	3.4	3.4	LP	-	-	-	-	-	-	
			Lead (%)	-	-	1.5	1.5	1.5	1.5	1.3	1.3		-	-	-	-	-	-	
			Silver (g/t)	-	-	46	46	46	46	40	40		-	-	-	-	-	-	

Zinc

Volcan (continued)

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	Measured Mineral Resources 2019	Indicated Mineral Resources 2020	Indicated Mineral Resources 2019	Measured and Indicated Resources 2020	Measured and Indicated Resources 2019	Inferred Mineral Resources 2020	Inferred Mineral Resources 2019	CP	Proved Ore Reserves 2020	Proved Ore Reserves 2019	Probable Ore Reserves 2020	Probable Ore Reserves 2019	Total Ore Reserves 2020	Total Ore Reserves 2019	CP
Cerro de Pasco	23.3%	UG/	Ore (Mt)	-	-	-	-	-	-	-	154.0	AC	-	-	-	-	-	-	n.a.
			Zinc (%)	-	-	-	-	-	-	-	2.1		-	-	-	-	-	-	
			Lead (%)	-	-	-	-	-	-	-	1.0		-	-	-	-	-	-	
			Silver (g/t)	-	-	-	-	-	-	-	78		-	-	-	-	-	-	
Raul Rojas pit - oxides		OC	Ore (Mt)	-	-	3.6	-	3.6	-	0.4	-	AC	-	-	0.6	-	0.6	-	AC
			Zinc (%)	-	-	0.1	-	0.1	-	0.1	-		-	-	-	-	-	-	
			Lead (%)	-	-	0.1	-	0.1	-	0.2	-		-	-	-	-	-	-	
			Silver (g/t)	-	-	118	-	118	-	116	-		-	-	195	-	195	-	
			Gold (g/t)	-	-	1.5	-	1.5	-	1	-		-	-	1.3	-	1.3	-	
Raul Rojas pit - sulphides		UG	Ore (Mt)	-	-	-	-	-	-	18.1	-	AC	-	-	-	-	-	-	n.a.
			Zinc (%)	-	-	-	-	-	-	0.3	-		-	-	-	-	-	-	
			Lead (%)	-	-	-	-	-	-	0.4	-		-	-	-	-	-	-	
			Copper (%)	-	-	-	-	-	-	0.4	-		-	-	-	-	-	-	
			Silver (g/t)	-	-	-	-	-	-	106	-		-	-	-	-	-	-	
			Gold (g/t)	-	-	-	-	-	-	0.6	-		-	-	-	-	-	-	
Raul Rojas pit - polymetallic		UG	Ore (Mt)	-	-	-	-	-	-	69.5	-	AC	-	-	-	-	-	-	n.a.
			Zinc (%)	-	-	-	-	-	-	6.9	-		-	-	-	-	-	-	
			Lead (%)	-	-	-	-	-	-	2.6	-		-	-	-	-	-	-	
			Copper (%)	-	-	-	-	-	-	0.2	-		-	-	-	-	-	-	
			Silver (g/t)	-	-	-	-	-	-	113	-		-	-	-	-	-	-	
			Gold (g/t)	-	-	-	-	-	-	0.1	-		-	-	-	-	-	-	
Stockpiles - sulphides		OC	Ore (Mt)	-	-	8.4	-	8.4	-	1.9	-	AC	-	-	-	-	-	-	n.a.
			Silver (g/t)	-	-	189	-	189	-	175	-		-	-	-	-	-	-	
			Gold (g/t)	-	-	0.3	-	0.3	-	0.3	-		-	-	-	-	-	-	
Stockpiles - Polymetallic		OC	Ore (Mt)	-	-	38.4	-	38.4	-	49.2	-	AC	-	-	2.8	-	2.8	-	AC
			Zinc (%)	-	-	1.6	-	1.6	-	2	-		-	-	1.8	-	1.8	-	
			Lead (%)	-	-	0.7	-	0.7	-	1	-		-	-	0.7	-	0.7	-	
			Silver (g/t)	-	-	48	-	48	-	44	-		-	-	40	-	40	-	
Total Pb-Zn-Ag Zinc			**Ore (Mt)**	**26**	**33**	**115**	**66**	**141**	**99**	**215**	**228**		**6.7**	**10.1**	**20.8**	**22.6**	**27.6**	**32.7**	
			Zinc (%)	**5.3**	**6.3**	**3.6**	**5.2**	**3.9**	**5.6**	**4.4**	**2.9**		**4.3**	**5.3**	**4.6**	**4.5**	**4.6**	**4.8**	
			Lead (%)	**1.5**	**1.5**	**1.1**	**1.5**	**1.1**	**1.5**	**1.5**	**1.1**		**1.1**	**0.9**	**1.1**	**1.1**	**1.1**	**1.1**	
			Silver (g/t)	**84**	**107**	**82**	**87**	**82**	**93**	**83**	**78**		**80**	**99**	**91**	**92**	**88**	**94**	

Volcan (continued)

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	Measured Mineral Resources 2019	Indicated Mineral Resources 2020	Indicated Mineral Resources 2019	Measured and Indicated Resources 2020	Measured and Indicated Resources 2019	Inferred Mineral Resources 2020	Inferred Mineral Resources 2019	CP	Proved Ore Reserves 2020	Proved Ore Reserves 2019	Probable Ore Reserves 2020	Probable Ore Reserves 2019	Total Ore Reserves 2020	Total Ore Reserves 2019	CP
Santa Barbara	23.3%	OC	Ore (Mt)	-	-	-	-	-	-	140	140	AC	-	-	-	-	-	-	n.a.
			Cu (%)	-	-	-	-	-	-	0.4	0.4		-	-	-	-	-	-	
			Gold (g/t)	-	-	-	-	-	-	0.2	0.2		-	-	-	-	-	-	
Rondoni	23.3%	OC	Ore (Mt)	18.4	18.4	34.3	34.3	53	53	7.8	7.8	AC	-	-	-	-	-	-	n.a.
			Cu (%)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		-	-	-	-	-	-	
Total Cu			**Ore (Mt)**	**18.4**	**18.4**	**34.3**	**34.3**	**53**	**53**	**148**	**148**		**-**	**-**	**-**	**-**	**-**	**-**	
			Gold (g/t)	**-**	**-**	**-**	**-**	**-**	**-**	**0.2**	**0.2**		**-**	**-**	**-**	**-**	**-**	**-**	
			Cu (%)	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.4**	**0.4**		**-**	**-**	**-**	**-**	**-**	**-**	

Glencore holds 55.0% of the total class A common shares (63.0% of the class A common shares excluding treasury shares) and has an economic interest in Volcan of 23.3% (including the class B common shares and excluding treasury shares)

Yauli

The Yauli dome is located 100km east of Lima, Peru. The southern portion of the dome is where Andaychagua, Carahuacra, San Cristobal and Ticlio are located, and is made up of mantos and vein-type deposits. The mantos are hosted by the Pucara limestone, while the veins are steeply dipping and cross-cut rocks of the Mitu and Excelsior groups, as well as the Chumpe and San Cristobal intrusions. A comprehensive sterilisation campaign was started in 2020 to validate the Resources and Reserves and to remove areas that cannot be mined, which resulted in a reduction of the reported Resources and Reserves. The main mining methods used are Sub-level Stoping and Over Cut and Fill, but the Under Cut and Fill and SARC methods are also applied in some areas.
In 2020, Yauli complex production was split between the four operations:

- Andaychagua production was 670 Kt grading 4.8% Zn, 1.1% Pb, and 79 g/t Ag.
- Carahuacra production was 368 Kt grading 5.1% Zn, 0.9% Pb and 99 g/t Ag.
- Ticlio production was 240 Kt grading 4.7% Zn, 0.9% Pb and 61 g/t Ag.
- San Cristobal production was 816 Kt grading 5.5% Zn, 0.7% Pb and 109 g/t Ag.

The expected mine lives of the Yauli complex operations are:
- Andaychagua: 5-6 years based on Ore Reserves and 10 years based on Mineral Resources;
- Carahuacra: 3 years based on Ore Reserves and 7-8 years based on Mineral Resources;
- Ticlio: 2 years based on Ore Reserves and 3 years based on Mineral Resources;
- San Cristobal: 7-8 years based on Ore Reserves and 14-15 years based on Mineral Resources.

Zoraida

The Zoraida deposit is located in the Yauli district, 15km from the Andaychagua concentrator. The deposit is comprised of three stratiform manto bodies, and smaller volumes of vein and replacement bodies.

Chungar

Located in the Huaron mining district, Chungar encompasses the Islay and Animon mines. The mineralization at Islay comprises a breccia-type fissure fill, mainly with silver mineralisation, with subordinated lead and zinc, Animon is a hydrothermal polymetallic deposit consisting of mineralised structures probably related to Miocene aged monzonite dykes principally within, but not confined to the Huaron anticline. Various software was used for Mineral Resource modelling and grade estimation: Leapfrog, Leapfrog Edge and Datamine. A comprehensive sterilisation campaign was started in 2020 to remove areas that are not possible to be mined, which has negatively impacted the reported Mineral resources and Ore Reserves. Animon's main mining method is Cut and Fill and production is increasing in Sub-level stoping. Islay uses the mining methods of Sub-level stoping for the veins and room and pillars for the bodies.

In 2020, Chungar production was split between the two operations:
- Animon production was 1.07 Mt at 5.0% Zn, 1.4% Pb and 55 g/t Ag
- Islay production was 157 kt at 1.7% Zn, 0.8% Pb and 186 g/t Ag.

The expected mine lives of the Chungar complex operations are:
- Animon: 3-4 years based on Ore Reserves and 7-8 years based on Mineral Resources
- Islay: 2 years based on Ore Reserves and 4 years based on Mineral Resources.

Alpamarca

The Alpamarca deposit is a structurally-controlled vein-type deposit located in the Pacaros district of the province of Huari. Mineral Resources are based on a new geological and structural interpretation honouring the short-range continuity of repeated veins across the deposit. Resources are reported within an optimized pit shell. Alpamarca is mined by open cut and in 2020, the mine produced 624kt at 1.0% Zn, 0.8% Pb and 53 g/t Ag.
The expected mine life of Alpamarca is 1-2 years based on Ore Reserves.

Palma

Palma is a sub-seafloor replacement VMS deposit in the Casma greenstone belt of coastal Peru, which also hosts the Perubar, Cerro Lindo and Colquisiri deposits. Zinc, lead and silver mineralisation at Palma is found in a series of semi conformable lenses crosscut by a system of North-South trending dykes. The project is located in the Huarochiri province of Lima.

Romina II

The Puagjanca and Andrea deposits make up an advanced exploration project, which hosts polymetallic mineralization that includes zinc, lead, and silver. The deposits outcrops in the form of replacement bodies and sills rich in lead and zinc. It is located 15 km west of the Alpamarca mine in the Pacaros district of the province of Huaral in the region of Lima. The Puagjanca deposit is currently undergoing a Feasibility Study.

La Tapada

The La Tapada project is in the early exploration stage. It is close to Volcan's Yauli operating unit within the geological formation known as the Yauli Done. The hosting formation consists of folded structures that are aligned over an intrusive stock, enriched in zinc, lead and silver.

Cerro de Pasco

The Cerro de Pasco mine hosts polymetallic deposits associated with dacitic pyroclastic volcanism, structural deformation and carbonate replacement. Work continued in 2020 to validate historical drill data and mining voids for use in updated Mineral Resources. The Cerro de Pasco stockpile models were reviewed in 2020 and classification of Mineral Resources was aligned with Glencore standards and JORC reporting guidelines. The insitu material, hosted in the Raul Rojas pit, is segregated by mineralisation type and to reflect different mining methods.

Resources are reported for polymetallic Pb-Zn and in situ oxides of the Raul Rojas pit, and stockpiles having demonstrated reasonable prospects for eventual economic extraction. Reserves are declared for areas within existing permit boundaries.

Production was 1.8 Mt of stockpile material, grading 1.8% Zn, 0.6% Pb and 22 g/t Ag from sulphides stockpiles, and 0.7 Mt grading 284 g/t Ag and 0.3 g/t Au from the Cerro de Pasco Oxides.

Santa Bárbara and Rondoni

The geological setting of the Santa Barbara and Rondoni projects are characteristic of Andean Cu-porphyry deposits, with mineralisation dominantly occurring in chalcopyrite-bearing veinlets with intermediate argillic and potassic alteration. The upper portion of the deposit exhibits a lithocap of intense advanced argillic alteration typicaly to Cu-porphyries. The mineralisation occurs as disseminations in the matrix and in systems of veinlets, in lesser quantities.

Zinc

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

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	Measured Mineral Resources 2019	Indicated Mineral Resources 2020	Indicated Mineral Resources 2019	Measured and Indicated Resources 2020	Measured and Indicated Resources 2019	Inferred Mineral Resources 2020	Inferred Mineral Resources 2019	CP	Proved Ore Reserves 2020	Proved Ore Reserves 2019	Probable Ore Reserves 2020	Probable Ore Reserves 2019	Total Ore Reserves 2020	Total Ore Reserves 2019	CP
Los Quenuales	97.6%																		
Iscaycruz pit		OC	Ore (Mt)	0.4	0.5	0.2	1.3	0.6	1.8	0.2	0.7	AC/	-	0.6	-	1.2	-	1.8	AC
			Zinc (%)	7.2	6.5	9.2	6.4	8.0	6.4	8.7	6.6	LP	-	5.7	-	5.8	-	5.8	
			Lead (%)	0.6	0.7	0.8	0.8	0.7	0.8	0.8	1.0		-	0.6	-	0.7	-	0.7	
			Copper (%)	0.2	0.2	0.1	0.2	0.2	0.2	0.1	-		-	0.2	-	0.2	-	0.2	
			Silver (g/t)	40	55	41	47	40	49	43	47		-	48	-	43	-	45	
Iscaycruz		UG	Ore (Mt)	0.3	0.7	0.5	1.1	0.7	1.8	0.8	2.0	AC/	0.1	0.1	-	0.2	0.1	0.4	AC
			Zinc (%)	12.6	7.0	7.6	5.7	9.6	6.2	6.5	2.6	LP	13.5	9.3	8.9	7.1	12.6	7.9	
			Copper (%)	0.4	0.8	0.8	1.0	0.6	1.0	0.7	0.2		0.4	0.7	0.3	0.8	0.4	0.7	
			Silver (g/t)	15	19	27	16	22	17	15	19		11	20	10	15	11	17	
Yauliyacu		UG	Ore (Mt)	6.8	6.5	12.0	13.3	18.9	19.8	13.4	13.8	AC/	1.4	1.7	6.8	7.4	8.2	9.0	AC
			Zinc (%)	2.9	3.1	2.9	3.1	2.9	3.1	2.8	2.9	LP	1.9	2.4	1.6	2.0	1.6	2.1	
			Lead (%)	1.0	1.1	1.2	1.3	1.1	1.3	1.5	1.6		0.7	0.8	0.7	0.9	0.7	0.9	
			Copper (%)	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.4		0.2	0.3	0.2	0.2	0.2	0.2	
			Silver (g/t)	107	122	151	158	135	147	247	251		79	109	101	120	97	118	
Contonga		UG	Ore (Mt)	2.5	2.5	5.0	5.0	7.5	7.5	4.4	4.4	AC	0.3	0.3	0.8	0.8	1.2	1.2	AC
			Zinc (%)	3.3	3.3	2.9	2.9	3.0	3.0	2.4	2.4		3.3	3.3	3.4	3.4	3.4	3.4	
			Lead (%)	0.5	0.5	0.8	0.8	0.7	0.7	0.8	0.8		0.8	0.8	1.2	1.2	1.1	1.1	
			Copper (%)	0.8	0.8	0.5	0.5	0.6	0.8	0.5	0.5		0.8	0.8	0.5	0.5	0.6	0.6	
			Silver (g/t)	50	50	52	52	51	55	49	49		55	55	63	63	61	61	
Illapa	45%																		
Bolivar		UG	Ore (Mt)	1.4	1.6	1.0	1.1	2.4	2.6	5.4	5.5	AC/	0.8	1.0	0.7	0.7	1.6	1.7	AC
			Zinc (%)	12.7	13.2	12.2	13.0	12.5	13.1	9.0	9.2	LP	9.4	10.0	8.6	9.9	9.0	10	
			Lead (%)	1.4	1.4	1.3	1.3	1.4	1.4	0.9	0.9		1.1	1.0	0.9	0.9	1.0	1.0	
			Silver (g/t)	308	326	283	293	297	313	350	344		251	263	215	234	234	251	
Porco		UG	Ore (Mt)	0.7	0.8	0.4	0.3	1.1	1.2	2.2	1.8	AC/	0.1	0.2	0.1	0.1	0.3	0.4	AC
			Zinc (%)	10.7	10.7	10.9	9.7	10.8	10.4	11.8	9.8	LP	8.9	11.1	7.8	9.6	8.4	11.0	
			Lead (%)	0.6	0.6	0.8	0.6	0.7	0.6	0.8	0.7		0.4	0.5	0.5	0.7	0.4	1.0	
			Silver (g/t)	83	76	114	87	93	79	98	87		67	80	104	121	85	94	
Sinchi Wayra	100%	UG	Ore (Mt)	0.9	0.9	0.6	0.6	1.6	1.5	2.3	2.2	AC/	0.9	0.9	0.6	0.6	1.6	1.5	AC
Caballo Blanco			Zinc (%)	13.7	13.7	13.1	13.0	13.5	13.4	12.2	11.9	LP	7.3	6.8	7.6	7.0	7.4	6.9	
			Lead (%)	3.7	3.8	3.2	3.2	3.5	3.6	2.4	2.4		2.3	2.1	1.8	2.1	2.1	2.1	
			Silver (g/t)	364	382	318	320	346	357	241	229		234	214	194	206	217	211	
Aguilar	100%																		
Aguilar Pit		OC	Ore (Mt)	0.5	0.5	0.4	0.4	0.8	0.8	0.03	0.03	AC	-	0.3	-	0.3	-	0.6	AC
			Zinc (%)	2.8	2.8	2.3	2.3	2.6	2.6	1.8	1.8		-	7.5	-	6.3	-	6.9	
			Lead (%)	2.3	2.3	2.4	2.4	2.3	2.3	2.7	2.7		-	8.2	-	7.8	-	8.0	
			Silver (g/t)	59	59	60	65	59	62	65	65		-	153	-	134	-	144	
Aguilar		UG	Ore (Mt)	0.6	0.6	0.5	0.5	1.1	1.1	0.4	0.4	AC	-	-	-	-	-	-	n.a.
			Zinc (%)	7.9	8.0	7.6	8.0	7.8	8.0	8.3	7.7		-	-	-	-	-	-	
			Lead (%)	8.9	8.9	7.8	7.8	8.4	8.4	6.6	5.9		-	-	-	-	-	-	
			Silver (g/t)	163	163	145	140	155	153	108	96		-	-	-	-	-	-	
Pallas Green	100%		Ore (Mt)	-	-	-	-	-	-	45.4	45.4	AH	-	-	-	-	-	-	n.a.
Tobermalug Zone			Zinc (%)	-	-	-	-	-	-	7	7		-	-	-	-	-	-	
			Lead (%)	-	-	-	-	-	-	1	1		-	-	-	-	-	-	
			(Mt)	**14.1**	**14.6**	**21**	**24**	**35**	**38**	**75**	**76**		**3.6**	**5.2**	**9.0**	**11.3**	**13.0**	**16.6**	
			Zinc (%)	**5.6**	**5.8**	**4.1**	**4.2**	**4.7**	**4.8**	**6.4**	**6.0**		**5.6**	**6.0**	**2.8**	**3.5**	**3.6**	**4.3**	
			Lead (%)	**1.5**	**1.5**	**1.3**	**1.3**	**1.4**	**1.4**	**1.1**	**1.0**		**1.2**	**1.4**	**0.8**	**1.1**	**0.9**	**1.2**	
			Copper (%)	**0.3**	**0.4**	**0.3**	**0.3**	**0.3**	**0.3**	**0.1**	**0.2**		**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	
			Silver (g/t)	**129**	**138**	**132**	**130**	**131**	**133**	**84**	**83**		**152**	**145**	**113**	**118**	**124**	**126**	

Zinc

Iscaycruz
Zinc, lead and copper mineralisation are exposed as subvertical massive sulphide orebodies which are described as skarn, breccias and carbonate replacement type along a 12 km corridor hosted in clay-rich limestone and dolomite rocks. Hydrothermal mineralisation assemblages are mainly composed of sphalerite, galena, pyrite and chalcopyrite distributed in several zones named Limpe Centro, Limpe Sur, Chupa, Tinyag II, Tinyag I and Santa Este, from north to south. Resources are reported only for the Santa Este and Limpe Sur bodies.

Changes to the Santa Este and Limpe Sur Mineral Resources are due to geological modelling and the addition of new drilling information, as well as mining depletion.

Open pit production from Santa Este in 2020 was 1.6 Mt grading 5.9% Zn, 0.3% Cu and 52 g/t Ag. Underground production for 2020 was 68 Kt grading 11.4% Zn, 0.1% Pb, 0.3% Cu and 12 g/t Ag.

The expected life of Iscaycruz Mine is less than one year based on Ore Reserves and 2 to 3 years based on Mineral Resources. Relevant mining/concession licenses are permanent.

Yauliyacu
Main mineralisation occurs as sphalerite, galena, tetrahedrite and chalcopyrite in 60-80 degrees 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, conglomerates, volcanic tuffs, andesites and limestones.

Changes to the Mineral 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. The current extraction method at Yauliyacu is sublevel open stoping. Production for year 2020 to the end of December was 1.0 Mt grading 2.2% Zn, 0.8% Pb and 79 g/t Ag.

The expected life of Yauliyacu is 6 years based on Ore Reserves and 10 years based on Mineral Resources.

Expiry date of relevant mining/concession licenses: permanent.

Contonga
Contonga is a polymetallic deposit of Zinc, and Lead-Silver, and lesser Copper, skarns. The mine is located 425km northeast of Lima in the Ancash region, and is adjacent to the Antamina mine. The area is extremely rugged mountains, the property situated between 4,000-5,000m in elevation.

No production in 2020 as Contonga was placed on care and maintenance in H1 2019. The expected life of Contonga mine is 3-4 years based on Ore Reserves and 5-6 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 mineralization 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 based on multiple structures, Porco containing over 100 different veins, not all of which are comprised in the mineral resource. The typical dimensions of these structures is over 500m in length and over 450m in depth profile with mineralisation open at depth. Average vein widths are between 0.2 and 4.0m.

The Caballo Blanco operational unit consists of three mines: Colquechaquita, Reserva and Tres Amigos, which supply the central plant, Don Diego, situated close to Potosi. Production for 2020 for each operation was:

- Bolivar: 178kt grading 9.0% Zn, 0.8% Pb and 182 g/t Ag;
- Porco: 82kt grading 8.4% Zn, 0.6% Pb and 67 g/t Ag;
- Caballo Blanco: 202kt grading 7.1% Zn, 2.3% Pb and 256 g/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 12 to 14 years based on Mineral Resources. The mines use a combination of narrow vein open stoping, cut and fill and mining Shrinkage as the extraction methods. 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, 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 the 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 postsecondary 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 mineral resources is the result of a sterilisation campaign on portions of Pique Inferior and Capa A Contacto that are impossible to access. There has been no effect on the Ore Reserves as these zones were not previously considered part of such. Under the current economic assumptions, remaining mineral resources in the Aguilar open pit have not been modified to ore reserves.

Production for year 2020 was 0.075Mt grading 7.2% Zn, 8.2% Pb and 157g/t Ag. The mine was placed on care and maintenance in November 2020 as a result of the ongoing restrictions due to the pandemic.

The remaining mine life is approximately 1-2 years based on Ore Reserves and 3-4 years based on Mineral Resources. Mining concessions for Aguilar are permanent.

Pallas Green
The Pallas Green project is situated near Limerick in Southwestern Ireland. The Tobermalug zone consists of multiple, subhorizontal, stratiform lenses of Irishtype, 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 413,600m of diamond drilling in 806 drill holes completed between 2002 and the end of 2018. 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 4% Zn+Pb and a minimum 3.0m true thickness. There were no changes to the Resource in 2020. The Pallas Green deposit is held under Prospecting Licenses 636 and 2529, which remain valid and in good standing with bi-annual expenditures and reporting.

Nickel

Integrated Nickel Operations (INO) (Raglan, Sudbury)

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	Measured Mineral Resources 2019	Indicated Mineral Resources 2020	Indicated Mineral Resources 2019	Measured and Indicated Resources 2020	Measured and Indicated Resources 2019	Inferred Mineral Resources 2020	Inferred Mineral Resources 2019	CP	Proved Ore Reserves 2020	Proved Ore Reserves 2019	Probable Ore Reserves 2020	Probable Ore Reserves 2019	Total Ore Reserves 2020	Total Ore Reserves 2019	CP
Raglan	100%	UG	Ore (Mt)	5.86	5.89	14.08	14.93	19.9	20.8	15	15	PSA	4.17	3.38	6.13	7.01	10.30	10.39	RC
			Nickel (%)	3.15	3.66	3.17	3.11	3.16	3.26	3.2	3.2		2.52	2.89	2.80	2.77	2.69	2.81	
			Copper (%)	0.81	0.90	0.96	0.94	0.91	0.93	0.9	0.9		0.65	0.70	0.81	0.80	0.75	0.77	
			Cobalt (%)	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07		0.05	0.06	0.06	0.06	0.06	0.06	
			Platinum (g/t)	0.86	0.95	0.93	0.92	0.91	0.93	0.9	0.9		0.71	0.76	0.88	0.86	0.81	0.83	
			Palladium (g/t)	2.09	2.32	2.34	2.29	2.27	2.30	2.4	2.3		1.72	1.84	2.14	2.12	1.97	2.03	
Sudbury	100%	UG	Ore (Mt)	3.72	4.94	22.62	22.66	26.3	27.6	34	27	JO	4.10	4.98	13.84	14.55	17.94	19.53	JO
			Nickel (%)	1.70	1.70	2.16	2.07	2.09	2.00	0.9	0.9		1.31	1.27	2.12	2.08	1.93	1.88	
			Copper (%)	0.92	1.26	2.56	2.54	2.33	2.31	2.2	2.5		0.71	0.88	1.01	0.98	0.94	0.96	
			Cobalt (%)	0.04	0.04	0.05	0.05	0.05	0.05	0.02	0.02		0.03	0.03	0.05	0.05	0.05	0.04	
			Platinum (g/t)	0.52	0.60	0.91	0.98	0.85	0.91	0.8	1.0		0.42	0.49	0.38	0.36	0.39	0.40	
			Palladium (g/t)	0.48	0.58	1.13	1.13	1.04	1.03	1.0	1.2		0.37	0.45	0.43	0.41	0.42	0.42	
Total INO			**Ore (Mt)**	**9.6**	**10.8**	**36.7**	**37.6**	**46.2**	**48.4**	**49**	**42**		**8.30**	**8.40**	**19.90**	**21.60**	**28.20**	**29.90**	
			Nickel (%)	**2.59**	**2.77**	**2.55**	**2.48**	**2.55**	**2.54**	**1.6**	**1.7**		**1.93**	**1.92**	**2.33**	**2.30**	**2.21**	**2.20**	
			Copper (%)	**0.85**	**1.06**	**1.95**	**1.90**	**1.72**	**1.72**	**1.8**	**1.9**		**0.67**	**0.81**	**0.95**	**0.92**	**0.87**	**0.89**	
			Cobalt (%)	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.03**	**0.04**		**0.04**	**0.04**	**0.06**	**0.05**	**0.05**	**0.05**	
			Platinum (g/t)	**0.73**	**0.79**	**0.92**	**0.96**	**0.88**	**0.92**	**0.8**	**1.0**		**0.57**	**0.60**	**0.53**	**0.52**	**0.54**	**0.55**	
			Palladium (g/t)	**1.47**	**1.53**	**1.59**	**1.59**	**1.57**	**1.58**	**1.4**	**1.6**		**1.05**	**1.01**	**0.95**	**0.97**	**0.99**	**0.98**	

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 131 individual sulphide lenses, extending from surface to more than 900m vertical depth. The size of these high-grade sulphide lenses varies significantly from 0.01Mt to 6.1Mt, averaging 0.2Mt. Mineral Reserves are sufficient to support a 7 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 2 May 2024 to 25 June 2038.

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 Ore Reserve tonnage decreased from 2019 due to mining depletion. 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 15 years.

All land holdings in Sudbury covering existing Ore Reserves are patented and 100% owned by Glencore, with the exception of one site where a portion of reserves are covered by two licences of occupation which are held in perpetuity. Mineral Resources are also patented with the exception of areas covered by several mining leases which expire in 2033 and 2036 and one License of Occupation which is held in perpetuity.

Nickel

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	2019	Indicated Mineral Resources 2020	2019	Measured and Indicated Resources 2020	2019	Inferred Mineral Resources 2020	2019	CP	Proved Ore Reserves 2020	2019	Probable Ore Reserves 2020	2019	Total Ore Reserves 2020	2019	CP
Murrin Murrin	100%	OC	Ore (Mt)	144.1	144.5	74.6	75.5	218.8	220.0	17	17	SK	103.0	103.6	33.9	37.8	136.8	141.4	MR/
			Nickel (%)	1.00	1.01	1.00	0.99	1.00	1.00	0.9	0.9		1.02	1.03	1.04	1.04	1.03	1.03	CW
			Cobalt (%)	0.074	0.073	0.084	0.084	0.077	0.077	0.07	0.07		0.081	0.080	0.109	0.103	0.088	0.086	
Koniambo	49%	OC	Ore (Mt)	11.5	11.7	44.0	41.7	55.5	53.5	84	82	RM	11.0	11.5	26.0	30.3	37.2	41.8	EB
			Nickel (%)	2.47	2.48	2.41	2.41	2.42	2.42	2.5	2.5		2.23	2.24	2.17	2.18	2.20	2.19	

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 2020 are generated by depletion of the resource models by using end-of-period surface surveys as at 30 September 2020, with adjustments applied for October to December forecast production. Resources are determined at a 0.8% Ni cut-off.

The Murrin 2020 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 marginally in 2020, mostly attributable to the re-optimisation of LOM pit shells in addition to minor updates in resource models at Murrin North and Murrin East.

Ore Reserve grades have been subject to the application of grade modifying factors. These have been derived from analysis of the latest applicable two years mine-to-mill grade performance and result in grade modifying factors of 97.8% and 94.3% for nickel and cobalt respectively.

Remaining mine life: the most recent Life of Mine schedule indicates the remaining mine life is 22 years. Expiry dates for relevant tenements differ for each tenement and range from 2021 to 2042.

Koniambo

Nickel rich laterite deposits are developed on variably serpentinized ultramafic rocks. Mineral Resources and Ore Reserves include inventories as of 30 September 2020 with adjustments applied for October to December forecast production. In converting Mineral Resources to Ore Reserves, a mining recovery of 90% and a mining dilution of 15% (0.5% Ni) were assumed. The mining dilution factors are based on historical data, production reconciliation and equipment selectivity.
Mineral Resources are calculated through Conditional Simulations within the LOM and Trazy area. In areas outside the LOM footprint, Mineral Resources were estimated by the plan polygonal method. The reserve cut-off grade used is 2.0% Ni.

Designed yearly production rate is 2.5Mtpa and expected mine life is 17 years. The expiry date of relevant mining property licences is 31 December 2048. Ore Reserves stated include a stockpile estimated at 208kt at 2.23% Ni between the mine and process plant.

Ferroalloys

Chrome

Bushveld Complex – Western Limb

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	Measured Mineral Resources 2019	Indicated Mineral Resources 2020	Indicated Mineral Resources 2019	Measured and Indicated Resources 2020	Measured and Indicated Resources 2019	Inferred Mineral Resources 2020	Inferred Mineral Resources 2019	CP	Proved Ore Reserves 2020	Proved Ore Reserves 2019	Probable Ore Reserves 2020	Probable Ore Reserves 2019	Total Ore Reserves 2020	Total Ore Reserves 2019	CP
Western Chrome Mines – LG6 Chromitite Package and MG1 Chromitite Layer																			
Waterval Mine	79.5%	UG	Ore (Mt)	16.231	16.231	1.03	1.02	17.26	17.26	0.7	0.7	MM/DR	-	8.692	-	0.93	-	9.63	MM/
			Cr_2O_3 (%)	41.31	41.31	42.6	42.6	41.4	41.4	43	43		-	31.38	-	26.5	-	30.9	DR
Marikana West	79.5%	UG	Ore (Mt)	2.974	2.991	1.69	1.69	4.66	4.69	-	-	MM/DR	-	0.131	-	-	-	0.13	MM/
			Cr_2O_3 (%)	42.43	42.43	42.6	42.6	42.5	42.5	-	-		-	29.66	-	-	-	29.7	DR
Kroondal Mine	79.5%	UG/OC	Ore (Mt)	9.433	9.399	0.61	0.66	10.04	10.16	-	-	MM/DR	2.476	2.523	0.54	0.56	3.02	3.09	MM/
			Cr_2O_3 (%)	42.76	42.76	41.5	41.5	42.7	42.7	-	-		28.96	29.05	28.14	28.1	28.78	28.9	DR
Kroondal Gemini	79.5%	UG/OC	Ore (Mt)	12.972	10.369	2.21	4.22	15.18	14.59	-	-	MM/DR	7.635	5.764	1.93	4.11	9.57	9.87	MM/
			Cr_2O_3 (%)	42.31	42.54	41.3	41.4	42.2	42.2	-	-		30.73	30.96	30.13	28.6	30.59	30	DR
Marikana East	79.5%	UG	Ore (Mt)	4.459	4.279	0.52	0.53	4.98	4.81	-	-	MM/DR	-	0.031	-	-	-	0.03	MM/
			Cr_2O_3 (%)	42.23	42.23	41.9	42.0	42.2	42.2	-	-		-	28.28	-	-	-	28.3	DR
Klipfontein/ Waterval	79.5%	UG	Ore (Mt)	12.278	11.852	22.46	22.94	34.74	34.79	100.7	101.1	MM/DR	0.307	0.65	0.08	0.46	0.39	1.11	MM/
			Cr_2O_3 (%)	42.06	42.08	42.0	42.0	42.0	42.0	42	42		27.99	28.43	28.29	28.3	27.84	28.4	DR
Boshoek	79.5%	UG/OC	Ore (Mt)	-	-	17.09	17.09	17.09	17.09	-	-	MM/DR	-	-	0.58	0.58	0.58	0.58	MM/
			Cr_2O_3 (%)	-	-	40.5	40.5	40.5	40.5	-	-		-	-	26.1	26.1	26.10	26.1	DR
Townlands Extension 9	79.5%	UG	Ore (Mt)	-	-	12.94	12.94	12.94	12.94	-	-	MM/DR	-	-	-	-	-	-	MM
			Cr_2O_3 (%)	-	-	41.4	41.4	41.4	41.4	-	-		-	-	-	-	-	-	
Total LG6 and MG1			**Ore (Mt)**	**58.347**	**55.121**	**58.55**	**61.11**	**116.89**	**116.23**	**101.4**	**101.8**		**10.418**	**17.791**	**3.13**	**6.65**	**13.56**	**24.44**	
			Cr_2O_3 (%)	**42.05**	**42.09**	**41.4**	**41.5**	**41.7**	**41.8**	**42**	**42**		**30.23**	**30.79**	**29.0**	**28.0**	**29.9**	**30.0**	
Western Chrome Mines – Tailings																			
Tailings	79.5%		Ore (Mt)	-	-	-	-	-	-	2.9	2.8	MM/DR	-	-	-	-	-	-	
			Cr_2O_3 (%)	-	-	-	-	-	-	17	17		-	-	-	-	-	-	

Tonnages are quoted as dry million metric tonnes. Grades are quoted as %Cr2O3. 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 (8° – 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, the MG1 and the MG2 Chromitite Layers. Alternative layers are being investigated on a continuous basis.

No cut-off grades are applied to the chromitite layers being mined. The chromitite layers are mined from upper to lower contact and no selective mining cuts are applied. The chromitite layer grades show exceptional regional grade consistency and continuity. The chromitite layers are currently all mined underground using trackless mechanised mining methods on a bord-and-pillar mine layout.

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 report. 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 mine 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, changes due to additional geological information gained through exploration and mining and prospecting right boundary changes. These changes reflect in the tonnage and grade reports from the grade block models.

The tonnages and grades for all the tailings facilities that can be economically exploited have been estimated and declared.

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. Post-estimate validations are done using swath plots and quantile-quantile plots. 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 reconciliations between the block model estimates, the monthly survey measurements and the actual mine production for each operating mine. The tailings facility estimates are based on current and historical daily production sampling and dam volumes, surveyed by a certified surveyor.

The LOM for the operating chrome mines vary between 3 and 12 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 13 and 43 years. The Mining Right expiry dates vary from 2037 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 110kt ROM per month to 147kt ROM per month.

Western Chrome Mines

The Western Chrome Mines mining complex consist of the operating mine of Kroondal and the resource areas of Waterval, Klipfontein/Waterval and Boshoek. Waterval Mine has been put on care and maintenance and the ore production from Waterval is now being produced at Kroondal Mine. The Mineral Resources had a net increase of 1.010Mt after mining depletion. The increase is mainly due to the addition of resource blocks. The Ore Reserves had a net decrease of -10.174Mt after mining depletion, mainly reflecting the Waterval and Marikana mines' care and maintenance status.

Ferroalloys

Bushveld Complex – Eastern Limb

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	Measured Mineral Resources 2019	Indicated Mineral Resources 2020	Indicated Mineral Resources 2019	Measured and Indicated Resources 2020	Measured and Indicated Resources 2019	Inferred Mineral Resources 2020	Inferred Mineral Resources 2019	CP	Proved Ore Reserves 2020	Proved Ore Reserves 2019	Probable Ore Reserves 2020	Probable Ore Reserves 2019	Total Ore Reserves 2020	Total Ore Reserves 2019	CP
Eastern Chrome Mines –MG1 Chromitite Layer																			
Thorncliffe	79.5%	UG/OC	Ore (Mt)	45.095	39.814	3.60	10.16	48.70	49.98	-	-	SV/	22.959	20.406	2.62	6.64	25.58	27.05	SV/
			Cr_2O_3 (%)	42.21	40.16	40.9	41.2	42.1	40.4	-	-	DR	34.31	33.54	33.0	34.1	34.2	33.7	DR
Helena	79.5%	UG/OC	Ore (Mt)	23.396	23.763	13.02	12.77	36.42	36.54	10.4	10.2	SV/	4.271	4.148	-	-	4.27	4.15	SV/
			Cr_2O_3 (%)	39.80	39.81	38.5	38.5	39.3	39.3	38	38	DR	29.15	31.71	-	-	29.2	31.7	DR
De Grooteboom	79.5%	UG/OC	Ore (Mt)	1.037	1.037	0.50	0.50	1.54	1.54	-	-	SV/	-	-	-	-	-	-	SV/
			Cr_2O_3 (%)	40.22	40.22	40.3	40.3	40.2	40.2	-	-	DR	-	-	-	-	-	-	DR
Richmond	79.5%	UG	Ore (Mt)	1.774	0.578	23.22	21.83	24.99	22.41	24.6	29.2	SV/	0.471	-	1.81	2.04	2.28	2.04	SV/
			Cr_2O_3 (%)	41.23	40.95	41.1	41.2	41.1	41.2	41	41	DR	36.36	-	34.9	31.9	35.2	31.9	DR
St George	79.5%	UG	Ore (Mt)	0.715	0.981	4.39	3.95	5.11	4.94	18.5	19.9	SV/	-	-	-	-	-	-	SV/
			Cr_2O_3 (%)	40.41	40.21	39.7	39.5	39.8	39.6	40	40	DR	-	-	-	-	-	-	DR
Total MG1			(Mt)	**72.017**	**66.172**	**44.73**	**49.23**	**116.76**	**115.40**	**53.5**	**59.2**		**27.701**	**24.554**	**4.43**	**8.68**	**32.13**	**33.23**	
			Cr_2O_3 (%)	**41.36**	**40.04**	**40.2**	**40.4**	**40.9**	**40.2**	**40**	**40**		**33.55**	**33.23**	**33.8**	**33.6**	**33.6**	**33.3**	
Eastern Chrome Mines – MG2 Chromitite Layer																			
Thorncliffe Mine	79.5%	UG/OC	Ore (Mt)	-	-	-	-	-	-	41.8	41.8	SV/	-	-	-	-	-	-	SV/
			Cr_2O_3 (%)	-	-	-	-	-	-	38	38	DR	-	-	-	-	-	-	DR
Helena Mine	79.5%	UG/OC	Ore (Mt)	-	-	-	-	-	-	85.4	85.4	SV/	-	-	-	-	-	-	SV/
			Cr_2O_3 (%)	-	-	-	-	-	-	38	38	DR	-	-	-	-	-	-	DR
Total MG2			**Ore (Mt)**	**-**	-	**-**	-	-	-	**127.2**	**127.2**		-	-	-	-	-	-	
			Cr_2O_3 (%)	**-**	-	**38.0**	-	-	-	**38**	**38**		**-**	-	**-**	-	**-**	-	
Total MG1 and MG2			**Ore (Mt)**	**72.017**	**66.172**	**44.73**	**49.23**	**116.76**	**115.40**	**180.7**	**186.4**		**27.701**	**24.554**	**4.43**	**8.68**	**32.13**	**33.23**	
			Cr_2O_3 (%)	**41.36**	**40.04**	**40.2**	**40.4**	**40.9**	**40.2**	**39**	**39**		**33.55**	**33.23**	**33.8**	**33.6**	**33.6**	**33.3**	
Eastern Chrome Mines – Tailings																			
Tailings	79.5%		Ore (Mt)	-	-	-	-	-	-	4.9	4.6	SV/	-	-	-	-	-	-	SV
			Cr_2O_3 (%)	-	-	-	-	-	-	20	20	DR	-	-	-	-	-	-	

Eastern Chrome Mines
The Eastern Mines Complex had a net increase in Mineral Resources of 0.167Mt after mining depletion. Following the application of modifying factors, the Ore Reserves of the Eastern Mines had a net increase of 2.329Mt after mining depletion.

Ferroalloys

Vanadium

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	2019	Indicated Mineral Resources 2020	2019	Measured and Indicated Resources 2020	2019	Inferred Mineral Resources 2020	2019	CP	Proved Ore Reserves 2020	2019	Probable Ore Reserves 2020	2019	Total Ore Reserves 2020	2019	CP
Rhovan	74.0%	OC	Ore (Mt)	49.754	51.160	35.56	34.90	85.31	86.06	93	91	SM/DR	22.223	23.100	9.45	9.50	31.67	32.6	SM/
			V_2O_5 (%)	0.47	0.48	0.5	0.5	0.5	0.5	0.5	0.5		0.47	0.47	0.43	0.4	0.5	0.5	DR

Tonnages are quoted as dry million metric tonnes. Grades are quoted as %V2O5.

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

The 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 within 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 2019 resource and reserve estimation.

Rhovan
There was a net increase of 2.945Mt in the Mineral Resource estimate after mining depletions have been discounted. The change is mainly due to re-interpretation and re-estimation of the Mineral Resources.

The Ore Reserves had a net increase of 1.119Mt after mining depletions have been discounted. The change is mainly due to re-interpretation and re-estimation of the Mineral Resources before the conversion to Ore Reserves 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 August 2020, following the addition of blast hole data for the 2019-2020 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. For the estimation, cut-off grades of 15 for % magnetite and 1.8 and 1.85 % V2O5 are used for Pit 1 and Pit 6 respectively. 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 11.5 years. The LOM based on all the Mineral Resources converted to Ore Reserves is over 30 years. Rhovan is mining from various open cast pits at an actual mining rate averaging 218kt of ROM per month (2020). The stripping ratio averaged 1.70 (t:t) for the same period. The Mining Right expires in 2027.

Ferroalloys

Manganese

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	2019	Indicated Mineral Resources 2020	2019	Measured and Indicated Resources 2020	2019	Inferred Mineral Resources 2020	2019	CP	Proved Ore Reserves 2020	2019	Probable Ore Reserves 2020	2019	Total Ore Reserves 2020	2019	CP
Mokala	49.0%	OC	Ore (Mt)	27.186	-	19.55	-	46.74	-	3	-	JC/DR	21.650	-	4.10	-	25.75	-	JC/
			Mn (%)	37.24	-	36.5	-	36.9	-	36	-		36.34	-	35.9	-	36.3	-	PJG

Tonnages are quoted as dry million metric tonnes. Grades are quoted as %Mn.

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

The manganese mining operation mine the manganese deposits developed within the Kalahari Manganese Field, South Africa. The Kalahari Manganese Field is the largest known deposit of manganese in the world.

The manganese ores in the Kalahari Manganese Field are mined from both underground and opencast operations. The manganese ore-bodies, occur as three stratiform beds, the Upper, Middle and Lower Ore Bodies, developed within the Hotazel Formation. The Hotazel Iron Formation consists of banded iron formations with interbedded manganese ores. In the Mokala area, the Hotazel Formation subcrop below the Kalahari Formation, the Mooidraai Dolomites and the Dwyka Tillite.

Mokala
The Mineral Resources and Ore Reserves of the Mokala Manganese Mine is reported for the first time. Mokala is situated on the farm Gloria 4 km's west of the town of Hotazel, Northern Cape, South Africa. The first manganese ore will be produced through open pit mining operations during the first half of 2021. Overburden stripping has commenced during the second half of 2020.

The target mineralization is the Lower Manganese Ore-body which vary in thickness from a few meters to >20m. The ore-body is shallow dipping towards the west at 5o – 12o.

The mining cut has been defined by a minimum composite cut-off grade of 36% Mn, and a minimum sample cut-off grade of 28% Mn.

The tonnage and grade estimations were done using geo-statistical analysis of the exploration drill holes. From this analysis, the most appropriate parameters for the construction of a block model for the pit was 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 model for an optimised pit. For the estimation, a composite cut-off grade of 36% Mn was used and a sample cut-off grade of 28% Mn. The degree of confidence in the tonnage and grade estimations derived from the block model is reflected in the classified Mineral Resource classes. Known non-mineralised and restricted areas are excluded from the Mineral Resources.

The Mokala Ore Reserves is based on a pit optimisation exercise conducted during November 2019. The main input parameters for the optimisation were the forward looking Mn prices at the time of the exercise, US$ 4.20 per dmtu for lump and US$ 3.70 per dtmu for fines, minimum 36% Mn.

The Mineral Resources to Ore Reserves conversion was based on a mining extraction rate of 98% and skin dilution along the upper and lower contacts of the mining cut.

The Mokala LOM of the declared Ore Reserves is 16 years, based on a mining rate of 130kt per month. The average stripping ratio for the LOM is 4.6 (m3:t).

The Mining Right expires in 2037.

Aluminium/Alumina

Aurukun Mineral Resources

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	2019	Indicated Mineral Resources 2020	2019	Measured and Indicated Resources 2020	2019	Inferred Mineral Resources 2020	2019	CP	Proved Ore Reserves 2020	2019	Probable Ore Reserves 2020	2019	Total Ore Reserves 2020	2019	CP
Aurukun	100%	OC	Ore (Mt)	96	95	352	334	448	429	4	3	JB	-	-	-	-	-	-	n.a.
			Al_2O_3 (%)	53.3	53.4	49.7	49.9	50.5	50.6	48.8	49.3		-	-	-	-	-	-	

Aurukun

The Aurukun Bauxite deposits are located on the western side of the Cape York Peninsula in far north Queensland, Australia. Glencore currently holds tenure to the deposits via a mineral development licence or "MDL" granted in late 2017, which allows feasibility studies to be performed. Currently there is no production from the MDL.

In 2004 and 2005, the Queensland State government funded the Aurukun Geoscientific Investigation Programme. The programme involved drilling approximately 8,500 drill holes and produced approximately 200,000 samples at 0.25m intervals. Most samples were assayed. All samples sent to the lab were beneficiated at 1.2 mm screen size and the +1.2 mm fraction analysed.

The samples from the 2004/05 programme were used to produce the November 2018 bauxite resource model. The tonnes and grade estimates for this 2020 Mineral Resource statement are based on the November 2018 resource model.

Measured and indicated Mineral Resources increased by 19 million tonnes (4.5%) from 2019 to 2020 due to changes in the economic assumptions

Iron ore

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources		Indicated Mineral Resources		Measured and Indicated Resources		Inferred Mineral Resources			Proved Ore Reserves		Probable Ore Reserves		Total Ore Reserves		
				2020	2019	2020	2019	2020	2019	2020	2019	CP	2020	2019	2020	2019	2020	2019	CP
El Aouj Mining Company S.A.																			
Guelb el Aouj East	50%	OC	Ore (Mt)	400	400	1,170	1,170	1,570	1,570	300	300	AM / SvdM	380	380	551	551	931	931	NS
			Iron (%)	36	36	36	36	36	36	36	36		35	35	35	35	35	35	
			DTC wt (%)	45	45	45	45	45	45	45	45		44	44	43	43	44	44	
			DTC iron (%)	69.8	69.8	69.2	69.2	69.3	69.3	69.5	69.5		69.6	69.6	69.0	69.0	69.2	69.2	
			Oxidised (Mt)	70	70	80	80	150	150	30	30		-	-	-	-	-	-	
			Iron (%)	34	34	35	35	35	35	35	35		-	-	-	-	-	-	
Guelb el Aouj Centre	50%	OC	Ore (Mt)	-	-	185	185	185	185	615	615	AM / SvdM	-	-	-	-	-	-	n.a.
			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		-	-	-	-	-	-	
			Iron (%)	-	-	-	-	-	-	33	33		-	-	-	-	-	-	
Bou Derga	50%	OC	Ore (Mt)	-	-	-	-	-	-	510	510	AM / SvdM	-	-	-	-	-	-	n.a.
			Iron (%)	-	-	-	-	-	-	36	36		-	-	-	-	-	-	
			DTC wt (%)	-	-	-	-	-	-	43	43		-	-	-	-	-	-	
			DTC iron (%)	-	-	-	-	-	-	69.7	69.7		-	-	-	-	-	-	
			Oxidised (Mt)	-	-	-	-	-	-	130	130		-	-	-	-	-	-	
			Iron (%)	-	-	-	-	-	-	35	35		-	-	-	-	-	-	
Tintekrate	50%	OC	Ore (Mt)	-	-	-	-	-	-	710	710	AM / SvdM	-	-	-	-	-	-	n.a.
			Iron (%)	-	-	-	-	-	-	36	36		-	-	-	-	-	-	
			DTC wt (%)	-	-	-	-	-	-	44	44		-	-	-	-	-	-	
			DTC iron (%)	-	-	-	-	-	-	69.4	69.4		-	-	-	-	-	-	
			Oxidised (Mt)	-	-	-	-	-	-	180	180		-	-	-	-	-	-	
			Iron (%)	-	-	-	-	-	-	34	34		-	-	-	-	-	-	
Total El Aouj Mining Company S.A.			**Ore (Mt)**	**470**	**470**	**1,435**	**1,435**	**1,905**	**1,905**	**2,520**	**2,520**		**380**	**380**	**551**	**551**	**931**	**931**	
			Iron (%)	**36**	**36**	**36**	**36**	**36**	**36**	**35**	**35**		**35**	**35**	**35**	**35**	**35**	**35**	
Sphere Mauritania S.A.																			
Askaf North	90%	OC	Ore (Mt)	200	200	160	160	360	360	45	45	AM / SvdM	-	-	-	-	-	-	n.a.
			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		-	-	-	-	-	-	
			Iron (%)	35	35	35	35	35	35	35	35		-	-	-	-	-	-	
Askaf Centre	90%	OC	Ore (Mt)	-	-	-	-	-	-	95	95	AM / SvdM	-	-	-	-	-	-	n.a.
			Iron (%)	-	-	-	-	-	-	36	36		-	-	-	-	-	-	
			DTC wt (%)	-	-	-	-	-	-	42	42		-	-	-	-	-	-	
			DTC iron (%)	-	-	-	-	-	-	69.9	69.9		-	-	-	-	-	-	
			Oxidised (Mt)	-	-	-	-	-	-	13	13		-	-	-	-	-	-	
			Iron (%)	-	-	-	-	-	-	37	37		-	-	-	-	-	-	
Askaf East	90%	OC	Ore (Mt)	-	-	-	-	-	-	70	70	AM / SvdM	-	-	-	-	-	-	n.a.
			Iron (%)	-	-	-	-	-	-	35	35		-	-	-	-	-	-	
			DTC wt (%)	-	-	-	-	-	-	42	42		-	-	-	-	-	-	
			DTC iron (%)	-	-	-	-	-	-	70.3	70.3		-	-	-	-	-	-	
			Oxidised (Mt)	-	-	-	-	-	-	13	13		-	-	-	-	-	-	
			Iron (%)	-	-	-	-	-	-	31	31		-	-	-	-	-	-	
Total Sphere Mauritania S.A.			**Ore (Mt)**	**215**	**215**	**190**	**190**	**405**	**405**	**251**	**251**		**-**	**-**	**-**	**-**	**-**	**-**	
			Iron (%)	**36**	**36**	**35**	**35**	**36**	**36**	**35**	**35**		**-**	**-**	**-**	**-**	**-**	**-**	

Iron ore

Name of operation	Attributable interest	Mining method	Commodity	Measured Mineral Resources 2020	Measured Mineral Resources 2019	Indicated Mineral Resources 2020	Indicated Mineral Resources 2019	Measured and Indicated Resources 2020	Measured and Indicated Resources 2019	Inferred Mineral Resources 2020	Inferred Mineral Resources 2019	CP	Proved Ore Reserves 2020	Proved Ore Reserves 2019	Probable Ore Reserves 2020	Probable Ore Reserves 2019	Total Ore Reserves 2020	Total Ore Reserves 2019	CP
Sphere Lebtheinia S.A.																			
Lebtheinia Centre	100%		Ore (Mt)	-	-	2,180	2,180	2,180	2,180	350	350	AM /	-	-	-	-	-	-	n.a.
			Iron (%)	-	-	32	32	32	32	32	32	SvdM	-	-	-	-	-	-	
			DTC wt (%)	-	-	27	27	27	27	27	27		-	-	-	-	-	-	
			DTC iron (%)	-	-	68.6	68.6	68.6	68.6	68.1	68.1		-	-	-	-	-	-	
			Oxidised (Mt)	-	-	-	-	-	-	210	210		-	-	-	-	-	-	
			Iron (%)	-	-	-	-	-	-	31	31		-	-	-	-	-	-	
Junelle Limited																			
Zanaga	50%	OC	Ore (Mt)	2,300	2,300	2,500	2,500	4,800	4,800	2,100	2,100	MT	770	770	1,290	1,290	2,070	2,070	GB
			Iron (%)	34	34	30	30	32	32	31	31		37	37	32	32	34	34	

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.

In 2018, the FEED phase of the development programme was completed. The project is based on the production of 11.3Mtpa of sinter feed product derived from fresh magnetite ore, beneficiated to product 66.5% iron content concentrate. The FEED phase has provided a firm and costed project implementation plan, and options to further enhance the project's viability.

Mineral Resources and Ore Reserves are unchanged compared to previous reporting periods. The long term IODEX65 pricing for Ore Reserves modelling is $90/dmt CFR North China.

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%.

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%.

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%.

Iron ore

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).

Coal

New South Wales

Name of operation	Attributable interest	Mining method	Commodity	Measured Coal Resources 2020	Measured Coal Resources 2019	Indicated Coal Resources 2020	Indicated Coal Resources 2019	Inferred Coal Resources 2020	Inferred Coal Resources 2019	CP	Coal Reserves Proved 2020	Coal Reserves Probable 2020	Marketable Proved 2020	Marketable Probable 2020	Total Marketable 2020	Total Marketable 2019	CP
Oakbridge Group			Thermal Coal (Mt)	**999**	**1,009**	**620**	**620**	**1,450**	**1,450**		**120**	**84**	**80**	**57**	**140**	**150**	
Bulga Complex	72.6%	OC/UG	Thermal Coal (Mt)	980	990	560	560	1,300	1,300	HXJ							
			CV (kcal/kg)	5,900	5,900	5,600	5,600	5,700	5,700								
Bulga OC	72.6%	OC	Thermal Coal (Mt)								50	60	30	40	70	80	SMI
			CV (kcal/kg)										6,350	6,300	6,300	6,300	
Bulga UG	72.6%	UG	Thermal Coal (Mt)								70	24	50	17	70	70	POG
			CV (kcal/kg)										6,150	6,200	6,150	6,150	
Running Stream	83%	OC	Thermal Coal (Mt)	19	19	60	60	150	150	MJL	-	-	-	-	-	-	n.a.
			CV (kcal/kg)	5,050	5,050	5,050	5,050	5,150	5,150							-	
Liddell	67.5%	OC	Thermal Coal (Mt)	**210**	**210**	**240**	**230**	**400**	**400**	JET/	**10**	**1**	**7**	**0.6**	**7**	**11**	
			CV (kcal/kg)	6,250	6,250	6,200	6,200	6,150	6,150	LRG			6,750	6,700	6,750	6,750	
Mount Owen Complex	100%		Thermal Coal (Mt)	**305**	**310**	**266**	**266**	**441**	**441**		**91**	**10**	**47**	**5**	**52**	**60**	
Mount Owen		OC	Thermal Coal (Mt)	190	190	190	190	350	350	LRG	80	10	40	5	45	50	STH
			CV (kcal/kg)	6,050	6,050	6,150	6,100	6,100	6,050				6,250	6,400	6,250	6,250	
Ravensworth East		OC	Thermal Coal (Mt)	60	60	26	26	1	1	LRG	5	-	3	-	3	4	BOB
			CV (kcal/kg)	5,700	5,750	5,700	5,700	5,750	5,750				5,950	-	5,950	5,800	
Glendell		OC	Thermal Coal (Mt)	55	60	50	50	90	90	LRG	6	-	4	-	4	6	BOB
			CV (kcal/kg)	5,900	5,900	5,850	5,900	5,800	5,850				6,650	-	6,650	6,550	
Integra	100%	UG	Thermal/Coking Coal (Mt)	**18**	**17**	**55**	**60**	**30**	**30**	MAS	**5**	**2**	**3**	**2**	**5**	**7**	
			CV (kcal/kg)	6,000	5,900	5,900	5,950	5,800	5,800								
			Ash (%)										8	8	8	8	
United - Wambo	47.5%	OC/UG	Thermal Coal (Mt)	**300**	**300**	**340**	**340**	**500**	**500**	IAE	**80**	**6**	**55**	**4**	**60**	**65**	PTP
			CV (kcal/kg)	5,950	5,950	5,700	5,700	5,600	5,600				6,550	6,500	6,550	6,550	
Ulan Complex	100%		Thermal Coal (Mt)	**225**	**245**	**263**	**293**	**520**	**520**		**141**	**1**	**129**	**0.8**	**134**	**139**	
Ulan OC			Thermal Coal (Mt)	45	45	13	13	20	20	MJL	6	-	4	0.2	4	4	VCE
			CV (kcal/kg)	4,950	4,950	5,200	5,200	4,900	4,900				5,000	5,000	5,000	5,000	
Ulan UG			Thermal Coal (Mt)	180	200	250	280	500	500	MJL							
			CV (kcal/kg)	6,400	6,400	4,750	4,750	5,000	5,000								
Ulan #3 UG			Thermal Coal (Mt)								55	-	50	-	50	55	EAM
			CV (kcal/kg)										6,150	-	6,150	6,150	
Ulan West UG			Thermal Coal (Mt)								80	1	75	0.6	80	80	HAE
			CV (kcal/kg)										6,100	6,100	6,100	6,150	
Ravensworth Group			Thermal Coal (Mt)	**394**	**404**	**240**	**240**	**100**	**100**		**180**	**12**	**120**	**8**	**130**	**140**	
Narama	100%	OC	Thermal Coal (Mt)	24	24	-	-	-	-	MAS	-	-	-	-	-	-	n.a.
			CV (kcal/kg)	5,600	5,600	-	-	-	-				-	-	-	-	
Ravensworth North	90%	OC	Thermal Coal (Mt)	370	380	240	240	100	100	MAS	180	12	120	8	130	140	DJC
			CV (kcal/kg)	6,050	6,050	6,050	6,050	5,650	5,650				6,250	6,350	6,250	6,250	
Mangoola	100%	OC/UG	Thermal Coal (Mt)	**100**	**110**	**100**	**100**	**1,500**	**1,500**	MAS	**55**	**30**	**45**	**24**	**70**	**75**	MRW
			CV (kcal/kg)	5,250	5,250	4,750	4,750	4,250	4,250				5,450	5,400	5,400	5,350	
Ravensworth UG	90%	UG	Thermal Coal (Mt)	**320**	**320**	**220**	**220**	**250**	**250**	MJL	**40**	**-**	**28**	**-**	**28**	**28**	KJB
			CV (kcal/kg)	5,800	5,800	5,400	5,400	5,350	5,350				6,950	-	6,950	6,950	
Hunter Valley Operations	49%	OC	Thermal Coal (Mt)	**800**	**820**	**1,300**	**1,300**	**2,400**	**2,400**	LMP	**420**	**460**	**310**	**330**	**640**	**650**	PJO
			CV (kcal/kg)	6,500	6,500	6,450	6,450	6,200	6,200				6,350	6,350	6,350	6,350	
Total New South Wales			**Coking/Thermal Coal (Mt)**	**3,671**	**3,745**	**3,644**	**3,669**	**7,591**	**7,591**		**1,142**	**606**	**824**	**431**	**1,266**	**1,325**	

Coal

New South Wales

The New South Wales Coal Resources and Reserves are contained within the Sydney Basin.

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 2019 and 31 December 2020 are detailed for each producing mine site.

Unless otherwise stated, tenement expiries will be eligible for a standard renewal as per the relevant Government policy.

Tonnages are quoted as million metric tonnes. Values expressed in the text have not been rounded and therefore do not correlate directly with the tables.

Oakbridge Group

Bulga open cut: Coal Resource and Reserve depletion due to mining (-10.8Mt).

Coal Reserves for Bulga Open Cut operations are sufficient to support a mine life of approximately 14 years.

Bulga underground: No change in Coal Resource estimations since 31 December 2019 and there is currently no active UG mining on site.

Tenements for the Bulga Complex expire between April 2021 and June 2040. Some tenements are undergoing a routine renewal process with the NSW Government.

Running Stream is an undeveloped thermal coal project. Coal Resources were not re-estimated in 2020.

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 expired in May 2020, and a renewal has been lodged.

Liddell Open Cut

Coal Resources include both the current Liddell Open Cut Operations and a project area known as Liddell South (previously named and reported as Glendell North). Each area has been assessed by a different Competent Person; Liddell Open Cut by John Terrill and Liddell South by Leigh Gibson.

Coal Resource and Reserve depletion due to mining at Liddell Open Cut (-6.3Mt).

Tenements for Liddell Operations expire between October 2023 and November 2028. Coal Reserves for Liddell Operations are sufficient to support the planned mine life of 3 years.

Overall Resource increases and category upgrades have occurred at Liddell Operations following drilling and the inclusion of the Hebden Seam into resources. The main components are:

- Additional resource; Measured and Indicated +7.4Mt, Inferred +13.8Mt

Tenements for Liddell South Project expire between July 2020 (renewal lodged) and December 2023.

Mt Owen Complex

Mount Owen: Coal Resource and Reserve depletion due to mining (-7.0Mt).

Measured and Indicated Resource increase (+5.3Mt), and decrease in Inferred Resource (-1.3Mt) due to the addition of new drillhole data. Tenements for Mt Owen expire between January 2026 and July 2036. Some tenements are undergoing a routine renewal process with the NSW Government.

Coal Reserves for Mt Owen Operations are sufficient to support the planned mine life of 16 years.

Ravensworth East: Coal Resource and Reserve depletion due to mining (-1.6Mt).

Tenements for Ravensworth East expire between November 2021 and October 2034.

Coal Reserves for Ravensworth East operations are sufficient to support the planned mine life of 3 years.

Glendell: Coal Resource and Reserve depletion due to mining (-3.3Mt).

Tenements for Glendell expire between November 2021 and November 2033. Coal Reserves for Glendell operations are sufficient to support the planned mine life of 2 years.

Integra

Coal Resource and Reserve depletion due to mining (-3.2Mt).

Tenements for the area expire between November 2023 and October 2034. Some tenements are undergoing a routine renewal process with the NSW Government. Coal Reserves for Integra operations are sufficient to support the planned mine life of 3 years.

United - Wambo

Coal Resource Depletion due to Mining (-5.0Mt)

Tenements for the JV area expire between December 2026 and March 2033. Some tenements are undergoing a routine renewal process with the NSW government. Coal reserves of the United-Wambo JV are sufficient to support a planned mine life of 14 years.

Ulan Complex

Coal Resource Measured and Indicated decrease due to sterilisation (-30.1Mt) of the upper part of the mining section as mining occurs in the lower part. The mining section was depleted (-11.8Mt) as a direct result of mining. Reduction of Inferred resources (-43.8Mt) owing to sterilisation of upper seams (above mined out longwall workings) based on “no reasonable prospect of mining” (Clause 20, JORC2012).

Tenements for Ulan expire between May 2021 and June 2038. Some tenements are undergoing a routine renewal process with the NSW Government.

Ulan Open Cut: No mining during reporting period therefore no change to Coal Reserves estimations since 31 December 2019.

Ulan West Underground: Coal Reserve depletion due to mining (-6.6Mt).

Coal Reserves for Ulan West underground operations are sufficient to support the planned mine life of 12 years.

Ulan #3 Underground: Coal Reserve depletion due to mining (-5.7Mt).

Coal Reserves for Ulan #3 underground operations are sufficient to support the planned mine life of 10 years.

Ravensworth Group

Narama: No change to Coal Resources since 31 December 2019. 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 and Reserve depletion due to mining (-14.3Mt).

Tenements for Ravensworth North expire between June 2022 and April 2039. Some tenements are undergoing a routine renewal process with the NSW Government. Coal Reserves for Ravensworth North operations are sufficient to support the planned mine life of 14 years.

Mangoola

Coal Resource and Reserve depletion due to mining (-10.6Mt).

Tenements for Mangoola expire in November 2029. Some tenements are undergoing a routine renewal process with the NSW Government. Coal Reserves for Mangoola operations are sufficient to support the planned mine life of 10 years.

Ravensworth Underground

No change in Coal Resource or Reserve estimations since 31 December 2019.

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

Tenements for Ravensworth Underground expire between November 2021 and April 2039. Some tenements are undergoing a routine renewal process with the NSW Government.

Hunter Valley Operations

Coal Resource and Reserve depletion due to mining at Hunter Valley Operations (-18.3Mt).

Tenements for Hunter Valley Operations expire between December 2022 and November 2041. Some tenements are undergoing a routine renewal process with the NSW Government. Coal Reserves at Hunter Valley Operation are sufficient to support the planned mine life of approximately 30 years.

Coal

Queensland

Name of operation	Attributable interest	Mining method	Commodity	Measured Coal Resources 2020	Measured Coal Resources 2019	Indicated Coal Resources 2020	Indicated Coal Resources 2019	Inferred Coal Resources 2020	Inferred Coal Resources 2019	CP	Coal Reserves Proved 2020	Coal Reserves Probable 2020	Marketable Proved 2020	Marketable Probable 2020	Total Marketable 2020	Total Marketable 2019	CP
Oaky Creek	55%		Coking/Thermal Coal (Mt)	**240**	**240**	**355**	**355**	**80**	**80**		**45**	**2**	**30**	**1**	**30**	**35**	
Oaky North		UG	Coking Coal (Mt)	240	240	310	310	60	60	RJH	45	2	30	1	30	35	POG
			Ash (%)										9	9	9	9	
Fairhill Oaky Creek		OC	Thermal Coal (Mt)	-	-	45	45	20	20	RJH	-	-	-	-	-	-	n.a.
			CV (kcal/kg)				4,150		4,150							-	
Red Rock	75%	OC/UG	Coking/Thermal Coal (Mt)	**1**	**1**	**300**	**300**	**200**	**200**	RJH	**-**	**-**	**-**	**-**	**-**	**-**	n.a.
			CV (kcal/kg)	6,900	6,950	5,100	5,100	5,450	5,450		-	-	-	-	-	-	
NCA	100%		Coking/Thermal Coal (Mt)	**466**	**463**	**569**	**567**	**1,010**	**1,030**		**41**	**69**	**32**	**54**	**85**	**113**	
Newlands, Suttor		OC/UG	Thermal Coal (Mt)	310	310	140	140	400	400	JET							n.a.
Eastern (RCM)			CV (kcal/kg)	5,750	5,750	5,200	5,200	5,050	5,050								
Newlands OC		OC	Coking Coal (Mt)								3	2	2	1	3	3	LEN
			Ash (%)								-	-	9	9	9	9	
		OC	Thermal Coal (Mt)								13	12	9	8	17	35	LEN
			CV (kcal/kg)								-	-	6,300	6,500	6,400	6,450	
Wollombi (MCM)		OC/UG	Coking Coal (Mt)	15	17	75	80	100	100	JET	-	-	-	-	-	-	n.a
			Thermal Coal (Mt)	6	6	26	29	60	80		-	-	-	-	-	-	
			CV (kcal/kg)	5,550	5,550	5,250	5,250	5,150	5,150		-	-	-	-	-	-	
Sarum		OC/UG	Coking Coal (Mt)	30	30	8	8	60	60	JET	-	-	-	-	-	-	n.a
			Thermal Coal (Mt)	-	-	70	70	250	250		-	-	-	-	-	-	
			CV (kcal/kg)	-	-	5,450	5,450	4,650	4,650		-	-	-	-	-	-	
Collinsville		OC/UG	Coking Coal (Mt)	40	35	80	80	40	40	RJH							n.a
			Thermal Coal (Mt)	65	65	170	160	100	100								
			CV (kcal/kg)	5,350	5,300	6,000	6,000	5,550	5,500								
Collinsville OC		OC	Thermal Coal (Mt)							n.a.	25	55	21	45	65	75	LEN
			CV (kcal/kg)								-	-	5,850	6,000	5,950	5,900	
Cook	95%	OC/UG	Coking/Thermal Coal (Mt)		**-**	**180**	**180**	**700**	**700**	JET	**-**	**-**	**-**	**-**	**-**	**-**	n.a.
			CV (kcal/kg)	-	-	6,650	6,650	6,500	6,500		-	-	-	-	-	-	
Rolleston	75%		Thermal Coal (Mt)	**230**	**220**	**190**	**190**	**430**	**380**		**140**	**45**	**140**	**45**	**190**	**200**	
Rolleston ML		OC	Thermal Coal (Mt)	230	220	190	190	350	350	JLB	140	45	140	45	190	200	EMI
			CV (kcal/kg)	5,700	5,750	5,550	5,550	5,500	5,550		-	-	5,600	5,450	5,550	5,600	
Rolleston MDL &		OC	Thermal Coal (Mt)	-	-	-	-	80	30	JLB	-	-	-	-	-	-	n.a.
EPCs			CV (kcal/kg)	-	-	-	-	5,650	5,650		-	-	-	-	-	-	
Togara North	70%	OC/UG	Thermal Coal (Mt)	**370**	**370**	**250**	**250**	**700**	**700**	MAS	**-**	**28**	**-**	**28**	**28**	**28**	PJO
			CV (kcal/kg)	6,350	6,350	6,000	6,000	6,000	6,000		-	-	-	6,300	6,300	6,300	
Wandoan	75%		Thermal Coal (Mt)	**1,650**	**1,650**	**2,250**	**2,200**	**4,600**	**4,600**	MPL	**-**	**-**	**-**	**-**	**-**	**650**	PJO
			CV (kcal/kg)	5,300	5,300	5,400	5,400	5,400	5,400		-	-	-	-	-	5,600	
Milray	75%	OC/UG	Thermal Coal (Mt)	**-**	**-**	**170**	**170**	**600**	**600**	RJH	**-**	**-**	**-**	**-**	**-**	**-**	n.a.
			CV (kcal/kg)	-	-	6,050	6,050	4,950	4,950		-	-	-	-	-	-	
Pentland	75%	OC/UG	Thermal Coal (Mt)	**100**	**100**	**40**	**40**	**10**	**10**	RJH	**-**	**-**	**-**	**-**	**-**	**-**	n.a.
			CV (kcal/kg)	4,400	4,400	4,050	4,050	4,100	4,100		-	-	-	-	-	-	
Clermont	37%	OC/UG	Thermal Coal (Mt)	**75**	**75**	**9**	**17**	**-**	**5**	JET	**70**	**6**	**70**	**6**	**75**	**85**	WTE
			CV (kcal/kg)	6,150	6,200	6,100	6,000	-	5,650		-	-	5,900	5,950	5,900	5,900	
Hail Creek	84.67%		Coking/Thermal Coal (Mt)	**720**	**730**	**480**	**480**	**420**	**420**		**120**	**75**	**85**	**40**	**120**	**130**	
Hail Creek		OC/UG	Coking/Thermal Coal (Mt)	720	730	360	360	350	350	RJH	120	75	85	40	120	130	APC
Lake Elphinstone		OC/UG	Coking/Thermal Coal (Mt)	-	-	120	120	40	40	JET	-	-	-	-	-	-	
Mount Robert		OC/UG	Coking/Thermal Coal (Mt)	-	-	-	-	30	30	LMP	-	-	-	-	-	-	
Valeria	71%	OC	Thermal Coal (Mt)	**-**	**-**	**410**	**530**	**250**	**200**	MPL	**-**	**-**	**-**	**-**	**-**	**-**	n.a.
Total Queensland			**Coking/Thermal Coal (Mt)**	**3,852**	**3,849**	**5,203**	**5,279**	**9,000**	**8,925**		**416**	**225**	**357**	**174**	**528**	**1,241**	

Coal

Queensland

The Queensland Coal Resources and Reserves are contained within the Bowen Basin, the Surat Basin and the Galilee Basin.

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 2019 and 31 December 2020 are detailed for each producing mine site.

Unless otherwise stated, tenement expiries will be eligible for a standard renewal as per the relevant Government policy.

Tonnages are quoted as million metric tonnes (Mt). Values expressed in the text have not been rounded and therefore do not correlate directly with the tables.

Oaky Creek
Coal Resource depletion due to mining (-6.5Mt). Resources increased (9.4Mt) due to the inclusion of operations drilling and strip sampling data.

Coal Reserves are sufficient to support the planned mine life for 10 years. Tenements for the Oaky Creek Complex expire between March 2021 and June 2041. Some tenements are undergoing a routine renewal process with the QLD Government.

Red Rock
Red Rock Resources remain unchanged.

Tenements for Red Rock expire between September 2023 and September 2025.

NCA
Newlands Open Cut: Coal Reserve depletion due to mining (-5.9Mt).

Updated macro assumptions have resulted in a write down of -14.5Mt ROM and -12.7Mt Marketable reserves at Newlands Open Cut.

Newlands, Suttor, Eastern (RCM – Rangal Coal Measure): Newlands Coal Resource depletion due to mining (-1.3Mt).

Eastern Creek Coal Resource depletion due to mining (-1.8Mt).

Suttor Creek Coal Resource no material change since 31 December 2019.

Tenements for Newlands Complex expire between April 2021 and December 2039. Some tenements are undergoing a routine renewal process with the QLD Government.

Wollombi (MCM – Moranbah Coal Measures): Coal Resource depletion due to mining (-2.8Mt).

Decrease in Measured and Indicated Resource (-3.2Mt) and Inferred Resource (-25.6Mt) resulting from the reassessment, and subsequent exclusion of heat affected Goonyella Middle Seam and Goonyella Upper Seam coal at depths greater than 200m, based on the “no reasonable prospect of mining” (Clause 20, JORC2012).

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 April 2021 and November 2025.

Collinsville: Coal Resource and Reserve depletion due to mining (-4.5Mt).

Overall coal resource increase due to drilling (+24.9Mt). Application of rounding convention has resulted in an unchanged quantity of Inferred resources.

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

Tenements for Collinsville expire between September 2024 and September 2035.

Cook (Blackrock)

No Change in the Coal Resource estimation at Cook since 31 December 2019.

The tenement for Cook expires in April 2021, and an application for the routine renewal of this tenement has been lodged with the QLD government.

Rolleston
Coal Resource and Reserve depletion due to mining (-12.6Mt).

New drilling has resulted in an:

- upgrade of Inferred Coal Resource to Measured and Indicated (+22.2Mt).
- increase in Inferred Resources (+64.5Mt)

Tenements for Rolleston expire between May 2021 and May 2043. Coal Reserves for Rolleston are sufficient to support the planned mine life of 20 years.

Togara North
No change in the Coal Resource or Reserve estimation since 31 December 2019.

Tenements for Togara North expire between September 2022 and December 2046.

Wandoan
Increase in Resources due to new drilling and geological model for MDL 224 and EPC 787, Measured and Indicated (+27.9Mt), and Inferred (+19.5Mt)

Updated macro assumptions have resulted in a write down of all previously declared reserves at Wandoan (-770.9Mt ROM and -652.9Mt Marketable reserves).

Tenements for Wandoan expire between December 2021 and December 2043. Some tenements are undergoing a routine renewal process with the QLD Government.

Milray
No change in the Coal Resource estimation since 31 December 2019.

Tenements for Milray expire between November 2024 to January 2026.

Pentland
No change in the Coal Resource estimation since 31 December 2019.

Tenements for Pentland expire in September 2021.

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

Coal Resource depletion due to mining (-10.4Mt). New drilling resulted in an upgrade of Inferred Coal Resource to Measured and Indicated (3.5Mt).

Tenements for Clermont expire between March 2025 and July 2031. Coal Reserves at Clermont are sufficient to support the planned mine life for 7 years.

Coal

Queensland

Hail Creek Operations
Hail Creek Coal Resources estimated for the extraction of thermal and coking coal via open cut methods

Coal Resource depletion due to mining (-12.1Mt).

Tenements for Hail Creek expire in September 2040. Coal Reserves at Hail Creek are sufficient to support the planned mine life for 20 years.

Lake Elphinstone
Resources estimated for the extraction of thermal coal via open cut methods. No exploration or analysis work completed since acquisition so previous resource model re-applied for 2020 reporting period. The previous estimate did not include a quality estimation.

Tenements for Lake Elphinstone expire in September 2040.

Mt Robert
Mt Robert Coal Resources estimated for the extraction of thermal coal via open cut methods.

No exploration or analysis work completed since acquisition so previous resource model re-applied for 2020 reporting period. The previous estimate did not include a quality estimation.

Tenements for Mt Robert expire between November 2022 and August 2024. Project planning has not yet commenced at Mt Robert.

Valeria
Valeria Coal Resources estimated for the extraction of thermal and semi soft coking coal via open cut methods.

Recorrelation and re-picking of existing drill data has resulted in:

- a reclassification of (118.4Mt) from Indicated Resource, to Inferred resource

- a reduction of Inferred Resource (-69.7Mt), due to the reduced thickness of the seam ply intervals in the Capella, Llamdillo and Anakie seams.

Tenements for Valeria expire in September 2021.

Coal

South Africa

Name of operation	Attributable interest	Mining method	Commodity	Measured Coal Resources 2020	Measured Coal Resources 2019	Indicated Coal Resources 2020	Indicated Coal Resources 2019	Inferred Coal Resources 2020	Inferred Coal Resources 2019	CP	Extractable Coal Proved 2020	Extractable Coal Probable 2020	Saleable Proved 2020	Saleable Probable 2020	Total Saleable Coal 2020	Total Saleable Coal 2019	CP
Tweefontein	79.8%		Thermal Coal (Mt)	**850**	**860**	**60**	**60**	**38**	**38**		**168**	**11**	**105**	**7**	**112**	**121**	
Tweefontein North		OC/UG	Thermal Coal (Mt)	650	660	-	-	8	8	MS	159	11	98	7	105	114	TH
			CV (kcal/kg)	5,250	5,250	-	-	5,500	5,500						5,600	5,600	
			Export (Mt)										*65*	*4*	*69*	*75*	
			CV (kcal/kg)										*5,900*	*5,900*	*5,900*	*5,900*	
			Domestic (Mt)										*33*	*3*	*36*	*39*	
			CV (kcal/kg)										*5,100*	*5,100*	*5,100*	*5,100*	
Tweefontein South		OC/UG	Thermal Coal (Mt)	200	200	60	60	30	30	MS	9	-	7	-	7	7	
			CV (kcal/kg)	5,350	5,350	4,350	4,350	4,600	4,600				5,900	-	5,900	5,900	
Goedgevonden	73.99%		Thermal Coal (Mt)	**480**	**490**	**7**	**7**	**1**	**1**	MS	**270**	**-**	**167**	**-**	**167**	**172**	CT
			CV (kcal/kg)	4,800	4,800	5,000	5,000	3,540	3,540						5,400	5,400	
			Export (Mt)										*70*	*-*	*70*	*73*	
			CV (kcal/kg)										*6,000*	*-*	*6,000*	*6,000*	
			Export (Mt)										*74*	*-*	*74*	*75*	
			CV (kcal/kg)										*5,100*	*-*	*5,100*	*5,100*	
			Domestic (Mt)										*23*	*-*	*23*	*24*	
			CV (kcal/kg)										*5,100*	*-*	*5,100*	*5,100*	
iMpunzi	79.8%		Thermal Coal (Mt)	**350**	**360**	**13**	**13**	**2**	**2**		**105**	**6**	**66**	**2**	**68**	**76**	
iMpunzi North		OC	Thermal Coal (Mt)	230	230	4	4	2	2	MS	19	3	11	1	12	17	TH
			CV (kcal/kg)	5,250	5,250	5,500	5,500	5,600	5,600						5,600	5,500	
			Export (Mt)										*9*	*1*	*10*	*14*	
			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*	*5,100*	
iMpunzi East		OC	Thermal Coal (Mt)	120	130	9	9	-	-	MS	86	3	55	1	56	59	TH
			CV (kcal/kg)	5,400	5,400	5,250	5,250	-	-						5,600	5,500	
			Export (Mt)										*46*	*1*	*47*	*47*	
			CV (kcal/kg)										*5,700*	*5,700*	*5,700*	*5,700*	
			Domestic (Mt)										*9*	*-*	*9*	*12*	
			CV (kcal/kg)										*5,100*	*5,100*	*5,100*	*5,100*	
Zonnebloem	100%	OC	Thermal Coal (Mt)	**190**	**190**	**35**	**35**	-	-	MS	**-**	**155**	**-**	**74**	**74**	**76**	TH
			CV (kcal/kg)	5,150	5,150	4,850	4,850	-	-						5,500	5,500	
			Export (Mt)										-	*37*	*37*	*38*	
			CV (kcal/kg)										-	*6,000*	*6,000*	*6,000*	
			Domestic (Mt)										-	*37*	*37*	*38*	
			CV (kcal/kg)										-	*5,100*	*5,100*	*5,100*	
Oogiesfontein	100%	UG	Thermal Coal (Mt)	**44**	**44**	**18**	**18**	-	-	MS	**-**	**7**	**-**	**4**	**4**	**4**	TH
			CV (kcal/kg)	4,950	4,950	4,950	4,950	-	-						5,700	5,700	
			Export (Mt)										-	*3*	*3*	*3*	
			CV (kcal/kg)										-	*5,900*	*5,900*	*5,900*	
			Domestic (Mt)										-	*1*	*1*	*1*	
			CV (kcal/kg)										-	*5,100*	*5,100*	*5,100*	
Nooitgedacht	100%	UG	Thermal Coal (Mt)	**21**	**21**	**40**	**40**	**5**	**5**	MS	**-**	**33**	**-**	**22**	**22**	**22**	TH
			CV (kcal/kg)	4,850	4,850	4,850	4,850	4,850	4,850						5,500	5,500	
			Export (Mt)										-	*12*	*12*	*11*	
			CV (kcal/kg)										-	*5,800*	*5,800*	*5,900*	
			Domestic (Mt)										-	*10*	*10*	*11*	
			CV (kcal/kg)										-	*5,250*	*5,250*	*5,100*	
Undeveloped Resources	100%	OC/UG	Thermal Coal (Mt)	**-**	**-**	**12**	**12**	**100**	**100**								
			CV (kcal/kg)	-	-	4,750	4,750	5,400	5,400								
Paardekop	100%	UG	Thermal Coal (Mt)	**120**	**120**	**575**	**575**	**80**	**80**	MS							
			CV (kcal/kg)	5,350	5,350	5,400	5,400	5,350	5,350								

Coal

South Africa

Name of operation	Attributable interest	Mining method	Commodity	Measured Coal Resources 2020	Measured Coal Resources 2019	Indicated Coal Resources 2020	Indicated Coal Resources 2019	Inferred Coal Resources 2020	Inferred Coal Resources 2019	CP	Extractable Coal Proved 2020	Extractable Coal Probable 2020	Saleable Proved 2020	Saleable Probable 2020	Total Saleable Coal 2020	Total Saleable Coal 2019	CP
Izimbiwa	48.73%		Thermal Coal (Mt)	**106**	**108**	**35**	**35**	**32**	**32**		**18**	**26**	**10**	**24**	**34**	**40**	
MBO		OC	Thermal Coal (Mt)	26	28	-	-	2	2	MS	18	-	10	-	10	16	HG
			CV (kcal/kg)	5,200	5,600	-	-	5,600	5,600				5,300		5,300	4,600	
			Export (Mt)										*10*	-	*10*	*2*	
			CV (kcal/kg)										*5,300*	-	*5,300*	*5,700*	
			Domestic (Mt)										-	-	-	*3*	
			CV (kcal/kg)										-	-	-	*5,700*	
			Domestic (Mt)										-	-	-	*11*	
			CV (kcal/kg)										-	-	-	*4,200*	
Argent		OC	Thermal Coal (Mt)	28	28	-	-	-	-	MS	-	26	-	24	24	24	HG
			CV (kcal/kg)	5,100	5,100	-	-	-	-				-		4,500	4,500	
			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	Thermal Coal (Mt)	**52**	52	35	35	30	30	MS	-	-	-	-	-	-	n.a.
			CV (kcal/kg)	5,100	5,100	5,050	5,050	4,950	4,950								
Umcebo	48.67%		Thermal Coal (Mt)	**153**	**153**	**44**	**44**	**86**	**86**		**37**	**-**	**27**	**-**	**27**	**32**	
Wonderfontein		OC	Thermal Coal (Mt)	65	65	5	5	1	1	MS	37	-	27	-	27	32	HG
			CV (kcal/kg)	5,350	5,350	5,200	5,200	4,900	4,900				4,700	-	4,700	4,700	
			Export (Mt)										*4*	-	*4*	*6*	
			CV (kcal/kg)										*5,900*	-	*5,900*	*5,900*	
			Domestic (Mt)										*23*	-	*23*	*26*	
			CV (kcal/kg)										*4,500*	-	*4,500*	*4,500*	
Norwesco		OC	Thermal Coal (Mt)	1	1	-	-	-	-	GC	-	-	-	-	-	0.25	HG
			CV (kcal/kg)	5,000	5,000	-	-	-	-						-	5,300	
			Export (Mt)										-	-	-	*0.20*	
			CV (kcal/kg)										-	-	-	*5,600*	
			Domestic (Mt)										-	-	-	*0.05*	
			CV (kcal/kg)										-	-	-	*4,500*	
Klippan		UG	Thermal Coal (Mt)	3	3	1	1	-	-	KvD	-	-	-	-	-	-	n.a.
			CV (kcal/kg)	5,800	5,800	5,800	5,800	-	-				-	-	-	-	
Hendrina		UG	Thermal Coal (Mt)	**24**	24	20	20	80	80	MS	-	-	-	-	-	-	n.a.
			CV (kcal/kg)	4,400	4,400	4,400	4,400	4,700	4,700				-	-	-	-	
Belfast		UG	Thermal Coal (Mt)	**60**	60	18	18	5	5	MS	-	-	-	-	-	-	n.a.
			CV (kcal/kg)	5,200	5,200	5,050	5,050	5,150	5,150				-	-	-	-	
Total South Africa			**Thermal Coal (Mt)**	**2,314**	**2,346**	**839**	**839**	**344**	**344**		**598**	**238**	**375**	**133**	**508**	**543**	

Coal

South Africa

The South African Coal Resources and Coal Reserve estimates have been prepared in accordance with the 2016 edition of the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (the SAMREC Code) and the South African Guide to the Systematic Evaluation of Coal Resources and Coal Reserves (SANS 10320:2004).

The SAMREC Code and SANS 10320:2004 require that Coal Resources be reported on a Mineable Tonnes In Situ (MTIS) basis. The reported MTIS Coal Resource estimates take into account theoretically mineable seam thicknesses, coal quality cut-off parameters, geological loss factors, depth and/or strip ratio cut-offs and, where applicable, are discounted by coal tonnages which have previously been extracted. Coal Resources are reported inclusive of Coal Reserves.

Coal Resources have been re-estimated in 2020 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.

The reported Run-of-Mine (ROM) Coal Reserve estimates take into account planned practical mining thicknesses, mine layout losses, mining extraction factors, mining recovery efficiency factors, dilution, and contamination.

Saleable Coal Reserves are derived from the ROM Coal Reserves that are discounted by applying practical product yield factors which, where applicable, reflect historical processing plant efficiencies.

Changes and notes relevant to the estimation of Coal Resources and Coal Reserves are listed below for specific projects. Unless otherwise specified, changes reported are exclusive of production from 31 December 2019 to 31 December 2020. Depletion due to mining is based on the actual depletion from January to September, and a forecast for October to December. This forecast is reconciled each year to the actual production and an adjustment is made accordingly.

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

Values expressed in the text have not been rounded and therefore do not correlate directly with the tables.

Tweefontein Complex
Tweefontein North: Coal Resource depletion due to mining (-12.3Mt).

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 Coal 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 (11.3Mt). The Tweefontein Opencast Operation had a slight decrease in the Coal Reserve footprint of the Klipplaat and Makoupan pits (-0.4Mt).

Mining rights for Tweefontein North expired on 27 March 2020, and an application for a renewal was lodged in March 2020. Coal Reserves for Tweefontein North are sufficient to support a mine life of 12 years.

Tweefontein South: Tweefontein South Complex is contained in the iMpunzi new order mining right and in the Klippoortjie old order mining authorisation. A section 102 consent was obtained to incorporate the Klippoortjie MR into iMpunzi. Execution of the deed of amendment to give effect to the consent is pending. 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 Coal Resources.

No mining was conducted in 2020 and the No. 5 Seam Addcar Coal Reserves remain available for future extraction.

Mining rights for Tweefontein South expire on 28 March 2029. Coal Reserves for Tweefontein South are sufficient to support a mine life of 10 years.

Goedgevonden: Coal Resource depletion due to mining (-12.3Mt).

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 economic.

Coal Reserve depletion due to mining (-9.8Mt). Mine plan change due to the exclusion of uneconomic blocks resulting in a decrease of 1.3Mt.

The consolidated Goedgevonden mining right (including Zaaiwater West) will expire on 21 January 2037. Coal Reserves for Goedgevonden are sufficient to support a mine life of 23 years.

iMpunzi
The iMpunzi mining right incorporates the iMpunzi East area, consisting of the East pit, and the iMpunzi North area, comprising the North, Phoenix and Office pits. The mining right for iMpunzi expires on 28 March 2040. Coal Reserves for iMpunzi North and East are sufficient to support a mine life of 12 years.

iMpunzi North: Coal Resource depletion due to mining (-6.4Mt). Coal Resources reduction as a result of mining losses, including low wall losses, scalping and floor coal left behind (-0.3Mt).

iMpunzi North consists of the iMpunzi North Opencast (opencast dragline and truck and shovel operations in North and South pit) and iMpunzi Mini-pits (truck and shovel operations in the Phoenix, and Office pits). The Opencast Coal Resources include the No.1, No. 2 and No. 4 seams, whilst the Mini-pit involves only the No. 4 seam.

Coal Reserve depletion due to mining (-5.2Mt). South Pit triangle reserves moved to iMpunzi East, VDD South Pit (-6.6Mt). Adjusted face positions and coal mined outside mine plan account for a reserve increase of 2.0Mt.

iMpunzi East: Coal Resource depletion due to mining (-3.5Mt).

iMpunzi East consists of the iMpunzi East Opencast (opencast dragline and truck and shovel operations in the East pit). A large proportion of No. 2 seam and a small area of No. 4 seam have been previously mined by underground bord and pillar methods. 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.

Coal Reserve depletion due to mining (-3.8Mt). The VDD South Pit reserves (6.6Mt) have been considered as part of iMpunzi East (previously iMpunzi North). After exclusion of blocks now considered to be uneconomic, the net impact is a reserve loss of 10Mt ROM basis (approximately 2Mt Marketable basis).

Zonnebloem
Coal Resource depletion due to mining (-1.3Mt).

The No. 1 and No. 2 seams are developed and are amenable to extraction by opencast truck and shovel operations.

Phase 1 of Zonnebloem is continuing using truck and shovel mining.

Coal Reserve depletion due to mining (-1.3Mt).

The Zonnebloem mining right expires on 28 March 2039. Coal Reserves are sufficient to support a mine life of 23 years.

Oogiesfontein
The Oogiesfontein mining right expired on 19 April 2018. Consent was obtained before expiry to consolidate the right under the Goedgevonden 169 mining right which expires on 21 January 2037. The deed of amendment to give effect to the consent was executed on 6 September 2018. The Environmental Management Programme and Water Use Licence have been approved.

There are no changes in Coal Resources or Coal Reserves for the current reporting period.

Coal

South Africa

Paardekop

A new order mining right was granted in 2017 for 30 years and will expire on 19 August 2047. This right has not been executed due to an on-going dispute with Department of Mineral Resources and Energy. Approval of environmental licensing and permitting is awaited.

The Paardekop project area contains the Main seam which represents nearly 95% of the extractable coal. The seam has a mean thickness of 2.5m and is amenable to underground mining. The upper zone of the seam exhibits a relatively low CV whilst the lower zone has an average raw CV >5,300kcal/kg.

There are no changes in Coal Resources or Coal Reserves for the current reporting period.

Nooitgedacht

The No. 2 Seam and No. 4 Seam reserves represent a potential future underground extension to Tweefontein South.

There are no changes in Coal Resources or Coal Reserves for the current reporting period.

Undeveloped Coal Resources

Applications for mining rights have been submitted for all the undeveloped Coal Resources. The mining right for Amersfoort was granted and will expire on 30 May 2037, while the Boschmanspoort mining right is still pending.

The Amersfoort project is located in the southern sector of the Ermelo Coalfield in Mpumalanga province, southwest of Breyten. The Coal Resource estimate is based on the C seam which averages 2.5m in thickness and occurs at a depth of approximately 200m. The coal quality of the Amersfoort resource was re-evaluated and adjusted accordingly.

The Boschmanspoort project is located in the Witbank Coalfield in Mpumalanga province, southeast of Middelburg.

The Coal Resource estimate is based on the No. 2 seam which dips towards the east, therefore allowing some potential for opencast resources in the west.

Izimbiwa Coal

Izimbiwa Coal consists of a number of mines with a life of 4 years that have been grouped into the Middelburg Complex, and two greenfield projects, namely Argent and Springboklaagte, that will extend the life by approximately 20 to 25 years.

The expiry date of the relevant mining rights are as follows: Graspan renewed and valid until 16 May 2029 and Graspan extension valid until 22 March 2021. The Townlands and Steelcoal mining rights expired in July 2020, and the renewal applications were lodged in April 2020. The mining rights for Argent and Springboklaagte were granted in May 2016 for 15 years (expiring on 30 May 2031), and 20 years (expiring on 30 May 2036) respectively.

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

Middelburg Complex (MBO): Graspan, Townlands, Steelcoal and Corobrik, have been grouped into Middelburg Complex (MBO).

Coal Resource depletion due to mining (-2.7Mt) and gain in tonnage due to modifications applied to the resource model aligned to exploration results within the reporting period (0.4Mt).

Coal Reserve depletion due to mining (-2.7Mt). Updated Business Plan assumptions have resulted in the inclusion of coal in the Plant Reserve and Block B (0.8Mt). The Marketable Reserves decreased due to a change in the product mix, from mostly low grade domestic to purely high grade export, resulting in an increase in overall coal quality with an associated yield drop.

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

Springboklaagte: The mining right for Springboklaagte has been granted and awaits environmental licensing and permitting.

Umcebo

The remaining mine life of the individual operations range up to 9 years while brownfield extensions and greenfield projects can extend the life to beyond 2036. Expiry date of relevant mining/concession licenses are different for each mine, ranging from October 2020 to March 2037. Renewals have been granted for Klippan (renewal granted until 25 September 2022) and Norwesco (renewal granted until 3 October 2020). The Wonderfontein mining right, held by Umsimbithi, expires on 2 June 2037.

Klippan: The mine is currently closed but represents a potential future underground extension to the Wonderfontein Coal Resources.

Wonderfontein: Coal Resource depletion due to mining (-2.84Mt).

Wonderfontein is an opencast truck and shovel operation. The opencast Coal Resources include the No.1, No. 2, No. 3 and No. 4 seams. The Coal Reserves for Wonderfontein are sufficient to support a mine life of 9 years.

Coal Reserve depletion due to mining (-3.0Mt). Mine plan changes in Pit C and D due to the exclusion of uneconomic blocks resulting in a decrease of 3.8Mt. Coal Reserve losses due to the exclusion of weathered coal in Pit C and low quality coal left behind in pit C and D (-0.2Mt).

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 Hendrina Project is at an advanced exploration stage. It is planned to be developed as an underground mine to supply an Eskom-type product. A mining right application was accepted by the Department of Mineral Resources in June 2016. The application remains pending.

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.

The renewed prospecting right expired in October 2017. A mining right application, covering parts of the prospecting right area, was lodged in September 2017 and accepted on 11 October 2017. The mining right application outcome is pending.

Norwesco: There are no changes in Coal Resources or Coal Reserves for the current reporting period.

Coal

Americas

Name of operation	Attributable interest	Mining method	Commodity	Measured Coal Resources 2020	Measured Coal Resources 2019	Indicated Coal Resources 2020	Indicated Coal Resources 2019	Inferred Coal Resources 2020	Inferred Coal Resources 2019	CP	Extractable Coal Proved 2020	Extractable Coal Probable 2020	Saleable Proved 2020	Saleable Probable 2020	Total Saleable Coal 2020	Total Saleable Coal 2019	CP
Colombia																	
Calenturitas	100%		Thermal Coal (Mt)	140	140	130	120	60	60	KJW	-	-	-	-	-	70	OA
			CV (kcal/kg)	6,350	6,300	6,250	6,100	6,300	6,150		-	-	-	-	-	6,157	
La Jagua	100%		Thermal Coal (Mt)	50	50	25	27	-	-	KJW	-	-	-	-	-	65	OA
			CV (kcal/kg)	7,100	7,100	7,100	7,100	-	-		-	-	-	-	-	6,746	
Prodeco			**Thermal Coal (Mt)**	**190**	**190**	**155**	**147**	**60**	**60**		**-**	**-**	**-**	**-**	**-**	**135**	
Cerrejón	33.3%		Thermal Coal (Mt)	**3,300**	**3,250**	**1,250**	**1,250**	**600**	**600**	GH	**270**	**90**	**260**	**85**	**350**	**330**	SC
			CV	6,550	6,550	6,550	6,550	6,350	6,400		6,100	6,100	6,200	6,200	6,200	6,050	
Canada																	
Suska	75%		Coking/Thermal Coal (Mt)	-	-	13	13	90	90	KJW	-	-	-	-	-	-	n.a.
			CV (kcal/kg)	-	-	6,100	6,100	6,100	6,100		-	-	-	-	-	-	
Sukunka	75%		Coking Coal (Mt)	45	45	100	100	40	40	KJW	-	-	-	-	-	-	n.a.
Total Canada			**Coking/Thermal Coal (Mt)**	**45**	**45**	**113**	**113**	**130**	**130**		**-**	**-**	**-**	**-**	**-**	**-**	

Colombia

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

Coal Reserves take 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 2020.

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 2019 and 31 December 2020 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.

Values expressed in the text have not been rounded and therefore do not correlate directly with the tables

Prodeco

From 24 March 2020, the Prodeco mining operations at Calenturitas and La Jagua were temporarily suspended due to the direct impact of the Covid-19 pandemic. Thereafter, a review of operations determined that, in addition to a deteriorating market environment, there were increasing challenges with respect to obtaining several key approvals from government agencies. Applications were therefore made to the National Mining Agency (ANM) to place mining operations at Calenturitas and La Jagua on extended care and maintenance. Considering that such applications were declined by the ANM in December 2020 and on the basis that the challenging economic environment is expected to be sustained over the long term, all previously declared reserves have been removed until such time as a revised economic and reserve assessment has been completed.

Calenturitas: The geological model was updated in 2020 with exploration drilling supported by in-pit mapping. This resulted in minor changes to seam thickness, seam subcrop locations and coal resource polygons that led to an increase in coal resources of 6.0 Mtonne due to reinterpretation and modelling changes and 1.0 Mtonne resulting from changes in classification.

Exploration drilling of new areas containing seams C195 – C160 was included in Sector B and Sector CD.

Expiry date of Calenturitas' mining concession licenses is 2035.

La Jagua: The geological model was updated up to 2020 with new exploration drilling. Supported by in-pit mapping, this resulted in minor changes to seam thickness and seam subcrop locations. The geological model update which included the latest drill hole data and pit mapping resulted in a decrease of 0.7 Mt in Coal Resources.

Expiry date of mining/concession licenses: Carbones El Tesoro (CET), Consorcio Minero Unido (CMU) and Carbones de La Jagua (CDJ) is between 2027 and 2038.

Cerrejón:

In 2020, Coal Resources at Cerrejon totalling approximately 5,150Mt were reported as gross tonnes in situ within a 'geoshell' constrained by the horizontal and vertical distribution of data within the drill hole (data limits) envelope. Approximately 400Mt of the total coal resource are within the current LOM plan. The Coal Resources include that coal for which the continuity, quality and mineability are established but occur outside the LOM plan. Total resources exclude approximately 230Mt of coal within 1 km of major towns. Coal Resources comply with current and foreseen mining and marketing criteria and are considered to have reasonable prospects of eventual economic extraction.

Coal Reserves have increased due to additional planning resulting in increased tonnage in some mining areas (+32Mt) partially offset by depletion from mining (-13Mt).

The current mining rights expire in 2033.

Canada Coal Resources

Glencore's Canadian coal resources (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 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.

Coal Resource tonnage and quality are reported at an in situ moisture basis

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

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

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 2019	13	151	100	-	3	-	116	151	142
Revisions	1	1	(2)	-	2	-	1	1	1
Production	(3)	-	(1)	-	(1)	-	(5)	-	(5)
31 December 2020	**11**	**152**	**97**	**-**	**4**	**-**	**112**	**152**	**138**

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 2019	23	454	61	-	4	-	88	454	166
Revisions	3	(20)	-	-	(2)	-	1	(20)	(2)
31 December 2020	**26**	**434**	**61**		**2**		**89**	**434**	**164**

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

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 a Floating Production, Storage and Offloading facility ("FPSO"). Average 2020 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. 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 field was shut-in in November 2020 for the execution of the project that will enable gas to be commercialised (and no longer re-injected in the reservoir) in early 2021. Average 2020 gross production was ~6,700 barrels per day to end October 2020.

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 2020. Contingent resources are based on Glencore estimates and have been prepared in accordance with PRMS.

Chad
Glencore holds an 85% WI in the Badila and Mangara oil field Exclusive Exploitation Authorisations (EXAs) and a 75% WI in the Krim EXA. The Krim onshore field is due to come on stream in the next few years.

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. As a result of the COVID-19 pandemic, including the resulting disruptions to international mobility, transportation and supply chains, in April 2020, Glencore's wholly owned subsidiary, PetroChad (Mangara) Limited ("PCM") was forced to declare force majeure and cease production operations at the Badila and Mangara oil fields located in the Republic of Chad and the facilities were placed onto care and maintenance. Average 2020 Q1 gross production was ~12,600 barrels per day.

The Mangara field is an onshore development that has been producing since late December 2014. Oil is transported through an export pipeline to the Totco/Cotco pipeline with off-take at the Marine Terminal in Cameroon. Average 2020 Q1 gross production was ~3,700 barrels per day prior to the field being placed on care and maintenance as referrred above. 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 2020. Contingent resources are based on Glencore estimates and have been prepared in accordance with PRMS

Cameroon
The first phase of development of the Oak field (Bolongo license, 37.5% WI) came on stream on 7 August 2019. The field is currently produced from two platform wells tied back to third party infrastructure. Average 2020 gross production was ~7,000 barrels per day.

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 2020. Contingent resources are based on Glencore estimates and have been prepared in accordance with PRMS.

Competent Persons

Copper

Africa			
JE	Jacobus Engelbrecht	MAusIMM	Glencore
JP	Julian Poniewierski	AusIMM	Glencore
RH	Riann Herman	SACNSP	Independent consultant
TU	Tahir Usmani	P.Eng, APEGA	Kamoto Copper Company
Collahuasi			
AP	Alberto Perez Toledo	MAusIMM(CP)	Compañía Minera Doña Inés de Collahuasi
RO	Ronald Reycardo Ordezo Lozano	MAusIMM(CP)	Compañía Minera Doña Inés de Collahuasi
Antamina			
LC	Lucio Canchis	AusIMM	Compañía Minera Antamina
FA	Fernando Angeles	EGBC	Compañía Minera Antamina
Other South America			
EC	Edwin Cortes	AusIMM	Glencore
HB	Heller Bernabé	AusIMM	Glencore
JA	Javier Aymachoque	AusIMM	Independent consultant
MS	Mario Saez	CCCRRM (Chile)	Glencore
Australia			
EA	Eliseo Apaza	AusIMM	Glencore
HB	Helen Barnes	AusIMM	Glencore
JS	Jessica Shiels	AusIMM	Glencore
MC	Mike Corbett	AusIMM	Glencore
AS	Adriaan S. Engelbrecht	AusIMM	Glencore
SJ	Simon Jackson	AusIMM	Glencore
Other projects			
FM	Flavio Montini	AusIMM	Glencore
HW	Herbert Welhener	SME Registered Member	Independent Mining Consultants Inc.
RT	Raul Tarnovski	CCCRRM (Chile)	Anglo American
ZB	Zachary Black	SME Registered Member	Hard Rock Consulting LLC

Zinc

AC	Aline Côté	OGQ	Glencore
DH	Drew Herbert	AusIMM	Glencore
BD	Benoit Drolet	APGO	Glencore
JD	Julie Drapeau	OGQ	Glencore
AH	Allan Huard	APGO	Glencore
CF	Callum Fannin	AusIMM	Glencore
CH	Chris Hy	AIG	Glencore
KS	Keiran Swanton	PEO	Glencore
MM	Maxime Menard	OGQ	Glencore
LP	Lucy Potter	OGQ	Glencore

Nickel

PSA	Pierre St Antoine	OGQ	Glencore
RC	Richard Caumartin	OIQ	Glencore
JO	Jorge Oliveira	PGO	Glencore
RM	Robert Menin	AusIMM	Koniambo Nickel SAS
EB	Etienne Bernier	OIQ	Koniambo Nickel SAS
MR	Mitch Rohr	AusIMM	Minara Resources (Pty) Ltd
CW	Clifford Webster	AusIMM	Minara Resources (Pty) Ltd
SK	Stephen King	AusIMM	Minara Resources (Pty) Ltd

Ferroalloys

PJG	Pieter-Jan Gräbe	SACNASP	Glencore
SV	Solly Vaid	PLATO	Glencore
DR	Dean Richards	SACNASP	Obsidian Consulting Services
MM	Mogomotsi Maputle	SACNASP	Glencore
SM	Sydney Maseti	SACNASP	Glencore
JC	Jan Coetzer	SACNASP	Mokala Manganese

Aluminium

JB	John Bower	AusIMM	OBK Consulting (Pty) Ltd

Competent Persons

Iron ore

AM	Alan Miller	MAusIMM (CP)	Independent consultant
GB	Gabor Bacsfalusi	MAusIMM (CP)	SRK Consulting (UK) Ltd
MT	Malcolm Titley	MAusIMM (CP)	CSA Global (UK) Ltd
NS	Nicolas Szwedska	OIQ	BBA Inc
SvdM	Schalk van der Merwe	SACNASP	Independent consultant

Coal

New South Wales

APC	Andrew Connell	AusIMM	Glencore
AWF	Alison Freeman	AusIMM	Glencore
BOB	Brendan O'Brien	AusIMM	Glendell Open Cut
DJC	David Cahill	AusIMM	Ravensworth Open Cut
EAM	Ed McGonigle	AusIMM	Ulan Underground
HAE	Heath Evans	AusIMM	Ulan West Underground
HXJ	Hugh Jennings	AusIMM	Glencore
IAE	Isaac Eadndel	AusIMM	United Colliery
JET	John Terrill	AIG	Glencore
KJB	Konrad Bawelkiewicz	AusIMM	Glencore
LMP	Lyndon Pass	AusIMM	Encompass Mining
LRG	Leigh Gibson	AusIMM	Mount Owen Complex
MJL	Mark Laycock	AusIMM	Glencore
MAS	Michael Stadlier	AusIMM	Glencore
MRW	Mark Williams	AusIMM	Mangoola Open Cut
PJO	Paul Jones	AusIMM	Glencore
POG	Paul O'Grady	AusIMM	Glencore
PTP	Phuc Pham	AusIMM	United Colliery
SMI	Simone Ivanov	AusIMM	Bulga Surface Operations
STH	Shane Holmes	AusIMM	Glencore
VCE	Vronetsky Cediel	AusIMM	Ulan Surface Operations

Coal (cont.)

Queensland

APC	Andrew Connell	AusIMM	Glencore
EMI	Ewen Mills	AusIMM	Rolleston Coal
JLB	Jarrod Bennedick	AusIMM	Rolleston Coal
JET	John Terrill	AIG	Glencore
LEN	Larry Nielsen	AusIMM	Glencore
LMP	Lyndon Pass	AusIMM	Encompass Mining
MAS	Michael Stadlier	AusIMM	Glencore
MPL	Murray Little	AusIMM	Glencore
POG	Paul O'Grady	AusIMM	Glencore
PJO	Paul Jones	AusIMM	Glencore
RJH	Richard Hingst	AusIMM	Oaky Creek Coal
WTE	Whiteboy Tembo	AusIMM	Glencore

South Africa

CT	Chris Theart	SAIMM (706513)	Glencore
GC	Gerrit Cronjé	Pr Sc Nat 400128/86	Glencore
HG	Hugo Groebler	SAIMM	Glencore
KvD	Karin van Deventer	Pr Sc Nat 400705/15	Suger Bush Consultancy
MS	Marius Smith	Pr Sc Nat 400075/03	Glencore
TH	Trevor Howard	SAIMM (701062)	Glencore

Americas

OA	Oscar Alarcon	AusIMM	Prodeco
KJW	Kerry Whitby	AusIMM	McElroy Bryan Geological Services (Pty) Ltd
GH	German Hernandez	GSSA	Carbones del Cerrejón
SC	Shah Chaudari	AusIMM	Carbones del Cerrejón