

APPENDIX 4E

SOUTH32 LIMITED

(ABN 84 093 732 597)

RESULTS FOR ANNOUNCEMENT TO THE MARKET

This page and the accompanying 41 pages comprise the year end financial information given to the Australian Securities Exchange (ASX) under Listing Rule 4.3A. This statement includes the unaudited consolidated results of the South32 Group for the year ended 30 June 2019 (FY19) compared with the year ended 30 June 2018 (FY18) on a statutory basis.

US\$M	FY19	FY18	%
Revenue	7,274	7,549	down 4%
Profit/(loss) after tax	389	1,332	down 71%
Underlying earnings	992	1,327	down 25%

Net tangible assets per share

Net tangible assets per ordinary share were US\$1.98 as at 30 June 2019 (US\$2.05 as at 30 June 2018).

Dividends

The Board has resolved to pay a final dividend of US 2.8 cents per share (fully franked) for the year ended 30 June 2019.

The record date for determining entitlements to dividends is 13 September 2019; payment date is 10 October 2019.

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Financial Results and Outlook

Year ended 30 June 2019



22 August 2019

ASX, LSE, JSE Share Code: S32 ADR: SOUHY

South32 delivers strong operating result, reshapes portfolio and increases returns to shareholders

“Our strong operating result delivered Underlying EBITDA of US\$2.2B for an operating margin of 34 per cent and free cash flow of US\$1B. We finished the year with a net cash balance of US\$504M, having returned US\$938M to shareholders during the period.

“We achieved record production at Hillside Aluminium, a 57 per cent increase in volumes at Illawarra Metallurgical Coal and strong manganese ore production of 5.5 million tonnes, underpinning a 3 per cent increase in Group production volumes.

“We continued to reshape and improve our portfolio, funding the acquisitions of the Hermosa project and a 50 per cent interest in the Eagle Downs Metallurgical Coal project from our cash reserves and announcing the review of our manganese alloys business.

“We released a Mineral Resource estimate for the Taylor deposit at Hermosa, which was a key milestone as we progress one of the most exciting base metals projects in the industry. Work undertaken since its acquisition has significantly de-risked our investment, increased our confidence in the project and confirmed its ability to deliver strong returns to shareholders over many decades.

“Subsequent to the end of the year, we have entered into exclusive negotiations with Seriti Resources to finalise its offer to acquire our South Africa Energy Coal business. The divestment will significantly reduce the Group’s sustaining capital intensity, further strengthen our balance sheet and improve margins.

“Looking ahead our portfolio will include industry leading positions in alumina and manganese and we will continue to embed development options with a bias to base metals that have the potential to deliver meaningful growth in shareholder value.

“Demonstrating our strong financial position and positive outlook for costs and production, today we announced a US\$140M fully franked dividend and an increase in our capital management program of US\$250M to US\$1.25B, leaving US\$264M expected to be returned by 4 September 2020.”

Graham Kerr, South32 CEO

Financial highlights			
US\$M	FY19	FY18	% Change
Revenue ⁽¹⁾	7,274	7,549	(4%)
Profit/(loss) before tax and finance cost	887	1,719	(48%)
Profit/(loss) after tax and finance cost	389	1,332	(71%)
Basic earnings per share (US cents) ⁽²⁾	7.7	25.8	(70%)
Ordinary dividends per share (US cents) ⁽³⁾	7.9	10.5	(25%)
Special dividends per share (US cents) ⁽⁴⁾	1.7	3.0	(43%)
Other financial measures			
Underlying EBITDA ⁽⁵⁾	2,197	2,516	(13%)
Underlying EBITDA margin ⁽⁶⁾	33.9%	37.3%	(3.4%)
Underlying EBIT ⁽⁵⁾	1,440	1,774	(19%)
Underlying EBIT margin ⁽⁷⁾	22.2%	26.2%	(4.0%)
Underlying earnings ⁽⁵⁾	992	1,327	(25%)
Basic Underlying earnings per share (US cents) ⁽²⁾	19.7	25.7	(23%)
ROIC ⁽⁸⁾	11.1%	15.0%	(3.9%)
Ordinary shares on issue (million)	5,006	5,120	(2.2%)

Safety

The most important commitment we make at South32 is to ensure everyone goes home safe and well. Built on our internal safety standards and risk management system, we provide clear global expectations on how our operations can proactively identify and manage safety risk. Our Total Recordable Injury Frequency (TRIF)⁽⁹⁾⁽¹⁰⁾ improved by 12% to 4.5 per million hours worked, compared with our FY18 TRIF of 5.1.

In June 2019 we released our 2019 Tailings Storage Facilities Management report, consistent with our commitments to the International Council on Metals and Mining Position Statement on Preventing Catastrophic Failure of Tailings Storage Facilities. This report details our approach to tailings management and we remain committed to international best practice in the management and disposal of tailings at our operations.

Performance summary

The Group's statutory profit after tax decreased by 71% to US\$389M in FY19 following the recognition of impairment charges totalling US\$504M (US\$578M post-tax, including de-recognition of deferred tax assets) in relation to our South Africa Energy Coal operation.

Underlying earnings decreased by 25% (or US\$335M) to US\$992M as our strong operating performance that delivered a 3%⁽¹¹⁾ increase in Group production volumes, and cost reduction initiatives across labour, energy and materials usage were more than offset by lower aluminium and thermal coal prices. Basic Underlying earnings per share decreased by a lesser 23% to US 19.7 cents per share as we benefitted from the continuation of our on-market share buy-back program which has reduced our shares on issue by 6%⁽¹²⁾ since its commencement.

Specific highlights for the year included:

- Record production at Hillside Aluminium and strong performance at Mozal Aluminium, despite an increase in load-shedding events;
- A 57% increase in production at Illawarra Metallurgical Coal as the Appin colliery continued to ramp-up towards historical rates;
- Manganese ore production of 5.5Mt with South Africa Manganese exceeding guidance and Australia Manganese operating the Premium Concentrate Ore (PCO2) circuit at approximately 120% of its design capacity;
- The acquisition of the remaining 83% interest in Arizona Mining⁽¹³⁾ for US\$1.4B (including transaction costs), which adds the Hermosa project and a prospective land package to our portfolio;
- A first time Mineral Resource estimate in accordance with the JORC Code (2012) guidelines for the Taylor deposit⁽¹⁴⁾, which forms part of the Hermosa project⁽¹⁵⁾, de-risking our investment and increasing our confidence in the project as we advance its pre-feasibility study;
- The commencement of a feasibility study at Eagle Downs Metallurgical Coal, following our acquisition of a 50% interest in the project and assumption of operating control for US\$106M⁽¹⁶⁾;
- Payment of the third and final instalment (US\$10M) to maintain our option with Trilogy Metals Inc. (TSX:TMQ) 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; and
- Subsequent to the end of the financial year we entered into exclusive negotiations with Seriti Resources Holdings Pty Limited as we work towards finalisation of its indicative offer to acquire our South Africa Energy Coal business. We provided a further update on the status of the divestment process in our market announcement "South Africa Energy Coal Divestment Update and Impairment" dated 22 August 2019.

We finished the year with a net cash balance of US\$504M having generated free cash flow from operations, including distributions from our manganese EAI, of US\$1.0B. Our strong financial position allowed us to return US\$762M to shareholders in respect of the period. This included payment of a US\$256M fully franked interim dividend and declaration of a US\$140M fully franked final dividend in accordance with our dividend policy, which seeks to return a minimum 40% of Underlying earnings in each six month period. A further US\$366M was returned to shareholders as part of our ongoing capital management program, with US\$281M allocated to our on-market share buy-back program and US\$85M returned in the form of a special dividend. Demonstrating the disciplined approach we are taking to our capital management program, our confidence in the outlook for our business and an anticipated unwind in working capital during H1 FY20, the Board has expanded our program by US\$250M to US\$1.25B, leaving US\$264M expected to be returned by 4 September 2020.

Looking ahead, the Group's production volumes are expected to rise by a further 3%⁽¹⁷⁾ in FY20 with Illawarra Metallurgical Coal on-track to return to a three longwall configuration during the June 2020 quarter and Worsley Alumina expected to achieve nameplate capacity following an improvement in calciner availability. Higher production volumes, weaker producer currencies and lower raw material input costs, along with the continuation of initiatives to mitigate inflation and maintain margins are expected to result in lower Operating unit costs for the majority of our operations in FY20.

Earnings

The Group's statutory profit after tax declined by US\$943M (or 71%) to US\$389M in FY19. Consistent with our accounting policies, various items are excluded from the Group's statutory profit to derive Underlying earnings including: exchange rate loss on restatement of monetary items (US\$3M pre-tax); impairment loss (US\$504M pre-tax); loss on fair value movements of non-trading derivative instruments and other investments (US\$35M pre-tax); major corporate restructures (US\$28M pre-tax); profit associated with earnings adjustments included in our equity accounted investments (EAI) (US\$17M); exchange rate gains associated with the Group's non US dollar denominated net debt (US\$34M pre-tax), and the tax expense for all pre-tax earnings adjustments and exchange rate variations on tax balances (US\$84M). Further information on these earnings adjustments is included on page 37.

The Group's Underlying EBITDA declined by US\$319M (or 13%) to US\$2.2B, for an operating margin of 34%. Lower aluminium and thermal coal prices more than offset stronger prices for alumina, contributing to a US\$275M reduction in Revenue, despite higher volumes. While the Group benefitted from weaker producer currencies and cost reduction initiatives across labour, energy and materials usage, total costs rose with higher production and the commencement of several improvement initiatives at Worsley Alumina to support a sustainable increase in production to nameplate capacity. Underlying EBIT decreased by US\$334M (or 19%) to US\$1.4B as depreciation and amortisation increased by a modest US\$15M with the higher production volumes. Underlying earnings declined by US\$335M (or 25%) to US\$992M as a change in our geographic earnings mix and permanent differences led to an increase in our Underlying effective tax rate (ETR)⁽¹⁸⁾.

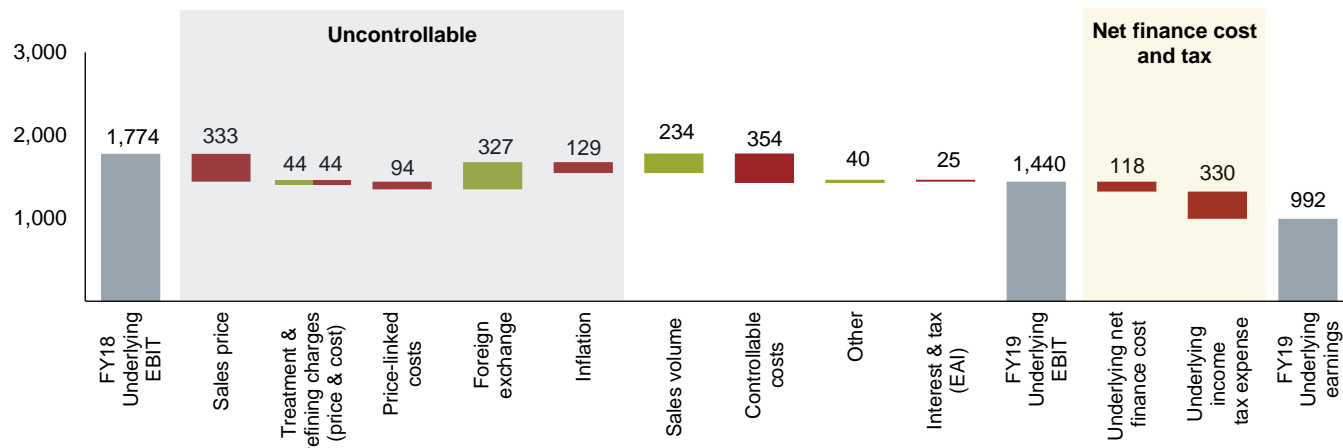
Profit/(loss) to Underlying EBITDA reconciliation		
US\$M	FY19	FY18
Profit/(loss)	887	1,719
Earnings adjustments to derive Underlying EBIT	553	55
Underlying EBIT	1,440	1,774
Depreciation and amortisation	757	742
Underlying EBITDA	2,197	2,516

Profit/(loss) after tax to Underlying earnings reconciliation		
US\$M	FY19	FY18
Profit/(loss) after tax	389	1,332
Earnings adjustments to derive Underlying EBIT	553	55
Earnings adjustments to derive Underlying net finance cost	(34)	(23)
Earnings adjustments to derive Underlying income tax expense	84	(37)
Underlying earnings	992	1,327

Earnings analysis

The following key factors influenced Underlying EBIT in FY19, relative to FY18.

Reconciliation of movements in Underlying EBIT (US\$M)⁽¹⁹⁾⁽²⁰⁾⁽²¹⁾



Earnings analysis	US\$M	Commentary
FY18 Underlying EBIT	1,774	
Change in sales price	(333)	Lower average realised prices for our commodities, including: Aluminium (-US\$194M) Energy coal (-US\$88M) Nickel (-US\$45M) Lead (-US\$44M) Zinc (-US\$41M) Offset by higher average realised prices for: Alumina (+US\$105M)
Treatment & refining charges	-	Net impact from reclassifying Cannington's treatment and refining charges (AASB 15) ⁽²²⁾
Net impact of price-linked costs	(94)	Higher royalties (-US\$40M), primarily Illawarra Metallurgical Coal volumes Higher smelter raw material costs (-US\$35M), including pitch and coke Higher freight costs and diesel prices (-US\$34M) Higher Brazil Alumina bauxite costs (-US\$17M) Lower LME-linked electricity costs at Hillside Aluminium (+US\$19M) Lower caustic soda prices at Worsley Alumina (+US\$34M)
Change in exchange rates	327	Australian dollar (+US\$160M) South African rand (+US\$127M) Brazilian real (+US\$21M)
Change in inflation	(129)	Southern Africa (-US\$80M) Australia (-US\$33M)
Change in sales volume	234	Illawarra Metallurgical Coal (+US\$449M) Australia and South Africa Manganese (+US\$48M) Brazil Alumina (-US\$60M) South Africa Energy Coal (-US\$215M)
Controllable costs	(354)	Worsley Alumina (-US\$111M; initiatives to sustainably return production to nameplate capacity and inventory drawdown) South Africa Energy Coal (-US\$66M; higher contractor mining, rehabilitation costs and inventory) Illawarra Metallurgical Coal (-US\$46M; higher volumes with improvement in longwall performance) South Africa Manganese (-US\$33M; increased activity to take advantage of market conditions)
Other	40	Includes: Klipspruit dragline initial insurance progress payment at South Africa Energy Coal Proceeds from Mining Lease relinquishment at Illawarra Metallurgical Coal Lower EBIT on third party product Higher depreciation and amortisation
Interest & tax (EAI)	(25)	Higher effective tax rate in our jointly controlled manganese operations
FY19 Underlying EBIT	1,440	

Net finance cost

The Group's Underlying net finance cost, excluding EAI, was US\$118M in FY19, and largely reflects the unwinding of the discount applied to our closure and rehabilitation provisions (US\$103M) and finance lease interest (US\$47M), primarily at Worsley Alumina.

Underlying net finance cost reconciliation			
US\$M		FY19	FY18
Unwind of discount applied to closure and rehabilitation provisions		(103)	(105)
Finance lease interest		(47)	(52)
Other		32	34
Underlying net finance cost		(118)	(123)
Add back earnings adjustment for exchange rate variations on net debt		34	23
Net finance cost		(84)	(100)

Tax expense

The Group's Underlying income tax expense, which excludes tax associated with EAI, was US\$330M for an Underlying ETR of 37.8% in FY19. The increase in ETR reflects the differing tax rates that our operations are exposed to, the change in our geographic earnings mix, and the disproportionate effect of intragroup agreements and other permanent differences when margins are compressed or losses are incurred in specific jurisdictions. The primary corporate tax rates applicable to the Group for FY19 include: Australia 30%, South Africa 28%, Colombia 33%⁽²³⁾, Mozambique 0%⁽²³⁾ and Brazil 34%.

The Underlying income tax expense for our manganese EAI was US\$338M, including royalty related taxation of US\$92M at GEMCO (Australia Manganese), for an Underlying ETR of 42.2%.

Underlying income tax expense reconciliation and Underlying ETR			
US\$M		FY19	FY18
Underlying EBIT		1,440	1,774
Include: Underlying net finance cost		(118)	(123)
Remove: Share of profit/(loss) of equity accounted investments		(450)	(491)
Underlying profit/(loss) before tax		872	1,160
Income tax expense		414	287
Tax effect of earnings adjustments to Underlying EBIT		(56)	34
Tax effect of earnings adjustments to net finance cost		(10)	(7)
Exchange rate variations on tax balances		(18)	11
Tax on significant items		-	(1)
Underlying income tax expense		330	324
Underlying effective tax rate		37.8%	27.9%

Cash flow

The Group's free cash flow from operations, excluding EAI, declined by US\$302M (or 35%) to US\$571M as we increased our investment in our development projects and underground development at Illawarra Metallurgical Coal, with rates increasing ahead of a planned return to a three longwall configuration in the June 2020 quarter.

Working capital increased by US\$129M as we re-established inventories at Illawarra Metallurgical Coal and Cannington following improved performance at both operations during the year. Further, provisions and other liabilities declined following payment of previously recognised redundancy and restructuring charges as we simplified the Group's functional structures and continued to invest in concurrent rehabilitation at South Africa Energy Coal.

With no change to our payment terms we expect a portion of working capital to unwind in H1 FY20 as trade and other receivables reduce following receipt of the initial insurance progress payment for the Klipspruit dragline incident and the collection of receipts from June 2019 sales.

Working capital movement reconciliation	
US\$M	Movement
Trade and other receivables	6
Inventories	(58)
Trade and other payables	(13)
Provisions and other liabilities	(64)
Working capital movement	(129)

Total capital expenditure⁽²⁴⁾, excluding EAI, increased by US\$274M to US\$710M as Major project activity ramped up at the Klipspruit Life Extension (KPSX) project⁽²⁵⁾ (US\$123M) and work progressed at the Hermosa project (US\$85M) following the acquisition of Arizona Mining in August 2018. Sustaining capital expenditure increased by US\$65M to US\$433M with expenditure at Illawarra Metallurgical Coal rising by US\$44M.

The increased spend on intangibles and the capitalisation of exploration expenditure reflects a greater rate of investment in technology to support our operations and US\$28M of expenditure on exploration. This included US\$18M at Hermosa to improve our knowledge of the Taylor deposit where we released a first time Mineral Resource estimate in accordance with the JORC Code (2012) guidelines⁽¹⁴⁾ and commenced work on the broader, prospective land package⁽¹⁵⁾. Total capital expenditure associated with our EAI increased by US\$31M to US\$96M during FY19 as we invested in additional tailings storage capacity at Australia Manganese.

Capital expenditure		
US\$M	FY19	FY18
Sustaining capital comprising Stay-in-business, Minor discretionary and Deferred stripping (including underground development)	(433)	(368)
Major project capital expenditure	(219)	(62)
Intangibles and the capitalisation of exploration expenditure	(58)	(6)
Total capital expenditure (excluding EAI)	(710)	(436)
EAI capital expenditure (including intangibles and capitalised exploration)	(96)	(65)
Total capital expenditure (including EAI)	(806)	(501)

We also received (net) distributions totalling US\$458M from our manganese EAI, comprising dividends and capital returns of US\$542M and a net drawdown in shareholder loans (-US\$84M).

Free cash flow from operations, excluding equity accounted investments		
US\$M	FY19	FY18
Profit/(loss)	887	1,719
Non-cash items	1,335	815
(Profit)/loss from equity accounted investments	(467)	(521)
Change in working capital	(129)	(392)
Cash generated	1,626	1,621
Total capital expenditure, excluding equity accounted investments, including intangibles and capitalised exploration	(710)	(436)
Operating cash flows before financing activities and tax, and after capital expenditure	916	1,185
Interest (paid)/received	1	(6)
Income tax (paid)/received	(346)	(306)
Free cash flow from operations	571	873

Balance sheet, dividends and capital management

While the Group generated US\$1B in free cash flow from operations, including net distributions from our manganese EAI, our net cash balance decreased by US\$1.5B to finish the period at US\$504M. Our strong balance sheet and disciplined approach to capital allocation allowed us to return US\$938M to shareholders during the period by way of dividends (US\$657M) and the continuation of our on-market share buy-back program (US\$281M). We also funded the Arizona Mining and Eagle Downs Metallurgical Coal transactions for a combined investment of US\$1.5B out of our cash reserves.

Net cash/(debt)			
US\$M		FY19	FY18
Cash and cash equivalents		1,408	2,970
Finance leases		(543)	(570)
Other interest bearing liabilities		(361)	(359)
Net cash/(debt)		504	2,041

Demonstrating our confidence in our financial position and consistent with our dividend policy, our Board resolved to pay a fully franked final dividend of US\$140M, representing 40% of Underlying earnings in respect of H2 FY19. The Board has also exercised its discretion to increase and extend our approved capital management program by US\$250M to US\$1.25B, leaving US\$264M to be returned by 4 September 2020, further demonstrating the disciplined and flexible approach we are taking.

With the declaration of our final dividend we will return US\$2.5B to shareholders in respect of the last four year period, equivalent to 27% of our market capitalisation⁽²⁶⁾. Having established this strong track record, we will continue to return any excess capital to shareholders in a timely and efficient manner by monitoring our optimal financial position within the context of the prevailing macroeconomic environment and our capital management framework.

From 1 July 2019, the Group's adoption of AASB 16 *Leases*, which affects the accounting classification of leases, will result in an increase to our gross debt balance of approximately US\$140M following the recognition of additional liabilities. The majority of the increase relates to the reclassification of existing operating leases which will continue to be captured in the aforementioned monitoring of our optimal financial position.

Consistent with our commitment to maintain an investment grade credit rating, Standard and Poor's and Moody's reaffirmed their respective BBB+ and Baa1 credit ratings for the Group.

Dividends announced				
Period	Dividend per share (US cents)	US\$M	Franking	Pay-out ratio
H1 FY18	4.3	223	100%	41%
February 2018 special dividend	3.0	155	81%	NA
H2 FY18	6.2	317	100%	40%
H1 FY19	5.1	258	100%	40%
February 2019 special dividend	1.7	86	100%	NA
H2 FY19	2.8	140	100%	40%

South32 shareholders registered on the South African branch register will not be able to dematerialise or rematerialise their shareholdings between 11 and 13 September 2019 (both dates inclusive), nor will transfers to/from the South African branch register be permitted between 6 and 13 September 2019 (both dates inclusive).

Details of the currency exchange rates applicable for the dividend will be announced to the relevant stock exchanges. Further dividend information is available on our website (www.south32.net).

South32 American Depositary Receipts (ADRs) each represent five fully paid ordinary shares in South32 and ADR holders will receive dividends accordingly, subject to the terms of the Depositary Agreement.

Dividend timetable	Date
Announce currency conversion into rand	9 September 2019
Last day to trade cum dividend on the Johannesburg Stock Exchange (JSE)	10 September 2019
Ex-dividend date on the JSE	11 September 2019
Ex-dividend date on the ASX and London Stock Exchange (LSE)	12 September 2019
Record date (including currency election date for ASX)	13 September 2019
Payment date	10 October 2019

Outlook

Production

The Group's production volumes are expected to rise by 3%⁽¹⁷⁾ in FY20.

Production guidance (South32's share) ⁽²¹⁾				
	FY19	FY20e	FY21e	Key guidance assumptions
Worsley Alumina				
FY20 guidance unchanged				
Alumina production (kt)	3,795	3,965	3,965	Improvement in calciner availability and a drawdown of excess hydrate
Brazil Alumina (non-operated)				
FY20 guidance decreased by 3%				
Alumina production (kt)	1,255	↓ 1,330	1,370	Ramp-up of package boilers installed in the June 2019 quarter expected to delay the realisation of benefits from the De-bottlenecking Phase One project
Hillside Aluminium				
FY20 guidance unchanged (subject to load-shedding)				
Aluminium production (kt)	715	720	720	Smelter to test its technical capacity following record FY19 production
Mozal Aluminium				
FY20 guidance unchanged (subject to load-shedding)				
Aluminium production (kt)	267	273	273	AP3XLE energy efficiency project to add incremental production between FY20 and FY24
Illawarra Metallurgical Coal				
FY20 guidance unchanged				
Total coal production (kt)	6,647	7,000	8,000	
Metallurgical coal production (kt)	5,350	5,800	6,800	Expected return to a three longwall configuration during the June 2020 quarter
Energy coal production (kt)	1,297	1,200	1,200	
Australia Manganese				
FY20 guidance provided for the first time (subject to market demand)				
Manganese ore production (kwmt)	3,349	3,560	Subject to demand	PC02 circuit to continue to operate above nameplate capacity
South Africa Manganese				
FY20 guidance provided for the first time (subject to market demand)				
Manganese ore production (kwmt)	2,187	2,100	Subject to demand	Sales of lower quality fines product remain subject to market demand
Cerro Matoso				
FY20 guidance unchanged				
Ore to kiln (kt)	2,738	2,500	2,750	
Payable nickel production (kt)	41.1	35.6	37.4	Planned furnace outage in the June 2020 quarter
Cannington				
FY20 guidance increased by 6%⁽²⁷⁾				
Ore processed (kdmt)	2,495	↑ 2,700	2,600	
Payable zinc equivalent production (kt) ⁽²⁷⁾	218.2	221.0	213.7	
Payable silver production (koz)	12,201	↑ 11,200	10,550	Silver, lead and zinc production revised higher to reflect an increase in mill throughput as we drawdown inventory
Payable lead production (kt)	101.4	↑ 104.0	103.0	
Payable zinc production (kt)	51.6	↑ 59.0	57.0	
South Africa Energy Coal⁽²⁸⁾				
FY20 guidance decreased (previously 30.3Mt) FY21 not provided subject to divestment				
Total coal production (kt)	24,979	↓ 26,000 - 28,000		Recovery from the Klipspruit dragline incident and a planned reduction in contractor activity at the Wolvekrans-Middelburg Complex (WMC), as we respond to the lower thermal coal price environment and adjust volumes to maximise margins
Domestic coal production (kt)	14,978	↓ 15,300 - 16,100		
Export coal production (kt)	10,001	↓ 10,700 - 11,900		

Costs and capital expenditure

Operating unit cost guidance

Stronger production volumes, lower support costs following simplification of the Group's functional structures that are on-track to deliver US\$50M in annual savings, and the realisation of benefits from our labour, energy and materials usage are expected to combine with a stronger US dollar to lower Operating unit costs across the majority of our operations in FY20. While we don't provide unit cost guidance for our downstream processing operations, the lagged effect of a reduction in raw material prices during H2 FY19 is expected to provide some relief to the cost base of our aluminium smelters in FY20.

Operating unit cost ⁽²¹⁾⁽²⁹⁾					
	H1 FY19	H2 FY19	FY19	FY20e ^(a)	Commentary FY20 key guidance assumptions
Worsley Alumina					
(US\$/t)	233	242	238	230	Increased production, lower energy costs following the renegotiation of legacy gas contracts and lower caustic soda price assumptions
Brazil Alumina (non-operated)					
(US\$/t)	291	250	270	Not provided	Not provided but expected to benefit from lower caustic soda prices and a 6% increase in production volumes
Hillside Aluminium					
(US\$/t)	2,161	1,925	2,045	Not provided	Not provided but expected to benefit from the lagged effect of lower raw material input costs and the workforce restructure completed in the June 2019 quarter
Mozal Aluminium					
(US\$/t)	1,938	2,108	2,026	Not provided	Not provided but expected to benefit from the lagged effect of lower raw material input costs
Illawarra Metallurgical Coal					
(US\$/t)	87	102	94	97	Increased production volumes and lower maintenance spend, more than offset by the prior year benefit from an agreement to relinquish a portion of a Mining Lease on commercial terms
Australia Manganese ore (FOB)					
(US\$/dmtu)	1.51	1.68	1.59	1.60	Equipment productivity gains and the PC02 circuit operating above design capacity to offset a further planned increase in strip ratio
South Africa Manganese ore (FOB)					
(US\$/dmtu)	2.63	2.75	2.69	2.44	Weaker South African rand and lower price-linked royalties
Cerro Matoso					
(US\$/t) ^(b)	136	129	132	128	Lower price-linked royalties and the continued benefit of our energy optimisation strategy to offset the impact of lower production
(US\$/lb)	4.05	3.92	3.99	4.00	
Cannington					
(US\$/t) ^(c)	120	125	123	119	Higher mill throughput and lower haulage costs
South Africa Energy Coal⁽²⁸⁾					
(US\$/t)	38	41	40	37 - 40	Weaker South African rand and a planned reduction in contractor activity at the WMC

(a) FY20e Operating unit cost guidance includes royalties (where appropriate) and commodity price and foreign exchange rate forward curves or our internal expectation, as at June 2019 (refer to footnote 30 on page 25).

(b) US dollar per tonne of ore to kiln. Periodic movements in finished product inventory may impact Operating unit costs.

(c) US dollar per tonne of ore processed. Periodic movements in finished product inventory may impact Operating unit costs.

Other expenditure guidance

Group and unallocated costs of US\$90M are expected in FY20 as we increase functional support for our development projects and invest in technology to support our operations. We also expect to capitalise US\$30M of expenditure on information technology systems.

Exploration guidance

Guidance for greenfield exploration expenditure to progress our early stage projects is US\$30M (FY19: US\$34M). We also expect to capitalise US\$25M (FY19: US\$18M) of exploration expenditure at Hermosa to further increase our knowledge of the Taylor deposit⁽¹⁴⁾ and the greater Hermosa land package⁽¹⁵⁾.

Depreciation and amortisation, and tax expense guidance

Depreciation and amortisation (excluding EAI) is expected to reduce to approximately US\$735M (FY19: US\$757M) following the recognition of impairment charges for South Africa Energy Coal during the period. Depreciation and amortisation of US\$95M (FY19: US\$87M) is expected for our EAI. Guidance includes the impact from adopting the new AASB 16 *Leases* accounting standard from 1 July 2019.

Our geographical earnings mix continues to have a significant bearing on our ETR given differing country tax rates, whilst the impact of permanent differences is magnified when margins are compressed. Although it is difficult to predict our ETR (excluding EAI), we do expect it to remain at elevated levels in FY20 (FY19: 37.8%) should the compressed margins within our African aluminium operations persist. In addition, the de-recognition of tax assets in South Africa Energy Coal will further increase the Group's ETR should the operation make losses in FY20.

Capital expenditure guidance

Sustaining capital expenditure, excluding EAI, is expected to rise by US\$82M to US\$515M as we further increase underground development rates and expenditure on infrastructure improvements at Illawarra Metallurgical Coal in support of a return to a three longwall configuration, continue to invest in tailings storage capacity across our portfolio and commence a major refurbishment of a furnace at Cerro Matoso. Sustaining capital expenditure associated with our EAI is expected to be largely unchanged at US\$90M as we also continue to invest in additional tailings storage capacity at Australia Manganese.

Major project capital expenditure is expected to increase by US\$37M to US\$256M in FY20 as we increase activity at the Hermosa project and progress study work for the Eagle Downs Metallurgical Coal and Dendrobium Next Domain projects. South Africa Energy Coal's KPSX project, is approximately 72% complete and remains on schedule and budget for completion in FY21.

Capital expenditure (South32's share) ⁽²¹⁾⁽²⁴⁾		
US\$M	FY19	FY20e
Worsley Alumina	57	60
Brazil Alumina	26	35
Hillside Aluminium	19	23
Mozal Aluminium	19	12
Illawarra Metallurgical Coal	133	185
Australia Manganese	65	64
South Africa Manganese	30	26
Cerro Matoso	32	55
Cannington	55	55
South Africa Energy Coal ⁽²⁸⁾	90	90
Group & unallocated	2	-
Sustaining capital expenditure (including EAI)	528	605
Equity accounted adjustment ^(a)	(95)	(90)
Sustaining capital expenditure (excluding EAI)	433	515
Hermosa	85	109
Illawarra Metallurgical Coal – Dendrobium Next Domain	5	21
Eagle Downs Metallurgical Coal	6	11
South Africa Energy Coal ⁽²⁸⁾	123	115
Major project capital expenditure	219	256
Total capital expenditure (including EAI)	747	861

(a) The equity accounting adjustment reconciles the proportional consolidation of the South32 manganese operations to the treatment of the manganese operations on an equity accounted basis.

Operations analysis

A summary of the underlying performance of the Group's operations is presented below and more detailed analysis is presented on pages 14 to 23. Unless otherwise stated: all metrics reflect South32's share; Operating unit cost is Revenue less Underlying EBITDA excluding third party sales divided by sales volumes; and Operating cost is Revenue less Underlying EBITDA excluding third party sales.

Operations table (South32 share) ⁽²¹⁾				
US\$M	Revenue		Underlying EBIT	
	FY19	FY18	FY19	FY18
Worsley Alumina	1,619	1,473	541	422
Brazil Alumina	566	551	160	136
Hillside Aluminium	1,439	1,583	(75)	213
Mozal Aluminium	556	629	(21)	99
South Africa Energy Coal ⁽²⁸⁾	1,037	1,366	(46)	276
Illawarra Metallurgical Coal	1,135	686	359	(62)
Australia Manganese	1,095	1,111	638	651
South Africa Manganese	553	503	188	186
Cerro Matoso	489	559	40	120
Cannington	467	584	104	183
Third party products and services ⁽³¹⁾	815	870	5	25
Inter-segment / Group and unallocated	(857)	(749)	(78)	(125)
Total	8,914	9,166	1,815	2,124
Equity accounting adjustment ^(a)	(1,640)	(1,617)	(375)	(350)
South32 Group	7,274	7,549	1,440	1,774

(a) The equity accounting adjustment reconciles the proportional consolidation of the South32 manganese operations to the treatment of the manganese operations on an equity accounted basis (including third party product).

Worsley Alumina (86% share)

Volumes

Worsley Alumina saleable production increased by 1% (or 31kt) to 3.8Mt in FY19 as we opportunistically sold stockpiled hydrate at alumina equivalent prices during the year, offsetting the impact of additional calciner maintenance. Production is expected to reach nameplate capacity of 4.0Mt (4.6Mt 100% basis) in FY20 and FY21 as we continue to drawdown excess hydrate stock, ahead of realising the full benefit of initiatives to sustainably increase production.

Operating costs

Operating unit costs increased by 1% in FY19 to US\$238/t as lower caustic soda prices (FY19: US\$489/t, FY18: US\$582/t) and consumption rates (FY19: 98kg/t, FY18: 103kg/t) were offset by additional calciner maintenance and the opportunistic drawdown of hydrate stocks.

We expect Operating unit costs to decrease by 3% to US\$230/t in FY20 as we realise the benefit of increased production, lower energy costs following the renegotiation of legacy gas contracts, a weaker Australian dollar and lower caustic soda price assumptions. These benefits are expected to more than offset additional costs to support a sustainable increase in production to nameplate capacity. Exchange rate and price assumptions for FY20 Operating unit cost guidance are detailed on page 25, footnote 30.

Financial performance

Underlying EBIT increased by 28% (or US\$119M) in FY19 to US\$541M as a 7% rise in the average realised price of alumina (+US\$109M), a weaker Australian dollar (+US\$51M) and lower caustic soda costs (price and consumption, +US\$46M) were partially offset by initiatives to increase calciner availability (-US\$42M) and a drawdown in inventory as a result of higher sales (-US\$34M).

The average realised price for alumina sales in FY19 was a discount of approximately 5% to the Platts Alumina Index (PAX) on a volume weighted M-1 basis⁽³³⁾. 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.

Capital expenditure

Sustaining capital expenditure increased by US\$5M in FY19 to US\$57M as we invested in additional bauxite residue disposal and water catchment capacity. The level of expenditure is expected to remain elevated in FY20 (US\$60M) as we continue to invest in additional bauxite residue disposal capacity.

South32 share	FY19	FY18
Alumina production (kt)	3,795	3,764
Alumina sales (kt) ⁽³²⁾	3,857	3,763
Realised alumina sales price (US\$/t) ⁽³²⁾	420	391
Operating unit cost (US\$/t) ⁽²⁹⁾	238	235

South32 share (US\$M)	FY19	FY18
Revenue	1,619	1,473
Underlying EBITDA	702	588
Underlying EBIT	541	422
Net operating assets	2,831	3,028
Capital expenditure	57	52
<i>All other capital expenditure</i>	57	52
Exploration expenditure	1	1
Exploration expensed	1	1

Brazil Alumina (Alumina 36% share, Aluminium 40% share)

Volumes

Brazil Alumina saleable production decreased by 4% (or 49kt) to 1,255kt in FY19 as poor boiler performance and power outages impacted production. We have lowered our FY20 production guidance by 3% to 1.33Mt, as the ramp-up of package boilers installed in the June 2019 quarter is expected to delay the realisation of benefits from the De-bottlenecking Phase One project. Production is expected to increase to 1.37Mt in FY21 as these benefits are realised over a full year.

Operating costs

Operating unit costs increased by 7% in FY19 to US\$270/t as poor boiler performance resulted in lower volumes and additional maintenance activity, while bauxite costs increased as we sourced additional third party material in the period and the cost of supply from Mineração Rio do Norte S.A (MRN) was reset in accordance with its linkage to alumina and aluminium.

Financial performance

Alumina Underlying EBIT increased by 10% (or US\$15M) in FY19 to US\$172M as an 11% increase in the average realised price of alumina (+US\$56M) and a weaker Brazilian real (+US\$21M) were partially offset by lower sales volumes (-US\$42M), higher bauxite (-US\$17M) and boiler maintenance (-US\$9M) costs.

Aluminium Underlying EBIT increased by US\$9M in FY19 to a loss of US\$12M as an indirect legacy tax obligation was settled and our commitment to purchase electricity from Eletronorte was fulfilled during the prior period following termination of the contract in December 2015.

Capital expenditure

Sustaining capital expenditure increased by US\$14M in FY19 to US\$26M and is expected to increase by US\$9M to US\$35M in FY20 as we invest in additional bauxite residue disposal capacity and undertake further de-bottlenecking work at the refinery.

During the period the partners of MRN also agreed to undertake a pre-feasibility study for a project that has the potential to extend the life of the mine by more than 20 years at a relatively low capital cost. MRN has a substantial 503Mt⁽³⁴⁾ high grade bauxite Mineral Resource.

South32 share	FY19	FY18
Alumina production (kt)	1,255	1,304
Alumina sales (kt) ⁽³²⁾	1,240	1,341
Realised alumina sales price (US\$/t) ⁽³²⁾	456	411
Alumina operating unit cost (US\$/t) ⁽²⁹⁾	270	252

South32 share (US\$M)	FY19	FY18
Revenue	566	551
<i>Alumina</i>	566	551
<i>Aluminium</i>	-	-
Other income	3	46
Underlying EBITDA	219	192
<i>Alumina</i>	231	213
<i>Aluminium</i>	(12)	(21)
Underlying EBIT	160	136
<i>Alumina</i>	172	157
<i>Aluminium</i>	(12)	(21)
Net operating assets/(liabilities)	687	644
<i>Alumina</i>	696	656
<i>Aluminium</i>	(9)	(12)
Capital expenditure	26	12
<i>All other capital expenditure</i>	26	12

Hillside Aluminium (100%)

Volumes

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. Production is expected to increase to a record 720kt in FY20 and FY21, subject to load-shedding.

Operating costs

Operating unit costs increased by 12% in FY19 to US\$2,045/t as a rise in raw material input costs for alumina, coke, pitch and aluminium tri-fluoride, accounting for 58% of the smelter's cost base (FY18: 56%), more than offset lower aluminium price-linked electricity costs.

The smelter sources alumina from our Worsley Alumina refinery with prices linked to the Platts alumina index on an M-1 basis, while its power is sourced from Eskom under long-term contracts. The price of electricity supplied to potlines 1 and 2 is linked to the LME aluminium price and the South African rand/US dollar exchange rate. The price of electricity supplied to potline 3 is South African rand based. We are advancing discussions with Eskom to agree a path forward to extend and consolidate our power contracts.

While Operating unit cost guidance is not provided, the cost profile of Hillside Aluminium is expected to benefit from a restructure of the workforce concluded in the June 2019 quarter and the lagged effect of lower raw material input costs observed in the June 2019 half year, given its highly variable cost base.

Financial performance

Underlying EBIT decreased by 135% (or US\$288M) in FY19 to a loss of US\$75M as a 9% decrease in the average realised price of aluminium (-US\$134M), higher raw material and cathode prices (-US\$129M), an unfavourable movement in inventory (-US\$35M) and additional pot relining costs (-US\$11M) more than offset the benefits of a weaker South African rand (+US\$34M) and lower aluminium price-linked power costs (+US\$19M). 171 pots were relined at a cost of US\$249k per pot during FY19 (FY18: 122 pots at US\$220k per pot), while 79 pots are scheduled to be relined across FY20.

Capital expenditure

Sustaining capital expenditure decreased by US\$9M in FY19 to US\$19M. A modest increase in Sustaining capital expenditure to US\$23M is expected in FY20.

South32 share	FY19	FY18
Aluminium production (kt)	715	712
Aluminium sales (kt) ⁽³²⁾	707	711
Realised sales price (US\$/t) ⁽³²⁾	2,035	2,226
Operating unit cost (US\$/t) ⁽²⁹⁾	2,045	1,826

South32 share (US\$M)	FY19	FY18
Revenue	1,439	1,583
Underlying EBITDA	(7)	285
Underlying EBIT	(75)	213
Net operating assets	1,027	1,202
Capital expenditure	19	28
<i>All other capital expenditure</i>	19	28

Mozal Aluminium (47.1% share)

Volumes

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. Production is expected to increase to a record 273kt in FY20 and FY21 as we start to realise the benefits of the AP3XLE energy efficiency project.

Operating costs

Operating unit costs increased by 12% in FY19 to US\$2,026/t as raw material input costs increased for alumina, coke, pitch and aluminium tri-fluoride, which combined account for 49% of the smelter's cost base (FY18: 49%).

The smelter sources alumina from our Worsley Alumina refinery with approximately 50% priced as a percentage of the LME aluminium index under a legacy contract and the remainder linked to the Platts alumina index on an M-1 basis, with caps and floors embedded within specific contracts.

Electricity requirements are largely met by hydroelectric power that is generated by Hidroeléctrica de Cahora Bassa (HCB). HCB delivers power into Eskom's South African grid and Mozal Aluminium sources electricity via the Mozambique Transmission Company (Motraco) under a long-term contract. The price of electricity is South African rand based with the rate of escalation linked to a South Africa domestic producer price index plus a margin.

While Operating unit cost guidance is not provided, the cost profile of Mozal Aluminium is expected to benefit from the lagged effect of lower raw material input costs observed in the June 2019 half year, given its highly variable cost base.

Financial performance

Underlying EBIT decreased by US\$120M in FY19 to a loss of US\$21M following lower average realised aluminium prices (-US\$60M) and sales volumes (-US\$13M), higher raw material and cathode prices (-US\$27M), higher power costs (-US\$5M) and additional pot relining costs (-US\$4M). 103⁽³⁵⁾ pots were relined across FY19 at a cost of US\$234k per pot (FY18: 60⁽³⁵⁾ pots at US\$211k per pot), with 123⁽³⁵⁾ pots scheduled to be relined in FY20.

Capital expenditure

Sustaining capital expenditure increased by US\$9M in FY19 to US\$19M as the smelter commenced the roll out of the AP3XLE energy efficiency technology in its pot relining program ahead of schedule.

The project is expected to deliver a circa 5% (or 10kt pa) increase in annual production with no associated increase in power consumption, improving the smelter's global competitiveness. First incremental production is anticipated in FY20, with the full benefit to be realised by FY24. Sustaining capital expenditure of US\$12M is expected in FY20.

South32 share	FY19	FY18
Aluminium production (kt)	267	271
Aluminium sales (kt) ⁽³²⁾	268	274
Realised sales price (US\$/t) ⁽³²⁾	2,075	2,296
Operating unit cost (US\$/t) ⁽²⁹⁾	2,026	1,810

South32 share (US\$M)	FY19	FY18
Revenue	556	629
Underlying EBITDA	13	133
Underlying EBIT	(21)	99
Net operating assets	534	553
Capital expenditure	19	10
<i>All other capital expenditure</i>	19	10

South Africa Energy Coal (92% share⁽²⁸⁾)

Volumes

South Africa Energy Coal saleable production decreased by 8% (or 2,292kt) to 25.0Mt in FY19, despite a 10% improvement in the June 2019 quarter, as export sales volumes were impacted by an extended outage of the Klipspruit dragline following an incident in August 2018. Despite the improving trend, we have lowered our FY20 saleable coal production guidance to between 26.0 and 28.0Mt. This reflects the recovery of production from the dragline incident and a planned reduction in contractor activity at the WMC as we respond to the lower thermal coal price environment and adjust volumes to maximise margins.

Operating costs

Operating unit costs increased by 11% in FY19 to US\$40/t as we completed concurrent rehabilitation work and added extra contractor capacity to recover lost dragline availability at Klipspruit. This impact was partially offset by an initial insurance progress payment awarded in June for the volume and cost impact of the dragline outage, and a weaker South African rand.

We expect Operating unit costs to decrease by up to 7% to between US\$37/t and US\$40/t in FY20 as a weaker South African rand and a planned reduction in contractor activity at the WMC more than offset general inflationary pressure. Exchange rate and price assumptions for FY20 Operating unit cost guidance are detailed on page 25, footnote 30.

Financial performance

Underlying EBIT decreased by 117% (or US\$322M) in FY19 to a loss of US\$46M as lower sales volumes (-US\$215M), average realised prices (-US\$75M), and higher contractor mining (-US\$75M) and concurrent rehabilitation (-US\$37M) costs more than offset a favourable movement in inventory (+US\$70M) and a weaker South African rand (+US\$48M).

Capital expenditure

Sustaining capital expenditure decreased by US\$12M in FY19 to US\$90M despite incurring additional costs to recover from and mitigate the impact of the Klipspruit dragline incident, and our investment in new mining areas at the WMC returning to typical levels. Sustaining capital expenditure of US\$90M is expected in FY20.

We also invested US\$123M in Major project capital expenditure in FY19 to progress the KPSX project, which was approved by the Board in November 2017. The 8Mt per annum brownfield project extends the life of the colliery by more than 20 years⁽³⁶⁾. The project is approximately 72% complete and remains on schedule and budget. Major capital expenditure of US\$115M is expected in FY20.

100 per cent terms ⁽²⁸⁾	FY19	FY18
Energy coal production (kt)	24,979	27,271
Domestic sales (kt) ⁽³²⁾	15,035	15,396
Export sales (kt) ⁽³²⁾	9,875	12,518
Realised domestic sales price (US\$/t) ⁽³²⁾	24	25
Realised export sales price (US\$/t) ⁽³²⁾	69	79
Operating unit cost (US\$/t) ⁽²⁹⁾	40	36

100 per cent terms ⁽²⁸⁾ (US\$M)	FY19	FY18
Revenue ⁽³⁷⁾	1,037	1,366
Underlying EBITDA	42	353
Underlying EBIT	(46)	276
Net operating assets/(liabilities)	(373)	(23)
Capital expenditure	213	164
<i>Major projects (>US\$100M)</i>	123	62
<i>All other capital expenditure</i>	90	102

Illawarra Metallurgical Coal (100% share)

Volumes

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 and we successfully concluded the renegotiation of all major labour agreements. Saleable coal production is expected to increase 5% to 7.0Mt in FY20, before a further 14% increase to 8.0Mt in FY21, with the operation on-track to return to a three longwall configuration during the June 2020 quarter.

Operating costs

Operating unit costs decreased by 34% in FY19 to US\$94/t as the operation benefitted from a substantial increase in sales volumes and a commercial agreement to relinquish a portion of its Mining Lease in the Appin area.

We expect Operating unit costs to increase 3% to US\$97/t in FY20 as a further increase in volume and lower spend on maintenance is more than offset by the prior year's benefit from relinquishing a portion of its Mining Lease. Exchange rate and price assumptions for FY20 Operating unit cost guidance are detailed on page 25, footnote 30.

Financial performance

Underlying EBIT increased by US\$421M in FY19 to US\$359M as stronger sales volumes (+US\$449M), a weaker Australian dollar (+US\$47M), and lower labour (+US\$16M) and electricity (+US\$15M) costs were partially offset by higher price-linked royalties (-US\$31M). The volume related impact on costs (-US\$80M) was tempered by the high fixed cost base of the operation.

Capital expenditure

Sustaining capital expenditure increased by US\$44M in FY19 to US\$133M as we increased underground development rates at Appin. Sustaining capital expenditure is expected to increase by US\$52M in FY20 to US\$185M as we further raise the level of spend on underground development to US\$85M (FY19: US\$75M) and invest in infrastructure improvements to support the planned return to a three longwall configuration.

We also invested US\$5M in FY19 to progress studies for the Dendrobium Next Domain project, submitting our Environmental Impact Statement to the NSW Department of Planning and Environment 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. Major capital expenditure is expected to increase by US\$16M in FY20 to US\$21M as we undertake further study work and invest in additional ventilation capacity at the operation.

South32 share	FY19	FY18
Metallurgical coal production (kt)	5,350	3,165
Energy coal production (kt)	1,297	1,079
Metallurgical coal sales (kt) ⁽³²⁾	5,044	2,937
Energy coal sales (kt) ⁽³²⁾	1,262	1,179
Realised metallurgical coal sales price (US\$/t) ⁽³²⁾	209	203
Realised energy coal sales price (US\$/t) ⁽³²⁾	66	76
Operating unit cost (US\$/t) ⁽²⁹⁾	94	142

South32 share (US\$M)	FY19	FY18
Revenue ⁽³⁸⁾	1,135	686
Underlying EBITDA	542	103
Underlying EBIT	359	(62)
Net operating assets	1,410	1,408
Capital expenditure	138	89
<i>Major projects (>US\$100M)</i>	5	-
<i>All other capital expenditure</i>	133	89
Exploration expenditure	9	7
Exploration expensed	3	7

Australia Manganese (60% share)

Volumes

Australia Manganese saleable ore production decreased by 1% (or 47kwmt) to 3,349kwmt in FY19 as we maintained elevated production levels, operating our PC02 circuit at approximately 120% of its design capacity. We also set an ore sales record of 3,438kwmt in FY19 as we continued to take advantage of strong market conditions. Manganese alloy saleable production decreased by 7% (or 11kt) to 154kt in FY19.

Ore production guidance of 3,560kwmt in FY20 assumes we continue to operate the low cost PC02 circuit above nameplate capacity. As the PC02 product attracts a discount to our primary higher grade GEMCO ore, we will adjust production in response to market demand.

Operating costs

FOB manganese ore Operating unit costs decreased by 2% in FY19 to US\$1.59/dmtu as record sales volumes and the optimisation of contractor usage mitigated an increase in strip ratio (FY19: 4.5, FY18: 4.0) and a temporary decline in product yield.

We expect Operating unit costs for manganese ore to remain largely unchanged at US\$1.60/dmtu in FY20 as a weaker Australian dollar and continued equipment productivity improvements mitigate a further planned increase in strip ratio (FY20: 5.1). Exchange rate and price assumptions for FY20 Operating unit cost guidance are detailed on page 25, footnote 30.

Manganese alloy Operating unit costs increased by 5% to US\$947/t as raw material input costs rose and our TEMCO smelter produced lower volumes. 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.

Financial performance

Underlying EBIT decreased by 2% (or US\$13M) in FY19 to US\$638M as lower realised alloy prices (-US\$18M) and a rise in diesel, coke and freight costs (-US\$13M) were only partially offset by a weaker Australian dollar (+US\$20M) and lower maintenance contractor costs at GEMCO (+US\$6M).

Our average realised price for external sales of Australian ore was in-line with the high grade 44% manganese lump ore index⁽³⁹⁾ in FY19, despite the 40% grade PC02 product contributing 10% to the sales mix (FY18: 9%).

Capital expenditure

Sustaining capital expenditure increased by US\$17M in FY19 to US\$65M (including US\$6M for alloys) and is expected to remain largely unchanged at US\$64M (including US\$4M for alloys) in FY20 as we continue to invest in additional tailings capacity.

South32 share	FY19	FY18
Manganese ore production (kwmt)	3,349	3,396
Manganese alloy production (kt)	154	165
Manganese ore sales (kwmt) ⁽⁴⁰⁾	3,438	3,290
<i>External customers</i>	3,094	2,917
<i>TEMCO</i>	344	373
Manganese alloy sales (kt) ⁽⁴⁰⁾	151	170
Realised external manganese ore sales price (US\$/dmtu, FOB) ⁽⁴⁰⁾⁽⁴¹⁾	6.35	6.38
Realised manganese alloy sales price (US\$/t) ⁽⁴⁰⁾	1,311	1,518
Ore operating unit cost (US\$/dmtu) ⁽⁴¹⁾⁽⁴²⁾	1.59	1.63
Alloy operating unit cost (US\$/t) ⁽⁴²⁾	947	906

South32 share (US\$M)	FY19	FY18
Revenue ⁽⁴³⁾	1,095	1,111
<i>Manganese ore</i>	930	884
<i>Manganese alloy</i>	198	258
<i>Intra-segment elimination</i>	(33)	(31)
Underlying EBITDA	698	710
<i>Manganese ore</i>	643	606
<i>Manganese alloy</i>	55	104
Underlying EBIT	638	651
<i>Manganese ore</i>	588	552
<i>Manganese alloy</i>	50	99
Net operating assets/(liabilities)	316	289
<i>Manganese ore</i>	303	284
<i>Manganese alloy</i>	13	5
Capital expenditure	65	48
<i>All other capital expenditure</i>	65	48
Exploration expenditure	2	1
Exploration expensed	1	1

South Africa Manganese (Ore 44.4% share, Alloy 60% share)

Volumes

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. Manganese alloy saleable production decreased by 13% (or 10kt) to 69kt in FY19.

Ore production guidance of 2,100kwmt in FY20 assumes we maintain sales of lower quality, fine grained material which has historically attracted grade and product-type discounts. Production will however be adjusted in response to market demand.

Operating costs

FOB manganese ore Operating unit costs increased by 6% in FY19 to US\$2.69/dmtu. Higher price-linked royalties combined with an increase in workforce activity and the use of higher cost trucking to take advantage of strong market conditions, more than offset the effect of a weaker South African rand.

We expect Operating unit costs for manganese ore to decline by 9% to US\$2.44/dmtu in FY20 reflecting a weaker South African rand and lower price-linked royalties which are expected to offset the impact of marginally lower production. Exchange rate and price assumptions for FY20 Operating unit cost guidance are detailed on page 25, footnote 30.

Manganese alloy Operating Unit costs increased by 21% to US\$1,178/t as an unfavourable movement in inventory and higher labour costs, more than offset higher sales volumes from our Metalloys smelter. 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.

Financial performance

Underlying EBIT increased by US\$2M in FY19 to US\$188M as higher ore sales volumes (+US\$35M) and a weaker South African rand (+US\$24M) were largely offset by lower realised alloy prices (-US\$14M), an increase in costs associated with opportunistic trucking of ore (-US\$10M), an unfavourable movement in alloy inventory (-US\$10M), lower other income (-US\$10M) and higher labour costs (-US\$9M).

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)⁽⁴⁴⁾ in FY19 as we increased production of premium material, reducing the contribution of our lower quality fines product (FY19: 6%, FY18: 13%).

Capital expenditure

Sustaining capital expenditure increased by US\$13M in FY19 to US\$30M (including US\$6M for alloys). A modest decrease to US\$26M (including US\$4M for alloys) is expected in FY20.

South32 share	FY19	FY18
Manganese ore production (kwmt)	2,187	2,145
Manganese alloy production (kt)	69	79
Manganese ore sales (kwmt) ⁽⁴⁵⁾	2,113	2,082
<i>External customers</i>	1,990	1,919
<i>Metalloys</i>	123	163
Manganese alloy sales (kt) ⁽⁴⁵⁾	73	67
Realised external manganese ore sales price (US\$/dmtu, FOB) ⁽⁴⁵⁾⁽⁴⁶⁾	5.57	5.21
Realised manganese alloy sales price (US\$/t) ⁽⁴⁵⁾	1,068	1,269
Ore operating unit cost (US\$/dmtu) ⁽⁴⁶⁾⁽⁴⁷⁾	2.69	2.53
Alloy operating unit cost (US\$/t) ⁽⁴⁷⁾	1,178	970

South32 share (US\$M)	FY19	FY18
Revenue ⁽⁴⁸⁾	553	503
<i>Manganese ore⁽⁴⁹⁾</i>	488	436
<i>Manganese alloy</i>	78	85
<i>Intra-segment elimination</i>	(13)	(18)
Underlying EBITDA	215	215
<i>Manganese ore⁽⁴⁹⁾</i>	223	195
<i>Manganese alloy</i>	(8)	20
Underlying EBIT	188	186
<i>Manganese ore⁽⁴⁹⁾</i>	205	175
<i>Manganese alloy</i>	(17)	11
Net operating assets	312	297
<i>Manganese ore⁽⁴⁹⁾</i>	253	234
<i>Manganese alloy</i>	59	63
Capital expenditure	30	17
<i>All other capital expenditure</i>	30	17

Cerro Matoso (99.9% share)

Volumes

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.

Production is expected to decrease to 35.6kt in FY20 as we undertake a major refurbishment of a furnace in the June 2020 quarter to broaden its operating window. Following the refurbishment, production is expected to increase by 5% to 37.4kt in FY21 as we further increase the contribution of lower grade stockpiled ore feed.

Operating costs

Operating unit costs increased by 9% in FY19 to US\$3.99/lb. The impact of lower production, increased contractor and maintenance spend and costs arising from the Constitutional Court of Colombia ruling⁽⁵⁰⁾ more than offset a weaker Colombian peso and energy procurement and usage optimisations intended to partially mitigate inflationary cost pressure.

We expect Operating unit costs to remain largely unchanged in FY20 at US\$4.00/lb as lower price-linked royalties and the continued benefit of our energy optimisation strategy offset the impact of lower production. Exchange rate and price assumptions for FY20 Operating unit cost guidance are detailed on page 25, footnote 30.

Financial performance

Underlying EBIT decreased by US\$80M in FY19 to US\$40M as the lower average realised nickel price (-US\$45M), sales volumes (-US\$25M) and higher maintenance expenditure (-US\$10M), were partially offset by a weaker Colombian peso (+US\$18M).

Capital expenditure

Sustaining capital expenditure increased by US\$10M in FY19 to US\$32M and is expected to increase to US\$55M in FY20 as we commence refurbishment of a furnace in the June 2020 quarter.

South32 share	FY19	FY18
Ore mined (kwmt)	2,278	3,741
Ore processed (kdmt)	2,738	2,722
Ore grade processed (% Ni)	1.66	1.79
Payable nickel production (kt)	41.1	43.8
Payable nickel sales (kt) ⁽⁵¹⁾	41.2	43.3
Realised nickel sales price (US\$/lb) ⁽⁵¹⁾	5.38	5.86
Operating unit cost (US\$/lb) ⁽²⁹⁾	3.99	3.67
Operating unit cost (US\$/t) ⁽⁵²⁾	132	129

South32 share (US\$M)	FY19	FY18
Revenue	489	559
Underlying EBITDA	127	209
Underlying EBIT	40	120
Net operating assets	479	551
Capital expenditure	32	22
<i>All other capital expenditure</i>	32	22
Exploration expenditure	10	9
Exploration expensed	8	8

Cannington (100% share)

Volumes

Cannington payable zinc equivalent production⁽⁵³⁾ 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.

We have increased our production guidance for Cannington with a 1% year on year increase in payable zinc equivalent production⁽²⁷⁾ now expected in FY20 (11.2Moz for silver, 104.0kt for lead and 59.0kt for zinc) before declining by 3% in FY21 (10.6Moz for silver, 103.0kt for lead and 57.0kt for zinc) as grade varies in accordance with the mine plan.

Operating costs

Operating unit costs decreased by 18% to US\$123/t in FY19 as the adoption of AASB 15 *Revenue from Contracts with Customers*⁽²²⁾, which affects the accounting classification of treatment and refining charges, reduced costs by US\$19/t. A weaker Australian dollar and lower power costs following the renegotiation of a supply contract provided a further benefit, offsetting additional haulage costs incurred as a result of significant floods in North Queensland during the March 2019 quarter.

We expect Operating unit costs to decrease by 3% to US\$119/t in FY20 as mill throughput increases and we benefit from lower haulage costs. Exchange rate and price assumptions for FY20 Operating unit cost guidance are detailed on page 25, footnote 30.

Financial performance

Underlying EBIT decreased by 43% (or US\$79M) in FY19 to US\$104M as lower average realised prices (-US\$107M)^(a) and higher labour (-US\$11M) and freight (-US\$6M) costs were partially offset by an increase in sales volumes (+US\$34M) and a weaker Australian dollar (+US\$23M).

Capital expenditure

Sustaining capital expenditure increased by US\$4M in FY19 to US\$55M as underground development rates remained elevated and we invested in additional tailings storage capacity. Sustaining capital expenditure of US\$55M is expected in FY20 as we continue this investment.

(a) Excludes the impact on revenue of the change in accounting treatment for treatment and refining charges (-US\$44M). This impact is equally offset by a reduction in costs (+US\$44M).

South32 share	FY19	FY18
Ore mined (kwmt)	2,725	2,463
Ore processed (kdmmt)	2,495	2,355
Ore grade processed (g/t, Ag)	184	194
Ore grade processed (% , Pb)	5.0	5.3
Ore grade processed (% , Zn)	3.0	2.6
Zinc equivalent production (kt) ⁽⁵³⁾	193.6	187.2
Payable silver production (koz)	12,201	12,491
Payable lead production (kt)	101.4	104.4
Payable zinc production (kt)	51.6	41.3
Payable silver sales (koz) ⁽³²⁾	13,034	11,985
Payable lead sales (kt) ⁽³²⁾	101.5	97.9
Payable zinc sales (kt) ⁽³²⁾	47.6	45.0
Realised silver sales price (US\$/oz) ⁽³²⁾	14.4	16.6
Realised lead sales price (US\$/t) ⁽³²⁾	1,754 ⁽²²⁾	2,463
Realised zinc sales price (US\$/t) ⁽³²⁾	2,122 ⁽²²⁾	3,185
Operating unit cost (US\$/t ore processed) ⁽⁵⁴⁾	123 ⁽²²⁾	150

South32 share (US\$M)	FY19	FY18
Revenue	467	584
Underlying EBITDA	161	230
Underlying EBIT	104	183
Net operating assets	243	210
Capital expenditure	55	51
<i>All other capital expenditure</i>	55	51
Exploration expenditure	4	3
Exploration expensed	3	2

Notes

- (1) Revenue includes revenue from third party products and services.
- (2) FY19 basic earnings per share is calculated as Profit/(loss) after tax divided by the weighted average number of shares for FY19 (5,048 million). FY19 basic Underlying earnings per share is calculated as Underlying earnings divided by the weighted average number of shares for FY19. FY18 basic earnings per share is calculated as Profit/(loss) after tax divided by the weighted average number of shares for FY18 (5,159 million). FY18 basic Underlying earnings per share is calculated as Underlying earnings divided by the weighted average number of shares for FY18.
- (3) FY19 ordinary dividends per share is calculated as H1 FY19 ordinary dividend announced (US\$258M) divided by the number of shares on issue at 31 December 2018 (5,051 million) plus H2 FY19 ordinary dividend announced (US\$140M) divided by the number of shares on issue at 30 June 2019 (5,006 million).
- (4) FY19 special dividends per share is calculated as FY19 special dividend announced (US\$86M) divided by the number of shares on issue at 31 December 2018 (5,051 million).
- (5) Underlying EBIT is profit before net finance costs, tax and any earnings adjustment items, including impairments. Underlying EBIT is reported inclusive of South32's share of net finance costs and tax of equity accounted investments. Underlying EBITDA is Underlying EBIT, before depreciation and amortisation. Underlying earnings is Profit/(loss) after tax and earnings adjustment items. Underlying earnings is the key measure that South32 uses to assess the performance of the South32 Group, make decisions on the allocation of resources and assess senior management's performance. In addition, the performance of each of the South32 operations and operational management are assessed based on Underlying EBIT. In order to calculate Underlying earnings, Underlying EBIT and Underlying EBITDA, the following items are adjusted as applicable each period, irrespective of materiality:
 - Exchange rate (gains)/losses on restatement of monetary items;
 - Impairment losses/(reversals);
 - Net (gains)/losses on disposal and consolidation of interests in businesses;
 - Fair value (gains)/losses on non-trading derivative instruments and other investments;
 - Major corporate restructures; and
 - Earnings adjustments included in profit/(loss) of equity accounted investments.In addition, items that do not reflect the underlying operations of South32, and are individually significant to the financial statements, are excluded to determine Underlying earnings. Significant items are detailed in the Financial Information.
- (6) Comprises Underlying EBITDA excluding third party product EBITDA, divided by revenue excluding third party product revenue. Also referred to as operating margin.
- (7) Comprises Underlying EBIT excluding third party product EBIT, divided by revenue excluding third party product revenue.
- (8) Return on invested capital (ROIC) is a key measure that South32 uses to assess performance. ROIC is calculated as Underlying EBIT less the discount on rehabilitation provisions included in net finance cost, tax effected by the Group's Underlying effective tax rate (ETR), divided by the sum of fixed assets (excluding any rehabilitation asset, the impairment of South Africa Energy Coal and unproductive capital associated on Major projects) and inventories. Manganese is included in the calculation on a proportional consolidation basis.
- (9) To ensure that incident classification definitions are applied uniformly across our workforce, we have adopted the Occupational Safety and Health Administration of the United States Department of Labor (OSHA) guidelines for the recording and reporting of occupational injuries and illnesses.
- (10) Total Recordable Injury Frequency (TRIF): The sum of (fatalities + lost-time cases + restricted work cases + medical treatment cases) x 1,000,000 ÷ actual hours worked, for employees and contractors. Stated in units of per million hours worked.
- (11) Based on revenue equivalent production which assumes average realised prices remain unchanged from FY18.
- (12) Calculated using the number of shares on issue at 30 June 2019 (5,006 million) with the number of shares on issue at 26 March 2017 (5,324 million).
- (13) Refer to exchange release on 13 August 2018 "South32 completes acquisition of Arizona Mining".
- (14) 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.
- (15) The information that relates to estimates of Mineral Resources for the Clark Deposit (formerly the Central Deposit) of the Hermosa project is a foreign estimate under ASX Listing Rules and is not reported in accordance with the JORC Code. South32 is not in possession of any new information or data relating to that foreign estimate that materially impacts the reliability of the estimate or South32's ability to verify the foreign estimate as a Mineral Resource in accordance with the JORC Code. The supporting information contained in the clarifying statement in the market announcement 'South32 to acquire Arizona Mining in agreed all cash offer' dated 18 June 2018 continues to apply and has not materially changed. Competent Persons have not done sufficient work to classify the foreign estimate as a Mineral Resource or Ore Reserve in accordance with the JORC Code. It is uncertain that following evaluation and further exploration the foreign estimate will be able to be reported as a Mineral Resource or Ore Reserve in accordance with the JORC Code. During FY20 South32 will commence a work program to increase confidence in the resource to ensure that resources are reported in accordance with the JORC Code.
- (16) Refer to media release on 14 September 2018 "South32 completes acquisition of 50% interest in Eagle Downs and assumes operatorship".
- (17) Based on revenue equivalent sales or production (where applicable) which assumes average realised prices remain unchanged from FY19.
- (18) Underlying ETR is Underlying income tax expense, excluding royalty related tax, divided by Underlying profit before tax; both the numerator and denominator exclude equity accounted investments.
- (19) Sales price variance reflects the revenue impact of changes in commodity prices, based on the current period's sales volume. Price-linked costs variance reflects the change in royalties together with the change in input costs driven by changes in commodity prices or market traded consumables. Foreign exchange reflects the impact of exchange rate movements on local currency denominated costs and sales. Volume variance reflects the revenue impact of sales volume changes, based on the comparative period's sales prices. Controllable costs variance represents the impact from changes in the Group's controllable local currency cost base, including the variable cost impact of production volume changes on expenditure, and period-on-period movements in inventories. The controllable cost variance excludes earnings adjustments including significant items.
- (20) Underlying net finance cost and Underlying income tax expense are actual FY19 results, not year-on-year variances.
- (21) South32's ownership share of operations are presented as follows: Worsley Alumina (86% share), Hillside Aluminium (100%), Mozal Aluminium (47.1% share), Brazil Alumina (Alumina 36% share, Aluminium 40% share), South Africa Energy Coal (100% share until Broad-Based Black Economic Empowerment (B-BBEE) vendor loans are repaid), Illawarra Metallurgical Coal (100%), Australia Manganese (60% share), South Africa Manganese (60% share), Cerro Matoso (99.9% share), Cannington (100%), Hermosa (100%) and Eagle Downs Metallurgical Coal (50% share).

Notes

- (22) The FY19 results reflect the Group's adoption of AASB 15 *Revenue from Contracts with Customers*, with revenue recognised net of treatment and refining charges (previously recognised on a gross basis with treatment and refining charges included as a separate expense). These changes result in lower realised prices and Operating unit costs, with no net impact to earnings. Prior periods have not been restated to reflect these changes.
- (23) The Colombian corporate tax rate was 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.
- (24) Total capital expenditure comprises Capital expenditure, the purchase of intangibles and capitalised exploration expenditure. Capital expenditure comprises Sustaining capital expenditure and Major projects capital expenditure. Sustaining capital expenditure comprises Stay-in-business (SIB), Minor discretionary and Deferred stripping (including underground development) capital expenditure.
- (25) Refer to the market announcement "South32 approves Klipspruit Life Extension Project" dated 27 November 2017.
- (26) Market capitalisation as at 16 August 2019. Calculated as the number of shares on issue (5,006 million), the South32 closing share price A\$2.76, and an AUD:USD exchange rate of 0.68.
- (27) Payable zinc equivalent (kt) was calculated by aggregating revenues from payable silver, lead and zinc, and dividing the total Revenue by the price of zinc. FY19 realised prices for zinc (US\$2,122/t), lead (US\$1,754/t) and silver (US\$14.4/oz) have been used for FY19, FY20e and FY21e.
- (28) South32's interest in South Africa Energy Coal is accounted at 100% until Broad-Based Black Economic Empowerment (B-BBEE) vendor loans are repaid.
- (29) Operating unit cost is Revenue less Underlying EBITDA, excluding third party sales, divided by sales volumes. Operating cost is Revenue less Underlying EBITDA excluding third party sales. Additional manganese disclosures are included in footnotes 41 and 46.
- (30) FY20 Operating unit cost guidance includes royalties (where appropriate) and the influence of exchange rates, and includes various assumptions for FY20, including: an alumina price of US\$348/t; an average blended coal price of US\$158/t for Illawarra Metallurgical Coal; a manganese ore price of US\$5.64/dmtu for 44% manganese product; a nickel price of US\$5.54/lb; a thermal coal price of US\$69/t (API4) for South Africa Energy Coal; a silver price of US\$15.82/troy oz; a lead price of US\$1,921/t (gross of treatment and refining charges); a zinc price of US\$2,483/t (gross of treatment and refining charges); an AUD:USD exchange rate of 0.70; a USD:ZAR exchange rate of 15.06; a USD:COP exchange rate of 3,112; and a reference price for caustic soda; all of which reflected forward markets as at June 2019 or our internal expectations.
- (31) FY19 Third party products and services sold comprise US\$57M for aluminium, US\$2M for alumina, US\$392M for coal, US\$239M for freight services, US\$116M for aluminium raw materials and US\$9M for manganese. Underlying EBIT on third party products and services comprise nil for aluminium, US\$2M for alumina, US\$9M for coal, (US\$5M) for freight services, (US\$1M) for aluminium raw materials and nil for manganese. FY18 Third party products and services sold comprise US\$206M for aluminium, US\$49M for alumina, US\$290M for coal, US\$198M for freight services, US\$124M for aluminium raw materials and US\$3M for manganese. Underlying EBIT on third party products and services comprise US\$11M for aluminium, US\$2M for alumina, US\$12M for coal, (US\$1M) for freight services and US\$1M for aluminium raw materials.
- (32) 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.
- (33) 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.
- (34) The information in this report that relates to Mineral Resource estimates for MRN was declared as part of South32's Annual Resource and Reserve declaration in the Annual Report 2018 (www.south32.net) issued on 7 September 2018 and prepared by M A H Monteiro in accordance with the requirements of the JORC Code. 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.
- (35) Presented on a 100% basis.
- (36) The information in this report that relates to Coal Reserve estimates for Klipspruit was declared as part of South32's Annual Resource and Reserve declaration in the Annual Report 2018 (www.south32.net) issued on 7 September 2018 and prepared by P Mulder in accordance with the requirements of the JORC Code. 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.
- (37) South Africa Energy Coal Revenue includes domestic and export sales Revenue.
- (38) Illawarra Metallurgical Coal Revenue includes metallurgical coal and energy coal sales Revenue.
- (39) 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.
- (40) Volumes and realised prices do not include any third party trading that may be undertaken independently of equity production. Realised ore prices are calculated as external sales Revenue less freight and marketing costs, divided by external sales volume. Realised alloy prices are calculated as sales Revenue, including sinter Revenue, divided by alloy sales volume. Ore converted to sinter and alloy, and sold externally, is eliminated as an intracompany transaction.
- (41) Manganese Australia FY19 average manganese content of external ore sales was 45.9% on a dry basis (FY18: 45.7%). 95% of FY19 external manganese ore sales (FY18: 94%) were completed on a CIF basis. FY19 realised FOB ore prices and Operating unit costs have been adjusted for freight and marketing costs of US\$47M (FY18: US\$43M), consistent with our FOB cost guidance.
- (42) FOB ore operating unit cost is Revenue less Underlying EBITDA, freight and marketing costs, divided by ore sales volume. Alloy operating unit cost is Revenue less Underlying EBITDA divided by alloy sales volumes and includes costs associated with sinter sold externally.
- (43) Revenues associated with sales from GEMCO to TEMCO are eliminated as part of the consolidation.
- (44) 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.
- (45) Volumes and prices do not include any third party trading that may be undertaken independently of equity production. Realised ore prices are calculated as external sales Revenue less freight and marketing costs, divided by external sales volume. Realised alloy prices are calculated as sales Revenue, divided by alloy 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.

Notes

- (46) Manganese South Africa FY19 average manganese content of external ore sales was 40.5% on a dry basis (FY18: 39.9%). 74% of FY19 external manganese ore sales (FY18: 70%) were completed on a CIF basis. FY19 realised FOB ore prices and Operating unit costs have been adjusted for freight and marketing costs of US\$40M (FY18: US\$33M), consistent with our FOB cost guidance.
- (47) FOB ore operating unit cost is Revenue less Underlying EBITDA, freight and marketing costs, divided by ore sales volume. Alloy operating unit cost is Revenue less Underlying EBITDA divided by alloy sales volumes.
- (48) Revenues associated with sales from Hotazel Manganese Mines (HMM) to Metalloys are eliminated as part of the consolidation.
- (49) Consistent with the presentation of South32's segment information, South Africa Manganese ore production and sales have been reported at 60%. South32 has a 44.4% ownership interest in HMM. 26% of HMM is owned by a B-BBEE consortium comprising Ntsimbintle Mining (9%), NCAB Resources (7%), Iziko Mining (5%) and HMM Education Trust (5%). The interest owned by NCAB Resources, Iziko Mining and HMM Education Trust were acquired using vendor finance with the loans repayable via distributions attributable to these parties, pro rata to their share in HMM. Until these loans are repaid, South32's interest in HMM is accounted at 54.6%.
- (50) On 24 September 2018, we announced that the Constitutional Court of Colombia had issued its final ruling on our application to annul its decision regarding the alleged health and environmental impacts of our Cerro Matoso operation on the surrounding communities. The Court annulled those orders requiring Cerro Matoso to pay direct financial compensatory damages to community members and establish an ethnic development fund. The orders requiring Cerro Matoso to provide ongoing health care to community members alleging health impacts, and to submit to a new consultative environmental licensing process, were not annulled.
- (51) Volumes and prices do not include any third party trading that may be undertaken independently of equity production. Cerro Matoso realised nickel sales price is inclusive of by-products. Realised sales price is calculated as sales Revenue divided by sales volume.
- (52) Cerro Matoso Operating unit cost per tonne is Revenue less Underlying EBITDA divided by ore processed. Periodic movements in finished product inventory may impact operating unit costs as related marketing costs may change.
- (53) Payable zinc equivalent (kt) was calculated by aggregating revenues 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 and FY19.
- (54) Cannington Operating unit cost is Revenue less Underlying EBITDA divided by ore processed. Periodic movements in finished product inventory may impact operating unit costs as related marketing costs may change.

Figures in *Italics* indicate that an adjustment has been made since the figures were previously reported. The denotation (e) refers to an estimate or forecast year.

The following abbreviations may be used throughout this report: US\$ million (US\$M); US\$ billion (US\$B); financial year (FY19); calendar year (CY); grams per tonne (g/t); tonnes (t); thousand tonnes (kt); thousand tonnes per annum (ktpa); million tonnes (Mt); million tonnes per annum (Mtpa); ounces (oz); thousand ounces (koz); million ounces (Moz); thousand wet metric tonnes (kwmt); million wet metric tonnes (Mwmt); million wet metric tonnes per annum (Mwmt pa); thousand dry metric tonnes (kdmmt); dry metric tonne unit (dmmt); pound (lb); megawatt (MW); Australian Securities Exchange (ASX); London Stock Exchange (LSE); Johannesburg Stock Exchange (JSE); equity accounted investments (EAI); and American Depositary Receipts (ADR).



South32 Financial Information

For the year ended 30 June 2019

BASIS OF PREPARATION

The financial information included in this document for the year ended 30 June 2019 is unaudited. The financial information does not constitute the South32 Group's (the Group) full financial statements for the year ended 30 June 2019, which will be approved by the Board, reported on by the auditors, and filed with the Australian Securities and Investments Commission. The Group's full financial statements will be prepared in accordance with the requirements of the Corporations Act 2001, Australian Accounting Standards and other authoritative pronouncements of the Australian Accounting Standards Board.

The financial information set out on pages 29 to 40 for the year ended 30 June 2019 has been prepared on the basis of accounting policies and methods of computation consistent with those applied in the 30 June 2018 financial statements contained within the Annual Report of the Group, except for new accounting standards (AASB 9 *Financial Instruments* and AASB15 *Revenue from Contracts with Customers*) which became effective from 1 July 2018 without restatement of prior years. The impact of adopting the new accounting standards have been disclosed in the Group's 31 December 2018 half-year financial statements and does not materially impact the Group.

As required, and unless otherwise stated, comparative financial information for the Group has been presented.

All amounts are expressed in US dollars unless otherwise stated. The Group's presentation currency and the functional currency of the majority of its operations is US dollars as this is the principal currency of the economic environment in which it operates.

Amounts in this financial information have, unless otherwise indicated, been rounded to the nearest million dollars (US\$M or US\$ million).

CONSOLIDATED INCOME STATEMENT

for the year ended 30 June 2019

US\$M	FY19	FY18
Revenue		
Group production	6,468	6,682
Third party products and services	806	867
	7,274	7,549
Other income	238	226
Expenses excluding net finance cost	(7,092)	(6,577)
Share of profit/(loss) of equity accounted investments	467	521
Profit/(loss)	887	1,719
Comprising:		
Group production	882	1,694
Third party products and services	5	25
Profit/(loss)	887	1,719
Finance expenses	(151)	(168)
Finance income	67	68
Net finance cost	(84)	(100)
Profit/(loss) before tax	803	1,619
Income tax (expense)/benefit	(414)	(287)
Profit/(loss) after tax	389	1,332
Attributable to:		
Equity holders of South32 Limited	389	1,332
Profit/(loss) for the year attributable to the equity holders of South32 Limited		
Basic earnings per share (cents)	7.7	25.8
Diluted earnings per share (cents)	7.6	25.4

The accompanying notes form part of this financial information.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

for the year ended 30 June 2019

US\$M	FY19	FY18
Profit/(loss) for the year	389	1,332
Other Comprehensive Income		
<i>Items that may be reclassified to the Consolidated Income Statement:</i>		
Available for sale investments:		
Net gains/(losses) recognised in equity	-	170
Net (gains)/losses transferred to the Consolidated Income Statement	-	(33)
Tax benefit/(expense) recognised within Other Comprehensive Income	-	(3)
Cash Flow hedges:		
Net gains/(losses) recognised in equity	-	5
Transfer of net (gains)/losses recognised in equity	(5)	-
Total items that may be reclassified to the Consolidated Income Statement	(5)	139
<i>Items not to be reclassified to the Consolidated Income Statement:</i>		
Investments in equity instruments designated as fair value through Other Comprehensive Income (FVOCI)		
Net fair value gains/(losses)	(26)	-
Tax benefit/(expense)	10	-
Equity accounted investments – share of Other Comprehensive Income/(loss), net of tax	66	1
Gains/(losses) on pension and medical schemes	(3)	4
Tax benefit/(expense) recognised within Other Comprehensive Income	1	(1)
Total items not to be reclassified to the Consolidated Income Statement	48	4
Total Other Comprehensive Income/(loss)	43	143
Total Comprehensive Income/(loss)	432	1,475
Attributable to:		
Equity holders of South32 Limited	432	1,475

The accompanying notes form part of this financial information.

CONSOLIDATED BALANCE SHEET

as at 30 June 2019

US\$M	FY19	FY18
ASSETS		
Current assets		
Cash and cash equivalents	1,408	2,970
Trade and other receivables	888	826
Other financial assets	108	80
Inventories	952	886
Current tax assets	7	8
Other	38	51
Total current assets	3,401	4,821
Non-current assets		
Trade and other receivables	290	248
Other financial assets	272	613
Inventories	68	76
Property, plant and equipment	9,596	8,196
Intangible assets	233	221
Equity accounted investments	688	697
Deferred tax assets	155	245
Other	12	16
Total non-current assets	11,314	10,312
Total assets	14,715	15,133
LIABILITIES		
Current liabilities		
Trade and other payables	880	830
Interest bearing liabilities	313	333
Other financial liabilities	-	2
Current tax payables	179	135
Provisions	312	360
Deferred income	4	4
Total current liabilities	1,688	1,664
Non-current liabilities		
Trade and other payables	1	5
Interest bearing liabilities	591	596
Deferred tax liabilities	334	445
Provisions	1,925	1,705
Deferred income	8	9
Total non-current liabilities	2,859	2,760
Total liabilities	4,547	4,424
Net assets	10,168	10,709
EQUITY		
Share capital	14,212	14,493
Treasury shares	(105)	(83)
Reserves	(3,490)	(3,333)
Retained earnings/(accumulated losses)	(448)	(367)
Total equity attributable to equity holders of South32 Limited	10,169	10,710
Non-controlling interests	(1)	(1)
Total equity	10,168	10,709

The accompanying notes form part of this financial information.

CONSOLIDATED CASH FLOW STATEMENT

for the year ended 30 June 2019

US\$M	FY19	FY18
Operating activities		
Profit/(loss) before tax	803	1,619
Adjustments for:		
Non-cash significant items	-	(31)
Depreciation and amortisation expense	757	742
Impairments of property, plant and equipment	504	-
Employee share awards expense	38	40
Net finance cost	84	100
Share of (profit)/loss of equity accounted investments	(467)	(521)
Fair value (gains)/losses on derivative instruments and other investments	35	76
Other non-cash or non-operating items	1	(12)
Changes in assets and liabilities:		
Trade and other receivables	6	(153)
Inventories	(58)	(99)
Trade and other payables	(13)	(22)
Provisions and other liabilities	(64)	(118)
Cash generated from operations	1,626	1,621
Interest received	71	64
Interest paid	(70)	(70)
Income tax (paid)/received	(346)	(306)
Dividends received	-	14
Dividends received from equity accounted investments	536	394
Net cash flows from operating activities	1,817	1,717
Investing activities		
Purchases of property, plant and equipment	(652)	(430)
Exploration expenditure	(74)	(40)
Exploration expenditure expensed and included in operating cash flows	46	38
Purchase of intangibles	(30)	(4)
Investment in financial assets	(411)	(273)
Acquisition of subsidiaries and jointly controlled entities, net of their cash	(1,507)	-
Cash outflows from investing activities	(2,628)	(709)
Proceeds from sale of property, plant and equipment and intangibles	5	1
Proceeds from financial assets	305	407
Distribution from equity accounted investments	6	-
Net cash flows from investing activities	(2,312)	(301)
Financing activities		
Proceeds from interest bearing liabilities	3	4
Repayment of interest bearing liabilities	(37)	(77)
Purchase of shares by South32 Limited Employee Incentive Plan Trusts (ESOP Trusts)	(99)	(84)
Share buy-back	(281)	(254)
Dividends paid	(657)	(708)
Net cash flows from financing activities	(1,071)	(1,119)
Net increase/(decrease) in cash and cash equivalents	(1,566)	297
Cash and cash equivalents, net of overdrafts, at the beginning of the financial year	2,970	2,675
Foreign currency exchange rate changes on cash and cash equivalents	2	(2)
Cash and cash equivalents, net of overdrafts, at the end of the financial year	1,406	2,970

The accompanying notes form part of this financial information.

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

for the year ended 30 June 2019

US\$M	Attributable to equity holders of South32 Limited						Total	Non- controlling interests	Total equity
	Share capital	Treasury shares	Financial assets reserve ⁽¹⁾	Employee share awards reserve ⁽²⁾	Other reserves ⁽³⁾	Retained earnings/ (accumulated losses)			
Balance as at 1 July 2018	14,493	(83)	164	88	(3,585)	(367)	10,710	(1)	10,709
Adjustments for transition to new accounting standards ⁽⁴⁾	-	-	(12)	-	-	10	(2)	-	(2)
Restated balance as at 1 July 2018	14,493	(83)	152	88	(3,585)	(357)	10,708	(1)	10,707
Profit/(loss) for the year	-	-	-	-	-	389	389	-	389
Other Comprehensive Income/(loss)	-	-	(16)	-	(5)	64	43	-	43
Total Comprehensive Income/(loss)	-	-	(16)	-	(5)	453	432	-	432
Transactions with owners:									
Dividends	-	-	-	-	-	(657)	(657)	-	(657)
Shares bought back and cancelled	(281)	-	-	-	-	-	(281)	-	(281)
Accrued employee entitlements for unexercised awards, net of tax	-	-	-	49	-	-	49	-	49
Purchase of shares by ESOP Trusts	-	(99)	-	-	-	-	(99)	-	(99)
Employee share awards exercised following vesting	-	77	-	(28)	-	(49)	-	-	-
Tax recognised for employee awards exercised	-	-	-	-	-	17	17	-	17
Transfer of cumulative fair value gain on equity instruments designated at FVOCI ⁽⁵⁾	-	-	(145)	-	-	145	-	-	-
Balance as at 30 June 2019	14,212	(105)	(9)	109	(3,590)	(448)	10,169	(1)	10,168
Balance as at 1 July 2017	14,747	(26)	30	57	(3,590)	(982)	10,236	(1)	10,235
Profit/(loss) for the year	-	-	-	-	-	1,332	1,332	-	1,332
Other Comprehensive Income/(loss)	-	-	134	-	5	4	143	-	143
Total Comprehensive Income/(loss)	-	-	134	-	5	1,336	1,475	-	1,475
Transactions with owners:									
Dividends	-	-	-	-	-	(708)	(708)	-	(708)
Shares bought back and cancelled	(254)	-	-	-	-	-	(254)	-	(254)
Accrued employee entitlements for unexercised awards	-	-	-	45	-	-	45	-	45
Purchase of shares by ESOP Trusts	-	(84)	-	-	-	-	(84)	-	(84)
Employee share awards exercised following vesting	-	27	-	(14)	-	(13)	-	-	-
Balance as at 30 June 2018	14,493	(83)	164	88	(3,585)	(367)	10,710	(1)	10,709

(1) Represents the fair value movement in financial assets designated as FVOCI.

(2) Represents the accrued employee entitlements to share awards that have not yet vested.

(3) Primarily consists of the common control transaction reserve of US\$3,569 million, which reflects the difference between consideration paid and the carrying value of assets and liabilities acquired, as well as the gains/losses on disposal of entities as part of the demerger of the Group in 2015.

(4) The Group has adopted AASB 9 with a date of initial application of 1 July 2018. For transition, the Group has elected to apply the limited exemption in AASB 9 relating to the classification, measurement and impairment requirements for financial assets and accordingly has not restated comparative periods. Any resulting adjustments to carrying values in the opening balance sheet have been recognised in opening retained earnings as at 1 July 2018.

(5) The Group completed its acquisition of the remaining 83 per cent of issued and outstanding shares of Arizona Mining Inc. and derecognised its existing 17 per cent interest as an investment in equity instruments designated as FVOCI.

The accompanying notes form part of this financial information.

SEGMENT INFORMATION

(a) Description of segments

The operating segments (also referred to as operations) are organised and managed separately according to the nature of products produced.

Certain members of the Lead Team (the chief operating decision makers) and the Board of Directors monitor the segment results regularly for the purpose of making decisions about resource allocation and performance assessment. The segment information for the manganese operations are presented on a proportional consolidation basis, which is the measure used by the Group's management to assess their performance.

The principal activities of each operating segment as the Group is currently structured are summarised as follows:

Operating segment	Principal activities
Worsley Alumina	Integrated bauxite mine and alumina refinery in Western Australia, Australia
Hillside Aluminium	Aluminium smelter in South Africa
Mozal Aluminium	Aluminium smelter in Mozambique
Brazil Alumina	Alumina refinery in Brazil
South Africa Energy Coal	Open-cut and underground energy coal mines and processing operations in South Africa
Illawarra Metallurgical Coal	Underground metallurgical coal mines in New South Wales, Australia
Eagle Downs Metallurgical Coal ⁽¹⁾	Exploration and development of metallurgical coal deposit in Queensland, Australia
Australia Manganese	Integrated producer of manganese ore in the Northern Territory and alloy in Tasmania, Australia
South Africa Manganese	Integrated producer of manganese ore and alloy in South Africa
Cerro Matoso	Integrated laterite ferronickel mining and smelting complex in Colombia
Cannington	Silver, lead and zinc mine in Queensland, Australia
Hermosa ⁽²⁾	Exploration and development option for zinc, lead and silver sulphide deposit in Tucson, United States

(1) The Eagle Downs Metallurgical Coal operating segment was acquired on 14 September 2018. Refer to Acquisition of subsidiaries and jointly controlled operations.

(2) The Hermosa operating segment was acquired on 10 August 2018. Refer to Acquisition of subsidiaries and jointly controlled operations.

All operations are operated or jointly operated by the Group except Brazil Alumina, which is operated by Alcoa.

(b) Segment results

Segment performance is measured by Underlying EBIT and Underlying EBITDA. Underlying EBIT is profit before net finance cost, tax and other earnings adjustment items including impairments. Underlying EBITDA is Underlying EBIT, before depreciation and amortisation. A reconciliation of Underlying EBIT, Underlying EBITDA and the Group's consolidated profit after tax is set out on the following pages. Segment revenue is measured on the same basis as in the Consolidated Income Statement.

The Group separately discloses sales of group production from sales of third party products because of the significant difference in profit margin earned on these sales.

It is the Group's policy that inter-segment transactions are made on a commercial basis.

Group and unallocated items/eliminations represent group centre functions and consolidation adjustments. Group financing (including finance expense and finance income) and income taxes are managed on a Group basis and are not allocated to operating segments.

Total assets and liabilities for each operating segment represent operating assets and liabilities which predominantly exclude the carrying amount of equity accounted investments, cash, interest bearing liabilities, tax balances and certain other financial assets. The carrying amount of investments accounted for using the equity method represents the balance of the Group's investment in equity accounted investments, with no adjustment for cash, interest bearing liabilities and tax balances of the equity accounted investment.

FY19 SEGMENT INFORMATION

30 June 2019	Worsley Alumina	Hillside Aluminium	Mozal Aluminium	Brazil Alumina	South Africa Energy Coal	Illawarra Metallurgical Coal	Eagle Downs Metallurgical Coal	Australia Manganese ⁽¹⁾	South Africa Manganese ⁽¹⁾	Cerro Matoso	Cannington	Hermosa	Group and unallocated items/elimination	Statutory adjustment ⁽¹⁾	Group
US\$M															
Revenue from customers ⁽²⁾	1,619	1,443	558	565	1,043	1,139	-	1,102	556	498	478	-	(39)	(1,650)	7,312
Other ⁽³⁾	-	(4)	(2)	1	(6)	(4)	-	(7)	(3)	(9)	(11)	-	(3)	10	(38)
Total revenue⁽²⁾	1,619	1,439	556	566	1,037	1,135	-	1,095	553	489	467	-	(42)	(1,640)	7,274
Group production	797	1,439	556	548	1,037	1,135	-	1,095	536	489	467	-	-	(1,631)	6,468
Third party products and services ⁽⁴⁾	-	-	-	-	-	-	-	-	-	-	-	-	815	(9)	806
Inter-segment revenue	822	-	-	18	-	-	-	-	17	-	-	-	(857)	-	-
Total revenue⁽²⁾	1,619	1,439	556	566	1,037	1,135	-	1,095	553	489	467	-	(42)	(1,640)	7,274
Underlying EBITDA	702	(7)	13	219	42	542	-	698	215	127	161	-	(53)	(462)	2,197
Depreciation and amortisation	(161)	(68)	(34)	(59)	(88)	(183)	-	(60)	(27)	(87)	(57)	-	(20)	87	(757)
Underlying EBIT	541	(75)	(21)	160	(46)	359	-	638	188	40	104	-	(73)	(375)	1,440
Comprising:															
Group production excluding exploration expensed	542	(75)	(21)	160	(47)	360	-	639	188	48	107	-	(47)	(823)	1,031
Exploration expensed	(1)	-	-	-	-	(3)	-	(1)	-	(8)	(3)	-	(31)	1	(46)
Third party products and services ⁽⁴⁾	-	-	-	-	-	-	-	-	-	-	-	-	5	-	5
Share of profit/(loss) of equity accounted investments ⁽⁵⁾	-	-	-	-	1	2	-	-	-	-	-	-	-	447	450
Underlying EBIT	541	(75)	(21)	160	(46)	359	-	638	188	40	104	-	(73)	(375)	1,440
Net finance cost															(118)
Income tax (expense)/benefit															(330)
Underlying earnings															992
Earnings adjustments ⁽⁶⁾															(603)
Profit/(loss) after tax															389
Exploration expenditure	1	-	-	-	-	9	1	2	-	10	4	18	31	(2)	74
Capital expenditure⁽⁷⁾	57	19	19	26	213	138	6	65	30	32	55	85	2	(95)	652
Equity accounted investments	-	-	-	-	14	3	-	-	-	-	-	-	-	671	688
Total assets⁽⁸⁾	3,468	1,304	644	795	736	1,710	172	679	524	697	493	1,777	2,498	(782)	14,715
Total liabilities⁽⁸⁾	637	277	110	108	1,109	300	9	363	212	218	250	39	1,656	(741)	4,547

(1) The segment information reflects the Group's interest in the manganese operations and is presented on a proportional consolidation basis, which is the measure used by the Group's management to assess their performance. The manganese operations are equity accounted in the consolidated financial statements. The statutory adjustment column reconciles the proportional consolidation to the equity accounting position.

(2) Revenue from customers is presented net of treatment and refining charges (previously recognised on a gross basis with treatment and refining charges included as a separate expense) following the adoption of AASB 15 on 1 July 2018.

(3) Other revenue predominantly relates to fair value movements on provisionally priced contracts following the adoption of AASB 15 on 1 July 2018.

(4) Third party products and services sold comprise US\$57 million for aluminium, US\$2 million for alumina, US\$392 million for coal, US\$239 million for freight services and US\$116 million for aluminium raw materials. Underlying EBIT on third party products comprise nil for aluminium, US\$2 million for alumina, US\$9 million for coal, (US\$5) million for freight services and (US\$1) million for aluminium raw materials.

(5) Share of profit/(loss) of equity accounted investments includes the impacts of earnings adjustments to Underlying EBIT.

(6) Refer to Earnings adjustments.

(7) Capital expenditure excludes the purchase of intangibles and capitalised exploration expenditure.

(8) Total assets and liabilities for each operating segment represent operating assets and liabilities which predominantly exclude the carrying amount of equity accounted investments, cash, interest bearing liabilities, tax balances and certain other financial assets.

FY18 SEGMENT INFORMATION

30 June 2018	Worsley Alumina	Hillside Aluminium	Mozal Aluminium	Brazil Alumina	South Africa Energy Coal	Illawarra Metallurgical Coal	Australia Manganese ⁽¹⁾	South Africa Manganese ⁽¹⁾	Cerro Matoso	Cannington	Group and unallocated items/elimination	Statutory adjustment ⁽¹⁾	Group
US\$M													
Revenue ⁽²⁾													
Group production	724	1,583	629	551	1,366	686	1,111	489	559	584	-	(1,600)	6,682
Third party products and services ⁽³⁾	-	-	-	-	-	-	-	-	-	-	870	(3)	867
Inter-segment revenue	749	-	-	-	-	-	-	14	-	-	(749)	(14)	-
Total revenue	1,473	1,583	629	551	1,366	686	1,111	503	559	584	121	(1,617)	7,549
Underlying EBITDA	588	285	133	192	353	103	710	215	209	230	(64)	(438)	2,516
Depreciation and amortisation	(166)	(72)	(34)	(56)	(77)	(165)	(59)	(29)	(89)	(47)	(36)	88	(742)
Underlying EBIT	422	213	99	136	276	(62)	651	186	120	183	(100)	(350)	1,774
Comprising:													
Group production excluding exploration expensed	423	213	99	136	273	(56)	652	186	128	185	(105)	(838)	1,296
Exploration expensed	(1)	-	-	-	-	(7)	(1)	-	(8)	(2)	(20)	1	(38)
Third party products and services ⁽³⁾	-	-	-	-	-	-	-	-	-	-	25	-	25
Share of profit/(loss) of equity accounted investments ⁽⁴⁾	-	-	-	-	3	1	-	-	-	-	-	487	491
Underlying EBIT	422	213	99	136	276	(62)	651	186	120	183	(100)	(350)	1,774
Net finance cost													(123)
Income tax (expense)/benefit													(324)
Underlying earnings													1,327
Earnings adjustments ⁽⁵⁾													5
Profit/(loss) after tax													1,332
Exploration expenditure	1	-	-	-	-	7	1	-	9	3	20	(1)	40
Capital expenditure⁽⁶⁾	52	28	10	12	164	89	48	17	22	51	2	(65)	430
Equity accounted investments	-	-	-	-	12	1	-	-	-	-	-	684	697
Total assets⁽⁷⁾	3,516	1,507	685	756	1,036	1,655	596	496	764	450	4,239	(567)	15,133
Total liabilities⁽⁷⁾	488	305	132	112	1,059	247	307	199	213	240	1,669	(547)	4,424

(1) The segment information reflects the Group's interest in the manganese operations and is presented on a proportional consolidation basis, which is the measure used by the Group's management to assess their performance. The manganese operations are equity accounted in the consolidated financial statements. The statutory adjustment column reconciles the proportional consolidation to the equity accounting position.

(2) A portion of Group production may be provisionally priced at the date revenue is recognised. For the year ended 30 June 2018 there was no requirement under AASB 118 to separate out and disclose provisional price movements. Presentation of revenue is gross of treatment and refining charges.

(3) Third party products and services sold comprise of US\$206 million for aluminium, US\$49 million for alumina, US\$290 million for coal, US\$198 million for freight services and US\$124 million for aluminium raw materials. Underlying EBIT on third party products and services comprise of US\$11 million for aluminium, US\$2 million for alumina, US\$12 million for coal, (US\$1) million for freight services and US\$1 million for aluminium raw materials.

(4) Share of profit/(loss) of equity accounted investments includes the impacts of earnings adjustments to Underlying EBIT.

(5) Refer to Earnings adjustments.

(6) Capital expenditure excludes the purchase of intangibles and capitalised exploration expenditure.

(7) Total assets and liabilities for each operating segment represent operating assets and liabilities which predominantly exclude the carrying amount of equity accounted investments, cash, interest bearing liabilities, tax balances and certain other financial assets.

EARNINGS ADJUSTMENTS

The following table shows earnings adjustments in determining Underlying earnings:

US\$M	FY19	FY18
Adjustments to Underlying EBIT		
Significant items	-	(31)
Exchange rate (gains)/losses on restatement of monetary items ⁽¹⁾	3	(15)
Impairment loss ⁽¹⁾⁽²⁾	504	-
Fair value (gains)/losses on non-trading derivative instruments and other investments ⁽¹⁾⁽³⁾⁽⁴⁾	35	73
Major corporate restructures ⁽¹⁾⁽⁵⁾	28	58
Earnings adjustments included in profit/(loss) of equity accounted investments ⁽⁶⁾⁽⁷⁾	(17)	(30)
Total adjustments to Underlying EBIT	553	55
Adjustments to net finance cost		
Exchange rate variations on net debt	(34)	(23)
Total adjustments to net finance cost	(34)	(23)
Adjustments to income tax expense		
Tax effect of significant items	-	1
Tax effect of other earnings adjustments to Underlying EBIT ⁽⁸⁾	56	(34)
Tax effect of earnings adjustments to net finance cost	10	7
Exchange rate variations on tax balances	18	(11)
Total adjustments to income tax expense	84	(37)
Total earnings adjustments	603	(5)

(1) Recognised in expenses excluding net finance cost in the Consolidated Income Statement.

(2) Relates to impairment of property, plant and equipment included in the South Africa Energy Coal segment. Refer to Impairment of non-financial assets.

(3) Primarily relates to US\$30 million (FY18: US\$57 million) included in the Hillside Aluminium segment.

(4) The investment in unit trusts held by the South32 South Africa Energy Coal Rehabilitation Trust Fund does not meet the definition of an equity instrument under AASB 9. These investments are therefore classified as investments held at fair value through profit or loss (FVTPL) (FY18: Available for sale).

(5) Primarily relates to US\$24 million in the Hillside Aluminium segment (FY18: primarily related to US\$12 million included in the Illawarra Metallurgical Coal segment and US\$45 million included in Group and unallocated items).

(6) Recognised in share of profit/(loss) of equity accounted investments in the Consolidated Income Statement. Refer to Equity accounted investments.

(7) Relates to (US\$17) million (FY18: (US\$6) million) included in the Australia Manganese segment and nil (FY18: (US\$24) million) included in the South Africa Manganese segment.

(8) Primarily includes net US\$74 million (FY18: nil) relating to impairment losses in the South Africa Energy Coal segment. Deferred tax assets of US\$99 million (FY18: nil) were derecognised as utilisation of the future tax benefits is no longer considered probable. Of the US\$132 million (FY18: nil) tax effect of the impairment loss, a deferred tax asset of US\$25 million is recognised with the balance of US\$107 million not recognised.

INCOME TAX EXPENSE

US\$M	FY19	FY18
Current income tax expense/(benefit)	(313)	(333)
Deferred income tax expense/(benefit)	(101)	46
Total income tax expense/(benefit)	(414)	(287)

IMPAIRMENT OF NON-FINANCIAL ASSETS

The Group recorded the following impairments for the year ended 30 June:

US\$M	FY19	FY18
Property, plant and equipment	504	-
Total impairment	504	-

The Group recognised impairments of property, plant and equipment for the separately identifiable cash generating units (CGUs) within South Africa Energy Coal (SAEC) for the year ended 30 June 2019. The Group received external indicative offers for SAEC which in combination with the market outlook for thermal coal demand and prices, informed the Group's assessment of recoverable amount for SAEC as a collective group of CGUs. The recoverable amount for SAEC is based on a fair value less cost of disposal (FVLCD) calculation and is categorised as a Level 3 fair value based on the inputs in the valuation technique.

The recoverable amount is also informed by near term future cash flows that assume forecast thermal coal prices which are comparable to market consensus forecasts, and a forecast South African rand exchange rate which is aligned with forward market rates. It also assumes future production based on management's short-term planning processes.

SAEC consists of the Khutala colliery (Khutala), an underground bord and pillar operation; the Klipspruit colliery (Klipspruit), a single dragline, multi seam open-cut mine that is combined with a truck and shovel mini pit; the Wolvekrans Middelburg Complex (WMC) and other SAEC corporate assets. The WMC consists of the Ifaletu colliery and Wolvekrans colliery, which are open-cut mines with a number of active pits, and are mined using draglines combined with truck and shovel operations.

The Group impairment recognised for the year ended 30 June 2019 has been allocated to property, plant and equipment for the CGUs on a pro-rata basis:

US\$M	Impairment recognised	Recoverable amount
WMC	253	(318)
Klipspruit	225	108
Khutala	26	(23)
Other corporate assets	-	71
Total	504	(162)

NET FINANCE COST

US\$M	FY19	FY18
Finance expenses		
Interest on borrowings	(23)	(18)
Finance lease interest	(47)	(52)
Discounting on provisions and other liabilities	(103)	(105)
Change in discount rate on closure and rehabilitation provisions	-	(3)
Net interest expense on post-retirement employee benefits	(9)	(10)
Fair value change on financial assets	(3)	(3)
Exchange rate variations on net debt	34	23
	(151)	(168)
Finance income		
Interest income	67	68
Net finance cost	(84)	(100)

EQUITY ACCOUNTED INVESTMENTS

The Group's interests in equity accounted investments with the most significant contribution to the Group's net profit/(loss) or net assets are as follows:

Significant joint ventures	Country of incorporation/ principal place of business	Principal activity	Reporting date	Acquisition date	Ownership interest	
					FY19 %	FY18 %
Australia Manganese ⁽¹⁾⁽²⁾	Australia	Integrated producer of manganese ore and alloy	30 June 2019	8 May 2015	60	60
South Africa Manganese ⁽¹⁾⁽³⁾	South Africa	Integrated producer of manganese ore and alloy	30 June 2019	3 February 2015	60	60

(1) Whilst the Group holds a greater than 50 per cent interest in the joint ventures, joint control is contractually achieved as joint venture parties unanimously consent on decisions over the joint venture's relevant activities.

(2) Australia Manganese consists of an investment in Grootte Eylandt Mining Company Pty Ltd.

(3) South Africa Manganese consists of an investment in Samancor Holdings (Pty) Ltd.

The following table summarises the financial information of the Group's significant equity accounted investments:

Share of profit/(loss) of equity accounted investments		
US\$M	FY19	FY18
Australia Manganese and South Africa Manganese	448	503
Individually immaterial ⁽¹⁾	19	18
Total⁽²⁾	467	521

(1) Individually immaterial consists of investments in Samancor AG (60 per cent), Samancor Marketing Pte Ltd (60 per cent), Richards Bay Coal Terminal Proprietary Limited (21.1 per cent) and Port Kembla Coal Terminal Limited (16.7 per cent).

(2) Includes earnings adjustment of (US\$17) million (FY18: (US\$30) million). Refer to Earnings adjustments.

INTERESTS IN JOINT OPERATIONS

Significant joint operations of the Group, which are those with the most significant contributions to the Group's net profit/(loss) or net assets, are as follows:

Significant joint operations	Country of operation	Principal activity	Acquisition date	Effective interest	
				FY19 %	FY18 %
Brazil Alumina	Brazil	Alumina refining	3 July 2014	36	36
Eagle Downs Metallurgical Coal ⁽¹⁾	Australia	Metallurgical coal exploration and development	14 September 2018	50	-
Moza Aluminium SARL ⁽²⁾	Mozambique	Aluminium smelting	27 March 2015	47.1	47.1
Worsley Alumina ⁽³⁾	Australia	Bauxite mining and alumina refining	8 May 2015	86	86

(1) Refer to Acquisition of subsidiaries and jointly controlled operations.

(2) This joint arrangement is an incorporated entity. It is classified as a joint operation as the participants are entitled to receive output, not dividends, from the arrangement.

(3) Whilst the Group holds a greater than 50 per cent interest in Worsley Alumina, participants are entitled to receive their share of output from the arrangement.

ACQUISITION OF SUBSIDIARIES AND JOINTLY CONTROLLED OPERATIONS

Acquisition of Arizona Mining Inc.

On 10 August 2018, the Group completed its acquisition of the remaining 83 per cent of issued and outstanding shares of Arizona Mining Inc. that it did not already own via a plan of arrangement. The transaction was completed for a total consideration of US\$1,351 million via a fully funded, all cash offer. The Group's existing 17 per cent interest was derecognised as an investment in equity instruments designated as FVOCI and US\$253 million was transferred to form part of the consolidated investment in Arizona Mining Inc. The acquisition was treated as an acquisition of assets including mineral rights, exploration licences and exploration surface facilities.

US\$M	
Cash outflow on acquisition	
Net cash acquired	10
Direct costs relating to the acquisition ⁽¹⁾	(1,392)
Net consolidated cash outflow	(1,382)
Net assets	
Cash and cash equivalents	10
Other assets	1
Property, plant and equipment ⁽²⁾	1,661
Other liabilities	(27)
Net assets	1,645

(1) Inclusive of acquisition related transaction costs and other directly attributable costs.

(2) Includes mineral rights of US\$1,629 million.

Acquisition of the Eagle Downs Metallurgical Coal project

On 14 September 2018, the Group completed its acquisition of a 50 per cent interest in the Eagle Downs Metallurgical Coal project in Queensland's Bowen Basin. The remaining 50 per cent interest continues to be held by Aquila Resources Pty Ltd, a subsidiary of China BaoWu Steel Group. The transaction was completed for a total upfront payment of US\$106 million, a deferred payment of US\$27 million and a coal price-linked production royalty capped at US\$80 million. The acquisition was treated as an acquisition of assets including mineral rights, site infrastructure and dual drifts which are approximately 40 per cent complete. The joint arrangement is an unincorporated entity and is classified as a joint operation as activities are primarily designed for the provision of output to the parties of the arrangement.

US\$M	
Cash outflow on acquisition	
Direct costs relating to the acquisition ⁽¹⁾	(112)
Net consolidated cash outflow	(112)
Net assets	
Property, plant and equipment ⁽²⁾	160
Interest bearing liabilities ⁽³⁾	(35)
Other liabilities	(13)
Net assets	112

(1) Inclusive of acquisition related transaction costs.

(2) Includes mineral rights of US\$107 million.

(3) Includes the deferred payment obligation of US\$27 million. The coal price-linked production royalty capped at US\$80 million will be expensed as incurred.

SUBSEQUENT EVENTS

On 22 August 2019, the Directors resolved to pay a fully franked final dividend of US 2.8 cents per share (US\$140 million) in respect of the 2019 financial year. The dividend will be paid on 10 October 2019. The dividend has not been provided for in the consolidated financial statements and will be recognised in the 2020 financial year.

On 22 August 2019, the Group also announced an extension of the existing on-market share buy-back program, announced on 27 March 2017, by US\$250 million to a total of US\$1.25 billion along with a 12 month extension to the completion time, expected to be returned by 4 September 2020. This program has US\$264 million remaining with 318 million shares having been purchased to 30 June 2019 for a cash consideration of US\$747 million.

No other matters or circumstances have arisen since the end of the financial year that have significantly affected, or may significantly affect, the operations, results of operations or state of affairs of the Group in subsequent accounting periods.

Disclaimer

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.

NON-IFRS FINANCIAL INFORMATION

This release includes certain non-IFRS financial measures, including Underlying earnings, Underlying EBIT and Underlying EBITDA, Basic Underlying earnings per share, Underlying effective tax rate, Underlying EBIT margin, Underlying EBITDA margin, Underlying return on capital, Free cash flow, net debt, net operating assets and ROIC. These measures are used internally by management to assess the performance of our business, make decisions on the allocation of our resources and assess operational management. Non-IFRS measures have not been subject to audit or review and should not be considered as an indication of or alternative to an IFRS measure of profitability, financial performance or liquidity.

NO OFFER OF SECURITIES

Nothing in this release should be read or understood as an offer or recommendation to buy or sell South32 securities, or be treated or relied upon as a recommendation or advice by South32.

NO FINANCIAL OR INVESTMENT ADVICE – SOUTH AFRICA

South32 does not provide any financial or investment 'advice' as that term is defined in the South African Financial Advisory and Intermediary Services Act, 37 of 2002, and we strongly recommend that you seek professional advice.

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