

Daily Iron Ore Index Report

February 13th, 2019

IRON ORE PORT STOCK INDEX (IOPI)

February 13th, 2019		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ²	High ²	Price	Change	Change %	MTD	YTD	Low ²	High ²
IOPI62	62% Fe Fines	681	1	0.1%	663	593	443	681	90.41	0.25	0.3%	88.13	78.00	61.36	90.41
IOPI58	58% Fe Fines	572	5	0.9%	542	463	304	572	75.32	0.79	1.1%	71.33	60.04	40.67	75.32
IOPI65	65% Fe Fines	756	1	0.1%	738	681	541	784	100.80	0.27	0.3%	98.54	90.16	75.83	101.71

IRON ORE SEABORNE INDEX (IOSI)

February 13th, 2019		CFR Qingdao, USD/dry tonne							MARKET COMMENTARY According to SMM, some mills are looking to see how far lower iron ore will go before committing to new purchasing programs. However, in East China, mills are forced to buy due to their relatively low pre-holiday restocking activities. In North China, traders are confident they'll be able to make some margins as they believe some clients are short iron ore over the next two week. Prices for low-grade products remain firm as margins narrow. According to SMM, mills profits for rebar have dropped around 100yuan/mt compared with that before the holiday.						
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ³	High ³							
IOSI62	62% Fe Fines	87.55	-1.50	-1.7%	87.76	78.90	62.95	89.20							
IOSI65	65% Fe Fines	105.25	-0.10	-0.1%	103.64	93.23	83.20	106.85							

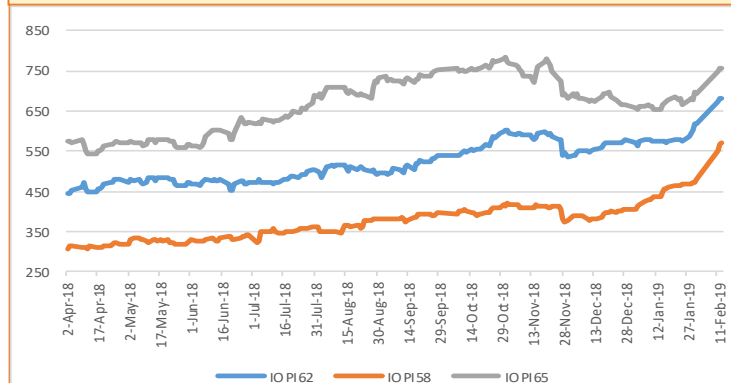
IRON ORE PORT LUMP INDEX (IOPLI)

Week Ending February 1st		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	Price	W-o-W	Change %	MTD	YTD	Low ³	High ³	Price	W-o-W	Change %	MTD	YTD	Low ³	High ³
IOPLI62	62.5% Fe Lump	797	16	2.0%	797	785	565	797	102.94	3.41	3.4%	102.94	100.24	76.63	102.94

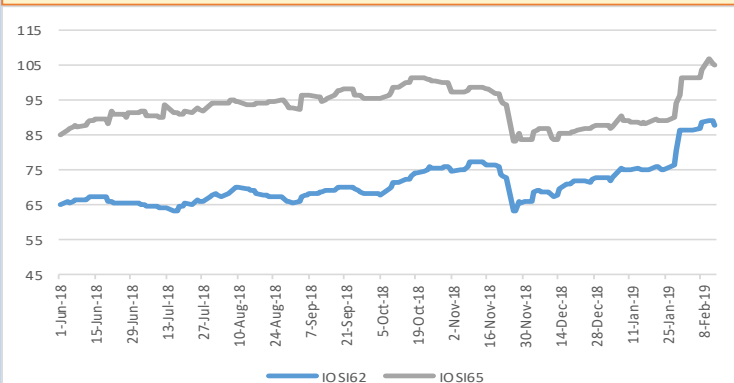
IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

Week Ending February 1st, 2019				RMB/tonne (excluding tax) ⁴				USD/tonne (excluding tax) ⁴			
Province	Region	Product	Basis	This week	Change %	Low ²	High ²	This week	Change %	Low ²	High ²
Hebei	Hanxing	66% Fe Concentrate	Dry	704	0.4%	579	718	104.68	1.35%	91.97	104.68
Hebei	Qian'an	65% Fe Concentrate	Dry	750	0.0%	630	815	111.52	0.91%	100.26	117.34
Liaoning	Anshan	65% Fe Concentrate	Wet	545	0.0%	445	745	81.04	0.91%	68.21	81.35
Shandong	Zibo	65% Fe Concentrate	Dry	765	1.3%	620	815	113.75	2.25%	99.75	117.91
Week Ending February 1st, 2019				This week	Change %	Low ⁵	High ⁵	¹ Exchange rate applied: RMB/USD = 6.7675 ² Since March 1 2018 ³ Since June 1 2018 ⁴ Weekly exchange rate applied: RMB/USD 6.7253 ⁵ Last 12 months			
China Mines Concentrate Composite Index RMB/WT				637.11	0.7%	534.50	676.26				

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



IRON ORE SEABORNE INDEX, CFR QINGDAO (USD/DMT)



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

February 13th, 2019		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	October	November	December	January	MTD	QTD	YTD	October	November	December	January	MTD	QTD	YTD
IOPI62	62% Fe Fines	564	564	559	580	663	593	593	63.41	65.25	72.55	76.16	88.13	78.00	78.00
IOPI58	58% Fe Fines	401	401	392	448	542	463	463	44.86	45.84	50.47	57.99	71.33	60.04	60.04
IOPI65	65% Fe Fines	760	760	681	670	738	681	681	85.29	92.13	99.05	88.65	98.54	90.16	90.16

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

February 13th, 2019		CFR Qingdao, USD/dry tonne							FREIGHT RATES						
Index	Fe Content	October	November	December	January	MTD	QTD	YTD	FREIGHT RATES - DRY BULK US\$/wet tonne						
IOSI62	62% Fe Fines	72.31	72.91	69.96	76.09	87.76	78.90	78.90	Route	Designation	Change	Change %	Low ⁵	High ⁵	
IOSI65	65% Fe Fines	98.97	94.05	85.95	89.92	103.64	93.23	93.23	W. Australia - Qingdao	C5	4.99	0.07	1.38%	4.814	10.002
									Tubarao - Qingdao	C3	13.14	0.05	0.42%	12.705	24.760

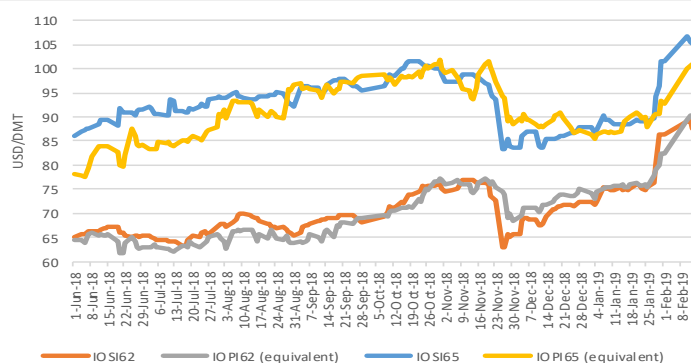
IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending February 1st		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	October	November	December	January	MTD	QTD	YTD	October	November	December	January	MTD	QTD	YTD
IOPLI62	62.5% Fe Lump	720	771	749	782	797	785	785	89.65	96.21	94.22	99.57	102.94	100.24	100.24

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IRON ORE INDEX COMPARISONS



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



IRON ORE BRAND SPOT PRICE ASSESSMENTS

February 13th, 2019	PORT STOCK INDEX (RMB/WT)			February 13th, 2019	SEABORNE INDEX (USD/DMT)		
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	653	1	-28	Roy Hill	80.84	-1.50	-6.71
SIMEC Fines	624	1	-57	SIMEC Fines	75.94	-1.50	-11.61
PB Fines	659	0	-22	PB Fines	85.96	-1.50	-1.59
Newman Fines	682	1	1	Newman Fines	90.42	-1.50	2.87
MAC Fines	661	1	-20	MAC Fines	79.54	-1.50	-8.01
Jimblebar Blended Fines	625	2	-56	Jimblebar Blended Fines	72.56	-1.50	-14.99
Carajas Fines	764	3	83	Carajas Fines	103.17	-1.50	15.62
Brazilian SSF	680	1	-1	Brazilian SSF	86.92	-1.50	-0.63
Brazilian Blend Fines	684	1	3	Brazilian Blend Fines	89.92	-1.50	2.37
RTX Fines	631	1	-50	RTX Fines	75.16	-1.50	-12.39
February 13th, 2019	PORT STOCK INDEX (RMB/WT)						
	Price	Change	Diff to IOPI58				
SSF	539	6	-33				
FMG Blended Fines	577	6	5				
Robe River	586	5	14				
Western Fines	539	5	-33				
Atlas Fines	531	5	-41				
Yandi	615	7	43				

IRON ORE INDEX NORMALISATION DIFFERENTIALS

Port Stock Index Product Differentials (RMB/wet tonne)				Seaborne Index Product Differentials (USD/dry tonne)			
	Applicable range	Value	Change		Applicable range	Value	Change
1% Fe	High Grade Fe 60 - 63%	14.00	0.00	1% Fe	High Grade Fe 60 - 63%	4.00	0.00
	High Grade Fe 63 - 64%	18.00	0.00		High Grade Fe 63 - 64%	3.00	0.00
	High Grade Fe 64 - 65%	18.00	0.00		High Grade Fe 64 - 65%	3.00	0.00
	High Grade Fe 65 - 65.5%	18.00	0.00		High Grade Fe 65 - 65.5%	3.00	0.00
	Low Grade Fe	8.00	0.00				
1% Alumina	High Fe Grade Al <2.25%	24.00	0.00	1% Alumina	High Fe Grade Al <2.25%	2.50	0.00
	High Fe Grade Al 2.25-4%	14.00	0.00		High Fe Grade Al 2.25-4%	3.25	0.00
	Low Fe Grade Al <2.25%	77.00	0.00				
	Low Fe Grade Al 2.25-4%	10.00	0.00				
1% Silica	High Fe Grade Si <4%	2.00	0.00	1% Silica	High Fe Grade Si <4%	1.50	0.00
	High Fe Grade Si 4-6.5%	18.00	0.00		High Fe Grade Si 4 - 6.5%	1.50	0.00
	Low Fe Grade	18.00	0.00				
0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	6.00	0.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	0.75	0.00
	High Fe Grade 0.115%<P<0.15%	2.00	0.00		High Fe Grade 0.115%<P<0.15%	1.50	0.00
	Low Fe Grade 0.09<P<0.1%	2.00	0.00				

Port Stock Differentials to Qingdao Port (RMB/wet tonne)

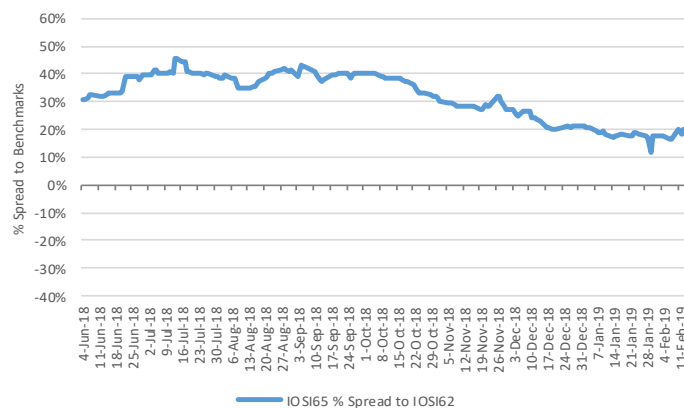
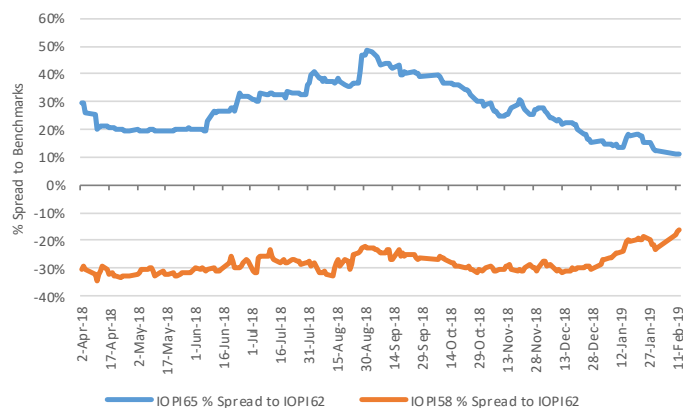
Port	Value	Change	Port	Value	Change	Port	Value	Change	Port	Value	Change
Bayuquan	-25.00	0.00	Fangcheng	-5.00	0.00	Lanshan	0.00	0.00	Qingdao	0.00	0.00
Beilun	5.00	0.00	Jiangyin	-15.00	0.00	Lianyungang	0.00	0.00	Rizhao	0.00	0.00
Caofeidian	-10.00	0.00	Jingtang	-10.00	0.00	Majishan	0.00	0.00	Shekou	0.00	0.00
Dalian	-10.00	0.00	Lanqiao	0.00	0.00	Nantong	-15.00	0.00	Tianjin	-20.00	0.00

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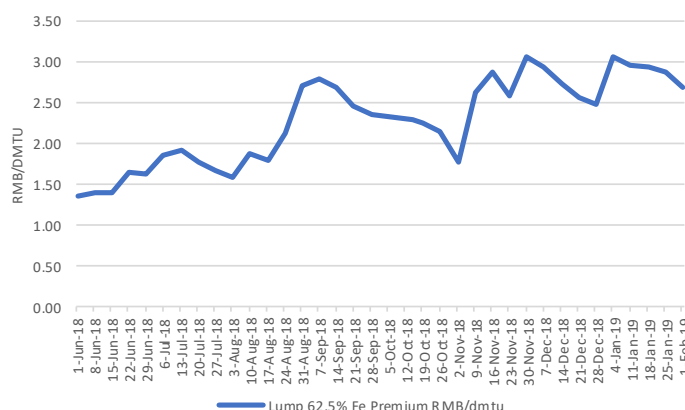
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IRON ORE INDEX PREMIUMS/DISCOUNTS

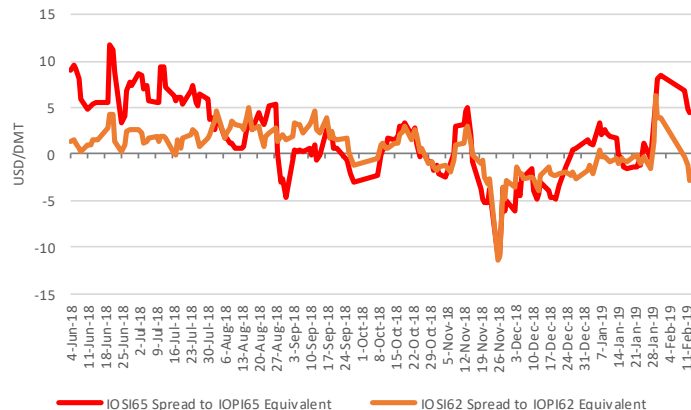
February 13th, 2019			February 13th, 2019		
PORT STOCK INDEX (RMB/WT)			SEABORNE INDEX (USD/DMT)		
Fe Content	Spread to IOPI62	% Spread to IOPI62	Fe Content	Spread to IOSI62	% Spread to IOSI62
58% Fe Fines	-109	-16.01%			
65% Fe Fines	75	11.01%	65% Fe Fines	17.70	20.22%



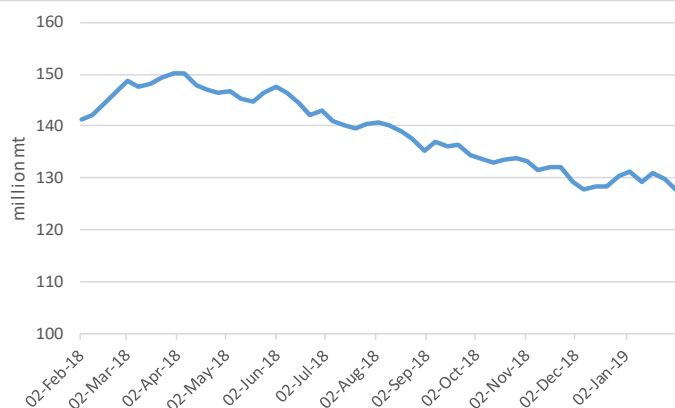
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (62.5% FE LUMP—62% FE FINES)



IRON ORE SEABORNE TO PORT STOCK SPREADS



TOTAL IRON ORE INVENTORIES AT CHINA PORTS



FUTURE TRADING—FRONT MONTH CLOSING PRICE



IRON ORE PORT INVENTORIES

Week Ending February 1st, 2019 (million tonnes)

Province	This week	Change %	Low ⁴	High ⁴
Jingtang	14.03	3.39%	13.29	19.00
Qingdao	17.00	-2.86%	16.09	19.97
Caofeidian	16.30	-4.12%	16.30	25.30
Tianjin	9.05	-3.72%	8.50	11.00
Rizhao	15.00	-1.70%	14.00	19.00
Total (35 Ports)	127.87	-1.55%	127.72	150.04

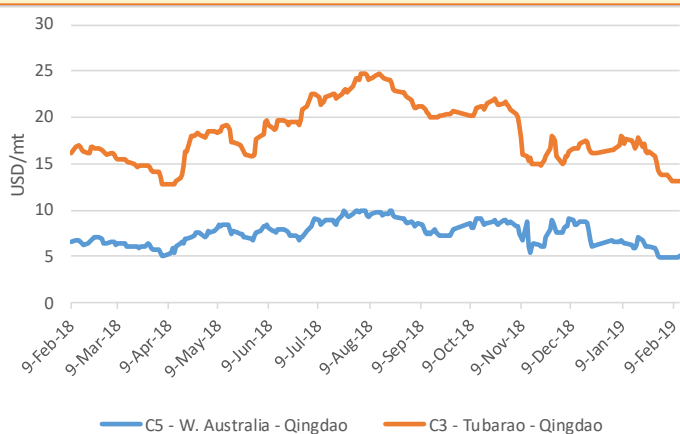
IRON ORE FUTURES CONTRACTS

Closing Date	DCE			SGX		
	13th Feb 3pm close	Change	Change %	13th Feb 6 pm	Change	Change %
Contract	I1905			Mar'19		
Closing Price	624.0	-10.0	-1.58%	83.95	-0.85	-1.00%
Vol traded ('000 lots)	238.06	8.7	3.79%	11.26	-5.86	-34.22%
Open positions ('000 lots)	108.25	-2.6	-2.37%	120.74	2.66	2.26%
Day Low	615.0	-17.5	-2.77%	81.74	-2.25	-2.68%
Day High	637.0	-21.0	-3.19%	83.95	-3.30	-3.78%

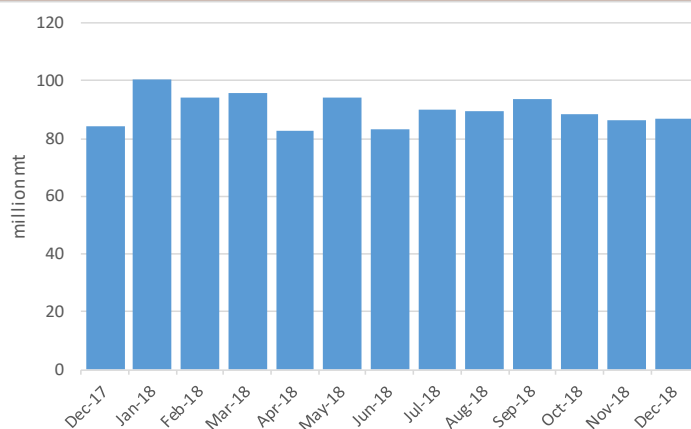
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DRY BULK FREIGHT RATES



TOTAL CHINA IRON ORE IMPORT VOLUMES



Steel Spot Market Prices - China

Steel Spot Market RMB/tonne

Product	1/2/2019	Change	Change %
ReBar HRB400 ϕ 18mm	3,875.0	21	0.54%
Wirerod Q300 ϕ 6.5mm	3,940.0	7	0.18%
HRC Q235/SS400 5.5mm*1500*C	3,802.0	28	0.74%
CRC SPCC/ST12 1.0mm*1250*2500	4,243.0	7	0.17%
Medium & Heavy Plate Q235B 20mm	3,926.0	30	0.77%
GI ST02Z 1.0mm*1000*C	4,580.0	0	0.00%
Billet Q235 150*150mm	3,430.0	0	0.00%

Rebar and HRC spot prices



Source: SMM

CHINESE STEEL EXPORT PRICES

China Export Prices USD/tonne

Product	Specification	Export tax (+)/Vate rebate (-)	Change
		1/2/2019	
Rebar	BS4449 460B 12-25mm, + chrome	-13%	485 0
Wire Rod	SAE1008 6.5-10mm +chrome	-9%	495 0
Hot-rolled coil	SS400/Q235 4.0-10mm	-9%	495 0
Cold-rolled coil	SPCC 1.0mm	-13%	535 0
Medium & Heavy plate	A-level Ship plate 12-25mm	0%	500 0
Galvanised	ST02Z/SGCC 1.0mm	-13%	550 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 Inventories³ (unit: 1000 tonnes)

Product	1/2/2019	25/1/2019	Change	Change %
Rebar	5,168	4,375	793	18.13%
Wirerod	1,751	1,504	247	16.42%
Hot-rolled Coil	2,104	1,948	156	8.01%
Medium & Thick Plate	1,020	888	132	14.86%
Cold-rolled Coil	1,120	1,066	54	5.07%
Total	11,163	9,781	1,382	14.13%

³ 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	76.16	0.15	Mmi CFR Equivalent index for 1st Feb
Coke	1,970	0	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	2,210	0	steel scrap (6mm) in Zhangjiagang, excl. tax
Billet Cost	2,872	12	Q234, incl. tax
Rebar cost - Blast furnace	3,126	13	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	624	87	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	3,197	12	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	583	28	based on Shanghai prices, incl. tax

Note: 1 Costs in the table are calculated based on today's market prices and factored 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

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IRON ORE INDEX SPECIFICATIONS, COMPILATION RATIONALE AND DATA EXCLUSIONS

Iron Ore Index Specifications (Port and Seaborne)					Iron Ore Index Compilation Rational and Data Exclusions			
	65% Fe Fines	62% Fe Fines	58% Fe Fines	62.5% Fe Lump	MMi iron ore 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: www.mmiprices.com			
Fe %	65.00	62.00	58.00	62.50				
Alumina %	1.40	2.25	2.25	1.50				
Silica%	1.50	4.00	5.50	3.50				
Phosphorus %	0.06	0.09	0.05	0.08				
Sulphur %	0.01	0.02	0.02	0.02				
Moisture %	8.00	8.00	9.00	4.00				
Sizing	Granular size below 10mm for at least 90% of cargo; maximum of 40% below 150 micron			Size below 6.3mm max 15% Size above 31.15mm max 25%	Data Exclusions*			
						62%	58%	65%
Pricing Point	Qingdao Port (FOT and CFR respectively)			FOT Qingdao Port	Port Index	0	0	0
Timing (Seaborne)	Loading within 4 weeks, Delivery within 8 weeks			Delivery within 2 weeks	Seaborne Index	0		0
					Lump Index 62.5	0		
Payment Terms	L/C at sight			L/C at sight or CAD	* Number of price submissions for iron ore indices that were excluded from index calculations today as they were anomalous and could not be verified			

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.

AVERAGE IRON ORE SPECIFICATIONS APPLIED FOR BRAND PRICE ASSESSMENTS

PORT STOCK BRANDS						SEABORNE BRANDS					
February 13th, 2019	SPECIFICATIONS APPLIED FOR 62% BRAND ASSESSMENTS						SPECIFICATIONS APPLIED FOR 62% BRAND ASSESSMENTS				
	Fe	Alumina	Silica	Phos	Moisture		Fe	Alumina	Silica	Phos	Moisture
Roy Hill	60.76%	2.35%	4.31%	0.060%	8.58%	Roy Hill	60.70%	2.30%	4.90%	0.055%	8.00%
SIMEC Fines	60.00%	2.30%	6.30%	0.060%	6.00%	SIMEC Fines	60.00%	2.30%	6.30%	0.060%	6.00%
PB Fines	61.65%	2.39%	3.57%	0.100%	9.32%	PB Fines 62%	62.00%	2.60%	4.30%	0.090%	10.00%
Newman Fines	62.44%	2.25%	4.35%	0.090%	7.80%	Newman Fines	62.80%	2.20%	4.30%	0.080%	6.40%
MAC Fines	61.08%	2.11%	4.67%	0.080%	7.81%	MAC Fines	61.00%	2.70%	4.70%	0.110%	9.30%
Jimblebar Blended Fines	61.23%	3.06%	4.26%	0.120%	7.00%	Jimblebar Blended Fines	61.79%	2.67%	4.08%	0.115%	7.16%
Carajas Fines	65.31%	1.34%	1.63%	0.070%	7.96%	Carajas Fines	65.10%	1.50%	1.70%	0.080%	8.50%
Brazilian SSF	62.00%	1.00%	6.50%	0.040%	6.00%	Brazilian SSF	62.00%	1.00%	6.50%	0.040%	6.00%
Brazilian Blend Fines	62.62%	1.86%	4.72%	0.070%	8.29%	Brazilian Blend Fines	62.50%	1.50%	5.00%	0.070%	7.00%
RTX Fines	61.00%	3.10%	4.50%	0.135%	7.50%	RTX Fines	61.00%	3.10%	4.50%	0.135%	7.50%
February 13th, 2019	SPECIFICATIONS APPLIED FOR 58% BRAND ASSESSMENTS										
	Fe	Alumina	Silica	Phos	Moisture						
SSF	56.60%	3.15%	6.22%	0.050%	8.99%						
FMG Blended Fines	58.21%	2.65%	5.61%	0.060%	7.58%						
Robe River	56.64%	2.90%	3.72%	0.040%	9.19%						
Western Fines	57.81%	2.92%	7.37%	0.060%	7.46%						
Atlas Fines	56.59%	2.55%	7.14%	0.080%	8.46%						
Yandi	57.23%	1.38%	6.52%	0.040%	8.86%						

BLOOMBERG TICKERS

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

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