

IRON ORE PORT STOCK INDEX (IOPI)

September 20 2018		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne <sup>1</sup>						
Index	Fe Content	Price	Change	Change %	MTD	YTD <sup>2</sup>	Low <sup>2</sup>	High <sup>2</sup>	Price	Change	Change %	MTD	YTD <sup>2</sup>	Low <sup>2</sup>	High <sup>2</sup>
IOPI62	62% Fe Fines	526	5	1.0%	506	485	443	559	68.09	0.72	1.1%	65.53	65.39	61.36	77.89
IOPI58	58% Fe Fines	392	0	0.0%	383	342	304	385	49.77	0.03	0.1%	48.58	44.82	40.67	50.97
IOPI65	65% Fe Fines	740	11	1.5%	728	628	541	740	97.35	1.55	1.6%	95.83	85.67	75.83	97.35

IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

Week Ending September 14, 2018				RMB/tonne (excluding tax)				USD/tonne (excluding tax) <sup>3</sup>			
Province	Region	Product	Basis	This week	Change %	Low <sup>2</sup>	High <sup>2</sup>	This week	Change %	Low <sup>2</sup>	High <sup>2</sup>
Hebei	Hanxing	66% Fe Concentrate	Dry	640	1.6%	579	682	93.49	1.3%	84.58	99.63
Hebei	Qian'an	65% Fe Concentrate	Dry	775	0.0%	630	775	113.21	-0.3%	92.03	113.21
Liaoning	Anshan	65% Fe Concentrate	Wet	545	5.8%	445	550	79.61	5.5%	65.01	80.34
Shandong	Zibo	65% Fe Concentrate	Dry	735	1.4%	620	735	107.37	1.1%	90.57	107.37
Week Ending September 14, 2018				This week	Change %	Low <sup>4</sup>	High <sup>4</sup>				
China Mines Concentrate Composite Index RMB/WT				633.00	1.6%	534.50	633.00				

<sup>1</sup> Exchange rate applied: RMB/USD = 6.8530    <sup>2</sup> Since March 1  
<sup>3</sup> Weekly exchange rate applied: RMB/USD 6.8455    <sup>4</sup> Last 12 months

MARKET COMMENTARY

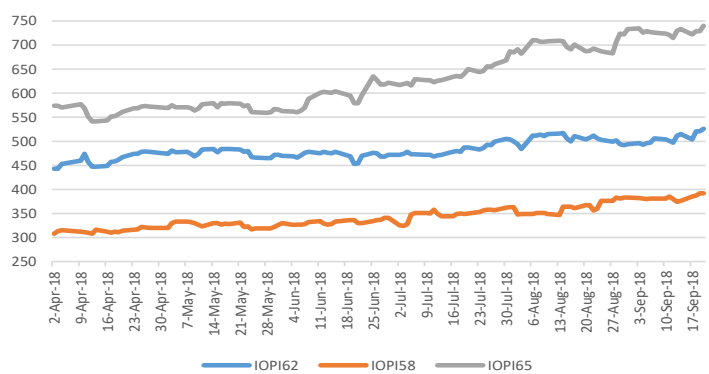
Physical spot iron ore port stock at major Chinese ports were relatively stable table today, with some minor differences. Traders kept their offers at strong levels due to their belief that inventory levels were low whilst mills bids were some way away from. Transactions for the week have maintained their low level.

PLATFORM TRADES AND TENDERS

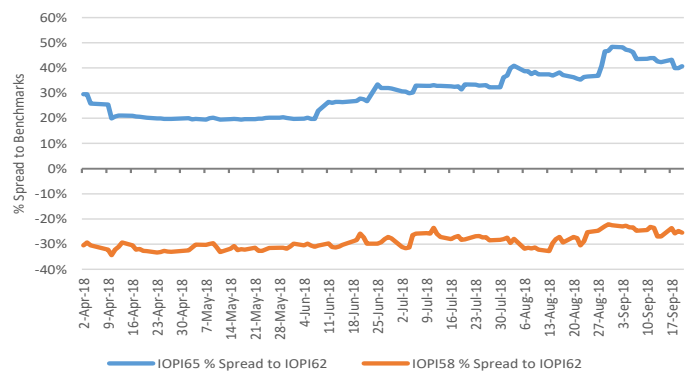
IRON ORE HIGH/LOW GRADE PREMIUM/DISCOUNT

September 20 2018	PORT STOCK INDEX (RMB/WT)	
Fe Content	Spread to IOPI62	% Spread to IOPI62
58% Fe Fines	-134	-25.48%
65% Fe Fines	214	40.68%

IRON ORE PORT INDEX, FOT QINGDAO (RMB/WT)



IRON ORE HIGH/LOW GRADE PREMIUM/DISCOUNT



IRON ORE PORT STOCK INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

September 20 2018		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne <sup>1</sup>						
Index	Fe Content	May	June	July	August	MTD	QTD	YTD <sup>2</sup>	May	June	July	August	MTD	QTD	YTD <sup>2</sup>
IOPI62	62% Fe Fines	476	471	482	505	506	496	485	65.87	64.29	63.41	65.25	65.53	64.63	65.39
IOPI58	58% Fe Fines	326	332	349	363	383	362	342	43.75	44.14	44.86	45.84	48.58	46.12	44.82
IOPI65	65% Fe Fines	571	594	638	701	728	684	628	79.76	82.19	85.29	92.13	95.83	90.46	85.67

IRON ORE FUTURES CONTRACTS

Closing Date	DCE			SGX		
	20 Sept 3pm close			20 Sept 5.30pm		
Contract	I1901	Change	Change %	Oct'18	Change	Change %
Closing Price	502.0	-3.0	-0.59%	68.80	-0.24	-0.35%
Vol traded ('000 lots)	55.25	-28.9	-34.35%	5.49	-1.03	-15.86%
Open positions ('000 lots)	72.19	-4.0	-5.21%	133.14	1.70	1.30%
Day Low	500.0	-4.5	-0.89%	68.61	-0.05	-0.07%
Day High	505.0	-6.0	-1.17%	68.96	-0.33	-0.48%

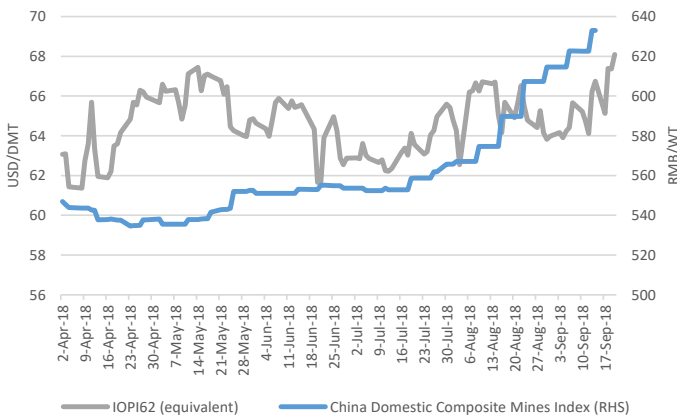
IRON ORE PORT INVENTORIES

Week Ending September 14, 2018 (million tonnes)				
Province	This week	Change %	Low <sup>4</sup>	High <sup>4</sup>
Jingtang	16.08	-0.14%	14.11	19.00
Qingdao	18.50	0.00%	15.60	19.97
Caofeidian	18.00	2.86%	16.62	25.30
Tianjin	9.60	1.05%	8.60	11.00
Rizhao	16.70	-1.76%	13.10	19.00
Total (35 Ports)	136.07	-0.55%	123.49	150.04

Daily Iron Ore Index Report

September 20, 2018

MMi BENCHMARK IRON ORE PRICES



CHINA DOMESTIC COMPOSITE MINES INDEX (RMB/Wet Tonne, including VAT)



IRON ORE BRAND SPOT PRICE ASSESSMENTS

September 20 2018	PORT STOCK INDEX (RMB/WT)		
	Price	Change	Diff to IOPI62
Newman Fines	504	0	-22
SIMEC Fines	459	-5	-67
PB Fines	512	2	-14
Newman Fines	527	6	1
MAC Fines	500	-1	-26
Jimblebar Blended Fines	471	-1	-55
Carajas Fines	732	10	206
Brazilian SSF	555	5	29
Brazilian Blend Fines	555	8	29
RTX Fines	478	-7	-48

September 20 2018	PORT STOCK INDEX (RMB/WT)		
	Price	Change	Diff to IOPI58
SSF	313	0	-79
FMG Blended Fines	378	0	-14
Robe River	341	0	-51
Western Fines	330	0	-62
Atlas Fines	319	0	-73
Yandi	388	0	-4

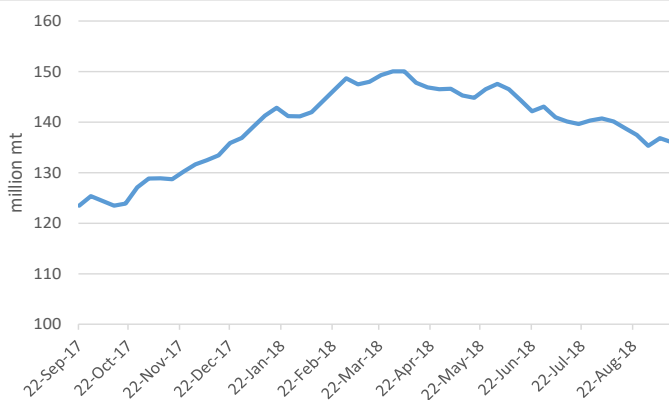
AVERAGE IRON ORE BRAND SPECIFICATIONS FOR PORT STOCK SALES

September 20 2018	SPECIFICATIONS APPLIED FOR 62% BRAND ASSESSMENTS				
	Fe	Alumina	Silica	Phos	Moisture
Roy Hill	61.00%	2.20%	4.50%	0.055%	8.00%
SIMEC Fines	60.00%	2.30%	6.30%	0.060%	6.00%
PB Fines	61.68%	2.36%	3.57%	0.100%	9.23%
Newman Fines	62.37%	2.40%	4.08%	0.090%	7.96%
MAC Fines	61.00%	2.29%	4.61%	0.090%	7.43%
Jimblebar Blended Fines	61.36%	2.86%	4.56%	0.100%	6.96%
Carajas Fines	64.90%	1.35%	1.78%	0.080%	8.18%
Brazilian SSF	62.00%	1.00%	6.50%	0.040%	6.00%
Brazilian Blend Fines	62.71%	1.49%	4.90%	0.050%	8.69%
RTX Fines	61.00%	3.10%	4.50%	0.135%	7.50%

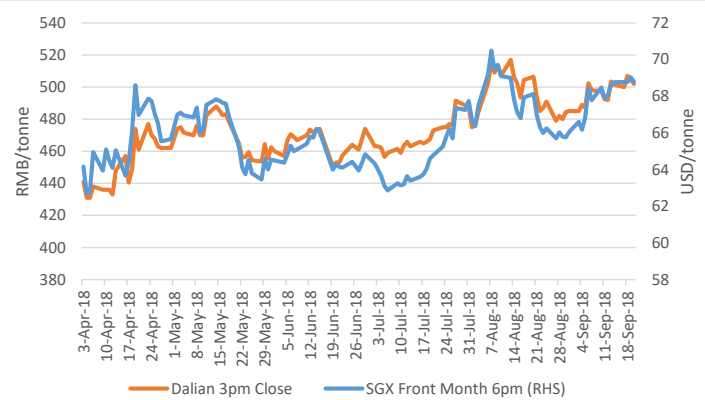
  

September 20 2018	SPECIFICATIONS APPLIED FOR 58% BRAND ASSESSMENTS				
	Fe	Alumina	Silica	Phos	Moisture
SSF	56.53%	3.06%	6.28%	0.050%	9.10%
FMG Blended Fines	58.36%	2.79%	5.90%	0.070%	7.13%
Robe River	56.74%	3.14%	5.05%	0.030%	8.58%
Western Fines	57.72%	2.86%	7.37%	0.060%	7.41%
Atlas Fines	56.59%	2.55%	7.14%	0.080%	8.46%
Yandi	57.07%	1.42%	6.30%	0.040%	9.46%

TOTAL IRON ORE INVENTORIES AT CHINA PORTS



FUTURE TRADING—FRONT MONTH CLOSING PRICE



FREIGHT RATES

September 19, 2018		FREIGHT RATES - DRY BULK US\$/wet tonne				
Route	Designation	Change	Change %	Low <sup>4</sup>	High <sup>4</sup>	
W. Australia - Qingdao	C5	7.44	-0.09	-1.21%	5.109	10.002
Tubarao - Qingdao	C3	20.02	0.02	0.12%	12.705	24.76

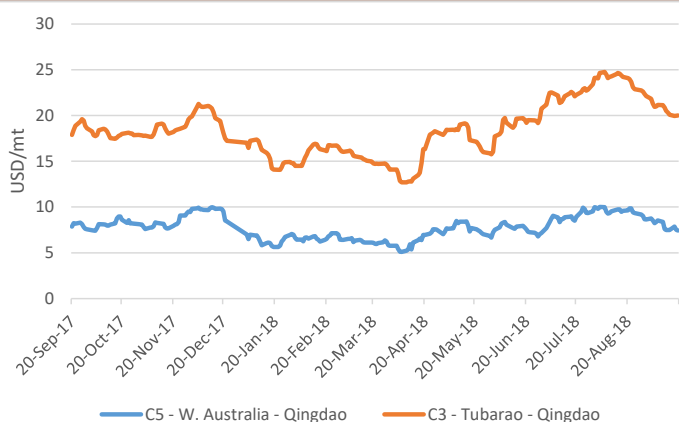
BLOOMBERG

BLOOMBERG TICKERS		
	FOT Qingdao (RMB/wet tonne)	CFR Qingdao Equivalent (USD/dry tonne)
IOPI62	IRCNQ001	IRCNQ004
IOPI58	IRCNQ002	IRCNQ005
IOPI65	IRCNQ003	IRCNQ006

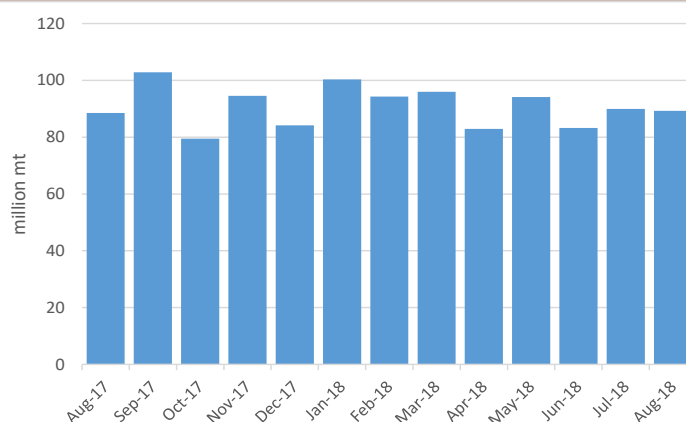
## Daily Iron Ore Index Report

September 20, 2018

### DRY BULK FREIGHT RATES



### TOTAL CHINA IRON ORE IMPORT VOLUMES

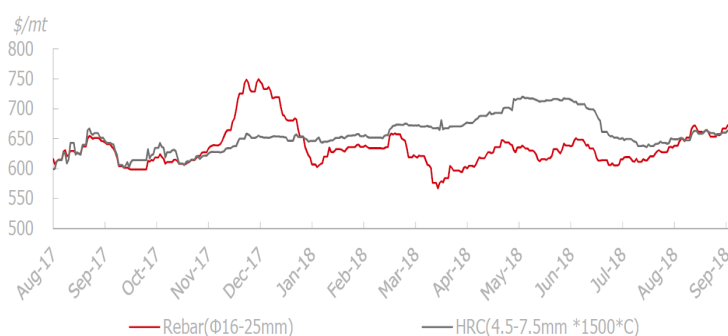


### Steel Spot Market Prices - China

#### Steel Spot Market RMB/tonne

Product	14/9/2018	Change	Change %
ReBar HRB400 φ18mm	4,542.0	-8	-0.18%
Wirerod Q300 φ6.5mm	4,627.0	-138	-2.90%
HRC Q235/SS400 5.5mm*1500°C	4,331.0	-44	-1.01%
CRC SPCC/ST12 1.0mm*1250*2500	4,906.0	-20	-0.41%
Medium & Heavy Plate Q235B 20mm	4,490.0	-13	-0.29%
GI ST02Z 1.0mm*1000°C	5,295.0	-30	-0.56%
Billet Q235 150*150mm	4,020.0	-40	-0.99%

#### Rebar and HRC spot prices



### CHINESE STEEL EXPORT PRICES

#### China Export Prices USD/tonne

Product	Specification	Export tax (+)/Vate rebate (-)	Change
14/9/2018			
Rebar	BS4449 460B 12-25mm, + chrome	-13%	580 0
Wire Rod	SAE1008 6.5-10mm +chrome	-9%	580 0
Hot-rolled coil	SS400/Q235 4.0-10.1mm	-9%	580 0
Cold-rolled coil	SPCC 1.0mm	-13%	615 0
Medium & Heavy plate	A-level Ship plate 12-25mm	0%	610 0
Galvanised	ST02Z/SGCC 1.0mm	-13%	685 0

Note: Calculation formula for converting export prices of rebar, cold-rolled steel and galvanizing into prices in China's spot market = FOB \* exchange rate \* 1.16 / (1.16 - 0.13); Calculation formula for converting export prices of wire rod and hot-rolled steel into prices in China's spot market = FOB \* exchange rate \* 1.16 / (1.16 - 0.09); Calculation formula for converting export prices of medium-thick plate into prices in China's spot market = FOB \* exchange rate

### CHINESE STEEL INVENTORIES

#### Steel Inventories<sup>3</sup> (unit: 1000 tonnes)

Product	14/9/2018	7/9/2018	Change	Change %
Rebar	4,405	4,399	6	0.14%
Wirerod	1,403	1,373	30	2.18%
Hot-rolled Coil	2,144	2,190	-46	-2.10%
Medium & Thick Plate	1,005	992	13	1.31%
Cold-rolled Coil	1,183	1,189	-6	-0.50%
<b>Total</b>	<b>10,140</b>	<b>10,144</b>	<b>-4</b>	<b>-0.04%</b>

<sup>3</sup> SMM statistics cover inventories of major steel products in China's major markets: hot-rolled steel inventories in 33 major cities; rebar and wire inventories in 35 major cities; cold-rolled steel and medium-thick plate inventories in 31 major cities.

### CHINESE STEEL MILL PROFITABILITY

#### SMM Tracking of Steel Mill P&L - Rebar and Hot-rolled Coil (RMB/tonne)

Category	Price	Change (WoW)	Note
MMi (Fe 62%), USD/mt excluding tax	64.94	-0.72	MMi index for 22nd June
Coke	2,610	0	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	2,320	0	steel scrap (6mm) in Zhangjiagang, excl. tax
Billet Cost	3,092	-5	Q234, incl. tax
Rebar cost - Blast furnace	3,362	-14	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	1,128	87	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	3,461	39	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	914	-74	based on Shanghai prices, incl. tax

Note: 1. Costs in the table are calculated based on today's market prices and factor our management, sales, financial and depreciations fees.

2. The cost refers to average cost in the industry based on SMM's survey of small, medium and large mills in China

IRON ORE INDEX SPECIFICATIONS, COMPILATION RATIONALE AND DATA EXCLUSIONS

Iron Ore Index Specifications (Port)				Iron Ore Index Compilation Rationale and Data Exclusions	
	65% Fe Fines	62% Fe Fines	58% Fe Fines		
Fe %	65.00	62.00	58.00	MMI iron ore port stock indices are compiled from data provided by companies that are part of the iron ore supply chain and involved in spot market transactions. The indices are calculated using detailed transaction-level data submitted to MMI by these companies. This data is normalised to the appropriate specifications and screened to remove outliers before volume-weighted average prices are calculated from the remaining core set of data.  For more details on MMI's iron ore methodology please download the guide published on our website at: <a href="http://www.mmiprices.com">www.mmiprices.com</a>  <u>Data Exclusions*</u> Port Index: 0 * Number of price submissions for iron ore indices that were excluded from index calculations today as they were anomalous and could not be verified	
Alumina %	1.40	2.25	2.25		
Silica %	1.50	4.00	5.50		
Phosphorus %	0.06	0.09	0.05		
Sulphur %	0.01	0.02	0.02		
Moisture %	8.00	8.00	9.00		
Sizing	Granular size below 10mm for at least 90% of cargo; maximum of 40% below 150 micron				
Pricing Point	Qingdao Port				
Timing (Seaborne)	Loading within 4 weeks, Delivery within 8 weeks				
Payment Terms	L/C at sight				

IRON ORE DOMESTIC CONCENTRATE INDEX CALCULATION METHODOLOGY

The compilation method for price index generally refers to the compilation method of CPI price index and other price indices, breakdown the price data and calculate the average value according to a certain method, taking the vertical axis as the regional composite index (average of different grade index) and the horizontal axis as the grade composite index (average of different regional index), a total composite index for domestic ore can be output ultimately. The process system is also adopted in the calculation i.e. each sub-index can be obtained as well.

IRON ORE PORT INDEX NORMALISATION DIFFERENTIALS

Product Differentials (RMB/wet tonne)				Differentials to Qingdao Port (RMB/wet tonne)		
	Applicable range	Value	Change	Port	Value	Change
1% Fe	High Grade Fe 60 - 63%	15.00	5.00	Bayuquan	-40.00	0.00
	High Grade Fe 63 - 64%	71.00	0.00	Beilun	5.00	0.00
	High Grade Fe 64 - 65%	71.00	0.00	Caofeidian	-20.00	0.00
	High Grade Fe 65 - 65.5%	71.00	0.00	Dalian	-20.00	0.00
	Low Grade Fe	21.00	0.00	Fangcheng	-5.00	0.00
1% Alumina	High Fe Grade Al <2.25%	54.00	0.00	Jiangyin	-30.00	0.00
	High Fe Grade Al 2.25-4%	20.00	3.00	Jingtang	-20.00	0.00
	Low Fe Grade	40.00	0.00	Lanshan	0.00	0.00
1% Silica	High Fe Grade Si <4%	4.00	0.00	Lanqiao	0.00	0.00
	High Fe Grade Si <4 - 6.5%	20.00	0.00	Lianyungang	0.00	0.00
	High Fe Grade Si <6.5 - 9%	20.00	0.00	Majishan	0.00	0.00
	Low Fe Grade	20.00	0.00	Nantong	-30.00	0.00
0.01% Phosphorus	High Fe Grade 0.08%<P<0.115%	2.00	1.00	Qingdao	0.00	0.00
	High Fe grade 0.115%<P<0.15%	7.00	3.00	Rizhao	0.00	0.00
	Low Fe Grade 0.08 < P < 0.15%	10.00	0.00	Tianjin	-25.00	0.00

CONTACT US

MMI Singapore Office Details: Level 28, Manulife Tower, 8 Cross Street Singapore. Tel: + 65 6850 7629 E: [jarek@mmiprices.com](mailto:jarek@mmiprices.com)

SMM Singapore Office Details: Level 28, Manulife Tower, 8 Cross Street Singapore. Tel: + 65 6850 7630 E: [service.en@smm.cn](mailto:service.en@smm.cn)

SMM Shanghai Office Details: 9th FL, Building 9, Lujiazui Software Park, No.20, Lane 91, Pudong, Shanghai Tel: +86 021 5155 0306 E: [service.en@smm.cn](mailto:service.en@smm.cn)

This information has been prepared by Metals Market Index ("MMI"). Use of the information presented here is at your sole risk, and any content, material and/or data presented or otherwise obtained through your use of the information in this document is at your own discretion and risk and you will be solely responsible for any damage to you personally or your company or organisation or business associates whatsoever which in anyway results from the use, reliance or application of such content material and/or information. Certain data has been obtained from various sources and any copyright existing in such data shall remain the property of the source. Except for the foregoing, MMI retains all copyright within this document. The copying or redistribution of any part of this document without the express written authority of MMI is forbidden.