Quarterly ReportJune 2019



South32 Limited (Incorporated in Australia under the *Corporations Act 2001* (Cth)) (ACN 093 732 597) ASX, LSE, JSE Share Code: S32 ADR: SOUHY

ISIN: AU000000S320

- Achieved record production at Hillside Aluminium and strong performance at Mozal Aluminium, despite an increase in load-shedding events in FY19.
- Increased production at Worsley Alumina by 12% in the June quarter due to an uplift in calciner availability as we deliver initiatives to sustainably increase to nameplate capacity from FY20.
- Maintained higher manganese ore production, delivering 5.5Mt into a strong market during the year, exceeding revised production guidance at South Africa Manganese and operating the Australia Manganese Premium Concentrate Ore (PC02) circuit above design capacity.
- Increased saleable production at Illawarra Metallurgical Coal by 57% to 6.6Mt, exceeding FY19 guidance following the successful completion of two longwall moves in the June quarter.
- Exceeded FY19 production guidance at Cannington, notwithstanding the impact of significant floods in North Queensland in the prior quarter.
- Production at South Africa Energy Coal was lower than expected in the June quarter as equipment availability and lower domestic sales of stockpiled product more than offset the benefit from the Klipspruit dragline's return to service in the prior quarter.
- Reported a Mineral Resource estimate for the Hermosa project's Taylor Deposit, advancing our pre-feasibility study and drill program to further test the deposit which remains open at depth and laterally.
- Continued to reshape and improve our portfolio, receiving bids for South Africa Energy Coal, commencing a review of options for our manganese alloy smelters and advancing studies for our development options.

"We had a strong finish to the year, with revenue equivalent production growing 10 per cent in the quarter and 3 per cent for the year.

"We achieved record annual production at Hillside Aluminium, increased production at Illawarra Metallurgical Coal by 57 per cent and delivered 5.5 million tonnes of manganese ore into a favourable market.

"We reached a key milestone at our Hermosa project declaring a Mineral Resource for the Taylor Deposit, de-risking our investment and increasing our confidence in the project as we advance the pre-feasibility study during FY20.

"We also continued to benefit from strong prices for our core commodities during the year, distributing US\$657 million in dividends to shareholders and allocating US\$281 million to our on-market buy-back. At year end we had completed US\$986 million of our approved US\$1 billion capital management program."

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Graham Kerr, South32 CEO

roduction summary			
South32 share	FY18	FY19	YoY
Alumina production (kt)	5,068	5,050	(0%)
Aluminium production (kt)	983	982	(0%)
Energy coal production (kt)	28,350	26,276	(7%)
Metallurgical coal production (kt)	3,165	5,350	69%
Manganese ore production (kwmt)	5,541	5,536	(0%)
Manganese alloy production (kt)	244	223	(9%)
Payable nickel production (kt)	43.8	41.1	(6%)
Payable silver production (koz)	12,491	12,201	(2%)
Payable lead production (kt)	104.4	101.4	(3%)
Payable zinc production (kt)	41.3	51.6	25%

Unless otherwise noted: percentage variance relates to performance during the financial year ended June 2019 compared with the financial year ended June 2018 (YoY) or the June 2019 quarter compared with the March 2019 quarter (QoQ); production and sales volumes are reported on an attributable basis. Revenue equivalent production is based on FY18 realised prices and total Group production.

Corporate Update

- We received bids for South Africa Energy Coal during the June 2019 quarter. We are currently engaging with the bidders regarding finalisation of their offers that will form part of the Group's usual bi-annual assessment of carrying values for our operations. Once an acceptable agreement is reached, a determination will be made regarding any reclassification of the operation as an asset held for sale on the balance sheet and a discontinued operation in the income statement. We expect to provide a further update to the market in the December 2019 half year.
- One-off redundancy and restructuring charges of approximately US\$30M (post-tax ~US\$20M) are expected to be recorded in our FY19 financial results. These charges will be excluded from Underlying earnings and relate to redundancies associated with the simplification of the Group's functional structures and the voluntary redundancy program undertaken at Hillside Aluminium during the June 2019 quarter.
- We bought back 114M shares for a cash consideration of US\$281M during FY19. To 30 June 2019 we had completed US\$986M of our approved US\$1B capital management program, comprising the purchase of 318M shares at an average price of A\$3.16 per share (US\$747M), a US\$154M special dividend which was paid on 5 April 2018 and a US\$85M special dividend which was paid on 4 April 2019.
- We received net distributions¹ of US\$458M (South32 share) from our manganese equity accounted investments (EAI) in FY19, including US\$132M in the June 2019 quarter.
- The primary corporate tax rates applicable to the Group include: Australia 30%, South Africa 28%, Colombia 33%², Mozambique 0%² and Brazil 34%. The disproportionate effect of intragroup agreements and other permanent differences can impact the Effective Tax Rate (ETR) of the Group when margins are compressed, or losses are incurred in specific jurisdictions. In the December 2018 half year our ETR was 37.3% and we expect the FY19 ETR to remain elevated given continued compressed margins at our aluminium smelters, as profits have moved upstream to our refineries which are located in higher tax rate jurisdictions. Separately, the Group made tax payments totalling US\$346M (excluding EAI) during FY19.

FY18	FY19	FY19e ^a	% ^b	Comments
3,764	3,795	3,795	0%	In-line with revised guidance
1,304	1,255	1,285	(2%)	Below revised guidance following lower than expected availability of package boilers
712	715	720	(1%)	
271	267	269	(1%)	
27,271	24,979	26,200	(5%)	Below revised guidance following: lower than expected domestic sales of stockpiled
15,154	14,978	15,500	(3%)	product; and lower than planned equipment
12,117	10,001	10,700	(7%)	availability impacting access to mining areas for export coal
4,244	6,647	6,500	2%	Above assisted assistance following incomes d
3,165	5,350	5,200	3%	Above revised guidance following improved longwall performance
1,079	1,297	1,300	(0%)	longwan performance
3,396	3,349	3,500	(4%)	Below revised guidance following extended wet weather
2,145	2,187	2,130	3%	Above revised guidance following stronger production of premium product from Wessels
43.8	41.1	40.5	1%	
187.2	193.6	188.1	3%	
12,491	12,201	11,750	4%	
104.4	101.4	98.0	3%	
41.3	51.6	51.0	1%	
	3,764 1,304 712 271 27,271 15,154 12,117 4,244 3,165 1,079 3,396 2,145 43.8 187.2 12,491 104.4	3,764 3,795 1,304 1,255 712 715 271 267 27,271 24,979 15,154 14,978 12,117 10,001 4,244 6,647 3,165 5,350 1,079 1,297 3,396 3,349 2,145 2,187 43.8 41.1 187.2 193.6 12,491 12,201 104.4 101.4	3,764 3,795 3,795 1,304 1,255 1,285 712 715 720 271 267 269 27,271 24,979 26,200 15,154 14,978 15,500 12,117 10,001 10,700 4,244 6,647 6,500 3,165 5,350 5,200 1,079 1,297 1,300 3,396 3,349 3,500 2,145 2,187 2,130 43.8 41.1 40.5 187.2 193.6 188.1 12,491 12,201 11,750 104.4 101.4 98.0	3,764 3,795 3,795 0% 1,304 1,255 1,285 (2%) 712 715 720 (1%) 271 267 269 (1%) 27,271 24,979 26,200 (5%) 15,154 14,978 15,500 (3%) 12,117 10,001 10,700 (7%) 4,244 6,647 6,500 2% 3,165 5,350 5,200 3% 1,079 1,297 1,300 (0%) 3,396 3,349 3,500 (4%) 2,145 2,187 2,130 3% 43.8 41.1 40.5 1% 187.2 193.6 188.1 3% 12,491 12,201 11,750 4% 104.4 101.4 98.0 3%

a. The denotation (e) refers to an estimate or forecast year.

b. Percentage difference to latest production guidance. Worsley Alumina, Brazil Alumina, South Africa Energy Coal, Illawarra Metallurgical Coal, Australia Manganese and South Africa Manganese restated FY19 production guidance during the 2019 financial year. FY19 guidance as at FY18 results: Worsley Alumina (alumina 3,965kt), Brazil Alumina (alumina 1,355kt), South Africa Energy Coal (domestic coal 17,500kt, export coal 11,500kt), Illawarra Metallurgical Coal (metallurgical coal 4,900kt, energy coal 1,200kt), Australia Manganese (manganese ore 3,350kwmt) and South Africa Manganese (manganese ore 2,050kwmt).

Marketing Update

Realised prices ⁶	FY18	1H19	2H19	FY19	FY19 vs	2H19 vs
Worsley Alumina					FY18	1H19
Alumina (US\$/t)	391	458	383	420	7%	(16%)
Brazil Alumina						,
Alumina (US\$/t)	411	504	409	456	11%	(19%)
Hillside Aluminium						
Aluminium (US\$/t)	2,226	2,144	1,922	2,035	(9%)	(10%)
Mozal Aluminium						
Aluminium (US\$/t)	2,296	2,171	1,986	2,075	(10%)	(9%)
South Africa Energy Coal						
Domestic coal (US\$/t)	25	22	26	24	(4%)	18%
Export coal (US\$/t)	79	83	59	69	(13%)	(29%)
Illawarra Metallurgical Coal						
Metallurgical coal (US\$/t)	203	207	210	209	3%	1%
Energy coal (US\$/t)	76	68	62	66	(13%)	(9%)
Australia Manganese ⁷						
Manganese ore (US\$/dmtu, FOB)	6.38	6.59	6.11	6.35	(0%)	(7%)
South Africa Manganese ⁸						
Manganese ore (US\$/dmtu, FOB)	5.21	5.85	5.29	5.57	7%	(10%)
Cerro Matoso ⁹						
Payable nickel (US\$/lb)	5.86	5.20	5.58	5.38	(8%)	7%
Cannington						
Payable silver (US\$/oz)	16.6	14.7 ^(a)	14.2 ^(a)	14.4 ^(a)	(13%)	(3%)
Payable lead (US\$/t)	2,463	1,656 ^(a)	1,838 ^(a)	1,754 ^(a)	(29%)	11%
Payable zinc (US\$/t)	3,185	2,146 ^(a)	2,096 ^(a)	2,122 ^(a)	(33%)	(2%)

⁽a) FY19 realised prices for Cannington reflect the Group's adoption of AASB 15 Revenue from Contracts with Customers, with revenue recognised net of treatment and refining charges, which will no longer be treated as an expense item. These changes result in lower realised prices and Operating unit costs, with no net impact to earnings. Prior period realised prices have not been restated to reflect these changes.

Development and Exploration Update

- We reported a Mineral Resource estimate for the first time during the June 2019 quarter for the Taylor Deposit, which forms part of the Hermosa project¹⁰. The Mineral Resource was reported in accordance with the JORC Code (2012) guidelines at 155 million tonnes, averaging 3.39% zinc, 3.67% lead and 69 g/t silver with a contained 5.3 million tonnes of zinc, 5.7 million tonnes of lead and 344 million ounces of silver¹¹. The Mineral Resource remains open at depth and laterally, with multiple targets to be tested as we advance our extensive surface drilling program in parallel with our pre-feasibility study. We expect to conclude the pre-feasibility study before the end of FY20.
- We continued our drilling program at the Eagle Downs Metallurgical Coal project to further support the completion of the feasibility study ahead of a final investment decision scheduled for the December 2020 half year.
- We invested US\$34M in our early stage greenfield exploration projects during FY19. This included US\$10M to maintain our option with Trilogy Metals Inc. (TSX:TMQ) for the third and final year, retaining our right to earn a 50% interest in the Upper Kobuk Mineral projects in Alaska by committing approximately US\$150M to a 50:50 joint venture by 31 January 2020.
- We directed US\$42M towards exploration programs at our existing operations in FY19 (US\$30M capitalised). This included US\$2M for our EAI (US\$1M capitalised) and US\$18M at the Hermosa project (all capitalised).

Worsley Alumina

(86% share)

South32 share	FY18	FY19	YoY	4Q18	3Q19	4Q19	4Q19 vs 4Q18	4Q19 vs 3Q19
Alumina production (kt)	3,764	3,795	1%	981	893	996	2%	12%
Alumina sales (kt)	3,763	3,857	2%	967	936	1,036	7%	11%

Worsley Alumina saleable production increased by 1% (or 31kt) to 3.8Mt in FY19, with the refinery finishing the year on a strong note as an increase in calciner availability underpinned a 12% increase in production in the June 2019 quarter. Calcined alumina production is expected to approach nameplate capacity of 4.6Mt (100% basis) in FY20 as we further benefit from initiatives that are expected to sustainably improve calciner availability and the refinery processes excess hydrate stocks. Notwithstanding the strong finish to FY19, lower than budgeted volumes, higher caustic soda consumption and additional maintenance costs are expected to result in a modest increase in Operating unit costs from our prior guidance of US\$227/t.

The average realised price for alumina sales in FY19 was a discount of approximately 5% to the Platts Alumina Index (PAX)¹² on a volume weighted M-1 basis. This discount narrowed to 1% in the June 2019 half year and reflects the structure of specific legacy supply contracts with our Mozal Aluminium smelter that are linked to the LME aluminium price and the elevated alumina to aluminium price ratio in the spot market during FY19. All alumina sales to other customers were at market based prices.

Brazil Alumina

(36% share)

South32 share	FY18	FY19	YoY	4Q18	3Q19	4Q19	4Q19 vs 4Q18	4Q19 vs 3Q19
Alumina production (kt)	1,304	1,255	(4%)	314	308	311	(1%)	1%
Alumina sales (kt)	1,341	1,240	(8%)	378	247	374	(1%)	51%

Brazil Alumina saleable production decreased by 4% (or 49kt) to 1,255kt in FY19 as boiler performance and power outages impacted production and our ability to realise the full benefits of the De-bottlenecking Phase One project. The addition of package boilers in the June 2019 quarter is expected to improve the reliability of steam generation at the refinery in FY20. Sales increased by 51% in the June 2019 quarter following a slipped shipment from the prior quarter.

Hillside Aluminium

(100%)

South32 share	FY18	FY19	YoY	4Q18	3Q19	4Q19	4Q19 vs 4Q18	4Q19 vs 3Q19
Aluminium production (kt)	712	715	0%	179	176	179	0%	2%
Aluminium sales (kt)	711	707	(1%)	183	156	191	4%	22%

Hillside Aluminium saleable production increased by 3kt to a record 715kt in FY19 as the smelter continued to test its maximum technical capacity, despite an increase in the frequency of load-shedding events. Sales increased by 22% in the June 2019 quarter reflecting the timing of shipments.

In order to ensure the smelter's ongoing sustainability and to improve its cost competitiveness, we completed a restructure of the workforce during the June 2019 quarter. Notwithstanding the restructure, which is expected to deliver cost savings from FY20, and the continued strong operating performance during the year, lower aluminium prices and elevated raw material input costs, are expected to result in the smelter recording a loss in FY19.

Mozal Aluminium

(47.1% share)

South32 share	FY18	FY19	YoY	4Q18	3Q19	4Q19	4Q19 vs 4Q18	4Q19 vs 3Q19
Aluminium production (kt)	271	267	(1%)	67	66	66	(1%)	0%
Aluminium sales (kt)	274	268	(2%)	76	69	70	(8%)	1%

Mozal Aluminium saleable production decreased by 1% (or 4kt) to 267kt in FY19 as the smelter's strong operating performance was impacted by an increase in the frequency of load-shedding events.

Notwithstanding the smelter's continued strong operating performance during the year, lower aluminium prices and elevated power and raw material input costs, are expected to result in the smelter recording a loss in FY19. In order to improve the smelter's cost competitiveness we commenced relining pots with AP3XLE energy efficiency technology during FY19. The project is expected to deliver a circa 5% (or 10kt pa) increase in annual production with no associated increase in power consumption. First incremental production is anticipated in FY20, with the full benefit to be realised by FY24.

South Africa Energy Coal

(100%)

South32 share	FY18	FY19	YoY	4Q18	3Q19	4Q19	4Q19 vs 4Q18	4Q19 vs 3Q19
Energy coal production (kt)	27,271	24,979	(8%)	7,107	6,098	6,710	(6%)	10%
Domestic sales (kt)	15,396	15,035	(2%)	4,227	3,950	3,336	(21%)	(16%)
Export sales (kt)	12,518	9,875	(21%)	3,181	2,547	3,122	(2%)	23%

South Africa Energy Coal saleable production decreased by 8% (or 2,292kt) to 25.0Mt in FY19, as export sales volumes were impacted by an extended outage of the Klipspruit dragline following an incident in August 2018.

Although domestic sales were largely unchanged in FY19, volumes declined by 16% in the June 2019 quarter following reduced sales of lower quality stockpiled product. Export sales volumes improved by 23% in the June 2019 quarter following a ramp-up of activity at Klipspruit after the dragline's return to service in the prior quarter.

The incident that caused the extended outage of the dragline has been confirmed as an insurable event, with an initial progress payment for the volume and cost impact of the outage awarded in June. Notwithstanding the initial progress payment for the insurance claim offsetting the impact of lower volumes, additional mining costs for concurrent rehabilitation work are expected to contribute to a modest increase in Operating unit costs from our prior FY19 guidance of US\$38/t.

Illawarra Metallurgical Coal

(100%

South32 share	FY18	FY19	YoY	4Q18	3Q19	4Q19	4Q19 vs 4Q18	4Q19 vs 3Q19
Total coal production (kt)	4,244	6,647	57%	1,235	1,202	1,605	30%	34%
Total coal sales (kt)	4,116	6,306	53%	1,365	1,531	1,516	11%	(1%)
Metallurgical coal production (kt)	3,165	5,350	69%	1,089	990	1,278	17%	29%
Metallurgical coal sales (kt)	2,937	5,044	72%	1,120	1,256	1,261	13%	0%
Energy coal production (kt)	1,079	1,297	20%	146	212	327	124%	54%
Energy coal sales (kt)	1,179	1,262	7%	245	275	255	4%	(7%)

Illawarra Metallurgical Coal saleable production increased by 57% (or 2,403kt) to 6.6Mt in FY19 as the Dendrobium and Appin longwalls continued to perform strongly following the successful completion of two longwall moves in the June 2019 quarter. Development performance at Appin continued to improve in the June 2019 quarter and our focus remains on achieving a further uplift in rates to support a sustainable return to a three longwall configuration at Illawarra Metallurgical Coal during the June 2020 quarter.

We submitted our Environmental Impact Statement to the NSW Department of Planning and Environment for the Dendrobium Next Domain project during the June 2019 quarter. While still subject to necessary regulatory approvals, the project has the potential to extend the mine life of Dendrobium to approximately FY36, with a financial investment decision anticipated in H2 FY21.

Australia Manganese

(60% share)

South32 share	FY18	FY19	YoY	4Q18	3Q19	4Q19	4Q19 vs 4Q18	4Q19 vs 3Q19
Manganese ore production (kwmt)	3,396	3,349	(1%)	865	820	718	(17%)	(12%)
Manganese ore sales (kwmt)	3,290	3,438	4%	875	782	916	5%	17%
Manganese alloy production (kt)	165	154	(7%)	42	38	40	(5%)	5%
Manganese alloy sales (kt)	170	151	(11%)	55	29	46	(16%)	59%

Australia Manganese saleable ore production decreased by 1% (or 47kwmt) to 3,349kwmt in FY19 as production was impacted by the annual wet season extending into the June 2019 quarter. We achieved record ore sales of 3,438kwmt in FY19, drawing down inventory stockpiles in the June 2019 quarter and operating our PC02 circuit at approximately 120% of its design capacity to take advantage of strong market conditions.

Our low cost PC02 fines product has a manganese content of approximately 40%, which leads to both grade and product-type discounts when referenced to the high grade 44% manganese lump ore index. Notwithstanding the PC02 circuit contributing 10% of total production, our average realised price for external sales of Australian ore was in-line with the high grade 44% manganese lump ore index¹³ in FY19. Internal sales continue to occur on commercial terms.

Manganese alloy saleable production decreased by 7% (or 11kt) to 154kt in FY19. We continue to review options for our manganese alloy smelters as changes in market dynamics have reduced the attractiveness of our exposure and we will update the market in due course.

South Africa Manganese

(60% share)

South32 share	FY18	FY19	YoY	4Q18	3Q19	4Q19	4Q19 vs 4Q18	4Q19 vs 3Q19
Manganese ore production ⁴ (kwmt)	2,145	2,187	2%	477	540	572	20%	6%
Manganese ore sales (kwmt)	2,082	2,113	1%	539	530	573	6%	8%
Manganese alloy production (kt)	79	69	(13%)	22	14	22	0%	57%
Manganese alloy sales (kt)	67	73	9%	18	16	22	22%	38%

South Africa Manganese saleable ore production increased by 2% (or 42kwmt) to 2,187kwmt in FY19 as productivity improvements at our high grade Wessels mine delivered an increase in premium material. Notwithstanding the impact of additional volumes, we are expecting a modest increase in Operating unit costs from our prior FY19 guidance of US\$2.56/dmtu as we continued to take advantage of favourable market conditions by increasing workforce activity and utilising higher cost trucking as an alternative route to market.

In FY19 our average realised price for external sales of South African ore reflects the medium grade 37% manganese lump ore index (FOB Port Elizabeth, South Africa)¹⁴ as increased production of higher quality premium material was offset by the contribution of our lower quality fines product (6% FY19; 13% FY18). We continue to monitor market conditions and will optimise our use of higher cost trucking and sales of lower quality fines product in response to market demand.

Manganese alloy saleable production decreased by 13% (or 10kt) to 69kt in FY19. We continue to review options for our manganese alloy smelters as changes in market dynamics have reduced the attractiveness of our exposure and we will update the market in due course.

Cerro Matoso

(99.9% share)

South32 share	FY18	FY19	YoY	4Q18	3Q19	4Q19	4Q19 vs 4Q18	4Q19 vs 3Q19
Payable nickel production (kt)	43.8	41.1	(6%)	11.3	9.4	10.6	(6%)	13%
Payable nickel sales (kt)	43.3	41.2	(5%)	11.2	9.1	10.8	(4%)	19%

Cerro Matoso payable nickel production decreased by 6% (or 2.7kt) to 41.1kt in FY19 following a planned increase in the contribution of lower grade stockpiled ore feed.

Finalisation adjustments and the provisional pricing of nickel sales decreased Underlying EBIT¹⁵ by US\$9M in FY19 (US\$19M FY18; -US\$16M H1 FY19). Outstanding nickel sales of 3.89kt were revalued at 30 June 2019. The final price of these sales will be determined in the December 2019 half year.

(100% share)

South32 share	FY18	FY19	YoY	4Q18	3Q19	4Q19	4Q19 vs 4Q18	4Q19 vs 3Q19
Payable zinc equivalent production ⁵ (kt)	187.2	193.6	3%	58.9	44.9	53.5	(9%)	19%
Payable silver production (koz)	12,491	12,201	(2%)	4,234	2,881	3,253	(23%)	13%
Payable silver sales (koz)	11,985	13,034	9%	3,542	1,820	4,874	38%	168%
Payable lead production (kt)	104.4	101.4	(3%)	31.4	24.8	28.3	(10%)	14%
Payable lead sales (kt)	97.9	101.5	4%	25.8	12.7	41.7	62%	228%
Payable zinc production (kt)	41.3	51.6	25%	12.5	10.7	14.6	17%	36%
Payable zinc sales (kt)	45.0	47.6	6%	13.0	7.2	15.7	21%	118%

Cannington payable zinc equivalent production increased by 3% (or 6.4kt) to 193.6kt in FY19 as improved productivity underground supported higher mill throughput and zinc grades improved in accordance with our expectations. Higher payable silver, lead and zinc sales in the June 2019 quarter reflect timing differences following significant floods in North Queensland in the prior quarter that caused an extended outage of a third-party rail line connecting Cannington to the Townsville Port.

Finalisation adjustments and the revaluation of provisionally priced sales of Cannington concentrates will decrease Underlying EBIT by US\$8.2M in FY19 (US\$0.1M FY18; -US\$9.8M H1 FY19). Outstanding concentrate sales (containing 3Moz of silver, 29.2kt of lead and 5.6kt of zinc) were revalued at 30 June 2019. The final price of these sales will be determined in the December 2019 half year.

Notes:

- 1. Net distributions from equity accounted investments includes net debt movements and dividends, which are unaudited and should not be considered as an indication of or alternative to an IFRS measure of profitability, financial performance or liquidity.
- 2. The Colombian corporate tax rate was 40% during CY17, 37% during CY18 and is 33% in CY19. The corporate tax rate will decrease on an annual basis by a percent each year, stabilising at 30% from 1 January 2022. The Mozambique operations are subject to a royalty on revenues instead of income tax.
- 3. 8% of South Africa Energy Coal is owned by a Broad-Based Black Economic Empowerment (B-BBEE) consortium. The interests owned by the B-BBEE consortium were acquired using vendor finance, with the loans repayable to South32 via distributions attributable to these parties, pro rata to their share in South Africa Energy Coal. Until these loans are repaid, South32's interest in South Africa Energy Coal is accounted at 100%.
- Consistent with the presentation of South32's segment information, South Africa Manganese ore and sales have been reported at 60%. The Group's financial statements will continue to reflect a 54.6% interest in South Africa Manganese ore.
- 5. Payable zinc equivalent (kt) is calculated by aggregating Revenue from payable silver, lead and zinc, and dividing the total Revenue by the price of zinc. FY18 realised prices for zinc (US\$3,185/t), lead (US\$2,463/t) and silver (US\$16.6/oz) have been used for FY18, FY19 and FY19e.
- 6. Realised prices are unaudited. Volumes and prices do not include any third party trading that may be undertaken independently of equity production. Realised sales price is calculated as sales Revenue divided by sales volume unless otherwise stated.
- 7. Realised ore prices are unaudited and calculated as external sales Revenue less freight and marketing costs, divided by external sales volume. Ore converted to sinter and alloy, and sold externally, is eliminated as an intracompany transaction.
- 8. Realised ore prices are unaudited and calculated as external sales Revenue less freight and marketing costs, divided by external sales volume. Ore converted to sinter and alloy, and sold externally, is eliminated as an intracompany transaction. Manganese ore sales are grossed-up to reflect a 60% accounting effective interest.
- 9. Realised nickel sales prices are unaudited and inclusive of by-products.
- 10. Information that relates to estimates of Mineral Resources for the Clark Deposit (formally the Central Deposit) of the Hermosa project are foreign estimates under ASX Listing Rules and are not reported in accordance with the JORC Code. Reference should be made to the clarifying statement on Mineral Resources in the market announcement "South32 to acquire Arizona Mining in agreed all cash offer" dated 18 June 2018, in accordance with ASX Listing Rule 5.12. South32 is not in possession of any new information or data relating to the foreign estimate that materially impacts on the reliability of the estimate or has the ability to verify the foreign estimate as a Mineral Resource in accordance with the JORC Code. South32 confirms that the supporting information contained in the clarifying statement in the 18 June 2018 market announcement continues to apply and has not materially changed. Competent Persons have not done sufficient work to classify the foreign estimates as Mineral Resources in accordance with JORC Code. It is uncertain that following evaluation and further exploration that the foreign estimates will be able to be reported as Mineral Resources or Ore Reserves in accordance with the JORC Code. South32 intends to conduct a work program to increase confidence in the resource to ensure that resources are reported in accordance with the JORC Code.
- 11. The information that relates to the Mineral Resources of the Taylor Deposit was declared in the market announcement "Hermosa Project Mineral Resource Declaration" dated 17 June 2019 (www.south32.net) based on information compiled by Matthew Readford, Competent Person. South32 confirms that it is not aware of any new information or data that materially affects the information included in the original announcement. All material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. South32 confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.
- 12. The quarterly sales volume weighted average of the Platts Alumina Index (PAX) (FOB Australia) on the basis of a one month lag to published pricing (Month minus one or "M-1") was US\$443/t in FY19.
- 13. The quarterly sales volume weighted average of the Metal Bulletin 44% manganese lump ore index (CIF Tianjin, China) on the basis of a one month lag to published pricing (Month minus one or "M-1") was US\$6.74/dmtu in FY19.
- 14. The quarterly sales volume weighted average of the Metal Bulletin 37% manganese lump ore index (FOB Port Elizabeth, South Africa) on the basis of a one month lag to published pricing (Month minus one or "M-1") was US\$5.61/dmtu in FY19.
- 15. Underlying EBIT is earnings before net finance costs, taxation and any earnings adjustments. Underlying EBIT is reported net of South32's share of net finance costs and taxation of equity accounted investments.
- 16. The following abbreviations have been used throughout this report: US\$ million (US\$M); US\$ billion (US\$B); grams per tonne (g/t); tonnes (t); thousand tonnes (kt); thousand tonnes per annum (ktpa); million tonnes (Moz); thousand ounces (koz); million ounces (Moz); thousand wet metric tonnes (kwmt); million wet metric tonnes (Mwmt); million wet metric tonnes (property); thousand dry metric tonnes (kdmt).

Operating Performance

South32 share	FY18	FY19	4Q18	1Q19	2Q19	3Q19	4Q19
Worsley Alumina (86% share)							
Alumina hydrate production (kt)	3,796	3,802	911	959	988	921	934
Alumina production (kt)	3,764	3,795	981	854	1,052	893	996
Alumina sales (kt)	3,763	3,857	967	850	1,035	936	1,036
Brazil Alumina (36% share)				·			
Alumina production (kt)	1,304	1,255	314	305	331	308	311
Alumina sales (kt)	1,341	1,240	378	302	317	247	374
Hillside Aluminium (100%)							
Aluminium production (kt)	712	715	179	180	180	176	179
Aluminium sales (kt)	711	707	183	178	182	156	191
Mozal Aluminium (47.1% share)							
Aluminium production (kt)	271	267	67	68	67	66	66
Aluminium sales (kt)	274	268	76	59	70	69	70
South Africa Energy Coal (100%)							
Energy coal production (kt)	27,271	24,979	7,107	6,170	6,001	6,098	6,710
Domestic sales (kt)	15,396	15,035	4,227	4,103	3,646	3,950	3,336
Export sales (kt)	12,518	9,875	3,181	1,923	2,283	2,547	3,122
Illawarra Metallurgical Coal (100%)							
Total coal production (kt)	4,244	6,647	1,235	1,905	1,935	1,202	1,605
Total coal sales (kt)	4,116	6,306	1,365	1,504	1,755	1,531	1,516
Metallurgical coal production (kt)	3,165	5,350	1,089	1,515	1,567	990	1,278
Metallurgical coal sales (kt)	2,937	5,044	1,120	1,178	1,349	1,256	1,261
Energy coal production (kt)	1,079	1,297	146	390	368	212	327
Energy coal sales (kt)	1,179	1,262	245	326	406	275	255
Australia Manganese (60% share)							
Manganese ore production (kwmt)	3,396	3,349	865	932	879	820	718
Manganese ore sales (kwmt)	3,290	3,438	875	884	856	782	916
Ore grade sold (%, Mn)	45.7	45.9	45.7	46.1	45.8	45.8	46.0
Manganese alloy production (kt)	165	154	42	41	35	38	40
Manganese alloy sales (kt)	170	151	55	29	47	29	46
South Africa Manganese (60% share)							
Manganese ore production ⁴ (kwmt)	2,145	2,187	477	515	560	540	572
Manganese ore sales (kwmt)	2,082	2,113	539	487	523	530	573
Ore grade sold (%, Mn)	39.9	40.5	39.1	40.0	40.5	39.7	41.7
Manganese alloy production (kt)	79	69	22	11	22	14	22
-							
Manganese alloy sales (kt)	67	73	18	16	19	16	22

South32 share	FY18	FY19	4Q18	1Q19	2Q19	3Q19	4Q19
Cerro Matoso (99.9% share)							
Ore mined (kwmt)	3,741	2,278	823	613	596	645	424
Ore processed (kdmt)	2,722	2,738	710	712	689	634	703
Ore grade processed (%, Ni)	1.79	1.66	1.73	1.68	1.69	1.63	1.65
Payable nickel production (kt)	43.8	41.1	11.3	10.7	10.4	9.4	10.6
Payable nickel sales (kt)	43.3	41.2	11.2	10.9	10.4	9.1	10.8
Cannington (100%)							
Ore mined (kwmt)	2,463	2,725	683	623	683	648	771
Ore processed (kdmt)	2,355	2,495	643	638	606	547	704
Silver ore grade processed (g/t, Ag)	194	184	237	184	181	202	172
Lead ore grade processed (%, Pb)	5.3	5.0	5.8	4.9	4.7	5.6	4.8
Zinc ore grade processed (%, Zn)	2.6	3.0	2.8	2.9	3.0	3.0	3.0
Payable Zinc equivalent production ⁵ (kt)	187.2	193.6	58.9	49.7	45.5	44.9	53.5
Payable silver production (koz)	12,491	12,201	4,234	3,185	2,882	2,881	3,253
Payable silver sales (koz)	11,985	13,034	3,542	3,057	3,283	1,820	4,874
Payable lead production (kt)	104.4	101.4	31.4	25.8	22.5	24.8	28.3
Payable lead sales (kt)	97.9	101.5	25.8	22.5	24.6	12.7	41.7
Payable zinc production (kt)	41.3	51.6	12.5	13.2	13.1	10.7	14.6
Payable zinc sales (kt)	45.0	47.6	13.0	8.8	15.9	7.2	15.7

Forward-looking statements

This release contains forward-looking statements, including statements about trends in commodity prices and currency exchange rates; demand for commodities; production forecasts; plans, strategies and objectives of management; capital costs and scheduling; operating costs; anticipated productive lives of projects, mines and facilities; and provisions and contingent liabilities. These forward-looking statements reflect expectations at the date of this release, however they are not guarantees or predictions of future performance. They involve known and unknown risks, uncertainties and other factors, many of which are beyond our control, and which may cause actual results to differ materially from those expressed in the statements contained in this release. Readers are cautioned not to put undue reliance on forward-looking statements. Except as required by applicable laws or regulations, the South32 Group does not undertake to publicly update or review any forward-looking statements, whether as a result of new information or future events. Past performance cannot be relied on as a guide to future performance.

Further information

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