

Daily Iron Ore Index Report

January 31, 2019

IRON ORE PORT STOCK INDEX (IOPI)

January 31, 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 %	Jan'19	YTD	Low ²	High ²	Price	Change	Change %	Jan'19	YTD	Low ²	High ²
IOPI62	62% Fe Fines	618	17	2.8%	580	580	443	618	82.48	2.75	3.4%	76.16	76.16	61.36	82.48
IOPI58	58% Fe Fines	474	3	0.6%	448	448	304	474	62.35	0.71	1.2%	57.99	57.99	40.67	62.35
IOPI65	65% Fe Fines	696	17	2.5%	670	670	541	784	93.39	2.81	3.1%	88.65	88.65	75.83	101.71

IRON ORE SEABORNE INDEX (IOSI)

January 31, 2019		CFR Qingdao, USD/dry tonne						
Index	Fe Content	Price	Change	Change %	Jan'19	YTD	Low ³	High ³
IOSI62	62% Fe Fines	86.40	0.15	0.2%	76.09	76.09	62.95	86.40
IOSI65	65% Fe Fines	101.45	4.85	5.0%	89.92	89.92	83.20	101.50

MARKET COMMENTARY

Some semblance of bid/offer stability has come back to the physical port stock market though there were few concluded trades. The majority of traders have gone on holiday whilst steel mills have paused buying at port. According to SMM, some mills say that the current seaborne price level is unacceptable, thus preferring to consume what they have on hand and look on where the market will go after the holiday.

IRON ORE PORT LUMP INDEX (IOPLI)

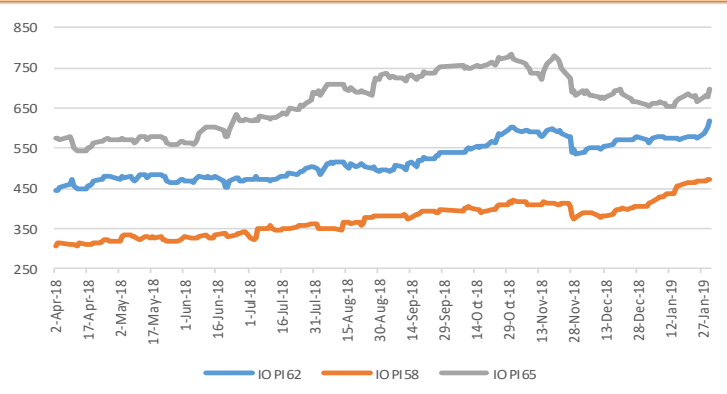
Week Ending January 25		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	Price	W-o-W	Change %	MTD	YTD	Low ³	High ³	Price	W-o-W	Change %	MTD	YTD	Low ³	High ³
IOPLI62	62.5% Fe Lump	781	1	0.1%	782	782	565	789	99.53	-0.27	-0.3%	99.57	99.57	76.63	100.10

IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

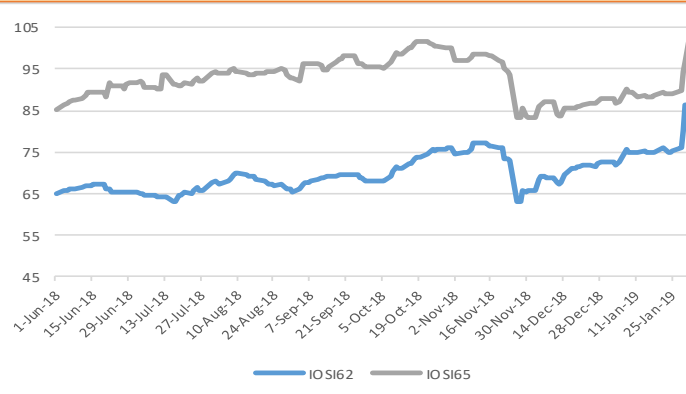
Week Ending January 25th, 2018				RMB/tonne (excluding tax) ⁴				USD/tonne (excluding tax) ⁴			
Province	Region	Product	Basis	This week	Change %	Low ²	High ²	This week	Change %	Low ²	High ²
Hebei	Hanxing	66% Fe Concentrate	Dry	701	-0.6%	579	718	103.29	-0.97%	85.31	105.79
Hebei	Qian'an	65% Fe Concentrate	Dry	750	0.0%	630	815	110.51	-0.40%	92.83	120.09
Liaoning	Anshan	65% Fe Concentrate	Wet	545	1.9%	445	745	80.30	1.46%	65.57	109.77
Shandong	Zibo	65% Fe Concentrate	Dry	755	2.0%	620	815	111.25	1.62%	91.35	120.09
Week Ending January 25th, 2018				This week	Change %	Low ⁵	High ⁵				
China Mines Concentrate Composite Index RMB/WT				632.80	1.1%	534.50	676.26				

¹ Exchange rate applied: RMB/USD = 6.7025 ² Since March 1 2018 ³ Since June 1 2018
⁴ Weekly exchange rate applied: RMB/USD 6.7868 ⁵ Last 12 months

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

January 31, 2019		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	September	October	November	December	January	QTD	YTD	September	October	November	December	January	QTD	YTD
IOPI62	62% Fe Fines	513	564	564	559	580	580	580	64.29	63.41	65.25	72.55	76.16	76.16	76.16
IOPI58	58% Fe Fines	385	401	401	392	448	448	448	44.14	44.86	45.84	50.47	57.99	57.99	57.99
IOPI65	65% Fe Fines	732	760	760	681	670	670	670	82.19	85.29	92.13	99.05	88.65	88.65	88.65

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

January 31, 2019		CFR Qingdao, USD/dry tonne							FREIGHT RATES - DRY BULK US\$/wet tonne						
Index	Fe Content	September	October	November	December	January	QTD	YTD	Route	Designation	Change	Change %	Low ⁵	High ⁵	
IOSI62	62% Fe Fines	68.79	72.31	72.91	69.96	76.09	76.09	76.09	W. Australia - Qingdao	C5	5.06	-0.54	-9.65%	5.064	10.002
IOSI65	65% Fe Fines	96.48	98.97	94.05	85.95	89.92	89.92	89.92	Tubarao - Qingdao	C3	14.30	-0.82	-5.42%	12.705	24.76

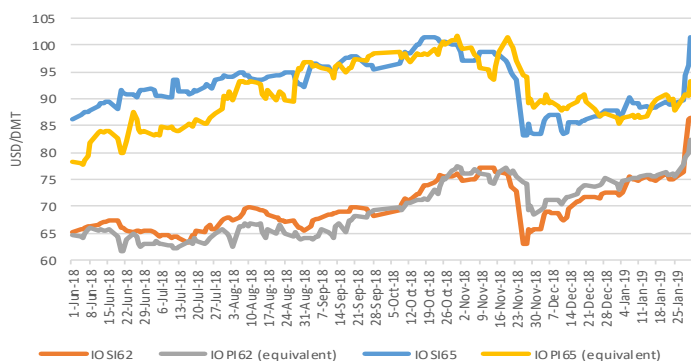
IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending January 25		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	September	October	November	December	MTD	QTD	YTD	September	October	November	December	MTD	QTD	YTD
IOPLI62	62.5% Fe Lump	695	720	771	749	782	782	782	87.49	89.65	96.21	94.22	99.57	99.57	99.57

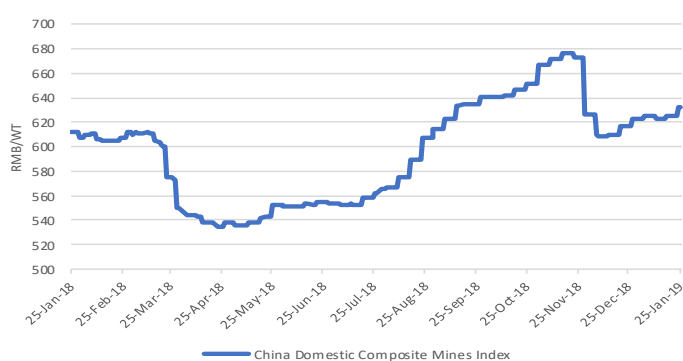
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IRON ORE INDEX COMPARISONS



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



IRON ORE BRAND SPOT PRICE ASSESSMENTS

January 31, 2019	PORT STOCK INDEX (RMB/WT)			January 31, 2019	SEABORNE INDEX (USD/DMT)		
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	588	17	-30	Roy Hill	80.61	0.15	-5.79
SIMEC Fines	551	18	-67	SIMEC Fines	76.41	0.15	-9.99
PB Fines	602	17	-16	PB Fines	85.24	0.15	-1.16
Newman Fines	619	17	1	Newman Fines	88.94	0.15	2.54
MAC Fines	595	17	-23	MAC Fines	80.01	0.15	-6.39
Jimblebar Blended Fines	570	17	-48	Jimblebar Blended Fines	74.54	0.15	-11.86
Carajas Fines	703	17	85	Carajas Fines	101.34	0.15	14.94
Brazilian SSF	612	17	-6	Brazilian SSF	86.09	0.15	-0.31
Brazilian Blend Fines	621	17	3	Brazilian Blend Fines	88.59	0.15	2.19
RTX Fines	576	17	-42	RTX Fines	76.61	0.15	-9.79

January 31, 2019	PORT STOCK INDEX (RMB/WT)		
	Price	Change	Diff to IOPI58
SSF	447	3	-27
FMG Blended Fines	478	3	4
Robe River	470	-12	-4
Western Fines	458	3	-16
Atlas Fines	449	3	-25
Yandi	533	3	59

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%	15.00	0.00	1% Fe	High Grade Fe 60 - 63%	3.50	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%	27.00	0.00	1% Alumina	High Fe Grade Al <2.25%	2.25	0.00
	High Fe Grade Al 2.25-4%	12.00	0.00		High Fe Grade Al 2.25-4%	2.25	0.00
	Low Fe Grade Al <2.25%	86.00	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%	21.00	0.00		High Fe Grade Si 4 - 6.5%	1.25	0.00
	Low Fe Grade	8.00	0.00				
0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	2.00	0.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	0.50	0.00
	High Fe Grade 0.115%<P<0.15%	2.00	0.00		High Fe Grade 0.115%<P<0.15%	1.25	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	-5.00	Jingtang	-10.00	-5.00	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

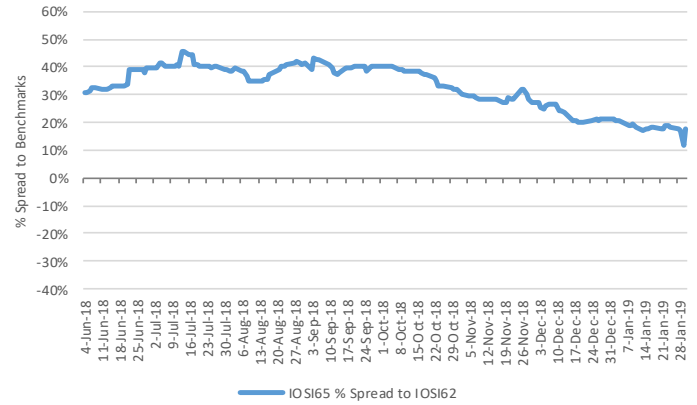
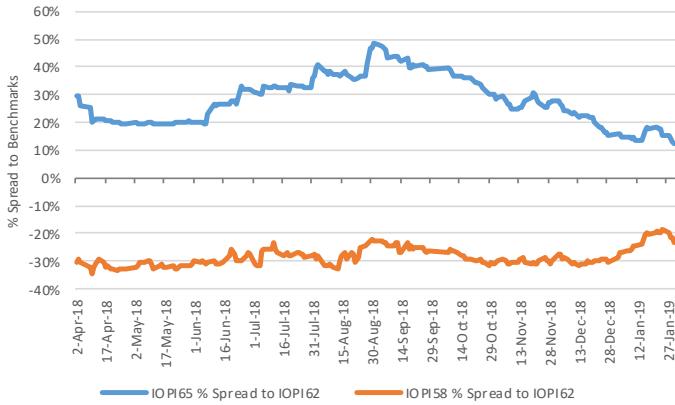
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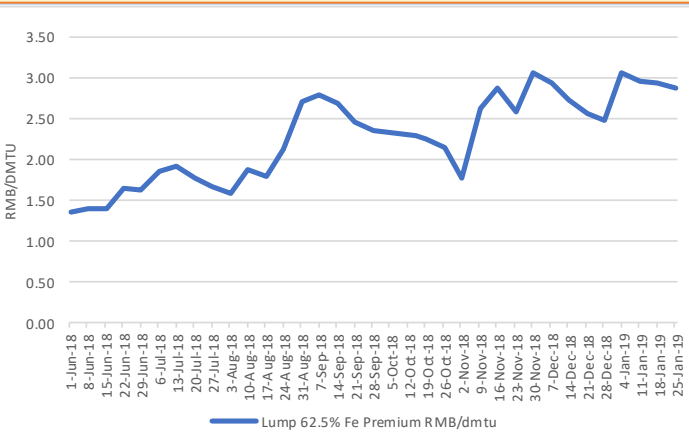
IRON ORE INDEX PREMIUMS/DISCOUNTS

January 31, 2019	PORT STOCK INDEX (RMB/WT)	
Fe Content	Spread to IOPI62	% Spread to IOPI62
58% Fe Fines	-144	-23.30%
65% Fe Fines	78	12.62%

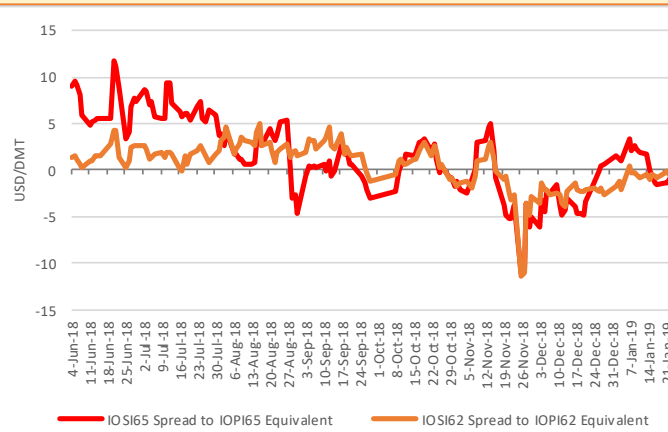
January 31, 2019	SEABORNE INDEX (USD/DMT)	
Fe Content	Spread to IOSI62	% Spread to IOSI62
65% Fe Fines	15.05	17.42%



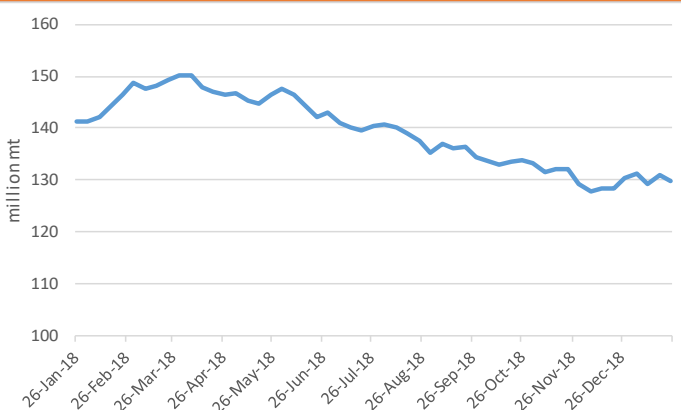
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (62.5% FE LUMP—62% FE FINES)



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 January 25, 2019 (million tonnes)				
Province	This week	Change %	Low ⁴	High ⁴
Jingtang	13.57	-1.38%	13.29	19.00
Qingdao	17.50	-1.46%	16.09	19.97
Caofeidian	17.00	-3.41%	16.70	25.30
Tianjin	9.40	1.08%	8.50	11.00
Rizhao	15.26	2.76%	14.00	19.00
Total (35 Ports)	129.88	-0.85%	127.72	150.04

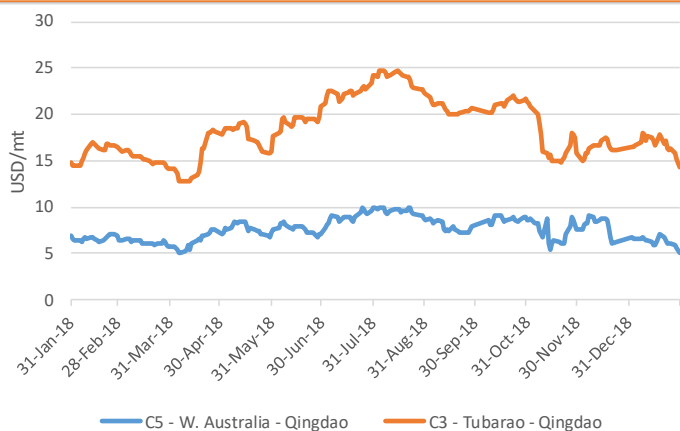
IRON ORE FUTURES CONTRACTS

Closing Date	DCE			SGX		
	31 Jan 3pm close	Change	Change %	31 Jan 6 pm	Change	Change %
Contract	11905			Feb'19		
Closing Price	588.5	1.5	0.26%	84.27	0.27	0.32%
Vol traded ('000 lots)	183.46	-11.3	-5.78%	12.74	-2.65	-17.24%
Open positions ('000 lots)	106.66	-3.7	-3.35%	88.78	-2.17	-2.38%
Day Low	576.0	14.0	2.49%	81.69	-1.31	-1.58%
Day High	594.0	5.0	0.85%	84.27	-3.23	-3.69%

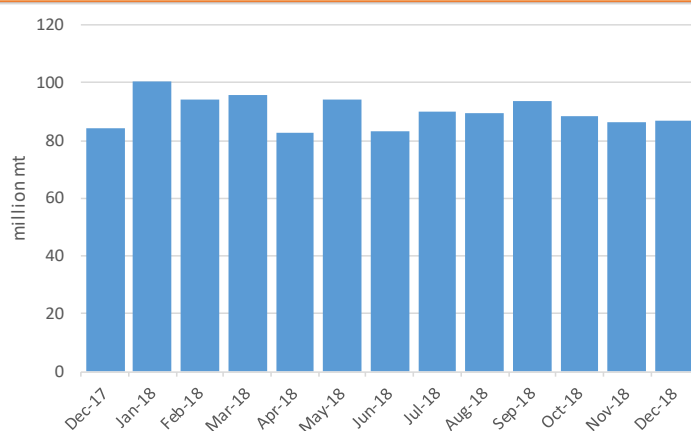
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DRY BULK FREIGHT RATES



TOTAL CHINA IRON ORE IMPORT VOLUMES



Steel Spot Market Prices - China

Steel Spot Market RMB/tonne

Product	25/1/2019	Change	Change %
ReBar HRB400 φ18mm	3,854.0	36	0.94%
Wirerod Q300 φ6.5mm	3,933.0	40	1.03%
HRC Q235/SS400 5.5mm*1500*C	3,774.0	88	2.39%
CRC SPCC/ST12 1.0mm*1250*2500	4,236.0	33	0.79%
Medium & Heavy Plate Q235B 20mm	3,896.0	23	0.59%
GI ST02Z 1.0mm*1000*C	4,580.0	35	0.77%
Billet Q235 150*150mm	3,430.0	50	1.48%

Rebar and HRC spot prices



Source: SMM

CHINESE STEEL EXPORT PRICES

China Export Prices USD/tonne

Product	Specification	Export tax (+)/Vate rebate (-)	Change
			25/1/2019
Rebar	BS4449 460B 12-25mm, + chrome	-13%	485 10
Wire Rod	SAE1008 6.5-10mm +chrome	-9%	495 0
Hot-rolled coil	SS400/Q235 4.0-10.mm	-9%	495 10
Cold-rolled coil	SPCC 1.0mm	-13%	535 10
Medium & Heavy plate	A-level Ship plate 12-25mm	0%	500 10
Galvanised	ST02Z/SGCC 1.0mm	-13%	550 5

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	25/1/2019	18/1/2019	Change	Change %
Rebar	4,375	3,981	394	9.90%
Wirerod	1,504	1,336	168	12.57%
Hot-rolled Coil	1,948	1,944	4	0.21%
Medium & Thick Plate	888	888	0	0.00%
Cold-rolled Coil	1,066	1,066	0	0.00%
Total	9,781	9,214	567	6.15%

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	76.01	0.59	Mmi CFR Equivalent index for 12th October
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	2,860	12	Q234, incl. tax
Rebar cost - Blast furnace	3,113	11	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	537	-31	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	3,185	12	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	555	78	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

IRON ORE INDEX SPECIFICATIONS, COMPILATION RATIONALE AND DATA EXCLUSIONS

Iron Ore Index Specifications (Port and Seaborne)				Iron Ore Index Compilation Rationale and Data Exclusions																					
	65% Fe Fines	62% Fe Fines	58% Fe Fines	62.5% Fe Lump																					
Fe %	65.00	62.00	58.00	62.50	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																				
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%	<table border="1"> <thead> <tr> <th colspan="3">Data Exclusions*</th> </tr> <tr> <th></th> <th>62%</th> <th>58%</th> <th>65%</th> </tr> </thead> <tbody> <tr> <td>Port Index</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Seaborne Index</td> <td>0</td> <td></td> <td>0</td> </tr> <tr> <td>Lump Index 62.5</td> <td>0</td> <td></td> <td></td> </tr> </tbody> </table>		Data Exclusions*				62%	58%	65%	Port Index	0	0	0	Seaborne Index	0		0	Lump Index 62.5	0		
Data Exclusions*																									
	62%	58%	65%																						
Port Index	0	0	0																						
Seaborne Index	0		0																						
Lump Index 62.5	0																								
Pricing Point	Qingdao Port (FOT and CFR respectively)			FOT Qingdao Port																					
Timing (Seaborne)	Loading within 4 weeks, Delivery within 8 weeks			Delivery within 2 weeks																					
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					
January 31, 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	61.66%	2.38%	3.56%	0.100%	9.31%	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	61.16%	2.97%	4.32%	0.120%	7.01%	Jimblebar Blended Fines	61.79%	2.67%	4.08%	0.115%	7.16%
Carajas Fines	65.23%	1.29%	1.76%	0.080%	8.04%	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	62.54%	1.76%	4.75%	0.070%	8.41%	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%
January 31, 2019	SPECIFICATIONS APPLIED FOR 58% BRAND ASSESSMENTS										
	Fe	Alumina	Silica	Phos	Moisture						
SSF	56.57%	3.10%	6.21%	0.050%	9.19%						
FMG Blended Fines	58.23%	2.69%	5.65%	0.060%	7.44%						
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%	1.40%	6.45%	0.040%	9.08%						

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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