

CoalAngloNorthAmerican.xls

									BHP								
	A	В	C	D	E	F	G	н		J		<	L	м	N		0
92			1-1	1				-									I
93		7.7.7.684	and a second second														
94		2.3.2 Min	lerals continued										-1				
95							HAP Billiton	OHP Billton	Group share of pro	duction		Co	al			_	
90							Group Interest	Tes	r ended so tune			Ref	Country	Asset	Descript	tion	
98		fron Ore B	lusiness				*	2013	2012	2011		18	South Africa	Energy Coal South Africa	Open-cu mines ar	t and under d processing	ground energy coal g operations
100		WAIO In Production	('000 tonnes)									19	Australia	New South Wales Energy Coal	open-cu	t energy coa ion plant in	I mine and coal New South Wales
101		Newman, /	Australia (6)				85	52,997	51,326	45,245		20	US	New Mexico Coa	Two ener	rov coal min	es in New Mexico
102		Mt Goldsw	orthy Joint Venture -	Yarrie, Australia			85	1,106	768	1,198		21	Colombia	Correián II	Open.cu	t opprav co	al mine with
103		Mt Goldsw	worthy Joint Venture -	Area C, Australia			85	44,717	42,425	39,794		21	Colombia	Certejon	integrate	ed rail and n	ort operations
104		Yandi Joint	t Venture, Australia	<u>hini madu</u>	-		85	60,054	53,536	36,460		22	Australia	PUD Dilliton	Onon cu	t and under	around motalluraic
105		Total WAI	0					158,874	148,055	122,697		~~	Australia	Mitsubishi	coal min	es in the Que	eensland Bowen
106		Samarco, B	Brazil				50	10,982	11,423	11,709				Alliance	Basin an	d Hay Point	Coal terminal
107		Total iron	ore					169,856	159,478	134,406		23	Australia	BHP Billiton Mitsui Coal	Two ope	n-cut metall	urgical coal mines
109		Coal Busin	Yest									74	Australia	Illawara Coal	Hederer	aund motally	unaical coal minor
110		Metallurg	ical coal									24	Australia	illawaria Coar	southern	New South	Wales, with acces
111		Production	('000 tonnes) 11												to rail an	d port facili	ties
112		Blackwater	r, Australia				50	5,432	4,435	4,589		-					-
113		Goonyella	Riverside, Australia [®]				50	6,221	5,003	5,359				BH	IP AnnRp	t 2013.	
114		Peak Down	ns, Australia				50	4,545	3,534	3,402							
115		Saraji, Aus	tralia				50	3,449	3,053	2,779				1.11			
116		Norwich Pa	ark, Australia 17	1.0			50		1,175	1,055							
117		Gregory jo	int venture, Australia	Los.			50	2,523	1,411	2,717					hhr	shill	iton
118		Daunia, Au	ustralia **				50	475		-					UIIL	າດເຕ	
119		Total BMA						22,645	18,611	19,901							
120		South Wall	ker Creek, Australia				80	4,351	4,081	3,134							
121		Poitrel, Au	stralia				80	2,712	2,612	2,759				RHP Ball	ton	BHP Billit	on Group share of pr
122		Total BHP	Billiton Mitsui Coal	(40)				7,063	6,693	5,893				Group inte	rest		Year ended 30 June
123		Total Que	ensland Coal					29,708	25,304	25,794	Molybdenum				-	2010	2015
124		Illawarra C	oal, Australia				100	7,942	7,926	6,884	Payable metal in	concern	mate (tonnes)		1.75	1113	477
125		Total meta	allurgical coal					37,650	33,230	32,678	Total molybden	am				1,113	472
120		Energy co	al								Iron ore Western Austral	ha Iron	Ore				
127		Production	('000 tonnes)								Production ('000	tonnes)	0				49.400
120		Navaio, Un	nited States				100	6.544	7.004	7.472	Yame, Australia	(0)			85	05,941	03,097
129		San Juan, I	United States				100	6,694	2,408	4,140	Area C Joint Ven Vandi Joint Vent	ture, Au	astralia tralia		85	46,799	49,994
121		Total New	Mexico Coal				100	13.238	9.412	11.612	Junblebar, Austra	ha (9)			85	18,890	16,759
132		Middelburg	n/Wnlyekrans, South	Africa			90	14.669	14 848	14 328	Total Western A	ustrali	Iron Ore		83	22,549	217,995
132		Khutala Se	outh Africa				90	9,554	10.863	12,928	Samarco, Brazil	80			50	5,404	14,513
133		Million and	Court at the					2,004	3500	2020	Total iron ore					226,958	232,508

Р 0

Ownership

50-100% 100%

100%

33.3%

50%

80%

100%

	BHP Billiton Group interest	BHP Billiton	Group share of pro ear ended 30 June	duction (3)
	94	2016	2015	2014
Molybdenum				
Payable metal in concentrate (tonnes)				
Antamina, Peru (4)	33.75	1,113	472	1,201
Total molybdenum		1,113	472	1,201
Iron ore				
Western Australia Iron Ore				
Production ('000 tonnes) (7)				
Newman, Australia	85	65,941	63,697	56,915
Yame, Australia (0)	85			\$36
Area C Joint Venture, Australia	85	46,799	49,994	46,960
Yandi Joint Venture, Australia	85	67,375	68,551	68,518
Jumblebar, Australia (9)	85	18,890	16,759	8,863
Wheelarra, Australia (10)	85	22,549	18,994	10,553
Total Western Australia Iron Ore		221,554	217,995	192,645
Samarco, Brazil (4)	50	5,404	14,513	10,919
Total iron ore		226,958	232,508	203,564
Coal		and the second second		
Metallurgical coal				
Production ('000 tonnes) (11)				
Blackwater, Australia	50	7,626	6,994	6,750
Goonyella Riverside, Australia	50	8,996	8,510	7,330
Peak Downs, Australia	50	5,031	5,111	4,909
Saraji, Australia	50	4,206	4,506	4,558
Gregory Joint Venture, Australia	50	1,329	3,294	2,965
Daunia, Australia	50	2,624	2,383	2,201
Caval Ridge, Australia (12)	50	3,601	3,064	563
Total BHP Billiton Mitsubishi Alliance		33,413	33,862	29,256
South Walker Creek, Australia (13)	80	5,436	5.293	5.246
Poitrel, Australia (13)	80	3,462	3,466	3,063
Total BHP Billiton Mitsui Coal		8,898	8,759	8,309
Total Oueensland Coal		42.311	42.621	37 565
IndoMet Hain Indonesia	100	520		
Total metallurgical coal		12 8.40	42 621	37 565
Entrate and		12,010	40,005	31,000
Descharter (1000 terms)				
Navaio United States 04	100	3 000	4 858	\$ 127
San Juan Limited States	100	1051	5 165	5.685
Total New Mexico Carl	100	7.053	10.023	10,812
Total Inter Alexand Cold	100	17.1074	10,025	10,812
New South Wates Energy Coal, Australia	100	17,101	19,698	19,964
Contribut, Continuous Sta	33.3	10,094	14,291	12,332
LOTAL OBJECT: COAL		34.747	at 012	14 103

BHP 20-F 2016, page 263



Jonker, Chris (2001) "Greenhouse Gas, Australian Coal Supply and Rising Import Demand A Contradiction or an Opportunity?" 24-25Sep01, Director, Barlow Jonker Pty Ltd At: EU-Australia Conference, Aachen, Germany, 13 pp.

90 90 90

100

100

33.3

7,404

31,627

18,010 10,017

72,892

7,568

33,279

16,757

11,663

71,111

12,928

34,328

13,671

9,889

69,500

State of New South Wales / Minerals and Petroleum:

194 195

www.dpi.nsw.gov.au/minerals/resources/coal/coal-industry

The major coal deposits in NSW range in rank from bituminous coking and thermal coals to sub-bituminous thermal coals. The quality of thermal coals ranges from medium- to high-ash, low-sulphur coal used for domestic power generation and cement manufacture; - to low- to medium ash, high-energy, export quality coal. Prime, low-volatile,

hard coking coal and low-ash, semi-soft coking coal, used for iron and steel production, supply both the export and domestic markets.



BHP Billiton AnnRpt 2013.

Mt Arthur Coal, Australia

Cerrejón, Colombia

Total energy coal

Middelburg/Wolvekrans, South Africa Khutala, South Africa Klipspruit, South Africa

Total Energy Coal South Africa

Table 5: Specifications of leading export thermal coals, Jonker, page 9.

Parameter	Unit	Basis	Hunter	Bulga	Ensham	Newlands	Optimum	Prima	EI
			Valley						Cerrejon
	Company	(3)	Rio	Glencore	Idemitsu	M.I.M.	Ingwe	Kaltim	Intercor
			Tinto					Prima	
	Supply se	ource	NSW	NSW	QLD	QLD	RSA	Indonesia	Colombia
Г.М.	%	a.r.	9.0	9.0	10.0	8.3	8.0	9.5	11.8
.M.	%	a.d.	2.5	2.5	4.0	2.3	3.8	5.0	8.5
Ash	%	a.d.	13.5	12.0	11.0	14.5	10.3	4.0	10.3
V.M.	%	a.d.	33.5	34.0	26.5	26.3	30.5	39.0	33.5
F.C.	%	a.d.	50.5	52.5	58.5	56.9	55.4	52.0	47.7
S	%	a.d.	0.55	0.60	0.60	0.45	0.55	0.57	0.81
N	%	dry	1.85	1.80	1.80	1.74	1.70	1.50	1.69
Cl ₂	%	dry	0.03	0.02	0.06	0.02	0.005	< 0.01	0.002
HGI			>50	48	57	53	44	48	51
Fuel Ratio	F.C./V.M	1	1.5	1.5	2.2	2.2	1.8	1.3	1.4
Specific	kcal/kg	a.d.	6800	7000	6900	6800	6860	7100	6515
Energy									
	kcal/kg	g.a.r.	6350	6530	6470	6382	6560	6800	6280
AFT def.	°C		1450	1300	1350	1550	1400	1200	1220

<u> </u>		E	F	G	i	Н			J				4			0
Coal re Energy Coal	eserves and	resources,	calorific valu	es, minir	ng metho	d, ash con	itent, S, ei	c.								
As at 30 kine 2017					_				_							
As at 30 June 2017	Sec. 1			м	easured Re	sources	6		Indi	icated Resou	rces					
Commodity Deposit ^{(1) (2)}	Mining Method	Coal Type	м	t %As	h %VN	I %S	KCal/kg CV	Mt	%Ash	%VM	%S	Cal/kg CV				
Energy Coal Operations Australia	5															
Mt Arthur Coal (3)	oc	Th	897	20.	9 30.4	0.68	6,060	1,299	19.5	30.2	0.66	6,120				
Colombia Correión ⁽⁴⁾	00	Th	2.71	2	0 240	0.52	6 560	1106	27	24.9	0.51	6590				
Energy Coal Project	00		2,11		0 04.0	0.52	0,000	1,130	5.7	04.0	0.01	0,000				
Australia Togara South	UG	Th	719	12	.1 29.6	0.31	6,700	177	13.5	28.9	0.31	6,500				
Coal Reserves																
As at 30 June 2017																
Commodity	Minlog C	Prove Reserv	ed Probal ves Reserv	ole 1 ves Re	lotal serves	Proved N	Aarketable F	eserves	Pr	obable Mark	etable Res	erves				
Deposit ⁽⁵⁾⁽⁰⁾⁽⁷⁾	Method T	pe	Mt	Mt	Mt	Mt %Ash	%VM %	S KCal/kg CV	(Mt	%Ash %VM	%S	(Cal/kg CV				
Australia Mt Arthur Coal (8) (9)	OC T		474	415	889	377 17.7	31.3 0.5	7 6,230	323	17.3 30.8	0.53	6,240				
Colombia	00 -		074	71	EAA	150 0.0	207 05	0 0.075		00 007	0.55	6.000				
(1) Cut-off criteria:	00 1		4/3	71	544	+58 9.3	32.7 0.5	a 6,0/C	0 69	9.0 32.7	0.55	6,090				
Deposit Mt Arthur Coal	Coal Res	ources eam thickne	s and 35% raw	ash conte	ent	Coal Res ≥ 0.3m s	erves eam thickne	ss. < 26.5% a	sh. > 40% (coal washerv	vield	-				
Cerrejón Togara South	≥ 0.65m ≥ 1.5m s	seam thicknes	BSS S			≥ 0.65m	seam thickn	ess								
(2) Qualities are reported (3) Mt Arthur Coal - Coal	d on an air-drie	d in situ basis	. Tonnages are	reported	as in situ fo	n Mt Arthur	Coal and Tog	gara South, a	nd on a tot	al moisture b	basis for C	errejón. alvsis				
 (4) Cerrejón – The Coal R (5) Approximate drill hole 	lesources are r e spacings use	estricted to a to classify t	reas which hav he reserves we	e been ide re:	entified for	inclusion by	BHP based	on a risk asse	essment.	o brill Hole G	pacing An	aryona.				
Deposit Mt Arthur Coal	Proved I	Reserves				Probable	Reserves									
Cerrejón						400m to	1.550m									
	> 6 drill I	oles per 100	ha			400m to 2 to 6 dri	1,550m Il holes per 1	00ha								
(6) Overall product recov	> 6 drill veries for the o Product	oles per 100 perations we Recovery	ha re:			400m to 2 to 6 dri	1,550m Il holes per 1	OOha				_				
(6) Overall product recov Deposit Mt Arthur Coal	> 6 drill veries for the o Product 77%	oles per 100 perations we Recovery	ha re:			400m to 2 to 6 dri	1,550m Il holes per 1	OOha								
(6) Overall product recov Deposit Mt Arthur Coal Cerrejón (7) Total Coal Reserves w specific moisture con Mt Arthur Coal - Coal	> 6 drill veries for the o Product 77% 98% vere at the moi itent (9.9% Mt. is delivered to	Recovery	ha re: when mined (8 3.1% Cerrejón) : nt.	3.7% Mt Ar	thur Coal; 1 air-dried qu	400m to 2 to 6 dri 3% Cerrejór ality basis, f	1,550m Il holes per 1 n). Total Marl or sale after	00ha ketable Reser the beneficia	ves were a ation of the	it a product Total Reserv	es.					
(6) Overall product recov Deposit Mt Arthur Coal Cerrejón (7) Total Coal Reserves w specific moisture con Mt Arthur Coal - Coal Mt Arthur Coal - Coal Mt Arthur Coal - Chal Mt Arthur Coal - Chal Mt Arthur Coal - Chal In reinizate in Reser In comisate in Reser Monitor the situation Coal Resources Coal Resources	> 6 drill veries for the o Product 77% 98% vere at the moi tent (9.9% Mt. Is delivered to Total Marketab ve Life was du e Coal Reserve tion rate from e was no suspe for potential in	Recovery sture content within Coal, 1 handling play to a decrease to a decrease to a d	ha re: when mined ((3.1% Cerrejón) : nt. ws decreased ue to geotech Lue to geotech Cerrejón permit ing. BHP A	8.7% Mt Ar and at an i producti nical adju effect cur as of 30 . nnRpt 20	thur Coal; i air-dried qu updated re on rate fro stment of p rent permit June 2017 i June 2017 i	400m to 2 to 6 dri 3% Cerrejór ality basis, f serves mod n 32Mtpa to it slopes and ing. response to 2455.	1,550m II holes per 1 In holes per 1	00ha xetable Reser the beneficia ised reserve i uct sales prio cal commun	ves were a tition of the footprint. Joe. Reserve	it a product Total Reserv e Life change allenges, BHI	res. d due to a	decrease s to				
(6) Overall product recov Deposit Mt Arthur Coal Cerrejón (7) Total Coal Resense wspecific Archwidture oon (8) Mt Arthur Coal - Coal (9) Mt Arthur Coal - Toe (10) Mt Arthur Coal - Toe (10) Mt Arthur Coal - Toe (10) Arthur Coal (10) Ar	> 6 drill, veries for the o Product 77% 98% vere at the moi tere (98% Mr. Is delivered to 70tal Marketat Ve Life was du Coal Reserve tion rate from: was no suspe for potential in	toles per 100 perations we Recovery sture content withur Coal; 1 handling pla le Coal Reser to a decreas decreased 8.3Mtpa to 2 sidon fany upact on min	ha re: when mined ((3.1% Cerrejón) ; nt. ves decreased se in nominate se in nominate se in nominate se in nominate serejón permit ing. BHP A	8.7% Mt Ar and at an i due to an l producti nical adjuu eflect cur as of 30 . nnRpt 20	thur Coal; t air-dried qu updated re on rate froo stment of p rent permit June 2017 ir 117, page	400m to 2 to 6 dri 3% Cerrejór ality basis, f serves mod n 32Mtpa to it slopes an ting. n response to 2455.	1,550m II holes per 1 II). Total Mari or sale after el with a rev 28Mtpa. d lower prod d lower prod o ongoing lo	OOha ketable Reser the beneficia ised reserve i uct sales pric cal commun	ves were a tition of the footprint. De. Reserve ity legal ch	it a product Total Reserv 2 Life change allenges, BHI	res. d due to a	decrease	As	at 30 kms	12016	
(6) Overall product recov Deposit Mt Arthur Coal Cerrejón (7) Total Coal Reserves w specific moisture con (8) Mt Arthur Coal – Che The increase in Reser The increase in Reser The increase in Reser The increase in Reser The increase in Reser Marketable in nominated product Cerrejón – While there monitor the situation Coal Resources As at 30 June 2017	> 6 drill veries for the o Product 77% 98% vere at the moi tent (9.9% Mt. is delivered to is delivered to Verife was du Coal Reserve to Coal Reserve was no suspe for potential in potential in	Interest of the content of the conte	ha re: when mined (i 3.1% Cerrejón) ; nt. ves decreased per docreased Cerrejón permit ing. BHP A	8.7% Mt Ar and at an a due to an incal adjuu effect cur as of 30 . nnRpt 20	thur Coal; air-dried qu updated re on rate from the from the from the from the from the from the from the from the from the from the from the from the from the from the from the from	400m to 2 to 6 dri 3% Cerrejór ality basis, f serves mod n 32Mtpa to t i slopes an n 32Mtpa to t i slopes an response t 245.	1.550m II holes per 1 II holes per 1	OOha xetable Reser the beneficia ised reserve i uct sales pric cal commun	ves were a tition of the footprint. ty legal ch	ita product Total Reserv e Life change allenges, BHI	res. d due to a P continue	decrease is to	As	at 30 June	22016 rces	
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(6) Overall product recov Deposit Mt Arthur Coal Cerrejón Total Coal Reserves w specific moisture con (8) Mt Arthur Coal - Coal Total Coal Reserves w specific moisture con (9) Mt Arthur Coal - Cha The increase in Reser To cerrejón - Marketable in nominated product (Cerrejón - While there monitor the situation Coal Resources As at 30 June 2017 Commodity Deposit ⁽¹⁾ Camodity Deposit ⁽¹⁾ Camodity Deposit ⁽¹⁾ Canond Departice Australia Mt Arthur Coal ⁽²⁾ Mt Arthur Coal ⁽²⁾ Commodity Deposit ⁽¹⁾ Coal Operatice Australia	> 6 drill, veries for the o Product 77% 98% 98% 98% 98% 98% 98% 98% 98% 98% 98	Indes per 100 Derations we Recovery sture content trithur Coal; 1 handling pla te Coal Reserve to a decreas to a decreas t	ha	3.7% Mt Ar and at an iproducti nical adju efflect cum as of 30 nnRpt 20 	thur Coal; t in-dried qu on rate froi street of permit june 2017 in 017, page 2al/kg CV 6,010	400m to 2 to 6 dri 3% Cerrejór ality basis, f serves mod n 32Mtpa to t slopes an ing, response t 245. Mt 3,215	1.550m II holes per 1 In holes per 1	00ha ketable Reser the beneficia ised reserve t uct sales pric cal commun cal commun %VM 29.6	ves were a tition of the footprint. the Reserve ity legal ch ity legal ch ity legal ch ity legal ch ity legal ch	it a product Total Reserv e Life change allenges, BHI cal/kg CV 6,070	res. d due to a P continue Inter	decrease is to	As Tr tt %Ash 2 21.6	at 30 June %VM 29.1	2016 rcces %S	KCəl/kg CV 6,070
(6) Overall product recov Deposit Mt Arthur Coal Cerrejón Total Coal Reserves w specific moisture con (8) Mt Arthur Coal - The The increase in Reser (9) Mt Arthur Coal - The The increase in Reserve (0) Arthur Coal - The The increase in Reserve (0) Arthur Coal - The The increase in Reserve (1) Cerrejón - Marketable in nominated product (2) Cerrejón - Marketable in nominated product Coal Resources As at 30 June 2017 Commodity Deposit ⁽¹⁾ Coal Coal Australia Mt Arthur Coal ⁽²⁾ Colombia	> 6 drill veries for the o Product 77% 98% 98% 98% 98% 98% 98% 98% 98% 98% 98	Indes per 100 Derations we Recovery sture content trithur Coal; 1 handling pla te Coal Reserve to Coal Reserve	ha	1.7% Mt Ar and at an product of an product as of 30. nnRpt 20 sees %S KC 0.65	thur Coal; t air-dried qu on rate froi strent of permit June 2017 in June 2017 in J	400m to 2 to 6 dri 3% Cerrejór ality basis. f is serves mod n 32Mtpa to t is lopes an ing. 245. 245. Mt 3,215	1.550m II holes per 1 In holes per 1	00ha xetable Reser the beneficia ised reserve t uct sales prid cal commun xal Resource %VM 29.6	ves were a tition of the footprint. 20. Reserve 20. Re	it a product Total Reserv e Life change allenges, BHI cal/kg CV 6,070	es. d due to a P continue	decrease is to	As Tr 1t %Ash 2 21.6	at 30 June %VM 29,1	2016 rces %S	KCal/kg CV 6,070
(6) Overall product recov Deposit Mt Arthur Coal Cerrejón (7) Total Coal Reserves w specific moisture con (8) Mt Arthur Coal – The The increase in Reser (9) Mt Arthur Coal – The The increase in Reserves (9) Mt Arthur Coal – The The increase in Reserves (9) Mt Arthur Coal – The The increase in Reserves (9) Mt Arthur Voal – The The increase in Reserves (9) Mt Arthur Voal – The The increase in Reserves (10) Autor Allower (10) Mt Arthur Coal (7) Correljon 4 Coal Project Mt Arthur Coal (7) Correljon 4 Coal Project	> 6 drill veries for the o Product 77% 98% vere at the moi tent (99% Mt. is delivered to is	International Control	ha	1.7% Mt AT and at an i product of an official adjust effect curu as of 30 . nnRpt 20 cces % K K0 0.65	thur Coal; i air-dried qu on rate froi strent of permit June 2017 in 017, page Cal/kg CV 6,010 6,460	400m to 2 to 6 dri 3% Cerrejór ality basis, f serves mod n 32Mtpa to 18 Jopes an ing, rresponse tr 245. Mt 3,215 4,538	1.550m II holes per 1 II holes per 1	00ha ketable Reser the beneficia ised reserve i uct sales prio cal commun cal commun %VM 29.6 34.8	ves were a tition of the footprint. ce. Reserve ity legal ch ity legal ch %S KC 0.66 0.52	it a product Total Reserv e Life change allenges, BHI cal/kg CV 6,070 6,552	es. d due to a P continue Inter 33	decrease is to HP est % M 00 3,65 .33 4,53	As Tr it %Ash 2 21.6 2 3.9	at 30 June otal Resou %VM 291 34.8	22016 rcces %S 0.61 0.52	KCal/kg CV 6,070 6,570
(6) Overall product recov Deposit Mt Arthur Coal Cerrejón Or Total Coal Reserves w specific moisture con (8) Mt Arthur Coal – The The increase in Reser (9) Mt Arthur Coal – The The increase in Reserves (9) Mt Arthur Coal – The The increase in Reserve (9) Mt Arthur Oral – The The increase in Reserve (9) Mt Arthur Oral – The The increase in Reserve (9) Mt Arthur Oral – The monitor the situation Coal Resources As at 30 June 2017 Commodity Deposit ⁽¹⁰⁾ Energy Coal Operatic Australia Mt Arthur Coal ⁽²⁾ Coernipia Cerrejón ⁽⁴⁾ Energy Coal Project Australia	s 6 drill veries for the o Product 77% 98% vere at the moi tent (9.9% Mt. is delivered to 15 delivered to 26 deserve to 16 or nate from was no suspe for potential in Mons 1,01 63	Index per 100 perations we Recovery turbur Coal, 1 handling place to a decrease a decreased to a decrease a decreased solar of any ppact on min Inf It %Ash 9 19.9 11 4.1	ha	3.7% Mt Ar due to an production adjue to an production as of 30.0 as of 30.0	thur Coal; 1 air-dried qu on rate fro strent of permit une 2017 in 017, page Cal/kg CV 6,010 6,460	400m to 2 to 6 dri 3% Cerrejór ality basis, f serves mod n 32Mtpa to 1 slopes an ling. 	1.550m II holes per 1 II holes per 1 II holes per 1 I hole	00ha xetable Reser the beneficic ised reserve I uct sales pric cal commun xal Resource %VM 29.6 34.8	ves were a tition of the footprint. ce. Reserve ity legal ch ity legal ch %S KC 0,66 0.52	it a product Total Reserv e Life change allenges, BHI cal/kg CV 6,070 6,552	es. d due to a P continue Interes 333	HP est % /	As Tr It %Ash 2 21.6 2 3.9	at 30 June btal Resou %VM 29.1 34.8	• 2016 rcces %S 0.61 0.52	KCal/kg CV 6,070 6,570
(6) Overall product recov Deposit Mt Arthur Coal Cerrejón Total Coal Reserves w specific moisture con (8) Mt Arthur Coal Coal Coal Resarres To tarta coal Reserves w specific moisture con (9) Mt Arthur Coal Coal Coal Resources As at 30 June 2017 Commodity Deposit Energy Coal Operatio Australia Correjón (4) Energy Coal Operatio Colombia Cerrejón (4) Energy Coal Project Australia Togara South		Index per 100 perations we Recovery ture content turbur Coal; 1 handling pile le Coal Reserve decreased de	ha	x7% Mt Ar due to an product of land at an i product of as of 30. nnRpt 2C 0.65 0.54	thur Coal; ; ir-dried qu updated re- rent permit June 2017 ir)17, page Cal/kg CV 6,010 6,460 6,210	400m to 2 to 6 dri 3% Cerrejór ality basis, f serves mod n 32Mtpa to ti slopes an ing. response t 245. 245. Mt 3,215 4,538 1,947	1.550m II holes per 1 i). Total Mart or sale after el with a rev 28Mtpa. I lower prod o ongoing lo o ongoing lo Xon Xon Xon Xon Xon Xon Xon Xon Xon Xo	00ha setable Reser the beneficia ised reserve I uct sales pric cal commun sal Resource %VM 29.6 34.8 28.9	ves were a tion of the footprint. ze. Reserve ity legal ch ss %S KC 0.66 0.52 0.31	t a product Total Reserv allenges, BHI cal/kg CV 6,070 6,552 6,420	es. d due to a P continue Inter 33	decrease s to 00 3,65 .33 4,53	As T It %Ash 2 21.6 2 3.9 7 14.7	at 30 June otal Resou %VM 29.1 34.8 28.9	2016 rces %S 0.61 0.52 0.31	KCal/kg CV 6,070 6,570 6,420
(6) Overall product recov Deposit Mt Arthur Coal Cerrejón (7) Total Coal Reserves wspecific moisture con (8) Mt Arthur Coal - Che The increase in Reser The increase in Reser (9) Mt Arthur Coal - Che The increase in Reser The increase in Reserves (9) Mt Arthur Coal - Che The increase in Reserves Coal Resources As at 30 June 2017 Commodity Deposit ⁽¹⁰⁾ Commodity Deposit ⁽¹⁰⁾ Colombia Cerrejón ⁽⁴⁾ Energy Coal Operation Australia Togara South Coal Reserves		Indes per 100 perations we Recovery sture content trihur Coal; thandling plate to Coal Reserve to Coa	ha	3.7% Mt Ar due to an production as of 30. nnRpt 20 cees %S K0 0.65 0.54	thur Coal; t air-dried qu on rate froi street of press terment of press tune 2017 in 017, page 2al/kg CV 6,010 6,460 6,210	400m to 2 to 6 dri 3% Cerrejór ality basis, f serves mod n 32Mtpa to ti slopes and 245. 245. Mt 3,215 4,538 1,947	1.550m II holes per 1 II holes per 1	cetable Reser the beneficia ised reserve t uct sales prid cal commun %VM 29.6 34.8 28.9	ves were a tition of the footprint. ze, Reserve ty legal ch 25 %S KC 0,66 0,52 0,31	it a product Total Reserv e Life change allenges, BHI allenges, BHI allenges, BHI 6,070 6,552 6,420	d due to s P continue Inter	decrease is to % // // // // // // // // // // // // //	As Tr 2 21.6 2 3.9 7 14.7	at 30 June btal Resou %VM 29.1 34.8 28.9	2016 rces %S 0.61 0.52 0.31	KCal/kg CV 6,070 6,570 6,420
(6) Overall product recov Deposit Mt Arthur Coal Cerrejón (7) Total Coal Reserves w specific moisture con (8) Mt Arthur Coal – The The Increase in Reserves In Arthur Coal – The The Increase in Reserves Marketable In Arthur Coal – The The Increase in Reserves Marketable In Arthur Coal – The The Increase in Reserves As at 30 June 2017 Commodity Densyl Coal Operatic Australia Mt Arthur Coal ⁽⁹⁾ Coal Reserves As at 30 June 2017 Coal Reserves As at 30 June 2017 Coal Reserves As at 30 June 2017		Index per 100 perations we Recovery turne content turnur Coal, 1 handling pia le Coal Reservent to a decrease decreased al S.3Mtpa to 2 nsion of any pact on min Inf It %Ash 9 19.9 11 4.1 11 16.8	ha	3.7% Mt Art and at an i production adjust to an and at an i and at an i an i and at an i an i an i an i an i an i an i an i	thur Coal; air-dried qu updated rest street of the formation prent permit June 2017 in 2017, page 201/kg CV 6,010 6,460 6,210	400m to 2 to 6 dri 3% Cerrejór ality basis, f serves moleses an azMtpa to a 32Mtpa to a 32	1.550m II holes per 1 ii). Total Mari or sale after el with a rev 28Mtpa. I lower prod o ongoing lo o ongoing lo 0 Ash 20.0 3.8 14.7	00ha setable Reser the beneficia ised reserve I uot sales prio cal commun setal Resource %VM 29.6 34.8 28.9	ves were a tition of the footprint. ze. Reserve ity legal ch %S KC 0.66 0.52 0.31	t a product Total Reserv e Life change allenges, BHI cal/kg CV 6,070 6,552 6,420	es. d due to a p continue inter 33	decrease is to % // // 00 3,65 00 1,94 As a	As T It %Ash 2 21.6 2 3.9 7 14.7 t 30 June 20	at 30 June otal Resou %VM 29.1 34.8 28.9 28.9	2016 rces %S 0.61 0.52 0.31	KCal/kg CV 6,070 6,570 6,420
(6) Overall product recov Deposit MA Arthur Coal Cerrejón (7) Total Coal Reservess wspecific moisture con (8) Mt Arthur Coal - Che The increase in Reser (9) Mt Arthur Coal - Che The increase in Reser (10) Mt Arthur Coal - Che The increase in Reser (10) Mt Arthur Coal - Che The increase in Reser (10) Mt Arthur Coal - Che (10) Mt Arthur Coal (10) Mt Arthur Coal		Indes per 100 perations we Recovery sture content thandling plate coals to a decrease to a decrease	ha	3.7% Mt Ard due to an production end at an : production as of 30. nnRpt 20 2005 %S K0 0.65 0.54 0.31	thur Coal; t air-dried qu updated re- street for street of permit June 2017 in 017, page Cal/kg CV 6,010 6,460 6,210	400m to 2 to 6 dri 3% Cerrejór, ality basis, f serves mode n 22Mtpa to ti slopes and n 22Mtpa to	1.550m II holes per 1 I). Total Mart or sale after el with a rev 28Mtpa. d lower prod o ongoing lo o ongoing lo %Ash 20.0 3.8 14.7 Rese	CODha cetable Reserve to uct sales price cal communication %VM 29.6 34.8 28.9 28.9 Vietore to Vietore to	ves were a tition of the footprint. 22. Reserve ity legal ch 25 %S KC 0.66 0.52 0.31	it a product Total Reserv a Life change allenges. BHI allenges. BHI allenges. CV 6,070 6,552 6,420	es. d due to e P continue 333	decrease s to 00 3,65 .33 4,53 .00 1,94 As a al Marketab	As Tr %Ash 2 21.6 2 3.9 7 14.7 130 June 20 e Reserves	at 30 June otal Resou %VM 29.1 34.8 28.9 016	2016 rces %\$ 0.61 0.52 0.31	KCal/kg CV 6,070 6,570 6,420 Reserve
(6) Overall product recov Deposit MA Arthur Coal Cerrejón (7) Total Coal Reservess wspecific moisture con (8) Mt Arthur Coal – Che The increase in Reser (9) Mt Arthur Coal – Che The increase in Reser (10) Mt Arthur Coal – Che The increase in Reserves (10) Arthur Coal – Che The increase in Reserves As at 30 June 2017 Commodity Deposit ⁽¹⁰⁾ Coal Resources Australia Mt Arthur Coal ⁽²⁾ Commodity Coal Reserves As at 30 June 2017 Coal Reserves As at 30 June 2017 Coal Reserves As at 30 June 2017 Coal Reserves As at 30 June 2017 Commodity Deposit ⁽¹⁰⁾ Coal Reserves As at 30 June 2017 Commodity Deposit ⁽¹⁰⁾ Coal Reserves As at 30 June 2017 Commodity Deposit ⁽¹⁰⁾ Coal Reserves As at 30 June 2017 Commodity Deposit ⁽¹⁰⁾ Coal Reserves As at 30 June 2017 Commodity		Indes per 100 perations we Recovery sture content thandling plate to call, the handling plate to call the to call Reserve to the descent to the descent to the descent to call Reserve to call	ha	3.7% Mt Ar due to an production annRpt 20 2.285 %S K0 0.65 0.54 0.31 1 le Reserving //M	thur Coal; t air-dried qu updated re- street for street of permit June 2017 in 017, page Cal/kg CV 6,010 6,460 6,210 0 0,210 0 0,210 0 0,210	400m to 2 to 6 dri 3% Cerrejór ality basis, f serves mod a 20 Mit slopes and ing. response t 245. Mt 4,538 1,947	1.550m II holes per 1 I). Total Mart or sale after el with a rev 28Mtpa. d lower prodo o ongoing lo o ongoing lo %Ash 20.0 3.8 14.7 Rese (ye	CODha cetable Reserve to the beneficial ised reserve to uct sales prior cal commun 29.6 34.8 28.9 28.9 Commune 1000 28.9 1000 100	ves were a tition of the footprint. ze. Reserve ity legal ch 25 %S KC 0.66 0.52 0.31 0.31	It a product Total Reserv a Life change allenges, BHI cal/kg CV 6,070 6,552 6,420 Mt	es. d due to e Interest 333 333 333 333 333 333 333 333 333 3	decrease s to 00 3,65	As Tr %Ash 2 21.6 2 3.9 7 14.7 130 June 20 e Reserves M 5	at 30 June otal Resour %VM 29,1 34.8 28,9 216 6 %S KCal/	2016 rces %\$ 0.61 0.52 0.31	KCal/kg CV 6,070 6,570 6,420 Reserve Life (years)
(6) Overall product recov Deposit Mt Arthur Coal Cerrejón (7) Total Coal Reserves wspecific moisture con (8) Mt Arthur Coal - Che The increase in Reser The increase in Reser The increase in Reserves Mt Arthur Coal - Che The increase in Reserves As at 30 June 2017 Commodity Deposit ⁽¹⁾ Colombia Cerrejón ⁽⁴⁾ Energy Coal Operation Australia Togara South Coal Reserves As at 30 June 2017 Commodity Deposit ⁽¹⁾ Colombia Cerrejón ⁽⁴⁾ Energy Coal Operation Australia Togara South Coal Reserves As at 30 June 2017 Commodity Deposit ⁽¹⁾ Coal Reserves As at 30 June 2017 Commodity Deposit ⁽¹⁾ Coal Reserves As at 30 June 2017 Commodity Deposit ⁽¹⁾ Coal Reserves As at 30 June 2017 Commodity Deposit ⁽¹⁾ Energy Coal Operation Australia		Indes per 100 perations we Recovery sture content turbur Coal; thandling plate to Coal Reserve to Coa	ha	1.2% Mt Ar due to an production as of 30. as of 30. cres %S KC 0.65 0.54 0.31	thur Coal; t air-dried qu updated re- street for street of pre- rent permit june 2017 in 017, page 2al/kg CV 6,010 6,460 6,210 0 6,210 0 0 8,8 Ki	400m to 2 to 6 dri 3% Cerrejór ality basis. 1 serves mod a 32Mtpa to ti slopes anu ing. 245. 245. Mt 3,215 4,538 1,947	1.550m II holes per 1 I). Total Martin or sale after el with a rev 28Mipa. d lower prodo o ongoing lo o ongoing lo 0 ongoing lo %Ash 20.0 3.8 14.7 Rese (yes)	Cooha cetable Reserve to uct sales privi- cal commun cal commun 29.6 34.8 28.9 rve the ars)	ves were a tition of the footprint. ze, Reserve ty legal ch 28 %S KC 0.66 0.52 0.31 0.31 8 BHP nterest %	it a product Total Reserv a Life change allenges, BHI cal/kg CV 6,070 6,552 6,420 Mt	es. d due to a interest 333 333 333 333 333 333 333 333 333 3	decrease s to 000 3,65	As Tr %Ash 2 21.6 2 3.9 7 14.7 130 June 20 e Reserves M 5	at 30 June otal Resou %VM 29,1 34,8 28,9 216 6 %S KCal/	2016 rces %S 0.61 0.52 0.31	KCal/kg CV 6,070 6,570 6,420 Reserve Life (years)
(6) Overall product recov Deposit Mt Arthur Coal Cerrejón (7) Total Coal Reserves waseoffic moisture con 8) Mt Arthur Coal – The The increase in Reser The increase in Reser The increase in Reserves Mt Arthur Coal – The The increase in Reserves As at 30 June 2017 Commodity Deposit ⁽¹⁰⁾ Colombia Cerrejón ⁽²⁾ Correjón ⁽²⁾ Energy Coal Operatio Australia Togara South Coal Reserves As at 30 June 2017 Commodity Deposit ⁽¹⁰⁾ Coal Reserves As at 30 June 2017 Commodity Deposit ⁽¹⁰⁾ Coal Reserves As at 30 June 2017 Commodity Deposit ⁽¹⁰⁾ Energy Coal Operatio Australia Mt Arthur Coal ⁽⁸⁾ Mt Arthur Coal ⁽⁸⁾		Indes per 100 perations we Recovery ture content turbur Coal; thandling pla turbur Coal; thandling pla to a decreased s decrea	ha	s.7% Mt Ar due to an product of an an ar of as of 30. ces %S Ko 0.65 0.54 0.31 le Reser //M	thur Coal; t air-dried qu on rate froi strent of permit June 2017 in June 2017 in J	400m to 2 to 6 dri 3% Cerrejór ality basis. f serves mod a 20 Mtpa to ti slopes and 245. Mt 3,215 4,538 1,947 Cal/kg CV 6,240	1.550m II holes per 1 II holes per 1	CODha cetable Reserve to the beneficial ised reserve to uct sales privi- cal commun cal commun 29.6 34.8 28.9 rve Life I 32	ves were a tition of the footprint. ze, Reserve ty legal ch 25 %S KC 0.66 0.52 0.31 0.52 0.31	it a product Total Reserv e Life change allenges. BHI allenges. BHI 6,070 6,552 6,420 Mt 758	es. d due to s P continue Inter 33 33 33	decrease is to is to interference is to interferenc	As Tr 2 21.6 2 3.9 7 14.7 t 30 June 20 e Reserves M 5 .3 0.	at 30 June btal Resou %VM 29.1 34.8 28.9 016 54	2016 rces %S 0.61 0.52 0.31	KCal/kg CV 6,070 6,570 6,420 Reserve Life (years) 30
6) Overall product recov Deposit Mt Arthur Coal Cerreijón 7) Total Coal Reserves 8) Mt Arthur Coal - Che The increase in Reser 1) Orarigin - Marketable in nominated product 1) Cerreijon - Marketable in nominated product 1) Cerreijon - Marketable 1) Correijon - Marketable 1) Correijon - Marketable 1) Cerreijon - Marketable 1) Correijon - Marketable 1) Cerreijon - Marketable 1) Cerreijon - Marketable 1) Cerreijon - Marketable 1) Correjon - Marketable 1) Correijon - Marketable 1) Correlion - Marketable 1) Colombia 1) C		Internet of the second	ha	s.7% Mt Ar production due to an production as of 30. ces %S KC 0.65 0.54 0.31 0.31 0.254 0.254 0.254 0.254 0.254	thur Coal; 1 sin-dried qui on rate from strent of permit une 2017 in 017, page 2al/kg CV 6,010 6,460 6,210 6,210 ves %S Ki 0.55 0,57	400m to 2 to 6 dri 3% Cerrejór ality basis. f isopes and ality basis.	1.550m II holes per 1 II holes per 1	cetable Reser the beneficia ised reserve t uct sales prid cal commun 29.6 34.8 28.9 28.9 rve Life ars) I	ves were a tition of the footprint. ze. Reserve s. Reserve ty legal ch as %S KC 0.66 0.52 0.31 0.52 0.31 0.52 0.31	it a product. Total Reserve it life change allenges, BHI cal/kg CV 6,070 6,552 6,420 Mt 758 599	es. d due to se P continue Intel 33 33 33 33 33 33 33 33 33 33 33 33 33	decrease is to 100 3,65 3,33 4,53 00 1,94 As a tal Marketab Ish %) 5,9 3(8,7 2)	As T T 2 21.6 2 3.9 7 14.7 7 14.7 6 Reserves M 5 .3 0. .3 0. .8 0.	at 30 June btal Resou %VM 29,1 34,8 28,9 016 54 54	2016 rcces %S 0.61 0.52 0.31	KCal/kg CV 6,070 6,570 6,420 Reserve Life (years) 30

0		Infe	rred Reso	ources			To	tal Resou	rces		BHP	1	То	al Resou	irces	
Deposit ⁽¹⁾⁽²⁾	Mt	%Ash	%VM	%S	KCal/kg CV	Mt	%Ash	%VM	%S	KCal/kg CV	%	Mt	%Ash	%VM	%S	KCal/kg CV
Energy Coal Operations Australia	- 18.	-	17	1		1				-		A.	1		P. 7	
Mt Arthur Coal (3)	1,019	19.9	28.0	0.65	6,010	3,215	20.0	29.6	0.66	6,070	100	3,652	21.6	29.1	0.61	6,070
Colombia				2.222		1.00		1							1.00	1000
Cerrejón ⁽⁴⁾	631	4.1	34.3	0.54	6,460	4,538	3.8	34.8	0.52	6,552	33.33	4,532	3.9	34.8	0.52	6,570
Energy Coal Project Australia						1				-						
Togara South	1,051	16.8	28.4	0.31	6,210	1,947	14.7	28.9	0.31	6,420	100	1,947	14.7	28.9	0.31	6,420
Coal Reserves										-		•	1	_		
Coal Reserves As at 30 June 2017												As at 3	0 June 20'	6		
Coal Reserves As at 30 June 2017		To	tal Marke	table Re	serves		Rese	erve	BHE		Total Ma	As at 30	0 June 20'	16		Reserve
Coal Reserves As at 30 June 2017 Commodity Deposit ⁽¹⁹⁾	M	To t %/	tal Marke	etable Re %VM	serves %S K(Cal/kg CV	Rese (ye	erve Life ars)	BHF Interest %	t Mt	Total Ma %Ash	As at 30 arketable R %VM	0 June 20 Reserves %	16 S KCal/	kg CV	Reserve Life (years)
Coal Reserves As at 30 June 2017 Commodity Deposit (Diff) Energy Coal Operations Australia	М	To t %/	tal Marke Ash	etable Re %VM	serves %S K(Cal/kg CV	Rese (ye	erve Life ars)	BHF Interest %	t Mt	Total Ma %Ash	As at 30 arketable R %VM	0 June 20 Reserves %	I 6 S KCal/	kg CV	Reserve Life (years)
Coal Reserves As at 30 June 2017 Commodity Deposit © 16(7) Energy Coal Operations Australia Mt Arthur Coal ^{(B)(9)}	M 700	To t %	tal Marke Ash 17.5	etable Re %VM 31.0	<mark>serves</mark> %S Kr 0.55	Cal/kg CV 6,240	Rese (ye	erve Life ars) 32	BHF Interest %	Mt 758	Total Ma %Ash 16.9	As at 30 Intetable R %VM 30.3	O June 20 Reserves % 0.5	1 6 S KCal/	¹ kg CV 6,450	Reserve Life (years) 30
Coal Reserves As at 30 June 2017 Commodity Deposit ⁽⁵⁾ (6)(7) Energy Coal Operations Australia Mt Arthur Coal ⁽⁸⁾⁽⁹⁾ Colombia	M 700	To t %/	tal Marke Ash 17.5	stable Re %VM 31.0	serves %S Ki 0.55	Cal/kg CV 6,240	Rese (ye	erve Life ars) 32	BHF Interest %	Mt	Total Ma %Ash 16.9	As at 30 arketable R %VM 30,3	O June 20 Reserves % 0.5	16 S KCal/	kg CV 6,450	Reserve Life (years) 30

						Plate and strip mills .	2,2	73 2,4	89 2,47	8 2,	379	2,256
						Merchant mills	1.5	18 1.6	63 1.59	6 1.5	517	1,401
						Rod mills	5	50 4	90 53	4 1	551	494
25.52	22.90)	48.42			Narrow cold rolled strip	1	03 1	03 9	6	78	82
26.91	24.42	2	51.33			Tinplate		17 3	09 28	3 7	60	260
29.38	26.50)	55.88									
						Oil and gas output						
						Crude oil (million barrels		2.6 35	.0 4.	5		
						Natural gas delivered (mil	lion			7	5	
						cubic metres)	* * *	36 2	39 6		2	-
						B	HP Annual	Report 1	972.			
	LL PROPRIE	TARY CO. LIN										
ROHEN		AUBLIN										14 80
						the second se						
						Years ended 31 May			1720	1070	1978	1977
						Production service	1.000					
						Production stansacs a	iclude the Gree	p's proportio	n of Joint Ven	times where	e relevant.	
						and Disision						
						Cast (raud)	Internation	damas t		7 (129	6 325	6.56
						ing one			4 381	3779	3 347	5 36
						Coke	-		4 753	5 058	4 655	4 83
						bon			7 398	7 336	7 371	7.40
		1				Raw steel (incl. castings)			7 822	6.058	5793	5.8
						Marketable Steel Products			6133			
		1				Department Steel			1 051	1 664	1 980	21
						- domestic			5 087	4 461	3 649	30
						Minerals Division			1 754	2 707	2715	.11
		PEPORT				Coal (clean)			11 235	11.575	11 758	11
	ANNUA	L RES				Iron ore			2 006	1 477	1 193	1
		year ended				Manganese ore			133	127	103	
	for the	1959				Cold	Inhousand	line ounces)	46	.58		
	314	t May.				Cold						
												-
Properties A	AnnRpt 1959; M	Aitchell Library,	Sydney			B	HP Annual	Report 1	980, pa	ge 39.		
Company of the local division of the local d						In	and of P		ol Donort			Cold
UCHON							lages of b	IIF AIIIIU	а кероп	5 COUL	esy of	COIC
HP's share of	estimated proved	d										
fuction for its	Ferrous Minerals	s,				-						
Rucinece Divis	tions											
Dusiness Divis	North.						11	84 1	383 19	182	1981	196
						There and all May						
Reserves and	Production (a)					PODUCTION						
			a states	tone Ender	1 21 Mau	earstics include the Group's proportio	n of Joint Ventu	res where re	evant.			
Marketa	able Reserves	Pro	duction for the t	ear chue	a st may							
P				1007	1006	Steel Division		AF				2.01
p Assigned (b)	Unassigned Total	Competent	1998	1997	1330	Coal (raw) (mousand b	2roes) 7 3	27 1	R18 31	081	4 026	43
Millio	on Tonnes	Person	Mill	NAT TONIN		Coke	3	07 3	478 4	178	5 017	47
206	10 406	C W Davidson	13,423	13,408	11.924	-	51	70 5	000 61	516	7 321	73
4 59	- 50	C W Davidson	2.900	1.873	1.808	Rew steel (not, castings) -	4	70 4	472 5		6 045	61
10 188	106 294	B R Clark	6.760	5.726	6.023	Despatches steel					-	
0 39	19 58	C W Davidson	6.301	5.906	5.766	- export		53	101 4	833	5 140	50
						- domestic	4	3	401 4		A TAN	

5.26 5.42 5.72			(in Long	Tana)						
6.04 6.99 7.16 7.69	_	THE	BROKEN	HILL CO. LTT	. IRO	AUSTRA	LIAN TEEL L	TD.	TO	COM
8.60		1957	1958	1959	1 1957	1958	1	-	Inter I	
9.26		Cite 1.013,79	0 1,045,214	1,006,517	1012,270	1,048,90	1,041	466 2	024.060	2,094 1
9.46		Fig. loss 972,10	5 1.030,356	1.029.669	112.167	1.217.04	1 227	100		
		Beat Ingen-				- a.r.,		,107 20	104,272	2,267,4
		Newcastla . 1,146,08	7 1,355,979	1,239,714						
6.94	3	RAW MATERIALS								
6.00	1	Cnal 1,366,307	1,513,434	1.452.085	1.773 381		1.71			
7.15		Income -	-		COLUMN T	1,007,014	1,708,5	62 3,13	9,588 3	172,470
6.94		Whysile 3,418,637	3,312,050	3,371,149			1000			
7.24		Cottamu Manal		100	349.409	110 000				
6.50		Broken Hill Proprietary A	Annual Rep	ort 1959	, coke &	raw coal,	1957-	1959, in	Long T	ons
8.36										
9.04		In the second second second								
9.74		m thousand tonnes	1972	1971	1970	1969	1968	1967	1966	196
8.56		Naw materials production								
11.57			. 6,156	7,141	7,216	6,832	6,268	6,170	6.203	5.58
13.20		Herestere	. 17,221	17,068	13,901	10,697	8,339	7,741	7,201	5.99
12 38		Determine	, 2,203	2,475	2,259	2,232	2,083	2,248	2,009	2,10
13.88		Managana and	. 345	277	284	282	270	256	241	22
?		wanganese ore	. 1,001	641	671	688	429	197	50	
		Intermediate products outp	ut							
27 79		Pellets	- 1,808	2,206	2,006	1.864	41			
27 47		Coke	. 4,075	4,400	4,335	4,117	3,953	3.595	3.367	3.322
30.77		Iron	. 6,022	6,185	5,918	5,768	5,249	4,929	4,405	4.050
33.02		Raw steel	. 6,579	6,796	6,874	6,702	6,396	6,144	5,638	5,190
22 45										
22.45		Mill products BHP/AIS ster	elworks							
33.70		Bloom and slab mills .	. 5,543	5,759	5,883	5,835	5,565	5,311	4,899	4,586
		Plate and strip mills	2,869	2,749	2,876	2,358	2 256	2,363	1.918	1,9354
		Merchant mills	1,518	1.663	1.596	1.517	1,401	1,354	1,408	1.401
		Rod mills	. 550	490	534	551	494	501	428	376
48.42		Narrow cold rolled strip .	. 103	103	96	78	82	67	60	76
51.33 55.88		Tinplate	- 317	309	283	260	260	261	243	229

PRODUCTION STATISTICS

М

L

Ν

0

Р

FOR

1959

200

1964

4,947 6,042 1,842 207

3,018 3,778 4,822

4,072 2,213 1,618 1,393 302 69 202 3,772 1,997 1,494 1,310 153 55 214

E Da

1 323 993 4 798

2 029

2,857 3,393 4,325

6-941 9-259 4-400 6-185 6-716 5-008

1 323 4 495

7147 9045 4961 7117 7149 5401 6:001 8:089 4:075 6:022 6:506 4:904

6.890 8.615 5.034 7.484 7.605 5.772

0

Note: Broken Hill Properties reports both "coke" and coal (under raw materials)

F

Е

Mt

Energy coal Coking coal

А

313 314 315

320 321 322

331 332 333

395

В С

1955

1956

1957

1958

1964

1965 1966

1967

1968 1969

1974 1975 1976

1977 1978

1979 1980

1981 1982

1983 1984

1985

1986

1987

1988

1989

1994 1995

D

Mt

2.03

2.09 2.05 2.19 2.44 2.81 2.81 2.97

3.27 3.31

3.54

6.94

6.00 7.15

6.89

6.31 6.56 6.33

7.03 5.81 7.38 8.01

7.40

7.51 23.70

16 90

16.59 16.59 17.18 18.37 18.81

21.43

Broken Hill

Gro

52

80

100 100 80

BHP Annual Report 1998, page 6.

17 133

20

116

154 73 78

ERALS RESERVES AND PRO

The following tables set forth I and probable reserves and pro

Coal, World Minerals and Copp BHP's Share of Estimated Prove As at 31 May 1998

Coal - Coking COCA JV - Australia (c) (d) Gregory JV - Australia (c) Ilawarra - Australia

Owen wajo - US in Juan/La Plata - US stonesian Coal (g) australia

As at 31 May 1997

esp since the BHP 1980 AnnRpt shows zero thermal coal production

3.14 3.17 3.37 3.53 3.60 4.17 4.35 4.72

5.33 5.95

5.92

-

2

0.05

0.07 0.19 1.80 2.72 2.71 2.75 4.19 5.18

4.98

6.38 16.70

10.89

10.87 13.58

14.65 13.64

12.33

erroneous?

Likel at the raw coal production is all used to process coke, hence not a

it is anotoal mittie		rerere co motan	argical coal proc	accion and che lacco	
Likely that the raw	coal produc	tion is all used t	o process coke	hence not additive	

		,	· · · · · · · · · · · · · · · · · · ·	
t is unclear whther the	former refers to	metallurgical coal production	n and the latter	to thermal coal (

G

Mt

Total

5.17

BHP

Н

ended y, 1959				- demestic Minecals Division Coal (clean) Ico ore Manganese ore Fero alloys Gold	isko	a a a a a a a a a a a a a a a a a a a	21 11 20	754 27 235 115 006 14 133 1 46	17 2715 75 11758 77 1193 27 103 58 70	1 802 11 460 1 686 95 6	194 11 428 1 528 67	72 14 249 1 628 57 -	49 11 269 101 1 356 1 1 67 	10 9253 59 1001 69 63	7 809 641 5
Library, S	Sydney				BHP An	nual Repo	ort 1980, nnual Reg	page 39). Irtesv of	Colette	Rhodin	a. from	Mitchell L	ibrary Sv	vdnev.
						1984	1983	1982	1981	1980	1979	1978	1977	1976	1975
Prod	juction for th	e Year Ended	31 May	Years ended 31 May PRODUCTION printics include the Group's p	proportion of Join	t Ventures who	erë relevant.								
etent	1998 M	1997 Iillion Tonnes	1996	Steel Division Coal (rsw) (m ppr cre Coke	ousand tonives)	7 505 1 627 3 307	7 404 1 818 3 478	8 011 3 081 4 478	7 381 4 026 5 017	5 805 4 381 4 753	7 029 3 779 5 058	6 325 3 347 4 655	6.560 5.363 4.830 7.026	6 306 6 211 4 972 7 330	7 168 7 543 5 410 7 540
avidson Davidson	13.423 2.900	13.408 1.873	11.924 1.808	Raw steel (incl. castings) Marketable steel products		5 270 5 972 4 770	5 000 5 323 4 472	6 616 7 183 5 695	7 830 6 045	7 822 6 153	7 510 6 058	7 371 5 793	7 483 5 854	7 756 5 864	7 938
lark Davidson	6.760 6.301	5.726 5.906	6.023 5.766	Despatches steel - export - domestic		753 4 072	918 3 491	1 029 4 833	894 5 140	1 061 5 087	1 664 4 461	1 980 3 699	2 111 3 676	2 029 3 970	1 323
Davidson O'Reilly ugh	2.098 3.452 7.101 5.926	2.594 1.513 6.848	2.338 0.466 7.018	John Lysaght Justralia) Ltd. Seel sheet & coll rouckes the transfer of produ LA became a wholly owned.	cts from BHP Ste subsidiary in Der	1 098 el Division to t cember 1979	969 he JLA range	1 3251	1 180	1 3112	1 164	955	886	861	94
Davidson Ilark	7.240 0.636	6.935 0.575	6.715 0.550	Unerais Division (av (clean) (or cre Singanesie pre		6 376 10 419 1 419 103	4 975 9 452 1 195 101	5 148 12 628 1 188 111	4 185 13 314 1 545 122	2 754 11 235 2 006 133	2 707 11 575 1 477 127	2 711 11 754 1 195 10	1 802 11 460 1 686 3 95	194 11 428 1 528 67	7. 14 24 1 52 5
				Bid Inou	and the ounces)	2 38	49	43	37	46	58	7	6		
				BHP Annual Repo	ort 1984.										

Cell: H9

Comment: Richard Heede:

https://www.bhp.com/our-approach/our-history/Since 1851, we've been developing and contributing to industry, communities and economies around the world.

Formed from a merger between BHP and Billiton, we value our heritage and the strong foundations on which our company is built. From two small mining companies founded in the mid-1800s, we are now a world leader in the diversified resources industry.

Broken Hill Proprietary's rich history began in a silver, lead and zinc mine in Broken Hill, Australia. Incorporated in 1885, BHP engaged in the discovery, development, production and marketing of iron ore, copper, oil and gas, diamonds, silver, lead, zinc and a range of other natural resources. BHP was also a market leader in value-added flat steel products.

Billiton's roots trace back to 1851 and a tin mine on a little known island in Indonesia, Billiton (Belitung) island. Billiton became a global leader in the metals and mining sector and a major producer of aluminium and alumina, chrome and manganese ores and alloys, steaming coal, nickel and titanium minerals. Billiton also developed a substantial and growing copper portfolio. https://en.wikipedia.org/wiki/BHP

On 22 February 2011, BHP Billiton announced that it had paid \$4.75 billion in cash to Chesapeake Energy for its Fayetteville shale assets, which include 487,000 acres (1,970 km2) of mineral rights leases and 420 miles (680 km) of pipeline located in north central Arkansas. The wells on the mineral leases are currently producing about 415 million cubic feet of natural gas per day. BHP Billiton planned to spend \$800 million to \$1 billion a year over 10 years to develop the field and triple production.

On 14 July 2011, BHP Billiton announced that it would acquire Petrohawk Energy of the United States for approximately \$12.1 billion in cash, considerably expanding its shale natural gas resources in an offer of \$US38.75 per share.

. In February 2017, BHP Billiton announced a \$2.2 billion investment in the new BP platform in the Gulf of Mexico.

In May 2017, with much of the former Billiton assets having been disposed of, BHP Billiton began to rebrand itself as BHP, at first in Australia and then globally.

In August 2017, BHP announced that it would sell off its US shale oil and gas business. [80][81] In July 2018, the company agreed to sell its shale assets to BP for \$10.5 billion. On 29 September 2018, BHP completed the sale of its Fayetteville Onshore US gas assets to a wholly owned subsidiary of Merit Energy Company.

Cell: D14

Comment: Rick Heede:

Australian companies reported in long tons until ~1970s (gradually converted to metric system starting in 1971, completed by 1982). 1 metric tonne = 2,204.6 lbs = 1.00209 long tons. I long ton is 2,200 lbs.

Cell: D18 Comment: Rick Heede:

CMS assumes that production reported in tons prior to 1972 are Imperial tons (2240 lb; 1016 kg), unless defined in the Annual Report. The Metric Conversion Act was passed in 1970. National compliance was required by 1976, but many industries made the conversion years earlier. www.measurement.gov.au

Unless specified in company reports, CMS assumes English tons prior to 1972 and metric tonnes 1972 and thereafter.

Cell: D21 Comment: Rick Heede:

Coal production 1955-56 from Broken Hill Proprietary Company Ltd (1957) Annual Report, p. 8. Production data does not specify coal types.

Cell: D24

Comment: Rick Heede:

Coal production 1958-1960 from Broken Hill Proprietary Ltd Australia (1961) Annual Report, p. 6. Production data does not specify coal type.

Cell: D27 Comment: Rick Heede:

Coal production 1961-62 from Broken Hill Proprietary Company Ltd (1963) Annual Report, p. 7. Production data does not specify coal types.

Cell: D28

Comment: Rick Heede:

Coal production 1962-66 from Broken Hill Proprietary Company Ltd (1967) Annual Report, p. 22-23. Production data does not specify coal types.

Cell: D33

Comment: Rick Heede

Coal production 1967-68 from Broken Hill Proprietary Company Ltd (1969) Annual Report, p. 24. Production data does not specify coal types.

Cell: D35 Comment: Rick Heede:

Coal production in "long tons" for 1969-1970 from Broken Hill Proprietary Company Ltd (1971) Annual Report, p. 27. Production data does not specify coal types.

Cell: G36

Comment: Rick Heede: CAI revised production data for 1971-1980 with newly found BHP Annual Report 1980, page 39. See table reproduced below.

Cell: 136

Comment: Rick Heede: Colette Rhoding sent images of BHP (and Broken Hill Proprietary) for 1970-1979

Cell: D37 Comment: Rick Heede:

Coal production in long tons for 1971-73 from Broken Hill Proprietary Company Ltd and subsidiaries (1974) Annual Report, p. tk.

Cell: E40

Comment: Rick Heede:

Coal production for 1974-81 from Broken Hill Proprietary Company Ltd and subsidiaries (1982) Annual Report, p. tk. Data now reported in metric tonnes.

Cell: H47 Comment: Rick Heede:

Coking coal is not reported in the 1981 annual report but is instead estimated from the bar graph presented in the BHP 1983 annual report (no numeric data shown).

Cell: E48

Comment: Rick Heede: Coal production for 1982 and 1983 from BHP (1984) Annual Report, p. tk, estimated from bar graph of coal production (no numerical data). Note: The BHP legend appears reversed (since it shows coking coal as ~10 x energy coal, which is inconsistent with reported numerical data for 1986 forward). Also not disclosed is whether the stacked bars show additive or separate production statistics; we assume additive.

Cell: E50 Comment: Rick Heede:

Coal production 1984-85 is from BHP (1989) Annual Report, p. 25. We combine "clean coal for Australia" and "raw coal for North America and other countries." Coking coal reported separately.

Cell: E52

Comment: Rick Heede

BHP Billiton Annual reports. We have assumed that all of BHP's production of "clean coal" is thermal coal (bituminous and subbituminous), and steel "raw" coal is hard coal (probably bituminous). Some of Australia's coal regions produce lignite coals -- particularly in Victoria -- but we have no breakdowns of regional production within Australia. Regional (global) production: Australia = 53 percent; Rest of world (RSA, North America) = 37 percent.

Cell: E62

Comment: Rick Heede:

BHP Annual Report 1998, page 6, shows energy coal and metallurgical for 1996-1998.

Cell: I62 Comment: Rick Heede:

Colette Rhoding sent images of BHP (and Broken Hill Proprietary) for 1970-1979. Mitchell Library, Sydney, State Library of New South Wales, Sydney, January 2019.

Cell: E66

Comment: Rick Heede:

The BHP annual report for 2001, p. 34, shows 92.9 million tonnes of energy coal production in 2001 and 93.9 Mt in 2000. We use reported production in subsequent quarterly reports for 2001, however, since reportd production was revised down to 89.2 Mt; see note below.

Cell: H66

Comment: Rick Heede:

The BHP annual report for 2001 shows 92.9 million tonnes of energy coal production. Metallurgical coal production (AnnRpt, p. 30) at 37.136 million tonnes in 2001 and 30.633 Mt in 2000.

Cell: E67

Comment: Rick Heede:

BHP (2001-2004) Quarterly reports. BHP provides poor data on production in its annual reports (e.g., 2004 rpt has three years of oil and gas data, but one datum for coal (metallurgical only) for 2004: no production table is presented in the AnnRpt appendix.

The BHP annual report for 2001 shows 92.9 million tonnes of energy coal production. Metallurgical coal production (AnnRpt, p. 30) at 37.136 million tonnes in 2001 and 30.633 Mt in 2000.

Cell: K70 Comment: Rick Heede:

Energy Coal, AnnRpt2004, p. 20: operating mines in 2004: Queensland Coal, Illewarra Coal (Aus), Ingwe (RSA), Hunter Valley, PT Arutman (Indonesia), New Mexico Coal, Cerrejon (Colombia). Percent production (energy coal), 4thQ 2004: RSA: 64.3 percent; heating value: 4470 - 7400 kcal/kg USA: 17.4 percent; heating value: 4600 - 5300 kcal/kg Australia: 10.2 percent; heating value: 6270 kcal/kg Colombia: 8.0 percent; heating value: 6200 kcal/kg. Metallurgical coal: production at BMP, BHP Matsui, and Illawarra (all Australia?) Calorific values from 6930 to 7650 kcal/kg. Source: BHP (2005) AnnRpt 2004, pp. 180-187.

Cell: E72

Comment: Rick Heede (Dec09):

BHP-Billiton Annual report 2008, p. 97. Metallurgical coal comprises ~30 percent of total.

Cell: K74 Comment: Rick Heede:

BHP-Billiton Annual report 2008, p. 51 and 97. Metallurgical coal comprises ~30 percent of total. In 2008, metallurgical coal of 35.191 million tonnes, and energy coal of 80.868 million tonnes (70 percent of total).

Cell: E75 Comment: Rick Heede

BHP AnnRpt 2010, page 53. "FY2008 includes 11.3 million tonnes of production from our South African Optimum operation (3.96 million tonnes export and 7.3 million tonnes domestic). Earnings on these tonnes were excluded as the entitlement to those earnings was vested with the purchaser effective from 1 July 2007."

Cell: H75

Comment: Rick Heede: BHP AnnRpt 2010, page 53.

Cell: E77 Comment: Rick Heede:

BHP AnnRpt 2013, table2.3.2 Minerals, Total energy coal 2011-2013.

Cell: H77

Comment: Rick Heede:

BHP AnnRpt 2013, table2.3.2 Minerals, Total metallurgical coal 2011-2013.

Cell: E80

Comment: Rick Heede:

BHP Billiton Ann Rpt (""), page 97: thermal coal in USA (10 Mt) and New South Wales (31 Mt). 2015 report shows thermall coal in 2013 at 29.708 Mt; the discontinuity is not discussed, but presumably due to divestment of mining assets.

Cell: H80

Comment: Rick Heede:

BHP Billiton Ann Rot (""), page 97: Metallurgical coal (all Queensland Australia: BHP Mitsubishi Alliance & BHP Mitsui Coal).

Cell: E82

Comment: Rick Heede:

BHP Billiton 20-F for 2016, page 263. Includes as Eanergy Coal: Correjon 10.094 Mt, USA New Mexico 7.052 Mt, and New South Wales 17.101 Mt. See also reserves, pages 276-fwd.

Cell: E83 Comment: Rick Heede:

BHP AnnRpt 2017, page 245. Energy coal, and Metallurgical coal, in tonnes

Metallurgical coal: chiefly mines in Queensland (joint venture with Mitsui Coal), and minor production in Indonesia (129kt). Energy coal in NM US (0.45 Mt)), New South Wales (18.2 Mt), and Correjon Colombia (11 Mt).

Cell: D301 Comment: Rick Heede:

Broken Hill Proprietary AnnRpt 1959 (we show data for 1957 only). BHP AnRpt 1967 shows data 1958-1967 for coke and coal production. Note: Broken Hill Properties reports both "coke" and coal (under raw materials)

It is unclear whither the former refers to metallurgical coal production and the latter to thermal coal (esp since the BHP 1980 AnnRpt shows zero thermal coal production Likely that the raw coal production is all used to process coke, hence not additive.

Likely

Cell: D315 Comment: Rick Heede:

BHP Annual Report 1980. Coking coal (also aka "raw") and "coal (clean)" aka Energy coal, in Mt, 1971-1974 (we use a later AnnRpt 1975-1984.

Cell: D319

Comment: Rick Heede:

BHP Annual Report 1984. Coking coal (also aka "raw") and "coal (clean)." We use data for 1975-1984. Reported in thousand tonnes, we convert to Mt.

Cell: D331

Comment: Rick Heede:

BHP Annual Report 1991 and 1992. Reports "Coal (clean)" and "Coal (raw)" for 1987-1992.

Cell: D340 Comment: Rick Heede:

BHP Annual Report 1998, page 6. Coking coal and Energy coal, in Mt, 1996-1998.